

Relationships of Sexual Imposition, Dyadic Trust, and Sensation Seeking with Sexual Risk Behavior in Young Urban Women

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Abstract: This study was designed to examine the relationships of sexual imposition, dyadic trust, and sensation seeking with HIV sexual risk behavior in 257 young urban women. Interviews were conducted using Audio Computer-Assisted Self-Interview (ACASI). Hierarchical multiple regression revealed that sexual imposition, dyadic trust, and sensation seeking explained 18.3% of the variance in sexual risk behavior. Although sexual imposition was positively related to sexual risk, pressure to satisfy a male partner sexually was more common than physical coercion. Dyadic trust was negatively related, indicating that women engaged in sexual risk behavior with men they distrusted. Sensation seeking was positively related to sexual risk. Findings suggest the need for enhancing awareness of non-sexually imposing relationship alternatives and incorporating thrill and excitement in health promotion messages. © 2004 Wiley Periodicals, Inc. Res Nurs Health 27:185–197, 2004

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Transmission of human immunodeficiency virus (HIV) by unprotected sexual intercourse with men who are HIV infected accounts for 55% of acquired immune deficiency syndrome (AIDS) in women aged 20–24, and 51% in women aged 13–19 (Centers for Disease Control [CDC]; 2002a). In 1999 HIV/AIDS was the fifth-leading cause of death in all women aged 25–44 and the third-leading cause of death in African American women in that age range (CDC, 2002b). Given the importance of heterosexual transmission of HIV, surprisingly little research has been conducted concerning intimate relationship issues that may affect women's unprotected sex with partners who engage in risk behaviors. The purpose of this study was to explore sexual imposition, dyadic trust, and sensation seeking as affective concerns that may influence young women's sexual risk behavior with male partners.

For women, the risk of heterosexual transmission of HIV comes from unprotected vaginal, oral, or anal sex and from the perception of, or uncertainty regarding, a male partner's sex with other women or with men, use of injection drugs (CDC, 2002b; Sikkema et al., 1995), or acknowledged HIV infection. When women perceive that their partners are engaging in a risk behavior, they are usually accurate. For example, Ellen, Vittinghoff, Bolan, Boyer, and Padian (1998) studied the extent of interrater agreement between a individual's perception of a sex partner's sexually transmitted disease (STD)/HIV risk behaviors and that partner's self-report about engaging in those behaviors. Interrater agreement between a woman and her male partners was high when the woman *did* perceive her male partner to be engaging in a risk behavior. However, accurate perceptions of a partner's risk behaviors and personal risk do not appear to change sexual risk behavior (Hale & Trumbetta, 1996; Institute of Medicine, 1997; McCombs, McCray, Frey, & Onorato, 1997). Some people who engage in high-risk sexual behaviors accurately perceive their *own* behaviors to be high risk (Buunk & Dijkstra, 2001; Dolcini & Catania, 2000). Perceptions of personal and partner risk taking occur in the context of an intimate dyadic relationship; hence, sexual behaviors may not follow rational scripts.

Relationship themes are central to women's sexual choices (Gilligan, 1982; Surrey, 1991). Placing a high value on relationships may encourage some women to lend more importance to men's voices than to their own safety concerns. This may lead to sexual imposition, which involves feeling pressured to engage in sex (not only

intercourse) when sex is not desired (Hoskins, 1988), particularly if there is an expectation that men should exercise greater power in a relationship than women (Taylor, 1995; Wingood & DiClemente, 1997). In this case, power concerns the exercise of choices about whether, when, and how to have sex and use condoms. Traditional gender norms encourage women to be sexually passive and men to initiate sex (Morokoff et al., 1997). For example, in college and community samples, Morokoff et al. found that women's anticipation of their male partner's response influenced whether they would refuse unwanted sex. Thus, traditional gender role roles contribute to women's unsafe sexual strategies (Holland, Ramazanoglu, Scott, Sharpe, & Thomson, 1990), as they promote mutual expectations that pleasing men is foremost in importance (Muehlenhard & Falcon, 1990; Price & Byers, 1999). Women requesting that men use condoms may challenge expectations about power and pleasure (Holland, Ramazanoglu, Scott, Sharpe, & Thomson, 1992) and risk their safety (Kalichman, Williams, Cherry, Belcher, & Nachimson, 1998). This relationship between sexual imposition and sexual risk behavior is well documented (Biglan, Noell, Ochs, Smolkowski, & Metzler, 1995; Kalichman et al., 1998; Wingood & DiClemente, 1998).

Another aspect of women's sexual risk behavior is trust. Dyadic trust is belief in the partner's benevolence, that is, belief that the partner is concerned about the welfare of the dyad and is honest about this concern (Larzelere & Huston, 1980). Belief in the partner's honesty is essential to accepting a partner's word as genuine. Faith, a belief that stretches beyond available evidence, is an essential aspect of trust (Rempel, Holmes, & Zanna, 1985). Jordan (1991) noted that people often search for mutuality in relationships as a goal in their lives, particularly in dyadic love relationships. People and their environments are in a mutual process (Rogers, 1994), and intimate relationships offer an opportunity to experience one's integral nature. Dyadic trust increases security, reduces inhibitions, and frees people to share feelings (Larzelere & Huston, 1987). Dyadic trust enhances intimacy and openness (Rempel et al., 1985) by reducing feelings of uncertainty that may arise with growing intimacy (Holmes & Rempel, 1989). Some women mobilize trust in male partners as a strategy to cope with feelings of uncertainty (Holland et al., 1992). Trust progresses from observing a partner's history of benevolent behaviors to global attributions about the partner's benevolent qualities. Thus, trust is placed in the person, not the person's specific

actions (Rempel et al.). Trusting one's partner may lead women to perceive that it is safe for their male partners to stop using condoms (Holland et al., 1990, 1992; Jadack, Fresia, Rompalo, & Zenilman, 1997; Lock, Ferguson, & Wise, 1998). Women may believe that not using or discontinuing use of condoms symbolizes intimacy and trust (Lear, 1995; Lock et al.), whereas asking the male partner to use condoms could indicate distrust (Lear; Sionéan et al., 2002).

Another potent influence in sexual risk behaviors may be sensation seeking. Although associations between sensation seeking, multiple partners, and different types of sexual intercourse have been reported, there are few contemporary culturally relevant studies about how sensation seeking, that is, thrill and adventure seeking, may be related to sexual risk behavior among young urban women (Kalichman & Rompa, 1995; Zuckerman, 1979, 1994). Sensation seeking involves pleasure that is enhanced with stimulation (Zuckerman, 1979, 1994). Zuckerman (1994) defined sensation seeking as a multidimensional trait that involves "seeking of varied, novel, complex, and intense sensations and experiences, and the willingness to take physical, social, legal, and financial risks for the sake of such experience" (p. 27).

The relationship of sensation seeking to risk behaviors is thought to involve underestimating or accepting risk as the price for the reward of the sensation or experience. However, Zuckerman (1994) also suggested that what is key to the sensation seeker is the arousing experience and that a willingness to take physical and social risks is a corollary of sensation seeking. When high sensation seekers do take risks, it is generally not the point of the activity, as they usually also take measures to minimize harm. For example, earlier researchers suggested that engaging in different types of intercourse and having multiple partners were related to sensation seeking in women (Zuckerman, Bone, Neary, Mangelsdorff, & Brustman, 1972). However, sensation seekers, although more likely to have varied sexual experiences, were not less likely to use condoms. More recently, Kalichman and Rompa (1995) found a weak correlation between unprotected vaginal sex and both sexual and nonsexual sensation seeking in an urban sample of predominantly African American women and men. Results were not reported by gender. Overall, there have been few contemporary culture-, gender-, and age-appropriate studies of sensation seeking and sexual risk behaviors in young urban women. A deeper understanding of the relationship between

young urban women's sensation seeking and sexual risk behavior is needed.

Relationship status is another variable that appears to be related to patterns of sexual risk behavior (Lansky, Thomas, & Earp, 1998). Researchers have found consistently (e.g., Norris, Ford, Shyr, & Schork, 1996; Santelli, Kouzis, Hoover, & Polacsek, 1996) that condoms are used less frequently with a primary partner than with a nonprimary partner, indicating that women's risk with a male primary partner potentially is high if he has sex with other women or men or injects drugs (Misovich, Fisher, & Fisher, 1997).

Although researchers have indicated that knowledge about condoms reducing the risk of HIV transmission has had little influence on changing sexual risk behavior (Albarracin, McNatt, Klein, Ho, Mitchell, & Kumkale, 2003; Institute of Medicine, 1997), it is important to assess whether women possess the requisite knowledge about risk reduction. Differences in educational level, hours of employment, and number of children may be associated with differences in condom use (Bankole, Darroch, & Singh, 1999). Use of drugs or alcohol before or during sex has been related to sexual risk behavior (Wingood & DiClemente, 1998). These demographic variables were measured in order to control for them and to evaluate the contribution of sexual imposition, dyadic trust, and sensation seeking.

The overall research problem considered in this study was whether HIV sexual risk behavior varies as a function of sexual imposition, dyadic trust, sensation seeking, and relationship status among young urban women with male partners. Because of the strength of support in the literature, it was hypothesized that after controlling for knowledge that condoms help to reduce the risk of HIV/AIDS, educational level, hours of employment outside the home, number of children, and use of drugs or alcohol before or during sex, higher levels of sexual imposition perceived by young urban women would relate to higher levels of sexual risk behavior. Given the gaps in the literature, the following were posed as research questions: after controlling for knowledge about condoms, educational level, hours of employment, number of children, and use of drugs or alcohol before or during sex, (a) is dyadic trust related to sexual risk behavior? (b) is sensation seeking related to sexual risk behavior? and (c) does the type of partner (primary partner or nonprimary partner) influence the relationship of sexual imposition, dyadic trust, and sensation seeking with sexual risk behavior? Participants were instructed that a primary partner is a main boyfriend or husband,

a nonprimary partner an occasional or one-night male partner.

METHOD

Participants

The sample included urban women aged 18–29 who had either a primary male partner or a nonprimary male partner, or both, during the 3 months prior to participation in the study. This age range was selected because heterosexual transmission accounts for more than half of HIV infection in this age group (CDC, 2002a). Engaging in sexual intercourse was not a requirement for participation. The sample was recruited from the following sites in an urban Northeast city where the HIV infection rate is among the highest in the northeastern United States (Division of AIDS Prevention and Control, 1999): a public supplemental nutrition program, Women, Infant, and Children (WIC); a public sexually transmitted disease (STD) clinic; three public housing developments; and a 2-year county community college.

A priori power analysis indicated that a minimum sample size of 146 was required for multiple hierarchical regression analysis. It was anticipated that the data concerning sexual risk behavior in a community sample would be skewed; thus, according to Tabachnick and Fidell (1996), a larger sample size would be required. A post hoc analysis using the *F* test for hierarchical multiple regression at $p < .05$, a moderate effect size, and 12 independent variables revealed that the obtained sample size of 257 provided greater than .95 power to detect a medium effect (Cohen & Cohen, 1983).

The majority of participants were African American (64.2%) and Latina (20.6%). The rest were culturally diverse (Caribbean, Asian, African, White). The mean age was 22 ($M = 21.62$, $SD = 3.31$). Nearly 10% ($n = 24$) had less than a 10th-grade education, 50.8% ($n = 130$) had completed 11th or 12th grade, 35.5% ($n = 91$) had completed 1–2 years of college, and 4.3% ($n = 12$) had completed 4 years of college.

Although 59% of the women worked outside the home, 77% (117) worked less than 40 hr per week. Just over half had children (56.6%). Most did not receive public assistance (63.3%). A large proportion did not use contraception (40.6%). For those who used contraception the most common method of contraception was condoms (29.6%). Less than 2% ($n = 5$) injected drugs. Forty percent ($n = 103$) reported some frequency of alcohol or

noninjection drug use before or during sex. The total sample of 257 participants included 237 (92%) women with a primary partner and 114 (44.4%) women with a nonprimary partner. Roughly, one third ($n = 94$, 36.6%) had relationships with both a primary and a nonprimary partner. Twenty women (7.8%) had exclusive relationships with a nonprimary partner, and 143 (55.6%) were exclusively with a primary partner.

Measures

Sexual risk behavior was measured by the investigator-developed Women's Relative Sexual Risk Scale (WRSRS; Jones, 2002). The WRSRS, a nine-item composite scale, was developed to obtain information on the frequency of unprotected vaginal, oral, and anal intercourse (six items) and the participant's perceived likelihood that the partner engaged in sex with other women or with men or had injected drugs (three items; Kelly et al., 1994; Sikkema et al., 1995). All responses were in the context of a primary or a nonprimary partner and were based on the previous 3 months. As recommended by Susser, Desvarieux, and Wittkowski (1998), unprotected vaginal, oral, and anal intercourse was weighted for relative, not absolute, differences in HIV transmission risk (1, 0.1, and 2 respectively). The perceived partner's behavior was weighted according to the strength of the woman's certainty. *None at all* was scored as .25 rather than zero, indicating negligible risk; *don't know* was scored as .50, indicating some risk; *possible* was scored .75, and *definitely could* was scored as 1, indicating certainty. The unprotected sex score and the perceived partner behavior score were standardized to place them on the same metric and summed for a total score. If the participant had one partner, she responded to nine items; if she had both types of partners, she responded to 18 items. A higher sexual risk score indicated higher relative HIV sexual risk behavior. If the participant had two partners, the score was higher if she engaged in unprotected sex with both partners and if she felt uncertain or perceived both partners to engage in risk behavior; otherwise, having both types of partners did not in and of itself cause a higher sexual risk score. The score is specific to HIV risk because the more general STD risk score would include extragenital transmission by, for example, chancres or herpetic lesions.

Face validity was established by ongoing consultation with a representative group of African American, Latina, Asian, and White undergraduate nursing students ($n = 10$; ages 19–27)

concerning the age, multicultural, and gender relevance of the items (Meleis, 1996; Weinhardt, Forsyth, Carey, Jaworski, & Durant, 1998). To establish content validity, four content experts in HIV sexual risk research were consulted. A content validity index (CVI; Waltz, Strickland, & Lenz, 1991) was completed using data from two of the content experts. On a 4-point scale (from 1 = *not relevant* to 4 = *very relevant*), the proportion of interrater agreement between content experts on items specific to HIV sexual risk behavior rated relevant (3 or 4) was 94%. Similarly, there was 100% interrater agreement by two African American nurse experts on the multicultural relevance of the items. A pilot study ($N = 35$) was conducted in a representative sample to assess item comprehension. Theta reliability was .83.

The Dyadic Trust Scale (Larzelere & Huston, 1980) is an eight-item scale that measures trust in a close relationship. It uses a 7-point response format ranging from *strongly disagree* to *strongly agree*. Convergent validity was supported by significant associations of dyadic trust with love and intimacy of self-disclosure (Larzelere & Huston, 1980). Discriminant validity was supported by low correlations with social desirability and general trust. The Dyadic Trust Scale was reported to have a coefficient alpha reliability of .93, with item-total correlations ranging from .72 to .89 in a heterogeneous sample of dating, married, and divorced partners (Larzelere & Huston, 1980). The alpha reliability for the current study was .75. Each participant was instructed to complete the eight-item Dyadic Trust Scale for each primary and nonprimary partner. The total dyadic trust score was the sum of the primary and nonprimary partner scores. A higher score indicated higher trust, conceptualized as reflecting that trusting two partners would involve more trust than would trusting one.

Sexual imposition was measured by combining five items from the 10-item sexual imposition dimension of the Sexual Needs Subscale of the Partner Relationship Inventory (PRI; Hoskins, 1988) and six items about emotional, psychological, and physical abuse related to requesting a partner to use condoms (Kalichman et al., 1998; Wingood & DiClemente, 1997). According to Hoskins, sexual imposition indicates feelings of conflict in sexual satisfaction, as reflected by the items "My partner pressures me to have sex" and "My partner makes me feel that I should satisfy his sexual needs." The participant was instructed to respond to each item according to her feelings at that moment. All items used a four-choice

response format, with responses ranging from *definitely do not feel* to *definitely feel* or ranging from *never* to *always*.

Construct validity was supported by a principal axis factor analysis using varimax rotation with all the sexual imposition and condom items included in the analysis. A two-factor solution based on the type of partner explained 57.6% of the variance in sexual imposition, indicating that sexual imposition and condom imposition represented a unitary attribute (Waltz et al., 1991). Internal consistency for the total Sexual Imposition Scale was supported by a Cronbach's alpha of .89. A participant was instructed to complete the Sexual Imposition Scale for her primary and nonprimary partners. The score for each partner was the sum of the 11 items. The total sexual imposition score was the sum of the primary and nonprimary partner scores. A higher score indicated higher sexual imposition. Feeling sexually imposed upon by two partners was conceptualized as involving higher sexual imposition than feeling imposed upon with one partner.

Sensation seeking was measured with the investigator-developed Sensation Seeking Scale in Urban Women (SSSUW; Jones, 2002). This instrument was adapted from the Sensation Seeking Scale (SSS) Form V (Zuckerman, 1979, 1994), with permission of the original author. The SSSUW includes substitute activities and terms that have contemporary relevance to the age, culture, and gender of those in the sample. Similar face and expert validity procedures for the WRSRS were followed for the SSSUW. The level of interrater agreement for two content experts on the equivalency of the SSSUW items to the original SSS items was 83% and for the relevance of the items to sensation seeking was 86%. There was 100% interrater agreement between two nurse experts on the multicultural relevance of the SSSUW in this sample. A pilot study in a representative sample ($N = 35$) indicated ease of comprehension of the dichotomous items. The criterion-related validity of the SSSUW was supported by positive correlations of sensation seeking with sexual risk behaviors ($r = .29, p < .001$). Apt and Hurlbert (1992) found that the SSS differentiated between low and high sensation seeking in women's desire for sex, indicating discriminant validity. Convergent validity was supported by positive relationships between sensation seeking and sexual permissiveness (Hendrick & Hendrick, 1987) and among change seeking, extraversion, and impulsivity in undergraduate students (Zuckerman, 1979, 1994). Internal reliability during the early development

of Zuckerman's SSS, Form V, was .85. The alpha reliability for the culturally adapted 40-item SSSUW was .73. The SSSUW is a 40-item instrument that uses a dichotomous response format. Low sensation seeking is scored 0, and high sensation seeking is scored 1, with a possible range of 0–40.

A demographic sheet was developed to assess the covariates, which were: years of formal education, knowledge that condoms help to reduce the risk of HIV and AIDS (1 = *yes*, 2 = *no*, 3 = *don't know*), hours of weekly employment, drug and alcohol use before or during sex (1 = *never*, 4 = *always*), and number of children.

Procedure

Human subjects approval was obtained from the university institutional review board. Participants were recruited by the principal investigator (PI) and by nursing-student research assistants (RAs) who were culture-, age-, and gender representative of the women in the study. Recruitment flyers describing the "Women's Project" were posted or placed on tables at the study sites. The study was announced to individuals and groups of women at WIC. At the other sites women were approached individually to participate. On completion of services at WIC or the STD clinic, individuals indicating an interest in the study were directed to a private room. At the housing sites a community room was reserved for study-related activities. During the interviews the PI or RA provided child care, if needed.

Interviews were conducted using audio computer-assisted self-interview (ACASI; Jones, 2003). Using ACASI, the participant heard the interview items in privacy over a headset attached to a notebook computer and read the corresponding text on the monitor. There are several benefits to using ACASI: (a) less reliance is placed on a participant's level of literacy because the interview items are heard over a headset, (b) the interview is interactive because the subsequent item is tailored to the previous response, (c) missing data are rare because a response is required before progression to the next item, and (d) privacy is enhanced because the participant responds anonymously to a computer, not to a live interviewer. By automating parameters on the ordinal scales, out-of-range responses are eliminated (Jones, 2003). Participants pressed a number key to enter their response choice, sending the data directly to the database. A "Statement to the Participant" that included all the elements of informed consent

was played over the headset and appeared on the monitor. In addition, a written copy was given to each participant. To preserve anonymity, the participant indicated consent by pressing the 1 key.

To enhance memory recall, participants were asked to consider their responses to sexual behavior items, dyadic trust items, and sexual imposition items in the context of one primary and one nonprimary male partner. For each partner type, participants were asked to "think about the one partner you were with the longest or who was the most important to you." Participants responded for either primary partner or nonprimary partner type or both. Sensation seeking was not conceptualized as partner specific but as seeking stimulation from the environment. On completion of the interview, each participant was given \$10 to compensate her for her time. Also, after the interview two pamphlets on reducing HIV risk were reviewed with each participant.

Data Analysis

As expected, sexual risk scores and sexual imposition scores were positively skewed and were transformed logarithmically to make them more symmetric. No substantive difference in results was found between logarithmically transformed and raw data; therefore, the results using the raw data are reported. The assumptions underlying the multiple regression analysis were verified by scatterplots (Schroeder, Sjoquist, & Stephan, 1986). Statistically, the Mahalanobis distance, leverage, and Cook's influence indices established that the outliers did not significantly alter the model.

Hierarchical multiple regression analysis was used to fit a full model that would address the hypothesis and research questions. Controlling for main effects, the interactions of dyadic trust and sexual imposition with sexual risk behaviors by type of partner, primary or nonprimary, were not significant, meaning that these relationships did not vary according to partner type. Because the results did not vary by type of partner, the analysis outcomes for the total sample of women with primary and nonprimary partners are reported in two ways: (a) using the total (i.e., summed) scores for all participants, and (b) the mean scores for all participants.

RESULTS

Among participants who perceived their male partner to have engaged in risk behaviors or whose

behaviors were unknown to them, 48.5% ($n=115$) engaged in unprotected sex with primary partners and 44.7% ($n=51$) with nonprimary partners. Condom use with primary partners was lower than with nonprimary partners (Table 1). Compared to women with primary partners, a higher percentage of those with nonprimary partners were unsure or perceived their partner to engage in the following risk behaviors: sex with other women (85% nonprimary partner, 54% primary partner), sex with men (21% nonprimary partner, 9% primary partner), and injecting drugs (18% nonprimary partner, 10% primary partner).

Means and standard deviations for sexual risk behavior, sexual imposition, dyadic trust, and sensation seeking, according to primary or nonprimary partner type, are reported in Table 2. Responses to the sexual imposition items indicated a higher prevalence of nonphysical pressures to have sex than of physical pressures. For example, "My partner makes me feel that I should satisfy his sexual needs" was endorsed by 51% of those with primary partners and 58% of those with nonprimary partners. In comparison, a small proportion reported they had been hit or kicked after requesting their partner use condoms (primary partners, 3.8%, $n=9$; nonprimary partners, 6%, $n=7$).

Initially, Pearson product moment correlation analyses using the summed scores of participants with a primary or nonprimary partner or both indicated that although dyadic trust was not related to sexual risk behavior, it was positively related to sexual imposition ($r=.52, p<.001$). As explained later, hierarchical multiple regression analysis revealed that a suppressor variable controlled for this positive relationship between the independent variables trust and sexual imposition, showing the relationship between dyadic trust and

sexual risk behavior to be significant and negative. Subsequently, Pearson product moment correlation analyses were performed using the mean scores for sexual imposition, dyadic trust, and sexual risk behavior. Using the mean scores, the relationship between dyadic trust and sexual imposition was negative ($r=-.37, p<.001$), and dyadic trust was negatively correlated with sexual risk behavior ($r=-.34, p<.001$).

Sexual imposition and sexual risk behavior were related ($r=.27, p<.001$). Sensation seeking was positively related to sexual risk behavior ($r=.29, p<.001$) and negatively related to use of drugs or alcohol before or during sex (from 1 = *always* to 4 = *never*; $r=-.33, p<.001$). Although the majority of women (84%) correctly knew that condoms help to reduce the risk of HIV/AIDS, this knowledge was not related significantly to sexual risk behavior.

Using the summed scores, hierarchical multiple regression analysis was used to fit a full model that would test the hypothesis and answer the research questions. Block 1 consisted of the five demographic covariates (use of drugs or alcohol before or during sex, educational level, knowledge that condoms help to reduce the risk of HIV/AIDS, number of children, hours of work outside the home) entered simultaneously, $F(5, 250) = 4.33, p=.001$. The use of drugs or alcohol before or during sex ($\beta = -.249, p<.001$; from 1 = *always* to 4 = *never*) was the only significant covariate in block 1. The R^2 of .06 for this variable indicated that use of drugs or alcohol before or during sex contributed 6% of the variance in explaining sexual risk behaviors. The three main effects, dyadic trust, sensation seeking, and sexual imposition, were entered as block 2 and were significant, $F(3, 247) = 21.54, p<.001$, accounting for an additional 19% of the variance in sexual

Table 1. Number of Young Urban Women Engaging in Sexual Intercourse and Male Condom Use during the Previous 3 Months by Type of Partner

	Sexual intercourse with a primary partner			Sexual intercourse with a nonprimary partner		
	Vaginal ($n=228^a$)	Oral ($n=152$)	Anal ($n=60$)	Vaginal ($n=94$)	Oral ($n=46$)	Anal ($n=15$)
Condom use						
Did not use condoms	96	116	38	30	30	5
Always used condoms	46	15	16	49	13	7
Used condoms inconsistently	86	21	6	15	3	3

Note: Primary partner, $n=237$; nonprimary partner, $n=114$.

^aThe number engaging in each type of sexual intercourse.

Table 2. Means and Standard Deviations for Study Variables by Type of Partner

Variables	Primary (<i>n</i> = 237)		Non-Primary (<i>n</i> = 114)		Total Score (<i>N</i> = 257)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Standardized sexual risk behavior score	.24	1.25	1.31	1.43	.80	1.79
Dyadic trust	36.45	11.12	32.57	10.44	48.06	17.89
Sexual imposition	16.47	4.9	17.65	5.3	23.02	11.88
Sensation seeking ^a	na	na			13.27	5.13

^aDifference by type of partner was not assessed.

risk behaviors. Table 3 shows the significant contributions of each main effect after entering the one significant covariate in block 1. When sensation seeking was entered into the equation, use of drugs or alcohol before or during sex was no longer statistically significant, and therefore that covariate was dropped from subsequent analyses.

When sexual imposition was added to the equation last, the R^2 change was .135 ($p < .001$). In the presence of sexual imposition, the R^2 change for dyadic trust was .019 and was statistically significant, $F(1, 252) = 6.12$, $p = .014$, whereas the bivariate correlation between dyadic trust and sexual risk behavior was not significant. Further, when controlling for sexual imposition, dyadic trust was negatively related to sexual risk behavior ($\beta = -.161$).

In this case, dyadic trust was acting as a suppressor variable. In multiple regression analysis the criteria for a suppressor variable are that it be an independent variable that is correlated with another independent variable, has a positive or near-zero correlation with the dependent variable, and a statistically significant negative regression coefficient (Cohen & Cohen, 1983; Smith, Ager,

& Williams, 1992). The suppressor variable was functioning to control for summing the scores for the subset of the sample with two partners, an approach that created a positive correlation between dyadic trust and sexual imposition. As noted above, the subsequent multiple regression analysis demonstrated that dyadic trust was negatively related to sexual risk behavior.

To test the effect on the study findings of having one or two partners, the variable of having one or two partners was entered into the equation as a main effect, after sexual imposition, dyadic trust, and sensation seeking. The interactions between the variable of having one or two partners with sexual imposition, dyadic trust, and sensation seeking were entered into the next block. The main effect of having one or two partners contributed an additional 3% of the variance in sexual risk behaviors. However, the block of interactions was not significant, indicating that the relationships between sexual imposition, dyadic trust, and sensation seeking with sexual risk behavior did not vary as a function of having one or two partners.

The multiple regression analysis was rerun using the mean scores for sexual risk behavior,

Table 3. Summary of Hierarchical Regression Analysis for Significant Independent Variables with Sexual Risk Behavior Using Summed Scores (*N* = 257)

Variable	B	SE of B	Beta	R^2	R^2 change
Use of drugs or alcohol before or during sex ^a	-.19	.13	-.09	.06	.06*
Sexual imposition ^b	.06	.01	.38	.20	.14*
Dyadic trust	-.02	.01	-.16	.22	.02**
Sensation seeking	.07	.02	.19	.25	.03*

Note: Only information for the covariate use of drugs or alcohol before or during sex is shown. The contributions of the other four demographic covariates—level of education completed, knowledge that condoms help to reduce the risk of HIV/AIDS, number of children, hours of work outside the home—were nonsignificant.

* $p < .001$.

** $p = .014$.

^aIn the presence of sensation seeking, use of drugs or alcohol before or during sex was no longer statistically significant.

^bControlling for dyadic trust, the beta for sexual imposition increased to .443.

sexual imposition, and dyadic trust with sensation seeking. These variables contributed 18% of the variance in sexual risk behavior, $F(3, 253) = 18.89$, $p < .001$ (Table 4). Finally, only the primary-partner data ($n = 237$) were analyzed. Each main effect remained significant (Table 5). The model contributed 15% of the variance in sexual risk behavior for primary partners, $F(3, 233) = 14.14$, $p < .001$. The hypothesized relationship of sexual imposition with HIV risk behavior was supported. Dyadic trust was significantly negatively related to sexual risk behavior, answering the first research question.

The second research question asked whether there was a relationship between sensation seeking and sexual risk behaviors after controlling for the identified covariates. When all three main effects were entered simultaneously, the contribution of sensation seeking remained significant, with an R^2 change of .03 ($B = .193$, $p < .001$). This indicated that sensation seeking accounted for 3% of sexual risk behavior variance, a small yet significant effect. As described above and reported in Table 3, when sensation seeking was entered into the equation, the use of drugs or alcohol before or during sex no longer contributed significantly to women's HIV sexual risk behaviors.

The third research question addressed whether the relationships of sexual imposition, dyadic trust, and sensation seeking to sexual risk behaviors varied based on the type of partner, primary or nonprimary. The interactions of sexual imposition, dyadic trust, and sensation seeking with type of partner, entered in block 3, were not significant, indicating that type of partner did not influence these relationships.

DISCUSSION

The hypothesized relationships between sexual imposition, dyadic trust, and sensation seeking with sexual risk behavior were supported by the

Table 4. Summary of Regression Analysis for Sexual Imposition, Dyadic Trust, and Sensation Seeking using Mean Scores (N = 257)

Variable	B	SE of B	B
Sexual imposition	.04	.02	.15*
Dyadic trust	-.03	.01	-.25**
Sensation seeking	.05	.01	.22*

Note: $R^2 = .18$ ($p < .001$).

* $p < .02$.

** $p < .001$.

Table 5. Summary of Regression Analysis for Sexual Imposition, Dyadic Trust, and Sensation Seeking for Women with Primary Partners (N = 237)

Variable	B	SE of B	B
Sexual imposition	.05	.02	.21*
Dyadic trust	-.02	.01	-.19*
Sensation seeking	.05	.02	.19*

Note: $R^2 = .15$ ($p < .001$).

* $p < .005$.

findings in this study. In the original hierarchical multiple regression analysis, the inclusion of women with two partners resulted in a positive intercorrelation between trust and sexual imposition. Dyadic trust functioned as a suppressor variable that controlled for this positive intercorrelation and revealed that the relationships between dyadic trust and sexual risk behavior and between dyadic trust and sexual imposition were negative. The findings were corroborated by non-significant interactions of the main effects with having one or two partners and by a medium effect with analyses using mean scores and primary partner scores.

Sexual imposition was found to be a significant feature of women's sexual risk behavior. Gender role stereotypes are reinforced in cultures, pop subculture, the media, family, and religion (Amaro, Raj, & Reed, 2001; Parker, 2001). Similar to findings reported by Sionéan et al. (2002), nonphysical sexual imposition, such as pressure to satisfy a male partner sexually, was more common than physical coercion to have unprotected sex. Sionéan et al. also reported that African American adolescent women were more likely to consistently refuse unwanted sex when they perceived that male partner control was not the norm. Investigation into the role of assisting young urban women who feel sexually imposed upon to envision alternative choices such as nonimposing relationships is recommended.

In this study sexual risk behavior involved unprotected sex with a male partner for whom women were uncertain or perceived to have engaged in a risk behavior during the previous three months. Certainly, some women underestimate their male partners' risk behaviors when they engage in unprotected sex with them. As discussed by Holland et al. (1990) and Lock et al. (1998), trusting a partner may influence the choice not to use condoms. However, given the findings by Ellen et al. (1998) that women are usually accurate when they perceive their partners to be engaging in risk behavior, it is unlikely that women's perception of

their partners' risk behavior was overestimated. The findings in this study call attention to a different problem: although urban women felt low trust for their male partners and were either uncertain or perceived them to be engaging in HIV risk behaviors, they still engaged in unprotected sex with them. The implication of this finding is that young urban women are not attending to their feelings of distrust as a cue to action. This is an area requiring further study. Rosenthal, Lewis, and Cohen (1996) also identified a theme of having sex with men who could not be trusted during focus groups with urban African American and White adolescent women.

Santelli et al. (1996) indicated that for African American adolescent women who believed that condom use with a primary partner would promote trust and whose partners were willing to use condoms, the partners used condoms more consistently. Perhaps condom use may be promoted as a way to build trust with like-minded partners and thereby promote the welfare of the dyad.

The positive relationship between sensation seeking and sexual risk behavior indicated that some women manifest willingness and desire for varied, novel, and intense sensations in their experiences with male partners. The small effect size of sensation seeking in relation to sexual risk behavior supports Zuckerman's (1979, 1994) conclusion that risk is a corollary but not an essential element of sensation seeking. The implication is that sensation-seeking young urban women are seeking experience and adventure, but not risk or danger. Findings by Everett and Palmgreen (1995) and Palmgreen, Donohew, Lorch, Hoyle, and Stephenson (2001) indicated that interventions to reduce substance use among sensation seekers were more effective when novelty, surprise, and strong emotion were integrated into the intervention. Research examining the effect of tailoring sexual risk reduction interventions to appeal to sensation-seeking young urban women is warranted. The importance of sensation seeking was apparent in the finding that the relationship of drugs or alcohol before or during sex to sexual risk behaviors was nonsignificant after sensation seeking was introduced into the regression equation. This finding is congruent with previous research (Kalichman, Heckman, & Kelly, 1996; Leigh, Temple, & Trocki, 1994). For future studies, to assess whether a relationship between substance use and HIV sexual risk is spurious, multivariate analysis that includes sensation seeking is recommended.

Nearly half the sample engaged in sexual risk behavior. A similar pattern of the relationships of

dyadic trust, sensation seeking, and sexual imposition with sexual risk behavior was identified for both primary and nonprimary partners. These findings support the focus on consistent condom use, not partner status, as key to sexual health promotion recommendations (Misovich et al., 1997).

The high prevalence of unprotected oral sex may indicate that young urban women perceive unprotected oral sex as safe sex. As more women engage in unprotected oral sex with men, the importance of this mode of HIV transmission rises (Edwards & Carne, 1998; Gottlieb, 2000). A large proportion of the sample also engaged in anal sex. This finding is consistent with those reported by Baldwin and Baldwin (2000) and Gross et al. (2000), confirming that heterosexual anal sex remains underestimated (Halperin, 1999; Voeller, 1991). The high proportion of women in the current study who acknowledged having anal sex may be attributed to the use of audio computer-assisted self-interview (ACASI) in facilitating anonymity. Gross et al. and Turner, Ku, Rogers, and Lindberg (1998) reported similar observations with the use of ACASI compared to more traditional methods of data collection. Greater attention to the role of anal sex and HIV transmission among urban women is needed, including inclusion of discussion about unprotected anal sex in culturally appropriate, matter-of-fact sexual health counseling with young urban women.

In conclusion, although young urban women were either unsure about or distrusted their male partners when they were perceived as engaging in a risk behavior, they still engaged in unprotected sex. The problem may be that young urban women are not listening to their feelings of distrust as a cue to action. Sexual imposition reflects gender role expectations that promote mutual expectations about the foremost importance of pleasing men, so that women lend more importance to men's voices than to their own safety concerns. Seeking ways to enhance awareness about non-sexually imposing relationship alternatives may be important. Finally, results of this study indicate that health promotion messages concerning sexual risk behavior may be more appealing to sensation-seeking women if they incorporate thrill, adventure, and excitement.

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