

Predictors of Relationship Power Among Drug-Involved Women

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Abstract Gender-based relationship power is frequently linked to women's capacity to reduce sexual risk behaviors. This study offers an exploration of predictors of relationship power, as measured by the multidimensional and theoretically grounded sexual relationship power scale, among women in outpatient substance abuse treatment. Linear models were used to test nine predictors (age, race/ethnicity, education, time in treatment, economic dependence, substance use, sexual concurrency, partner abuse, and sex role orientation) of relationship power among 513 women

participating in a multi-site HIV risk reduction intervention study. Significant predictors of relationship control included having a non-abusive male partner, only one male partner, and endorsing traditional masculine (or both masculine and feminine) sex role attributes. Predictors of decision-making dominance were interrelated, with substance use × partner abuse and age × sex role orientation interactions. Results contribute to the understanding of factors which may influence relationship power and to their potential role in HIV sexual risk reduction interventions.

Keywords Relationship power · Substance abuse · HIV prevention · Theory of gender and power

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Introduction

Gender-based relationship power is frequently linked to women's capacity to reduce sexual risk behaviors which can lead to the transmission of HIV/AIDS and other sexually transmitted infections (STIs) [1–3]. Relationship power is a multidimensional construct composed of individual empowerment, interpersonal dominance, and macro level social and structural factors, such as gender norms and economic practices favoring men [4, 5]. A growing body of evidence supports the association between interpersonal power and reduced sexual risk behaviors [6–10].

Research exploring the association between relationship power and sexual risk has been constrained by a lack of comprehensive, multidimensional measures. The sexual relationship power scale (SRPS) [3] is one exception; a psychometrically valid measure grounded in the theory of gender and power [11] and social exchange theory [12, 13] and developed to capture two domains of intimate power dynamics: relationship control and decision-making

dominance. The developers of the SRPS suggest that the combined scale score (i.e., total score) or one or both of the subscales may be used to describe relationship power. Over the last 10 years, research has demonstrated a negative association between the SRPS and HIV sexual risk behaviors (e.g., unprotected sexual occasions, consistent condom use, sex under the influence of drugs/alcohol, and receiving treatment for STIs) in several cross-sectional studies [10, 14–16] and one longitudinal study [6]. Two studies did not detect an association between the SRPS and relative frequency of condom use and consistent condom use respectively [17, 18]; however both studies consisted of samples of adolescent girls, suggesting the need for developmentally specific measures.

Despite progress in the measurement and examination of relationship power and HIV risk among women, research gaps remain. Drug involved women have rarely been the focus of research on relationship power; however the interaction of gender, poverty, cumulative stress, and sexuality may uniquely impact this group. The domains of relationship power may operate differently among women with substance use disorders. For example, Campbell et al. [15] found that higher SRPS decision-making dominance subscale scores were directly associated with lower levels of unprotected sexual occasions, while the relationship control subscale scores influenced unprotected sex through interactions with condom use intention and days of substance use. In a study with incarcerated women who reported prior substance use, Knudsen et al. [16] found a main effect for relationship control on three of five sexual risk behaviors, but did not find an association on any risk behaviors with decision-making dominance. Amaro et al. [6], in a sample of women with trauma histories and substance use disorders, found that higher total SRPS scores were associated with fewer unprotected sex occasions over a 6 month time period. The study did not examine the individual SRPS subscales. Thus, further elucidation of the construct of relationship power, using multidimensional measurement among women with substance use disorders, is warranted and will expand the potential targets of HIV prevention interventions.

Robert Connell's theory of gender and power [11] identifies determinants of relationship power through a social structural conceptualization of the origination of gender-specific power inequities. Gender relations are characterized by three structural factors: (1) sexual division of labor (the way in which work and economic opportunities are allocated), (2) sexual division of power (balance of power and the distribution of resources enforced institutionally, culturally, and socially), and (3) cathexis (socially sanctioned emotional and behavioral structures of sexual relationships). Wingood and DiClemente [5] applied Connell's theory to HIV prevention, outlining exposure

and risk factors based on the three structures. For example, division of labor is categorized into economic exposures (e.g., poverty level, educational attainment) and socioeconomic risk factors (identifying as an ethnic minority, younger age). Power inequality results in physical exposures (history of abuse) and behavioral risk factors (alcohol or drug abuse, limited condom use knowledge or skills). The cathexis structure translates into a broad acceptance of conventional gender norms and traditional heterosexual relationship characteristics (e.g., sexual double standard whereby men are permitted greater sexual freedom compared with women).

The current study offers an opportunity to test empirically and theoretically informed predictors of relationship power, as measured by the SRPS, among a sample of drug-involved women. Using Wingood and DiClemente's application of the three structural categories comprising the theory of gender and power, it is hypothesized that women with the following characteristics will have higher relationship power: less traditional sex role orientation, economically independent, more than one sexual partner, non-abusive main male sexual partner, older, non-minority race/ethnicity, greater education, and less substance use. An additional predictor, length of time in treatment, will be explored to assess the role of substance abuse treatment on women's relationship power. Findings will contribute to the systematic understanding of factors related to relationship power, and their potential role in HIV sexual risk behavior in this population. In turn, this understanding can help to better craft HIV sexual risk reduction interventions for these women to better reflect relationship influences and pressures.

Methods

Sample

Data for this study was drawn from the baseline assessment of the safer sex for women study, a multi-site clinical trial of an HIV risk reduction intervention conducted within the national drug abuse treatment clinical trials network (CTN). The purpose of the study was to test the effectiveness of a gender-specific, five-session safer sex skills building group intervention (SSSB) [19] compared to a single session HIV education intervention (HE) [20].

Women were recruited from seven methadone maintenance and five outpatient psychosocial community-based drug treatment programs located across the continental United States. Recruitment took place from May 2004 through October 2005. Women were eligible to participate if they: (1) were 18 years of age or older, (2) able to understand and converse in english, (3) enrolled in drug

treatment at a participating program, and (4) reported at least one occasion of unprotected vaginal or anal intercourse with a male partner in the 6 months prior to study entry. Women were excluded from the study if they: (1) had major cognitive impairment, defined as a score of <25 on the mini-mental status exam [21] or (2) were pregnant or actively trying to get pregnant.

Recruited women completed an initial eligibility screen ($n = 824$); eligible and interested participants went on to complete a comprehensive baseline assessment ($n = 524$). Participants provided written informed consent prior to the screening assessment and for full study participation before the baseline assessment. The final sample was 515 women randomized in cohorts of three to eight to receive the SSSB or HE interventions. Participants were re-assessed at three- and six-months post treatment. All assessments were interviewer administered with the exception of questions related to sexual behavior, which were completed via an automated audio computer-assisted interview. This method has been shown to elicit more accurate and forthcoming HIV sexual risk behavior compared to interviewer-administered measures [22].

Measures

The dependent variable was relationship power. Relationship power was measured using the sexual relationship power scale (SRPS) [3]. The SRPS is comprised of two subscales assessing domains of power between intimate partners: relationship control assesses ‘power to’ (i.e., personal empowerment) and decision-making dominance assesses ‘power over’ (i.e., interpersonal power and the ability to make decisions). The relationship control subscale consists of 15 items (e.g., “When my partner and I are together, I’m pretty quiet”, “My partner always wants to know where I am”) and the decision-making dominance subscale consists of eight items (e.g., “Who usually has more say about what you do together?”). The questions were asked in reference to the participant’s main male sexual partner. If the participant did not have a current main male sexual partner, they were instructed to respond based on what their relationships with male partners were typically like (per assessment instructions). Internal consistency of the SRPS in the current sample is excellent for the relationship control subscale (Cronbach’s $\alpha = 0.90$) and adequate for the decision-making dominance subscale (Cronbach’s $\alpha = 0.80$). The subscales are based on four-point scales (1–4), with higher scores corresponding to higher levels of power (scores range from 15–60 for relationship control and 8–24 for decision-making). Decision-making dominance items are initially asked using a three-point scale (participants respond “your partner”, “both of you equally”, “you”); items are

summed and then normalized on a four-point scale for comparability with the relationship control subscale.

Independent variable selection was informed by the three structures comprising the theory of gender and power [11] and further extrapolated for HIV risk by Wingood and DiClemente [5]. Age, race/ethnicity, educational attainment, and economic dependence were collected through self-report on a demographic form and via the addiction severity index-lite (ASI-Lite) [26]. Ethnicity and race was combined into a single variable reflecting major racial/ethnic categories of the sample. Due to small numbers within the sample, participants who identified as Asian, Native American, Native Hawaiian/Pacific Islander, or multi-racial were included in a single category (mixed or other). To determine economic dependence, participants were asked if anyone, other than themselves, provided the majority of their support (including personal income and housing); those who answered yes were classified as dependent. Time in treatment was recorded as the length of time (in weeks) of the current treatment episode and categorized into four time periods based on distribution and clinical relevance: 1–4 weeks, 5–13 weeks, 14–52 weeks, and more than 52 weeks (or 1 year).

Substance use was the number of days of use in the 30 days prior to baseline using the ASI-Lite [23]. For each participant, the maximum number of days of alcohol or drug use was based on the highest number of days of use across a subset of substances [alcohol, heroin, opiates (including illicit methadone), cocaine, or amphetamines]. This was then classified into categories based on the definition of “regular” use from the ASI-Lite (i.e., three or more days per week): zero days of use, 1–12 days of use, and 13 or more days of use (regular use).

Partner violence was identified by asking participants if they ever (including currently) experienced sexual or physical violence by their current main male sexual partner.

Sexual concurrence was defined as having two or more male sexual partners within the previous 90-day period at baseline, assessed using the sexual experiences and risk behavior assessment schedule [24]. Multiple sexual partners may reflect sexual independence and weaker adherence to traditional sexual norms or scripts.

Adherence to traditional sex roles was assessed using the Bem sex role inventory (BSRI) [25, 26] and was used as an indicator of acceptance of socially desirable gendered behavior. The BSRI is a 30-item self-report measure: ten ‘neutral’ items (e.g., moody, reliable, and truthful), ten stereotypical masculine items (e.g., assertive, dominant, and forceful), and ten stereotypical feminine items (e.g., tender, warm, and loves children). Based on responses, a participant is categorized as androgynous (high identification on both scales), undifferentiated (low on both scales)

or high on one dimension or the other (feminine or masculine). Individuals who identify as sex-typed (e.g., feminine), could also be defined “as highly enculturated with respect to gender” [27, p. 127]; that is identifying strongly with traits and attributes traditionally assigned to either men or women. BSRI categories were defined based on a median split of the masculine and feminine subscales from a normative sample. Normative scores were derived from the 524 women who completed the BSRI at baseline in the current study and the 601 men who completed the BSRI in a companion study [28]. Thus, norms were based on a combined total of 1,125 men and women seeking substance use disorder treatment in the U.S. BSRI scoring instructions suggest using one’s own sample if it is large and comprised of both sexes [26].

Data Analysis

The aim of this study was to test predictors of relationship power among women enrolled in outpatient substance abuse treatment. Nine theoretically and empirically relevant predictor variables were examined. Scatter plots and bar graphs were used to understand the distributions of the predictor and outcome variables. A normal distribution was deemed appropriate for all variables and linear models were used. Each predictor variable was tested separately; if significant at $p < 0.05$ it was included in the full adjusted model. Four interactions were examined and included in the adjusted models if significant at $p < 0.15$: age \times economic dependence, age \times BSRI, education \times BSRI, and partner abuse \times substance abuse. Interactions were selected based on prior research and limited to protect against type I error. The statistical package SAS REG [29] was used for all regression models.

Results

Sample Characteristics

The sample is comprised of 513 women with available baseline data. Among this sample, slightly less than half was 40 years or older (45.8 %). The majority identified as White (57.7 %) or African American (24.3 %), with a smaller percentage Hispanic/Latina (9.0 %). The mean number of years of education was 12.09 (SD = 2.11). Time in treatment at enrollment varied: 27.7 % 1–4 weeks, 23.8 % 5–13 weeks, 20.1 % 14–52 weeks, and 28.4 % more than a year. Almost half of the sample reported no substance use in the 30 days prior to baseline (45.2 %), 35.2 % used alcohol or drugs between one and 12 days, and 19.6 % on 13 or more days. About half reported depending on someone else for the majority of their

support (46.5 %). Three-quarters of the sample (77 %) identified a current main male sexual partner; about a third of the sample (35.4 %) indicated they had more than one male partner in the 90 days prior to baseline. Over a quarter of the entire sample (28.5 %) reported a history of sexual or physical abuse with their current main male partner. The sample was categorized into the following BSRI orientations: 29.2 % feminine, 17.5 % masculine, 30.5 % androgynous (high endorsement of both feminine/masculine), and 22.8 % undifferentiated (low endorsement of both feminine/masculine). Mean scores (on a 1–4 point scale) of the relationship control subscale were $M = 2.97$ (SD = 0.62). Mean scores on the decision-making dominance subscale were $M = 2.50$ (SD = 0.70).

Predictors of Relationship Control

Table 1 displays the unadjusted and adjusted estimates, standard errors, and test statistic (with related significance level) for the relationship control subscale. The adjusted results are presented here. There were three significant predictors of relationship control. Women with an abusive partner were more likely to report lower relationship control scores [$F(1,502) = 67.94, p < 0.001$]. Women with an abusive current partner had relationship control scores that were on average 0.47 points lower than women who did not have a current abusive partner. The BSRI was a significant predictor of relationship control scores [$F(3,502) = 4.63, p < 0.01$]. Specifically, androgynous and masculine categorized women had on average 0.19 points and 0.15 points, respectively, higher BSRI scores than women only identifying with feminine traits. Women with more than one male partner at baseline had on average scores that were 0.11 points less than women with one male partner [$F(1,502) = 3.88, p < 0.05$]. Age, race/ethnicity, education, length of time in treatment, substance use, and economic dependence were not significant predictors of relationship control.

Predictors of Decision-Making Dominance

Table 2 displays the unadjusted and adjusted estimates, standard errors, and test statistic (with related significance level) for the decision-making dominance subscale. Two interactions were significant. Women who had an abusive partner and used alcohol or drugs moderately (1–12 days in the past 30) had significantly higher decision-making scores (on average 0.48 points) compared to women with abusive partners who were abstinent [$F(1,478) = 10.81, p < 0.001$]. There was an age \times BSRI interaction; older women who identify with masculine traits reported higher decision-making dominance scores (on average 0.02 points) compared to older respondents categorized as

Table 1 Relationship control subscale: unadjusted and adjusted models of baseline predictors

Predictors	Unadjusted model			Adjusted (full) model		
	Estimate	SE	F-test	Estimate	SE	F-test
Age (yrs)	−0.004	0.003	1.57			
Race/Ethnicity			0.42			
White (ref)						
African American/Black	−0.016	0.067	0.06			
Hispanic/Latina	−0.104	0.099	1.10			
Mixed/Other	0.025	0.099	0.06			
Education (yrs)	0.023	0.013	3.09 [†]			
Length of time in TX			2.26 [†]			
<5 weeks (ref)						
5–13 weeks	−0.042	0.077	0.30			
14–52 weeks	0.147	0.080	3.32 [†]			
>52 weeks	0.093	0.073	1.61			
Substance use (30 days)			0.25			
None (ref)						
1–12 days	0.042	0.062	0.45			
≥13 days	0.004	0.075	0.00			
Economic dependence (y)	0.022	0.055	0.16			
Current partner abuse (y)	−0.488	0.057	11.88***	−0.470	0.057	67.94***
Sexual concurrency (y)	−0.166	0.057	8.34**	−0.106	0.054	3.88*
BEM sex role inventory			5.05**			4.63**
Feminine (ref)						
Undifferentiated	−0.057	0.076	0.55	−0.032	0.072	0.20
Masculine	0.185	0.082	5.03*	0.154	0.077	3.98*
Androgynous	0.183	0.071	6.69*	0.186	0.066	7.87**

* $p < 0.05$, ** $p < 0.01$,
 *** $p < 0.001$, [†] $p < 0.10$, ^{††}
 $p < 0.15$

feminine [$F(1,478) = 6.14$, $p < 0.05$]. Although an additional interaction, education \times BSRI, was only significant at $p < 0.10$, women who had higher levels of education and identified as androgynous reported higher decision-making dominance scores than women with higher education who identified with feminine traits [$F(1,478) = 4.80$, $p < 0.05$].

In the unadjusted model, significant main effects were detected for race/ethnicity, length of time in treatment, and sexual concurrency. Women who identified as African American had on average higher decision-making scores than women who identified as White [$F(1,509) = 8.20$, $p < 0.01$]. Length of time in treatment was a significant positive predictor of decision-making dominance [$F(3,509) = 3.51$, $p < 0.05$]. Women in treatment more than 3 months had higher decision-making dominance scores than women in treatment 1–3 months [14–52 vs. 5–13 weeks, $F(1,509) = 6.18$, $p < 0.05$; >52 weeks vs. 5–13 weeks, $F(1,509) = 8.95$, $p < 0.01$]. Women with more than one partner had on average lower decision-making dominance scores [$F(1,506) = 9.77$, $p < 0.01$]. Education and economic dependence were not significant predictors of decision-making dominance scores in either model.

Discussion

This study offers one of the first explorations of predictors of relationship power, as measured by the multidimensional and theoretically grounded sexual relationship power scale among drug-involved women. Baseline predictors were selected using Wingood and DiClemente's [5] seminal work applying the theory of gender and power [11] to risk factors for HIV transmission. Given the increased risk for HIV transmission among drug-involved women, this study offers insight into factors that may influence relationship power and, thus, impede or facilitate HIV prevention efforts. Findings offer partial support for the selected theoretical predictors of gender-based power in this study. Predictors varied between the two subscales, providing additional support for multidimensional relationship power measures (e.g., [2, 30, 31]) and the use of both subscales. However, interactions between predictors of decision-making dominance point to the importance of context as related to women's perception and experiences of interpersonal power.

In line with prior HIV prevention research [14, 32, 33], women who had a history of abuse with a current male partner had lower relationship power scores compared to

Table 2 Decision-making dominance subscale: unadjusted and adjusted models of baseline predictors

Predictors	Unadjusted model			Adjusted (full) model		
	Estimate	SE	F-test	Estimate	SE	F-test
Age (yrs)	0.006	0.003	2.66 ^{††}	0.002	0.007	0.10
Race/Ethnicity			3.06*			1.17
White (ref)						
African American/Black	0.212	0.074	8.20**	0.111	0.076	2.14 ^{††}
Hispanic/Latina	0.146	0.110	1.77	0.106	0.108	0.96
Mixed/Other	0.138	0.110	1.58	0.137	0.106	1.66
Education (yrs)	−0.015	0.015	1.06	−0.039	0.024	2.64 [†]
Length of time in TX			3.51*			1.57
<5 weeks (ref)						
5–13 weeks	−0.129	0.085	2.27 ^{††}	−0.110	0.084	1.70
14–52 weeks	0.102	0.090	1.29	0.071	0.089	0.63
>52 weeks	0.125	0.082	2.36 ^{††}	0.047	0.085	0.31
Substance use (30 days)			1.13			0.62
None (ref)						
1–12 days	0.099	0.069	2.05	−0.075	0.078	0.91
≥13 days	0.078	0.083	0.88	0.018	0.095	0.03
Economic dependence (y)	−0.030	0.062	0.24	0.248	0.266	0.87
Current partner abuse (y)	−0.297	0.067	19.62***	−0.478	0.099	23.45***
Sexual concurrency (y)	−0.201	0.064	9.77**	−0.116	0.065	3.19 [†]
BEM sex role inventory			8.75***			1.78
Feminine (ref)						
Undifferentiated	0.029	0.084	0.12	0.123	0.606	0.04
Masculine	0.400	0.091	19.34***	−1.235	0.614	4.05*
Androgynous	0.248	0.078	10.11**	−0.559	0.572	0.96
Age × economic dependence	−0.011	0.007	2.38 ^{††}	−0.006	0.007	0.91
Age × BEM			3.18*			2.77*
Age × feminine (ref)						
Age × undifferentiated	−0.001	0.009	0.01	0.002	0.009	0.03
Age × masculine	0.024	0.010	6.00*	0.023	0.010	6.14*
Age × androgynous	−0.005	0.009	0.36	−0.005	0.009	0.18
Education × BEM			2.48 [†]			2.35 [†]
Educ × feminine (ref)						
Educ × undifferentiated	−0.018	0.044	0.17	−0.012	0.043	0.08
Educ × masculine	0.058	0.040	2.10 ^{††}	0.057	0.039	2.16
Educ × androgynous	0.079	0.036	4.86*	0.079	0.036	4.80*
Abuse × substance use			5.46**			5.48**
Abuse × none (ref)						
Abuse × 1–12 days	0.482	0.149	10.47**	0.481	0.146	10.81**
Abuse × ≥ 13 days	0.325	0.180	3.24 [†]	0.278	0.178	2.42

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, [†] $p < 0.10$, ^{††} $p < 0.15$

those who did not. Partner abuse creates a climate in which women have limited personal and interpersonal power. The main effect of abuse on relationship control clearly establishes the deleterious effects of partner violence on perception of personal empowerment. There was a significant interaction between partner abuse and substance use in the

decision-making dominance model, indicating that women who continued to use substances at a moderate level reported higher scores than those who were in abusive relationships but abstinent in the past month. Although somewhat counterintuitive, this may reflect the role of substance use as a coping mechanism in the presence of

violence—once substance use stops, the ramifications of partner abuse may be magnified. An additional explanation is the common occurrence of partners using drugs and alcohol together; if one partner changes this relationship dynamic, discord or violence may escalate. Thus, women's experience of interpersonal power is rooted in the context of substance use. Given that more than a quarter of women reported historical abuse with a current partner, continued screening for partner abuse among women in community-based substance abuse treatment is critical, as well as in HIV prevention programming more generally. Such screening might also indicate whether individual, group or a couple-based program is preferable, given the nature or severity of the abuse.

It was noteworthy that days using drugs or alcohol was not a significant predictor of relationship control. Reduced substance use may lead to improved psychosocial functioning, but this may not immediately lead to changes in relationship power, especially if a woman's partner is still using drugs or alcohol. As Gentry, Elifson, and Sterk [34] suggest, in HIV prevention interventions greater emphasis on life functioning (e.g., housing, social support, and employment) may be important in addition to the traditional focus on reducing substance use and sexual risk. This finding also alludes to the persistent result showing that substance abuse treatment has less impact on reducing sexual risk behavior compared to drug-related HIV risk behaviors [35].

Findings showed that women categorized as feminine in their sex role orientation had lower relationship control than those categorized as androgynous or masculine. On the decision-making dominance subscale, the interaction of age and BSRI indicates that older women have lower scores unless they more closely identify with masculine-typed traits. This further highlights the importance of cultural and gender-based norms; women who do not identify with traditional conceptualizations of femininity may indeed experience and access more power within their heterosexual relationships. These identifications may lead to expectations of greater equality, assertiveness, and negotiation ability and are worth exploring. Women categorized as androgynous had higher relationship control scores than feminine sex typed women. The combination of both feminine and masculine role attributes may expand access to a broader range of emotional skills increasing relationship quality and experiences of relationship control.

Bem [27] summarized traditional categorization of masculinity as instrumental and individually focused. Femininity is associated with expressiveness and a communal, nurturing orientation. Thus, women who identify with feminine sex-types might be more concerned with "keeping the peace" within a relationship and maintaining emotional bonds. Although this does not necessarily lead to

sexual risk behaviors, a woman might be less inclined to use contraception that may be perceived as challenging traditional feminine roles or asserting preferences regarding contraception. Endorsing instrumental or independent role attributes may equate with greater power. Bowleg et al. [36] used the personal attributes questionnaire (measuring instrumental and expressive traits [37]) in a study examining the influence of gender roles on power strategies, self-efficacy and sexual risk in a diverse community sample. They found that instrumental gender roles were associated with higher sexual self-efficacy. Additional research examining attitudes, assertiveness, and negotiation skills as mediators of the association between sex-typed orientation and relationship power is warranted.

Contrary to initial hypotheses, women with sexual concurrency (defined as two or more partners within a 90 day time period) reported lower relationship control and decision-making dominance scores than those with only one male partner (although sexual concurrency was not significant in the adjusted decision-making model). Women who have greater intimacy and commitment with a male partner may find that they experience greater stability or security within their relationships resulting in increased personal empowerment. More intimacy and commitment may not translate to increased decision-making power. Social exchange theory suggests that the quality of alternative partners is an important point of comparison; additional partners may increase power if they compare more favorably to current partners. If there are fewer desirable partners and depleted social networks more generally, availability of a stable partner may indeed be experienced as empowering.

Wingood and DiClemente [5] suggest that younger age and racial or ethnic minority status may be indicative of poorer labor force access and increased vulnerability; however identifying as White or being older was not significantly predictive of more relationship power. Older, drug-involved women may need additional assistance or specific types of support to affect gendered relationship inequalities. The interaction of age and BSRI suggests that identifying with more assertive traits is particularly important for women over 40. Younger women, despite similar life challenges, may have greater decision-making access within relationships or benefit from shorter substance use disorder histories compared to older women.

Women who identified as African American were more likely to report higher decision-making dominance scores compared to White women (this was reduced to trend-level significance in the adjusted model); race/ethnicity was not a significant predictor of relationship control. Although this finding diverges from some previous research showing that racial/ethnic minority women experience less access to power [7], other studies have found that African American

women report more confidence in discussing sex and using condoms with partners [38, 39] and may be less invested in traditional gendered behavior [40]. While previously observed adverse effects of minority status on power may have reflected, in part, lower socioeconomic status, the present sample was more socioeconomically homogeneous, which may have brought the adverse impact of being a low socioeconomic White woman into focus [4, 38]. Future studies are needed to unpack racial, ethnic, and cultural differences in relationship power with the goal of supporting and enhancing culturally-specific strengths. This work will likely include further exploration of the SRPS psychometric properties (e.g., [30]) and possibly additional relationship power domains to better capture the construct, especially among diverse samples of women.

Education level and economic dependence have been linked to power in prior studies [3, 8, 30]; however neither was a significant predictor in this study. Limited variability among this population in terms of socioeconomic status may have limited the ability to detect differences. However, an important limitation of the SRPS is that it does not directly assess economic control or financial decision-making [41]. The SRPS may be a better indicator of division of power and cathexis/social norms, but less sensitive to power derived via economic means.

Length of time in treatment, although significant in the unadjusted decision-making dominance model, was not a significant predictor in either adjusted model. Recent research demonstrates promising ways of expanding target behaviors in support of HIV prevention. For example, cognitive behavioral therapies focused on coping strategies for managing symptoms of traumatic stress have revealed reductions in HIV risk behaviors (e.g., [6, 42, 43]). Targeting treatment program or community-based social and cultural norms around gender and sexual behavior may also increase relationship power compared to individual or group interventions [44, 45]. Integrating services and providing more comprehensive HIV prevention interventions may also better address relationship power. For example, DiClemente, Salazar, and Crosby [46] describe a multi-level approach to HIV prevention as taking advantage of the “synergistic” effect across environmental systems. Structural interventions, including lending and savings programs, job skills and vocational training, therapeutic work places, and community mobilization [47, 48] may directly enhance personal empowerment and decision-making capabilities. Structural interventions, however have seen less empirical examination in the United States. Thus, beyond specific HIV prevention interventions, innovative, systems-oriented substance abuse treatment could better support women’s empowerment and interpersonal strengths. Measures of perceived relationship power should be included in studies of structural or systems-level interventions.

Limitations

Findings must be considered in light of several limitations. First, this analysis does not link specific relationship attributes to perceptions of relationship power. Acknowledging that power within intimate relationships is based on the unique contributions and characteristics of each partner, the current results offer only a preliminary assessment of predictors of power within this population. Second, the study was limited by the absence of additional variables that may also predict relationship power (e.g., social resources and capacity, perceived importance or significance of the sexual relationship). In order to create a more parsimonious model, other variables were also excluded (e.g., sexual communication with male partners). Third, treatment program site, of which there were 12, was not accounted for in the model. Analyses examining program level factors might provide additional information (e.g., types of services offered, percentage of women in the treatment program, inclusion of women-only programming) that could impact relationship power. Finally, the clinical significance of the magnitude of associations between predictor variables and relationship power should be viewed with caution. More research is needed to determine what constitutes meaningful differences in relationship power. However, even small increases in standardized beta values may be seen as potentially important (e.g., increasing one or two points across several subscale questions).

Conclusion

This study makes a unique contribution to research on sexual relationship power by using a multidimensional measure of relationship power, theoretically derived baseline predictors, and a subgroup of women not typically represented in the literature. The study provides support for the continued examination of factors, and the interaction of those factors, that impact women’s relationship power; in line with recent client-centered models. Given the empirical evidence supporting the association between relationship power and sexual risk behavior, HIV risk reduction interventions must include components that target the unique context of women’s lives, and diverse experiences of power within heterosexual partnerships. Applications of the theory of gender and power can be used to inform behavioral and contextual targets of HIV prevention among women at high-risk for HIV; future examination of theoretical factors associated with relationship power are needed to better understand how these might inform prevention interventions.

The associations obtained in this study, however, suggest that HIV prevention messaging for substance-using

women ought to incorporate the influence of several key factors affecting sexual risk behavior. First, the constraints of partner abuse in women's sexual behavior choices, particularly pertaining to 'power over' their partner, needs to be considered. This could include information about recognition of emerging signs of abuse, strategies for avoiding abuse, safety planning, and resources and linkages to relevant emergency services. Second, the impact of recovery and abstinence on these women's perceived efficacy in relationship and daily life should be considered. Paradoxically, substances used as coping mechanisms may numb life and relationship stress that in the clarity of abstinence might be more keenly recognized. Thus, psychoeducation for preparing to re-appraise one's life and handle negative emotions through recovery could be helpful. Third, the impact of sex role identity in women's sexual risk behavior, especially as related to female passivity and submissiveness, could be integrated through awareness of broader concepts of women's functioning especially with regards to ways in which they utilize instrumental power. Thus, HIV prevention through women's empowerment should be considered through a broad lens in terms of intervention components, multi-level targets (e.g., couple dyad, program-level), and key factors associated with the drug-using context.

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