

Sexual Activity Among Adolescents in Romantic Relationships With Friends, Acquaintances, or Strangers

Christine E. Kaestle, MSPH; Carolyn Tucker Halpern, PhD

Objective: To explore the influence of preexisting social ties between romantic partners (ie, knowing the partner as a friend or acquaintance before a relationship was considered “romantic” by the adolescent) on sexual risk behaviors among adolescents.

Design, Setting, and Participants: By using data from 6658 adolescents from Wave II of the National Longitudinal Study of Adolescent Health, we examined associations between preromantic social ties between partners and several sexual risk behaviors using logistic regression analyses.

Main Outcome Measures: Whether the couple had intercourse, and if they did have intercourse, whether the couple talked about contraception or sexually transmitted infections and whether one of them used some method of birth control every time they had sexual intercourse.

Results: Knowing one’s partner as a friend (vs being acquaintances) before a romantic relationship was protective against engaging in sexual intercourse for male and female adolescents (odds ratios and 95% confidence in-

tervals, 0.66 [0.51-0.86] and 0.76 [0.62-0.94], respectively). For female adolescents, sexually active relationships with partners they had not known before the romantic relationship began were less likely to include discussions of sexually transmitted infections or contraception, and were less likely to include consistent use of birth control (odds ratios and 95% confidence intervals, 0.37 [0.22-0.62] and 0.62 [0.39-0.99], respectively). Preromantic social ties did not play a statistically significant role for these outcomes among male adolescents (odds ratios and 95% confidence intervals of friends and of those who had not met, respectively, are 0.85 [0.60-1.18] and 0.90 [0.50-1.63] for talking about sexually transmitted infections or contraception and 0.93 [0.66-1.30] and 1.17 [0.71-1.96] for always using birth control).

Conclusion: The existence and nature of an adolescent’s prior relationship with a future romantic partner have significant implications for an adolescent couple’s later sexual decisions, but patterns differ for male and female adolescents.

Arch Pediatr Adolesc Med. 2005;159:849-853

ADOLESCENCE AND YOUNG adulthood represent a time of high risk for unintended pregnancies and sexually transmitted infections (STIs).¹⁻³ About 80% of pregnancies among teenagers are unintended, and an estimated 1 in 10 young women aged 15 to 19 years experiences at least 1 unintended pregnancy.⁴ Consistent contraception use is fundamental to preventing unintended pregnancies among sexually active young people. For example, about half of adolescents and young adults aborting a pregnancy report that they were using a contraceptive method during the month of conception, but 76% of all birth control pill users and 49% of condom users aborting a pregnancy reported inconsistent method use as leading to the pregnancy.⁵

Individual factors that have been associated with contraception use include sex, race and ethnicity, family structure, parental education, and school grades.⁶⁻⁸ However, couple structure and dynamics provide a social context for all reproductive negotiations and behavior of the couple. Because adolescents generally lack substantial experience in romantic relationships,⁹ they may be unsure of how to initiate and conduct discussions about contraception with romantic partners. The level of familiarity between partners before romantic involvement may influence this communication and negotiation. For example, adolescents may feel more at ease in romantic relationships with partners who were already their friends or acquaintances.

National estimates of romantic relationships indicate that 55% of all US adolescents have experienced a romantic re-

Author Affiliations:
Department of Maternal and Child Health, The University of North Carolina at Chapel Hill.

lationship in the past 18 months, with the proportion increasing monotonically with the age of the adolescents.¹⁰ There is little research available on the health benefits, if any, of knowing partners as friends or acquaintances before romantic involvement. The existing literature has focused on contraceptive use within relationships that were already sexual, rather than on romantic relationships that may or may not involve intercourse. At first sexual intercourse, female adolescents who have just met their sexual partner are less likely to use contraception than those who have first sex in the context of an existing romantic relationship, such as going steady.⁶ In addition, adolescents are more likely to ever use a condom with a partner from the same school than with one from a different school.⁷ Although adolescent males and females report different contraceptive use patterns and different attitudes toward sexuality and romance,^{8,10-12} the possibility that the associations between relationship characteristics and contraceptive behavior vary by sex is largely unexplored.

This study examined the association between preexisting social ties between adolescent romantic partners and the couple's sexual behavior. Preexisting social ties include knowing the partner through being friends, schoolmates, or neighbors or attending the same church before a relationship was considered "romantic" by the adolescent. Specifically, we examined the following research questions: Do preexisting social ties affect the likelihood of an adolescent romantic relationship resulting in intercourse? And, among relationships that include intercourse, do preexisting social ties affect the likelihood of (1) discussion of STIs or contraception and (2) using birth control consistently?

METHODS

We analyzed data from 2826 male and 3832 female adolescents who reported having an opposite-sex romantic partner in Wave II of the National Longitudinal Study of Adolescent Health (Add Health). Add Health is a probability-based nationally representative survey of US adolescents who were enrolled in grades 7 through 12 during the 1994-1995 school year. Wave I in-home questionnaires were administered via laptop computer; audio-computer-assisted self-interviewing technology was used to collect information about sensitive behaviors. Respondents were reinterviewed (Wave II) between April 16 and August 31, 1996.¹³ All Add Health protocols were reviewed and approved by the Institutional Review Board for the Protection of Human Subjects in the School of Public Health at The University of North Carolina at Chapel Hill.

Respondents were asked to identify up to 3 romantic relationships from the previous 18 months (respondents self-identified the relationships as romantic). About 28% of respondents in our sample reported more than 1 partner. To standardize analyses across respondents, minimize recall bias, and reflect the most current experiences, we identified the most recent opposite-sex relationship from the list based on the start date of the relationship for our analyses.

MEASURES

Dependent Variables

Respondents were asked to examine cards that described things that might have happened in their romantic relationship. They

were then asked to reject those cards that described things that had not happened and keep those cards that described things that had happened. We constructed dichotomous variables for whether the couple had intercourse and whether the couple talked about contraception or STIs, based on whether respondents kept the cards for "We talked about contraception or sexually transmitted diseases" and "We had sexual intercourse." Respondents who indicated that they had sex with their partner were also asked if they or their partner used some method of birth control every time they had sexual intercourse.

Independent Variables

Respondents were asked in what ways they knew their partner before the romantic relationship began. Answers were used to construct a 3-category measure of preromantic social ties: (1) friends before the romance began, (2) acquaintances who knew each other (through school, church, the neighborhood, or other ways) but were not friends, or (3) persons who had never met before the romance began (the relationship became romantic right away).

Control Variables

Various characteristics of individuals may influence how they choose a partner (eg, whether they are attracted romantically to friends or strangers) and their risk behaviors. We included several potential confounders that are often tied to sexual behavior in the literature, including the respondent's sex (female or male), age (as a continuous variable), race (white, black, or other), parental education (did any parent go beyond high school), and family structure (2 biological parents; 2 parents, not both biological; mother only; father only; or other). We also controlled for the duration of the relationship (in months) because evidence indicates that adolescents in relationships of a longer duration are more likely to ever use contraceptives with that partner but less likely to always use a method.^{7,8,14}

ANALYSES

Multinomial logistic regression was used to obtain adjusted estimates of the odds of having sexual intercourse with the most recent partner and of talking about contraception or STIs, and using birth control consistently. Male and female adolescents were modeled separately. The models for intercourse used data from all the respondents with opposite-sex romantic partners in our study sample. Models of the other outcomes were restricted to respondents who reported having intercourse in that relationship. The duration of the relationship and the respondent's age, sex, race, parental education, and family structure were included as control variables. Statistical software (Stata) was used to incorporate weights and adjust for Add Health's sampling design.¹⁵

RESULTS

DESCRIPTIVE ANALYSES

Demographic and Control Variables

Of the 6658 respondents with a romantic partner at Wave II, most were white, had parents with more than a high school education, and lived with 2 biological parents (**Table 1**).

Independent Social Ties Variables

Most respondents with romantic partners reported having met the partner before the romance began, and more than a third considered the partner a friend before the romantic involvement (Table 1).

Outcomes

At Wave II, just less than half of the sample reported having intercourse with their most recent partner (Table 1). Of these persons, most reported that they had talked about contraception or STIs with their partner and that they always used birth control. Although more female adolescents reported that they talked about STIs or contraception with their partners, more male adolescents reported actually using birth control every time (Table 1).

MULTIPLE LOGISTIC REGRESSION MODELS

By using acquaintances (the largest group) as the referent group, we next examined the association between social ties and the various sexual outcomes using logistic regression models.

Intercourse

Being friends before the romantic relationship began was associated with a lower likelihood of intercourse compared with being acquaintances for male and female adolescents (**Table 2**). Not knowing the partner before the romance did not differ significantly from just being acquaintances. The odds of intercourse increased with relationship duration, respondent's age, and family structures that are not 2 biological parents. The odds of intercourse decreased with higher parental education. The odds of intercourse were also higher for black male adolescents compared with white male adolescents.

Talking About STIs or Contraception

The odds of talking about STIs or contraception were substantially lower for female adolescents who did not know their partner before their romantic involvement compared with female adolescents with partners who were acquaintances. However, being friends did not increase the odds of talking about these issues compared with just being acquaintances (Table 2). For male adolescents, the odds of discussing these issues did not differ significantly between groups. Older age and higher parental education levels were associated with discussing STIs or contraception among female adolescents, and longer duration of the relationship was associated with greater odds of discussing these issues for male and female adolescents.

Always Using Birth Control

As with the previous outcome, the odds of always using birth control with a partner are lower for female adolescents who did not know their partner before their

Table 1. Respondent Characteristics for the Study Sample*

Characteristic	Male Adolescents (n = 2826)	Female Adolescents (n = 3832)	Total (N = 6658)
Had sexual intercourse with most recent partner	42.7	47.7	45.5
Preromantic social ties			
Friends	38.5	42.6	40.8
Acquaintances	55.2	51.8	53.3
Had not met	6.3	5.7	6.0
Race			
White	81.0	81.0	81.0
Black	12.9	14.0	13.5
Other	6.1	5.0	5.5
Parental education above high school	58.8	55.4	56.9
Family structure			
2 Biological parents	55.3	52.4	53.7
2 Parents, not both biological	18.8	19.0	18.9
Mother only	19.3	22.2	20.9
Father only	4.0	2.8	3.3
Other	2.7	3.6	3.2
Among those who had sex with partner†			
Talked about contraception or STIs	47.5	65.7	60.3
Always used birth control	61.9	55.1	57.5

Abbreviation: STI, sexually transmitted infection.

*Data are given as weighted percentages, which may not total 100 because of rounding.

†The sample size was 1289 for male adolescents, 1884 for female adolescents, and 3173 for the total group.

romantic involvement, while for male adolescents the odds of always using birth control did not differ significantly across groups (Table 2). Although black adolescents did not differ significantly from white adolescents on always using birth control, adolescents of other race had lower odds of always using birth control compared with white adolescents. Among female adolescents, higher parental education was associated with always using birth control.

COMMENT

The results of this study indicate that the nature of the beginning of an adolescent's relationship with a future romantic partner has significant implications for an adolescent couple's later sexual decisions. Knowing one's partner as a friend before beginning a romantic relationship was protective against engaging in sexual intercourse with that partner for male and female adolescents. However, for some outcomes, the patterns of this association are different for male and female adolescents, suggesting qualitative differences in the way male and female adolescents approach sexual decision making and negotiations in romantic relationships. For female adolescents, romantic relationships with partners they had not met before were less likely to include discussions of STIs or contraception, and controlling for relationship duration, were less likely to include always using birth control. Preromantic social ties did

Table 2. Data for Intercourse, Talking About STIs or Contraception, and Consistent Birth Control Use*

Variable	Male Adolescents			Female Adolescents		
	Intercourse (n = 2826)	Talking About STIs or Contraception (n = 1289)	Always Using Birth Control (n = 1289)	Intercourse (n = 3832)	Talking About STIs or Contraception (n = 1884)	Always Using Birth Control (n = 1884)
Preromantic social ties†						
Friends before romantic relationship	0.66 (0.51-0.86)‡	0.85 (0.60-1.18)	0.93 (0.66-1.30)	0.76 (0.62-0.94)‡	0.85 (0.63-1.14)	0.98 (0.76-1.26)
Had not met before romantic relationship	1.18 (0.69-2.00)	0.90 (0.50-1.63)	1.17 (0.70-1.96)	1.43 (0.90-2.25)	0.37 (0.22-0.62)‡	0.62 (0.39-0.99)‡
Duration (continuous in months)	1.08 (1.06-1.10)‡	1.02 (1.00-1.03)‡	1.00 (0.98-1.01)	1.08 (1.06-1.09)‡	1.04 (1.03-1.06)‡	1.01 (1.00-1.02)‡
Age (continuous in years)	1.59 (1.46-1.73)‡	1.05 (0.94-1.17)	1.00 (0.87-1.14)	1.55 (1.43-1.68)‡	1.18 (1.08-1.29)‡	0.98 (0.89-1.09)
Race§						
Black	1.55 (1.14-2.11)‡	0.77 (0.54-1.09)	1.11 (0.80-1.54)	1.10 (0.83-1.46)	0.72 (0.51-0.99)	0.86 (0.59-1.25)
Other	0.88 (0.57-1.35)	1.08 (0.58-2.02)	0.52 (0.28-0.97)‡	0.83 (0.55-1.24)	0.95 (0.57-1.58)	0.35 (0.19-0.65)‡
Parental education	0.73 (0.59-0.90)‡	1.25 (0.88-1.78)	1.20 (0.90-1.60)	0.65 (0.54-0.77)‡	1.53 (1.22-1.92)‡	1.27 (1.03-1.59)‡
Family structure						
2 Parents, not both biological	1.81 (1.27-2.60)‡	1.00 (0.67-1.50)	0.85 (0.59-1.22)	1.88 (1.49-2.38)‡	1.16 (0.79-1.71)	1.01 (0.75-1.36)
Mother only	1.96 (1.40-2.76)‡	1.00 (0.67-1.52)	0.79 (0.55-1.14)	1.81 (1.35-2.42)‡	1.28 (0.95-1.72)	0.99 (0.73-1.35)
Father only	2.17 (1.16-4.06)‡	2.01 (0.87-4.62)	0.43 (0.19-0.94)‡	1.08 (0.59-2.00)	1.87 (0.78-4.49)	0.69 (0.31-1.54)
Other	3.87 (1.93-7.75)‡	1.60 (0.72-3.54)	0.50 (0.21-1.21)	2.27 (1.36-4.13)‡	0.85 (0.49-1.47)	0.45 (0.25-0.79)‡

Abbreviation: STI, sexually transmitted infection.

*Data are given as odds ratio (95% confidence interval).

†The reference group was acquaintances (had met the partner before the relationship, but were not friends before the romantic involvement).

‡P<.05.

§The reference group was white persons.

||The reference group was 2 biological parents.

not play a statistically significant role in these outcomes among male adolescents.

The literature indicates that female adolescents tend to romanticize relationships while male adolescents emphasize the sexual aspects.¹¹ Female adolescents also tend to connect sexual activity with greater levels of commitment in a relationship.¹² If female adolescents are following a more idealized romantic script, they may find it difficult to bring up topics like contraception in relationships that become romantic right away because they only know that partner in a romantic context. A male adolescent who is thinking of a relationship in more sexualized terms may be more inclined to address such practical concerns.

Sex roles of normative behavior for male and female adolescents still differ in important ways that may influence sexual negotiations. Female adolescents are judged more harshly in regard to their sexual activities than male adolescents, are more likely to feel ambivalence about their sexuality, and are more concerned about how their sexual activity will be labeled by others.¹⁶ Female adolescent sexual behavior also tends to be more influenced by social control processes than that of male adolescents,¹⁷ so these sex roles may influence their behavior more. Female adolescents may avoid planning ahead for consistent contraception use because this might imply that they intend or want to have sex, an attitude they might associate with masculine sex roles. Our findings that female adolescents are more likely to talk to partners about STIs and contraceptives if they were friends or acquaintances before becoming romantic partners suggest that a preexisting

social relationship may change the couple's negotiation process by emboldening female adolescents, thereby facilitating communication and perhaps increased female control. Alternatively, the type of male partner may differ in these various relationship situations. In relationships that become romantic right away, male adolescents may be more aggressive in demanding sex or refusing to use contraception. The expectations of both partners may differ depending on the type of relationship.

The findings of this study should be interpreted with caution. It is possible that adolescents who are more prone to high-risk behavior seek out relationships with partners whom they do not already know. Furthermore, while we can determine if they were acquaintances or friends first with their most recent romantic partners, we cannot determine how long adolescents knew each other before the romantic relationship began. Add Health allowed respondents to interpret what qualified as a romantic relationship. Although this has the benefit of enabling respondents to classify their relationships based on their feelings and personal experiences instead of on imposed checklists or terms such as dating, it is possible that groups of adolescents interpreted the term differently.

Additional quantitative and qualitative research is needed to better understand how friendship experiences and previous social ties between partners may influence couples' interaction processes. For example, do female adolescents feel more comfortable talking or asserting themselves with male adolescents with whom they are already familiar? Are they more reluctant to inter-

rupt a romantic moment with practical concerns when they are with partners whom they have only known in a romantic context? These are important questions for future research. Identifying couples who may be at elevated risk for sexual risk taking and examining the protective processes that are associated with having known partners may help to develop potential interventions for enhancing adolescent couples' communication and safe sexual decisions. For example, training adolescents to improve practical communication skills and to challenge aspects of traditional romantic scripts that discourage active roles for both partners in contraceptive decisions may contribute to safer sexual decisions regardless of the pre-romantic history of partners.

Accepted for Publication: March 10, 2005.

Correspondence: Carolyn Tucker Halpern, PhD, Department of Maternal and Child Health, The University of North Carolina at Chapel Hill, Campus Box 7445, Chapel Hill, NC 27599-7445 (carolyn_halpern@unc.edu).

Funding/Support: This study uses data from Add Health, a program project supported by grant P01-HD31921 from the National Institute of Child Health and Human Development, Bethesda, Md, with cooperative funding from 17 other agencies.

Role of the Sponsor: The funding bodies had no role in data extraction and analyses, in the writing of the manuscript, or in the decision to submit the manuscript for publication.

Acknowledgment: This study uses data from Add Health, a program project designed by J. Richard Udry, PhD, Peter S. Bearman, PhD, and Kathleen Mullan Harris, PhD. We thank Ronald R. Rindfuss, PhD, and Barbara Entwisle, PhD, for their assistance in the original design. Persons interested in obtaining data files from Add Health should contact Add Health, Carolina Population Center, 123 W Franklin St, Chapel Hill, NC 27516-2524 (<http://www.cpc.unc.edu/addhealth/contract.html>).

REFERENCES

1. Forrest JD. Epidemiology of unintended pregnancy and contraceptive use. *Am J Obstet Gynecol*. 1994;170:1485-1489.
2. Miller WC, Ford CA, Morris M, et al. Prevalence of chlamydial and gonococcal infections among young adults in the United States. *JAMA*. 2004;291:2229-2236.
3. Koutsky L. Epidemiology of genital human papillomavirus infection. *Am J Med*. 1997;102:3-8.
4. Henshaw SK. Unintended pregnancy in the United States. *Fam Plann Perspect*. 1998;30:24-29, 46.
5. Jones RK, Darroch JE, Henshaw SK. Contraceptive use among US women having abortions in 2000-2001. *Perspect Sex Reprod Health*. 2002;34:294-303.
6. Manning WD, Longmore MA, Giordano PC. The relationship context of contraceptive use at first intercourse. *Fam Plann Perspect*. 2000;32:104-110.
7. Ford K, Sohn W, Lepkowski J. Characteristics of adolescents' sexual partners and their association with use of condoms and other contraceptive methods. *Fam Plann Perspect*. 2001;33:100-105, 132.
8. Manlove J, Ryan S, Franzetta K. Patterns of contraceptive use within teenagers' first sexual relationships. *Perspect Sex Reprod Health*. 2003;35:246-255.
9. Furman W, Simon V. Cognitive representations of adolescent romantic relationships. In: Furman W, Brown B, Feiring C, eds. *The Development of Romantic Relationships in Adolescence*. Cambridge, England: Cambridge University Press; 1999: 75-98.
10. Carver K, Joyner K, Udry J. National estimates of adolescent romantic relationships. In: Florsheim P, ed. *Adolescent Romantic Relations and Sexual Behavior: Theory, Research, and Practical Implications*. Mahwah, NJ: Lawrence Erlbaum Associates; 2003:23-56.
11. Miller B, Benson B. Romantic and sexual relationship development during adolescence. In: Furman W, Brown B, Feiring C, eds. *The Development of Romantic Relationships in Adolescence*. Cambridge, England: Cambridge University Press; 1999:99-124.
12. Regan P. *The Mating Game: A Primer on Love, Sex and Marriage*. Thousand Oaks, Calif: Sage Publications; 2003.
13. Harris K, Florey F, Tabor J, Udry J. The National Longitudinal Study of Adolescent Health: research design. Available at: <http://www.cpc.unc.edu/projects/addhealth/design.html>. Accessed June 21, 2005.
14. Ku L, Sonenstein FL, Pleck JH. The dynamics of young men's condom use during and across relationships. *Fam Plann Perspect*. 1994;26:246-251.
15. Stata Corp. *Stata Statistical Software: Release 7.0*. College Station, Tex: Stata Corp; 2001.
16. Crockett L, Raffaelli M, Moilanen K. Adolescent sexuality: behavior and meaning. In: Adams G, Berzonsky M, eds. *Blackwell Handbook of Adolescence*. Malden, Mass: Blackwell Publishing Ltd; 2003:371-392.
17. Crockett LJ, Bingham CR, Chopak JS, Vicary JR. Timing of first sexual intercourse: the role of social control, social learning, and problem behavior. *J Youth Adolesc*. 1996;25:89-111.