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J Sex Res. 2012 ; 49(2-3): 255–263. doi:10.1080/00224499.2011.578219.**Correlates of Male Condom Use Skills among High-Risk Women in South Africa****Felicia A. Browne,**

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Abstract

This exploratory study examines the performance of 295 South African women—who recently traded sex for goods or had unprotected sex—on a male condom use mastery index. Bivariate and multivariate logistic regression analyses were conducted to determine whether age, marital status, highest education obtained, male condom use at first penetrative sex, receiving prior demonstration of male condom use, recent sexually transmitted infection (STI) symptoms, and recently trading sex were significantly associated with index scores. Adjusted odds ratios indicated that age and STI symptoms were negatively associated with condom skills; women who were older and had a higher number of recent STI symptoms were more likely to have lower scores. Furthermore, participants executed, on average, approximately one-third of condom use steps correctly. These findings suggest a need for increased behavioral skills training for women engaging in sexual risk behaviors because many lack the skills required to use a male condom properly.

Keywords

AIDS/HIV; Condoms; Education; Special populations/Women

The HIV/AIDS epidemic has continued to devastate South Africa, where more than 5.5 million people are estimated to be living with HIV (Department of Health, 2010). Similar to the trend in sub-Saharan Africa, the primary mode of HIV transmission in South Africa is

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heterosexual intercourse (Shisana et al., 2009) and women are disproportionately infected with HIV (UNAIDS, 2007; Department of Health, 2009; Shisana et al., 2009). In addition to biological determinants that may place women at increased risk of HIV (Nicolosi et al., 1994), a variety of social factors, such as gender inequality, may also play a role in South African women's risk (Ackermann & de Klerk, 2002; Gilbert & Walker, 2002; Wechsberg et al., 2008).

To address this HIV epidemic in South Africa, barrier methods, such as the male latex condom, have been promoted as effective HIV prevention and have been distributed free of charge by the South African government since the early 1990s (Parker, Nkosi, Birdsall, & Hajjiannis, 2004). Male latex condoms help to prevent the transmission of HIV and other sexually transmitted infections (STIs), as well as reduce the likelihood of an unwanted pregnancy (CDC, 2003; NIAID, 2001). However, to maximize the effectiveness of this HIV prevention method, male latex condoms must be used consistently and correctly (CDC, 2003).

Consistent and Correct Use of Male Condoms

Numerous studies have measured the consistency of male condom use in sub-Saharan Africa and have found several sociodemographic factors to be associated with consistent condom use, such as age (Department of Health, 2004; Maharaj & Cleland, 2004; Shisana et al., 2005), increased education (Department of Health, 2004; Maharaj & Cleland, 2004), and marital status (Pettifor et al., 2004). South African women who are married or live with their partners are less likely to use condoms the last time they had sex than women who have sex with a non-cohabitating partner (Department of Health, 2004), and many have never used condoms with these partners (Maharaj & Cleland, 2004). Women who have main sex partners and also trade sex have reported low use of condoms with their main sex partners but high use with their trading partners; these women consider using condoms as a way to separate their work from their private life (Varga, 1997).

Much effort has been devoted to encouraging condom use in South Africa, however, one barrier to condom use is that many users do not know how to use them correctly (Maharaj & Cleland, 2004; Parker et al., 2004). If condom users are using condoms consistently, but they are using them incorrectly, they are not receiving the maximum protection that a condom offers. One study in South Africa that followed condoms distributed by the Department of Health found that users reported breakage with approximately 6% of the condoms used in sex acts (Myer, Mathews, Little, & Karim, 2001). When condoms break or tear during sex, some users may grow distrustful of condoms as an effective HIV prevention method (Maharaj & Cleland, 2004; Parker et al., 2004).

Measuring Correct Use of Condoms: Skills Assessments

While few studies have measured condom use skills, studies that have included assessments of condom use skills among populations that are disproportionately infected with HIV/STIs — including gay men, African American women, substance users in treatment, and female sex workers (FSWs) and their clients—have found low condom use skills among these

groups (Martin, 1990; Mukenge-Tshibaka, et al. 2005; Ross & Schumacher, 2004; St. Lawrence et al., 1998). However, other studies among at-risk populations, such as substance-using women and women who reported one or more HIV risk factors within the past year, indicate condom use skills may be higher than previous findings have indicated (Farris, Fenaughty & Lindemann; 2003; Greenberg et al., 2000).

A study conducted by Langer, Zimmerman, & Cabral (1994) among men and women clients attending sexually transmitted disease clinics in several U.S. cities found that while approximately 89% of the sample reported that they were either sure or somewhat sure they could correctly put on and remove a male condom. Another study examined condom use skill among FSWs and potential male clients in Benin (Mukenge-Tshibaka et al., 2005). Despite FSWs reporting the use of condoms for 71.7% of sex acts within the previous 2 days, only a small proportion of the sample (approximately 11% of women and clients) was able to correctly demonstrate all four of the steps of correct condom use. Women who had any type of formal education were significantly more likely to execute the steps correctly than women who did not have any formal education.

Despite these assessments, there is a dearth of literature regarding condom use skills and correlates of these skills, particularly among South African women who engage in sex risk behaviors. In this exploratory study, we examine performance on a condom use mastery index and its association with several variables—age, marital status, education, male condom use during first penetrative sexual experience, ever being shown how to use a male condom, recent STI symptoms, and recently trading sex for goods—among a sample of high-risk South African women. We hypothesize that women who are younger, single, more educated, used a male condom during first penetrative sexual experience, have been shown how to use a male condom, have fewer STI symptoms, and have recently traded sex for goods will have higher scores on a measure of condom use skills than their counterparts.

Method

Recruitment and Eligibility

Women were assessed on condom use skills as part of a larger study, the Women's Health CoOp (WHC)–Pretoria, a 5-year randomized community-based trial to examine and reduce sexual risk, alcohol and other drug abuse, and violence, and increase knowledge and protective skills among high-risk women in Pretoria, South Africa, and the surrounding areas in Gauteng Province. WHC–Pretoria is an adaptation of a U.S.-based intervention (Wechsberg, Lam, Zule, & Bobashev, 2004) that was evaluated and found to be a “best-evidence” behavioral HIV intervention by the Centers for Disease Control and Prevention (Lyles et al., 2007). Further description of this adaptation can be found in Wechsberg et al. (2006).

Study recruitment occurred between June 2004 and December 2007. The condom use skills assessment was implemented in June 2005 and continued for the duration of the study. To be eligible for this study, participants had to be female, aged 18 or older, live in Gauteng Province and plan to live there for at least the next 6 months, be a South African citizen or consider themselves to be a South African citizen, have used alcohol at least 13 days of the

past 90 days, and have engaged in one of two sexual risk behaviors in the past 90 days—traded sex for drugs, money, food, clothing, shelter or any other goods in the past 90 days and/or had unprotected sex in the past 90 days. The Institutional Review Boards (IRBs) of RTI International in the United States and the Medical School of the University Witwatersrand in Johannesburg, South Africa, reviewed and approved the study protocol.

Procedure

Study participants were asked as part of the intervention to demonstrate condom use after they were shown two cue cards about reducing HIV risk and the benefits of using the male condom. After the interventionist read the two cue cards, clients were asked if they knew how to use a male condom; regardless of their response, they were asked to demonstrate what they knew using a lubricated male latex condom on the model penis provided. While the client attempted to demonstrate the steps, the interventionist observed the client, and measured the client's ability to complete the following four steps that were on the intervention cue cards:

- **Step 1:** Open the condom package carefully and remove condom.
- **Step 2:** Squeeze tip and place on the head of an erect (hard) penis.
- **Step 3:** Unroll condom to the base or bottom of the penis. Making sure that there is room on the top for the semen/cum to go.
- **Step 4:** When man has ejaculated, hold base of condom while his penis is still hard/erect and remove condom carefully. Tie end and throw away.

Using a condom use skills form, the interventionist checked yes or no for each of these four steps, and made notes in the space designated at the bottom of the form for comments about what the client said and/or how she reacted during this assessment. The interventionist was instructed to allow the client to only make one attempt to demonstrate proper condom use prior to the interventionist's demonstration. After being assessed on male condom use skills, participants were also assessed on female condom use skills using a 7-item index; however, this paper focuses on the male condom use assessment.

Interventionists were trained on the condom use skill assessment by the principal investigator, who also observed them, and reviewed their assessments prior to study implementation and data collection.

Study Sample

The data used in this study were derived from 295 participants who conducted these assessments from June 2005 and September 2007.

Measures

Outcome variable: Preintervention condom use skills scores—This variable refers to condom use prior to the introduction of the intervention from the parent study. A condom use skills score was computed by scoring each successfully completed step of condom use skill as “1” and each unsuccessfully completed step as “0”, resulting in a

minimum score of “0” and a maximum score of “4”. This ordinal variable served as the outcome variable in bivariate and multivariate analyses.

Independent variables—Several sociodemographic and sexual behavior constructs from the baseline questionnaire were used correlates of condom use skills. These variables were: age, marital status, education, male condom use during first penetrative sexual experience, ever being shown how to use a male condom, recent STI symptoms, and recently trading sex for goods. Age was a continuous variable, and marital status was a categorical variable with the options of single (never married and not currently involved with a sex partner), involved but not living with a main sex partner under one roof, not married but living with a main sex partner under one roof, married, separated, divorced, or widowed. Because of the small sample size, these marital status categories were recoded into three categories that included—without a partner (single, separated, divorced, or widowed); involved but not living with a main sex partner under one roof; and married, or not married, but living with a main sex partner.

The highest education obtained was an ordinal variable ranging from less than one year completed to college (or university) degree. For analysis, this variable was recoded into four categories: some primary school, completed primary school, some secondary education, and completed secondary education or higher.

Male condom use at first penetrative sex was a dichotomous variable computed from two questions about whether participants used protection during their first penetrative sexual experience; and if so, whether they used a male condom. Ever being shown how to use a male condom was also a dichotomous variable. The variable of recent STI symptoms was computed from 12 yes or no questions about STI symptoms in the past 90 days (e.g., “Experienced any burning or pain when passing urine” and “Experienced any swelling or enlarged areas in your groin.”) that were summed to create an ordinal variable.

Trading sex for goods in the past 90 days was also a dichotomous variable with yes or no responses; only participants who had answered yes to the previous question were asked about ever trading sex for drugs, money, food, clothing, shelter, or any other goods. Very few data were missing for these key variables; however, missing data were coded as system-missing and not included in the analyses.

Analyses—Recoding of key variables was conducted in SPSS 15.0 for Windows (SPSS Inc., Chicago, IL) and univariate, bivariate, and multivariate analyses were conducted with SAS 9.1 for Windows (SAS Institute Inc., Cary, NC). Descriptive statistics were conducted on the key variables. Participants’ preintervention condom use skills scores were treated as an ordinal dependent variable. Logistic regression analyses were conducted to evaluate the association of preintervention condom use skills scores from the selected key variables. To control for confounders, variables that had p values $< .10$ were retained to conduct multiple logistic regression analysis.

Results

Univariate Analysis

Sample characteristics—Table 1 presents the descriptive results of the sample. The mean age of participants was 27.14 years ($SD = 6.89$). The highest level of education obtained by the majority of the sample (62.2%) was some secondary school, and approximately one fifth of the sample (21.4%) had completed secondary school or higher. The majority of women (87.4%) were currently involved with a main sex partner, and 11.9% of the sample considered themselves to be single (never married and not currently involved with a sex partner). A small proportion of the women (15.7%) used a male condom at first penetrative sex. The majority of the sample had been shown how to use a male condom prior to the condom use assessment, with 62.9% of the sample responding that they had been shown how to use a condom. Almost half of the sample reported three or more recent STI symptoms, while 26.0% reported no symptoms. Recently trading sex for goods was common among the sample, with 41.0% of the participants responding that they had traded sex for drugs, money, food, clothing, shelter or any other goods in the past 90 days.

Preintervention condom use skills scores—The majority of participants (93.2%) were unable to demonstrate all four of the steps correctly before the condom demonstration by the interventionist (see Table 2), and 31.9% were unable to demonstrate any of the four steps correctly (see Table 3). Approximately 68.1% of participants were able to demonstrate at least one or more steps, 41.0% were able to demonstrate two or more steps, and 19.7% were able to demonstrate three or more steps. Step 4 (condom removal) was the step that was missed most frequently, with 75.6% of the sample missing this step. Step 3 (unrolling condom and leaving room at the tip) was the step that was completed correctly most often. The mean preintervention condom skills score was 1.36 ($SD = 1.24$) out of the possible 4.

Bivariate Analysis

Several variables were significantly associated with preintervention condom use skills (see Table 4). Age was a significant predictor of condom use skills scores, with younger study participants tending to have a higher preintervention condom use skills score than older study participants (OR 0.97, 95% CI: 0.94 – 1.00, $p = .0218$). For every year increase in age, there was a decrease in condom use scores by 3%. Additionally, the number of STI symptoms in the past 90 days was also a significant correlate of condom use skills scores, with participants who reported more STI symptoms scoring lower on the condom use mastery index than participants who reported fewer STI symptoms (OR 0.91, 95% CI: 0.85 – 0.98, $p = .0129$). That is, for every unit increase in STI symptoms, there was a 9% decrease in condom use skill scores.

Marital status, education level, male condom use at first penetrative sexual experience, and sex trading were not significantly associated with condom use skills scores; therefore, they were not included in the multivariate analysis. Ever being shown how to use a male condom was also not significant, but was included in multivariate analysis because it had a p -value $< .10$.

Multivariate Analysis

The variables retained for this analysis were age, recent STI symptoms, and ever been shown how to use a male condom. When controlling for all of the variables retained, age (OR 0.96, 95% CI: 0.94 – 0.99, $p = .0193$) and recent STI symptoms (OR 0.91, 95% CI: 0.84 – 0.98, $p = .0109$) remained significantly associated with condom use scores. When compared with younger participants, older participants were more likely to have lower condom use mastery scores; every year increase in age resulted in a 3% decrease in condom use skills. For recent STI symptoms, the presence of each additional STI symptom resulted in a 9% decrease in condom use skills.

Discussion

Overall, the results indicate low condom use skills among this at-risk sample. The mean score of the sample was 1.36 out of the possible 4.0, meaning that participants, on average, executed 34% of the condom use steps correctly. The most commonly missed steps were Step 2 (squeezing the tip and placing the condom on the head of the penis) and Step 4 (condom removal).

As hypothesized, the results suggest that some demographic and sexual risk characteristics are significantly associated with condom use skills among the sample. When conducting bivariate logistic regression, age and recent STI symptoms were significant associated with skills. When conducting a multivariate logistic regression, age and recent STI symptoms remained significant when controlling for the bivariate factors with p -values less than .10. That is, women who were older and had a higher number of recent STI symptoms were more likely to have lower scores on the condom use mastery index.

Participants' age had a strong association with condom use skills, which supports previous findings about condom use (Department of Health, 2004; Shisana et al., 2009). Previous studies have found that younger women are more likely to use male condoms than older women, which may be the reason why younger participants in this study were significantly more likely to have higher condom use skills scores. While prior use of condoms during sexual experiences does not necessarily translate into condom use skills, if women have never used condoms before, it may be difficult for them to demonstrate how to use condoms. Furthermore, they may not feel comfortable demonstrating condom use.

Recent STI symptoms were also significantly associated with condom use skills. The presence of STIs can increase one's risk of contracting HIV (de Vincenzi, 1994; Holmberg et al., 1988). While the self-report of STI symptoms does not indicate that women have an STI as certain STI symptoms (e.g., vaginal yeast infection) may signify infections associated with hygiene instead of sexual behaviors, the self-report of certain STI symptoms (e.g., vaginal discharge) have been associated with HIV infection among young South African women (Pettifor et al., 2005). Condom use skills may be even more imperative for women with STI symptoms in order to protect themselves from HIV if they do have an STI and are HIV-negative, and to reduce the likelihood of STI transmission to their sex partners.

Surprisingly, being shown how to use a male condom was not significantly associated with condom use skills scores, which is inconsistent with previous findings indicating that individuals who know how to correctly use condoms experience fewer condom failures than those who do not (Mukenge-Tshibaka et al., 2005; Sanders, Graham, Yarber, & Crosby, 2003). Additionally, highest level of education obtained was not a significant factor in condom use skills, which does not support previous studies (Mukenge-Tshibaka et al., 2005); however, there was not much variation within the categories, with 62.2% of the sample having some secondary education. Marital status was also not a significantly associated with condom use, which was not expected, as a high proportion of married or cohabiting couples do not use condoms (Maharaj & Cleland 2004).

Whether participants recently traded sex for goods was not significantly associated with condom use skills for bivariate or multivariate analyses. This finding indicates that women who have recently traded sex for goods are also scoring just as poorly on condom use skills as women who have not recently traded sex. Additionally, this finding may have tremendous implications for women who are trading sex, as a high proportion of FSWs may be putting the condoms on their clients (Mukenge-Tshibaka et al., 2005).

Limitations of this Study

The major limitation of this study is the sample size ($n = 295$). There was not much variation in the scores (only 20 women scored the highest possible score), which may have affected the ability of the models to correlate with condom use skills scores. The sample size also influenced the number of variables used for the models.

Another limitation is there was no item on the condom use mastery index that assessed whether a participant checked the expiration date or the quality of the condom. Although study participants were not assessed on checking the expiration date, many comments on the condom use skills forms indicated that the participant failed to check the expiration date, and very few forms indicated that the participant checked the expiration date of the condom. While the argument for not including an item about checking the expiration date is that participants in a study or intervention may expect to be given a quality condom (Mukenge-Tshibaka et al., 2005) and that a participant can execute this step quickly and potentially without the interventionist's knowledge (Lindemann & Brigham, 2003), some studies have reported that checking the expiration date is one of the most commonly reported errors of condom use (Crosby, Sanders, Yarber, Graham, & Dodge, 2002; Sanders et al., 2003).

Similarly, issues of incorrect use, such as using multiple condoms at one time, may need to be addressed in future assessments of condom use. Numerous comments on the condom use forms indicated that many women attempted to open the condom with their teeth, scissors, or another sharp object. Opening the condom with anything other than one's fingers has been associated with condom failure (Spruyt et al., 1998). Because these reported errors in use were not measured with the condom use mastery score, an individual's condom use skills may be even lower than the data indicate. Thus, future measures should incorporate condom use assessments that offer participants a choice in condoms and lubricants (e.g., Forsyth, Carey, & Fuqua, 1997; St. Lawrence et al., 1998; Ross & Schumacher, 2004) to measure these sources of error.

Though the interventionist was trained by the principal investigator, a limitation is that only one interventionist assessed condom use skills, therefore, these observations were not corroborated by another person. However, interventionists were trained by the principal investigator who developed the intervention, and observed and reviewed their assessments before data collection for this study component began.

An important limitation is the inability to measure how often participants put male condoms on their partners and their prior experience with putting on male condoms. Future research should measure the occurrence and frequency of women putting male condoms on their partners, and their self-efficacy doing so. Some studies have found a strong relationship between self-efficacy and condom use skills while other studies have found a weak relationship (Forsyth & Carey, 1998).

Implications for Research and Practice

This study indicates that even though men wear male condoms, women at risk for HIV do know how to put male condoms on men and need more behavioral skills training to ensure that they can correctly demonstrate the steps of condom use. Additionally, certain steps of condom use that are frequently missed, such as condom removal, must also be emphasized, as this step has not been measured in some of the previous condom use skills assessments (e.g., Langer et al., 1994; Mukenge-Tshibaka et al., 2005).

For multivariate analyses, women who had been shown how to use a male condom did not perform better than women who had never been shown how to use one. Such data suggest that the ways in which women are being shown how to use condoms may be incorrect, or are not translating into condom use skills. Participants who indicated that they had ever been shown how to use a condom were asked who taught them; more than one fourth indicated a sex partner. Future studies should assess the type of condom demonstrations women are receiving to better understand what these demonstrations entail, and to determine whether there is a difference in condom use skills depending on the type of demonstration (e.g., if practicing skills is involved) and who is conducting these demonstrations. Previous literature has shown that women who have received prior condom use instruction report fewer condom use errors (Sanders et al., 2003).

However, while increasing condom use skills among women is important in HIV/STI prevention efforts, this increase in skills may not result in increased self-efficacy in using condoms or condom use skills. Women who use alcohol and other drugs, as participants in this study did, may also be using substances during sex, which can reduce their ability to engage in safer sexual practices such as condom use (Wechsberg et al., 2006; Kiene et al., 2008). While studies have tried to simulate intoxication while participants practice their condom use skills (Lindemann, Brigham, Harbke, & Alexander, 2005) it is difficult to know whether such practice will translate into condom use with sex partners.

Furthermore, the choice to use male condoms is not entirely up to a woman, as she may not be the one deciding to use a condom or putting the condom on. The goal of the study is to increase condom use skills so that women will know how to put on a condom, if needed, and will know the correct way to put on condoms. In certain types of partnerships, such as with

main sex partners, a woman's insistence on using condoms may result in her partner thinking she is implying that he is not being faithful to her, that she is not being faithful to him (Parker et al., 2004), or that one of them has an STI or HIV (Varga, 1997). Moreover, for this population, where sex-trading is common, negotiating male condom use may even be more difficult. FSWs in South Africa are paid more to have sex without a condom (Karim, Karim, Soldan & Zondi, 1995; Wojicki & Malala, 2001; Wechsberg et al., 2006) and may experience violence if they suggest condom use (Karim et al., 1995; Needle et al., 2008). For these reasons, the female condom, which is now being distributed free of charge in South Africa, may be a better alternative for women, as it gives women more control over condom use.

Conclusion

The results of this study suggest that condom use skills need to be increased, particularly among high-risk women who have unprotected sex or engage in sex-trading. Despite being shown how to use condoms, as the majority of participants indicated, condom use skills were low among this sample. Future HIV prevention studies would benefit from conducting behavioral skills training and education not only with women but also with their sex partners because in some cases their partners may be showing them, incorrectly, how to use condoms. With the high prevalence of HIV in South Africa, it is not only important to stress the importance of consistent use and to have condoms freely available, but to also make sure people are equipped with the skills to use them correctly. Mastery of condom use skills should not be assumed, and behavioral skills training must be incorporated into prevention strategies to allow men and women to receive the maximum protection from this effective HIV prevention method.

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Table 1

Characteristics of Study Participants (n = 295)

Characteristic	All participants (n=295)
Sociodemographic data	
Age, mean (<i>SD</i>)	27.14 (6.89)
Marital status	
Single	11.9%
Involved but not living with a main sexual partner	59.5%
Not married but living with a main sexual partner	23.5%
Married	4.4%
Highest Education	
Some primary education (Grades 6 and below)	9.9%
Completed primary school (Grade 7)	6.5%
Some secondary education (Grades 8 through 11)	62.2%
Completed secondary education or above (Grades 12 and above)	21.4%
Sexual risk data	
Used male condom when first had penetrative sex	15.7%
Ever been shown how to use a male condom	62.9%
STI symptoms in the past 90 days	
None	26.0%
One	12.5%
Two	13.5%
Three or more	48.0%
Traded sex for drugs, money, food, clothing, shelter or any other goods in the past 90 days	41.0%

Table 2

Percentage of study sample able to demonstrate each condom use step correctly

Condom Step	% of sample demonstrated correctly
1: Open the condom package carefully and remove condom	38.6
2: Squeeze tip and place on the head of an erect (hard) penis	25.8
3: Unroll condom to the base or bottom of the penis. Make sure that there is room on the top for the semen/cum to go	46.8
4: When man has ejaculated, hold base of condom while his penis is still hard/erect and remove condom carefully. Tie end and throw away	24.4

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Table 3

Study participants' preintervention condom skills score

Condom Skills Score	n (% out of total sample)
0	94 (31.9%)
1	80 (27.1%)
2	63 (21.4%)
3	38 (12.9%)
4	20 (6.8%)

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Table 4 Bivariate and multivariate associations of sociodemographic and sexual risk characteristics and preintervention condom use skills scores

Characteristic	Unadjusted		Adjusted	
	OR	95% CI	OR	95% CI
Age	0.97**	(0.94, 1.00) ^a	0.96**	(0.94, 0.99)
Marital status				
Single/separated/divorced/widowed (ref)				
Involved but not living with a main sex partner	1.05	(0.56, 1.98)	—	—
Married/not married but living with a main sex partner	0.56	(0.28, 1.12)	—	—
Highest education				
Some primary school (Grades 6 and below)				
Completed primary school (Grade 7)	0.89	(0.31, 2.56)	—	—
Some secondary education (Grades 8 through 11)	1.39	(0.68, 2.82)	—	—
Completed secondary education or above (Grades 12 and above)	1.54	(0.70, 3.40)	—	—
Used male condom when first had penetrative sex				
No (ref)				
Yes	1.45	(0.83, 2.54)	—	—
Ever been shown how to use a male condom				
No (ref)				
Yes	1.44*	(0.94, 2.21)	1.45	(0.94, 2.24)
STI symptoms	0.91**	(0.85, 0.98)	0.91**	(0.84, 0.98)
Traded sex for drugs, money, food, clothing, shelter or any other goods in the past 90 days				
No (ref)				
Yes	0.92	(0.61, 1.40)	—	—

* $p < .10$,

** $p < .05$

^aThe upper limit is 1.00 because the original number (0.995) was rounded to two decimal places, as were all the numbers in this table.