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Sexual Risk-Taking among High-Risk Urban Women with and without Histories of Childhood Sexual Abuse: Mediating Effects of Contextual Factors

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Abstract

This study investigated the mechanisms of risk for urban women at high risk for HIV with and without childhood sexual abuse (CSA) histories. CSA survivors reported more unprotected intercourse and sexually transmitted infections (STIs). The association of STI locus of control with frequency of unprotected sex was fully mediated by being intoxicated during sex and engaging in sex work, whereas the association between relational control and unprotected sex was not mediated by contextual factors for the CSA group. The mechanisms of risk are different for those with divergent CSA histories and thus interventions should be developed to educate women with a history of CSA about ways to avoid revictimization, particularly within a context of poverty, prostitution, and drug use.

Keywords

Childhood Sexual Abuse; Drug Use; Sexual Risk; HIV Risk; STI Risk

Rates of childhood sexual abuse (CSA) among U.S. adult women have been estimated at anywhere between 14% (Bensley, Van Eenwyk, & Simmons, 2000) and 33% (Elze, Auslander, McMillen, Edmond, & Thompson, 2001). Women who are deemed to be at highest risk for sexually transmitted infections (STIs) including HIV (e.g., methadone treatment drop-outs, injection drug users, homeless women, female prisoners) have been reported to have even

higher rates of CSA experiences than the general population (Kang, Deren, & Goldstein, 2002; Mullings, Marquart, & Brewer, 2000; Noell, Rohde, Seeley, & Ochs, 2001; Plotzker, Metzger, & Holmes, 2007; Sikkema, Hansen, Meade, Kochman, & Fox, 2009). Alarming, rates of CSA among women with HIV are estimated to range from 32% to 59% (Bedimo, Kissinger, & Bessinger, 1997; Gielen, McDonnell, Wu, O'Campo, & Faden, 2001; Simoni & Cooperman, 2000). Having experienced CSA has been associated with later risk behaviors, including having several sexual partners (Batten, Follette, & Aban, 2001; Hillis, Anda, Felitti, & Marchbanks, 2001; Johnsen & Harlow, 1996; Krahé, Sheinberger-Olwig, Waizenhofer, & Kolpin, 1999; Meston, Heiman, & Trapnell, 1999), having anal sex (Wingood & DiClemente, 1997), and failing to use condoms (Batten et al., 2001; Johnsen & Harlow, 1996; Meston et al., 1999; Noell et al., 2001). Additionally, women who have been sexually abused in childhood are at risk for subsequent sexual victimization as adolescents or adults (Arias, 2004; Johnsen & Harlow, 1996; Krahé et al., 1999; Lodico, Gruber, & DiClemente, 1996; Noll et al., 2003; Randolph & Mosack, 2006).

Despite evidence indicating an association between CSA and adult sexual risk, causal pathways and mediators between CSA and STI risk have been understudied (Noll, 2005). Some research suggests that the long-term sequelae of CSA, including drug use and problems with sexual adjustment, likely mediate the relationship between CSA and HIV risk behavior-taking (Arias, 2004; Dickson-Gomez, Bodnar, Guevarra, Rodriguez, & Gaborit, 2006; Miller, 1999). Similarly, Quina and colleagues indicated that psychological factors, such as low self-esteem, decreased psychosocial well-being, the use of avoidant or emotion-focused coping strategies, low sexual health self-efficacy, negative sexual self-images, an adherence to traditional gender roles, and anticipated negative responses from sexual partners, are related to both CSA and adult sexual risk (Quina, Morokoff, Harlow, & Zurbriggen, 2004). These factors likely reflect a lack of power in sexual relationships. Lack of power, in turn, is associated with inconsistent or nonexistent condom use (Gómez & Marín, 1996; Pulerwitz, Gortmaker, & DeJong, 2000).

CSA results in a sense of powerlessness regarding one's ability to make sexual decisions (Finkelhor & Brown, 1985; Miller, 1999). Locus of control, or a sense of personal agency, is a related construct that has also been associated with CSA experiences. That is, low self-esteem and feelings of powerlessness that result from CSA influence one's inability to negotiate safer sexual behavior with partners in adulthood (Thompson, Sharpe Potter, Sanderson, & Maibach, 1997). In a sexual context, an internal locus of control would be manifested by a sense of personal agency in sexual decision-making (such as deciding to use condoms during sex) while an external locus of control might be manifested by an attitude that one's partner controls one's sexual health and behaviors or that one is destined to become HIV positive. An external locus of control is particularly pervasive among those who are marginalized or experience less privilege due to class, education, race, or inadequate social support (Amaro & Raj, 2000). For example, the perception that locus of control for sexual decision-making resided with their partners was associated with increased sexual risk-taking among low-income Puerto Rican women (Loue, Cooper, Traore, & Fiedler, 2004). Similarly, among commercial sex workers who inject drugs, locus of control was a significant predictor of participants' intentions to use condoms (Johnson, von Haefen, Fishbein, Kasprzyk, & Montano, 2001). Certain sociocultural factors, then, may reinforce the effects of CSA in poor, high-risk women by reducing internal locus of control and limiting their ability to exert control over their own lives.

Experiencing CSA makes women vulnerable to both drug addiction and subsequent dissociated sexuality in which "women may not be aware of their right and capability to claim when, how, and with whom they are sexual" (Zierler & Krieger, 1997, p. 418). Certainly, the connection between CSA and later substance abuse (Bailey & McCloskey, 2005; Dufour & Nadeau, 2001; Ompad et al., 2005) as well as substance abuse and adult risky sexual behaviors (Cohen, et al., 2000) has been well-established. Likewise, it is also quite common for women who

engage in sex work to do so in order to support a drug addiction (Dickson-Gomez, Weeks, Martinez, & Radda, 2004; Romero-Daza, Weeks, & Singer, 2003; Weeks, Grier, Romero-Daza, Puglisi-Vasquez, & Singer, 1998). These findings suggest that certain contextual factors, including sex work and drug use, likely mediate the relationship between CSA and adult HIV risk in a way that we would not necessarily expect them to among those without such a history. For example, Miller (1999) hypothesized that substance abuse may be a way of dealing with the trauma of sexual abuse and therefore is directly related to a sense of powerlessness. In contrast, for women without CSA, we would expect that behaviors such as having sex while intoxicated, engaging in commercial sex work, and having an external locus of control to be directly related to risky sexual behavior rather than being related to one another as we would for those with such a history.

Despite theoretical advances in understanding the consequences of CSA, more attention must be given to contextual factors that might influence adult sexual risk-taking among women who have experienced CSA compared to women who have not. Such a comparison among women at high risk for HIV/STI infection may help illuminate the processes by which CSA leads to higher risk. The purpose of this study was to: (a) determine whether high risk women with a history of CSA exhibit behaviors that put them at an even higher risk of HIV infection than those without such a history; (b) examine whether these groups of women differ with regard to their experiences of relationship and sexual control as well as high risk context variables; and (c) assess whether high risk context variables, such as sex work and sex while using drugs, have a stronger mediational role in the association between relational power with sexual risk behavior for women who have experienced CSA than for those who have not. Our hypotheses are as follows:

1. Women with a history of CSA will report engaging in riskier sexual behaviors, including having more unprotected sex, engaging in sex work, and being intoxicated during sex, than those without a history of CSA. We expect that they will also have higher rates of STIs in general and HIV in particular.
2. Women with a history of CSA will report having less relational power (i.e., less relationship control and a stronger external locus of control for STI acquisition).
3. The association between unprotected sex and relational power (i.e., relationship control and locus of control for STI acquisition) will be mediated by contextual factors, such as sex work and drug use during sex, for women with a history of CSA but not mediated for those without a history of CSA.

This study contributes to the literature by examining the role of contextual variables in a sample of poor, urban, and predominantly ethnic minority women in predicting HIV risk behavior. It will also provide a better understanding of how these contextual variables influence risk for those with and without a CSA history. Understanding differences between women already at high risk will help to inform the delivery of a more tailored and potentially more effective prevention intervention.

Method

Participants and Procedure

Participants for this study participated in a larger intervention project (i.e., Project Protect), which was approved by a community-based research organization's IRB. Project Protect was designed to assess acceptability and simulated or actual use of two female-initiated HIV prevention methods: vaginal microbicides (study 1) and female condoms (study 2). The project's target population included women who were at high risk for HIV infection due to intravenous drug use, cocaine use, or commercial sex work. Potential participants were

predominantly identified and recruited using street outreach near public housing and known drug and sex exchange sites. Street outreach methods are particularly appropriate to reach hidden populations (Singer & Weeks, 1992; Watters & Biernacki, 1989). Recruitment for the microbicides acceptability study took place between 2000 and 2003, while recruitment for the female condom acceptability study took place between 2004 and 2005. To be eligible to participate in either of these studies, women must have been 18 years of age or older, sexually active within the prior 30 days, and, for the purposes of the intervention, not have had a STI, been pregnant, or have intentions to become pregnant at the time of recruitment. Upon being enrolled into one of the two studies, baseline measures were completed at a local community-based research organization. The measures were completed using computer-assisted personal interviewing (CAPI) technology and were facilitated by street outreach workers. Participation lasted approximately 1-2 hours and participants were compensated \$25 for their time for each substudy.

Baseline data from the microbicides acceptability study ($N = 234$) and the female condom acceptability study ($N = 154$) were used for these analyses. Data were pooled to ensure adequate power to conduct path analysis models comparing those with and without a history of CSA. Pooling of the data was possible because both surveys included identical questions pertaining to sociodemographics, CSA, sexual risk-taking behaviors, and relationship and health locus of control. In the event that particular women participated in both studies, only those data from the microbicides acceptability study were used.

Measures

Sociodemographic variables—Background variables, including age, ethnicity, educational background, relationship status, homelessness, employment, and income were collected. Additionally, we asked about drug use behaviors.

Childhood sexual abuse—CSA was defined as an affirmative response to the following question, “Did anyone, including a family member, acquaintance, or stranger, ever sexually abuse or rape you when you were younger than the age of 16?”

Sexual history—We collected data related to lifetime STI and HIV history, number of vaginal and anal intercourse acts, number of vaginal and anal intercourse acts in which a condom was used, engaging in sex work, and having paying partners. Non-HIV STIs were measured by summing the total number of lifetime diagnoses and HIV was measured by a single dichotomous item. For the univariate and multivariate analyses, we defined sexual risk taking in three ways: (a) the number of unprotected intercourse (i.e., vaginal and anal intercourse) acts, which was derived by subtracting the total number of protected intercourse acts from the total number of intercourse acts; (b) engaging in sex work (i.e., having paying partners), which was measured by a single dichotomous item; and (c) engaging in sex while intoxicated (i.e., being under the influence of drugs or alcohol), which was also measured by a single dichotomous item. All three sexual risk variables referred to behaviors that occurred within the past 30 days. Having more unprotected intercourse acts, engaging in sex work, and having sex while intoxicated were considered to be higher risk behaviors.

Relationship control—We used the 15-item Relationship Control subscale of the Sexual Relationship Power Scale (Pulerwitz et al., 2000) in the baseline survey. Participants responded on a Likert scale from 0 (*Strongly Agree*) to 3 (*Strongly Disagree*). A sample item from this subscale is “My partner has more say than I do about important decisions that affect us.” Some values were reverse coded, such that higher scores indicate greater relational power. For the current study, $\alpha = .89$.

Locus of Control for STI Acquisition—This measure, which was adapted from the original Multi-dimensional Health Locus of Control (MHLC) scales (Wallston, Wallston, & DeVellis, 1978) and the Locus of Control for General Health and STD Acquisition (Rosenthal et al., 1999), is an 11-item measure designed to examine internal and external locus of control (including locus of control attributed to others or chance) with regard to STI acquisition. A sample item is, “My partner controls my ability to protect myself against a sexually transmitted disease.” The measure used Likert-type scoring ranging from 0 (*Strongly Agree*) to 3 (*Strongly Disagree*). The items were analyzed using Principle Components Analysis (PCA) with Varimax Rotation. The PCA was constrained to have two components to facilitate interpretability. The first component, which had an eigenvalue that accounted for 26% of the variance in the scale and represented an external locus of control, was used in this study because of its conceptual validity. Factor membership was determined by examining the absolute factor loadings as well as the split between factors. Five items, whose factor loadings ranged from .52 - .75 were included in the external locus of control variable. For the current study, $\alpha = .69$. Lower scores represent a higher external locus of control.

Data Analysis

Descriptive statistics were computed for the relevant variables. *T*-tests and chi-square analyses were conducted to examine the equivalence of samples prior to pooling data from studies 1 and 2. *T*-tests and chi-square analyses were then conducted with the full sample to determine whether women with a history of CSA differed from those without one with regard to HIV status, STI history, sexual and drug risk-taking behaviors, and relationship variables. The total number of unprotected sexual encounters was transformed ($\log_{10}+1$) for the *t*-test analysis to correct for skewness of the data.

Path analysis was used to develop and test models predicting number of unprotected sex acts separately for women who had a history of CSA and those who had no history of abuse. Path analysis is a technique that allows the user to conduct simultaneous multiple regressions. Path coefficients correspond to partial regression beta weights and are interpreted in the same way. Both direct and indirect paths are tested using the *t* statistic as in regression analysis. The amount of variance in the number of unprotected sex acts accounted for by each of the other variables (R^2) can be calculated for each model.

We tested models using path analysis with generalized least squares estimation in LISREL 8.71 (Jöreskog & Sörbom, 2004). After eliminating 21 cases with missing data, 156 cases were included in the path analyses for women with CSA histories and 211 for women without CSA histories. We first tested models with direct paths from relationship control and locus of control for STI acquisition to engaging in sex work, being intoxicated during sex, and number of unprotected sex acts and direct paths from engaging in sex work and being intoxicated during sex to number of unprotected sex acts (see Figure 1). Nonsignificant paths were then removed to test mediated and partially-mediated models. Model fit was assessed using recommended fit indices. The chi-square statistic measures absolute fit of the model to the covariance matrix of the data. The comparative fit index (CFI) and nonnormed fit index (NNFI) test the overall proportionate improvement in fit by comparing the model with an independence model, in which variables are unrelated, while the root-mean-square error of approximation (RMSEA) and goodness of fit index (GFI) measure closeness of fit to the covariance matrix of the data (Kelloway, 1998). By convention, adequate model fit is indicated by a non-significant χ^2 statistic, CFI, NNFI, and GFI values greater than .90, and a RMSEA of .10 or less, whereas good fit is indicated by a non-significant χ^2 statistic, CFI, NNFI, and GFI values greater than .95, and a RMSEA of .05 or less (Kelloway, 1998).

Results

Chi-square tests and *t*-tests indicated that the women contributing data from study 1 did not differ from the women contributing data from study 2 with regard to age; however, African-American women were more likely to have contributed data from the microbicides acceptability study than from the female condom study. There was a high rate of sexual abuse in the final sample, with 40.5% ($N = 157$) of women reported experiencing sexual abuse before the age of 16. Additional sociodemographic and risk data are provided in Table 1. Results related to each of the study's hypotheses are presented below.

Hypothesis 1

Women with a history of CSA engaged in more unprotected intercourse than those without a CSA history, $t(302) = -1.98, p = .01$. The groups did not differ with regard to involvement in sex work in the past 30 days, $\chi^2(1, N = 368) = .74$, or having had sex while under the influence of alcohol or drugs during the past 30 days, $\chi^2(1, N = 367) = .13$. Those with a history of CSA reported more STIs than those without one, $t(280) = -3.89, p < .001$. However, the groups did not differ with regard to HIV status, $\chi^2(1, N = 348) = .38$ (see Table 2 for descriptive data).

Hypothesis 2

Contrary to expectations, the groups did not differ with regard to relationship control, $t(312) = -1.16, p = .25$, or locus of control for STI acquisition, $t(366) = -.67, p = .51$ (see Table 2 for descriptive data). Based on these null findings, we examined whether CSA status might be related to contextual indicators of powerlessness, such as poverty. Specifically, homelessness and educational level demonstrated adequate variability to test for differences. Although sexual abuse status was not related to educational level, $\chi^2(1, N = 368) = .20, p = .65$, it was associated with being homeless, $\chi^2(1, N = 368) = 6.63, p = .01$. There were more homeless women who had experienced CSA than one would expect by chance.

Hypothesis 3

Hypothesis 3 was tested by separate path analyses for each group, which are discussed below. The correlation matrix for variables included in the path analyses are presented in Table 3.

Women with a CSA history—From the initial model with both direct and indirect (mediated) paths to number of unprotected sex acts, we found that for women who had a history of CSA, less relationship control and an external locus of control for STI acquisition were associated with engaging in sex work. Relationship control and being intoxicated during sex predicted the number of unprotected sex acts. Also, engaging in sex work was related to being intoxicated during sex.

The association of locus of control for STI acquisition with frequency of unprotected sex was fully mediated by the two intervening variables, as it had a significant indirect effect ($\beta = -.05, p < .05$) but was not directly related to unprotected sex. Engaging in sex work also had a fully mediated relationship with frequency of unprotected sex through being intoxicated during sex ($\beta = .10, p < .01$). Additionally, relationship control and locus of control for STI acquisition had a significant indirect (fully mediated) relationship with being intoxicated during sex through sex work ($\beta = -.41, p < .01$ for relationship control and $\beta = -.31, p < .01$ for locus of control for STI acquisition). Further, those who had less relationship control and a more external locus of control for STI acquisition were more likely to engage in sex work, and those who engaged in sex work were, in turn, more likely to have been intoxicated during sex. This model demonstrated a good fit to the data, $\chi^2(3, N = 156) = 0.70, p = .87$, CFI = 1.00, NNFI = 1.13, GFI = 1.00, RMSEA = .00. The model explained 18% of the variance in the frequency

of unprotected sex, 36% of the variance in being intoxicated during sex, and 19% of the variance in having paying partners.

A fully mediated model for women who had experienced CSA was also tested by removing the direct paths from relationship control and external locus of control for STI acquisition to frequency of unprotected sex. In this model, all the remaining paths were significant. As in the initial model, being intoxicated during sex was associated with more frequent unprotected sex ($\beta = .36, p < .01$). Less relationship control ($\beta = -.30, p < .01$) and a higher external locus of control for STI acquisition ($\beta = -.25, p < .01$) were associated with engaging in sex work. Further, engaging in sex work was related to being intoxicated during sex ($\beta = .60, p < .01$). Both relationship control ($\beta = -.07, p < .01$) and external locus of control ($\beta = -.05, p < .05$) had significant indirect effects on frequency of unprotected sex. In other words, as in the model that included direct paths, the association of external locus of control and relationship control with frequency of unprotected sex was mediated by being intoxicated during sex and engaging in sex work. However, the fully mediated model was not a good fit to the data. The chi-square was significant, indicating that this model likely differed significantly from the covariance matrix of the data, $\chi^2(5, N = 156) = 15.97, p < .01$, CFI = .82, NNFI = .64, GFI = .97, RMSEA = .12. The initial, partially mediated model provided a significantly better fit to the data, $\chi^2_{\text{diff}}(2, N = 156) = 15.27, p < .001$, and thus was retained as the final model.

Women without a CSA history—For women without a history of CSA, the model with direct paths from relationship control and locus of control to unprotected sex revealed that only lower relationship control ($\beta = -.31, p < .01$) was associated with more frequent unprotected sex. Engaging in sex work was related to being intoxicated during sex ($\beta = .74, p < .01$).

Because relationship control was the only variable directly related to unprotected sex and because this model did not provide a good fit, $\chi^2(3, N = 211) = 11.70, p < .01$ (the fully mediated model was also a very poor fit), an exploratory analysis was undertaken to assess whether adding a direct path from engaging in sex work to frequency of unprotected sex would improve the fit of the model (see Figure 2). This model provided a significantly better fit to the data, $\chi^2_{\text{diff}}(1, N = 211) = 9.58, p < .01$.

Being intoxicated during sex, engaging in sex work, and having less relationship control were significantly associated with greater frequency of unprotected sex through direct paths. Engaging in sex work was also significantly related to being intoxicated during sex. The relationship between engaging in sex work and the frequency of unprotected sex was partially mediated by being intoxicated during sex ($\beta = .21, p < .01$). In contrast to women with histories of CSA, for women who were not abused, relationship control and locus of control for STI acquisition were not associated with sex work. Additionally, supporting Hypothesis 3, engaging in sex work and being intoxicated during sex did not mediate the relationship between relationship control and frequency of unprotected sex or locus of control for STI acquisition and frequency of unprotected sex. The final model demonstrated good fit, $\chi^2(2, N = 211) = 2.12, p = .35$, CFI = 1.00, NNFI = .99, GFI = 1.00, RMSEA = .017, and explained 13% of the variance in the frequency of unprotected sex and 52% of the variance in being intoxicated during sex for women who had not experienced CSA.

Discussion

To date, there has been very little research that explicitly compares factors that influence high risk behavior among women who have and have not experienced CSA (Noll, 2005). This study involved a sample of women already at high risk for HIV infection, either directly (e.g., multiple sexual partners, injection drug use) or indirectly (e.g., injection drug-using partners). Over 40% of the sample reported having experienced sexual abuse during childhood, and participants

reported having multiple additional risk factors including high rates of STIs, unprotected sex, and being intoxicated (i.e., under the influence of alcohol or drugs) during sex. For this study, we wanted to determine whether the subset of women who have experienced CSA engaged in even more risky behaviors than those who did not have such a history (Hypothesis 1). This hypothesis was partially supported. Those with a CSA history reported more STIs and more unprotected sex, but did not report greater frequency of being intoxicated during sex or a higher prevalence of HIV.

Next, we examined whether these two groups experienced different levels of relational power (Hypothesis 2). Contrary to our expectation, women with divergent abuse histories did not differ with regard to either relationship power or locus of control for STI acquisition. Given the preponderance of evidence linking CSA with powerlessness (Finkelhor & Brown, 1985; Miller, 1999; Thompson et al., 1997), these null findings prompted us to consider other sociodemographic indicators of powerlessness, such as poverty. Indeed, post-hoc analyses revealed that there were more women who reported being both homeless and having experienced CSA than one would expect by chance alone. These findings suggest that a more comprehensive conceptualization of powerlessness, one which considers micro- and macro-systemic factors, might be warranted for women who have experienced CSA (Amaro & Raj, 2000).

Our third hypothesis, that contextual factors such as sex work and the use of drugs or alcohol during sex will mediate the relationship between relationship power and sexual locus of control and unprotected sex for women with a history of CSA, but not for women without a history of CSA, was partially supported. Results from the path analyses suggest that locus of control and relationship power play an important role in sexual risk taking for women abused as children. That is, among women with CSA histories, those who had less relationship control had more frequent unprotected sex than similar women who had more relationship control. This finding underscores the difficulty women have with making healthy sexual decisions in the context of a relationship in which they have little power. Additionally, among those with a CSA history, external locus of control (in the relationship and in relation to STI acquisition) was associated with engaging in sex work. In turn, sex work was related to being intoxicated during sex and having more frequent unprotected sex for this group of women. Locus of control was only associated with frequency of unprotected sex through its relationship with engaging in sex work and being intoxicated during sex. In contrast, for women who were not abused during childhood, relationship control and locus of control for STI acquisition were not associated with sex work nor was locus of control associated, directly or indirectly, with frequency of unprotected sex.

Of course, this study relied on self-reports of CSA, using a cross-sectional design. We are limited in our interpretations with regard to causality as a result of these methodological constraints and it is likewise equally plausible to conclude that engaging in risky sexual behavior contributes to one's sense of not having personal control over sexual decision-making. Additionally, other factors not included in the model, such as intimate partner violence, socioeconomic factors (e.g., homelessness, lack of access to condoms or sexual health care, etc.), and attitudes toward safer sex behavior, possibly influence the mediated relationships between relationship control and locus of control with frequency of unprotected intercourse for women with histories of CSA. Some research indicates that the earlier CSA is experienced, the greater the chronicity and severity of abuse, and the more types of abuse that occur, the greater the likelihood of increased risk behavior during adulthood (Bensley et al., 2000; Campbell, Sefl, & Ahrens, 2004; Felitti et al., 1998; Gore-Felton & Koopman, 2002; Merrill, Guimond, Thomsen & Milner, 2003) and the greater likelihood of revictimization (Classen, Palesh, & Aggarwal, 2005; Roodman & Clum, 2001). Our analyses would have been strengthened had we measured these characteristics of CSA more precisely. Future research

should consider whether these contextual or relationship mediators play a role for those with greater or lesser severity of CSA experiences.

A related limitation is that the item we used to differentiate between those with and without a history of CSA asked women whether they had been sexually abused or raped. This definition is open to some interpretation and some participants may have included non-volitional or non-penetrative sexual acts in their interpretation of sexual abuse or rape, whereas others may not have included such acts. Also, the nature of this question requires that participants identified their unwanted childhood sexual experiences as sexual abuse (Kalmuss, 2004), which suggests that the prevalence of CSA may have been even higher than what was reported here. More clearly defined items on a scale that gives differential weight to those incidents of abuse that differ by onset, chronicity, severity, and type would enhance the ability to understand the differential effects of these complex components.

Despite these limitations, the findings underscore the strong association between locus of control and sexual health decision-making among poor, urban women at high risk for STI infection. Our findings suggest that engaging in sex work and being intoxicated during sex mediates the relationship between control and risky sexual behavior for women with CSA histories, and that being intoxicated during sex mediates the relationship between sex work and risky sexual practices for those who have not experienced CSA; both findings have implications for STI prevention. Programs targeted at high risk women should also include an educational component in which topics such as maladaptive coping strategies (e.g., using drugs to dissociate, particularly in the context of sex work) are discussed. This focus would bring awareness to the ways in which contextual factors can impede one's desire or ability to protect oneself from STIs. These interventions should acknowledge the role alcohol and drugs can play in coping with feelings of powerlessness and how substance use and abuse can put women at increased risk, particularly in terms of sexual revictimization for those with CSA histories. Of course, some of these women may be limited in the degree to which they can exercise sexual control and many rely on sex work for subsistence. However, others may not realize the extent to which they assume an external locus of control and may benefit from a discussion of the ways in which engaging in particular behaviors compounds their risk of HIV infection.

Our data indicate that CSA experiences were slightly higher for this high risk sample than for other populations (Bensley et al., 2000; Elze et al., 2001). Inasmuch as the experience of sexual abuse during childhood is such a common reality, particularly among women who are marginalized by poverty and other contextual realities that reify diminished power expectations, interventions aimed at reducing sexual risk might do well to incorporate content related to victimization and its relationship with adult risky sexual behaviors. Further, what we have conceptualized as sexual risk taking might be better viewed as revictimization, particularly in a context of diminished relational locus of control. That is, women with a limited sense of personal control might unwillingly engage in risky sexual behavior, particularly in the context of drugs and prostitution (Whyte, 2006). This is an important question that demands further research attention. Moreover, if early victimization predicts revictimization (e.g., Fleming, Mullen, Sibthorpe, & Bammer, 1999), better surveillance of CSA is necessary in order to target interventions that attenuate adult risk. Interventionists need to find effective ways to empower girls prior to their involvement in adult sexual relationships. Although there is no "magic bullet," having an explicit conversation about the realities of victimization in general and sexual victimization and revictimization in particular as well as helping young women identify their "bottom line" with regard to sexual activity could prove helpful (Sterk, 2002).

This research represents an attempt to clarify the pathways by which adult sexual risk occurs for high risk women with and without a history of CSA. More research is needed to further

examine the differences between these groups, particularly as they might better inform intervention efforts. Examination of other contextual factors, such as experiences of racism and sexism, will also be important for women in high risk urban contexts in which drug use, sex work, and poverty pervade. Moreover, research models that incorporate measures of resilience may also help inform positive, self-esteem-enhancing interventions in order to impact relationship and sexual locus of control among these populations.

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Figure 1.
Final path analysis model for women with childhood sexual abuse histories.

Figure 2.
Final path analysis model for women with no history of childhood sexual abuse.

Table 1
Participant Sociodemographic and Behavioral Risk Data

	<i>N</i>	<i>%</i>
Age (Range: 18-62) (<i>M, SD</i>)	37.3	8.6
Ethnic Background		
--African American	191	49.2
--Latina	124	32.0
--European American	62	16.0
--Other/Multiethnic	11	2.8
Marital/partnership status		
--Single (never married)	211	54.4
--Married or living with a partner	91	23.5
--Separated, divorced, or widowed	83	21.4
Educational attainment		
--< high school education	181	46.6
--High school or equivalent	137	35.3
--> high school education	69	17.8
Homeless	128	33.0
Employment status		
--Unemployed	226	58.2
--Disabled	77	19.8
--Employed full or part time	51	13.1
--Other	34	8.8
Monthly income		
--<\$1000/month	347	89.4
High-risk drug use (past month)		
--Cocaine or crack use	186	47.9
--Injection drug use	58	14.9
Sexual history (past month)		
--Engaged in sex work	62	16.0
--Intoxicated during sex	218	56.2
STI history (lifetime)		
--At least 1 STI (excluding HIV)	277	71.4
--HIV	38	9.8

Table 2
Comparisons between CSA and non-CSA Samples

Corresponding Hypothesis		CSA sample		Non-CSA sample	
H ₁	Number of unprotected sex acts- past 30 days* (<i>M, SD</i>)	10.93	19.38	6.30	11.54
H ₁	Involvement in sex work- past 30 days (<i>N, % of subsample</i>)	28	17.9	26	12.3
H ₁	Sex while intoxicated- past 30 days (<i>N, % of subsample</i>)	89	56.7	116	55.0
H ₁	Lifetime history of STIs* (<i>M, SD</i>)	2.09	1.81	1.42	1.37
H ₁	HIV status (<i>N, % of subsample</i>)	18	12.0	18	9.1
H ₂	Relationship control (<i>M, SD</i>)	1.81	.43	1.86	.38
H ₂	External control for STI acquisition (<i>M, SD</i>)	1.96	.47	1.93	.49

* *p* < .05

Table 3

Correlations between variables included in the path analyses

	1	2	3	4	5
<i>Sexually abused women</i>					
1. Relationship control	--	.31***	-.37***	-.19	-.29***
2. Locus of control for STI acquisition		--	-.33	-.16*	-.23***
3. Sex work			--	.60***	.26***
4. Being intoxicated during sex				--	.33***
5. Unprotected intercourse acts					--
<i>Women not sexually abused</i>					
1. Relationship control	--	.40**	-.14*	-.11	-.29***
2. Locus of control for STI acquisition		--	-.13	-.16*	-.11
3. Sex work			--	.72***	-.02
4. Being intoxicated during sex				--	.12
5. Unprotected intercourse acts					--

*
 $p \leq .05$ **
 $p \leq .01$ ***
 $p \leq .001$