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Working Paper Series 2009-09

**YOUNG ADULT DATING RELATIONSHIPS AND
THE MANAGEMENT OF SEXUAL RISK**

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*An earlier version of this paper was presented at the annual meeting of the Population Association of America, San Francisco, March 2006. This research was supported by grants from the Eunice Kennedy Schriver National Institute of Child Health and Human Development, [HD36223, HD44206], and by the Center for Family and Demographic Research at Bowling Green State University, which has core funding from the National Institute of Child Health and Human Development (R24HD050959-01).

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Abstract

Young adult involvement in sexual behavior typically occurs within a relationship context, but we know little about the ways in which specific features of romantic relationships influence sexual decision-making. Prior work on sexual risk taking focuses on a health perspective rather than a relational approach. We draw on data from the Toledo Adolescent Relationships Study (n=475) to explore the role of communication, emotional processes, conflict, demographic asymmetries, and duration that characterize young adult dating relationships. We find that relationship qualities influence the management of sexual risk, defined as sexual risk inquiries, consistent condom use, and sexual exclusivity. Results from this paper can help inform public policy on young adult sexual health behavior.

Key words: Contraception, Relationships, Young Adulthood, Sexual Risk

YOUNG ADULT DATING RELATIONSHIPS AND THE MANAGEMENT OF SEXUAL RISK

During emerging adulthood there are key shifts in interpersonal relationships and sexuality (Arnett 2000). Most young adults are not married but are sexually active (Lefkowitz and Gillen 2006). These young adults are at considerable sexual risk, evidenced by increases from adolescence in sexual activity, increases in STI's and declines in condom use (Dariotis et al. 2008; Harris et al. 2006). Of the 18.9 million new cases of sexually transmitted infections (STI) each year, about half are to individuals ages 15-24 (Weinstock, Berman, and Cates 2004) and young adults do not always tell their current sex partner about having had an STI (e.g., Desiderato and Crawford 1995). Behaviors that put young adults at risk for exposure to heterosexually transmitted infections (i.e., inconsistent condom use, multiple and concurrent sexual partners) necessarily occur within relationship contexts. Thus, the importance of the relationship context cannot be over-stated and scholarship is beginning to recognize that understanding the nature of the sexual relationships may help in the prevention of STIs (Iskovics, Thayaparan, and Ethier 2001; Manning et al. 2009; Manlove, Ryan, and Franzetta 2007; Santelli et al. 1996; Sheeran, Abraham and Orbell 1999; Soler et al. 2000; Tschann et al. 2002). Yet surprisingly, researchers know more about individual, family, peer, and even neighborhood level effects on adolescent and young adult involvement in high-risk sexual activities than about the influence of relationship dynamics on sexual risk-taking and the management of STI risk. Relationship processes play an important but not well understood role, and they represent a relatively more fruitful and malleable arena relative to individual, peer, family or demographic factors around which to build prevention/intervention efforts.

We draw on recently collected data from the Toledo Adolescent Relationships Study (TARS) to measure specific risk behaviors and to generate an indicator of management of sexual risk which emphasizes the negotiation of consistent condom use and sexual exclusivity within sexual relationships. A key strength of the TARS data is that we have developed an interview protocol that includes direct assessments of potentially important relationship qualities and dynamics. We explore the role of relationship qualities including levels of intimate self disclosure, as well as feelings of love and commitment. The analysis also includes attention to problematic features of these relationships (conflict) and traditional relationship parameters such as demographic asymmetries and duration of the relationship as potential influences on in the ways in which sexual risk is managed within the context of young adult relationships.

BACKGROUND

Prior studies of sexual risk behavior focused on the demographic patterning of these behaviors, links to other problem behaviors, and the impact of specific health beliefs social scientists have used demographic approaches to understand populations at risk for sexually transmitted infections including HIV, as well as to determine which demographic groups are most likely to engage in preventive measures such as using condoms consistently. Using national, regional, and clinical samples of adolescents and young adults, scholars have examined the influence of age, gender, race/ethnicity, religion/religiosity, parents' education, and parental approval of sexual activity on condom use (e.g., Darroch and Singh 1999; Forrest and Singh 1990; Gleit 1999; Katz et al. 2000; Longmore et al. 2003; Lowenstein and Furstenberg 1991; Mosher 1990; Sonenstein, Pleck, and Ku 1989). Evidence suggests that younger adolescents who are sexually inexperienced, who report higher religiosity, whose parents report lower educational attainment, and whose parents are perceived to approve of premarital sexual activity are more often

inconsistent or ineffective condom users or non-users. While very useful in providing a descriptive portrait, a particular theoretical framework has not often guided this work, nor has it highlighted the unique social emphases/concerns that characterize the adolescent period including the onset of dating and the development of romantic relationships.

Another common approach to understanding high-risk sexual behavior is to view it as part of a broader problem behavior syndrome (e.g., DiClemente and Crosby 2006; Jessor and Jessor 1977; Ketterlinus et al. 1992; Luster and Small 1994; Rodgers and Rowe 1990). For example, drug and alcohol use are associated with earlier sexual onset, greater numbers of sexual partners, and more instances of unprotected sex (e.g., NIAAA 2002; Santelli et al. 1999), but the relationship is not consistent across all relationships (Leigh 2002). Increased attention to the linkages between various risk behaviors such as alcohol and drug abuse and early sexual onset has been helpful, particularly with understanding that the knowledge, motivation, and skills of adolescents are quite distinct from those of adults, especially with regard to attitudes of invulnerability associated with high risk behaviors. However, the overall effect of this approach has been to overstate the utility of a common conceptual toolkit to explain all of these behaviors (Giordano 1989). Across the adolescent period into young adulthood, sexual activity becomes increasingly normative, and unlike delinquency and drug use, can be developmentally appropriate (Harris, Ducan, and Biosjoly 2002; Longmore, Giordano, and Manning 1999). Thus a more multifaceted approach to sexual risk-taking is required – one that recognizes that romantic and other sexual relationships can be rewarding and status enhancing social experiences even as they can amplify the level of sexual risk-taking.

Another theoretical perspective within the sexual research/prevention arena is the Health Belief Model (Becker 1988). This social psychological perspective focuses on the individual's desire to avoid illness, and attempts to strengthen the belief that specific health behaviors will

prevent illness. This approach has been useful, but a limitation of this and related approaches such as Fishbein and Azjen's Theory of Planned Behavior (Azjen and Fishbein 1980; Fishbein et al. 2001) is that the emphasis is individualistic and assumes that the behavior in question is entirely volitional. Thus interpersonal and situational processes are ignored including issues surrounding the negotiation of condom use, power dynamics, and variations in the type of relationship in which sexual activity occurs (casual or primary).

In contrast to the above approaches, a basic premise of our research is that prevention programs will be more effective if relationship issues are a key, even central, component. We agree with Eyre, Auerswald, Hoffman, and Millstein's (1998) conclusion that youths themselves are far more focused on relationships than health issues and beliefs (see also Mahoney, Thombs, and Ford 1995). Many health models are based on individuals' intentions; yet the effectiveness of individualistic approaches is limited. We concur with Ayoola et al.'s assertion or point that (2007: 309) "few studies on adult women have studied the level of influence of male partners, family or friends. If not addressed these interpersonal influences may counteract individual interventions."

Our conceptual framework reflects our view that youthful relationships are complex social bonds that will likely always be incompletely described with regard to any one construct -- such as duration, frequency of interaction, or type of sexual relationship. Our multidimensional approach derives from a symbolic interactionist view of exchange (e.g., Giordano, Cernkovich, and Pugh 1986; McCall and Simmons 1978). As Burgess and Huston (1979: 9) note, "an explicit look at exchange processes sets the stage for considering the relationship itself -- rather than the individuals or the larger system as a unit of analysis." The dyadic character of sexual relations highlights that the partner as reference other, and qualities of the relationship, are central to a comprehensive understanding of the likelihood and manner in which sexual behavior

and in turn sexual risk occurs (Giordano, Longmore, and Manning 2001). The symbolic interactionist lens underscores the need to capture and describe these relationships as the actors, themselves, experience them. This tradition emphasizes that meanings emerge from social interactions; thus we explore relational aspects of contraceptive decision-making and sexual risk management by focusing on the dyadic context. Our conceptualization includes communication about sexual risk, sexual non-exclusivity, and consistent condom use. We draw from and integrate our approach with the relationship-focused developmental and high-risk literature traditions, which we review below.

Relationships and Sexual Risk

Dating relationships have been shown to be the most common context for sexual activity in early adulthood (Kusonoki and Upchurch 2006). Yet the nature of these relationships varies and it is challenging to navigate young adult relationships in a context of considerable sexual risk. Most studies of sexual risk-taking focus on the use or non-use of condoms largely because condoms are the most effective way to avoid sexually transmitted infections. Condom use is obviously a couple level behavior, as it involves negotiation between partners on whether or not to use, and importantly whether to use consistently (e.g., Oncale and King 2001). We move beyond this approach and consider other activities that are part of managing sexual risk, including sexual exclusivity and making sexual risk queries. Increasingly attention has been given to concurrent sexual behaviors and risk of sexually transmitted infections (Ford, Sohn, and Lepkowski 2002; Kelley et al. 2003). Even though young adults may be in committed relationships, they remain at sexual risk as long as they or their partners have concurrent partners or relationships that are not sexually exclusive. Sexual non-exclusivity represents part of a risk portfolio that can occur at any time and speaks to the nature of the relationship. It may be influenced by subjective feelings and qualities within the focal relationship. Finally, a third area that involves couple dynamics is

querying one's partner about past or current partners, about the partner's sexual history and experiences with sexually transmitted infections. It is also possible that whether or not to query a partner is influenced by feelings within the relationship, rather than individual proclivities (e.g., Oncale and King 2001). An issue related to querying a partner is that it may signal mistrust or problems in the relationships. We examine how each type of risk management is influenced by the relationship as well as how risk management strategies operate in conjunction with one another.

A key relationship indicator related to managing sexual risk is communication. Research indicates that partners' communication about condoms or contraception increases contraceptive and condom use (Catania et al. 1989; Manlove, Ryan, Franzetta 2003; Shoop and Davidson 1994; Wingood and DiClemente 1996). Manlove et al. (2004) find a gender difference with improved consistency of contraception with discussion for girls but not boys. Communication processes are central to the use of male methods (condoms or withdrawal) (Barthlow et al. 1995; Crosby et al. 2003; Davies et al. 2006; Miller et al. 2004; Tschann and Adler 1997; Whitaker et al. 1999). However, researchers acknowledge it is not simply adequate to determine whether couples communicate; the nature of the communication also matters (DiClemente and Crosby 2006; Rosenthal et al. 1999).

Few studies focus on how partners specifically communicate and assess risk and sexual fidelity. Although referring to homosexual activity, Kippax and colleagues (Kippax et al. 1993; Kippax et al. 1997) describe unprotected sexual intercourse in the context of certain relationships as "negotiated safety," a strategy based on trust, honesty, and accurate knowledge of both partners' HIV status. Having unprotected sexual intercourse in a committed relationship may actually increase the risk of exposure to HIV, in part, because assessments of partner risk often are unknown or inaccurate (Ickovics et al. 2001). These longer term relationships may create the

illusion of safety (Clark et al. 1996) especially when infidelity occurs. In this paper we investigate relationship-based influences on communication about sexual risk, as this is an area with potential for incorporation into intervention efforts.

There has been rather limited and inconclusive research on how specific relationship dimensions other than communication influence contraceptive use. There has been little attention to the specific characteristics of relationships associated with variations in consistency of condom use. The demographic measures of heterogamy, age, race, and ethnicity have been studied and have been linked to more inconsistent condom use. A central aim of prior work has been to test whether women who have sex with substantially older men (measured as age heterogamy) are less likely to use condoms. Some work find age gaps are not related to contraceptive use or condom use in dating relationships (Ford, Sohn, Lepkowski 2001; Manlove et al. 2003, 2004; Weisman et al. 1991), but a few studies find a distinction (Darroch, Landry, and Oslak 1999; Ford et al. 2001; Gleit 1999; Kusunoki and Upchurch 2008; Manlove et al. 2003; Marin et al. 2000; Morris and Kretzschmar 1995). Heterogamy based on race was not associated with condom use among adolescent males (Ku, Sonenstein, and Pleck 1994) and Ford et al. (2001) report that racial or ethnic heterogamy was not related to increased odds of using condoms. However, recent work by Kusunoki and Upchurch (2008) find interracial couples are more likely to use contraception.

Many studies account for duration and sometimes imply this is a proxy for closeness in the relationship. Generally, as sexual relationships mature, condom use declines (Civic 1999; Crosby et al. 2000; Ku et al. 1994; Manning et al. 2009). The sawtooth hypothesis developed by Ku et al. 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. Other work has found a

negative relationship exists between duration and consistently using contraception (Aalsma et al. 2006; Fortenberry et al. 2002; Ku et al. 1994; Manlove, Ryan, and Franzetta 2005). However, a comprehensive approach to adult relationships requires attention to relationship qualities and dynamics other than duration.

We move beyond these studies and focus on the subjective elements of relationships. A few studies find that importance of relationship, emotional closeness, and higher relationship quality among subgroups of young adults and teens (Aalsma et al. 2006; Gutiérrez, Oh, and Gillmore 2000; Inazu 1987; Katz et al. 2000; Manning et al. 2009; Pleck, Sonenstein, and Swain 1988; Santelli et al. 1996) are associated with less use. The basic notion is that as trust increases, the need for condoms and contraception diminishes. We examine how young adults who have higher quality relationships manage sexual risk, relying on a more multidimensional assessment of individual elements of risk that includes condom use, but also sexual exclusivity and sexual risk queries.

A comprehensive portrait of relationship-based dynamics also requires attention to negative, problematic relationship qualities. Prior work is limited largely to abuse and this focus is problematic because the majority of teens do not report engaging in romantic partner violence. Attention should be paid to a wider array of more negative or troubling dynamics that could potentially be linked to contraceptive consistency. Manning et al. (2009) find negative relationship qualities, such as disagreements and mistrust, are tied to less consistent condom use among adolescents. This study examines how conflict influences management of sexual risk, viewed from the more comprehensive vantage point of our three dimensional approach (risk inquiry, condom use, and sexual exclusivity).

CURRENT INVESTIGATION

The purpose of this study is to examine management of sexual risk within young adult dating relationships. We provide a descriptive portrait of the strategies used to manage risk. We build on prior work by examining three aspects of sexual risk management. First, *sexual risk inquiry* determines whether the respondent asked his or her partner about prior sexual risk behaviors. This measure does not indicate whether the respondent modified their behavior based on this information, but it does measure whether the couple communicated about potential risk behaviors prior to having sex. Second, *sexual non-exclusivity* or cheating behavior indicates whether either member of the couple is having sex with someone else. This is based on respondents' reports of their own behavior and their perception of their partners' sexual behavior. Third, *consistent condom use* indicates how often couples currently use condoms. This is a more refined measure than an indicator of whether the couple ever used a condom. Simply using a condom at one point in time (first intercourse with a partner or recent intercourse) does not indicate protection of sexual risk during the course of the relationship.

Our final indicator is a measure that combines consistent condom use and sexual exclusivity behavior to measure degrees of sexual *risk management*. Even though young adults in non-exclusive sexual relationships perceive or have higher risks of STDs, they do not always protect themselves (Kelley et al. 2003; Kirby 2002; Manlove et al. 2007). Prior work often considers sexual risk behaviors as independent when in fact may be combined to generate or control risk. Teens and young adults who are in monogamous relationships with consistent condom use are in the most safe type of sexual relationships. We categorize respondents who are in exclusive relationships and who consistently use condoms as being in '*safe*' relationships. Second, we examine a concept that we call '*seemingly safe*' sexual partners. Adolescents who are in monogamous relationships may believe they are in a safe relationship, and consequently

do not consistently use condoms. However, these relationships are only seemingly safe because partners could at any time decide to engage in sex with other sexual partners, or may have an untreated STI from a previous relationship. The next category represents teens and young adults in *managed risk relationships* – the risk of being in a relationship with concurrent sexual partners is managed by always using condoms. The final group is the *unsafe* category, adolescents and young adults who do not consistently use condoms and are in non-monogamous relationships. Thus, they are not appropriately managing their sexual risk.

Given that sexual intercourse is by definition dyadic, we evaluate how qualities of the relationship influence management of risk. Research on intimate relationships describes some basic constructs relevant to understanding positive (interaction, commitment, and love) and negative aspects (inequity, disagreement) (Giordano et al. 2001; Johnson 1991; Prager 2000). We build on these studies and assess how positive and negative relationship qualities influence sexual risk management as well as relationship characteristics, such as duration and heterogamy. We characterize the individual as a relatively conservative actor who wishes to avoid placing him/herself at risk, but who may be influenced by these relationship qualities (e.g., does not want to displease partner, does not believe there is another partner available). In general, more positive relationships are expected to be associated with greater sexual queries and more effective risk management. We expect that young adults in relationships with poor relationship quality, and high levels of conflict and distrust, will be less effective managers, as reflected by less consistent condom use and a higher probability of partner cheating. We include in models indicators from previous research that are related to consistency of condom use including, age, gender, race and ethnicity, family structure, and parents' education

DATA

We draw on newly collected (wave 4) data from the Toledo Relationships Study. The first wave of completed in-home interviews were conducted with 1,316 adolescents. The initial sampling universe for TARS consisted of all students enrolled in Lucas County schools in the seventh, ninth, and eleventh grades in the fall of 2000. The sociodemographic characteristics of Lucas County closely parallel those of the U.S. with respect to racial/ethnic composition, median family income, average adult educational levels, and average housing costs. For our study, African American and Hispanic adolescents were over sampled. We have maintained a good response rate (83%) across interview waves. The respondents in wave 4 are 18-24 years old. The focus of the fourth wave of data collection is sexual risk taking and includes measurement that was not available in earlier interview waves. This follow-up provides an opportunity to study young adults as they experience a variety of relationships, navigate key life transitions, and enter an age range that typically involves greater risk exposure to STIs. The analytic sample is based on 475 respondents who reported having had sexual intercourse with their current or most recent boy/girlfriend. We also draw on qualitative interviews with wave 4 respondents. MORE

Measures

Management of Sexual Risk. *Risk inquiry* is based on two questions that ask whether respondents inquired about their partners' prior sexual behavior including sexually transmitted diseases or infection and previous sexual partners. We create a dichotomous indicator that measures whether the respondent inquired about both behaviors prior to having sex with their boyfriend/girlfriend. *Consistent condom use* is measured with a question that asks "How often do you and X use a condom now?" Respondents who did not reply "every time we have had sex" are coded as not consistently using condoms. *Couple cheating* behavior is based on two questions: "How often do you think X has gotten physically involved (had sex) with other

guys/girls?” and “How often have you gotten physically involved (had sex) with other guys/girls?” Respondents who reported no cheating behavior and that their partner never cheated are coded as monogamous couples. Consistent condom use and couple cheating are combined to form the four categories of *risk management*.

Relationship Qualities. Based on the results of factor analysis, we combine five measures of relationship quality into three indexes. To measure *love and commitment*, we use items drawn from two scales. We include four items from Hatfield and Sprecher’s (1986) passionate love scale, including: “I would rather be with X than anyone else;” “The sight of X turns me on;” “I am very attracted to X;” and “X always seems to be on my mind.” To these items we add three items measuring commitment: “We have the communication skills a couple needs to make a relationship work” and the reverse of “I feel uncertain about our prospects to make this relationship work for a lifetime;” and “I may not want to be with X a few years from now” (Stanley and Markham 1992). These measures combine into a seven item scale with an alpha of .84. To measure *self disclosure* we rely on a revised version of West and Zingle’s (1969) self-disclosure scale. This three-item index asks respondents to report about how often they communicate with partners about a range of topics: “your home life and family,” “something really bad that happened,” and “your private thoughts and feelings” (alpha =.90). To measure *conflict* in the relationship, we combine three items measuring the amount of conflict in the relationship, such as “how often do you and X have disagreements or arguments” or “yell or shout at each other.” The resulting 3-item scale has an alpha of .84.

Relationship characteristics include asymmetries, current status and duration.

Demographic asymmetries are assessed via questions about the partner’s age and race/ethnicity. Dummy variables are constructed to reflect whether the respondent is dating someone of a

different race/ethnicity or whether the male member of the couple is *greater than two years older*. Respondents are categorized as being in a *current relationship* or in a relationship that ended prior to the interview. *Duration* of the relationship is based on a question, “How long have you been together?” Responses are converted to months and given the longest duration category is 12 months or more we code that as 18 or greater months.

Controls. We include additional variables, most measured at wave 1, that serve as control variables in our multivariate models. We include *gender* (female=1), *age*, and dummy variables for *race/ethnicity* (African American, Hispanic, and white). A dichotomous measure of whether the *respondent lives with adult relatives* at the time of the wave 4 interview is included. This distinguishes respondents living at home with their parents from other teens and young adults. *Family structure* is represented in the models as a set of dummy variables (single parent, stepparent, other, with married biological as the reference category and is measured at wave 1. We also include dummy variables reflecting variations in *parent’s education* (less than 12, high school/GED, some post-high school training, and 4-year degree or more, where high school completion is the reference category), a strategy that allows for the observation of non-linear effects. The parent is a mother or mother figure for more than 90% of respondents.

Analytic Strategy

We begin by describing the relationship qualities associated with management of sexual risk. Our analyses focus on the effects of relationship qualities of current or most recent dating relationships. We present bivariate relationships between relationship qualities and management of sexual risk. Next we estimate and present models that include the effects of all the relationship qualities on the dependent variables. We then include the sociodemographic covariates. We also estimate but do not present models of each specific relationship quality and

the sociodemographic covariates (available from authors). Those findings are presented in the text. Chow tests are estimated to determine whether the same model can be used to characterize male and female sexual risk taking (DeMaris 2004). We use logistic regression to examine our dichotomous dependent variables and multinomial logistic regression to examine the four category sexual risk management variable. We present the odds ratios in the tables.

RESULTS

Table 1 presents the distribution of the variables for our analytic sample. We start with the measures of sexual risk management. About half (55.6%) of young adults have made sexual risk inquiries; that is, they asked their partners about prior sexual partners and sexually transmitted diseases prior to having sex. Females more often than males request disclosure about prior partners and STDs. The second indicator of sexual risk is sexual exclusivity. Among young adults in our sample, nearly three in ten (27%) were in relationships with sexual non-exclusivity or cheating behavior. Male and female respondents reported statistically similar levels of sexual exclusivity. The third measure of risk management is consistent condom use. One-third of young adults (33.2%) report consistently using condoms with their partners. Consistent condom use is reported more often by males than females. This measure of condom use reflects a more nuanced understanding of condom use compared with the traditional ‘ever’ use condom measure.

The last measure is an overall index of risk management. One-quarter (24.7%) are in quite safe relationships with no cheating and consistent condom use. Nearly half (48.2%) are in ‘seemingly safe’ relationships with sexual exclusivity, but also inconsistent condom use. Very few (8.5%) young adults report being in a dating relationship with both concurrent sexual partners and consistent condom use. This could be considered an effective form of risk management. However, sizeable minority, nearly one-fifth (18.7%), of young adults are in the

least safe type of relationship - concurrent sexual partners and inconsistent condom use. Further analyses (not shown) examined differentials in sexual inquiry for each type of risk management. We find that respondents in 'safe' relationships had the greatest levels of inquiry (65%) in contrast to only 48% of respondents in 'unsafe' relationships. Thus, young adults in the most risky type of sexual relationship (inconsistent condom use and cheating) are also the least likely to query about prior sexual partners or sexually transmitted infections.

The indicators of relationship qualities indicate that relationships have fairly high levels of love and commitment with a mean score of 26 on a scale ranging from 7 to 35. The self-disclosure mean value indicates that the average level is 11.6 on a scale from 3 to 15. The conflict in the relationship is on average low, mean = 7.4. In terms of demographic indicators of the relationship, the male partner is older by two or more years in about one-fifth of young adult relationships. One-fifth of relationships involve partners of differing race and ethnicities. Most relationships are on-going but one-third have ended. Finally, the average relationship duration is about one year.

The sociodemographic indicators show that the average age is 20 and the sample is evenly split between males and females. Two-thirds of the sample is white, one-quarter is African American and 7% Latino. Two-thirds of young adults are not living with relatives at the time of the interview. About half of young adults are from two-biological parent families, one-fifth are from single parent families, 12% were living with step-parents, and 11% were living in some other type of family situation at the time of the first interview. The vast majority have parents who graduated from high school and one-quarter of parents are college graduates.

MULTIVARIATE MODELS

Sexual Risk Inquiry

Table 2 presents the odds ratio of making a sexual risk inquiry (prior sexual partners and sexually transmitted infections). The first column in Table 2 presents the zero-order relationships and shows that respondents in relationships with higher levels of love and commitment as well as self-disclosure are significantly more likely to make inquiries about sexual risk. Conflict is not associated with whether or not young adults ask about sexual risk. The relationship asymmetries (age and race) and current status were not associated with risk inquiry. Young women are 176% more likely to ask about sexual risk behaviors than are young men. Longer duration relationships more often include queries about sexual risk.

We estimated models with each relationship quality and the control variables (results not shown). We find that the statistically significant positive zero-order effects (love/commitment and self-disclosure) persist with the control variables in the model. Also, conflict is negatively and significantly associated with sexual risk query in this model, largely due to the inclusion of the following four covariates: gender, race, duration, and lives independently.

The second column includes all the relationship qualities simultaneously and while they are related to one another the correlations are not too high.¹ We find the inclusion of the conflict indicator mediates the emotionality measure. In this model, young adults who self-disclose about other topics are more likely to ask their partners about sexual risk.

The final model in column three includes all the covariates. In this model gender mediates the effect of self-disclosure. The effect of self disclosure is stronger for young men than women (results not shown). These findings taken together indicate that girls are more likely to self-disclose and in turn make risk inquiries. Yet there is more variability in self-disclosure among young men and those men who do self-disclose with their partner they are more likely to

¹ The correlation between emotionality and interaction is 0.42, emotionality and negativity is -0.36, and interaction and negativity is -0.10.

make queries. Conflict is negatively and marginally significantly tied to sexual risk query due to the inclusion of the covariates as described above. The age heterogamy is suppressed in the zero-order model. Additional analyses indicate that female young adults in relationships with older males are more likely to ask about sexual risk behaviors, but among males the age gap does not determine whether they make sexual risk queries. The effect of duration in the zero-order model is mediated by the relationship characteristics (results not shown) demonstrating the importance of the relationship quality indicators rather than duration. The remaining covariates are generally not associated with sexual risk queries. Exceptions are that girls are significantly more likely to make information requests than boys and living with a single mom is associated with lower odds of inquiring about sexual risk. Chow tests are not statistically significant suggesting that the same model operates for male and female respondents.

Sexual Exclusivity

Table 3 presents the odds ratio of sexual exclusivity in the relationship with the first column showing zero-order results. Young adults with greater love and commitment as well as less conflict have higher odds of being in sexually exclusive relationships. Self-disclosure is marginally associated with sexual exclusivity. Ongoing relationships have higher odds of sexual exclusivity; most likely those with infidelity have ended. There is a marginal relationship between racial and ethnic asymmetries and sexual exclusivity. Duration is not associated with sexual exclusivity.

Further analyses which include the remaining covariates indicate that love and commitment are positively related to sexual exclusivity while conflict is negatively tied to being in a sexually exclusive relationship even with the inclusion of the covariates. The self-disclosure

indicator is not related to sexual exclusivity once the remaining covariates are included in the model.

Column 2 includes all the relationship qualities together and shows that love and commitment and conflict are still significantly associated with sexual exclusivity. The third column of Table 3 which presents all the covariates indicates that greater levels of love and commitment and lower the levels of conflict continue to be associated with sexual exclusivity. African American men and women experience marginally lower odds of sexual exclusivity than whites. Young adults from single parent families have significantly lower odds of sexual exclusivity in their dating relationships than their peers raised in two biological parent families. The chow test indicates that similar models can be presented for young men and women.

Consistent Condom Use

Table 4 presents the odds ratio of consistent condom use in the relationship. The first column presents the zero-order results. Love and commitment as well as intimate self-disclosure are not associated with consistent condom use in young adulthood. Relationships characterized by greater conflict have lower odds of consistently using condoms. Relationships with greater age asymmetries have less consistent condom use. The racial composition, current status, and duration of the relationship are not related to consistent condom use. Several sociodemographic indicators are linked to consistent condom use. Young adults who are older, female and not living with relatives are less likely to consistently use condoms. Young adults who have parents with high (college graduates) and very low levels of education (not high school graduates) are more likely to consistently use condoms than those who have parents who graduated from high school.

In the second model (column 2) we include all the relationship qualities and find that the young adults who are in more conflictual relationships continue to have lower odds of consistent condom use. The third column of Table 4 includes all the covariates and conflict is associated with significantly lower odds of consistent condom use. In this model, the age gap is only marginally related to consistent condom use due to the inclusion of the gender covariate. Similar to the sexual risk inquiry model female young adults in relationships with older males are less likely to consistently use condoms, but among males the age gap does not influence consistency of condom use. Racial and ethnic asymmetry and current relationship status is not related to consistent condom use. In the full model that older young adults are less likely to consistently use condoms. Young adults who live at home and those who have parents with low education levels have higher odds of consistently using condoms. Our chow tests support the model we present that combines male and female respondents.

Sexual Risk Management

Table 4 presents the risk management measure that represents a combination of sexual exclusivity and consistent condom use. Young adults who are not using condoms may be making assessments about the safety of their relationship. The multinomial logistic regression models show the odds ratio of each category versus the most safe category (sexually exclusive and consistent condom use). We present the odds of being in an exclusive relationship without consistent condom use (our 'seemingly safe' category), sexually non-exclusive relationship with consistent condom use, and the most unsafe type of relationship – sexually non-exclusive and inconsistent condom use. To conserve space the first panel presents the zero-order relationships and the second panel presents the full models with all the relationship characteristics and

sociodemographic covariates. Chow tests indicate that similar models are appropriate for young men and women.

The first column in the top panel shows that young adults in relationships with greater conflict are more likely to be in 'seemingly safe' relationships than safe relationships. The seemingly safe are relationships that are exclusive but include inconsistent condom use. Relationships with older males had higher odds of being seemingly safe rather than safe relationships. The full model (lower panel) shows that conflict continues to be associated with greater odds of being in exclusive relationships that involve inconsistent condom use rather than consistent condom use. The age gap indicator is no longer related to seemingly safe or safe relationship types and is mediated with the inclusion of gender.

The second column focuses on a risk management strategy of consistently using condoms in sexually non-exclusive relationships and contrasts the odds of being in the most safe relationship – exclusive and consistent condom use. The zero-order results indicate that respondents in relationships with greater love, commitment and self-disclosure as well as lower conflict are less likely to be in a sexually non-exclusive managed risk relationship than a sexually exclusive 'safe' relationship. Young adults in relationships with someone of a different race or ethnicity are more likely to be in a managed risk relationship than safe relationship. In the multivariate model this age asymmetry effect is explained by respondent's race and ethnicity. The multivariate model (bottom panel) also shows that the effect of love and commitment is marginally significant and the self-disclosure coefficient is not related to relationship type. Additional analyses indicate that the self-disclosure effect is mediated by the love and commitment measure. Young adults in relationships with greater conflict continue to be more often in managed than safe relationships.

The third column presents the odds ratios of being in relationships with the greatest sexual risk versus the lowest sexual risk. Young adults in relationships with greater love and commitment are less likely to be in the unsafe relationships and those with greater conflict have higher odds of being in the high risk category. The relationship demographics are not related to relationship type, except those with racial and ethnic heterogamy have marginally higher odds of being in a risky relationship. The bottom panel shows the odds ratios for the full model. The love and commitment measure is marginally associated with being in an unsafe versus safe relationship. The effect of conflict remains a significant predictor of sexual risk taking.

These analyses do not include sexual risk inquiry as part of the sexual risk management measure. As described above young adults in the most safe relationships have the greatest levels of sexual risk inquiry. When we contrast young adults in the most safe relationships (consistent condom use, sexually exclusive, and risk inquiry) to those in the least safe (inconsistent condom use, sexually non-exclusivity, and no risk inquiry) we find those with higher levels of love and commitment and lower levels of conflict are more likely to be in the most safe relationships. These results mirror the findings above.

DISCUSSION

Even young adults in romantic relationships appear to face sexual risks, but they attempt to manage sexual risk that exists within their relationships. We find only about half of young adults asked their sexual partner about prior partners and sexually transmitted infections. Alternatively, a positive outcome is that at least half did ask. Only about one-quarter of young adults are in relationships with no cheating and consistent condom use. Many young adults are quite trusting of their sexual partner with half in relationships without any cheating and inconsistent condom use. We note that relationships are fluid and cheating can occur at any point, one-quarter of

young adults had already experienced sexual infidelity in their relationship. Relationship characteristics are related to each type of risk management but they do not always influence each type of risk management behavior in the same manner. Our findings indicate that young adults who score higher on conflict are less likely to be sexually exclusive, have lower odds of consistently using condoms, and are not more likely to make inquiries about sexual risks. These young adults with more negative relationship processes are those who should be making greater sexual inquiries, but they are not. Instead, respondents who are in lower risk relationships in terms of cheating and consistent condom use are those who more often make queries about prior sexual behavior and sexual transmitted infections.

We find that the indicators of intimacy, love and self-disclosure, are related to some indicators of management of sexual risk. Love and self-disclosure are positively related to risk queries and sexual exclusivity. We do not find they are associated with consistent condom use among young adults. Certainly, young adults with greater love and self-disclosure are more likely to be 'safe' relationships (consistent condom use and no cheating) than in unsafe or managed risk relationships. While these relationship indicators are correlated and in some cases do mediate one another, they do not scale well as qualities and seem to be tapping unique dimensions of relationships. Our paper showcases one way to characterize relationships and future work can explore more nuanced approaches to capture the full range of relationship qualities.

We combine sexual risk behaviors, rather than rely on single indicators, because young adults are engaged in multidimensional relationships that involve several types of sexual risk behaviors. Our approach helps to determine how risk behaviors may work together and young adults may respond accordingly to manage sexual risk. The most safe type of relationships are

exclusive with consistent condom use. About half of young adults manage their risk by not consistently using condoms in relationships they perceive as sexually exclusive. However, because relationships are not static and may not always be exclusive, we term these relationships as ‘seemingly safe.’ Respondents in relationships with more conflict are more likely to be in these seemingly safe relationships than their peers in less conflictual relationships. About 1 in 12 young adults manage their risk when they are in nonexclusive relationships by consistently using condoms (managed risk). Young adults in relationships with less love and commitment and greater conflict are more often in managed sexual relationships than safe relationships. These young adults are also more likely to be in the most unsafe relationships with inconsistent condom use and sexual cheating. Thus, young adults who have the least positive relational processes (low intimate disclosure, low commitment and love, and higher conflict) more often are in the unsafe rather than safe relationships.

The generalizability of these findings may be limited because this is a regional sample of young adults. Our study contributes to the literature by including three measures of management of sexual risk and indicators of relationship qualities. While our analyses focus on dating relationships in early adulthood, we have reports from only one member of the couple. Our assessments of relationships may differ with the inclusion of the boyfriend or girlfriends reports about the relationship quality. In this study we do not incorporate the relationship qualities of casual sexual relationships and recognize that these are a type of relationships and may indeed also be influenced by the relationship qualities. Finally, we are limited to cross-sectional analyses of the relationship at one-point in time. An important next step is to draw on data that tracks relationship progressions and includes multiple point indicators of the qualities.

Our analyses combine men and women together and chow tests indicate that this is the appropriate methodological approach. We find that men and women differ in their risk inquiry and consistency of condom use. Women have higher odds of making sexual risk inquiries, but report lower levels of consistent condom use than men. In terms of our sexual risk management measure, females are as likely as males to be in the most safe and unsafe sexual risk categories. However, females are more often in seemingly safe relationships (inconsistent condom use and sexual exclusive) than men and less often in managed risk (consistent condom use and sexual inclusive) relationships. Thus, the gender analysis is complex. Women certainly make more sexual risk queries, but do seem to manage their risk differently than men. However, our analyses did not support the notion that relationship dynamics are more salient for understanding the risk patterns of women, as findings indicate that relationship characteristics have similar effects according to gender.

Young adults today are facing more sexual relationships outside of marriage than have been experienced by prior generations (Cohen and Manning 2009). They must figure out how to manage the sexual risk that results from these relationships. Our work represents a starting point for new research on sexual risk-taking by showcasing one way to capture the management of sexual risk. Future studies can develop alternative measures of sexual risk management that perhaps combine a wider array of behaviors and attitudes. Prior research on sexual risk-taking often has relied on duration as a proxy for relationship qualities. While duration is associated with relationship qualities it is not indicating what is going on within relationships. We find duration is not strongly associated with the management of sexual risk in young adulthood and instead relationship qualities do matter. Further work on how relationships in young adulthood

can be conceptualized would further efforts to help young adults navigate their sexual relationships.

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Table 1: Variable Means and Percentages	Total	Male	Female
<i>Independent Variables:</i>			
Requested Disclosure About Prior Partners and STDs	55.6%	42.0%	69.8%
Neither Partner Ever Cheated	72.9%	69.8%	76.1%
Always Use a Condom	33.2%	37.3%	28.8%
<i>Risk Management Category:</i>			
- No Cheating, Always Use Condoms	24.7%	26.1%	23.3%
- No Cheating, Don't Always Use Condoms	48.2%	43.7%	52.8%
- Some Cheating, Always Use Condoms	8.5%	11.2%	5.5%
- Some Cheating, Don't Always Use Condoms	18.7%	19.0%	18.4%
<i>Relationship Qualities:</i>			
Love/Commitment (range 7-35)	26.1	25.6	26.7
Intimate Disclosure (range 3-15)	11.6	10.9	12.3
Conflict (range 3-15)	7.4	7.3	7.6
<i>Relationship Demographics:</i>			
Male Partner is >2 Years Older	21.8%	11.3%	32.9%
Partners are of Different Races or Ethnicities	20.1%	20.4%	19.7%
Current Relationship (vs. Ended)	66.6%	60.2%	73.2%
Relationship Duration (range 0.1-18.2+ months)	11.5	11.0	12.2
<i>Sociodemographic Variables:</i>			
Age (range 18-24)	20.4	20.4	20.3
Female	48.9%	0.0%	100.0%
<i>Race/Ethnicity:</i>			
- Hispanic/Latino	6.7%	8.0%	5.3%
- Non-Hispanic White	67.2%	66.4%	68.1%
- Non-Hispanic Black	26.1%	25.6%	26.7%
Lives Without Adult Relatives (W4)	33.2%	32.9%	33.5%
<i>Living Situation at Wave 1:</i>			
- Two Biological/Adoptive Parents	53.9%	59.6%	47.8%
- Single Parent	22.8%	18.8%	27.1%
- Parent + Stepparent	12.2%	11.9%	12.6%
- Other	11.1%	9.7%	12.6%
<i>Parent's Education:</i>			
- Less Than High School	10.3%	10.0%	10.7%
- High School	33.1%	31.1%	35.2%
- Beyond High School, but No 4-Year Degree	31.6%	35.4%	27.6%
- 4-Year Degree or More	25.0%	23.5%	26.5%
	n 475	226	249

Table 2: Odd Ratios for the Logistic Regression of Sexual Risk Inquiry

	Zero-Orders		Relationship Characteristics Only		Full Model	
	B	EXP(B)	B	EXP(B)	B	EXP(B)
Relationship Characteristics						
<i>Relationship Qualities:</i>						
Love/Commitment	0.05	1.06 **	0.03	1.03	0.02	1.02
Intimate Disclosure	0.12	1.12 **	0.09	1.10 *	0.05	1.06
Conflict	-0.04	0.96	-0.02	0.98	-0.08	0.92 †
<i>Relationship Demographics:</i>						
Male Partner is >2 Years Older	-0.35	0.71			-0.73	0.48 **
Partners are of Different Races or Ethnicities	-0.17	0.84			-0.12	0.88
Current Relationship (vs. Ended)	0.21	1.23			-0.24	0.78
Relationship Duration (est. in Months)	0.03	1.03 *			0.02	1.02
Sociodemographics						
Age	-0.10	0.90 †			-0.08	0.92
Female	1.02	2.76 ***			1.17	3.22 ***
Race/Ethnicity - Hispanic	-0.22	0.80			-0.08	0.92
- Non-Hispanic White [reference]	---	---			---	---
- Non-Hispanic Black	0.44	1.55 †			0.86	2.37 **
Lives Without Adult Relatives (W4)	-0.21	0.81			-0.17	0.84
Living Sit. (W1) - Two Parents [reference]	---	---			---	---
- Single Parent	-0.28	0.75			-0.58	0.56 *
- Single Parent + Stepparent	-0.20	0.82			-0.34	0.72
- Other Situation	0.19	1.21			-0.05	0.96
Mom's Education - Less Than High School	-0.10	0.90			0.02	1.02
- High School [reference]	---	---			---	---
- Post-High School, No Degree	-0.18	0.84			-0.12	0.88
- College Degree+	-0.22	0.80			-0.16	0.85
Intercept	---	---	-1.50	0.22 *	-0.78	0.46

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Table 3: Odd Ratios for the Logistic Regression of Sexual Exclusivity

	Zero-Orders		Relationship Characteristics Only		Full Model	
	B	EXP(B)	B	EXP(B)	B	EXP(B)
Relationship Characteristics						
<i>Relationship Qualities:</i>						
Love/Commitment	0.10	1.11 ***	0.07	1.07 **	0.08	1.08 **
Intimate Disclosure	0.07	1.07 †	0.01	1.01	0.00	1.00
Conflict	-0.27	0.76 ***	-0.24	0.79 ***	-0.19	0.82 ***
<i>Relationship Demographics:</i>						
Male Partner is >2 Years Older	-0.07	0.93			0.09	1.10
Partners are of Different Races or Ethnicities	-0.41	0.66 †			-0.36	0.70
Current Relationship (vs. Ended)	0.44	1.55 *			0.15	1.16
Relationship Duration (est. in Months)	-0.01	0.99			-0.02	0.98
Sociodemographics						
Age	0.05	1.06			0.03	1.03
Female	0.24	1.27			0.31	1.37
Race/Ethnicity - Hispanic	-0.67	0.51 *			-0.29	0.75
- Non-Hispanic White [reference]	---	---			---	---
- Non-Hispanic Black	-1.05	0.35 ***			-0.50	0.61 †
Lives Without Adult Relatives (W4)	0.10	1.11			0.09	1.09
Living Sit. (W1) - Two Parents [reference]	---	---			---	---
- Single Parent	-1.13	0.32 ***			-0.72	0.49 *
- Single Parent + Stepparent	-0.51	0.60			-0.16	0.85
- Other Situation	-0.78	0.46 *			-0.14	0.87
Mom's Education - Less Than High School	-0.61	0.54 †			-0.44	0.64
- High School [reference]	---	---			---	---
- Post-High School, No Degree	-0.29	0.75			-0.29	0.75
- College Degree+	0.52	1.69 †			0.25	1.28
Intercept			0.92	2.51	1.10	2.99

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Table 4: Odd Ratios for the Logistic Regression of Consistent Condom Use

	Zero-Orders		Relationship Characteristics Only		Full Model	
	B	EXP(B)	B	EXP(B)	B	EXP(B)
Relationship Characteristics						
<i>Relationship Qualities:</i>						
Love/Commitment	0.01	1.01	0.00	1.00	0.01	1.01
Intimate Disclosure	-0.05	0.95	-0.06	0.94	-0.05	0.95
Conflict	-0.14	0.87 ***	-0.14	0.87 **	-0.14	0.87 **
<i>Relationship Demographics:</i>						
Male Partner is >2 Years Older	-0.50	0.61 *			-0.50	0.61 †
Partners are of Different Races or Ethnicities	-0.21	0.81			-0.10	0.90
Current Relationship (vs. Ended)	0.04	1.04			0.17	1.18
Relationship Duration (est. in Months)	-0.02	0.98			0.00	1.00
Sociodemographics						
Age	-0.16	0.86 **			-0.21	0.81 **
Female	-0.41	0.66 *			-0.34	0.71
Race/Ethnicity - Hispanic	-0.49	0.61			-0.49	0.61
- Non-Hispanic White [reference]	---	---			---	---
- Non-Hispanic Black	0.17	1.19			0.30	1.35
Lives Without Adult Relatives (W4)	0.43	1.53 *			0.54	1.71 *
Living Sit. (W1) - Two Parents [reference]	---	---			---	---
- Single Parent	0.29	1.33			0.34	1.40
- Single Parent + Stepparent	-0.10	0.91			-0.07	0.93
- Other Situation	-0.27	0.77			-0.30	0.74
Mom's Education - Less Than High School	0.86	2.36 *			1.06	2.90 **
- High School [reference]	---	---			---	---
- Post-High School, No Degree	0.20	1.22			0.14	1.15
- College Degree+	0.58	1.79 *			0.52	1.69 †
Intercept			0.85	2.33	0.26	1.30

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Table 5: Odds Ratio for the Multinomial Logistic Regression of Sexual Risk Management

Measures of Relationship Characteristics:	As Compared to Safe:					
	Seemingly Safe		Managed Risk		Unsafe	
	B	EXP(B)	B	EXP(B)	B	EXP(B)
Zero Order Models						
<i>Relationship Qualities:</i>						
Love/Commitment	-0.02	0.98	-0.14	0.87 ***	-0.11	0.90 ***
Intimate Disclosure	0.01	1.01	-0.17	0.84 **	-0.01	0.99
Conflict	0.15	1.16 **	0.28	1.32 ***	0.42	1.52 ***
<i>Relationship Demographics:</i>						
Male Partner is >2 Years Older	0.51	1.66 †	0.08	1.08	0.56	1.75
Partners are of Different Races or Ethnicities	0.50	1.64	1.04	2.82 *	0.63	1.88 †
Current Relationship (vs. Ended)	-0.07	0.93	-0.52	0.59	-0.47	0.62
Relationship Duration (est. in Months)	0.01	1.01	-0.02	0.98	0.04	1.04 †
Full Model[§]						
<i>Relationship Qualities:</i>						
Love/Commitment	-0.02	0.98	-0.12	0.89 *	-0.07	0.93 †
Intimate Disclosure	0.01	1.01	-0.07	0.93	0.04	1.04
Conflict	0.14	1.15 *	0.18	1.20 *	0.35	1.42 ***
<i>Relationship Demographics:</i>						
Male Partner is >2 Years Older	0.50	1.65	-0.06	0.94	0.45	1.56
Partners are of Different Races or Ethnicities	0.22	1.24	0.56	1.74	0.47	1.59
Current Relationship (vs. Ended)	-0.13	0.88	-0.05	0.95	-0.35	0.71
Relationship Duration (est. in Months)	0.00	1.00	0.01	1.01	0.03	1.03
Intercept	0.47	1.60	0.70	2.01	-1.61	0.20

Note: reference category is *Safe* (no cheating, consistent condom use). *Seemingly Safe* denotes no cheating and inconsistent/no condom use, *Managed Risk* denotes cheating and consistent condom use, and *Unsafe* denotes cheating and inconsistent/no condom use

§ Full model includes the following sociodemographic variables (not shown): age, gender, race/ethnicity, whether currently living with adult relatives, living situation at wave 1, and parent's education.

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$