

Relationship Dynamics and Consistency of Condom Use Among Adolescents

CONTEXT: Research on adolescent condom use often focuses on the influence of parents, peers and environmental factors. Although most sexually active teenagers have sex within dating relationships, little is known about associations between the characteristics of these relationships and consistency of condom use.

METHODS: Data on 269 participants in Wave 1 of the Toledo Adolescent Relationships Study who had had sex in their current or most recent dating relationship were analyzed in logistic regression models to examine how positive and negative relationship qualities are associated with consistent condom use.

RESULTS: Among teenagers who had had sex with their dating partner, both negative relationship dynamics (conflict, partner's controlling behavior, mistrust, jealousy, perceived partner inferiority) and positive qualities (love, enmeshment, salience, self-disclosure) were negatively associated with consistent condom use (odds ratios, 0.7–0.9). Asymmetries in partners' age, race and school were not related to consistent condom use. Relationship duration was negatively associated with consistency (0.98–0.99), but the association was explained by feelings of relationship importance. Findings for relationship qualities were similar for males and females, with the exception of conflict, which was positively associated with consistent condom use among females but not males.

CONCLUSIONS: Although the relationship processes associated with consistent condom use are complex, such processes appeared to be more strongly associated with consistent condom use than were social and demographic characteristics. Programs should focus on relationship qualities and dynamics, recognizing that both negative and positive relationship features are associated with consistent condom use.

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Teenagers' contraceptive use is increasing, primarily because of their increased condom use.¹ Yet, adolescents typically use condoms inconsistently: Fewer than half (47%) of adolescent males and about one-quarter (28%) of adolescent females who have had sex in the past year used a condom every time.² Inconsistent condom use elevates teenagers' risk of STDs. Each year, more than nine million U.S. youths acquire an STD.³ Although many factors may influence adolescents' decisions about condoms, such decisions occur within the dyadic context of their sexual relationships.⁴ In this study, we examine how positive and negative characteristics of adolescents' sexual relationships are associated with their consistency of condom use.

BACKGROUND

Research assessing adolescent sexual behavior and contraceptive use has examined the relationship context.^{5–8} It is clear that a majority of teenagers have their first sexual experience with a boyfriend or girlfriend, and almost all sexually experienced teenagers have had sex at some point within the confines of a dating relationship.^{9,10} Less clear, however, is how young people's relationship types and qualities are linked to their sexual behavior.

Relationship Type

Findings on the association between relationship type and contraceptive use are mixed.¹¹ According to some research, use of condoms and other contraceptive methods is greater among dating youths than among those in casual sexual relationships.^{4,6,10,12} Possible explanations for this difference are that sex among dating partners is more often planned, tied to feelings of love and associated with an ease of rapport permitting discussions about contraception. For example, daters who express a "couple orientation" have higher odds than others of discussing contraception.¹³ Such discussions are positively associated among women with ever-use of contraceptives and consistent use within relationships (for females only).¹⁴

Other research suggests greater condom use in casual relationships,^{12,15–20} which is consistent with the notion that teenagers perceive greater sexual risk with casual partners and act accordingly to protect themselves. Also, teenagers' greater condom use in casual sexual relationships may reflect that they feel less trust of and commitment to casual partners, and therefore a greater need to protect themselves.

Of course, at least some of the variation in findings is attributable to differences in measurements of contraceptive and condom use across studies, the sexual experience

of respondents (first vs. most recent sex) and respondents' gender.

Relationship Qualities

Although distinguishing between casual and dating sexual partners is instrumental in our understanding of condom use, exploring dating relationships themselves is also critical, because such relationships are the most common context for adolescents' sexual activity. Little attention has been paid to the specific characteristics of dating relationships associated with variations in consistency of condom use. Although demographic heterogamy in sexual relationships is generally associated with contraceptive use, the measures of demographic heterogamy (i.e., differences in partners' age, race, ethnicity and neighborhood) are not related to use of condoms or other contraceptive methods within dating relationship specifically.^{6,7} Yet, adolescents who report that their boyfriend or girlfriend is not in school or goes to a different school have reduced odds of condom use.⁶

Another potentially important characteristic of dating relationships is duration. The association between dating duration and contraceptive use depends on sexual history, the measure of contraceptive use and the definition of duration. According to Ku et al.'s sawtooth hypothesis, young men (aged 17–22) use condoms most often early in a dating relationship and then decrease use the longer the relationship lasts; they increase use again at the start of a subsequent relationship.^{17,21} Evaluations of condom use across relationships find that relationship duration (measured from first to last intercourse) is positively associated with ever-use of condoms and other contraceptives,^{6,7,22} but are negatively associated with consistent contraceptive use.^{7,21,22}

Research that focuses strictly on duration or basic distinctions such as casual versus dating sex partners may not capture variation in the qualities and dynamics of adolescent romantic relationships and ignores the subjective elements of such relationships. For example, certainly not all adolescent dating relationships share similar levels of love, trust and commitment. Thus, it is important to examine further how relationship dynamics and characteristics are associated with condom use. Focusing on dating relationship qualities may further elucidate the underlying mechanisms connecting relationship type and contraceptive use.²³

Some attention has been paid to associations between the frequency of couple activities and contraceptive use among teenagers. Nationwide studies have found a positive relationship between the number of couple activities (e.g., partners' meeting each other's parents, saying "I love you," exchanging gifts) and overall contraceptive use,⁴ and a positive relationship between the number of couple activities and males' use and consistent use of contraceptives.¹⁴ However, the strategy of summing the number of couple activities is limited in that it treats all relationship features equally, even though some may be more salient

than others, and it ignores subjective aspects of relationships.¹⁴ Smaller studies have shown that subjective qualities are tied to condom use. For example, research on young adults in dating or cohabiting relationships suggests that emotional closeness¹⁵ and relationship quality among young adults with an STD¹⁶ are negatively associated with condom use. A teenager's perception of the importance of the relationship is also negatively related to consistent condom use for some subgroups (e.g., white females).²⁴ Additionally, partner communication about sexual risk and contraceptive or condom use is linked to increased odds of consistent contraceptive or condom use.^{25–29}

It is also important to determine whether negative relationship dynamics are associated with contraceptive use. Prior work on negative dynamics has examined only relationship violence; findings suggest that abuse is not associated with use or consistent use of contraceptives at first intercourse,⁷ although it is negatively related to consistent contraceptive use among sexually experienced females.¹⁴ The majority of teenagers, however, do not report relationship violence; thus, attention should be paid to a wider array of negative or troubling dynamics that may be linked to contraceptive consistency (e.g., jealousy, conflict, controlling behaviors). In a study of teenage STD clinic clients, power and control inequalities were linked to condom use such that the partner in a couple who had the greater power or control was more able to enforce his or her wishes regarding condom use.³⁰

Another important dynamic is exclusivity. Although adolescents in nonexclusive sexual relationships have higher risk of exposure to STDs than others,^{31,32} they do not always protect themselves. For instance, dating exclusivity is tied to increased contraceptive and condom use.^{33,34} Although nonexclusivity "should" motivate sexually active adolescents' greater risk prevention, it is not necessarily related to use or consistent use of contraceptives,⁴ even among females in romantic relationships.²² These findings suggest that further assessments of exclusivity and perhaps trust are warranted.

CURRENT INVESTIGATION

This article builds on prior research in two ways. First, prior studies on the relationship context of adolescent condom use have not included a comprehensive range of relationship qualities. We evaluate how specific qualities, as reported by teenagers, are associated with consistent condom use. Second, we focus on consistent condom use, rather than any condom use, because consistent use is uncommon among adolescents, even though it is the most effective way to avoid STDs.

We examine two sets of hypotheses. First, according to the sawtooth hypothesis,¹⁷ positive aspects of relationships may be associated with less consistent condom use. As dating couples become emotionally intimate, their perceived risk of and need to protect themselves against sexually transmitted infections could weaken. Alternatively, consistent with a communication perspective,¹⁴ couples with

more positive relationships may communicate about contraceptive use and sexual health, leading to more consistent condom use. Second, dating relationships characterized by negative features may be associated with inconsistent condom use. The negative interactions and feelings may impair a couple's ability to be rational, communicate effectively and use condoms every time they have intercourse.¹³ A competing hypothesis, based on the health belief model,¹⁹ is that negative feelings and interactions may be linked with more concerns, particularly about the partner's sexual behavior outside of the relationship, and hence result in greater consistency of condom use.

We evaluate whether relationship qualities matter independently of key covariates found to be related to condom use. Age, gender, and race and ethnicity are related to condom use consistency.^{2,7,14,35} Family structure, parents' education, parental monitoring and parent-child communication are associated with contraceptive use. Teenagers from disadvantaged backgrounds who report less monitoring and communication have lower levels of contraceptive use than those who report greater monitoring and communication.^{6,7,10,14,36-39} Finally, personal characteristics are associated with condom use consistency: Teenagers with sexual experience use condoms more often than those having intercourse for the first time, and those engaging in prosocial activities and reporting higher self-esteem are more likely than others to ever use condoms^{7,14,17,36,40} and to use condoms consistently.⁴

METHODS

Data

We used data from the Toledo Adolescent Relationships Study (TARS), a representative survey of 1,321 students in seventh, ninth and 11th grades in 2001. The sample was drawn from 62 school rosters in the Toledo, Ohio, area (Lucas County); respondents did not need to attend school to be interviewed. Interviews were conducted in person in the respondents' homes when possible, or in a private location, such as a library. Respondents entered most responses into a laptop computer to ensure privacy. In addition, a paper-and-pencil questionnaire was administered to a parent or guardian (primarily the adolescent's mother) at the same time. Although the sample is not nationally representative, an analysis of census data suggests that several characteristics of households with teenage children—median income, education level of the household head, type of household and teenagers' race—are similar in Lucas County and the United States overall.

Our analytic sample consisted of teenagers who responded affirmatively to two questions: "Have you ever dated a girl/guy? Remember, by dating we mean when you like a girl/guy and she/he likes you back. It does not have to mean going on a 'formal' date," and "Have you ever had sexual intercourse (sometimes this is called 'making love,' 'having sex,' or 'going all the way') with [partner]?" Like the National Longitudinal Survey of Adolescent Health (Add Health), TARS deemphasized outings as a definition

of dating. This was partly because of the young age of the sample, which may preclude outings. In addition, such a definition avoids differential selection into the dating questions by race and ethnicity, given that self-described romantic relationships among black youth are less likely than others to include actually "going out" one-on-one.¹³

Of the 74% of teenagers who reported on their current or most recent relationship, 28% had had sex with that dating partner—a proportion similar to that found among comparably aged daters in Add Health.⁴¹ We excluded four adolescents because they were missing data on relationship qualities or contraceptive use. Thus, our sample contained 269 females and males who had had sex with their current or most recent dating partner

Measures

•**Dependent variable.** The dependent variable—consistent condom use—was based on teenagers' responses to how often they used condoms with their current or most recent dating partner. The six response options ranged from "every time we have sex" to "a few times." We compared those who answered "every time we have sex" with all others, including 26 respondents who reported never having used condoms with their current or most recent partner, and who thus were not asked about consistency of use. The small number of respondents who had never used condoms precludes analyzing this behavior separately. Respondents were not asked if they had had sex once or more than once in the relationship; thus, consistent users presumably included some respondents who had had sex only once with their current or most recent partner and had used a condom.

•**Relationship qualities.** We offer a multidimensional portrait of relationship qualities, although we have only one or two items for some dimensions. Measures were pre-tested and appear to be valid for key constructs.

We assessed six measures of negative relationship qualities. Controlling behavior was measured by summing responses to two statements: "[Partner] sometimes wants to control what I do" and "[Partner] always tries to change me."⁴² The five responses ranged from "strongly disagree" to "strongly agree"; higher scores represented the partner's more controlling behavior (Cronbach's alpha, 0.71). A measure of conflict was based on the sum of responses to two questions about how often the respondent and partner "have disagreements or arguments" and "yell or shout at each other." The five responses ranged from "never" to "very often"; higher scores represented more frequent conflict (Cronbach's alpha, 0.86). Partner mistrust, perceived partner inferiority and jealousy were each measured by respondents' agreement with one statement ("There are times when [partner] cannot be trusted,"⁴³ "[Partner] is not good enough for me" and "When [Partner] is around other girls/guys, I get jealous"). The five response options ranged from "strongly disagree" to "strongly agree"; higher scores indicated more partner mistrust, stronger assessments of partner inferiority and greater jealousy,

TABLE 1. Selected characteristics of teenagers who have had intercourse with their current or most recent dating partner, Toledo Adolescent Relationships Study, 2001

Characteristic	Mean or % (N=269)
Consistent condom use	45.4
Relationship qualities‡	
Negative scale (range, 7–36)	17.0
Controlling behavior (range, 2–10)	4.2
Conflict (range, 2–10)	5.1
Partner mistrust (range, 1–5)	2.4
Perceived partner inferiority (range, 1–5)	2.3
Jealousy (range, 1–5)	2.9
Nonexclusivity agreement	17.4
Positive scale (range, 9–45)	34.0
Intimate self-disclosure (range, 3–15)	11.2
Enmeshment (range, 1–5)	3.2
Passionate love (range, 4–20)	15.1
Relationship salience (range, 1–5)	4.1
Relationship	
Ongoing relationship	74.6
Duration (in weeks; range, 0.5–78)	39.7
Age heterogamy	15.0
Racial/ethnic heterogamy	20.6
School heterogamy	47.1
Sexual experience asymmetry	34.3
Respondent	
Age (range, 12–19)	16.5
Gender	
Male	54.2
Female	45.8
Race/ethnicity	
Hispanic	9.5
White	56.2
Black	31.9
Other	2.4
Family structure	
Single parent	29.3
Two biological parents	40.6
Stepfamily	17.2
Other	12.9
Parental education	
<high school	18.6
High school	32.6
>high school, <four-year college degree	33.4
≥four-year college degree	15.4
Parental monitoring (range, 6–30)	11.3
Parental communication about sex (range, 6–30)	19.2
Self-esteem (range, 6–30)	24.2
Grades (range, 1–9)	5.7
Previously sexually inexperienced	45.2
Delinquency (range, 10–90)	15.8

‡All qualities are coded so that higher scores indicate more of that quality, be it positive or negative. Note: Data are means for characteristics showing a range and percentages for others.

respectively. Nonexclusivity was a yes-no variable gauging whether the couple had agreed that it was all right to see other people. In addition, a negative qualities scale was created by summing all eight negative quality items; possible scores ranged from 7 to 36 (Cronbach's alpha, 0.77).

Positive relationship qualities were assessed by five measures. We measured intimate self-disclosure by summing the responses to three questions about how often the respondent and partner discussed "something really bad that happened," "your home life and family" and "your private thoughts and feelings."⁴⁴ The five responses ranged from "never" to "very often"; higher scores indicated more

disclosure (Cronbach's alpha, 0.86). Enmeshment was measured with the item "[Partner] and I are practically inseparable." The five responses ranged from "strongly disagree" to "strongly agree"; higher scores indicated greater enmeshment. A measure of passionate love was based on the sum of responses to four statements: "I am very attracted to [partner]," "the sight of [partner] turns me on," "I would rather be with [partner] than anyone else" and "[Partner] always seems to be on my mind."⁴⁵ The five responses ranged from "strongly disagree" to "strongly agree"; higher scores indicated stronger feelings of love (Cronbach's alpha, 0.84). Relationship salience was measured by the item "How important is your relationship with [partner]?" The five responses ranged from "not at all important" to "very important"; higher scores indicating greater relationship salience. We created a positive qualities scale that summed all nine items; possible scores ranged from 9 to 45 (Cronbach's alpha, 0.88).

In addition, we included five demographic characteristics of the relationship. A dichotomous variable measured whether the relationship was ongoing or had ended at the time of the interview. Relationship duration was measured with the question "How long have you been/were you together?" The eight responses ranged from "less than a week" to "a year or more," and answers were coded in weeks. Age heterogamy, a commonly used indicator in studies of adolescents,^{4,46,47} was calculated by subtracting the female partner's age from the male partner's age, and then dichotomizing the variable according to whether the male partner was older than the female by at least three years. Racial and ethnic heterogamy was a dichotomous measure generated by comparing the respondent's and partner's reported racial and ethnic groups. A dichotomous variable measured whether the respondent and his or her partner attended the same school. Finally, sexual experience asymmetry indicated that one member of the couple was sexually inexperienced and the other was sexually experienced prior to the relationship.

•**Other covariates.** Multivariate models included indicators commonly used to predict condom use among teenagers. Social and demographic variables included respondent's age (measured in years at the time of the interview), gender, and race and ethnicity (Hispanic, white, black and other). Family-level measures included family structure as reported by the respondent (single parent, two biological parents, stepfamily and other) and parent's education as reported in the parent's questionnaire (less than high school, high school diploma or GED, some education beyond high school, and four-year college degree or more).

A measure of parental monitoring was based on the sum of six items asking the adolescent how often he or she is allowed to make decisions on "the time you must be home on weekend nights," "the people you hang around with," "what you wear," "your social life," "who you date" and "how often you date." The five responses ranged from "very often" to "never"; higher scores indicated decreased decision-making (Cronbach's alpha, 0.88). Parental

communication about dating and sex was measured by summing responses to six statements: "I can go to my parents when I have concerns or questions about the opposite sex," "My parents sometimes talk to me about sex," "My parents are really into my social life," "My parents like to hear about the girl/guy I like," "My parents sometimes talk to me about birth control" and "My parents sometimes talk to me about waiting to have sex until I am married." The five responses ranged from "strongly disagree" to "strongly agree"; higher scores indicated greater communication (Cronbach's alpha, 0.76).

Finally, we included four individual-level characteristics. Self-esteem was measured by summing responses to six statements: "I am able to do things as well as other people," "I feel that I have a number of good qualities," "I feel I do not have much to be proud of," "At times I think I am no good at all," "I feel that I am a person of worth, at least on an equal basis with others" and "I take a positive attitude toward myself."⁴⁸ The five responses ranged from "strongly disagree" to "strongly agree"; the scoring of the third and fourth items was reversed, so that for all items, higher scores indicated higher self-esteem (Cronbach's alpha, 0.72). School performance was based on the question "What grades did you get in school this year?" The nine possible responses ranged from "mostly A's" to "mostly F's"; higher values reflected higher grades. Sexual experience prior to the current or most recent relationship was based on reported sexual histories. And delinquency was measured as a sum of the frequency with which respondents reported having engaged in 10 delinquent acts (e.g., drank alcohol, carried a weapon, destroyed property) in the past 12 months. The nine possible responses ranged from "never" to "almost daily";⁴⁹ higher scores indicated more frequent delinquency (Cronbach's alpha, 0.86).

Analytic Approach

We used logistic regression to estimate teenagers' odds of consistent condom use versus inconsistent or no condom use. We estimated zero-order models, individual models that include each relationship quality separately and one model of the full set of covariates. Because of our small sample size, we present significant results as those at the $p < .10$ and the $p < .05$ levels. We tested intermediate models with just social and demographic or relationship characteristics, but present only the final model. We estimated interaction terms to investigate whether relationship qualities were associated with condom use in different or similar ways for males and females. Finally, we included three relationship quality models: one that included the scaled negative relationship quality item, one with the scaled positive relationship quality item and one with both. To accommodate high correlations among some qualities, factor analyses were conducted for the positive and negative qualities separately (not shown); the analyses support one factor each among positive and among negative relationship qualities.

TABLE 2. Odds ratios from zero-order logistic regression analyses assessing the likelihood of consistent condom use in teenagers' current or most recent dating relationship, by selected characteristics

Characteristic	Odds ratio
Relationship qualities†	
Negative	
Controlling behavior	0.84*
Conflict	0.84**
Partner mistrust	0.78*
Perceived partner inferiority	0.70**
Jealousy	0.65***
Nonexclusivity agreement	1.87†
Positive	
Intimate self-disclosure	0.92*
Enmeshment	0.78*
Passionate love	0.92*
Relationship salience	0.78†
Relationship	
Ongoing relationship	1.39
Duration	0.99*
Age heterogamy	0.73
Racial/ethnic heterogamy	0.96
School heterogamy	0.61*
Sexual experience asymmetry	1.11
Respondent	
Age	0.95
Female	0.64†
Race/ethnicity	
Hispanic	0.84
White (ref)	1.00
Black	1.02
Other	0.40
Family structure	
Single parent	0.63
Two biological parents (ref)	1.00
Stepfamily	0.55†
Other	0.65
Parental education	
<high school	0.71
High school (ref)	1.00
>high school, <four-year college degree	0.63
≥four-year college degree	0.46*
Parental monitoring	1.00
Parental communication about sex	1.02
Self-esteem	0.97
Grades	1.01
Previously sexually inexperienced	1.16
Delinquency	0.96*

* $p < .05$. ** $p < .01$. *** $p < .001$. † $p < .10$. ‡All qualities are coded so that higher scores indicate more of that quality, be it positive or negative. Notes: ref=reference group. Characteristics for which no reference group is shown were measured as continuous variables.

RESULTS

Descriptive Analyses

Nearly half (45%) of teenagers consistently used condoms with their current or most recent partner (Table 1). This proportion differs from national estimates of sexually active 15–19-year-olds (68% among males and 42% among females sexually active in the month prior to interview or 47% among males and 28% among females sexually active one year prior to interview).²

Teenagers characterized their relationships as having moderate levels of negative qualities such as controlling behaviors, conflict, mistrust, perceived partner inferiority and jealousy. Seventeen percent of youth had a nonexclusivity agreement. The negative quality scale had a mean of

17.0. Teenagers reported high levels of positive qualities in their relationship, such as self-disclosure, enmeshment, passionate love and salience. The positive relationship qualities scale had a mean of 34.0.

Three-quarters of teenagers were in ongoing relationships; on average, the duration of youths' current or last relationship was 40 weeks. Fifteen percent reported an age-heterogamous relationship, 21% reported a partner of a different race or ethnicity, 47% attended a different school than their partner and 34% had not shared their partner's level of sexual experience at the start of the relationship.

Youths' mean age was 16.5, and 54% of respondents were male. Fifty-six percent of youth were white, 32% black, 10% Hispanic and 2% of other races or ethnicities. Twenty-nine percent lived with a single parent, 41% with two biological parents, 17% in a stepfamily and 13% in another family type. About half of respondents' parents reported having no more than a high school education. Adolescents reported low parental monitoring, moderate

parental communication about dating and sex, and high self-esteem; on average, youths grades were mostly B's and C's. Forty-five percent of teenagers had not had sex at the time they started the index relationship. The level of delinquency was low.

Zero-Order Analyses

In the zero-order models (Table 2, page 185), most of the negative relationship qualities were negatively associated with consistent condom use (odds ratios, 0.7–0.8). The one exception was that having a nonexclusive relationship was positively associated with using a condom every time (1.9). Every positive relationship quality was associated with reduced odds of consistent use (0.8–0.9).

Relationship duration was negatively associated with consistent condom use (odds ratio, 0.99), as were attending a different school than one's partner and female gender (0.6 each). Adolescents living in stepfamilies were less likely than those who lived with two biological parents to use condoms consistently (0.6); youth whose parents had

TABLE 3. Odds ratios from models including individual negative relationship qualities in logistic regression analyses assessing the likelihood of consistent condom use in teenagers' current or most recent dating relationship

Characteristic	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Negative relationship qualities‡						
Controlling behavior	0.81*	na	na	na	na	na
Conflict	na	0.88†	na	na	na	na
Partner mistrust	na	na	0.76*	na	na	na
Perceived partner inferiority	na	na	na	0.71**	na	na
Jealousy	na	na	na	na	0.65**	na
Nonexclusivity agreement	na	na	na	na	na	3.27**
Relationship						
Ongoing relationship	1.36	1.56	1.35	1.42	1.87†	2.18*
Duration	0.99*	0.99*	0.98**	0.98**	0.99*	0.99**
Age heterogamy	1.21	1.22	1.14	1.11	1.11	1.33
Racial/ethnic heterogamy	1.54	1.59	1.46	1.47	1.49	1.32
School heterogamy	0.72	0.71	0.69	0.74	0.79	0.73
Sexual experience asymmetry	1.05	1.11	1.09	1.04	1.16	1.22
Respondent						
Age	1.00	0.98	0.96	0.98	0.97	0.96
Female	0.46*	0.52*	0.53*	0.55†	0.57†	0.53*
Race/ethnicity						
Hispanic	0.69	0.64	0.70	0.74	0.60	0.89
White (ref)	1.00	1.00	1.00	1.00	1.00	1.00
Black	1.45	1.52	1.56	1.40	1.30	1.66
Other	0.38	0.36	0.42	0.41	0.35	0.28
Family structure						
Single parent	0.82	0.81	0.84	0.83	0.87	0.74
Two biological parents (ref)	1.00	1.00	1.00	1.00	1.00	1.00
Stepfamily	0.43*	0.50†	0.51	0.46†	0.52	0.52
Other	0.41†	0.46	0.51	0.52	0.50	0.34*
Parental education						
<high school	0.70	0.73	0.70	0.70	0.66	0.64
High school (ref)	1.00	1.00	1.00	1.00	1.00	1.00
>high school, <four-year college degree	0.48*	0.47*	0.47*	0.49*	0.46*	0.54†
≥four-year college degree	0.37*	0.42*	0.41*	0.43†	0.38*	0.34*
Parental monitoring						
Parental monitoring	1.00	0.99	1.00	1.00	1.00	0.98
Parental communication about sex						
Parental communication about sex	1.04	1.02	1.02	1.02	1.02	1.02
Self-esteem						
Self-esteem	0.94	0.95	0.95	0.94	0.95	0.95
Grades						
Grades	1.03	1.04	1.03	1.02	1.05	1.06
Previously sexually inexperienced						
Previously sexually inexperienced	1.32	1.28	1.38	1.40	1.32	1.33
Delinquency						
Delinquency	0.96*	0.96*	0.96*	0.96*	0.96*	0.95**
<i>Intercept</i>	<i>6.12</i>	<i>8.20</i>	<i>12.21</i>	<i>11.66</i>	<i>6.21</i>	<i>7.69</i>

*p<.05. **p<.01. †p<.10. ‡All qualities are coded so that higher scores indicate more of that quality, be it positive or negative. Notes: na=not applicable. ref=reference group. Characteristics for which no reference group is shown were measured as continuous variables.

graduated from college were less likely than those whose parents had only a high school degree to use condoms every time (0.5). Finally, each one-point increase in delinquency score was associated with a 4% decrease in the odds of consistent condom use (0.96). Further analyses indicated that sexual experience is not related to consistent condom use, regardless of whether we compared couples in which only one partner was sexually inexperienced at the beginning of the relationship, both were or neither was (not shown).

Multivariate Analyses

Associations between negative relationship qualities and consistent condom use persisted in multivariate models that included each quality separately and were not mediated by individual- or relationship-level social and demographic variables (Table 3). Controlling behavior, conflict, partner mistrust, perceived partner inferiority and jealousy remained negatively associated with consistent use (0.7–0.9); nonexclusivity was even more strongly associated with increased odds of using condoms every time than it had been in the zero-order model (3.3).

Of the relationship-level demographic variables, ongoing relationship status and duration were associated with consistent condom use in the multivariate models. Duration was associated with lower odds of consistent condom use in each model (odds ratios, 0.98–0.99). Being in an ongoing relationship was associated with increased odds of consistent use in the model including the jealousy measure and the model including the nonexclusivity variable (1.9 and 2.2, respectively).

The only individual-level social or demographic characteristics related to consistent condom use were female gender (odds ratios, 0.5–0.6, depending on model), living with a stepfamily or in “other” living situations (0.3–0.5), parent’s having more than a high school education (0.3–0.5) and delinquency (0.95–0.96).

In multivariate models containing individual positive relationship qualities (Table 4), each quality was negatively associated with consistent condom use (odds ratios, 0.7–0.9). Being in an ongoing relationship was positively associated with using condoms consistently in all models (2.0 for each), except the model that included enmeshment. Relationship duration was negatively related to consistent condom use in three of the four models (0.99). The exception was the model including salience. Salience mediated the effect of relationship duration, and the duration estimate changed slightly when calculated to three decimal places (0.987 in model 1 and 0.990 in model 4). Thus, the association between duration and consistency of condom use is in part explained by feelings of importance of the relationship.

We included interaction terms to evaluate whether the associations between relationship qualities and consistency of condom use were similar for males and females (not shown). We found that they were, with one exception: Increased conflict score was associated with lowered

TABLE 4. Odds ratios from models including individual positive relationship qualities in logistic regression analyses assessing the likelihood of consistent condom use in teenagers’ current or most recent dating relationship

Characteristics	Model 1	Model 2	Model 3	Model 4
Positive relationship qualities†				
Intimate self-disclosure	0.89*	na	na	na
Enmeshment	na	0.75*	na	na
Passionate love	na	na	0.89*	na
Relationship salience	na	na	na	0.67*
Relationship				
Ongoing relationship	2.00†	1.76	2.01†	1.97†
Duration	0.99*	0.99†	0.99*	0.99
Age heterogamy	1.18	1.13	1.28	1.31
Racial/ethnic heterogamy	1.36	1.42	1.38	1.42
School heterogamy	0.73	0.73	0.72	0.70
Sexual experience asymmetry	1.17	1.07	1.11	1.12
Respondent				
Age	1.00	0.97	0.98	0.96
Female	0.56†	0.53*	0.53*	0.58†
Race/ethnicity				
Hispanic	0.73	0.77	0.82	0.76
White (ref)	1.00	1.00	1.00	1.00
Black	1.30	1.47	1.41	1.36
Other	0.35	0.34	0.35	0.31
Family structure				
Single parent	0.73	0.73	0.72	0.70
Two biological parents (ref)	1.00	1.00	1.00	1.00
Stepfamily	0.51	0.49†	0.45†	0.54
Other	0.42†	0.49	0.39*	0.44†
Parental education				
<high school	0.70	0.73	0.65	0.67
High school (ref)	1.00	1.00	1.00	1.00
>high school, <four-year college degree	0.50*	0.48*	0.47*	0.48*
≥four-year college degree	0.40*	0.40*	0.39*	0.38*
Parental monitoring	0.99	0.98	0.98	0.98
Parental communication				
about sex	1.03	1.03	1.03	1.02
Self-esteem	0.96	0.95	0.96	0.95
Grades	1.06	1.07	1.06	1.05
Previously sexually inexperienced	1.26	1.30	1.32	1.32
Delinquency	0.95**	0.95**	0.95*	0.95**
Intercept	3.41	6.83	5.73	11.76

*p<.05. **p<.01. †p<.10. ‡All qualities are coded so that higher scores indicate more of that quality, be it positive or negative. Notes: na=not applicable. ref=reference group. Characteristics for which no reference group is shown were measured as continuous variables.

odds of consistent condom use among females (odds ratio, 0.7), but not among males.

Our primary goal was to examine how individual relationship qualities are associated with consistent condom use; however, relationships are complex and consist of both negative and positive relationship qualities. Model fit tests indicated that both positive and negative relationships add to the fit of the models (not shown). Positive and negative relationship qualities were not significantly correlated ($r=-0.1$, $p<.20$).

In the final model, with the scaled negative quality items, negative qualities were associated with reduced odds of consistent condom use (odds ratio, 0.9; Table 5, page 188). According to additional analyses that included the negative qualities as separate indicators, the qualities

TABLE 5. Odds ratios from models including scales of relationship qualities in logistic regression analyses assessing the likelihood of consistent condom use in teenagers' current or most recent dating relationship

Characteristic	Model 1	Model 2	Model 3
Relationship quality scale‡			
Negative	0.91**	na	0.90**
Positive	na	0.93**	0.92**
Relationship			
Ongoing relationship	1.33	2.31*	1.90†
Duration	0.99*	0.99†	0.99
Age heterogamy	1.17	1.25	1.25
Racial/ethnic heterogamy	1.66	1.34	1.57
School heterogamy	0.75	0.75	0.82
Sexual experience asymmetry	1.05	1.14	1.08
Respondent			
Age	0.98	0.99	0.99
Female	0.49*	0.55†	0.50*
Race/ethnicity			
Hispanic	0.60	0.80	0.65
White (ref)	1.00	1.00	1.00
Black	1.42	1.27	1.22
Other	0.41	0.33	0.38
Family structure			
Single parent	0.90	0.69	0.81
Two biological parents (ref)	1.00	1.00	1.00
Stepfamily	0.45†	0.48†	0.43†
Other	0.49	0.39†	0.42†
Parental education			
<high school	0.73	0.68	0.73
High school (ref)	1.00	1.00	1.00
>high school, <four-year college degree	0.46*	0.48*	0.46*
≥four-year college degree	0.41*	0.39*	0.39*
Parental monitoring	1.00	0.98	0.99
Parental communication about sex	1.03	1.04	1.04
Self-esteem	0.94	0.96	0.95
Grades	1.03	1.08	1.06
Previously sexually inexperienced	1.33	1.27	1.26
Delinquency	0.96*	0.95**	0.96*
Intercept			
	6.33	3.57	2.81

*p<.05. **p<.01. †p<.10. ‡All qualities are coded so that higher scores indicate more of that quality, be it positive or negative. Notes: na=not applicable. ref=reference group. Characteristics for which no reference group is shown were measured as continuous variables.

tied to consistent condom use were perceived partner inferiority, jealousy and nonexclusivity (not shown). In the model with the scaled positive quality item, positive qualities were negatively associated with consistent condom use (0.9). Supplemental analyses indicated that none of the specific positive qualities were significantly related to consistent condom use when the other positive qualities were included in the model. The correlation among the positive qualities was quite high ($r=0.4-0.6$; not shown). Finally, in the model that included both the negative and the positive scaled items, each was negatively associated with consistent use (0.9 each).

Thus, negative and positive relationship qualities are each independently associated with consistency of condom use. The addition of the positive relationship qualities explains the association between duration and consistency of condom use; the duration odds ratio changes from 0.987 in model 1 to 0.992 in model 3. We tested gender and relationship quality interaction models, and the association

between positive relationship qualities and condom use is similar for females and males (not shown); however, negative relationship qualities were positively associated with consistent condom use only among females.

Additional analyses suggest that teenagers' relationships vary in the particular mix of positive and negative qualities (not shown). Two-thirds (65%) of respondents who reported scores below the median of both positive and negative relationship qualities used condoms consistently, compared with only 30% of teenagers who reported scores above the median of both positive and negative qualities. Adolescents who reported their relationship as being more uniformly positive (scores above the median positive and below the median negative) or negative (scores above the median negative and below the median positive) had similar levels of consistent condom use (46% and 42%, respectively).

DISCUSSION

The findings from this research move our understanding of adolescents' condom use consistency forward by focusing on dating relationship qualities and characteristics. Relationship qualities were associated with consistency of condom use even after social and demographic characteristics and other basic relationship features (e.g., duration and demographic heterogamy) were accounted for. Although females reported lower consistency of condom use in dating relationships, positive relationship qualities had similar associations for males and females; however, negative relationship qualities were associated with consistency of condom use among females but not males. The association between conflict and consistency of use for females in particular warrants additional research scrutiny, as this finding suggests a differential impact of discord within the relationship. In addition, future research should explore in more detail the degree to and ways in which adult contraceptive decisions are influenced by relationship dynamics.

Furthermore, our findings build on prior work that includes behavioral relationship indicators,^{4,6,7,17,21} by showing how more-refined indicators as well as subjective relationship qualities are related to consistent condom use. Although relationship duration—a common proxy for relationship quality—was significant, both positive and negative relationship qualities were negatively associated with consistent condom use, even when analyses included duration. The higher teenagers rated their level of self-disclosure, feelings of enmeshment and love, and relationship salience, the less likely they were to use condoms consistently. Thus, adolescents who may be in higher quality relationships are in fact facing greater sexual risk by not using condoms consistently. At the same time, having greater relationship conflict, partner's controlling behavior, mistrust, jealousy and perceived partner inferiority were negatively associated with consistent use of condoms. Prior work has focused on relationship violence, but our study shows that more subtle negative relationship processes are also associated with consistency

of condom use. Adolescents in relationships in which the partners agree to nonexclusivity had elevated odds of consistently using condoms. This suggests that this subgroup of teenagers are responding to potential sexual risks and engaging in safer sexual practices.

When we scaled relationship qualities into single negative and positive items, both were associated with consistency of condom use. Adolescent relationships vary considerably in the mix of positive and negative qualities that characterize them, but adolescents who scored high on both positive and negative qualities reported the least consistent condom use. This suggests that relationships that contain a mix of positive and negative features present an especially risky context for maintaining contraceptive consistency. Meanwhile, teenagers in relationships with low positive and negative qualities reported the most consistent condom use. Future studies should incorporate alternative ways of classifying relationships with special consideration of relationship dynamics linked to contraceptive decisions. Furthermore, these findings suggest new ways to analyze variations in how nondating sexual partners feel about their relationships.⁸ The basic distinction of casual and primary sexual partners may not be the best way to distinguish or understand adolescents' sexual relationships and their sexual risk-taking behavior.

Limitations

This study had several limitations. Although our study population was similar to national-level samples of adolescents in terms of race and ethnicity, social class and family structure, our results may not be generalizable for the United States. It is important to replicate this research using nationally representative samples. In addition, more work is needed in developing and validating measures of relationship qualities. There certainly are alternative ways to characterize relationships and combine positive and negative qualities in future work. The study is also limited by its cross-sectional design. Longitudinal research may be able to address causality. However, the interval between interviews needs to be short to overcome selection issues that arise from the relatively short duration of adolescent relationships. Further attention to how relationship qualities influence condom use over the course of adolescence, not just at one time point, is warranted. Finally, this study examines only consistent condom use; an important next step is to examine individuals' and partners' desires regarding condom use in relationships.³⁰

Policy and Program Implications

Sex education programs should intensify their focus on the relationship context of decision making. Many programs emphasize either abstinence or protection using condoms or other contraceptive methods, without much attention to relationships.¹¹ Programs may miss adolescents who are at risk if they limit their attention to those in casual relationships. Certainly, adolescents in relationships that are characterized by controlling behavior, conflict and

jealousy may be prone to inconsistent condom use. A programmatic emphasis should include the potential for non-exclusive sexual relationships, which place adolescents at heightened risk.

At the same time, other programs focus on building positive relationships;⁵⁰ however, our findings highlight that even positive features of adolescent relationships are associated with inconsistent condom use. Messages should be developed for adolescents in higher quality relationships, as they may decide to move away from condom use because of greater feelings of trust and love. Adolescents in all types of relationships are at risk of STDs and pregnancies, and programmatic response should attend to the full range of risk. Prevention programs should work to heighten awareness of these complex links between relationship dynamics and the likelihood of maintaining a consistent pattern of condom use.

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