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Relationship Dynamics and Consistency of Condom Use among Adolescents

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Abstract

Context—Research on teen condom use often focuses on the influence of parents, peers, and environmental factors. Although most sexually active teens have sex within dating relationships, we know little about how the characteristics of dating relationships are associated with consistent condom use.

Methods—Data on 269 teens in Wave 1 of the Toledo Adolescent Relationship Study who had sex in their most recent relationships were analyzed to examine how qualities of their relationship are associated with condom use. We present odds ratios based on logistic regression models predicting consistent condom use.

Results—Drawing on the analytic sample of teens who had sex with their dating partner, relationship qualities were significantly related to consistent condom use. Both negative relationship dynamics (conflict, control, mistrust, jealousy, perceived partner inferiority) and positive qualities (love, enmeshment, salience, self-disclosure) were associated with consistent condom use (OR .65–.89). Similar to prior studies, demographic asymmetries (age, race, neighborhood) were not related to consistent condom use. Relationship duration was negatively associated with consistent condom use (OR .98–.99), but the effect of duration was explained by feelings of relationship importance. The role of relationship qualities was similar for males and females.

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 sociodemographic characteristics. The findings suggested programs should focus on relationship qualities and dynamics, recognizing that both negative and positive relationship features were associated with consistent condom use.

Teens' contraceptive use is increasing primarily due to increased condom use.¹ Yet adolescents are typically inconsistent condom users.² Less than half of teen males and 28% of females who had sex in the previous year reported using a condom every time.² Inconsistent condom use elevates teens' risk for sexually transmitted infections. Each year more than nine million youths in the U.S. become infected with an STI.³ While many factors may influence youths' condoms use, such decisions occur within the dyadic context of their sexual relationships. One factor associated with condom use is the nature of the relationship with the romantic partner. Thus, characteristics of dating and sexual relationships likely influence youths' assessment of sexual risk and condom use.⁴

BACKGROUND

In assessing adolescent sexual behavior and contraception, recent research has examined the relationship context.^{5,6,7,8} The majority of teens have their first sexual experience with a boy/girlfriend and almost all teens have had sex at some point within the confines of dating relationships.^{9,10}

Relationship Type

Evidence, however, regarding the association between relationship type and contraceptive use is mixed.¹¹ Some research shows that condom and contraceptive use is greater among daters relative to more casual sexual relationships.^{4,6,10,12} Explanations for greater contraceptive use with dating partners include that sex: may more often be planned; is tied to feelings of love; and is associated with an ease of rapport permitting discussions of contraception. For example, daters who express a ‘couple orientation’ report higher odds of discussing contraception.¹³ Such discussions are associated positively with both higher odds of ever having used contraception and consistent contraceptive use within the relationship (for females only).¹⁴ Conversely, other studies document higher odds of contraceptive use in more casual relationships.^{12,15,16,17,18,19,20} These findings are consistent with the notion that teens perceive greater sexual risk with casual partners and act accordingly to protect themselves. Also, teens’ greater contraceptive use in casual sexual relationships may be associated with less trust and commitment to their sexual partners, resulting in more need to protect themselves from the potential risk of a sexually transmitted infection. Furthermore, considerable variation is due to the measurement of contraceptive and condom use across studies, the sexual experience of respondents (first vs. most recent sexual experience), and respondent’s gender.

Relationship Qualities

Although the distinction between casual and dating sexual partners is instrumental in our understanding of condom use, it is also critical to explore dating relationships themselves, because such relationships are the most common context for adolescents’ sexual activity. There has been little attention to the specific characteristics of dating relationships associated with variations in condom use consistency. While demographic heterogamy is associated with contraceptive use, the demographic measures of heterogamy (i.e., age, race, ethnicity, and neighborhood) generally are not related to contraceptive use or condom use in dating relationships.^{6,7} Yet respondents who report that their boy/girlfriend is not in school or goes to a different school have lower odds of condom use.⁶

Another characteristic of dating relationships is duration. The effect of dating duration on contraceptive use depends on sexual history, the measure of contraceptive use, and the definition of duration. Ku et al.’s sawtooth hypothesis focuses on the observed pattern in which young men (ages 17–22) more often use condoms early on in a dating relationship and then use diminishes with relationship duration, which then increases again at the start of the subsequent relationship.^{17,21} Evaluations of condom use across relationships find that longer relationship durations are associated with ever using condoms or contraception in the relationship. Longer relationship durations (measured from first intercourse to last intercourse) are associated with high odds of condom and contraceptive use,^{6,7,22} but a negative relationship exists between duration and consistently using contraception.^{7,21,22}

We argue that research focusing 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. Thus, it is important to examine further how relationship dynamics and characteristics

influence condom use. For example, certainly not all adolescent dating relationships share similar levels of love, trust, and commitment. Focusing on dating relationship qualities may further elucidate the underlying mechanisms connecting relationship type and contraceptive use.²³

There has been some attention to the frequency of couple activities and contraceptive use. Overall there is a positive relationship between the number of couple activities (e.g., meeting parents, saying I love you, exchanging gifts), and contraceptive use.⁴ Yet, others find that only among males is there a positive relationship between the number of couple activities and the odds of using and consistently using contraception.¹⁴ A limitation of the strategy of summing the number of couple activities is that all relationship features are treated equally, although some activities could be more salient (e.g., saying I love you versus exchanging gifts). Also, subjective aspects of relationships are not assessed.¹⁴ Smaller studies examining sexual relationships show that subjective qualities influence condom use. For example, research on young adult sexual relationships (daters and cohabitators) suggests that emotional closeness¹⁵ and higher relationship quality among young adults with a STD¹⁶ are associated with lower condom use. The importance of a particular relationship is also negatively related to consistent condom use for some subgroups of teens (white females).²⁴ Additionally, sexual partner communication is linked to increased odds of consistent contraceptive or condom use.^{25,26,27,28,29}

It is also important to determine whether negative relationship dynamics are associated with contraceptive use. For example, although relationship violence is not associated with use or consistent use of contraception at first intercourse,⁷ it is related to consistent contraceptive use for sexually experienced females.¹⁴ Prior work on negative dynamics is limited to abuse; however, the majority of teens do not report relationship violence. 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). Research based on teens participating in a STD clinic finds that the partner with the greater power or control was more able to enforce his/her wishes regarding condom use.³⁰

Another important dynamic is non-exclusivity. Although adolescents in non-exclusive sexual relationships have higher risk of exposure to STIs,^{31,32} they do not always protect themselves. For instance, dating exclusivity is tied to greater contraception and condom use.^{33,34} Analysis of sexually experienced teens indicates that although non-exclusivity 'should' motivate greater risk prevention, it is not necessarily related to use or consistency of contraceptive use,⁴ even among sexually active females in romantic relationships.²² These findings suggest that further assessments of exclusivity and perhaps trust are warranted.

CURRENT INVESTIGATION

This paper 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 because it is the most effective way to avoid sexually transmitted infections and adolescent condom use consistency is low.

We examine two hypotheses. First, positive aspects of relationships (e.g., love, relationship salience, intimate self-disclosure, feelings of enmeshment) will be associated with less consistent condom use. As emotional intimacy develops, partners' perceptions of the risks are weakened. An alternative hypothesis is that couples with more positive relationships will protect their relationships and their own sexual health by consistently using condoms. Next, we expect that dating relationships characterized by negative features (e.g., jealousy,

mistrust, conflict, lack of exclusivity, perceived partner inferiority, control) will be associated with inconsistent condom use. Negative interactions and feelings may impair the couple's ability to effectively use condoms every time they have intercourse. A competing hypothesis, however, 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 condom use consistency.

We evaluate whether relationship qualities matter net of key covariates found to be related to condom use. Research indicates that age, gender, and race/ethnicity are related to condom use consistency.^{2,7,14,35} Family structure, parents' education, parental monitoring, and communication are associated with contraceptive use. Teens from disadvantaged backgrounds reporting less monitoring and communication have lower contraceptive use.^{6,7,10,14,36,37,38,39} Finally, personal characteristics influence condom use consistency. Teens with prior sexual experience more often use condoms and those engaging in prosocial activities and reporting higher self-esteem are more likely to use condoms.^{6,7,14,17,36,40}

METHODS

Data

We used the Toledo Adolescent Relationships Study (TARS), a representative survey of 1,321 7th, 9th, and 11th graders in 2001. The sample was drawn from school rosters from 62 schools in the Toledo area (Lucas County, OH) and respondents did not need to attend school to be interviewed. Interviews were conducted in person and respondents entered most responses directly into a laptop computer to ensure privacy for sensitive questions. A paper and pencil parent questionnaire was administered to a parent or guardian (primarily mothers) at the same time. Although the TARS sample is not nationally representative, Lucas County does resemble national averages on characteristics of households with teenage children, such as median income (\$53,000 vs. \$52,770 for the U.S.), education levels (87% of household heads are high school graduates, compared to 82% of U.S. household heads), race (69% of teens are non-Hispanic white and 63% of U.S. teens are non-Hispanic white), and household type (69% of teens in Lucas County live in married couple households and 72% of teens nationwide).

The analytic sample consisted of teenagers who reported having sexual intercourse with the current or most recent boy/girlfriend, meaning they responded affirmatively to the question: "Have you ever had sexual intercourse (sometimes this is called 'making love,' 'having sex,' or 'going all the way') with {partner}?" When initially asked about dating experiences, respondents were asked: "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." Like the National Longitudinal Survey of Adolescent Health (Add Health), TARS deemphasized outings as a definition of dating. This was partly due to the young age of the sample, which may preclude outings. In addition, such a definition avoids differential selection into the dating questions by race/ethnicity, given that self-described romantic relationships among black youth are less likely to include actually "going out" one-on-one.¹³

Most teens (972) reported on their most recent relationship, which may have been ongoing at the time of the interview or may have ended. Of these teens, 273 (28%) had sex with that dating partner. This was similar to levels among comparably aged daters in the Add Health.⁴¹ Our sample contained 269 females and males who had sex with their current or most recent dating partner and who did not have missing data on relationship qualities or contraceptive use.

Measures

Dependent Variable—The dependent variable, consistent condom use, was coded yes (consistent use) or no (inconsistent or no use). Respondents were asked about consistent condom use and were provided six response options: “every time we have sex;” “almost every time (about 90%);” “most of the time (about 60–80%);” “half of the time (about 50%);” “some of the time (about 20–30%);” and “a few times (1–10%).” For analyses, we compared those who answered “every time we have sex” to all others. In addition to coding the 1%–90% condom users as “no” on consistent use, we included as “no’s” 26 respondents who previously said they never used condoms with this partner, and thus were not asked about consistency of use. The small number of respondents who never used condoms precludes analyzing this behavior separately from inconsistent use. Respondents were not asked if they had sex once or more than once in the relationship. Presumably, a couple who had sex once and used a condom would qualify for the “every time we have sex” response category.

Relationship Qualities—We offer a multidimensional portrait of relationship qualities but recognize our indicators are often limited to one or two items tapping each dimension. However, these were pre-tested and appear to be face valid measures of key constructs. Table 1 shows six negative and four positive relationship qualities. *Control* was the sum of responses to two statements: partner “sometimes wants to control what I do,” and “always tries to change me.”⁴² The five-item response category ranged from strongly disagree to strongly agree, with higher numbers representing more controlling behavior from the partner. Cronbach’s alpha was .71. *Conflict* was measured by summing two questions that ask how often the respondent and partner: “have disagreements or arguments;” and “yell or shout at each other.” The five-item responses ranged from never to very often (higher scores represent more frequent conflict) with an alpha of .86. *Mistrust* of partner was measured with the following statement: “There are times when {partner} cannot be trusted.”⁴³ The five responses were strongly disagree to strongly agree. *Perceived partner inferiority* was measured by the statement: “{partner} is not good enough for me,” with five response options ranging from strongly disagree to strongly agree, so higher scores indicated stronger assessments of the partner as inferior. *Jealousy* was measured by a single statement with five response options (strongly disagree to strongly agree): “When {partner} is around other girls/guys, I get jealous.” *Non-exclusivity agreement* was a yes/no variable comparing those couples who agreed it was okay to see other people with those who did not have such an agreement. The final indicator, a *negative qualities* scale, summed all eight negative quality items. Chronbach’s alpha for the combined scale was .77.

Intimate self-disclosure summed three questions asking how often the respondent and partner talk about the following: “something really bad that happened;” “your home life and family;” and “your private thoughts and feelings.”⁴⁴ The five-item responses ranged from never to very often and the alpha was .86. *Enmeshment* was measured with the item: “{partner} and I are practically inseparable.” The five responses ranged from strongly disagree to strongly agree. The mean score was 3.2. *Passionate love* was measured by summing 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 and the alpha was .84. *Relationship salience* was based on the item: “How important is your relationship with {partner}?” The five responses ranged from not at all important to very important, and higher scores indicated greater relationship salience. The *positive qualities* scale was the sum of all nine items. This scale had an alpha of .88.

We included five demographic characteristics of the relationship. First, a dichotomous variable indicated whether the *relationship was ongoing* at interview or had ended. Second, *duration* was measured as: “How long have you been (were you) together?” with eight responses ranging from “less than a week” to “a year or more,” and was recoded into constant units (weeks). Age heterogamy reflected whether the *male partner was older* by three or more years and was calculated by subtracting the female partner’s age from the male partner’s age, and then dichotomizing the variable based on a three year differential. This is a common marker of age difference in studies of adolescents.^{4,46,47} *Racial/ethnic heterogamy* was dichotomous and was generated by comparing the respondent’s and partner’s reported racial/ethnic group(s). The dichotomous variable measuring whether the respondent and partner *did not attend the same school* was based on the question: “Did you and {partner} attend the same school?” *Sexual experience asymmetry* was measured as whether only one member of the couple was a virgin prior to this relationship.

Sociodemographic Characteristics—The multivariate models include indicators commonly used to predict condom use among teens. *Age* was measured in years at the time of the interview. *Gender* was coded as 0=male and 1=female. The respondent’s *race/ethnicity* was based on two questions, the first on Hispanic/Latino ethnicity, and the second on race. Responses were combined to form four mutually exclusive race/ethnicity categories: Hispanic/Latino, non-Hispanic white, non-Hispanic black, and non-Hispanic other.

Family structure was based on the family living situation as reported by the teen and collapsed into four categories: single parent; two (biological) parents; stepfamily; and other (grandparent, other relatives, etc.). *Parent’s education* was from the parent’s questionnaire (the vast majority completed by mother/female caregiver). Responses were collapsed into four categories: less than high school; high school graduate/GED; some training beyond high school; and 4-year college degree or more. The average level of education was at least a high school degree. *Parental monitoring* was based on summing six items asking the adolescent how often (five category responses, very often to never) he/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.” This form of monitoring reflects adolescent decision-making, with higher scores indicating decreased decision-making by the teen. The alpha was .88. *Parental Communication about Dating/Sex* was calculated by summing the following six statements, each of which has five category responses (strongly disagree to strongly agree): “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 alpha was .76, and higher scores indicated greater communication.

There are four indicators of individual characteristics. *Self-esteem* was measured by summing six statements with five category responses (strongly disagree to strongly agree): “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” (reversed); “At times I think I am no good at all” (reversed); “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 Higher scores indicated higher self-esteem and the alpha was .72. School performance was based on a single item: “What grades did you get in school this year?” Nine possible responses ranged from “mostly A’s” (coded as 9) to “mostly F’s” (coded as 1), with higher values reflecting higher grades. We measured whether the respondent was a *virgin prior to this relationship*, based on reported sexual histories. *Delinquency* was measured as a sum of the frequency of engaging in 10 delinquent

acts (drank alcohol, carried a weapon, destroyed property, etc.) in the past 12 months, with nine possible responses from “never” to “almost daily.”⁴⁹ The alpha was .86, and higher scores indicated more frequent delinquency.

Analytic Approach

We used logistic regression to estimate the odds ratio of consistent condom use versus inconsistent or no condom use. We estimate zero-order models and models that include each relationship quality separately and the full set of covariates. Due to our relatively small sample size, we present significance tests at the $p < .10$ and the $p < .05$ levels. We tested intermediate models with just sociodemographic or relationship characteristics, but only present the final model. We estimated interaction terms to investigate whether the relationship qualities were associated with condom use in different or similar ways for males and females. Finally, we included a model of all the relationship quality indicators, first only negative, then positive, and a third model with all the relationship quality measures.

RESULTS

As shown in Table 1 nearly half (45%) of teens used condoms with their partners. Our estimates are slightly higher than national estimates of sexually active 15–19 year olds who may be in dating or non-dating sexual relationships.²

Next relationship qualities and characteristics are presented. The responses for control and conflict ranged from 2 to 10 with mean values of 4.2 and 5.1 respectively. Mistrust, perceived partner inferiority, and jealousy ranged from 1 to 5 with mean values of 2.4, 2.3, and 2.9 respectively. Nearly one-fifth (17.4%) had a non-exclusivity agreement. The negative quality scale had a mean of 17.0, and a range of 36. Self-disclosure responses ranged from 3 to 15 and the mean was 11.2. Enmeshment ranged from 1 to 5 with a mean of 3.2. Passionate love ranged from 4 to 20 and the mean was 15.1. Relationship salience ranged from 1 to 5 and the mean score was quite high, 4.1. The positive relationships scale had a mean of 34.0, and ranged from 9 to 45. Three-quarters of teens were in ongoing relationships and the mean duration was 40 weeks. Fifteen percent of the sample were in an age heterogamous relationship. One-fifth (20.6%) of the sample were dating someone of a different race/ethnicity. Only about half of the sample attended the same school. One-third (34.3%) of the respondents did not share the same level of sexual experience.

Regarding sociodemographic characteristics, the mean age was 16.5 and the sample was nearly equally divided by gender. Half of the sample was white, nearly one-third black, and about 10% Hispanic. Two-fifths of the sample lived with two biological parents, 29% with a single parent, 17% in a stepfamily, and 13% in an ‘other’ family type. Nearly one-fifth of parent respondents had less than 12 years of schooling, one-third had a high school degree, one-third had some post high school education, and 15% had a college degree. The mean score on parental monitoring was 11.3. The responses on parental communication about dating and sex ranged from 7 to 30 and the mean score was 19.2. The average self-esteem score was 24.2 and the mean grades were 5.7 (mostly B’s and C’s). About half (45%) were virgins at the time they started dating. The responses for delinquency ranged from 10 to 90 and the mean score was quite low, 15.8.

The zero order models in Table 2 indicate that almost all of the positive relationship qualities are statistically significant and negatively associated with consistent condom use (OR=0.8–0.9). Teenagers who reported greater self-disclosure, expressed greater love, felt the relationship was quite important, and believed they were inseparable experienced lower odds of consistent condom use.

The zero order models also indicate that most of the negative relationship qualities are negatively associated with condom use consistency (OR=0.6–0.9). Adolescents whose dating relationships were characterized by greater levels of control or influence by partner, higher levels of conflict, elevated feelings of mistrust, greater feelings of jealousy, and who believed that the partner was inferior to them, all experienced lower odds of consistent condom use. Thus, both positive and negative dating relationship qualities are associated with consistent condom use. The one exception is that teens who had agreed that their dating relationships would be non-exclusive experienced 87% higher odds of consistent condom use.

The zero order models show that teens in longer relationships had lower odds of consistent condom use (OR=.99) as did teens who did not both attend the same school (OR=0.6). Similar to prior studies, females reported lower odds of consistent condom use than did males (OR=0.6). Adolescents living in stepfamilies (OR=0.5) and with highly educated parents (OR=0.5) had lower odds of consistent condom use. Finally, the higher the delinquency score the lower the odds of consistent condom use (OR=.96). Teens' sexual experience was not significantly associated with consistent condom use. Similar results were obtained with alternate measures of sexual experience, whether comparing couples who were both virgins with all others, or comparing two virgin, female only, male only, and no virgin couples.

Multivariate models showing the relationships between negative relationship qualities and consistent condom use are presented in Table 3. The significant associations between consistent condom use and the negative relationship qualities persisted in multivariate models (OR=0.6–3.3). Notably, the association between relationship qualities and consistency of condom use was not mediated by either sociodemographic variables or relationship demographics. Having a non-exclusivity agreement is now significantly associated with increased odds of consistent condom use at $p<.05$ (OR=3.3), stronger than the marginally significant relationship at the zero order. The suppression effect became visible with the addition of any of the following variables: current relationship, race/ethnicity, parent's education, parental communication, grades, or delinquency.

The relationship demographics that influence condom use consistency were intact status and duration. Teens who were in intact relationships at the time of interview had similar odds of consistent condom use as teens reporting on relationships that had ended. One exception was the model with exclusivity agreement; many teens who had non-exclusivity agreements were not in ongoing relationships. The effect of current relationship status emerges as statistically significant with the inclusion of exclusivity agreement (OR=2.2). Having a current relationship is also positively associated (at $p<.10$) with consistent condom use after the inclusion of respondent's jealousy (OR=1.9). Duration was associated with lower odds of consistent condom use in each of the models (OR=0.98–0.99)

In the multivariate models the only sociodemographic characteristics related to consistent condom use were gender (OR=0.5–0.6), family structure (ORs range from 0.3 to 0.5 for those in stepfamilies and "other" living situations), parent's education (ORs 0.3–0.5 for those with some college or more), and delinquency (OR=0.9–1.0). Regarding the finding that consistent condom use was lower among those with more educated parents, additional analyses (not shown) indicated that it does not appear that the decreased condom use was due to significantly increased use of other forms of contraception. Note, studies have found more risky sexual activity among those with higher-educated/higher-income parents.^{50,51,52}

Table 4 presents the set of multivariate models showing that the positive relationship characteristics continue to be negatively associated with consistent condom use (OR=0.7–

0.9). Teens who were in intact relationships at time of interview had higher odds of consistent condom use (OR=1.8–2.0) than teens reporting on relationships that had ended (the exception is $p>.10$ for model 2 including enmeshment). Relationship duration was negatively related to consistent condom use in almost all of the models (OR=.99). The exception was the model predicting consistent condom use with relationship salience as the focal independent variable. The salience of the relationship mediated the effect of relationship duration, and the duration estimate slightly changed when considering three decimal places (0.987 in model 1 and 0.990 in model 4). Thus, the effect of duration on consistency of condom use is explained to some extent by feelings of importance of the relationship.

We included interaction terms to evaluate whether relationship qualities were related in similar ways for males and females and found that the associations between relationship qualities and consistency of condom use were generally similar for males and females (results not shown). The one exception was that conflict had a significantly greater effect for females. Thus, as the amount of conflict increased, the odds of consistent condom use decreased for females (OR=0.7), but the effect of conflict in the relationship was not statistically significant for males.

Our primary goal was to examine how individual relationship qualities influence 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 (results now shown). Positive and negative relationship qualities are not significantly correlated ($r=-0.08$, $p<.20$). Table 5 presents models that include the set of negative relationship qualities, positive relationship qualities, and all relationship qualities in a final model. To accommodate the fact that there are some high correlations among qualities, factor analyses were conducted for the positive and negative qualities separately. The analyses support one factor each among positive and among negative relationship qualities (results not shown). Model 1 indicates that the scaled negative qualities were associated with lower odds of consistent condom use. Further analyses, which included the negative qualities as separate indicators (not shown), revealed that the key qualities were perceptions that partner is inferior, jealousy, and non-exclusivity. Model 2 includes the positive relationship qualities in a single scaled item and they are also negatively related to consistent condom use. 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 and ranged from .43 to .61 (results not shown). Model 3 includes the positive and negative relationship qualities and each remains statistically significant. These findings indicate that the effects of negative and positive relationship qualities each have independent effects on consistency of condom use. The addition of the positive relationship qualities explains the duration effect, the duration (measured in weeks) odds ratio changes from 0.987 in Model 1 to .992 in Model 3. Gender and relationship quality interaction models were tested (results not shown), and indicate that the significant effect of positive relationship qualities is similar for females and males. However, the effect of the negative relationship qualities was significantly greater for females, and negative relationship qualities were not significantly related to consistent condom use among males.

A final set of analyses recognizes that teens' relationships vary in the particular mix of positive and negative qualities. Two-thirds of respondents who are in relationships characterized as low affect (below the median on both positive and negative qualities) report consistent condom use, while only 30% of teens in relationships above the median on both positive and negative qualities report consistent condom use. Teens who report more uniformly positive relationship dynamics (above the median positive and below the median

negative qualities) as well as those who describe poorer relationship qualities (above the median negative and below the median positive qualities) have similar levels of consistent condom use, 46% and 42% respectively. This suggests that relationships that contain a mix of positive and negative features present an especially risky context for maintaining contraceptive consistency.

DISCUSSION

The findings from this paper move our understanding of adolescents' condom use consistency forward by focusing on dating relationship qualities and characteristics. Relationship qualities are significantly associated with the consistency of condom use even when sociodemographic and other basic relationship features (duration, demographic heterogeneity) are included in the model. Although females reported lower consistency of condom use in dating relationships, findings indicate that the positive relationship qualities play a similar role for males and females. Yet, negative relationship qualities influenced consistency of condom use among females and not males. The stronger 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. Future research could also explore in more detail the degree to which and ways in which adult contraceptive decisions are influenced by relationship dynamics.

Our findings build on prior work that includes behavioral relationship indicators^{4,6,7,17,21} and show that a broader range of relationship qualities are related to consistent condom use. While duration of the relationship (a common proxy for relationship quality) is a significant predictor, both positive and negative relationship qualities are associated with inconsistent condom use even when duration is included in the model. Teens who reported higher levels of self-disclosure and stronger feelings of enmeshment, love, and relationship salience experienced less consistent condom use. 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, adolescents who reported more conflict and control in their relationships, feelings of mistrust and jealousy, and who experienced a feeling of superiority relative to their partner, had lower odds of consistently using condoms. Prior work has focused on relationship violence, but our study shows that more subtle negative relationship processes are also associated with inconsistent condom use. Adolescents in relationships in which the partners agree that the relationship is not exclusive experience significantly greater odds of consistently using condoms. This suggests that this subgroup of teens are responding to potential sexual risks and engaging in safer sexual practices.

When the relationship qualities are scaled into single items measuring negative and positive qualities, we find that both negative and positive qualities are significantly associated with consistency of condom use. Adolescent relationships vary considerably in the mix of positive and negative qualities that characterize them, but teens who score high on both positive and negative qualities have the least consistent condom use. Conversely, teens in relationships with low positive and negative qualities have the most consistent condom use. Future studies should incorporate alternative ways of classifying relationships with special consideration of relationship dynamics linked to contraceptive decisions. Further, these findings suggest new ways to analyze variation in how non-dating 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.

Study Limitations

This paper is limited to findings from one county of the United States. Although the study population is similar to national level samples of adolescents in terms of the distribution of race/ethnicity, social class, and family structure, it is important to replicate these findings with nationally representative samples. Additionally, work is needed in developing and validating measures of relationship qualities. There are alternative ways to characterize relationships and combine positive and negative qualities. The study is also limited to a cross-sectional analysis of the association between relationship qualities and consistency of condom use. Research that relies on longitudinal data may be better able to address causality issues. However, the time frame needs to be short between interviews to overcome selection issues that arise from the relatively short duration of adolescent relationships. Further attention to how relationship qualities over the course of adolescence, not just at one time point, influence condom use is warranted. Finally, an important next step is to examine the role of condom use desires of individuals and partners in relationships and not just consistent condom use.³⁰

Policy and Program Implications

Sex education programs should include a greater focus on the relationship context of decision making. Many programs emphasize either abstinence or protection using contraception or condoms without much attention to relationships.¹¹ Programs may miss teens who are at risk if attention is limited to those in casual relationships. Certainly, teens in relationships that are characterized by control, high conflict, and jealousy may be prone to less consistent condom use. A programmatic emphasis should include the potential for non-exclusive sexual relationships, which place the teens at heightened risk. At the same time other programs focus on building positive relationships.⁵³ However, the current findings highlight that even features of positive adolescent relationships (high levels of trust and love) are associated with less consistent condom use. This indicates that messages should be developed for teens who are in higher quality relationships because 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 sexually transmitted infections and pregnancies and programmatic response should attend to the full range of risk. Prevention programs should work to heighten awareness of these complex links to relationship dynamics and the likelihood of maintaining a consistent pattern of condom use.

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TABLE 1

Distribution of Dependent and Independent Variables Among Teens in Sexually Active Dating Relationships

	Mean/%	Possible Range
<i>Consistent Condom Use (Dependent Var.)</i>	45.4%	0–1
<i>Relationship Qualities[§]</i>		
Negative Qualities:	17.0	7–36
Control	4.2	2–10
Conflict	5.1	2–10
Mistrust of Partner	2.4	1–5
Perceived Partner Inferiority	2.3	1–5
Jealousy (Respondent)	2.9	1–5
Non-exclusivity Agreement	17.4%	0–1
Positive Qualities:	34.0	9–45
Intimate Self Disclosure	11.2	3–15
Enmeshment	3.2	1–5
Passionate Love	15.1	4–20
Relationship Salience	4.1	1–5
<i>Relationship Demographics</i>		
Relationship is Current (vs. Ended)	74.6%	0–1
Duration (Est. in Weeks)	39.7	0.5–78
Age Asymmetry	15.0%	0–1
Racial/Ethnic Asymmetry	20.6%	0–1
School Asymmetry	47.1%	0–1
Sexual Experience Asymmetry	34.3%	0–1
<i>Respondent's Sociodemographic Characteristics</i>		
Age	16.5	12–19
Gender:		0–1
Male	54.2%	0–1
Female	45.8%	0–1
Race Ethnicity:		
Hispanic	9.5%	0–1
Non-Hispanic White	56.2%	0–1
Non-Hispanic Black	31.9%	0–1
Non-Hispanic Other	2.4%	0–1
Family Structure:		
Single Parent	29.3%	0–1
Two Biological Parents	40.6%	0–1
Stepfamily	17.2%	0–1
Other Living Situation	12.9%	0–1
Parent's Education:		
Less than High School	18.6%	0–1
High School	32.6%	0–1

	Mean/%	Possible Range
>High School, No 4-Year Degree	33.4%	0–1
4-Year College Degree+	15.4%	0–1
Parental Monitoring	11.3	6–30
Parental Communication Re. Sex	19.2	6–30
Self-Esteem	24.2	6–30
Grades (where 5=mostly C's and 6=mixed B's and C's)	5.7	1–9
Virgin Before This Relationship	45.2%	0–1
Delinquency	15.8	10–90

[§] All qualities are coded so that higher scores indicate more of that quality, be it positive or negative.

Source: Toledo Adolescent Relationships Study Wave 1, N=269

TABLE 2

Zero-Order Models, Logistic Regression Predicting Consistent Condom Use Among Teens in Sexually Active Dating Relationships

	Zero Orders OR
<i>Negative Relationship Qualities[§]</i>	
Control	0.84*
Conflict	0.84**
Mistrust of Partner	0.78*
Perceived Partner Inferiority	0.70**
Jealousy (Respondent)	0.65***
Non-exclusivity Agreement	1.87 [†]
<i>Positive Relationship Qualities[§]</i>	
Intimate Self Disclosure	0.92*
Enmeshment	0.78*
Passionate Love	0.92*
Relationship Saliency	0.78 [†]
<i>Relationship Demographics</i>	
Relationship is Current (vs. Ended)	1.39
Duration (Est. in Weeks)	0.99*
Age Asymmetry	0.73
Racial/Ethnic Asymmetry	0.96
School Asymmetry	0.61*
Sexual Experience Asymmetry	1.11
<i>Respondent's Sociodemographic Characteristics</i>	
Age	0.95
Gender (Female)	0.64 [†]
Race Ethnicity:	
Hispanic	0.84
Non-Hispanic White	---
Non-Hispanic Black	1.02
Non-Hispanic Other	0.40
Family Structure:	
Single Parent	0.63
Two Biological Parents	---
Stepfamily	0.55 [†]
Other Living Situation	0.65
Parent's Education:	
Less than High School	0.71
High School	---
>High School, No 4-Year Degree	0.63

	Zero Orders OR
4-Year College Degree+	0.46*
Parental Monitoring	1.00
Parental Communication Re. Sex	1.02
Self-Esteem	0.97
Grades	1.01
Virgin Before This Relationship	1.16
Delinquency	0.96*

† $p < .10$,

* $p < .05$,

** $p < .01$,

*** $p < .001$

§ All qualities are coded so that higher scores indicate more of that quality, be it positive or negative.

Source: Toledo Adolescent Relationships Study Wave 1, N=269

Logistic Regression Using *Negative* Relationship Qualities to Predict Consistent Condom Use Among Teens in Sexually Active Dating Relationships

TABLE 3

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	OR	OR	OR	OR	OR	OR
<i>Intercept</i>	6.12	8.20	12.21	11.66	6.21	7.69
<i>Negative Relationship Qualities §</i>						
Control	0.81*					
Conflict		0.88 [†]				
Mistrust of Partner			0.76*			
Perceived Partner Inferiority				0.71**		
Jealousy (Respondent)					0.65**	
Non-exclusivity Agreement						3.27**
<i>Relationship Demographics</i>						
Relationship is Current (vs. Ended)	1.36	1.56	1.35	1.42	1.87 [†]	2.18*
Duration (Est. in Weeks)	0.99*	0.99*	0.98**	0.98**	0.99*	0.99**
Age Asymmetry	1.21	1.22	1.14	1.11	1.11	1.33
Racial/Ethnic Asymmetry	1.54	1.59	1.46	1.47	1.49	1.32
School Asymmetry	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
<i>Respondent's Sociodemographic Characteristics</i>						
Age	1.00	0.98	0.96	0.98	0.97	0.96
Gender (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
Non-Hispanic White	---	---	---	---	---	---
Non-Hispanic Black	1.45	1.52	1.56	1.40	1.30	1.66
Non-Hispanic Other	0.38	0.36	0.42	0.41	0.35	0.28
<i>Family Structure:</i>						
Single Parent	0.82	0.81	0.84	0.83	0.87	0.74
Two Biological Parents	---	---	---	---	---	---

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	OR	OR	OR	OR	OR	OR
Stepfamily	0.43*	0.50 [†]	0.51	0.46 [†]	0.52	0.52
Other Living Situation	0.41 [†]	0.46	0.51	0.52	0.50	0.34*
Parent's Education:						
Less than High School	0.70	0.73	0.70	0.70	0.66	0.64
High School	---	---	---	---	---	---
>High School, No 4-Year Degree	0.48*	0.47*	0.47*	0.49*	0.46*	0.54 [†]
4-Year College Degree+	0.37*	0.42*	0.41*	0.43 [†]	0.38*	0.34*
Parental Monitoring	1.00	0.99	1.00	1.00	1.00	0.98
Parental Communication Re. Sex	1.04	1.02	1.02	1.02	1.02	1.02
Self-Esteem	0.94	0.95	0.95	0.94	0.95	0.95
Grades	1.03	1.04	1.03	1.02	1.05	1.06
Virgin Before This Relationship	1.32	1.28	1.38	1.40	1.32	1.33
Delinquency	0.96*	0.96*	0.96*	0.96*	0.96*	0.95**

[†] $p < .10$,

* $p < .05$,

** $p < .01$,

*** $p < .001$

§ All qualities are coded so that higher scores indicate more of that quality.

Source: Toledo Adolescent Relationships Study Wave 1, N=269

TABLE 4

Logistic Regression Using *Positive* Relationship Qualities to Predict Consistent Condom Use Among Teens in Sexually Active Dating Relationships

	Model 1	Model 2	Model 3	Model 4
	OR	OR	OR	OR
<i>Intercept</i>	3.41	6.83	5.73	11.76
<i>Positive Relationship Qualities</i> [§]				
Intimate Self Disclosure	0.89*			
Enmeshment		0.75*		
Passionate Love			0.89*	
Relationship Salience				0.67*
<i>Relationship Demographics</i>				
Relationship is Current (vs. Ended)	2.00 [†]	1.76	2.01 [†]	1.97 [†]
Duration (Est. in Weeks)	0.99*	0.99 [†]	0.99*	0.99
Age Asymmetry	1.18	1.13	1.28	1.31
Racial/Ethnic Asymmetry	1.36	1.42	1.38	1.42
School Asymmetry	0.73	0.73	0.72	0.70
Sexual Experience Asymmetry	1.17	1.07	1.11	1.12
<i>Respondent's Sociodemographic Characteristics</i>				
Age	1.00	0.97	0.98	0.96
Gender (Female)	0.56 [†]	0.53*	0.53*	0.58 [†]
Race Ethnicity:				
Hispanic	0.73	0.77	0.82	0.76
Non-Hispanic White	---	---	---	---
Non-Hispanic Black	1.30	1.47	1.41	1.36
Non-Hispanic Other	0.35	0.34	0.35	0.31
Family Structure:				
Single Parent	0.73	0.73	0.72	0.70
Two Biological Parents	---	---	---	---
Stepfamily	0.51	0.49 [†]	0.45 [†]	0.54
Other Living Situation	0.42 [†]	0.49	0.39*	0.44 [†]
Parent's Education:				
Less than High School	0.70	0.73	0.65	0.67
High School	---	---	---	---
>High School, No 4-Year Degree	0.50*	0.48*	0.47*	0.48*
4-Year College Degree+	0.40*	0.40*	0.39*	0.38*
Parental Monitoring	0.99	0.98	0.98	0.98
Parental Communication Re. 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

	Model 1	Model 2	Model 3	Model 4
	OR	OR	OR	OR
Virgin Before This Relationship	1.26	1.30	1.32	1.32
Delinquency	0.95**	0.95**	0.95*	0.95**

† $p < .10$,

* $p < .05$,

** $p < .01$,

*** $p < .001$

§ All qualities are coded so that higher scores indicate more of that quality.

Source: Toledo Adolescent Relationships Study Wave 1, N=269

TABLE 5

Logistic Regression Using Scales of Relationship Qualities to Predict Consistent Condom Use Among Teens in Sexually Active Dating Relationships

	Model 1	Model 2	Model 3
	OR	OR	OR
Intercept	6.33	3.57	2.81
<i>Negative Relationship Qualities</i> §	0.91**		0.90**
<i>Positive Relationship Qualities</i> §		0.93**	0.92**
<i>Relationship Demographics</i>			
Relationship is Current (vs. Ended)	1.33	2.31*	1.90 [†]
Duration (Est. in Weeks)	0.99*	0.99 [†]	0.99
Age Asymmetry	1.17	1.25	1.25
Racial/Ethnic Asymmetry	1.66	1.34	1.57
School Asymmetry	0.75	0.75	0.82
Sexual Experience Asymmetry	1.05	1.14	1.08
<i>Respondent's Sociodemographic Characteristics</i>			
Age	0.98	0.99	0.99
Gender (Female)	0.49*	0.55 [†]	0.50*
Race Ethnicity:			
Hispanic	0.60	0.80	0.65
Non-Hispanic White	---	---	---
Non-Hispanic Black	1.42	1.27	1.22
Non-Hispanic Other	0.41	0.33	0.38
Family Structure:			
Single Parent	0.90	0.69	0.81
Two Biological Parents	---	---	---
Stepfamily	0.45 [†]	0.48 [†]	0.43 [†]
Other Living Situation	0.49	0.39 [†]	0.42 [†]
Parent's Education:			
Less than High School	0.73	0.68	0.73
High School	---	---	---
>High School, No 4-Year Degree	0.46*	0.48*	0.46*
4-Year College Degree+	0.41*	0.39*	0.39*
Parental Monitoring	1.00	0.98	0.99
Parental Communication Re. Sex	1.03	1.04	1.04
Self-Esteem	0.94	0.96	0.95
Grades	1.03	1.08	1.06
Virgin Before This Relationship	1.33	1.27	1.26
Delinquency	0.96*	0.95**	0.96*

[†] $p < .10$,

*
 $p < .05,$

**
 $p < .01,$

 $p < .001$

§ All qualities are coded so that higher scores indicate more of that quality, be it positive or negative.

Source: Toledo Adolescent Relationships Study Wave 1, N=269