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Unprotected Sexual Behavior and HIV Risk in the Context of Primary Partnerships for Transgender Women

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Abstract

Previous research has reported that transgender women are likely to be exposed to HIV through unprotected sex with a male primary partner. We examined prevalence and correlates of unprotected sex with a primary male partner in a sample of $n = 174$ transgender women. Participants completed surveys on demographic characteristics, relationship dynamics with their male primary partner, sexual behavior, substance use, and psychosocial factors. Overall, 41% reported HIV positive status, 13% had another sexually transmitted infection during the past year, and 34% had unprotected sex with a male primary partner during the past 3 months. Factors associated with unprotected sex with a primary partner included living with the partner, drug use, alcohol use, education level, low self-efficacy to use condoms, and perceived discrimination. Notably, 35% of transgender women in HIV-discordant primary partnerships had unprotected sex with their male primary partner during the past 3 months, and 18% of transgender women in HIV-positive concordant primary partnerships had unprotected sex with an outside partner during the past 3 months. HIV prevention interventions for transgender women must address risk behavior in the context of primary partnerships as well as sex with concurrent partners outside the relationship. Couples-focused interventions involving transgender women and their male primary partners can be particularly promising.

Keywords

Transgender women; HIV; Sexual risk behavior; Primary relationships

Introduction

Epidemiological studies in the United States have identified transgender women as among the most at-risk populations for HIV infection. A recent systematic review found 29 studies measuring HIV prevalence among transgender populations in the United States [1]. Pooled data from studies that conducted HIV testing indicated 28% HIV seroprevalence in

transgender women, and pooled data from studies that inquired about participants' self-reported HIV status indicated 12% self-reported HIV prevalence. Moreover, 21% of participants across studies reported having another previous sexually transmitted infection.

Studies have shown that HIV-related sexual risk behaviors among transgender women occur frequently in the context of a primary relationship with a male partner [2–4]. In a study of 332 transgender women in San Francisco, 47% engaged in unprotected receptive anal sex with their primary male partners during the past month, compared to 26% for those with casual partners and 12% for those with commercial sex partners [5]. Qualitative studies of transgender women have explored some of the interpersonal motives contributing to unsafe sex among transgender women in the context of primary relationships. In focus group discussions with transgender women, Bocking and colleagues described the need for gender affirmation as a motive underlying unprotected sex between transgender women and their male primary partners [2]. Similarly, Melendez and Pinto interviewed 20 transgender women at a community health clinic and found that experiences with community stigma and rejection led to a need for feeling loved and desired by male partners [3]. Indeed, in our prior qualitative research involving transgender women in San Francisco, one participant remarked that “When we are infected, almost 99% is because of our husbands, because with them none of us tries to protect” and another participant stated “I allow him to penetrate me because I love the guy. He’s the only man I allow to penetrate me without the condom. Other than that, with my casual partners, I always use condoms” (p. 730) [4].

Studies of other HIV-risk populations such as heterosexual women and men who have sex with men have also described unsafe sexual behaviors occurring frequently in the context of primary partnerships [6,7]. Due to emotional intimacy and trust, members of a committed relationship tend to minimize their perceptions of HIV risk and need for condom use during sex with a primary partner [8]. For women, traditional gender roles and power dynamics might compromise their ability to negotiate condom use with male partners [9]. Individuals in a primary relationship may have concurrent outside sex partners, which they may not acknowledge to their primary partners, and this may facilitate spread of HIV and other sexually transmitted infections [10]. Furthermore, HIV transmission in primary partnerships is substantially greater in serodiscordant couples in which one partner is HIV-positive and the other is not [11]. Recognizing the risk for HIV transmission among partners in a committed relationship, couples-focused interventions have aimed to increase HIV testing among partners in a dyad in order to improve awareness of each others' HIV status, provide treatment for partners who test positive, and increase discussion of safer sex practices and risk for HIV transmission within the primary partnership [12,13].

Common risk factors for HIV infection in transgender women have been identified in the literature, which might compound risk factors related to being in a primary partnership [14]. These include behavioral factors such as substance use [5,15], multiple concurrent sex partners [1,15], and sex work [16,17]. Social factors related to sexual risk behavior in transgender women include stigma [18], economic hardship [19], and inadequate health services for transgender populations [20]. Psychological factors such as depression might also increase HIV risk in transgender women [2].

To better understand the dynamics by which transgender women might be at risk for HIV transmission in the context of a primary relationship with a male partner, we conducted cross-sectional surveys with transgender women and their male primary partners to assess their personal and dyadic-level HIV risk factors. Here we report on data from transgender women participants; data from male partners are reported elsewhere. This paper has three aims: (i) to examine prevalence and correlates of unprotected sex with a male primary partner among transgender women, (ii) to describe prevalence of transgender women in

HIV-concordant and HIV-discordant primary partnerships and assess whether sexual risk behaviors differ across these types of partnerships, and (iii) to identify factors independently associated with unprotected sex with a male primary partner.

Method

Participants

Participants volunteered to complete a research survey aiming to understand relationship dynamics that might contribute to HIV risk among transgender women and their male primary partners. Eligibility criteria for this study sample included identifying as a transgender woman, age 18 years or older, living or working in the San Francisco Bay area, and being in relationship with a male primary partner for at least 3 months. We defined transgender identity as being assigned the male gender at birth but identifying as a woman. In addition, participants' partners must also have agreed to participate in the research. We defined a primary partner as an adult sexual partner to whom the participant is committed above anyone else. A 3-month relationship duration was determined based on formative research in this population to distinguish more serious partnerships from newly formed dating relationships [6].

Prior to recruiting members of this population, we mapped the community spaces and venues where transgender women congregate, including bars, nightclubs, beauty salons, bookstores, street locations, health clinics, and community-based organizations. We posted informational fliers and maintained a visible presence at these locations in order to publicize the research study. Individuals who expressed interest in the research were screened for eligibility and, for those who met inclusion criteria, received appointments to meet a research assistant at the project office or at another convenient space that provided privacy (e.g., at a community-based organization). Those who completed the survey were encouraged to refer members of their social networks to the research study.

Procedures

Upon meeting a project research assistant, participants reviewed the purpose of the research and completed informed consent procedures. Participants who arrived at the research site with their primary partner were separated from their partner while responding to survey questions to facilitate privacy. Surveys were administered using audio computer-assisted self interview (ACASI) technology; survey items were presented on computer screen accompanied by audio-recordings of each item, heard via headphones, and participants responded to each item directly into the computer. Surveys were translated into Spanish for monolingual Spanish speakers, but were not available in ACASI format; five participants opted to self-administer the Spanish-version survey. The research assistant was available to answer any questions that arose while completing the survey. Surveys took approximately 1 h to complete, and participants received \$50 reimbursement. Participants also received information about confidential HIV counseling and testing provided by local community-based organizations, and voluntarily took informational fliers about the research study to distribute to their peers. Because all data were de-identified, participants did not receive any unique feedback about their own or their partner's survey responses.

Research protocols were approved by internal review boards at Public Health Institute, Oakland, University of California San Francisco, and University of Oxford.

Measures

We assessed personal demographic characteristics, relationship characteristics, health factors such as HIV status, symptoms of any other sexually transmitted infections during the

past 12 months (which can be markers of risk behavior), sexual behaviors, substance use, and psychological factors. Demographic characteristics included age, ethnicity, income, highest level of education, housing, place of birth, history of incarceration, and sex reassignment surgery. Relationship characteristics included length of the primary relationship, whether the relationship was monogamous, and whether they had any concurrent sex partners while in their primary relationship (ever and during the past 3 months). Sexual risk behaviors included any unprotected receptive or insertive vaginal or anal sex during the past 3 months, and we asked about these behaviors occurring with a primary partner, casual partners, or commercial sex partners. Substance use behaviors included any alcohol use during the past 3 months, any alcohol intoxication during the past 3 months, any illicit drug use during the past 3 months, and any injection drug use during the past 3 months.

Participants completed several psychosocial measures. The *dyadic adjustment scale* included 16 items assessing the degree to which participants and their primary partners tended to agree or disagree on topics such as “handling finances” and “major life decisions” [21]. A measure of *relationship commitment* included 8 items assessing levels of commitment to the primary partner (e.g., “I am committed to maintaining my relationship with my partner”) [22]. The *condom use self-efficacy scale* included 7 items assessing perceived personal control and confidence about condom use (e.g., “I feel confident about my ability to put a condom on my partner or myself”) [23]. The *power and gender scale* included 7 items assessing gender roles in the context of a primary relationship (e.g., “A woman and not her man should do the housework”) [24]. The *sexual relationship power scale* included 12 items assessing relative amount of decision-making power and control in the context of a primary relationship (e.g., “I make most of the important decisions that affect us”) [25]. The *everyday discrimination scale* included 9 items that were adapted slightly to assess discriminatory events that happened to participants because she is a transgender woman (e.g., “In your general day-to-day life, how often are you treated with less respect because you are a transgender woman”) [26]. The *Center for Epidemiology Scale for Depression scale* (CES-D) included 20-items assessing depressive symptomatology experienced during the past week (e.g., “I felt hopeless about the future”) [27]; participants were classified as depressed if their CES-D score was 16 or higher. Psychosocial measures showed adequate to strong internal reliability (see Table 2).

Statistical Analyses

We conducted descriptive analysis (frequencies, means) of demographic characteristics, relationship factors, sexual and substance use behaviors in the study sample. We used chi-square tests to examine associations of demographic characteristics, relationship factors, and health risk behaviors with unprotected sexual behavior with a male primary partner during the past 3 months. Psychosocial factors measured on continuous scales were transformed due to non-normality, and we conducted *t*-tests to examine differences between participants who had unprotected sex with a male primary partner sex versus those who had not on transformed continuous measures. Based on self-reported HIV status of transgender participants and their male partners (assessed independently), we classified participants into one of three groups for couples’ HIV concordance/discordance status: HIV concordant negative (i.e., both partners self-report as HIV-negative), HIV discordant (i.e., one partner self-reports as HIV-positive, the other partner self-reports as HIV-negative), HIV concordant positive (i.e., both partners self-report as HIV-positive). We used chi-square tests to examine associations between couples’ HIV concordance/discordance status and sexual risk behavior with primary partners and with non-primary (casual or paying) partners. Finally, we used logistic regression to identify independent co-variates of unprotected sexual behavior with a male primary partner during the past 3 months. Candidates for the

regression model included all variables that showed moderate ($P < 0.25$) bivariate associations with unprotected sexual behavior with a male primary partner during the past 3 months, and we used backward regression to identify significant independent covariates based on the most parsimonious model [28]. Analyses were conducted using SPSS version 17.0.

Results

Sample Characteristics

Characteristics of $n = 174$ transgender women are reported in Table 1. Average age was 37.8 years (standard deviation, 10.7). The sample was multiethnic, with 24% African American, 23% Hispanic, 17% Asian Pacific Islander, 12% White, and 23% Mixed or Other Ethnicity. Most (75%) were born in the United States. About one-quarter (26%) of participants had not completed high school, 80% were currently unemployed, 62% earned less than \$500 in employment income during the past 30 days, 30% had unstable housing (e.g., living in a shelter, substance use treatment center, at a friend's place, or on the streets), and 52% had a history of incarceration. Ten percent had completed sex reassignment surgery.

The average length of the relationship with the male primary partner was 2.9 years (standard deviation, 3.9). Fifty-nine percent of participants had been in their primary relationship for over 1 year. Over half (53%) currently lived with their male primary partner, and 58% described their relationship as monogamous. Since the beginning of the relationship with their male primary partner, 41% had ever had sex with an outside partner; 16% had sex with an outside partner during the past 3 months.

Forty-one percent reported being HIV positive, and 13% had been diagnosed or showed symptoms for another sexually transmitted infection during the past 12 months. During the past 3 months, 58% used any alcohol, 32% had ever been intoxicated, 63% had used any illicit drugs, and 5% injected drugs. Drugs used most frequently during the past 3 months in this sample were marijuana (55%), ecstasy (15%), amphetamines (13%), and cocaine (10%). Fifty-nine percent met criteria for clinical depression.

Correlates of Unprotected Sex with Primary Partner

Overall, 34% of participants had unprotected with a male primary partner during the past 3 months. Factors significantly associated with unprotected sex with a male primary partner are reported in Tables 1 and 2. Participants who lived with their primary partner (68%) were more likely to have had unprotected sex with their primary partner during the past 3 months compared with those who did not live with their partner (46%), $\chi^2(1,170) = 8.82, P < 0.01$. Participants who ever had sex with an outside partner during the current relationship (52%) were more likely to have had unprotected sex with their primary partner during the past 3 months compared to those who did not have any outside partners (36%), $\chi^2(1,174) = 4.00, P < 0.05$. Participants who used alcohol during the past 3 months (72%) were more likely to have had unprotected sex with their primary partner during the past 3 months compared to those who did not use alcohol (51%), $\chi^2(1,174) = 6.98, P < 0.01$. Participants who ever were intoxicated during the past 3 months (47%) were more likely to have had unprotected sex with their primary partner during the past 3 months compared to those who had not been intoxicated (24%), $\chi^2(1,174) = 9.61, P < 0.01$. Participants who used any illicit drugs during the past 3 months (77%) were more likely to have had unprotected sex during the past 3 months compared with those who did not use illicit drugs (55%), $\chi^2(1,174) = 7.70, P < 0.01$. Having unprotected sex with a male primary partner during the past 3 months was also associated with lower self-efficacy to use condoms ($M = -0.38$ vs. 0.20 ; $t(172) = 3.78$,

$P < 0.01$) and higher levels of perceived discrimination ($M = 0.24$ vs. -0.13 ; $t(172) = 2.35$, $P < 0.05$).

Couple HIV Concordance/Discordance Status

Based on each participant's and their partner's self-reported HIV status, we classified 51% of participants as being in an HIV-negative concordant primary partnership, 32% in an HIV-discordant primary partnership, and 13% in an HIV-positive concordant primary partnership. Table 3 reports on 3-month behavioral prevalence of any unprotected sex, unprotected sex with male partners, sex with any outside partners, and unprotected sex with any outside partners for each group. Notably, 35% of participants in an HIV-discordant primary partnership had unprotected sex with their primary male partners. Unprotected sex with non-primary partners during the past 3 months was significantly higher among participants in an HIV-positive concordant primary partnership (18%) compared with participants in an HIV-negative concordant (5%) and HIV-discordant primary partnership (4%), $\chi^2(2,165) = 6.60$, $P < 0.05$.

Multivariate Analysis of Unprotected Sex with Primary Partner

Table 4 reports coefficients from logistic regression models for unprotected sex with a male primary partner during the past 3 months. Factors that showed significant independent associations with unprotected sex with primary partners during the past 3 months included living with a male primary partner (odds ratio [OR] = 3.44; 95% confidence interval [CI] = 1.42, 7.81), any drug use during the past 3 months (OR = 2.66, 95% CI = 1.11, 6.36), condom use self-efficacy (OR = 0.43, 95% CI = 0.27, 0.69), and high education (OR = 3.89, 95% CI = 1.34, 11.31). Factors marginally associated with unprotected sex with primary partners during the past 3 months included any alcohol use during the past 3 months (OR = 2.10, 95% CI = 0.93, 4.77) and perceived discrimination (OR = 1.42, 95% CI = 0.95, 2.12).

Discussion

In this study of a multi-ethnic sample of transgender women in San Francisco, 41% reported HIV positive status and 13% had another sexually transmitted infection during the past year. Approximately one-third (34%) of the sample reported having had unprotected sex with a male primary partner during the past 3 months; by contrast, only 6% reported having had unprotected sex with a non-primary partner during the past 3 months. Factors associated with unprotected sex with a primary partner included living with the partner, drug use, alcohol use, and education level. In addition, self-efficacy to use condoms was associated with lower unprotected sex with a primary partner, and perceived discrimination was associated with higher unprotected sex with a primary partner.

A concern identified in this study was the relatively high prevalence of unprotected sex in HIV discordant partnerships. Over one-third (35%) of transgender women in discordant partnerships reported having any unprotected sex with their male primary partner during the past 3 months, highlighting substantial risk for HIV transmission. Sex with outside partners during the past 3 months was reported by transgender women in HIV-negative concordant (16%), HIV-discordant (13%), and HIV-positive discordant (27%) relationships. Transgender women in HIV-positive concordant relationships were more likely to have had unprotected sex with outside partners.

Findings from this research underscore a need for prevention interventions to address the relationship context for HIV transmission in transgender women and their male primary partners. Several couples-focused HIV interventions have been shown to reduce risk behavior in members of a committed relationship [13]. Couples-focused intervention

modalities include couples HIV testing [29,30] and couples behavioral counseling [31,32]. Although HIV prevention programs involving both members of a committed relationship might require additional effort compared with programs that involve one member only, couples-focused interventions offer an opportunity for both members to discuss their perceptions and attitudes toward HIV, develop mutual risk-reduction goals, and reinforce one another's behaviors.

One emerging challenge in couples-focused HIV interventions is the potential need to counsel partners to reduce sexual risk with concurrent partners outside of the primary partnership. Although the reasons for the high prevalence of concurrency among partners in a primary relationship are unclear, previous studies of transgender women and men who have sex with transgender women have described how social stigma, lack of relationship legitimacy (e.g., legal marriage), and a limited partner selection pool influenced partner choice and sexual risk behaviors [4,33]. High prevalence of extra-relationship sex partners has also been reported in several studies of MSM couples, and has been described as a factor contributing to HIV and other STI transmission in MSM [34–36]. For example, in a study of 200 MSM couples in San Francisco, 52% reported having 'open relationships' whereby partners implicitly or explicitly permitted one another to have sex with other people [35]. Many MSM couples who reported having open relationships developed explicit agreements about practicing safer sex with all outside partners, referred to as negotiated safety [36]. However, in the absence of such agreements and negotiated safety practices, partners may experience increased risk for HIV or other STIs. To address HIV risk in couples that do not practice monogamy, it is important for interventions to explicitly acknowledge and distinguish between sex within the primary relationship versus sex with outside partners, and to encourage the formulation of explicit agreements about safer sex in both contexts. Another challenge in couples-focused HIV interventions is to encourage disclosure of HIV-positive status if partners had not already done so. Protocols to facilitate disclosure of concurrent sex partnerships or HIV-positive status need to be developed with extreme sensitivity, in order to minimize risk for interpersonal partner conflict.

Other factors associated with unprotected sex with a primary partner, identified here, should be taken into account when designing interventions for transgender women. These factors include length of relationship, which might confer a sense of complacency regarding HIV, and alcohol and drug use, behaviors which might undermine perceptions of risk and intentions to practice safer sex. Interventions should also aim to improve condom use self-efficacy, which fosters a sense of control in negotiating safer sex, and address perceived discrimination in transgender women, which might contribute to a heightened need for intimacy and affirmation from sex partners [2,3].

Limitations to this study must be acknowledged. First, convenience sampling approaches prevent generalization to a wider population. Second, the sample included only transgender women who were comfortable about disclosing their gender history, and so we cannot draw inferences about transgender women who are less open. Third, the sample had a predominantly low socioeconomic background, thereby minimizing generalizability to more affluent transgender women. Fourth, use of cross-sectional surveys does not permit inferences about temporal associations and causal pathways between measured factors. Fifth, use of self-report surveys might have introduced social desirability biases. Sixth, HIV status might be underreported due to our inability to provide HIV testing. Seventh, analyses do not permit inference about the directionality of risk for HIV transmission—that is, whether transwomen are at greater risk of HIV infection by their male primary partners or vice versa. In light of the high prevalence of concurrency, it might be useful to conceptualize risk for transmission as bidirectional and influenced by broader sexual networks.

In conclusion, we have observed high rates of unprotected sex among transgender women and their male primary partners, particularly among those in serodiscordant partnerships. Couples-focused prevention interventions may be warranted to reduce risk for HIV transmission. HIV risk among transgender women appears contextualized in a broader context of co-occurring public health problems, including high rates of substance use, depression, and socioeconomic hardship, which might affect motivations and behaviors in the context of primary relationships. In addition to addressing the risk for HIV transmission in transgender women, interventions for other co-occurring public health and psychological issues observed in this population warrant equally urgent response.

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Table 1

Characteristics of total sample and subsample of transgender women who had unprotected sex with their primary male partner during the past 3 months

	Total sample (<i>n</i> = 174)	Any unprotected sex with primary male partner, past 3 months (<i>n</i> = 60)	χ^2
	% (<i>n</i>)	%(<i>n</i>)	
<i>Demographics</i>			
Age (<i>M</i> = 37.8, <i>SD</i> = 10.7)			0.81
18–29	30.5 (53)	33.3 (20)	
30–39	22.4 (39)	18.3 (11)	
40–49	32.2 (56)	33.3 (20)	
50+	14.9 (26)	15.0 (9)	
Ethnicity			0.51
African American	24.1 (42)	23.3 (14)	
Asian Pacific Islander	17.2 (30)	15.0 (9)	
Hispanic	23.0 (40)	23.3 (14)	
White	12.6 (22)	15.0 (9)	
Mixed race/ethnicity or other	23.0 (40)	23.3 (14)	
Prior work income last month <\$500	62.4 (108)	58.3 (35)	0.62
Highest level of education			4.50
Less than high school	25.7 (44)	25.9 (15)	
High school or GED	33.9 (58)	24.1 (14)	
Some college or more	40.4 (69)	50.0 (29)	
Employment			0.12
Full or part time job	19.8 (34)	18.3 (11)	
Unemployed	80.2 (138)	81.7 (49)	
Housing situation, past 3 months			0.91
Own or rent house or apartment	70.2 (120)	65.5 (38)	
Unstable housing or homeless	29.8 (51)	34.5 (20)	
Born in the United States	74.7 (130)	76.7 (46)	0.19
Been in prison or jail, ever	52.3 (91)	56.7 (34)	0.70
Had sex-reassignment surgery	10.1 (17)	8.3 (5)	0.31
<i>Relationship factors</i>			
Monogamous relationship with primary male partner	57.7 (97)	58.3 (35)	0.01
Live with male partner	52.9 (90)	68.3 (41)	8.82**
Years in relationship with primary male partner (<i>M</i> = 2.9; <i>SD</i> = 3.9)			3.79
<1 year	41.0 (71)	38.3 (23)	
1–2 years	15.0 (26)	11.7 (7)	
2–3 years	14.5 (25)	11.7 (7)	
>3 years	29.5 (51)	38.3 (23)	
Ever had an outside sex partner during this relationship	41.4 (72)	51.7 (31)	4.00*
Had another sex partner outside of this relationship, past 3 months	16.1 (28)	21.7 (13)	2.11

	Total sample (<i>n</i> = 174)	Any unprotected sex with primary male partner, past 3 months (<i>n</i> = 60)	χ^2
	% (<i>n</i>)	%(<i>n</i>)	
<i>Health factors</i>			
Self-report HIV status			1.59
Positive	40.9 (70)	47.5 (28)	
Negative	59.1 (101)	52.5 (31)	
HIV status of male primary partner ^d			
Positive	19.8 (33)	24.1 (14)	
Negative	80.2 (134)	75.9 (44)	
HIV discordant relationship			2.57
Both partners HIV-negative	53.3 (88)	48.3 (28)	
Only one partner HIV-positive	33.3 (55)	32.8 (19)	
Both partners HIV-positive	13.3 (22)	19.0 (11)	
STI diagnosis or symptoms, past 12 months.	13.2 (23)	15.0 (9)	0.25
Any alcohol use, past 3 months.	58.0 (101)	71.7 (43)	6.98**
Any alcohol use to intoxication, past 3 months.	31.6 (55)	46.7 (28)	9.61**
Any illicit drug use, past 3 months.	62.6 (109)	76.7 (46)	7.70
Any injection drug use, past 3 months.	5.2 (9)	8.3 (5)	1.87
Depression ^b	58.6 (102)	66.7 (40)	2.44

Values might not sum to 100% due to participant non-response. Chi-square tests compared participants who had unprotected sex with a primary male partner during the past 3 months (*n* = 69) with those who did not have unprotected sex with a male primary partner during the past 3 months (*n* = 105)

* $P < 0.05$;

** $P < 0.01^a$

^a Determined based on self-report from male partner

^b CES-D score 16 or greater

Table 2

Psychological factors and sex with a primary male partner during the past 3 months

	No protected sex with primary male partner, past 3 months (<i>n</i> = 114) <i>M</i> (SD)	Any unprotected sex with primary male partner, past 3 months (<i>n</i> = 60) <i>M</i> (SD)	<i>t</i>
Dyadic adjustment scale ($\alpha = 0.93$)	0.64 (.99)	-0.12 (1.02)	1.16
Relationship commitment scale ($\alpha = 0.95$)	0.45 (.91)	-0.09 (1.16)	0.83
Condom use self efficacy scale ($\alpha = 0.89$)	0.20 (.86)	-0.38 (1.13)	3.78**
Power and gender scale ($\alpha = 0.73$)	-0.01 (1.06)	0.02 (.87)	0.21
Power and relationship scale ($\alpha = 0.84$)	-0.03 (1.05)	0.05 (.90)	0.46
Discrimination scale ($\alpha = 0.94$)	-0.13 (.96)	0.24 (1.03)	2.35*

Scale measures were transformed to achieve normal distributions

* $P < 0.05$;** $P < 0.01$

Table 3

Cross-tabulation of sexual risk behavior and HIV concordant/discordant relationship with male primary partner

	HIV-negative concordant (<i>n</i> = 88)	HIV-discordant (<i>n</i> = 55)	HIV-positive concordant (<i>n</i> = 22)	χ^2
Any unprotected sex, past 3 months	33.0%	36.4%	50.0%	2.21
Any unprotected sex with male primary partner, past 3 months	31.8%	34.5%	50.0%	2.57
Any sex with non primary partner, past 3 months	15.9%	12.7%	27.3%	2.46
Any unprotected sex with non-primary partner, past 3 months	4.5%	3.6%	18.2%	6.60*

Participants were excluded if they or their partner did not report HIV status

* $P < 0.05$

Table 4Independent correlates of any unprotected sex with a primary male partner during the past 3 months ($n = 174$)

	Odds ratio (95% confidence interval)
Education	
Less than high school	1.00 (Ref)
High school diploma	0.94 (0.32, 2.77)
Some college or more	3.89 (1.34, 11.31)
Live with primary male partner	3.44 (1.42, 7.81)
Any alcohol use to intoxication, past 3 months	2.10 (0.93, 4.77)
Any drug use, past 3 months	2.66 (1.11, 6.36)
Condom use self-efficacy	0.43 (0.27, 0.69)
Discrimination	1.42 (0.95, 2.12)

Logistic regression used backward elimination. Other variables entered into model: Any other sex partners during the past 3 months, HIV status, any alcohol use past 3 months, depressed, dyadic adjustment scale, partner HIV status, partner serodiscordance