

# The Effects of Childhood Trauma on Sex Trading in Substance Using Women

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**Abstract** This article presents a model developed to understand the relationship between childhood victimization, perpetration of violence, and later cocaine dependence and adult sex trading among drug using women. A cohort of heavy drinking and drug using women ( $N = 594$ ) recruited for two on-going community based HIV prevention studies in St. Louis City was analyzed to evaluate this association using path analysis. The women were stratified into two groups: sex traders and non-sex traders. Sex traders were more likely than non-sex traders to report being forced to kiss or touch someone in a sexual way before age 15 (35% vs. 22%), being kissed or touched in a sexual way by others when they did not want to be (42% vs. 31%), and being forced to have sexual intercourse (30% vs. 21%). Sex traders were more likely than non-sex traders to use a weapon or threaten someone with a weapon (29% vs. 18%) and physically hurt others on purpose before age 15 (9% vs. 5%). Path analysis confirmed that childhood victimization had a significant and direct association with both adult cocaine dependence and sex trading. However, the association between childhood perpetration and adult sex trading was mediated by cocaine dependence. This analysis concludes that childhood victimization was the strongest predictor of cocaine dependence and sex trading in adulthood.

**Keywords** Sex trading · Childhood trauma · Violence · Cocaine dependence

## Introduction

According to the United States Department of Health and Human Services (2005), the rate of child victimization in the United States is 12.4 per 1000 children. Of the 906,000 children victimized, of whom the majority were female (51.7%), 60.9% experienced neglect, 18.9% physical abuse, and 9.9% sexual abuse. Sexual and physical abuse during childhood are complex phenomena causing severe consequences to the victims, including psychological and behavioral problems, which often extend into adulthood, resulting in maladjustment and problems in various spheres (Banyard, Williams, & Siegel, 2001; Beitchman, Zucker, Hood, daCosta, & Akman, 1991; Beitchman et al., 1992; Cicchetti & Toth, 1995; Green, 1993; Liebschutz et al., 2002; McClellan et al., 1996; Molnar, Buka, & Kessler, 2001; Mullen, Martin, Anderson, Romans, & Herbison, 1993, 1994, 1995; Read, Agar, Argyle, & Aderhold, 2003; Spataro, Mullen, Burgess, Wells, & Moss, 2004). Physical and sexual victimization in childhood have also been linked to sexual and drug injecting risk behaviors which are related to consequences, including HIV infection (Miller, 1999).

Ideally, studies that followed victims from childhood to adulthood would provide the field with rich information on the factors associated with the consequences of abuse. However, only one prospective study has examined the relation between childhood abuse and its consequences on later sexual behaviors in adolescence and adulthood. In that study, 602 youths were sampled from a multicenter cohort of 2,787 youth from ten cities in the U.S. (Cunningham, Stiffman,

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Dore, & Earls, 1994). Sexually abused youths were 1.5 times more likely to engage in prostitution as young adults compared to youth without abuse experiences. Those who were raped as youth were 1.5 times more likely to engage in prostitution during later adolescence and 1.7 times more likely during young adulthood than their counterparts.

In the absence of cohort studies, retrospective studies have been useful in linking abuse and other behaviors. Retrospective data from 1,490 non-injecting female sex partners of male injection drug users from Boston, Los Angeles, and San Diego showed that over one third (33.6%) reported being sexually abused in childhood and/or adolescence. Among them, 9.3% reported a history of abuse before age 12, 16.5% reported an abuse history from 12 to 18 years, and 7.4% reported abuse in both childhood and adolescence (Parillo, Freeman, Collier, & Young, 2001). Further analyses showed that women who reported being abused both during childhood and adolescence were 3.4 times more likely to have engaged in later sex trading than their counterparts. Women abused only during childhood were 2.4 times more likely to trade sex as adults and women abused during adolescence were 1.7 times more likely to trade sex in adulthood compared to women without such abuse histories. In another study, nearly half of the women enrolled in a study to investigate the causes of HIV transmission in southeastern New England reported a history of child sexual abuse; those who reported such a history were three times more likely to have traded sex compared to females not reporting the abuse (Zierler et al., 1991).

In addition to an association between childhood victimization and sex trading in adulthood, there is also an association between childhood victimization and substance use, and an association between substance use and sex trading. Links between physical and sexual abuse and substance abuse among women have been quite well recognized (Dunn, Ryan, & Dunn, 1994; Gil-Rivas, Fiorentine, & Anglin, 1996; Jarvis, Copeland, & Walton, 1998; Liebschutz et al., 2002; Miller, Downs, & Testa, 1995). Several studies have documented higher rates of childhood sexual and physical victimization among women with alcohol abuse compared to those without alcohol abuse (Langeland & Hartgers, 1998). In a Vancouver study of injection drug users, 75% of the females reported being forced to have sex, with 20% reporting an age of onset prior to age 12 (British Columbia Centre for Disease Control, 1995). Another study reported a history of childhood sexual abuse among one third of the women in a methadone program (Gilbert, El-Bassel, Schilling, Catan, & Wada, 1996). Simpson and Miller (2002) reported that women with substance use disorders were nearly two times more likely than women without to report childhood sexual abuse. Increased rates of childhood physical abuse compared to the general population were also noted.

While some studies suggest that sexual abuse precedes drug use (Finkelhor, Hotaling, Lewis, & Smith, 1990; Kilpatrick, Edmunds, & Seymour, 1992; The NIMH Multisite HIV Prevention Trial, 2001; Winfield, George, Swartz, & Blazer, 1990), others find that substance abuse, in turn, has been found to increase sexual risk (Miller, 1999; Morrill, Kasten, Urato, & Larson, 2001). Drug dependence has been proposed to influence women to exchange sex for money or drugs (Astemborski, Vlahov, Warren, Solomon, & Nelson, 1994; Edlin et al., 1994; El-Bassel et al., 1997; Holmberg, 1996; Irwin et al., 1995; Morrill et al., 2001; Zweig Greenberg, Singh, Htoo, & Schultz, 1991). Miller (1999), in his model to explain the relationship between early sexual abuse and HIV risk taking, suggested that drug use mediated child sexual abuse and adult HIV risk behaviors, including sex trading, concluding that the pathways between childhood abuse and sex trading are still not clear and have yet to be adequately researched.

Another area of growing concern is the association between physical and sexual abuse and perpetration of violence, though not much research has been conducted in this area. A history of childhood conduct problems, specifically perpetration of violence, was established among those with histories of victimization in childhood (Robin, Chester, Rasmussen, Jaranson, & Goldman, 1997; Spataro et al., 2004).

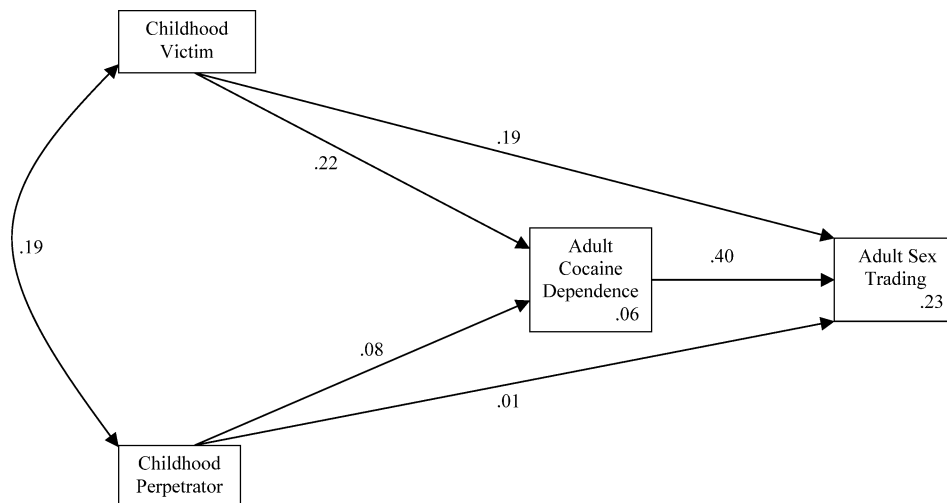
Measuring the direct and indirect effects of childhood victimization and perpetration of violence on adult sex trading is difficult and studies to assess this relationship are sparse. Thus, the current analysis was an effort to fill this gap by evaluating the association among childhood victimization, perpetration of violence, and sex trading in a cohort of heavy drinking and drug using women recruited from the community for an HIV prevention intervention study. For these analyses, we hypothesized that: (1) childhood victimization and perpetration of violence would predict adult cocaine dependence and (2) childhood victimization, perpetration of violence, and adult cocaine dependence would be directly associated with sex trading in adulthood (Fig. 1).

## Method

### Participants

Data for these analyses come from two community-based HIV prevention trials (Sister to Sister—STS, Women Teaching Women—WTW) aimed at reducing high-risk substance use and sexual behaviors through a peer delivered intervention model. Women for both studies were recruited through street outreach performed in predefined target areas of St. Louis, Missouri by a community health outreach worker,

**Fig. 1** Initial path model predicting the effects of childhood victimization and childhood perpetration on adult sex trading



who provided a brief description of the studies and conducted a preliminary screening for eligibility. Alternate recruitment methods were implemented, including referrals from the St. Louis City Female Drug Court, local social service agencies, and from friends of enrolled women. Flyers were posted in places visible to the target population, including laundromats, nightclubs, bars, and beauty salons in an attempt to generate interest. Women were also recruited from ads in local newspapers. Once recruited, women were interviewed at Health-Street, a satellite office of the St. Louis City Health Department. Prior to interviewing, the staff administered the informed consent for participation approved by the Washington University Human Studies Committee. Baseline interviews for STS were conducted from May 2000 through September 2003, and for WTW from August 2000 through June 2003. The effects of the interventions were assessed through 4 and 12 month outcomes, though the data for these analyses came from the baseline interview.

Sister to Sister is a study of heavy drinking women who did not test positive for cocaine, heroin or amphetamines. An Alcohol Use Disorders Identification Test (AUDIT) (Babor & Higgins-Biddle, 2001) score of 4 or greater was necessary for screening into that. Women Teaching Women is a study of women who tested positive for cocaine, heroin or amphetamines. For both studies, women had to be at least 18 years of age, sexually active in the prior 4 months, and report that they had not participated in substance use treatment in at least 30 days. In these analyses, in order to test associations with cocaine dependence, only women who reported lifetime use of cocaine more than 5 times (the threshold in the assessment) were included. Thus, the sample of 849 women was reduced to 594 women. All participants received modest cash remuneration for their time.

## Measures

Cocaine dependence according to DSM-IV (American Psychiatric Association, 1994) was assessed using the Substance Abuse Module (SAM) (Cottler, 2000). Its reliability has been reported elsewhere (Horton, Compton, & Cottler, 2000). For the path analysis, adult cocaine dependence was scored as a continuous variable ranging from no DSM-IV criteria met to the maximum 7 criteria met. However, for the bivariate analyses, DSM-IV criteria for cocaine dependence were treated as a dichotomous variable. Sex trading was assessed with the Washington University Risk Behavior Assessment for Women (WU-RBA-W), modeled after the NIDA Cooperative Agreement RBA (Needle et al., 1995). Sex traders were defined as those who responded positively to any one of the following: having ever traded sex of any kind or “tricked” to get drugs or alcohol, money, food, a place to stay, or clothes. The positive responses on all of these items were summed to arrive at a continuous score for sex trading ranging from 0–5. Women who answered “No” to all were considered non-sex traders.

Childhood victimization was a sum of four dichotomous variables from the Violence Exposure Questionnaire (VEQ). The VEQ was a self-developed instrument that was extensively field tested. Women were asked whether they had been forced to touch, or kiss someone, to have someone kiss or touch them, or have sexual intercourse before age 15. Serious physical abuse as a child was assessed by asking if they had been “beaten so that they needed medical attention” prior to age 15 (shown in Table 2). Although the full diagnosis for DSM-IV Conduct Disorder was elicited using the Diagnostic Interview Schedule (Robins, Helzer, Croughlan, & Ratcliff, 1981), only six relevant criteria were considered for childhood perpetration of violence in these analyses (see Table 3).

A Childhood perpetration score was arrived after summing up these dichotomously scored six items of DSM-IV Conduct Disorder.

Path analysis

In an attempt to assess the impact of childhood victimization or perpetration on reported sex trading, we devised a path model with childhood victimization and perpetration as independent variables and cocaine dependence and sex trading as dependent variables (Fig. 1). The analyses to test this model were conducted using the SAS system’s CALIS procedure. These analyses used the maximum likelihood method of parameter estimation, and all analyses were conducted on the variance-covariance matrix. The output of the CALIS procedure provides indices that indicate whether the model as a whole fits the data, as well as significance tests for specific causal paths (Hatcher, 1994). Beginning with a saturated model, non-significant paths were removed one at a time until a parsimonious model was achieved with all paths statistically significant.

Results

Demographics

As shown in Table 1, 61% of the women met our definition for sex trading. Sex trading women were significantly more likely than non-sex traders to be younger, to have attained one less year of education, to have spent at least one night in jail in the past 12 months, to have met criteria for cocaine

**Table 1** Sociodemographic characteristics of women enrolled in community HIV prevention study by sex trading status (N = 594)

Characteristic	M(SD)		p
	Sex traders (N = 362)	Non-sex traders (N = 232)	
Age (in years)	37.6 (6.3)	38.9 (8.4)	.038
No. of children	3.2 (2.3)	3.0 (2.2)	ns
No. of sex partners in past 4 months	5.1 (11.7)	1.2 (1.1)	.0001
African American (%)	83	83	ns
Never married (%)	60	60	ns
Education attained (years)	10.9	11.4	.005
Spent 1 + night in jail in prior 12 months (%)	88	64	.0001
Initiated cocaine, opiates or PCP before age 15 (among users of those drugs) (%)	4.4	2.1	ns
DSM-IV cocaine dependence (%)	85	56	.0001

**Table 2** Childhood exposure as a victim of violence by sex trading status

	Sex traders (N = 362) (%)	Non-sex traders (N = 232) (%)	$\chi^2$	p
Before age 15:				
Did anyone ever force you to kiss or touch them in a sexual way when you didn’t want to?	35	22	10.95	.001
Did anyone ever kiss or touch you in a sexual way when you didn’t want them to?	42	31	7.66	.005
Did anyone force you to have sexual intercourse?	30	21	6.04	.013
Did a parent or legal guardian ever beat you so that you needed medical attention?	12	9	1.86	ns
Any one of the above	46	36	7.23	.007

dependence, and, as expected, to report more sex partners in the past four months. Sex traders were not significantly differentiated from non-sex traders by race, marital status, number of children, and onset of first drug use.

Childhood victimization

Childhood victimization history by sex trading status is shown in Table 2. Although many women in both groups reported childhood victimization (46% vs. 36%), sex traders were significantly more likely than non-sex traders to report all types of childhood sexual trauma. Specifically, they were significantly more likely than non-sex traders to report being forced to kiss or touch someone (35% vs 22%), to report being kissed or fondled by someone when they did not want to be (42% vs. 31%), and to have had forced sexual intercourse as a child (30% vs. 21%).

Childhood perpetration of violence

As shown in Table 3, sex traders compared to non-sex traders reported significantly higher rates of involvement in at least one instance of perpetration of violence during childhood (42% vs. 31%). Sex traders were significantly more likely than non-sex traders to have used or threatened someone with a weapon (29% vs. 18%) and to have physically hurt someone on purpose before the age of 15 (9% vs. 5%).

**Table 3** Childhood exposure as a perpetrator of violence by sex trading status

	Sex traders ( <i>N</i> = 362) (%)	Non-sex traders ( <i>N</i> = 232) (%)	$\chi^2$	<i>p</i>
Before age 15:				
Would you often pick on smaller children or threaten or tease those who were too scared to fight you?	5	8	1.77	<i>ns</i>
Did you ever get someone to do sexual things with you by force or threatening them?	1	0.9	<1	<i>ns</i>
Were you in, or sometimes the one who initiated, physical fights?	19	15	6.93	<i>ns</i>
Did you ever use a weapon, like a gun, knife, stick, or bottle, or threaten someone with a weapon?	29	18	9.21	.002
Did you ever physically hurt someone on purpose when you weren't fighting?	9	5	3.61	.05
Did you hurt animals on purpose to amuse yourself?	1	2	<1	<i>ns</i>
Any one of the above	42	31	7.22	.007

Other forms of violence perpetration, such as picking on other children, forcing sexual acts on someone, initiating physical fights, and harming animals were low in both groups and did not differ significantly between groups. Further, the

rates of perpetration were slightly lower than the rates of victimization in these women.

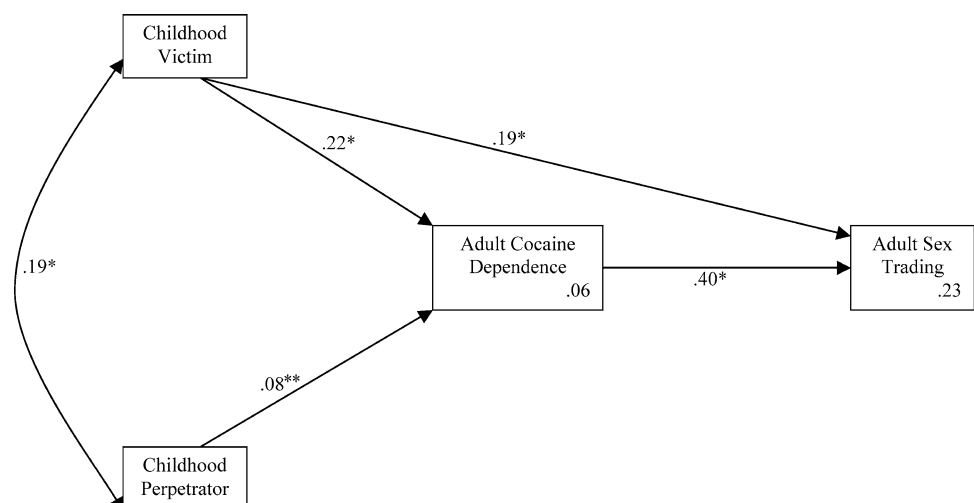
### Path model

The initial model (Fig. 1) was saturated and hence fit the sample covariance matrix perfectly (within rounding errors). Since a saturated model has a zero *df* and cannot be tested or rejected, we considered modifications of the model. The path coefficients were reviewed (Fig. 1) and the smallest T-value of the path between childhood perpetrator and adult sex trading was not significant. Thus, we eliminated this path from the model. The modified path model (Fig. 2) suggested a significant association between victimization and sex trading, which was not mediated by cocaine dependence. Childhood victimization was also directly associated with adult cocaine dependence, and adult cocaine dependence was directly associated with sex trading. The chi square test for the overall model fit was non-significant ( $\chi^2 = 0.0991$ , *df* = 1, *P* = 0.75), indicating a good fit to the data. A root mean square error of approximation (RMSEA) of 0.05 or less indicated a good fit and a value above 0.95 on the NNFI also indicated a good fit. Therefore, the final model fit the data well (RMSEA = 0.000, NNFI = 1.02) and can be viewed in the modified path model in Fig. 2. A review of the correlation matrix (Table 4) confirms that paths defined in the model were statistically significant. Although the correlation between perpetration of violence and adult sex trading was modest (*p* < .05), the association between cocaine dependence and childhood victimization was strong (*p* < .0001).

### Discussion

Interviewers for the Sister to Sister and Women Teaching Women studies noted that their participants often reported simultaneously being abused and having perpetrated

**Fig. 2** Final path model predicting the effects of childhood victimization and childhood perpetration on adult sex trading  $\chi^2 = 0.0991$ , 1 *df*, *p* = 0.7529, RMSEA = 0.000, NNFI = 1.02, NFI = 0.9995, \**p* < .0001, \*\**p* < .05. The values in the boxes are  $R^2$ . Values on single headed arrows are the standardized regression coefficients adjusting for all other variables in the model; value on the double headed arrow is a correlation



**Table 4** Correlation matrix and associated means and SDs of the variables in the path model

	<i>M</i>	<i>SD</i>	Correlation		
			Childhood perpetrator	Adult cocaine dependence	Sex trading
Childhood victim	1.564	1.58	.19*	.24*	.29*
Childhood perpetrator	0.583	0.86		.12**	.10**
Adult cocaine dependence	4.409	2.37			.45*
Sex trading	1.548	1.56			

\* $p < .0001$ , \*\* $p < .05$ .

violence as a child. Their observations were supported by literature showing strong links between childhood victimization and substance abuse among women (Dunn et al., 1994; Finkelhor et al., 1990; Gil-Rivas et al., 1996; Jarvis et al., 1998; Kilpatrick et al., 1992; Liebschutz et al., 2002; Miller et al., 1995; Winfield et al., 1990) and that sexual abuse often preceded drug use. Therefore, we conceived a model to test these associations with one of the most risky behaviors for women—sex trading. Simultaneously, because all of the women in our analyses were drug users, we evaluated the role of severity of adult cocaine use by taking into account the criteria met for dependence and sex trading.

Sex trading women were more likely to have spent more than one night in jail compared to non-sex traders. The high prevalence of arrests among women who traded sex could be specifically attributed to trading sex, drug use, or both. Previous research has documented that victims of childhood abuse are at increased risk for drug or alcohol related arrests in adulthood (Dembo et al., 1991; Ireland & Widom, 1994; Widom, 1991; Widom & Ames, 1994).

With regard to child victimization, sex trading women were more likely than non-sex traders to report being forced to kiss or touch someone in a sexual way, being kissed or touched in a sexual way by others when they did not want to be, and being forced to have sexual intercourse before age 15. This trend was in line with earlier studies that found an association between childhood physical and sexual victimization experiences and later sex trading behaviors among women (McClanahan, McClelland, Abram, & Teplin, 1999; Parillo et al., 2001; Zierler et al., 1991).

With regard to childhood perpetration, we found that sex traders were more likely to have used a weapon or threatened someone with a weapon as well as to have physically hurt someone deliberately before age 15 compared to non-sex traders. Using a weapon, hurting animals, and perpetrating violence are considered stereotypes associated with males. However, in this study, a considerable proportion of women endorsed violence and perpetration, indicating the use of a weapon. Studies that found behaviors such as perpetration of violence on others or carrying a weapon among women with histories of childhood victimization are very few (Bolger & Patterson, 2001; Brewer-Smyth, Burgess, & Shults, 2004;

Frothingham et al., 2000; Wolfe, Scott, Wekerle, & Pittman, 2001).

The results of this study, showing that women with histories of abuse in childhood have cocaine dependence and engage in sex trading behaviors, were in line with earlier findings (Allers & Benjack, 1991; Astemborski et al., 1994; Boyd, 1993; Cunningham et al., 1994; Downs, Miller, Testa, & Panek, 1992; Marshall & Rose, 1990; Parillo et al., 2001; Raj, Silverman, & Amaro, 2000; The NIMH Multisite HIV Prevention Trial Group, 2001; Zierler et al., 1991). Likewise, high rates of childhood abuse have been reported among substance users (Copeland & Hall, 1992), especially cocaine use (Beitchman et al., 1992; Kilpatrick et al., 1992). In addition, earlier studies explained that childhood abuse disrupts a woman's development of sexual identity, sexual behaviors, and coping strategies, which contributes to their involvement in risky behaviors, such as drug use and sex trading (Liebschutz et al., 2002; Miller, 1999; Molnar et al., 2001; Parillo et al., 2001; Romans, Martin, Morris, & Herbison, 1999). These explanations can be extrapolated to the findings of the present study.

Our path model also demonstrated a direct association between cocaine dependence and sex trading, which is consistent with the literature. Frequent cocaine use has been found to be associated with increased risk of trading sex (Astemborski et al., 1994; Edlin et al., 1994; Holmberg, 1996). In addition, drug use is known to place women in circumstances associated with sexual risk taking (El-Bassel et al., 1997). The illegal nature of drug use may contribute to women participating in sexual risk taking and exchanging sex for money and drugs.

This study demonstrated that women with sexual abuse histories and later substance use and sex trading constitute a special population and require unique attention. It is well known that a history of childhood abuse in women affects their participation in substance abuse treatment and complicates the recovery process (Hall, 1996; Harvey, Rawson, & Obert, 1994). The conventional interventions for drug abuse and HIV prevention may not be effective given the kind of issues the women are dealing with. Therefore, it is important that treatment modalities for these women address their abuse issues as well as help them minimize their risk of acquiring HIV or other sexually transmitted infections.

The findings of this study were of significance primarily because they involved out of treatment drug using women who are among the most vulnerable and hard to reach, and commonly excluded from research studies. Besides childhood victimization, the novel aspect of this study was our attempt to understand the association of perpetration of violence with adult drug use and sex trading. Although perpetration of violence was not a significant predictor of later sex trading, the study findings established that childhood perpetration of violence was associated with childhood victimization experiences and later cocaine dependence. In addition, the findings indicated that childhood victimization was a major risk factor not only for drug abuse but also sex trading. These complexities place these women at greater risk for HIV and other sexually transmitted infections. Hence, interventions with this group of women are crucial in order to minimize this risk.

A limitation of our study was that data gathered on childhood victimization was retrospective and there is always a potential threat of recall bias. However, this was not a study of sex traders or childhood victimization, but an HIV prevention study among alcohol and drug using women in the community. Hence, we think that there may be little reporting bias of childhood victimization and sex trading. Sex trading is a complex phenomenon (Vanwesenbeeck, 2001) and hence we cannot say based on our path model that childhood victimization and perpetration of violence caused later cocaine dependence and sex trading in these women. Nevertheless, the results of the path model were consistent with a temporal association between these variables. These findings predicted adult cocaine dependence and sex trading by integrating childhood perpetration along with victimization into a path model. The findings of this study predicted that, in this sample of women, childhood victimization was the strongest predictor of adult cocaine dependence and sex trading.

We propose that insight into these pathways indicates a need to incorporate screening for history of childhood victimization when dealing with sex trading and drug using women. Apposite screening helps in identifying women who are at risk, and plan comprehensive assessments and intervention for them. Interventions are required to prevent re-victimization, to improve adherence to substance abuse treatment, to prevent relapse and foster psychological and physiological health, and improve interpersonal functioning. Helping women resolve issues related to their childhood victimization is essential not only for the prevention and treatment of drug use but also in the prevention of sex trading. In addition, we also assume that the knowledge of these pathways benefit service providers and researchers who work with drug using women in formulating future research and tailoring intervention strategies accordingly.

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