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The Moderating Effect of Sexual Pressure on Young Urban Women's Condom Use

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Abstract: The purpose of this study was to examine whether women's experiences of sexual pressure moderated the relationship between sexual empowerment determinants and condom use in a sample of 100 high-risk women, ages 19–25. Five sexual empowerment determinants of condom use were identified from the literature: HIV knowledge, self-esteem, condom self-efficacy, positive attitudes toward condom use, and condom negotiation skills. Linear and logistic regression analyses revealed that positive attitudes toward condom use and condom negotiation skills were significant predictors of condom use. These relationships, however, were moderated by sexual pressure. Findings indicate that women's experiences with sexual pressure have the potential to decrease the likelihood of condom use, even though other sexually protective behaviors may be exhibited. © 2011 Wiley Periodicals, Inc. Res Nurs Health 35:4–14, 2012

Keywords: sexual pressure; empowerment; sexual empowerment; condom use; sexual coercion

High-risk heterosexual contact is the most common transmission route for HIV infection for women of all racial/ethnic groups in the U.S. (Centers for Disease Control and Prevention [CDC], 2007). Research studies of women are now focused on social determinants of their sexual risk behaviors. The role that social factors play in the HIV risk of women, however, is not yet well understood. There is a need to identify factors in the social context of women's lives, such as sexual pressure, that may account for the continued high rates of new cases of HIV infection, particularly among vulnerable subgroups such as poor and minority women. Such information is critical to improving the effectiveness of HIV prevention interventions. The purpose of this study was to examine whether women's experiences of sexual pressure moderated the relationship between sexual empowerment determinants and condom use in a sample of high-risk young adult women.

Sexual pressure occurs within the context of women's intimate relationships and is believed to exert a powerful influence on their sexual risk behaviors (Blythe, Fortenberry, Temkit, Tu, & Orr, 2006; Jones, 2006; Jones & Gulick, 2009). Sexual pressure has been defined as adherence to gender stereotypes in a sexual relationship. Limitations in sexual choices can occur as a result of these stereotypes, leading to potential adverse consequences for women (Jones, 2006). Sexual pressure has potential for causing adverse consequences for women whether or not they give in to such pressure.

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Women who resist sexual pressure may experience the loss of a desired intimate relationship, or exposure to threats or acts of violent behavior from a sexual partner (Jones, 2006; Jones & Gulick, 2009). Giving in to pressure or coercion may expose women to additional adverse consequences that include sexually transmitted diseases such as HIV infection (El-Bassel, Gilbert, Rajah, Foleno, & Frye, 2000; Jones, 2006) and unplanned pregnancy (Miller et al., 2010; C. M. Williams, Brett, & Abma, 2009). Whether from perceived stereotypes or more coercive experiences, a woman may give meaningful consideration to these consequences as opposed to considering her own sexual health. Findings from previous studies of sexual pressure among young, urban minority women indicate that those who experienced sexual pressure were more likely to practice risky sexual behaviors, such as unprotected sex (Jones, 2006; Jones & Gulick, 2009).

For this study, sexual empowerment determinants were defined as those factors that enable a woman to safeguard or protect her sexual health. Many women may choose to empower themselves sexually through abstinence or sexual refusal. In such cases, a woman refrains from sexual activity or resists sexual advances. For a woman who is sexually active, however, these determinants empower her to protect herself from HIV infection through such actions as the consistent use of condoms.

From a review of the literature on HIV prevention studies and condom use in adolescent girls and young adult women, the following variables were identified as dimensions of sexual empowerment: HIV knowledge, high self-esteem, condom self-efficacy, positive attitudes toward condom use, and condom negotiation skills. In a sample of low-income, African American adolescent girls, previous investigators reported an association between higher self-esteem, positive attitudes toward condom use, condom self-efficacy, and greater effectiveness in negotiating condom use (Salazar et al., 2005). Similarly, in an urban sample of low-income, high-risk women, Somlai et al. (2000) showed that women at higher risk for HIV had lower self-esteem, lower self-efficacy, were less knowledgeable about HIV/AIDS, and reported lower confidence in self-protective behaviors against transmission of HIV than women who were low-risk. However, such findings do not tell the whole story. Despite the presence of sexual empowerment (e.g., HIV knowledge), many women continue to take sexual risks (Cerwonka, Isbell, & Hansen, 2000; P. B. Williams, Ekundayo, Udezulu, & Omishakin, 2003). Factors that may explain such risk behavior include the role of sexual pressure in moderating the effects of sexual empowerment.

The theoretical frameworks used to guide the study were psychological empowerment theory (Zimmerman, 1995) and the theory of gender and power (Connell, 1987). Psychological empowerment theory is rooted in social action theory and identifies three components that determine outcomes, namely, intrapersonal, interactional, and behavioral components. The intrapersonal component includes self-perceptions of the ability to exert influence in a social context. The interactional component includes an understanding of how a person's perception of his or her ability to exert influence actually works in the contexts of various relationships. Lastly, the behavioral component includes the behaviors used to exert influence or control within various contexts. Applied to sexual risk behavior in the context of intimate relationships, the intrapersonal component refers to perceived influences on the use of condoms during the sexual encounter. Sexual empowerment determinants included within the intrapersonal component are HIV knowledge, self-esteem, condom self-efficacy, attitudes toward condom use, and condom negotiation skills. Thus, if an individual has knowledge of HIV infection and prevention of disease, positive self-esteem, perceived ability to utilize condoms effectively (i.e., condom self-efficacy), positive attitudes toward condoms, and perceived ability to effectively negotiate condom use, the individual will in turn perceive her influence or control in condom use. The interactional component is belief in the likelihood that this ability will be effective, given the specific context. In other words, the manner in which perceived sexual empowerment is actually believed to work before and during the sexual relationship describes the interactional component. In the present study, the interactional component was defined as sexual pressure experienced in intimate relationships. Lastly, the behavioral component describes how these perceptions and beliefs are actually played out within the context of the intimate sexual relationship, an individual's actual behavior in influencing condom use.

The theory of gender and power, based on theories of sexual inequality and gender/power

imbalances, proposes that the gender roles assumed by women and men are culturally bound. This framework has been used extensively in sexual risk behavior research (Buelna, Ulloa, & Ulibarri, 2009; Mallory, Harris, & Stampley, 2009; Wingood & DiClemente, 2000). It is helpful in identifying the potential effect of sexual pressure in the relationship between sexual empowerment and condom use. It extends the interactional component of psychological empowerment theory to address the power dynamics of intimate sexual interaction that can potentially influence sexual decision-making. Based on this theory, as power increases among men and decreases in women, women become more likely to have adverse health outcomes as a result of this imbalance. In addition, the emotional and sexual attachments that women have with men derived from cultural norms that enforce gender roles with regard to sexual activity (e.g., multiple sex partners acceptable for men, but unacceptable for women) pose increased risks for women (Connell, 1987; Wingood & DiClemente, 2000). Thus, women who experience sexual pressure within relationships where there is a power differential in the male partner's favor may be more likely to take sexual risks, even when possessing the attributes that should protect them from such risks.

To explore the role of sexual pressure in sexual risk-taking among high-risk women, the research questions were:

(1) What is the relationship between sexual empowerment determinants (i.e., HIV knowledge, self-esteem, condom self-efficacy, positive attitudes toward condom use, and condom negotiation skills) and condom use?
(2) Is the relationship between sexual empowerment determinants and condom use moderated by women's experiences of sexual pressure?

Based on psychological empowerment theory (Zimmerman, 1995) and the theory of gender and power (Connell, 1987), we hypothesized the following:

(1) The sexual empowerment determinants (i.e., HIV knowledge, self-esteem, condom self-efficacy, positive attitudes toward condom use, and condom negotiation skills) would be positively correlated with condom use.
(2) The relationship between the sexual empowerment determinants and condom use would be moderated in the context of sexual pressure.

Methods

Setting and Sample

This cross-sectional, descriptive study was conducted in a metropolitan area in the Southeastern region of the U.S., where rates of HIV infection are higher than the national rates (CDC, 2009a). The convenience sample was recruited from a local sexually transmitted infection (STI) clinic and a Women, Infants, and Children nutrition program, both located within the county health department. This particular county accounted for 28.4% of the reported number of cumulative HIV/AIDS cases in the state (Alabama Department of Public Health, 2009).

A power analysis determined that a sample of 97 women would be adequate for an analysis of a six-predictor model based on a medium effect size, a power of .80, and an alpha level of .05. A total of 100 young adult women aged 19–25 were included in the study sample. This age group was chosen to examine sexual behavior in a known high-risk group, as identified in previous HIV prevention studies on sexual risk behavior among women (Ferguson, Quinn, Eng, & Sandelowski, 2006; Ortiz-Torres, Williams, & Ehrhardt, 2003). Moreover, rates of gonorrhea and chlamydia are especially high in this age group (CDC, 2009b). According to the CDC (2008), individuals with an STI are two to five times more likely to acquire HIV through sexual contact than those who are not infected.

The inclusion criteria were: (a) self-identified as either African American or Caucasian; (b) unmarried; (c) sexually active, as evidenced by having had sex with a male partner within the previous 6 months; (d) never tested for HIV, or if tested, reported HIV-negative serostatus or unknown serostatus; and (e) English-speaking. The rationale for limiting the sample to African American and Caucasian participants was that these two groups combined represent the vast majority (82%) of cumulative cases of HIV infection among women in the U.S. (CDC, 2007). Exclusion criteria included: (a) women who were HIV+ and (b) women who did not have sex with males.

Participants were recruited between September 2008 and February 2009 in cooperation with the local county health department. Approval of the Institutional Review Board of the researchers' institution and administration of the county health department were obtained prior to recruitment and data collection. Participants were recruited through study brochures placed in the lobby area of the health department and distributed to female clients by the health department staff. Women interested in participating contacted the principal investigator, whose phone number and email address were included on the brochures. The participants were screened to determine if they met the study criteria. An equal number of African American ($n = 50$) and Caucasian ($n = 50$) women were recruited. The mean age of participants was 21.4 years ($SD = 2.14$). Although the majority of participants had attended at least some college (56%), half of the sample (50%) reported household incomes of less than $10,000 per year.

Measures

Sexual empowerment determinants. Sexual empowerment determinants associated with increased condom use included HIV knowledge, self-esteem, condom self-efficacy, attitudes toward condom use, and condom negotiation skills.

HIV knowledge was measured by the HIV-Knowledge Questionnaire (Carey, Morrison-Beedy, & Johnson, 1997), which addresses knowledge about HIV infection, transmission, and prevention methods. It is a 45-item instrument with true/false response options for each item. Responses are scored as 1 = *correct* or 0 = *incorrect*. The total score is the sum of all items. Scores range from 0 to 45, with higher scores indicating higher levels of HIV knowledge. The instrument has been validated in diverse populations, with a reported reliability coefficient of .91 (Carey et al., 1997). The reliability coefficient for the study sample was .69.

Self-esteem was measured by the Rosenberg Self-Esteem Scale (Rosenberg, 1965), which is one of the most widely used measures of self-esteem in social science studies. It is a 10-item instrument with a 4-point response format ranging from *strongly agree* to *strongly disagree*, with higher scores indicating higher levels of self-esteem. The instrument has been used in HIV risk studies among young minority women with reported reliability coefficients ranging from .68 to .90 (Gwandure, 2007; Salazar et al., 2005; Sterk, Klein, & Elifson, 2004a). The reliability coefficient for the study sample was .87.

Condom self-efficacy was measured by the Condom Self-Efficacy Scale (Hanna, 1999), a 14-item instrument that measures self-efficacy in condom-specific behaviors and condom communication with sexual partners. Items are rated on a 5-point response format ranging from *very unsure* to *very sure*, with higher scores indicating higher condom self-efficacy. The instrument has been used in ethnically diverse samples of adolescents and young adults with a reported reliability coefficient of .85 (Hanna, 1999). For the current sample, the reliability coefficient was .94.

Attitudes toward condom use were measured by the Attitudes Toward Condom Use subscale of the Sexual Risks Scale (DeHart & Birkimer, 1997). The Sexual Risks Scale includes 38 items that measure overall behavioral intentions and HIV risk behaviors. The Attitudes Toward Condom Use subscale includes 13 items that are rated on a 5-point response format ranging from *strongly disagree* (1) to *strongly agree* (5). Total scores are calculated by computing the mean scores, with higher scores indicating more positive attitudes toward condom use. The instrument was developed in two college student samples, and had a reliability coefficient of .86 for the entire scale and .88 for the attitude subscale (DeHart & Birkimer, 1997). For the study sample, the reliability coefficient for the subscale was .86.

Condom negotiation skills were measured by the Condom Influence Strategy Questionnaire (CISQ; Noar, Morokoff, & Harlow, 2002). The CISQ is a 36-item instrument that measures skills to effectively negotiate condom use. Individual items are rated on a 5-point response format ranging from *very likely* (1) to *very unlikely* (5). Total scores are tabulated by summing the responses and dividing by the total number of items. Lower scores indicate higher levels of condom negotiation skills. The instrument was validated in a sample of college students, with the six subscales having reliability coefficients ranging from .83 to .94 (Noar et al., 2002). For the current sample, the reliability coefficients for each of the six subscales ranged from .86 to .95, with a reliability coefficient of .95 for the overall instrument.

Sexual pressure. Sexual pressure was measured by the 19-item Sexual Pressure Scale (SPS; Jones, 2006). The SPS measures both sexual experiences and sexual views. Items addressing sexual experiences are rated on a 5-point response format ranging from *never* (1) to *always* (5), while items addressing sexual views are rated on a 5-point response format ranging from *definitely do not feel* (1) to *definitely feel* (5). The total score is the mean across all items. The scale was initially used in a sample of 306 diverse young adult women (64% African American; 15% Latina; 21% other) with a reported reliability coefficient of .81 for the overall scale, and a range of .63 to .82 for the five subscales (Jones, 2006). For the current sample, the reliability coefficient for the overall scale was .90, and for the five subscales ranged from .74 to .84.

Condom use. Condom use was measured as the frequency of condom use during vaginal, oral, and/or anal sex during the previous 6 months. The following question was asked for each of the three types of sexual activity: "In the past 6 months, how often have you used a condom when you have had (vaginal, oral, or anal) sex with your current or most recent main sexual partner?" Response categories ranged from *never* (1) to *always* (5), with an additional response category if the participant did not engage in that particular sexual behavior in the past 6 months. For the purpose of data analysis, responses to the condom use items were dichotomized into two categories, *never or almost never* (0) and *at least sometimes* (1). Included in the higher risk behavior category were participants who had never or almost never used a condom in the previous 6 months. Lower risk behavior was categorized as those who used condoms at least some of the time or more frequently during the previous 6 months.

Procedures

After informed consent was obtained, participants completed the questionnaire either in the health department clinic while waiting to be seen for treatment/services, or in private rooms in the clinic and in the School of Nursing research center. Those who contacted the principal investigator after business hours were scheduled a date and time to complete the questionnaires in the School's research center. Those who completed the questionnaire were compensated $10.00 in cash.

Data Analysis

Descriptive statistics were used to describe the study sample. Pearson's correlations and linear regression models were used to assess the association between sexual pressure and each determinant of sexual empowerment. The relationships among the independent variables (sexual empowerment determinants) and the dependent variable (condom use) also were examined using bivariate correlations. Sexual empowerment determinants significantly associated with condom use were entered into the logistic regression model to identify the predictors of condom use. Based on the number of significant predictors, regression models with interactions terms were further examined to identify the potential moderating effect of sexual pressure in relation to condom use. This method was used as opposed to a step-wise regression because it tests the contribution of each explanatory variable to the outcome regardless of the order of entry into the model. Odds ratios also were calculated based on low, medium, and high values of the moderator variable. When the relationship between an independent variable and the dependent variable varied as a function of the moderator variable, the moderating effect was determined to be significant.

Results

With regard to condom use during sexual activity, 100% of the women ($n = 100$) had engaged in vaginal sex during the previous 6 months. Of these women 40% never or almost never used a condom versus 60% at least sometimes. Of the 75 women who had engaged in oral sex in the previous 6 months, 82.7% never or almost never used a condom. Nearly one-third ($n = 31$) of the women had engaged in anal sex in the previous 6 months. Of these, 74.2% never or almost never used a condom during anal sex.

A correlation matrix showing the relationships among the major variables is presented in Table 1. Condom self-efficacy and attitudes toward condom use, condom self-efficacy and condom negotiation skills, and condom negotiation skills and attitudes toward condom use were correlated at the $p < .001$ level. HIV knowledge and self-esteem and self-esteem and attitudes toward condom use were correlated at the $p < .05$ level. HIV knowledge and condom

Table 1. Correlation Matrix of Sexual Empowerment Determinants and Sexual Pressure

	HIV-K	SE	CSE	ATC	CNS	SP
HIV-K	1.00					
SE	.20*	1.00				
CSE	.30**	.13	1.00			
ATC	.15	.21*	.38***	1.00		
CNS	.1	−.09	−.38***	−.44***	1.00	
SP	−.1	−.27**	−.18	−.21*	.13	1.00

Note: HIV-K, HIV knowledge; SE, self-esteem; CSE, condom self-efficacy; ATC, attitudes toward condom use; CNS, condom negotiation skills; SP, sexual pressure.
*$p < .05$.
**$p < .01$.
***$p < .001$.

self-efficacy were correlated at the $p < .01$ level. The two variables that were significantly correlated with sexual pressure were self-esteem ($p < .01$) and attitudes toward condom use ($p < .05$). Thus, women with lower self-esteem and more negative attitudes toward condom use were more likely to have experiences with sexual pressure.

Our first research question was: What is the relationship between sexual empowerment determinants (i.e., HIV knowledge, self-esteem, condom self-efficacy, positive attitudes toward condom use, and condom negotiation skills) and condom use? We hypothesized that the sexual empowerment determinants would be positively correlated with condom use. Of the five sexual empowerment determinants that were examined in relation to condom use by type of sexual activity, two were found to be significant: attitudes toward condom use was significant for increased condom use during vaginal sex χ^2 $(1, n = 100) = 9.98$, $p = .002$ and condom negotiation skills was significant for condom use during vaginal sex χ^2 $(1, n = 100) = 7.49$, $p = .006$ and oral sex χ^2 $(1, n = 75) = 6.14$, $p = .013$. That is, women who reported more positive attitudes toward condom use were significantly more likely to use condoms for vaginal sex, and women who reported more effective condom negotiation skills were significantly more likely to use condoms for vaginal sex *and* oral sex. The sexual empowerment determinants could not be examined in relation to anal sex because of the low sub-sample size ($n = 31$).

The association between attitudes toward condoms and vaginal sex remained significant even controlling for demographic variables such as race, education, and income level. In addition, the associations between condom negotiation skills and vaginal and oral sex remained significant controlling for race and education level. However, income level was found to be a significant confound of these relationships, such that as income increased levels of condom negotiation skills also increased. No significant associations were noted between HIV knowledge, self-esteem, or condom self-efficacy in relation to condom use.

Our second research question was: Is the relationship between sexual empowerment determinants and condom use moderated by women's experiences of sexual pressure? We hypothesized that the relationship between the sexual empowerment determinants and condom use would be moderated in the context of sexual pressure. The two significant predictors, attitudes toward condom use and condom negotiation skills, were further assessed to evaluate the moderating role of sexual pressure. The findings from regression analyses are reported in Tables 2–4. For condom use during vaginal sex, the interaction term of positive attitudes toward condom use and sexual pressure had a significant moderating effect on vaginal condom use χ^2 $(1, n = 100) = 6.85$, $p = .009$, indicating that in the presence of sexual pressure, the relationship between positive attitudes toward condom use and condom use was decreased. Thus, women with more positive attitudes toward condom use were more likely to use condoms for vaginal sex, but significantly less likely to do so if they experienced sexual pressure. For condom use during vaginal sex, the interaction term of high condom negotiation skills and sexual pressure fell short of a significant moderating effect on vaginal condom use χ^2 $(1, n = 100) = 3.64$, $p = .056$. Thus, women with higher condom negotiation skills were more likely to use

Table 2. Logistic Regression of the Moderating Effect of Sexual Pressure on Attitudes Toward Condom Use and Condom Use for Vaginal Sex

Variable	*B*	χ^2	*df*	*p*
Intercept	−12.26	9.93	1	.002
Attitudes toward condom use	.26	11.13	1	.001
Sexual pressure	4.9	6.45	1	.01
Attitudes toward condom use × sexual pressure	−.1	6.85	1	.009

condoms for vaginal and oral sex, but marginally less likely to use condoms for vaginal sex if they experienced sexual pressure. For condom use during oral sex, the interaction term of high condom negotiation skills and sexual pressure did not have a significant moderating effect χ^2 $(1, n = 75) = 2.71, p = .100$.

Discussion

The finding that women with more positive attitudes toward condom use were more likely to use condoms for vaginal sex is consistent with other studies (Morrison-Beedy, Carey, Feng, & Tu, 2008; Noar, Zimmerman, Palmgreen, Lustria, & Horosewski, 2006; Sterk, Klein, & Elifson, 2004b). Accordingly, those with more positive attitudes toward condom use were more likely to use condoms than those with more ambivalent or negative attitudes towards condoms. Findings also showed that women with greater condom negotiation skills were more likely to use condoms for vaginal sex, a finding that is also consistent with previous studies (Dancy & Berbaum, 2005; Noar et al., 2002; Soler et al., 2000). Women with greater condom negotiation skills were also more likely to use condoms for oral sex, a finding not previously noted in the literature. Many studies of the relationship between condom negotiation skills and actual condom use do not include measures of condom use by type of sexual activity, but rather during sexual intercourse in general. Although the risk of HIV transmission through unprotected oral sex is considered lower than through unprotected vaginal or anal sex (Rothenberg, Scarlett, del Rio, Reznik, & O'Daniels, 1998), there are increasing reports of both viral and non-viral STIs that occur as a result of unprotected oral sex (Cherpes, Meyn, & Hillier, 2005; Edwards & Carne, 1998a, 1998b). Condom use during oral sex is relatively uncommon among adolescents and young adults (Boekeloo & Howard, 2002; Leichliter, Chandra, Liddon, Fenton, & Aral, 2007), as was the case with the study sample. However, of those who did use condoms during oral sex, condom use was significantly more likely for those with greater condom negotiation skills.

Although the positive correlation between attitudes toward condom use and condom negotiation skills with actual condom use support psychological empowerment theory (Zimmerman, 1995), HIV knowledge, condom self-efficacy, and self-esteem were not significantly related to condom use, thus did not support the theory as expected. Previous investigators also have found that HIV knowledge alone does not necessarily translate to lower risk behaviors, especially for women (Cerwonka et al., 2000; Jackson, Early, Schim, & Penprase, 2005; Ratcliff-Crain, Donald, & Dalton, 1999). However, condom self-efficacy has been positively linked to condom use (Gazabon, Morokoff, Harlow, Ward, & Quina, 2007; Peipert et al., 2007; Sanderson & Yopyk, 2007). For our sample, the effects of perceptions of self-efficacy may have been overridden by positive condom attitudes and skill in negotiating condom use. Previous

Table 3. Logistic Regression of the Moderating Effect of Sexual Pressure on Condom Negotiation Skills and Condom Use for Vaginal Sex

Variable	*B*	χ^2	*df*	*p*
Intercept	6.39	7.9	1	.005
Condom negotiation skills	−2.45	6.59	1	.01
Sexual pressure	−2.74	4.00	1	.04
Condom negotiation skills × sexual pressure	1.09	3.64	1	.056

Table 4. Logistic Regression of the Moderating Effect of Sexual Pressure on Condom Negotiation Skills and Condom Use for Oral Sex

Variable	*B*	χ^2	*df*	*p*
Intercept	6.51	3.94	1	.05
Condom negotiation skills	−3.37	5.05	1	.025
Sexual pressure	−3.78	3.13	1	.077
Condom negotiation skills × sexual pressure	1.48	2.71	1	.100

findings for the relationship between self-esteem and HIV risk behaviors have been equivocal (Cole, 1997; Gullette & Lyons, 2006; Robinson, Holmbeck, & Paikoff, 2007).

The finding that sexual pressure buffered the relationship between positive attitudes toward condom use and increased condom use during vaginal sex supports the theory of gender and power (Connell, 1987). Women who experienced sexual pressure and thus power imbalances within the relationship were less likely to use condoms, even though they reported positive condom attitudes. Although individuals may form attitudes based on their own reasoning, this reasoning is influenced by others (Ajzen & Fishbein, 1980). A woman who has positive attitudes towards the use of condoms may compromise her beliefs about condom use in an effort to please her partner, even though it may be unfavorable to her sexual health. Hogben et al. (2006) found that although adolescent females' beliefs and attitudes toward condoms were positively associated with intentions to use condoms, the impact of these attitudes was nullified by the adolescents' perceptions about their male partners' negative attitudes towards condoms. Likewise, in a larger study of adolescents and young adults, those who were less likely to use condoms were more likely to be concerned that their partners would not approve of condom use (Brown et al., 2008). Our findings and those of others suggest that a woman who would ordinarily prefer the use of condoms may consider such a preference secondary to perceived pressure from her sexual partner.

The positive relationship between condom negotiation skills and actual condom use during vaginal sex was only marginally diminished in the context of sexual pressure. Based on the literature, a stronger effect was expected. In a sample of young urban women, Jones and Gulick (2009) found that women who were more likely to experience sexual pressure were also more likely to experience a lack of control in the relationship and lack of power in sexual decision-making. Similarly, in a study of an HIV/STD prevention program for young urban males (Kennedy, Nolen, Applewhite, & Waiter, 2007), men were more likely than their female partners to perceive that they controlled condom use in the sexual relationship. Condom use during sexual activity was generally low among participants in our sample, and the low variance could have attenuated the moderating effect of sexual pressure. Nonetheless, our findings indicate that sexual pressure may influence condom negotiation, depending on a woman's skills as well as the social context of the intimate relationship.

The present study is not without limitations. Because of the cross-sectional design, no inferences could be made with respect to causality. A potential bias is the use of a convenience sample. The majority of the participants (85%) were recruited from an STI clinic, and likely to engage in high-risk sexual behaviors. Thus, women who choose to abstain from sexual activity and who refuse sex after experiencing sexual pressure are not represented in this sample. Most of the participants were from low-income households, thus also limiting generalizability to the larger population. One of the measures used in the study sample, the HIV-Knowledge Questionnaire, had a borderline acceptable reliability coefficient of .69; normally, measures with a coefficient of .70 or higher are considered to have acceptable reliability (LoBiondo-Wood & Haber, 2006). In addition, a sexual history was not taken, and could have enhanced the interpretation of the findings. Furthermore, because we measured condom use specifically with current or recent main sexual partners, condom use with casual or one-time sexual partners may not have been adequately determined. Lastly, social desirability may have been an issue because of the sensitive nature of the survey items. Therefore, the validity of the participants' responses cannot be confirmed.

Conclusions

Our findings emphasize the substantial role that sexual pressure has in counteracting the positive relationship between sexual empowerment and condom use. Although positive attitudes toward condom use and condom negotiation skills increase the likelihood of condom use, our findings indicate that this relationship can be negated by a woman's experiences of sexual pressure.

The current study serves as a starting point for future empirical studies of such moderating effects. Future study of how sexual pressure and other potential factors can affect the social context of the female-male sexual relationship can assist researchers in developing appropriate HIV education and prevention programs for at-risk young adult women. The findings are also clinically important for nurses who counsel and provide social services for adolescents and young adults with high-risk sexual behaviors.

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