Assessing the Theory of Gender and Power: HIV Risk Among Heterosexual Minority Dyads

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Abstract

This study drew on the Theory of Gender and Power (TGP) as a framework to assess power inequalities within heterosexual dyads and their effects on women. Structural equation modeling was used to better understand the relationship between structural and interpersonal power and HIV sexual risk within African American and Latina women's heterosexual dyads. The main outcome variable was women's sexual HIV risk in the dyad and was created using women's reports of condomless sex with their main male partners and partners' reports of their HIV risk behaviors. Theoretical associations developed a priori yielded a well-fitting model that explained almost a quarter of the variance in women's sexual HIV risk in main partner dyads. Women's and partner structural power were indirectly associated with women's sexual HIV risk through substance use and interpersonal power. Interpersonal power was directly associated with risk. In addition, this study found that not identifying as heterosexual was directly and indirectly associated with women's heterosexual sex risk. This study provides further support for the utility of the TGP and

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the relevance of gender-related power dynamics for HIV prevention among heterosexually-active women.

Keywords

Introduction

Women with HIV are primarily infected through heterosexual sex [1], a behavior that usually occurs within the social context of a dyad. However, most HIV prevention interventions are based on individual-level theories and often fail to adequately incorporate the social context within which risk behavior takes place. Understanding how societal inequalities manifest as power imbalances within relationships is considered especially important in understanding sexual risk behaviors among women [2–6].

The Theory of Gender and Power (TGP) [7] is a social theory that has been used to characterize how the socially constructed concept of gender creates inequalities that can in turn place women at an increased risk of HIV infection [5, 6, 8]. TGP identifies three social structures that create inequalities: the sexual division of labor (e.g., poverty, low education), the sexual division of power (e.g., abuse, partner unwilling to engage in safer sex behaviors), and the structure of cathexis (e.g., social norms). These structures are described as operating at societal and institutional levels, which can create multi-level inequalities for women that impact individual health. Furthermore, TGP has been operationalized to identify the particular exposures and risk factors in each structure that increase women's vulnerability and risk of HIV infection [6].

Although TGP is a social structural theory, the majority of empirical research regarding power using TGP has focused on furthering the understanding of interpersonal power dynamics regarding issues such as communication, decision making, and relationship equality, and how these imbalances influence condom use. However, theory suggests that larger macro-level issues may set the stage or precede the manifestation of interpersonal power inequities. Prior studies have also highlighted the multidimensionality of power and the differential influence of these dimensions on sexual risk behavior [9, 10]. A better understanding of how structural-level inequalities influence interpersonal dyad interactions and thus individual behavior is less explored.

The objectives of this study were to quantify key TGP constructs and use structural equation modeling to explore relationships and assess fit of a TGP-guided model of women's sexual HIV risk using data from National HIV Behavioral Surveillance (NHBS). Based on TGP and available data, an a priori model was developed to predict women's sexual HIV risk within the context of heterosexual relationships with primary partners (Fig. 1). The structure of cathexis was not included as appropriate measures were not available in NHBS. It was hypothesized that the TGP constructs of dyadic structural power and interpersonal power would be directly related to women's sexual HIV risk, as would substance use. Women's

individual structural power (e.g., age, education level, family income, and housing status), sexual history, and relationship context were expected to predict the TGP constructs which would, in turn, mediate their relationship to sexual HIV risk.

Methods

National HIV Behavioral Surveillance

We conducted a secondary analysis of data collected in 2006–2007 as part of the National HIV Behavioral Surveillance (NHBS) system's pilot for behavioral surveillance among heterosexuals for increased risk of HIV [11]. The principal objective of the NHBS system is to monitor risk behaviors and access to prevention services among populations at highest risk for HIV infection in the United States. The 2006–2007 NHBS cycle included a one-time supplemental partner study that aimed to collect information from heterosexual minority women and their male sex partners to better understand male partner risk behaviors and the accuracy of the women's perceptions of these risk behaviors. The NHBS Partner Study included information from both the male and female partners, which allowed for the creation of a dependent variable that included condom use as well as male partner risk behavior.

African American and Hispanic women, 18–50 years old, who reported having vaginal or anal sex with a man in the past 3 months were eligible to participate. Women were recruited at venues and by peers through respondent-driven sampling and, after completing the NHBS behavioral survey and HIV testing, were asked to recruit up to two male sex partners. A total of 11 participating NHBS study sites are included in this analysis of the Partner Study data. Due to small sample sizes, the analyses were limited to main partner dyads and dyads where both partners were HIV-negative. All NHBS data were anonymous and study procedures were approved by each study site's local Institutional Review Boards.

Analytic Approach

The analytical goal was to use structural equation modeling (SEM) to identify a parsimonious model using TGP latent variables and other variables to explain sexual HIV risk among a geographically diverse sample of high risk minority women. Measurement analyses (bivariate and exploratory and confirmatory factor analysis) were conducted first to determine how to best quantify the key TGP constructs identified in the a priori model [12, 13]. A detailed description of the results of these measurement analyses is beyond the scope of this paper; however, measurement and modeling modifications made from the a priori model to the final model are briefly described in the measurement section below. Structural modeling analyses were conducted using MPlus version 6.1 [14], and began by assessing the fit of the TGP variables and then adding in the remaining variables with paths specified in the a priori model. Model fit was assessed at each iteration, using the Chi square (X^2) statistic, comparative fit index (CFI), and Root Mean Square Error of Approximation (RMSEA). For CFI, values exceeding 0.90 were considered indicative of adequate fit and values exceeding 0.95 as demonstrating good fit. For the RMSEA, fit was considered good if the values were 0.05. The R^2 values were reviewed as well. Mplus output, including modification indices and residual matrices, were reviewed with each iteration and

recommendations with high index values, if in line with theory, were assessed in subsequent analyses.

Measures

Table 1 provides detailed information on the TGP and substance use variables retained in the final model. Where there is deviation from the a priori model an explanation is provided below.

Dependent Variable:Women's Sexual HIV Risk in the Dyad

This variable includes self-reported data from both the female participants and their main male sex partners and ranges from 0 to 5 with a higher score indicating more women's sexual HIV risk in dyads.

Division of Labor: Structural Power Indices

The a priori model included two variables related to division of labor: women's structural power at an individual level (women's age, education level, household income, and homelessness) and within the dyad (the status of female participants relative to their main male sex partners based on age, homelessness, education, employment, income, insurance coverage, and health care utilization). Bivariate analyses indicated that women's dyadic power relative to their main partners was not associated with interpersonal power or women's sexual HIV risk; however, separate structural power variables created to describe the women and their male partners were. Therefore, the final model used two summary index variables, one to describe women's structural power and one to describe that of women's main male partners; each score ranges from 0 to 7 with a higher score indicating more structural power. Women's age at the time of the interview was not included in the structural power index as it was not significantly related to the dependent variable. Age was retained separately as a continuous exogenous manifest variable.

Division of Power: Women's Interpersonal Power

Several variables were initially identified to describe interpersonal power within women's main partnerships (women's report of intimate partner violence, communication about sexual history, comfort requesting their main partners use condoms, use of substances before/during sex, sex with other partners). Based on exploratory factor analysis (EFA) and during the modeling process, two latent variables were retained to describe women's interpersonal power within dyads: risk communication and disrespect in the dyad. The variable regarding comfort asking their main partners to use condoms was retained as a manifest variable.

Women's Substance Use

Substance use is considered to be a risk factor related to Division of Power [6]. The final model included 5 variables related to women's level of substance use in the last year.

Other Variables in the Final Model

Of the remaining exogenous variables identified in the a priori model, age of first sex, women's number of sex partners in the past 12 months, and currently living with the main partner were retained. In addition, although all Partner Study participants had recent opposite-sex partners, only 86% reported a heterosexual orientation. Therefore, a dichotomous variable of heterosexual orientation yes/no was included (collapsing homosexual/gay/lesbian, bisexual, and other into not heterosexual). The final model controlled for geographic region of the NHBS project site, marital status (never married; separated/widowed/divorced; or married/living as married), and race/ethnicity (Hispanic/Latina; Black/African American; or multiracial).

Results

The final dataset had a total of 533 main partner dyads. Overall demographics and demographics by geographic region are shown in Table 2. There were significant geographic differences related to homelessness (past 12 months $X^2 = 24.64$, $p < 0.001$ and current $X^2 = 33.42$, $p < 0.001$), race/ethnicity distribution ($X^2 = 42.99$, $p < 0.001$), employment status ($X^2 = 63.27$, $p = 0.005$) and poverty ($X^2 = 14.10$, $p = 0.003$).

Table 3 presents the distribution of the indicator variables retained in the final structural model by geographic location. There were significant geographic differences in women's structural power ($F = 5.55$, $p = 0.001$), sexual orientation ($X^2 = 8.76$, $p = 0.033$), all 5 substance use variables (marijuana $X^2 = 21.55$, $p < 0.001$; crack $X^2 = 8.21$, $p = 0.042$; other illicit drugs $X^2 = 12.05$, $p = 0.007$; binge drinking $X^2 = 10.03$, $p = 0.019$; and injection drug use $X^2 = 17.93$, $p = <0.001$) and two of the risk communication variables (ever had sex with a man $X^2 = 8.58$, $p = 0.035$ and HIV status $X^2 = 14.47$, $p = 0.002$).

SEM Structural Model Building

The final model included 522 dyads (11 were dropped due to missing data). Figure 2 shows the significant direct paths in the model, the standardized path coefficients for each path, and the factor loadings for all indicator variables in each latent factor. The model fit was adequate ($N = 522$, $X^2 = 472.782$, $DF = 250$, $p < 0.001$, RMSEA $= 0.041$, CFI $= 0.916$) and the amount of variance explained by the model was 0.236 (24%). Table 4 presents all specified paths in the final model, the unstandardized coefficients, standard error and Z scores. Indirect and total effects were reviewed but are not presented.

Neither women's ($b = -0.067$, $p = 0.135$) nor male partners' ($b = -0.064$, $p = 0.191$) structural power had significant direct paths to women's sexual HIV risk. Both were initially entered into the modeling with a direct path specified to risk. These paths were significant but when paths were added to interpersonal power and substance use, as specified a priori and as recommended by modification indices, the direct paths to risk were no longer significant.

Higher male partner structural power had a significant negative path to disrespect in the dyad (i.e., greater male partner economic resources was associated with less disrespect in dyads; $b = -0.092$, $p = 0.022$). The indirect path from male structural power through disrespect

to risk was not significant but male structural power did have a small but significant total effect on risk (b = − 0.099, p = 0.026) suggesting that male structural power has an effect on women's sexual HIV risk in the dyad but this model didn't identify a significant pathway.

Higher women's structural power had a significant direct path to decreased substance use (b = − 0.215, p < 0.001) and increased risk communication (b = 0.091, p = 0.018), indicating that women with greater economic resources have less substance use and more communication with their main partners about partner risk behavior. The indirect path from women's structural power to substance use to number of sex partners to risk was significant (b = − 0.024, p = 0.003) and women's structural power had a small but significant total effect on risk (b = − 0.094, p = 0.029).

Two of the interpersonal power constructs had significant direct paths to risk: disrespect in the dyad (b = 0.401, p = 0.048) and comfort asking their partners to use condoms (b = − 0.191, p < 0.001). The latent risk communication construct did not have a significant direct path to risk and did not have a significant indirect path or total effect on risk. In addition, disrespect and risk communication were modeled as being correlated with each other and this correlation was significant (b = 0.175, p = 0.009). Therefore, the model takes this correlation into account and is able to create a more precise estimate of the effects of these variables (partial effects of each controlling for the other). In addition, the variables included in the model explained a substantial proportion of the variance in the disrespect variables (40% of abuse and 34% in perception of other sex partners).

Substance use did not have a significant direct path to risk but did have a significant indirect path to risk through number of sex partners (b = 0.111, p = 0.001) and a significant total effect on risk (b = 0.127, p = 0.043).

Women's sexual orientation was the only exogenous variable with a direct significant path to sexual HIV risk (b = − 0.414, p = 0.026). Identifying as heterosexual was significantly directly related to decreased sexual HIV risk as well as decreased substance use (b = − 1.385, p < 0.001). Additionally, the indirect path of heterosexual orientation to substance use to number of sex partners to risk was significant (b = − 0.154, p = 0.001) as was the total effect (b = − 0.590, p < 0.001)).

Women's age at first sex (b = − 0.116, p = 0.001) and currently living with the main partner (b = − 0.306, p = 0.017) were negatively associated with disrespect in the dyad. Women's age (b = − 0.024, p < 0.001) at the time of the interview was significantly related to less risk communication. This direction was not expected but may indicate that older women feel more secure in their relationships and/or have been in the relationship longer and thus had not communicated with their partner about risk in the recent past. The final model controlled for race/ethnicity (b = 0.004, p = 0.929), geographic site (b = − 0.023, < 0.001) and marital status (b = − 0.136, p = 0.116). Of these three control variables, geographic site was significantly related to the women's sexual HIV risk.

Discussion

This study identified a structural model based on TGP theory that had good model fit indices and explained almost a quarter (24%) of the variance in women's sexual HIV risk in the dyad. The model also provided important information on the associations of the TGP constructs with risk.

The development and use of a dyadic measure of structural power, mostly defined by economic exposures, was not supported in this study. Thus, two summary variables were created to represent women's structural power and male partners' structural power. In the final model, neither of these constructs were directly associated with women's sexual HIV risk; however, both were directly associated with interpersonal power constructs and had small overall effects on sexual risk. This suggests that interventions focused on bolstering economic opportunities and stability for both women and men may improve women's interpersonal power and reduce substance use which in turn may reduce sexual risk. The only significant path to risk among the structural variables was women's structural power through substance use and number of sex partners; thus, interventions focused on improving women's economic opportunities may be particularly relevant for reducing women's substance use and in turn, sexual HIV risk in their sexual relationships with men.

Like other studies [15], this study found that interpersonal power had a more proximal and direct relationship to sexual risk. Among the three constructs used to measure interpersonal power, disrespect in the dyad had the strongest association with risk followed by comfort in asking their male partner to use condoms. These findings suggest that women who are in relationships with less respect are also at increased sexual risk within their dyad, thus, interventions focused on abuse, healthy relationships, and respect are important. Additionally, the relatively high proportion of the variance in the disrespect variables explained by the preceding variables in the model suggests that substance use, less male structural power, and young age of sexual debut might be used as proxy measures to identify dyads at risk of interpersonal power imbalances.

Although risk communication was not directly associated with women's sexual HIV risk, women's comfort requesting condom use was. This suggests that interventions that affect women's comfort asking their partner to use condoms are important. Given that women's structural power was associated with communication, economic interventions could be important in influencing women's ability to discuss risk behaviors with their partner.

This study did not find substance use to be directly related to the composite measure of women's sexual HIV risk; however, it was strongly associated with women's number of sex partners and with having more disrespect in the dyad. In addition, two other constructs (women's structural power and heterosexual orientation) had indirect significant paths to risk through substance use. Screening for substance use problems and providing brief interventions and referral to treatment, especially among low income and/or non-heterosexual populations, may be helpful in identifying and supporting women at risk. In addition, substance abuse treatment providers should continue to screen and provide support to women around domestic abuse and in fostering healthy partnerships.

An unexpected finding was the significant direct and indirect relationship of not having a heterosexual orientation with women's sexual HIV risk. Although not hypothesized in the a priori model, this study found that not identifying as heterosexual was significantly associated with increased sexual HIV risk among women both directly and indirectly through substance use and number of sex partners. Additional bivariate analyses found that compared to heterosexual women, bisexual women in this study engaged in more unprotected anal sex, had higher risk male study partners, had higher rates of substance use and problematic drinking, had more forced sex with their male study partner, had higher reported STIs in the last year, and had a higher number of other sex partners in the last year. This is consistent with previous studies reporting lower knowledge and perceived risk [16, 17], higher rates of substance use [18, 19], and greater numbers of male sex partners [20, 21] among women who do not identify as heterosexual, compared to those who do. Research targeting women has not typically included sexual orientation as a variable to explain heterosexual sex risk and it is unclear how sexual orientation would fit into a model regarding gender and power. Bisexually identified women may have fewer social resources and be more disenfranchised than women who identify as being in a particular group (e.g., heterosexual or lesbian). Clearly more research is needed to better understand the relevance of bisexual identity for prevention of HIV among heterosexually-active women.

As data were available from both partners in the dyad, we were able to create a more robust measure of the women's HIV risk in the dyad. Most HIV prevention research to date has used condom use to assess level of HIV risk. However, in certain relationships, especially main partnerships, condom use is less frequent [22] and may be a poor measure of actual risk. There was little consistent condom use among this sample of main partner dyads even though 73% of the women in this study believed there was some probability that their main male partner had other sex partners and half the male partners reported having other concurrent sex partners. A quarter of the women reported that they were married or living as married which could indicate a lack of commitment or stability among these main partnerships. However, given the low rates of condom use and high rates of multiple partners found in this study, the concept and expectation around monogamy in main partnerships needs further exploration.

There are several limitations to this study. First, this study used secondary data from a study not designed to examine TGP. Therefore, the questions asked of participants and contained in the data set were not the exact questions that would be asked if the goal of the study were to measure and analyze power. Second, all measures used in this study were from self-reported data and there can be a tendency for participants to underreport high risk behaviors such as sex and drug using behaviors [23]. However, as with all NHBS protocols, the protocol for the Partner Study emphasized privacy and required anonymity for all procedures and both privacy and anonymity may enhance reporting of sensitive behaviors [24, 25]. Third, data are cross-sectional in that the interview was conducted at one point in time. The nature of cross sectional data does not lend itself to the causal sequencing that may be implied by SEM. Last, as the number of dyads with non-main or HIV-discordant partners was too low to permit stratification, analyses were limited to main partner dyads in which both partners were HIV negative. Results might not be generalizable to non-main or HIV-discordant partnerships.

Conclusions

Overall, this study provides important information on power and sexual risk among women of color living in low-income areas. Like other studies, this study found that interpersonal power is an important construct in understanding sexual HIV risk. Interpersonal power, as measured by disrespect, had the strongest direct effect on women's sexual HIV risk in their heterosexual dyad and was strongly associated with women's substance use. In addition, this study found that women's and male partners' structural power were associated with women's substance use, as well as women's interpersonal power and indirectly with sexual HIV risk in the dyad. Finally, as male partners' structural power was related to less disrespect in the dyad, it may be important to understand how financial constraints for men lead to power imbalances in their relationships with women. Impacting women's sexual risk within the social context of a heterosexual dyad is complicated and there are opportunities to leverage both structural and interpersonal aspects to reduce women's sexual risk.

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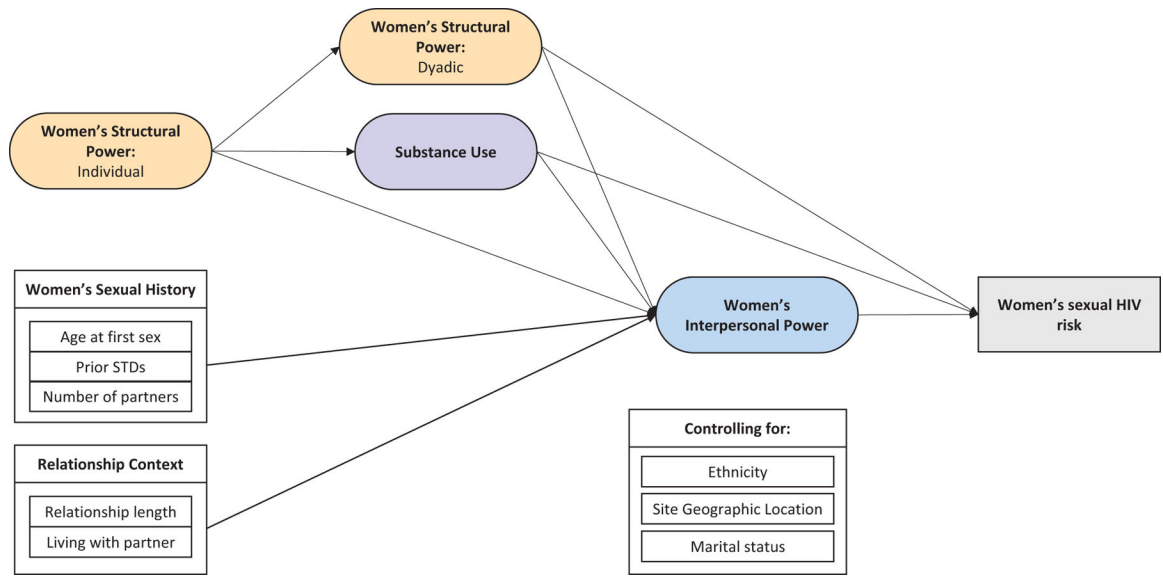
Fig. 1.
A priori model
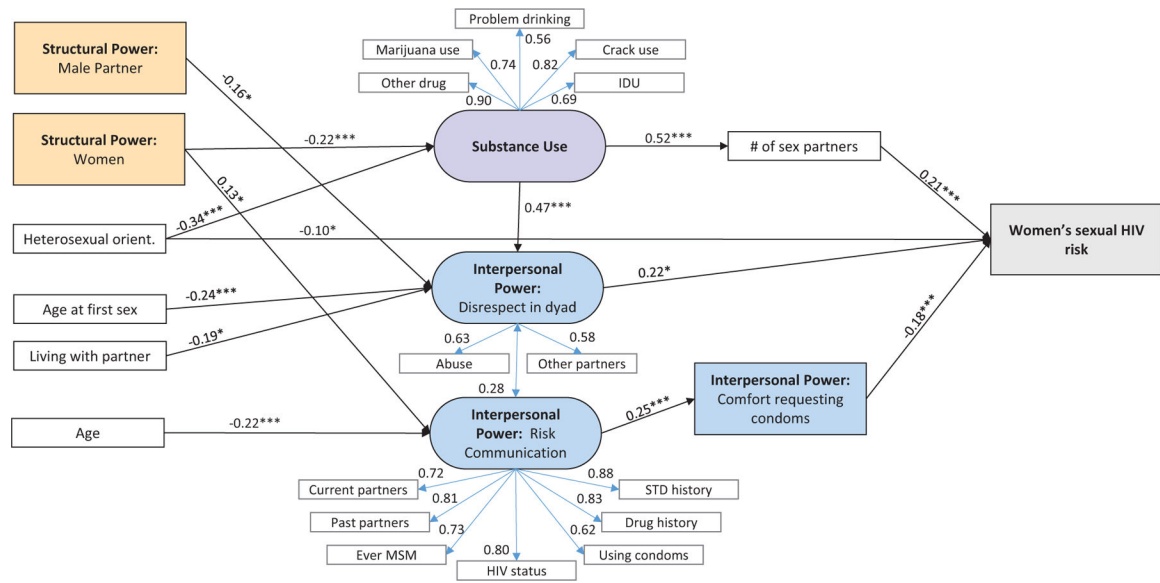
Fig. 2.

Final dyad model (N = 522): significant standardized direct path coefficients and factor loadings

*p 0.05, **p 0.01, ***p 0.001

Table 1

Dependent and independent variables used in structural model

Concept	Variables	Data source	
		Women	**Main male sex partner**
Dependent			
Women's sexual HIV risk	Women's HIV sex risk in the dyad (0–5) Condomless sex (0–2) * male risk behavior (1–5) where 0 represents no unprotected sex to 10 represents unprotected anal sex with a partner with all risk behaviors. Scores of 5 or higher were collapsed due to skewed distribution.	Condomless sex in the dyad (past 3 months): 0 = no unprotected sex (7%); 1 = condomless vaginal sex (73%); 2 = condomless anal sex (could also have had unprotected vaginal sex; 20%)	Sum of 5 binary items: Condomless sex with a man Condomless sex with one other woman Condomless sex with multiple other women STD diagnosis (past 12 months)
Independent			
Structural power	Women's structural power (0–7); Male partners structural power (0–7)	Sum of 7 binary items: Not currently homeless Not in poverty Employed part- or full-time Completed high school/GED or more education Currently insured Visited a health care provider (past 12 months) Received HIV prevention services (past 12 months)	Sum of 7 binary items: Not currently homeless Not in poverty Employed part- or full-time Completed high school/GED or more education Currently insured Visited a health care provider (past 12 months) Received HIV prevention services (past 12 months)
Interpersonal power	Risk communication (latent)	7 items measuring partner risk behaviors discussed with partner (past 3 months): # of current sex partners # of past sex partners HIV status History of sex with men History of drug use History of STDs Using condoms	
	Disrespect in the dyad (latent)	2 items: Ever physically and/or sexually abused by main partner Partner had concurrent partners during the relationship	
	Comfort asking partner to use condoms (manifest variable)	1 item: Comfort asking partner to use condoms	
	Substance use (latent)	5 items regarding substance use (past 12 months): Binge drinking (4 + alcoholic drinks in one sitting on weekly or more frequent basis) Injected drugs Used marijuana Used crack cocaine Used other drugs	

Table 2

Women's demographic characteristics by geographic region

	Total		East[a]		South[b]		Midwest[c]		West[d]		Test statistic	p value
	No.	%	No.	%	No.	%	No.	%	No.	%		
Age (mean, SD)	32.9	(9.6)	34.3	(9.9)	31.7	(9.5)	32.8	(9.6)	33.4	(9.4)	F = 1.47	0.222
Race/Ethnicity												
Black	448	(84)	69	(78)	127	(96)	160	(82)	92	(79)	X² = 42.99	<0.001
Hispanic or Latino[e]	72	(14)	20	(22)	5	(4)	32	(17)	15	(13)		
Multiracial	13	(2)	0	(0)	0	(0)	3	(2)	10	(9)		
Homelessness												
Past 12 months	137	(26)	30	(34)	16	(12)	47	(24)	44	(38)	X² = 24.68	<0.001
Currently homeless	77	(15)	22	(25)	6	(5)	19	(10)	30	(26)	X² = 33.42	<0.001
Education												
< High school	189	(36)	37	(42)	46	(35)	70	(36)	36	(31)	X² = 17.60	0.505
High school/GED	199	(37)	27	(14)	54	(41)	68	(35)	50	(43)		
> High school	145	(27)	25	(28)	32	(24)	57	(29)	31	(27)		
Employment status												
Unemployed	342	(64)	52	(58)	87	(66)	114	(59)	89	(76)	X² = 63.27	0.005
Employed part-time	81	(15)	11	(12)	25	(19)	31	(16)	14	(12)		
Employed full-time	110	(21)	26	(29)	20	(15)	50	(26)	14	(12)		
Income												
Living in poverty	385	(73)	52	(60)	108	(82)	138	(71)	87	(74)	X² = 14.10	0.003
Marital status												
Married/living as married	137	(26)	24	(27)	38	(29)	49	(25)	26	(22)	X² = 2.56	0.862
Never married	299	(56)	49	(55)	68	(55)	114	(59)	68	(58)		
Separated/divorced/widowed	97	(18)	16	(17)	26	(20)	32	(16)	23	(20)		
Sexual orientation												
Heterosexual	457	(86)	77	(87)	121	(92)	167	(86)	92	(79)	X² = 15.87	0.07
Homosexual	1	(0)	1	(1)	0	(0)	0	(0)	0	(0)		
Bisexual	73	(14)	11	(12)	11	(8)	26	(13)	25	(21)		

	Total		East[a]		South[b]		Midwest[c]		West[d]		Test statistic	p value
	No.	%	No.	%	No.	%	No.	%	No.	%		
Other	1	(0)	0	(0)	0	(0)	1	(1)	0	(0)		
All	533	(100)	89	(100)	132	(100)	194	(100)	117	(100)		

[a]New York, NY (n = 48); Miami and Ft. Lauderdale, FL (n = 41)

[b]Dallas, TX (n = 58); Houston, TX (n = 74)

[c]Denver, CO (n = 65); Detroit, MI (n = 55); St. Louis, MO (n = 75)

[d]Los Angeles, CA (n = 48); San Francisco, CA (n = 48); Seattle, WA (n = 21)

[e]Hispanic or Latino participants may be of any race

Table 3

Significant path variables [a] in the model by geographic region

	Total		East [b]		South [c]		Midwest [d]		West [e]		Test statistic	p-value
	No.	%	No.	%	No.	%	No.	%	No.	%		
All	533		89		132		195		117			
Male partner's structural power (0–7) [f]	3.8	(± 1.4)	3.8	(± 1.4)	3.5	(± 1.3)	3.8	(± 1.5)	4.0	(± 1.5)	F = 1.92	0.126
Woman's structural power (0–7) [f]	3.9	(± 1.4)	4.3	(± 1.4)	3.5	(± 1.4)	4.0	(± 1.4)	3.9	(± 1.4)	F = 5.55	0.001
Heterosexual	457	(86)	77	(87)	121	(92)	167	(86)	92	(79)	X^2 = 8.76	0.033
Age at first sex											X^2 = 17.97	0.265
13 or younger	116	(22)	25	(28)	23	(17)	45	(23)	23	(20)		
14	86	(16)	14	(16)	18	(14)	28	(14)	26	(22)		
15	102	(19)	13	(15)	27	(21)	36	(19)	26	(22)		
16	98	(18)	17	(19)	32	(24)	33	(17)	16	(14)		
17	58	(11)	7	(8)	18	(14)	25	(13)	8	(7)		
18 or older	73	(14)	13	(15)	14	(11)	28	(14)	18	(15)		
Currently living with partner	282	(54)	45	(51)	72	(55)	108	(57)	57	(50)	X^2 = 1.87	0.599
Age [f]	32.9	(± 9.6)	34.3	(± 9.9)	31.7	(± 9.5)	32.8	(± 9.6)	33.4	(± 9.4)	F = 1.47	0.222
Substance use, past 12 months												
Marijuana use	260	(49)	36	(41)	46	(35)	109	(56)	69	(59)	X^2 = 21.55	<0.001
Crack use	114	(21)	21	(24)	18	(14)	42	(22)	33	(28)	X^2 = 8.21	0.042
Other illicit drug use	158	(30)	19	(21)	36	(27)	54	(28)	49	(42)	X^2 = 12.05	0.007
Binge drinking	134	(25)	17	(19)	23	(17)	59	(30)	35	(30)	X^2 = 10.03	0.019
Injection drug use	42	(8)	8	(9)	3	(2)	12	(6)	19	(16)	X^2 = 17.93	<0.001
Disrespect in the dyad												
Any physical or sexual abuse	186	(35)	36	(41)	47	(36)	62	(32)	41	(35)	X^2 = 2.06	0.559
Partner has other partners (0–3)											X^2 = 3.11	0.960
Definitely did not	138	(27)	21	(24)	31	(24)	53	(29)	33	(29)		
Probably did not	130	(25)	24	(28)	31	(24)	46	(25)	29	(26)		
Probably did	143	(28)	23	(27)	38	(29)	50	(27)	32	(28)		

	Total		East[b]		South[c]		Midwest[d]		West[e]		Test statistic	p-value
	No.	%	No.	%	No.	%	No.	%	No.	%		
Definitely did	105	(20)	18	(21)	31	(24)	37	(20)	19	(17)		
Risk communication, past 3 months												
# Current sex partners	283	(53)	40	(45)	75	(57)	109	(56)	59	(50)	$X^2 = 4.06$	0.255
# Past sex partners	286	(54)	45	(51)	76	(58)	106	(54)	59	(50)	$X^2 = 1.69$	0.640
Ever had sex with a man	224	(42)	25	(28)	58	(44)	88	(45)	53	(45)	$X^2 = 8.58$	0.035
HIV status	282	(53)	59	(66)	79	(60)	91	(47)	53	(45)	$X^2 = 14.47$	0.002
Drug use history	321	(60)	55	(62)	82	(62)	113	(58)	71	(61)	$X^2 = 0.72$	0.868
STD history	251	(47)	38	(43)	70	(53)	96	(49)	47	(40)	$X^2 = 5.49$	0.139
Using condoms	296	(56)	49	(55)	77	(58)	107	(55)	63	(54)	$X^2 = 0.60$	0.897
Comfort asking partner to use condoms (0–3)												
Never asked	217	(41)	37	(42)	54	(41)	75	(39)	51	(44)	$X^2 = 8.89$	0.448
Not comfortable	30	(6)	6	(7)	8	(6)	8	(4)	8	(7)		
Somewhat comfortable	45	(9)	3	(3)	14	(11)	15	(8)	13	(11)		
Very comfortable	241	(45)	43	(48)	56	(42)	97	(50)	45	(39)		
Number of male sex partners, past 12 months												
1	205	(39)	40	(20)	50	(38)	72	(38)	43	(37)	$X^2 = 3.65$	0.723
2–3	159	(30)	24	(27)	45	(34)	57	(36)	33	(28)		
4 or more	166	(31)	25	(28)	37	(22)	63	(38)	41	(35)		
Woman's sexual HIV risk in the dyad (0–5)[f]	2.3	(± 1.5)	2.5	(± 1.5)	1.9	(± 1.3)	2.4	(± 1.5)	2.4	(± 1.5)	$F = 3.83$	0.010

[a] Male partner's structural power is based on male partners' reports. Women's sexual HIV risk in the dyad is based on both women's and their partners' reports. All other measures are based on women's reports

[b] New York, NY (n = 48); Miami & Ft. Lauderdale, FL (n = 41)

[c] Dallas, TX (n = 58); Houston, TX (n = 74)

[d] Denver, CO (n = 65); Detroit, MI (n = 55); St. Louis, MO (n = 75)

[e] Los Angeles, CA (n = 48); San Francisco, CA (n = 48); Seattle, WA (n = 21)

[f] Mean and standard deviation

Table 4

Final model paths and factor loadings: unstandardized coefficients, standard errors and Z scores

Paths		Unstandardized coefficient	SE	Z score	p-value
From	To				
Women's structural power	Substance involvement	− 0.215	0.06	− 3.595	< 0.001
Heterosexual Orientation		− 1.385	0.281	− 4.932	< 0.001
Male structural power	Disrespect	− 0.092	0.040	− 2.286	0.022
Age at first sex		− 0.116	0.036	− 3.183	0.001
Living with sex partner		− 0.306	0.128	− 2.383	0.017
Substance involvement		0.269	0.076	3.546	< 0.001
Women's structural power	Risk communication	0.091	0.039	2.372	0.018
Age		− 0.024	0.006	− 3.906	< 0.001
Disrespect (with)	Risk communication	0.175	0.067	2.609	0.009
Substance involvement	# Of sex partners	0.268	0.051	5.255	< 0.001
Risk communication	Comfort requesting condoms	0.315	0.097	3.234	0.001
Heterosexual Orientation	Women's sexual risk	− 0.414	0.186	− 2.232	0.026
Comfort requesting condoms		− 0.191	0.045	− 4.289	< 0.001
# Of sex partners		0.415	0.089	4.650	< 0.001
Disrespect		0.401	0.203	1.980	0.048
Geographic region		− 0.023	0.006	− 3.515	< 0.001
Substance involvement		− 0.093	0.095	− 0.977	0.329
Risk communication		0.06	0.079	0.763	0.446
Women's structural power		− 0.067	0.045	− 1.493	0.135
Male structural power		− 0.064	0.049	− 1.309	0.191
Age at first sex		− 0.055	0.044	− 1.258	0.208
Living with sex partner		0.052	0.14	0.374	0.708
Marital status		− 0.136	0.087	− 1.573	0.116
Age		0.012	0.008	1.598	0.110
Race/Ethnicity		0.004	0.047	0.090	0.929
Factor loadings					
Substance use	Crack use[a]	1	0	999	999

Paths		Unstandardized coefficient	SE	Z score	p-value
	Marijuana use	0.763	0.145	5.246	< 0.001
	Other drug use	1.432	0.334	4.288	< 0.001
	Injection drug use	0.668	0.168	3.962	< 0.001
	Problem drinking	0.474	0.097	4.882	< 0.001
Risk communication	# Current sex partners [a]	1	0	999	999
	# Past sex partners	1.310	0.200	6.603	< 0.001
	Ever MSM	1.440	0.157	6.647	< 0.001
	HIV status	1.278	0.194	6.599	< 0.001
	Drug use history	1.427	0.222	6.441	< 0.001
	STD history	1.826	0.299	6.097	< .001
	using condoms	0.775	0.121	6.402	< 0.001
Disrespect in Dyad	Any physical or sexual abuse [a]	1	0	999	999
	Partner has other partners	0.755	0.188	4.01	< 0.001

[a] Item loading fixed at one to scale the factor