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Extended Abstract

The Influence of Relationship Context on Relationship-Specific Condom Use*

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Introduction and Background

A substantial body of literature has informed our understanding of individual-level sociodemographic and psychosocial characteristics associated with sexual activity and protective practices among adolescents and young adults. Far less, however, is known about relationship-specific sexual behavior, despite the growing number of studies that indicate that sexual activity and protective practices occur within a relational context. Relationship processes and behavior within a relationship are not only influenced by the characteristics that each individual brings to the relationship, but also by the conditions of the relationship that occur as a result of the dyad's interaction (Kelley et al., 1983). The interdependence found in close relationships is often substantial such that each individual may have a significant influence on the other. Therefore, deciphering between individual and relationship characteristics is crucial.

Evidence indicates that most adolescents first engage in sexual activity within the context of a committed relationship (Manning et al., 2000; National Center for Health Statistics, 1997; Thornton, 1990). Youth often acquire a majority of early sexual experience with one partner (de Gaston et al., 1995) and adolescents and young adults in relationships that are more emotionally intimate engage in more frequent sexual activity (DeLamater, 1981). Early and serious dating is also related to the onset of sexual activity and the number of sexual partners that individuals acquire over time (Thornton, 1990). Further, adolescents and young adults engage in different sexual risk taking behaviors depending on the length and level of commitment of their relationships (Ford et al., 2001; Katz et al. 2000; Ku et al., 1994; Manning et al., 2000). Given that sexual activity often occurs within the context of a romantic relationship, there is justification in jointly investigating relationships and sexual involvement. Most studies have merely focused on describing the associations between an individual's characteristics and his or her sexual behavior. Fewer have considered how the characteristics of individual's partners and relationships may be associated with sexual and protective practices.

Condom use has been identified as a key behavior in the prevention of STDs/HIV and unintended pregnancy during adolescence and young adulthood (IOM, 1997). Prior studies suggest that condom use by an individual varies both across and within relationships, and that the nature and characteristics of relationships can influence condom use (Ford & Norris, 1997, 2000; Ford et al., 2001; Howard et al., 1999; Katz et al., 2000; Ku et al., 1994; Upchurch et al., 1991; Wingood & DiClemente, 1997, 1998). Most of the research that has examined the influence of relationship characteristics has focused on protective practices, specifically condom use. This research priority resulted from the necessity to better understand the factors that influence condom use as an effective method to reduce the risk of HIV transmission and acquisition. The relationship characteristics that have been examined most often are relationship status, duration of the relationship, and age difference between partners.

There is a strong association between relationship status and condom use (Sheeran et al., 1999). Despite difficulties in achieving a standardized definition for the status of a relationship, most research indicates that relationships that are new or casual are more likely to include consistent condom use, while relationships that are steady or committed are less likely to include consistent condom use (Catania et al., 1989; Ford & Norris, 2000; Katz et al., 2000; Macaluso et al., 2000; Manlove et al., 2003; Manning et al., 2000; Norris et al., 1996; Seidman et al., 1992; Wingood & DiClemente, 1998). In addition, individuals who have both “main” and “side” partners are more likely to use condoms with “side” partners (Lansky et al., 1998; Macaluso et al., 2000; Santelli et al., 1996). An explanation for these findings is that condom use changes as the nature of a relationship changes. In a new or casual relationship, the partners may know little about each other and therefore may be unable to assess the risk associated with engaging in unprotected sexual intercourse. On the other hand, as a relationship progresses and becomes steady or committed, the partners may know more about each other and therefore may find it less important to use condoms because these relationships are believed to be of lower risk. Relationships that are steady or committed have a high level of intimacy and attachment. Relationships that are assessed to be of high relationship quality or are motivated by reasons concerning intimacy are less likely to include consistent condom use (Cooper et al., 1998; Katz et al., 2000). As relationships become committed, couples might also assume exclusivity, which would reduce the risk involved in unprotected sex. Moreover, relationships that are more committed may rely on other non-barrier contraceptive methods because they are less concerned with protection against sexually transmitted diseases (Ku et al., 1994). Research also suggests that condom use may not be adequately integrated into relational scripts in serious relationships. In intimate relationships, individuals may not consider using condoms because of normative beliefs about what should occur in intimate relationships or because either partner may be hesitant to introduce the use of condoms because it may imply infidelity, signify distrust, or symbolize casual sex (Hynie et al., 1998; Gilmore et al., 1996; Wingood & DiClemente, 1998).

Research has also shown that condom use becomes less consistent with increased duration of a relationship and is often not used after a certain period of time (Fortenberry et al., 2002; Howard et al., 1999; Ku et al., 1994). Ku and colleagues (1994) explored this phenomenon, which they term the “sawtooth hypothesis,” in an attempt to explain an individual’s use of condoms within and across relationships. The results of this study indicate that condom use is dynamic and changes over time. Specifically, they find that condom use

tends to decrease during a relationship. In addition, they find that use of condoms within relationships declines with age because as individuals grow older, successive relationships become longer so there are fewer new relationships within which to use a condom. Also, the types of partners and relationships change over time, thereby reducing the probability that the couple will use condoms. This study and others (Fortenberry et al., 2002; Howard et al., 1999; Ku et al., 1994) suggest that duration of a relationship is related to contraceptive use in a manner similar to that of relationship status. Duration may also serve as an indicator of stability or intimacy. Ku and colleagues (1994) address one additional key element; not only does condom use within a relationship change as a function of relationship length but individuals change their behavior with age depending on the changing characteristics of their partners and relationships. Their findings highlight the importance of examining characteristics of both members of the couple and the relationship itself.

Most of the research that has explored the association between age difference and sexual activity or contraceptive use within a relationship has focused on young women. Young women are more likely than young men to have older partners (Ford et al., 2001) and young women, especially adolescents, are more likely than older women to have a partner who is older (Darroch et al., 1999). Adolescent women involved in a relationship with someone who is older experience a higher likelihood of engaging in sexual intercourse compared to adolescent women with partners who are the same age (Kaestle et al., 2002). Young women with older partners are more likely to report that intercourse was involuntary (Abma et al., 1998) and less likely to report using a contraceptive method in that relationship (Abma et al., 1998; Darroch et al., 1999; Ford et al., 2001; Gleib, 1999; Manlove et al., 2003; Manning et al., 2000; Miller et al., 1997). This association is found for both first and current sexual partners. An age difference between partners may reflect differences in maturity, sexual experience, social networks, resources, and status, and therefore may reflect differences in expectations regarding sexual activity and contraceptive use. Furthermore, differences in age may increase the likelihood of an imbalance in the power dynamics in a relationship, making it particularly difficult for the younger person in the relationship to negotiate sexual activity and contraceptive use.

These studies provide evidence supporting the importance of relational contexts. In particular, the research reviewed highlights the complexity and diversity of relationships. Partner and relationship characteristics influence the behavior that occurs within a relationship. Moreover, individuals behave differently in different relationships. Although these studies have not fully explicated all of the different characteristics that might influence contraceptive behavior within a given relationship, they have at least begun to recognize and offer findings that acknowledge that sexual activity occurs within the context of a relationship.

This paper seeks to explain variation in condom use within adolescent and young adult sexual relationships by examining the influences of both individual and relationship factors. The conceptual framework guiding this endeavor is both multilevel and longitudinal; it is an integration of the ecological model and the life course perspective. The ecological model posits that individuals are embedded in a set of nested contexts and that the processes that occur at the individual level are a joint function of the characteristics of the individual, the proximal and distal environments, and the nature of the outcome of interest (Bronfenbrenner, 1979; 1995).

The life course perspective, which also recognizes the significance of context, particularly historical and social change, emphasizes the importance of the timing and ordering of events across the lifespan (Elder, 1995; 1997). Taken together, these paradigms propose that individuals live in a dynamic and ever-changing world and that individuals shape and are shaped by the transitional events or processes that occur in their lives and by the environments in which they live (Elder, 1995). Such a conceptual framework incorporates two important aspects: context and time. In other words, it allows for the examination of individuals within relational contexts nested within larger social contexts as both the individual and the romantic relationship develop and interact with the environment across time to ultimately influence sexual behavior and protective practices.

Accordingly, we develop a *within-person* perspective (as opposed to the more conventional *between-person* approach) to explore how individual and relationship factors influence condom use. A within-person approach provides a comparative analysis of relationship experiences for each individual (in contrast, a between-person approach provides a comparative analysis of relationship experiences across individuals). In other words, it allows us to investigate the extent to which individuals behave differently with different partners. Attributes of the relationship, for example, the level of commitment, may independently contribute to condom use. Moreover, such an approach allows us to explore cross-level interactions (i.e., the extent to which associations between relationship factors and condom use may vary as a function of characteristics of the individual).

Data and Methods

Sample Survey and Design

The data to be used for this analysis are from the National Longitudinal Study of Adolescent Health (Add Health), which is a survey designed to assess the health status of adolescents and young adults in the United States and to explore the causes of their health-related behaviors, with a focus on the multiple social and physical contexts in which they reside (Bearman et al., 1997). These data are well suited for this investigation because they contain information about multiple relationships for each individual, allowing researchers to create a relationship history for each individual.

The original sampling frame consisted of 80 high schools, with additional “feeder schools” (e.g., junior high school) for each high school identified also being sampled. The school student roster constituted the student-level sampling frame. From that listing, a baseline sample was drawn consisting of a core sample and several oversamples. The core sample is a probability sample of size 12,105 that is nationally representative of students enrolled in grades 7 through 12 during the 1994-95 academic year. With the oversamples, the Wave I sample is 20,745. The Wave II was conducted in 1996 and the sample is all adolescents interviewed at Wave I, except for the deletion of 12th graders and one of the oversamples. The Wave II sample size is 14,738. In 2001 and 2002, Wave I respondents, now young adults, were reinterviewed. The Wave III sample size is 15,197.

At each of the three waves, respondents were asked by audio-CASI (computer-assisted-self-interview) about their sexual and relationship histories. At Waves I and II, respondents reported information on up to three romantic and three non-romantic but sexual relationships that occurred within the 18 months prior to each of the two interviews. At Wave III, respondents were asked questions about romantic and/or sexual relationships that they had since the summer of 1995 and could include relationships that began before 1995 if they continued until at least June 1995. For each relationship listed at Wave III, respondents reported detailed information regarding both partner and relationship characteristics. Because the original respondents are now young adults, many new questions regarding cohabitation, marriage, childbearing, education, and labor force participation were included. The relationship- and individual-level data from the Wave III in-home interview will be the primary source of data for the proposed study. Due to the study design, the degree of detailed information varies and is available for only a subset of the 15,197 respondents interviewed and then for a subset of the 42,334 relationships listed by the respondents. We will limit the analysis to heterosexual relationships that were sexually active and did not involve a marriage.

Variable Description and Measurement

Dependent variable. Several questionnaire items will be used to determine relationship-specific condom use. During the relationship history section of the survey, respondents were asked whether particular events occurred in their relationships. If the respondent and the partner were not the same sex, the respondent was asked, "Have you ever had vaginal intercourse with <PARTNER>? By vaginal intercourse, we mean when a man inserts his penis into a woman's vagina." If the respondent answered affirmatively, they were asked questions regarding contraceptive use. Respondents were asked, "What methods of birth control did you or <PARTNER> use when you had vaginal intercourse?" Multiple responses were allowed, of which condoms was a method. If a respondent did not mention condoms as a method of birth control, he or she was given another opportunity to report condom use and was asked, "Was a condom used when you had sexual intercourse with <PARTNER>?" For those respondents who had vaginal sex more than one time, method of birth control used was asked for both first and last sex. We will examine both first and last method used.

Independent variables. A number of relationship-specific sets of variables will be constructed, including relationship status, duration of the sexual relationship, couple homogeneity, degree of emotional closeness, the extent of gender equality, and the presence of violence. Relationship status will be constructed from the following question, which was asked of relationships that did not involve a current or former marriage, "Which of the following best describes your relationship with <PARTNER> at the present time?" Responses included, (a) dating exclusively, (b) dating frequently, but not exclusively, (c) dating once in a while, and (d) only having sex. Duration of the relationship will be measured using the question, "How long did your sexual relationship with <PARTNER> last?" Because this question was not asked for those relationships that were current, we will create duration using information on when the sexual relationship began and the date of interview. Relationship-specific variables will be constructed in an attempt to measure and evaluate the role of couple homogeneity. For instance, we will create variables indicating similarity on age and race and ethnicity. Emotional closeness

will be based on the questions that asked how satisfied the respondent is with the relationship, how much the respondent loves the partner, and how much the respondent thinks that the partner loves him or her. The measure of gender equality will be constructed using the question, “Considering what you put into the relationship compared to what you get out of it, and what <PARTNER> puts in compared to what {HE/SHE} gets out, who is getting the better deal in the relationship?” Presence of dating violence will be constructed in a number of ways. We will examine the influence of experiencing any physical violence (including whether the respondent was the perpetrator, victim, or both) versus no violence. Additionally, we will explore whether there are differences between the types of physical violence (pushed/shoved/thrown something vs. slapped/hit/kicked). We will also examine whether the respondent ever insisted on or made the partner have sexual relations and vice versa. Lastly, we will also include individual-level sociodemographic measures such as gender, age at Wave III, and race and ethnicity.

Analytic Strategy

We will begin by providing descriptive statistics of the sample of young adults and their current and/or past relationships. We will then utilize a multilevel approach to investigate the influences of individual and relationship factors on condom use. A multilevel approach is appropriate because the observations are clustered (i.e., multiple relationships per individual). Specifically, let Y_{ij} denote condom use by person j in relationship i . Let X_{ij} denote whether or not violence was reported by person j in relationship i , and let G_j denote characteristics of individual j . Let θ be a conditional expectation of a transformed Y (such as a logit transformation). The systematic portion of a multilevel model for condom use could then be expressed as:

$$\theta_{ij} = \eta_{00} + \eta_{01}G_j + \eta_{10}X_{ij}$$

Preliminary Results

Preliminary analysis is conducted for a subsample of relationships discussed in Wave III. This subsample includes never married heterosexual relationships in which sexual activity occurred more than once. In addition, we exclude relationships for which there were missing data on the subset of variables examined. For this analysis, we estimate the effects of both individual sociodemographic characteristics (age at Wave III, gender, and race/ethnicity) and relationship characteristics (status of relationship, age difference between partners, and duration of the sexual relationship) on condom use at last sex.

Table 1 presents unweighted univariate distributions of the characteristics of the Wave III respondents who are part of the analytic and their sexual relationships. The analytic sample includes 9,134 respondents and 21,683 relationships. The average age of respondents is 21.9 years and there are more females than males. The majority of the sample of respondents is white, followed by black (21.4 percent), Hispanics (15.0 percent), Asian (6.1 percent), and Native Americans (1.0 percent). Over half of the sexual relationships are described by the respondent as exclusively dating, followed by those described as only having sex (15.5), frequently but not exclusively dating (14.0 percent), cohabiting (8.4 percent), and dating once in

a while (7.3 percent). About half of the sexual relationships involve an older partner, almost 30 percent are with a younger partner, and the remaining 20 percent are with partners that are the same age as the respondent. The mean length of sexual relationships is almost a year and a half. About half of the relationships involved the use of condoms at last sex.

Table 1 here

Table 2 presents the results of a preliminary random intercept logistic model that accounts for the clustering of relationships within individuals. Computations were performed using Stata 8.2 (StataCorp, 2003). Of the three individual level variables included in this model, only race/ethnicity is significantly associated with a condom being used at last sex once we account for relationship characteristics. Compared to whites, the likelihood of having used a condom at last sex in a relationship is higher for blacks and Hispanics. All three of the relationship characteristics of interest are significantly associated with condom use at last sex, the effects of which are in the expected direction. Sexual relationships in which the partners are cohabiting are significantly less likely to have involved condom use during last sex compared to sexual relationships described as exclusively dating. Sexual relationships described as frequently but not exclusively dating, those described as dating once in a while, and those that only involve sex experience a higher likelihood of using a condom at last sex compared to relationships that are exclusive. Age difference between partners is associated with condom use at last sex. Relationships with an older partner are more likely to have involved condom use at last sex compared to relationships in which the partners are the same age. Although a similar effect is found for relationships with a younger partner, it is only marginally significant. In addition, the likelihood of having used a condom at last sex decreases significantly as the duration of the sexual relationship increases. Lastly, the intraclass correlation is significant, indicating that there is homogeneity in condom use at last sex in relationships among individuals. In other words, relationships for the same individual are more like one another in terms of condom use than relationships for different individuals, even controlling for important relationship characteristics.

Table 2 here

These preliminary results highlight the importance of examining relationship context and relationship-specific condom use. A primary objective of this study is to more fully characterize adolescent and young adult sexual relationships in order to better understand the influence of the types of relationships that individuals form on the behavior that occurs within relationships. As such, we will explore additional individual and relationship characteristics and will examine the most appropriate form of these variables. Further, we expect the effect of relationship characteristics to vary as a function of the characteristics of the individual. For instance, the negative effect of having an older partner on condom use in a relationship may be greater when the respondent is female. To examine this we will also test for cross-level interactions. Moreover, we will examine condom use at first sex. We will explore the extent to which condom use at first sex and condom use at last sex are correlated and as necessary will utilize the appropriate techniques to account for this correlation.

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Table 1. Sample distribution and descriptive statistics of young adults and their sexual relationships, Add Health

Characteristics	Percentage or Mean
<i>Individual-level characteristics</i>	
Age at Wave III (years)	21.93
Gender	
Male	45.4
Female	54.6
Race/ethnicity	
White	56.6
Black	21.4
Hispanic	15.0
Native American	1.0
Asian	6.1
Number of sexual relationships in subsample	2.37
<i>Relationship-level characteristics</i>	
Status of relationship	
Cohabiting	8.4
Exclusively dating	54.8
Frequently but not exclusively dating	14.0
Dating once in a while	7.3
Only having sex	15.5
Age difference between partners	
Partner older	50.7
Partner younger	28.5
Partner same age	20.8
Duration of sexual relationship (months)	16.66
Condom use at last sex	53.6

Note: Unweighted statistics. $N=9,134$ individuals and $N=21,683$ relationships.

Table 2. Logistic regression of condom use at last sex on individual and relationship characteristics, with a random intercept at the individual level, Add Health

Covariates	Coefficients
<i>Individual-level characteristics</i>	
Age at Wave III (years)	0.0310
Male	-0.0113
Race/ethnicity (ref: white)	
Black	0.7327***
Hispanic	0.1770*
Asian	0.0321
Native American	-0.1177
<i>Relationship-level characteristics</i>	
Status of relationship (ref: exclusively dating)	
Cohabiting	-1.4038***
Frequently but not exclusively dating	0.2587***
Dating once in a while	0.4174***
Only having sex	0.1101+
Age difference between partners (ref: same age)	
Partner older	-0.1891***
Partner younger	-0.0971+
Duration of sexual relationship (months)	-0.0130***
Constant	0.7001*
Wald chi-square (13 df)	792.02
Intraclass correlation	0.4408***

+ $p \leq 0.10$ * $p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq 0.001$

Note: $N = 21,683$ relationships.