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Vera Lopez

Albert M. Kopak

Alyssa G. Robillard

*University of South Carolina - Columbia*, [arobilla@mailbox.sc.edu](mailto:arobilla@mailbox.sc.edu)

Mary Rogers Gillmore

Rhonda Conerly Holliday

*See next page for additional authors*

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**Author(s)**

Vera Lopez, Albert M. Kopak, Alyssa G. Robillard, Mary Rogers Gillmore, Rhonda Conerly Holliday, and Ronald L. Braithwaite

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## Pathways to Sexual Risk Taking Among Female Adolescent Detainees

**Vera Lopez**

Justice & Social Inquiry, Arizona State University, Tempe, AZ, USA

**Albert Kopak**

Criminology & Criminal Justice, Western Carolina University, Cullowhee, NC, USA

**Alyssa Robillard**

African & African American Studies, Arizona State University, Tempe, AZ, USA

**Mary Rogers Gillmore**

School of Social Work, Arizona State University, Tempe, AZ, USA

**Rhonda C. Holliday**

Community Health and Preventive Medicine, Morehouse School of Medicine, Atlanta, GA, USA

**Ronald L. Braithwaite**

Community Health and Preventive Medicine, Morehouse School of Medicine, Atlanta, GA, USA

### Abstract

Sexual risk taking among female delinquents represents a significant public health problem. Research is needed to understand the pathways leading to sexual risk taking among this population. This study sought to address this issue by identifying and testing two pathways from child maltreatment to non-condom use among 329 White and 484 African American female adolescent detainees: a relational pathway and a substance use coping pathway. The relational pathway indicated that child maltreatment would be related to non-condom use via depressive self-concept and condom use self-efficacy. The substance use coping pathway suggested that depressive self-concept and alcohol-based expectancies for sexual enhancement would mediate the relationship between child maltreatment and non-condom use. As hypothesized, the relational pathway variables were associated with one another in the expected directions; however, evidence of mediation was not found. Support for mediation was found for the substance use coping pathway. Exploratory across group comparison analysis indicated that the relational pathway was significant for White girls whereas the substance use coping pathway was significant for African American girls. Limitations and implications for future research are discussed.

### Keywords

Sexual risk taking; Adolescent females; Incarcerated female adolescents; Female adolescent detainees; Adolescent detainees, incarcerated adolescents; Child maltreatment; Child abuse; Depression; Self-esteem; Condom use self-efficacy; Expectancies; Condom use

## Introduction

Female delinquents represent a group at high risk for engaging in risky sexual behaviors. They tend to have multiple partners, frequent unprotected sexual acts, and high rates of sexually transmitted infections (STIs; Canterbury et al. 1995; McClelland et al. 2002; Morris et al. 1995; Teplin, et al. 2003). The high rates of substance use among this population further increases delinquent girls' risk of contracting STIs (Teplin et al. 2003). Nevertheless, to date, little is known about why female delinquents engage in risky sexual behaviors. Research focused on understanding the etiological pathways leading to sexual risk taking is needed. One area that merits further attention is an understanding of how child maltreatment directly and indirectly influences delinquent girls' later involvement in sexually risky behaviors. Understanding the mechanisms whereby child maltreatment leads to sexual risk taking will facilitate a greater understanding of why female delinquents engage in unprotected sexual activity.

Child maltreatment consistently has been found to be associated with sexual risk taking among adolescents. Although most of this research has specifically examined the link between child sexual abuse and sexual risk taking (e.g., Paolucci et al. 2001), a growing body of research indicates that the combined effects of different types of maltreatment (physical abuse, sexual abuse, and neglect) appear to have a greater and more pervasive effect on sexual risk taking than single types (Hahm et al. 2010; Rodgers et al. 2004). The current study sought to expand upon this research by examining how child maltreatment—as defined by sexual, physical abuse, physical neglect, emotional abuse, and emotional neglect—might be related to non-condom use among female delinquents. Despite delinquent girls' high rates of child maltreatment (Chamberlain and Reid 1994; Chesney-Lind and Shelden 2004; Dembo et al. 1993; Gaarder et al. 2002) and sexual risk taking (Canterbury et al. 1995; McClelland et al. 2002; Morris et al. 1995; Teplin et al. 2003), previous studies have not examined how abuse might lead to unprotected sex among members of this very high-risk group. This study sought to address this void.

## Potential Pathways from Child Maltreatment to Sexual Risk Taking

Researchers have long argued that gendered pathways to adolescent offending exist (Salisbury and Van Voorhis 2009). A major tenet of these pathways is that child abuse and victimization set the stage for girls' future offending behaviors. The current study expands upon this research by incorporating a gendered pathways framework to explain how child maltreatment might lead to sexual risk taking among female delinquents. Two pathways, in particular, have been instrumental in explaining the link between abuse and victimization and offending behaviors among girls and women. The first pathway is based on relational theory, which argues that females' sense of self-worth, empowerment, and identity are rooted in their relationships with others (Gilligan 1982; Miller 1976; Miller et al. 1998). According to this theoretical premise, females' dysfunctional relationships with significant others can lead to feelings of helplessness, depression, and impaired self-worth, which can then result in decreased self-efficacy in relationships, and problematic behavioral outcomes such as drug abuse (Salisbury and Van Voorhis 2009). The second pathway, which we refer to as the substance use coping pathway, emphasizes the intersection of child abuse, depression, and substance use (Chesney-Lind and Shelden 2004; Salisbury and Van Voorhis 2009). This pathway postulates that child maltreatment leads to feelings of depression and impaired feelings of self-worth, which, in turn, can result in increased efforts to self-medicate via substance use (see Daly 1992, 1994; Salisbury et al. 2009).

The current study expands upon the gendered pathways research by examining pathways from child maltreatment to sexual risk taking (non-condom use). Although child maltreatment has been linked to sexual risk taking among girls and women (Luster and

Small 1997; Stock et al. Connell 1997; Wilson and Widom 2008), most of these studies have not examined possible mediators of this relationship and none have specifically examined this relationship among female delinquents. The current study seeks to address this limitation by testing variants of the relational and substance use coping pathways among female adolescent detainees.

### **Relational Pathway to Sexual Risk Taking**

The relational pathways research typically has focused on women's relationships with intimate partners (Salisbury and Van Voorhis 2009). We argue that the parent-child relationship may be a more critical indicator of risk for female teens because it sets the stage for how they will approach, respond to, and negotiate relationships during adolescence (Whitbeck et al. 1993). Child maltreatment represents an important indicator of the quality of this relationship. Parents who abuse their children are often emotionally unresponsive and unavailable. Children whose caregivers are unresponsive, neglectful, or use excessively harsh punishment are at increased risk for developing perceptions of themselves as unworthy and unlovable (Kim and Cicchetti 2006).

Males and females respond to child maltreatment in gendered ways. Although males are more likely to respond to child maltreatment in overt ways such as aggression, violence, and conduct problems, females are more likely to internalize their feelings. Depression, self-blame, suicidal ideation, and low self-worth are all more common among maltreated girls than boys (Leadbeater et al. 1999; Turner et al. 2009). Female delinquents, in particular, are at heightened risk for depression relative to non-offending girls and male delinquents (Bender 2010; Gore-Felton et al. 2001; McCabe et al. 2002). These studies indicate that girls, relative to boys, are more likely to internalize their problems.

Girls, as a result of their greater reliance on relationships, may be at heightened risk for engaging in sexual relationships as a means for coping with feelings of depression and enhancing self-worth. A large body of research suggests that internalizing problems are associated with increased sexual risk taking among girls (Fisher et al. 1991; Gardner et al. 1998; MacDonald and Martineau 2002; Spencer et al. 2002). Failure to use condoms might result from feeling less concerned about one's health due to depressive symptoms and/or as a strategy for enhancing self-esteem through unprotected sexual activity. Depressed affect and decreased self-worth may also contribute to girls' feelings of helplessness with regard to negotiating condom use with their partners. Both depression and low self-esteem have been linked with decreased condom use self-efficacy among girls and women (Puja et al. 2009; Salazar et al. 2005; Sterk et al. 2003). Research also suggests that depressive symptoms and general self-efficacy may mediate the relationship between child maltreatment and sexual risk taking among female adolescents (Newcomb et al. 2003). The current study expands upon previous research by examining the role of depressive self-concept (composite measure of self-esteem and depression) and condom use self-efficacy as potential mediators of the child maltreatment and non-condom use relationship among female adolescent detainees.

### **Substance Use Coping Pathway to Sexual Risk Taking**

Depressive symptoms in conjunction with impaired self-esteem may promote both substance use and sexual risk taking. Adolescents may seek to cope with depression and decreased self-worth by self-medicating with alcohol/drugs, which, in turn, increases their risk of sexual risk taking. Both depressive symptoms and decreased self-esteem have been found to be either indirectly or directly associated with increased substance use and sexual risk taking attitudes and behaviors among adolescents (Bryan et al. 2004; Toulou-Shams et al. 2008). Girls who maintain positive expectations about the benefits of drugs/alcohol to make them

feel better (e.g., alleviate depressive symptoms, enhance self-worth) and give them the confidence to engage in sexual activities with partners might be at increased risk. Past research on adults supports the premise that depression is related to positive outcome expectancies for substance use (Friedman-Wheeler et al. 2007). A growing body of research further suggests that positive substance use expectancies are associated with risky behaviors (i.e., substance use and sexual risk taking) among young adults and adolescents (Cohen and Fromme 2002; D'Amico et al. 2002; Kingree and Thompson 2007; Nickoletti and Taussig 2006). The current study sought to test a variant of the substance use coping pathway by examining depressive self-concept and alcohol related sexual enhancement expectations as potential mediators of the relationship between child maltreatment and non-condom use among female adolescent detainees.

### **Intersection of Gender and Race/Ethnicity**

Research suggests that differences exist across racial/ethnic groups in terms of how they respond to child maltreatment (Lansford et al. 2007). Although these findings provide evidence for racial/ethnic differences in the pathways between child maltreatment and maladaptive emotional and behavioral responses, no studies have explored possible racial/ethnic differences with regard to adolescent girls' pathways to sexual risk-taking. Such research is greatly needed given that ethnic minority girls (e.g., African Americans, Latinas) are at increased risk for HIV and STIs relative to White female adolescents (CDC 2007). In this study, we conjectured that White girls would be more likely than African American girls to demonstrate an adherence to the relational pathway due to noted differences in gender socialization practices across the two groups. African American girls are typically socialized to be strong and independent (Collins 1987; Staples and Johnson 1993), whereas White girls are generally socialized to be more relationship oriented (Gilligan 1982). In contrast, we expected that the substance use pathway would be more salient for African American girls. Research suggests that African American adolescents and adults are more likely to use alcohol as a means for coping with negative affect (e.g., Cooper et al. 1992).

### **Purpose of the Study**

The primary purpose of this study was to test a mediation model of the relationship between child maltreatment and non-condom use among female adolescent detainees. The mediators were depressive self-concept, condom use self-efficacy, and alcohol-based expectancies for sexual enhancement. Using structural equation modeling (SEM), the hypothesized mediation model was tested overall with both White and African American female adolescent detainees controlling for age and detention history. In addition, systematic across group comparison analyses were conducted to determine if differences existed between White and African American girls.

Consistent with the relational pathway, we hypothesized that depressive self-concept and condom use self-efficacy would mediate the relationship between child maltreatment and non-condom use. Specifically, we hypothesized that child maltreatment would be positively associated with depressive self-concept, which, in turn, would be negatively related to condom use self-efficacy, which, in turn, would be negatively associated with non-condom use. We argue that being victimized as a child might lead to feelings of depression and low self-esteem, which would then compromise girls' self-efficacy with regard to condom use negotiation. This lack of self-efficacy would, in turn, increase the likelihood that girls would engage in unprotected sexual activity.

In accordance with the substance use coping pathway, we conjectured that girls with a history of child maltreatment in conjunction with a depressive self-concept would be at increased risk for maintaining positive expectancies about the use of alcohol as a means for

enhancing sexual experiences. These hypothesized relationships are based on our underlying assumption that girls who maintain positive expectancies about alcohol will be more likely to use alcohol as a means for coping with depressive symptoms and/or enhancing self-worth. Given this line of reasoning, we hypothesized that depressive self-concept and alcohol-based expectancies for sexual enhancement would mediate the relationship between child maltreatment and non-condom use. We specifically hypothesized that child maltreatment would be positively associated with depressive self-concept, which, in turn, would be positively associated with alcohol-based expectancies for sexual enhancement, which, in turn, would be positively related to non-condom use.

Finally, we hypothesized that racial/ethnic differences would exist. We hypothesized that the relational pathway would be significant for the White girls whereas the substance use coping pathway would be significant for the African American girls suggesting that pathways to sexual risk taking might be different for these two sub-populations of girls.

## Methods

### Participants

Participants in this secondary data analysis study were part of a larger study of adolescents who were detained in three juvenile detention facilities in a large metropolitan area in a southeastern state in the United States. Female detainees were oversampled ( $n = 1,341$ ) and made up 59 percent of the original sample. Only White and African American girls who had recent vaginal intercourse (in the past 30 days) were included in the study. The final sample consisted of 329 White and 484 African American girls. Their ages ranged from 11 to 18 ( $M = 15.09$ ;  $SD = 1.16$ ). On average, participants had been incarcerated 1.43 ( $SD = .50$ ) times in the past. See Table 1 for descriptive statistics for the study variables for the entire sample and by race/ethnicity.

### Procedure

Within 3 days of entering the juvenile detention facility, a community interviewer approached each youth to determine if she was interested in participating in Project SHARP (Stop HIV and Alcohol-Related Problems), an intervention program designed to prevent HIV and alcohol and other drug use in juvenile detainees. Adolescents who agreed to participate signed an assent form. Parental consent forms were then mailed to parents/guardians to request permission for their child's participation.

Trained community interviewers conducted baseline interviews with all participants within 4 weeks of them entering the juvenile detention facility. The questionnaire contained a variety of questions related to sexual behaviors, alcohol and drug use, child maltreatment, and internalizing/externalizing problems. All interviewers received 8 h of training on interview techniques and protocol. Female interviews were matched with female participants. Data for the current study came from the baseline interview, which occurred before the intervention was implemented.

### Measures

**Child Maltreatment**—The 28-item Childhood Trauma Questionnaire (CTQ; Bernstein et al. 1994) was used as a composite measure of child maltreatment. This measure contains one 3-item Minimization/Denial subscale for detecting false negative trauma reports and five 5-item subscales: emotional abuse (EA), physical abuse (PA), sexual abuse (SA), emotional neglect (EN), and physical neglect (PN). Items began with the stem “When I was growing up...” followed by items such as “...I thought that my parents wished that I had never been born” (EA); “...I was punished with a belt, a board, a cord, or some other hard object” (PA);



“...someone tried to touch me in a sexual way or tried to make me touch them” (SA); “...I felt loved” (EN-R); and “...I had to wear dirty clothes” (PN). Responses were scored on a 5-point scale ranging from 1 = “Never True” to 5 = “Very Often True.” The overall score for the measure was used to assess child maltreatment. This measure has demonstrated adequate to good reliability and validity with multi-ethnic adolescent samples (Berstein et al. 1994; Fink et al. 1995). In the current study, the Cronbach's alpha for the CTQ for the entire sample was .92. Both the White and African American subsamples had a Cronbach's alpha of .92.

**Depressive Self-Concept**—We utilized depression and self-esteem measures to create the Depressive Self-Concept latent variable following the approach that Bailey and McCloskey (2005) used. Depressive symptoms were measured by an adapted version of the Center for Epidemiological Studies-Depression (CES-D) scale (Santor and Coyne, 1997). The adapted version had nine items. Examples include: “I felt depressed” and “I felt that everything I did was an effort.” Responses were scored on a 4-point scale ranging from 1 = “Rarely <1 Day” to 4 = “Most 5–7 Days.” The CES-D has demonstrated good reliability across diverse populations (Orme et al. 1986). In this study Cronbach's alpha for the entire sample was .79, .84 for the White sub-sample, and .76 for the African American subsample.

The second measure used to assess depressive self-concept was an adapted version of the 10-item Rosenberg's Self-Esteem scale (Rosenberg 1965). Six items were used to assess self-esteem in the current study. Sample items included: “I feel that I am a person of worth; at least on an equal basis with others” and “I am able to do things as well as most other people.” Responses were scored on a 5-point scale ranging from: 1 = “Strongly Disagree” to 5 = “Strongly Agree.” The original scale demonstrated good reliability with adolescents (Whitbeck et al. 1991). The Cronbach's alpha for this study's entire sample was .82. Cronbach alphas were .86 and .70 for the White and African American subsamples, respectively. Although Bailey and McCloskey (2005) also included suicidal ideation items in their measure of depressive self-concept, we were unable to do so because such items were not available in the secondary dataset.

**Condom Use Self-Efficacy**—The 15-item Condom Use Self-Efficacy Scale (Brien et al. 1994) was used to measure condom use self-efficacy. Sample items included: “I feel confident (like I could) in my ability to put a condom on myself or my partner” and “I feel confident in my ability to suggest using a condom with a new partner.” Responses were scored on a 4-point scale ranging from 0 = “Strongly Disagree” to 4 = “Strongly Agree.” The scale has demonstrated good reliability with young adults (Brafford and Beck 1991; Brien et al. 1994). Cronbach's alpha for this study's sample was .85. The Cronbach's alphas were .87 and .84 for the White and African American subsamples, respectively.

**Alcohol-Based Expectancies for Sexual Enhancement**—A 13-item scale developed by Dermen and Cooper (1994) was used to assess alcohol-based expectancies for sexual enhancement. The scale contains three subscales: (1) enhancement of sexual experiences; (2) increased sexual risk taking; and (3) disinhibition of sexual behavior. Sample items included “After a few drinks, I feel much closer to a partner” and “After a few drinks of alcohol I have sex with people I wouldn't have sex with if I were sober.” Response options ranged from 0 = “Strongly Disagree” to 6 = “Strongly Agree.” This scale has demonstrated adequate reliability with other adolescent samples (Dermen et al. 1998; Kingree and Thompson 2007). Cronbach's alpha for the entire sample was .92. The Cronbach alphas were .93 and .90 for the White and African American subsamples, respectively.



**Non-Condom Use**—Rate of non-condom use was measured by asking participants how many times they did not use a condom over the past 30 days and how many times they had vaginal intercourse in the past month. Non-condom use was calculated by dividing the number of times participants had not used a condom by the number of times they had vaginal sex in the past month.

**Age and Detention History**—Age was a continuous variable whereas prior detention history was a dichotomous variable. If participants had been detained or incarcerated in the past, they responded with “yes” = 1 whereas no history of detention was coded as “no” = 2.

### Statistical Analyses

Stata 11 was used to calculate descriptive statistics and conduct difference tests between racial groups (StataCorp 2009). These results are presented in Table 1. Missing data for the study sample ranged from less than 1–5.5%. Statistical tests revealed that the cases with missing data on the key independent variables did not vary in their reports of non-condom use compared to those that did not have missing data. Given these results, the low rates of missing data were assumed to be missing at random and the next step of analyses accounted for this accordingly.

Since the conceptual model for this study involved latent variables, analyses were conducted using structural equation modeling in Mplus 5.21 (Muthén and Muthén 1998–2007). Mplus performs analyses using a Full-Information Maximum Likelihood estimator that accounts for missing data without losing participants through listwise deletion. This statistical estimator has been found to be an efficient method of addressing missing data (Enders and Bandalos 2001).

## Results

### Relationships Among Study Variables

Table 2 shows the intercorrelations among the study variables. There were a number of significant correlations among predictor, mediator, and outcome variables. Five variables were associated with the outcome variable of non-condom use: History of detention, self-esteem, alcohol-based expectancies for sexual enhancement, condom use self-efficacy, and emotional abuse. A previous history of detention was associated with a higher rate of non-condom use. Higher levels of self-esteem, alcohol-based expectancies for sexual enhancement, and condom use self-efficacy were associated with lower rates of non-condom use. Emotional abuse and rate of non-condom use were positively related: Higher levels of emotional abuse were associated with higher rates of non-condom use. The associations between the variables used to construct the two latent variables, depressive self-concept (depression + self esteem) and child maltreatment (emotional abuse + physical abuse + sexual abuse + emotional neglect + physical neglect) were all statistically significant. Age and history of detention were negatively correlated, which means that older age was associated with detention history. Both age and history of detention were included as control variables in the structural equation model analyses.

### Structural Model Tests

**Measurement Model**—The measurement model, which tested the adequacy of the latent measures of depressive self-concept and child maltreatment, was evaluated prior to specifying the pathways between the variables in the model. The fit indices indicated that these measures adequately fit the data ( $\chi^2 = 27.62$ ,  $df = 7$ ,  $P < .001$ ; CFI = 0.98; TLI = 0.93; RMSEA = 0.06) and we proceeded with testing the structural model by specifying regression paths between the variables.

**Mediation Model**—Based on our theoretical framework, we began our structural model tests by specifying an indirect effect from child maltreatment to rates of non-condom use through depressive self-concept, alcohol-based expectancies for sexual enhancement, and condom use self-efficacy (see Fig. 1). Model fit indices indicated an adequate fit to the data ( $\chi^2 = 89.95$ ,  $df = 44$ ,  $P < .001$ ; CFI = 0.96; TLI = 0.95; RMSEA = 0.04, 90% C.I. = 0.03–0.05). Standardized coefficients for this model are presented in Fig. 2.

Results from this model test indicated that child maltreatment was positively and significantly related to depressive self-concept. In addition, a stronger depressive self-concept was related to decreased condom use self-efficacy as well as increased alcohol-based expectancies for sexual enhancement. As expected, greater condom use self-efficacy was associated with lower rates of non-condom use whereas greater alcohol-based expectancies for sexual enhancement were related to higher rates of non-condom use. Given the significant effects from child maltreatment to non-condom use through depressive self-concept, condom use self-efficacy, and alcohol-based expectancies for sexual enhancement, we probed further to see if these indirect effects were significant. The indirect effect from child maltreatment to non-condom use through depressive self-concept and alcohol-based expectancies for sexual enhancement was significant ( $\beta = 0.014$ ,  $P < .01$ ), indicating that increased levels of child maltreatment were associated with greater non-condom use. However, the total indirect effect from child maltreatment to non-condom use through depressive self-concept and condom use self-efficacy was not significant, indicating that depressive self-concept and condom-use self-efficacy did not mediate the effect between child maltreatment and non-condom use.

### Across Group Comparisons of the Mediation Model Based on Race/Ethnicity

We began an investigation of whether the model was different for African American girls compared to White girls by testing for measurement equivalence across these racial/ethnic groups. This process involved conducting a series of tests by constraining one-by-one the factor loadings of the depressive self-concept and child maltreatment measures to be equal in both groups and calculating the difference in the chi-square statistic. These tests yielded differences in the chi-square statistic ranging from 0.00 to 2.41, which did not produce significant differences between the groups. Thus, the evidence suggests that the depressive self-concept and child maltreatment measures were equivalent for the White and African American girls in the study sample. The next step of the analysis was to test the hypothesized model in these two groups.

The model fit indices suggest an adequate fit of the data for both the White sample and the African American sample ( $\chi^2 = 167.25$ ,  $df = 98$ ,  $P < .001$ ; CFI = 0.95; TLI = 0.93; RMSEA = 0.04, 90% C.I. = 0.03–0.05). The results from the racial/ethnic group analyses are presented in Fig. 3. The results for the White sample indicate that the relationship between child maltreatment and non-condom use was mediated by depressive self-concept and condom use self-efficacy ( $\beta = 0.01$ ,  $P = .05$ ), but not by alcohol-based expectancies for sexual enhancement. In contrast, depressive self-concept and alcohol-based expectancies for sexual enhancement mediated the relationship between child maltreatment and non-condom use for African American girls ( $\beta = 0.03$ ,  $P < .05$ ), but not White girls.

After determining that the path from childhood maltreatment to non-condom use was mediated by depressive self-concept and alcohol-based expectancies for sexual enhancement experiences in the African American sub-sample and condom self-efficacy for the White subsample, we conducted a series of tests to see if these paths were significantly different between these two groups. These tests were completed by constraining the indirect pathways in each sample to be equivalent to one another. The results of the chi-square difference tests

for nested models demonstrated that these indirect pathways were, in fact, statistically different between groups (see Table 3).

## Discussion

Previous research examining pathways from child maltreatment to sexual risk taking among female delinquents does not exist. This is a significant gap in the literature when one considers the significantly higher rates of both child maltreatment and sexual risk taking among female delinquents relative to non-delinquent female adolescents (Canterbury et al. 1995; Chamberlain and Reid 1994; Chesney-Lind and Shelden, 2004; Dembo et al. 1993; Gaarder and Belknap 2002; McClelland et al. 2002; Morris et al. 1995; Teplin et al. 2003). Thus, the purpose of the current study was to test a mediation model of the relationship between child maltreatment and non-condom use in a sample of female adolescent detainees. We utilized a gendered pathways approach as the conceptual framework for the study. We sought to test a variant of the relational pathway by determining if depressive self-concept and condom use self-efficacy mediated the relationship between child maltreatment and non-condom use among female adolescent detainees. Although the relationships between the hypothesized variables were significant and in the expected directions, we did not find support for mediation as specified by the relational pathway for the full sample. We also tested a variant of the substance use coping pathway for the full sample. As hypothesized, child maltreatment was associated with higher levels of depressive self-concept, which, in turn, was related to alcohol-based expectancies for sexual enhancement, which was associated with higher rates of non-condom use. Mediation was supported for the substance use coping pathway for the full sample. We also conducted cross-group comparisons to see if racial/ethnic differences existed. These analyses indicated that the relational pathway was supported for White girls whereas the substance use coping pathway was supported for African American girls.

In contrast to the majority of existing studies, we combined depression and self-esteem to create a latent variable called “depressive self-concept.” We believed that depressive affect in relation to self-concept would better explain the link between child maltreatment and adverse outcomes among adolescent girls (see Bailey and McCloskey 2005; Harter 1999). Although depressive self-concept was significantly related in the expected directions to child maltreatment, condom use self-efficacy, and alcohol-based expectancies for sexual enhancement, we failed to find support for mediation in the relational pathway because the total indirect effect from child maltreatment to non-condom use through depressive self-concept and condom use self-efficacy was not significant for the full sample. We then re-ran the analyses with depressive affect only to determine if it would better serve as a mediator of the hypothesized variables presented in the relational pathway. The results of these analyses suggested that after self-esteem was removed, depressive affect alone was not significantly related to condom use self-efficacy and we did not find support for mediation in this pathway. These results suggest that depressive self-concept provided more explanatory power than depressive affect because it was significantly related to child maltreatment, condom use self-efficacy, and alcohol-based expectancies for sexual enhancement.

Consistent with the relational pathway, we conjectured that depressive self-concept might contribute to girls' feelings of helplessness and unworthiness, which, in turn, would impact condom use self-efficacy. The emphasis was on understanding how girls' depressive self-concepts might relate to their perceived ability to negotiate condom use in their relationships with sexual partners. However, we recognize that other factors such as gender socialization practices might also influence girls' condom use self-efficacy. Racial/ethnic differences in gender socialization practices may, for example, explain why the relational pathway worked better for White girls than African American girls. Gender socialization practices that

emphasize strength and independence may serve as a protective factor that buffers the impact of depressive self-concept on both condom use self-efficacy and sexual risk taking (unprotected sex) for African American girls. This would explain why the relational pathway was not significant for this group. Additional research is needed to further explore this possibility.

To date, most of the research that emphasizes the “self-medication” hypothesis has examined the link between depressive or negative affect and substance use (Chesney-Lind and Shelden 2004; Salisbury and Van Voorhis 2009). This study included a more sophisticated measure related to alcohol-based expectancies for sexual enhancement. Our results suggest that female adolescent detainees with higher levels of depressive self-concept are more likely to believe that alcohol use will result in positive sexual experiences.

We further hypothesized that the link between depressive self-concept and alcohol-based expectancies for sexual enhancement would be more pronounced for African American girls. The basis for this hypothesis was rooted in past research, which suggests that African Americans are more likely than White adolescents and adults to cope with negative affect by using alcohol (Cooper et al. 2008; Cooper et al. 1992).

Although the substance use coping pathway was significant for African American girls, the direct relationship between depressive self-concept and alcohol-based expectancies for sexual enhancement was stronger for White girls than African American girls. This finding is inconsistent with our a priori expectations about the link between negative affect and alcohol use as a coping mechanism. The incongruence between our results and those of previous studies may be rooted in methodological differences. In contrast to previous studies, we focused exclusively on girls, did not directly measure coping, and utilized a more nuanced measure of alcohol as it relates to sexual enhancement expectations.

We further found that the direct relationship between alcohol-based expectancies for sexual enhancement and non-condom use was not significant for White girls, but was significant for African American girls. These results indicate that positive alcohol-based expectancies for sexual enhancement may be more normative for White girls, but more risky for African Americans girls. Research is needed to replicate our findings and to further investigate why alcohol-based expectancies for sexual enhancement might be more risky for African American girls than White girls.

## Limitations

Several limitations should be considered when evaluating the results of this study. First, our theoretical framework was influenced by gendered pathways approaches to offending (Chesney-Lind and Shelden 2004; Salisbury and Van Voorhis 2009). Although partial support was found for our hypothesized pathways for female adolescent detainees, additional research is needed to determine empirically if these pathways differ by gender. A second limitation of this study concerned its cross-sectional nature, which makes it difficult to ascertain causality. However, it should be emphasized that the CTQ specifies childhood maltreatment experiences, which supports the direction of the specified pathways between child abuse and the other variables in the model. Nevertheless, caution should be exercised when interpreting the results. A third limitation is the non-random nature of the sample for this study. Results may not be generalizable beyond the study sample.

## Significance and Implications

A major strength of our research is that we tested theoretically informed pathways from child maltreatment to non-condom use among a high-risk sample of female delinquents. Very few large scaled studies of female adolescent detainees exist despite their high rates of

victimization and sexual risk taking (see Teplin et al. 2003 for an exception). The studies that do exist are mostly descriptive in nature. This study is unique in that we were able to identify and test two pathways from child maltreatment to non-condom use among female delinquents. Our results highlight the importance of understanding how child victimization might lead to internalizing propensities, which further place young women at risk for engaging in unprotected sexual activity.

Our study also underscores the importance of considering gendered pathways explanations when seeking to understand why delinquent girls engage in sexually risky behaviors. Gendered pathways approaches typically have been applied to the study of substance use and offending behaviors, but not sexual risk taking (Salisbury and Van Voorhis 2009). A major hallmark of both the relational and substance use coping pathways is victimization. A large body of research indicates that delinquent girls have much higher rates of child maltreatment than either non-offending girls or delinquent boys (Chamberlain and Reid 1994; Chesney-Lind and Shelden 2004; Dembo et al. 1993; Gaarder and Belknap 2002). Thus, it is imperative that explanations for sexual risk taking among female delinquents also take into account how early child victimization can set the stage for later risk behaviors.

The current study also has implications in terms of the study of race/ethnicity, gender, and sexual risk taking among high-risk adolescent girls. National data indicates that African American female adolescents are significantly more likely to be diagnosed with HIV/AIDS than their White counterparts (CDC 2007). Additional data suggests that female delinquents are also at elevated risk for STIs (Canterbury et al. 1995; McClelland et al. 2002; Morris et al. 1995; Teplin et al. 2003). Much of the research on adolescent girls and STIs is descriptive in nature and fails to empirically test models that might provide insight into why certain groups of girls are more at risk than others. A major contribution of our study is that we were able to empirically examine whether different pathways to sexual risk taking (relational versus substance use coping) were more salient for White versus African American female delinquents. Studies of this nature are needed to further understand health disparities in HIV/AIDS and other STIs.

Although our study has several important implications for the study of female adolescent sexual risk taking, future research is needed to both replicate and expand upon our findings. Ideally, such efforts should be longitudinal and mixed-methods in nature so that we can develop a more nuanced understanding of the pathways leading to sexual risk taking among female delinquents. Such efforts can potentially inform the development of HIV and STI intervention programs for female adolescent detainees.

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## Biographies

**Vera Lopez** is an Associate Professor in Justice & Social Inquiry at Arizona State University. She received her Ph.D. in Educational Psychology from the University of Texas at Austin. Dr. Lopez's interests include delinquency, substance use, sexual risk taking, and prevention research.

**Albert Kopak** is an Assistant Professor in Criminology & Criminal Justice at Western Carolina University. Dr. Kopak received his Ph.D. in Justice Studies at Arizona State University. His main research interests include the protective role of cultural factors in delinquency and substance use among racial and ethnic minority groups.

**Alyssa Robillard** is an Assistant Professor in African & African American Studies in the School of Social Transformation at Arizona State University. Dr. Robillard received her Ph.D. in Health Education and Health Promotion from the University of Alabama at the Birmingham School of Public Health. Her research focuses on adolescents, HIV prevention, and health issues affecting African American and incarcerated populations.

**Mary Rogers Gillmore** is Professor of Social Work at Arizona State University. Her research focuses on adolescent substance use and risky sexual behaviors, and their prevention.

**Rhonda Conerly Holliday** is a developmental psychologist and currently a Research Associate Professor in the Department of Community Health and Preventive Medicine at the Morehouse School of Medicine. She received her doctorate from the University of Alabama at Birmingham. Dr. Conerly Holliday's main research interests are minority health issues and health disparities, with a particular focus on adolescent and adult incarcerated populations.

**Ronald L. Braithwaite** is currently a Professor in the Departments of Community Health and Preventative Medicine and Family Medicine and Psychiatry at Morehouse School of Medicine. He received his Ph.D. in Educational Psychology from Michigan State University. His research involves HIV intervention studies with juveniles and adults in correctional systems.

## References

- Bailey JA, McCloskey LA. Pathways to adolescent substance use among sexually abused girls. *Journal of Abnormal Child Psychology*. 2005; 33:39–53. [PubMed: 15759590]
- Bender K. Why do some maltreated youth become juvenile offenders? A call for further investigation and adaptation of youth services. *Children and Youth Services Review*. 2010; 32:466–473.
- Berstein DP, Fink L, Handelsman L, Foote J, Lovejoy M, Wenzel K, et al. Initial reliability and validity of a new retrospective measure of child abuse and neglect. *American Journal of Psychiatry*. 1994; 151:1132–1136. [PubMed: 8037246]
- Brafford LJ, Beck KH. Development and validation of condom self- efficacy scale for college students. *Journal of American College Health*. 1991; 39:219–225. [PubMed: 1783705]
- Brien TM, Thombs DL, Mahoney CA, Wallnau L. Dimensions of self- efficacy among three distinct groups of condom users. *Journal of the American College of Health*. 1994; 42:167–174.
- Bryan A, Aiken LS, West SG. HIV/STD risk among incarcerated adolescents: Optimism about the future and self-esteem as predictors of condom use self-efficacy. *Journal of Applied Social Psychology*. 2004; 34:912–936.
- Canterbury RJ, McGarvey EL, Sheldon-Keller AE, Waite D, Reams P, Koopman C. Prevalence of HIV-related risk behaviors and STDs among incarcerated adolescents. *Journal of Adolescent Health*. 1995; 17:173–177. [PubMed: 8519785]
- Centers for Disease Control and Prevention. HIV/AIDS Surveillance in Adolescents and Young Adults (Through 2005). 2007. Retrieved September 14, 2007, from [cdc.gov/hiv/topics/surveillance/resources/slides/adolescents/index.htm](http://cdc.gov/hiv/topics/surveillance/resources/slides/adolescents/index.htm)
- Chamberlain P, Reid JB. Differences in risk factors and adjustment for male and female delinquents in treatment foster care. *Journal of Child and Family Studies*. 1994; 3:23–36.

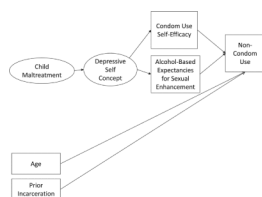


- Chesney-Lind, M.; Shelden, R. Girls, delinquency, and juvenile justice. 3rd ed.. Wadsworth; Belmont, CA: 2004.
- Cohen ES, Fromme K. Differential determinants of young adult substance use and high-risk sexual behavior. *Journal of Applied Social Psychology*. 2002; 32:1124–1150.
- Collins PH. The meaning of motherhood in black culture and black mother/daughter relationships. Sage. 1987; 4:3–10.
- Cooper ML, Russell M, Skinner JB, Windle M. Development and validation of a three dimensional measure of drinking motives. *Psychological Assessment*. 1992; 4:123–132.
- Cooper ML, Krull J, Agocha VB, Flanagan ME, Orcutt HK, Grabe S, et al. Motivational pathways to alcohol use and abuse among black and white adolescents. *Journal of Abnormal Psychology*. 2008; 117:485–501. [PubMed: 18729604]
- D'Amico EJ, Barnett NP, Monti PM, Colby SM, Spirito A, Rohsenow DJ. Does alcohol use mediate the association between alcohol evaluations and alcohol-related problems in adolescents? *Psychology of Addictive Behaviors*. 2002; 16:157–160. [PubMed: 12079255]
- Daly K. Women's pathways to felony court: Feminist theories of lawbreaking and problems of representation. *Southern California Review of Law and Women's Studies*. 1992; 2:11–52.
- Daly, K. Gender, crime, and punishment. Yale University Press; New Haven, CT: 1994.
- Dembo R, Williams L, Schmeidler J. Gender differences in service needs among youths entering a juvenile justice detention center. *Journal of Prison and Jail Health*. 1993; 12:73–101.
- Dermen KH, Cooper ML. Sex-related alcohol expectancies among adolescents: I. scale development. *Psychology of Addictive Behaviors*. 1994; 8:152–160.
- Dermen KH, Cooper ML, Agocha B. Sex-related alcohol expectancies as moderators of the relationship between alcohol use and risky sex in adolescents. *Journal of Studies on Alcohol*. 1998; 59:71–77. [PubMed: 9498318]
- Enders CK, Bandalos DL. The relative performance of full information maximum likelihood estimation for missing data in structural equation models. *Structural Equation Modeling*. 2001; 8:430–457.
- Fink LA, Berstein D, Handelsman L, Foote J, et al. Initial reliability and validity of the childhood trauma interview: A new multidimensional measure of childhood interpersonal trauma. *The American Journal of Psychiatry*. 1995; 152:1329–1335. [PubMed: 7653689]
- Fisher M, Schneider MD, Pegler C, Napolitano MA. Eating attitudes, health-risk behaviors, self-esteem, and anxiety among adolescent females in a suburban high school. *Journal of Adolescent Health*. 1991; 12:377–384. [PubMed: 1751506]
- Friedman-Wheeler DG, Ahrens AH, Haaga DAF, McIntoch EI, Thorndike FP. Depressive symptoms, depression proneness, and outcome expectancies for cigarette smoking. *Cognitive Therapy & Research*. 2007; 31:547–557. [PubMed: 18074003]
- Gaarder EL, Belknap J. Tenuous borders: Girls transferred to adult court. *Criminology*. 2002; 40:481–517.
- Gardner LH, Frank D, Amankwaa LI. A comparison of sexual behavior and self-esteem in young adult females with positive and negative tests for sexual transmitted diseases. *ABNF Journal*. 1998; 9:89–94. [PubMed: 9987212]
- Gilligan, C. In a different voice: Psychological theory and women's development. Harvard University Press; Cambridge, MA: 1982.
- Gore-Felton C, Koopman C, McGarvey EI, Hernandez N, Canterbury RJ. Relationships of sexual, physical, and emotional abuse to emotional and behavioral problems among incarcerated adolescents. *Journal of Child Sexual Abuse*. 2001; 10:73–88. [PubMed: 16221621]
- Hahm HC, Lee Y, Ozonoff A, Van Wert MJ. The impact of multiple types of child maltreatment on subsequent risk behaviors among women during the transition from adolescence to young adulthood. *Journal of Youth and Adolescence*. 2010; 39:528–540. [PubMed: 20020190]
- Harter, S. The construction of the self: A developmental perspective. The Guilford Press; New York: 1999.
- Kim J, Cicchetti D. Longitudinal trajectories of self-system processes and depressive symptoms among maltreated and non-maltreated children. *Child Development*. 2006; 77:624–639. [PubMed: 16686792]

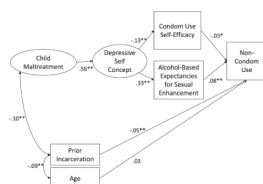


- Kingree JB, Thompson M. Sexually-related expectancies for alcohol use and marijuana use among juvenile detainees. *Addictive Behaviors*. 2007; 32:1936–1942. [PubMed: 17250971]
- Lansford J, Miller-Johnson S, Berlin L, Dodge K, Bates J, Pettit G. Early physical abuse and later violent delinquency: A prospective longitudinal study. *Child Maltreatment*. 2007; 12:233–245. [PubMed: 17631623]
- Leadbeater BJ, Blatt SJ, Hertzog C. A multivariate model of gender differences in adolescents' internalizing and externalizing problems. *Developmental Psychology*. 1999; 35:1268–1282. [PubMed: 10493653]
- Luster T, Small SA. Sexual abuse history and number of sex partners among female adolescents. *Family Planning Perspectives*. 1997; 29:204–211. [PubMed: 9323496]
- MacDonald TK, Martineau AM. Self-esteem, mood, and intentions to use condoms: When does low self-esteem lead to risky health behaviors? *Journal of Experimental Social Psychology*. 2002; 38:299–306.
- McCabe KM, Lansing AE, Garland A, Hough R. Gender differences in psychopathology, functional impairment, and familial risk factors among adjudicated delinquents. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2002; 41:860–867. [PubMed: 12108812]
- McClelland GM, Teplin LA, Abram KM, Jacobs N. HIV and AIDS risk behaviors among female jail detainees: Implications for public health policy. *American Journal of Public Health*. 2002; 92:818–825. [PubMed: 11988453]
- Miller, JB. *Toward a new psychology of women*. Beacon; Boston: 1976.
- Miller, JB.; Stiver, IP. *The healing connection: How women form relationships in therapy and life*. Wellesley Centers for Women; Wellesley, MA: 1998.
- Morris RE, Harrison EA, Knox GW, Tromanhauser E, Marquis DK, Watts LL. Health risk behavioral survey from 39 juvenile correctional facilities in the United States. *Journal of Adolescent Health*. 1995; 17:334–344. [PubMed: 8924439]
- Muthén, LK.; Muthén, BO. *Mplus user's guide*. Fifth Edition. Muthén & Muthén; Los Angeles, CA: 1998–2007.
- Newcomb MD, Locke TF, Goodyear RK. Childhood experiences and psychosocial influences on HIV risk among adolescent Latinas in Southern California. *Cultural Diversity and Ethnic Minority Psychology*. 2003; 9:219–235. [PubMed: 12971090]
- Nickoletti P, Taussig HN. Outcome expectancies and risk behaviors in maltreated adolescents. *Journal of Research on Adolescence*. 2006; 16:217–228.
- Orme JG, Reis J, Herz EJ. Factorial and discriminant validity of the center for epidemiological studies depression (ces-d) scale. *Journal of Clinical Psychology*. 1986; 42:28–33. [PubMed: 3950011]
- Paolucci O, Genuis ML, Violato C. A meta-analysis of the published research on the effects of child sexual abuse. *Journal of Psychology*. 2001; 135:17–36. [PubMed: 11235837]
- Puja S, Paulomi R, DiClemente RJ, Wingood GM, Rose E. Psychological distress as a correlate of a biologically confirmed STI, risky sexual practices, self-efficacy and communication with male sex partners in African American female adolescents. *Psychology, Health and Medicine*. 2009; 14:291–300.
- Rodgers CS, Lang AJ, Laffaye C, Satz LE, Dresselhaus TR, Stein MB. The impact of individual forms of childhood maltreatment on health behavior. *Child Abuse and Neglect*. 2004; 28:575–586. [PubMed: 15159071]
- Rosenberg, M. *Society and the adolescent self-image*. Princeton University Press; Princeton, NJ: 1965.
- Salazar LF, Crosby RA, DiClemente RJ, Wingood GM, Lescano CM, Brown LK, et al. Self-esteem and theoretical mediators of safer sex among African American female adolescents: Implications for sexual risk reduction intervention. *Health Education and Behavior*. 2005; 32:413–427. [PubMed: 15851547]
- Salisbury EJ, Van Voorhis P. Gendered pathways: A quantitative investigation of women probationers' paths to incarceration. *Criminal Justice and Behavior*. 2009; 36:541–566.
- Santor D, Coyne JC. Shortening the CES-D to improve its ability to detect cases of depression. *Psychological Assessment*. 1997; 9:233–243.

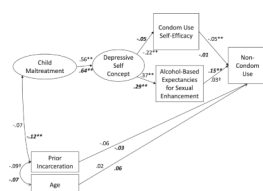
- Spencer JM, Zimet GD, Aalsma MC, Orr DP. Self-esteem as a predictor of initiation of coitus in early adolescents. *Pediatrics*. 2002; 109:581–584. [PubMed: 11927699]
- Staples, R.; Johnson, L. Kinship and community supports. In: Staples, R.; Johnson, L., editors. *Black families at the crossroads: Challenges and prospects*. Jossey-Bass; San Francisco: 1993. p. 194-220.
- StataCorp.. *Stata Statistical Software: Release 11*. StataCorp LP; College Station, TX: 2009.
- Sterk CE, Klein H, Elifson KW. Perceived condom use self-efficacy among at-risk women. *AIDS and Behavior*. 2003; 7:175–182. [PubMed: 14586202]
- Stock JL, Bell MA, Boyer DK, Connell FA. Adolescent pregnancy and sexual risk-taking among sexually abused girls. *Family Planning Perspectives*. 1997; 29:200–203. [PubMed: 9323495]
- Teplin LA, Mericle AA, McClelland GM, Abram KM. HIV and AIDS risk behaviors in juvenile detainees: Implications for public health policy. *American Journal of Public Health*. 2003; 93:906–912. [PubMed: 12773351]
- Toulou-Shams M, Brown LK, Houck C, Lescano C, Project SHIELD Study Group. The association between depressive symptoms, substance use, and HIV risk among youth with an arrest history. *Journal of Studies on Alcohol and Drugs*. 2008; 69:58–64. [PubMed: 18080065]
- Turner HA, Finkelhor D, Ormrod R. The effects of adolescent victimization on self-concept and depressive symptoms. *Child Maltreatment*. 2009; 15:76–90. [PubMed: 19926630]
- Whitbeck LB, Simons R, Conger R, Lorenz F, Huck S, Elder G. Family economic hardship, parental support, and adolescent self-esteem. *Social Psychology Quarterly*. 1991; 54:353–363.
- Whitbeck LB, Conger RD, Kao M-Y. The influence of parental support, depressed affect, peers on the sexual behaviors of adolescent girls. (1993). *Journal of Family Issues*. 1993; 14:261–278.
- Wilson HW, Widom CS. An examination of risky sexual behavior and HIV in victims of child abuse and neglect: A 30 year follow-up. *Health Psychology*. 2008; 27:149–158. [PubMed: 18377133]



**Fig. 1.**  
Conceptual model predicting non-condom use



**Fig. 2.** SEM results from whole sample,  $n = 813$ , standardized regression coefficients, \*  $P < .05$ , \*\*  $P < .01$



**Fig. 3.** SEM results in African American ( $n = 484$ ) and White ( $n = 329$ ) samples, coefficients for the African American sample are bold and italicized, standardized regression coefficients, † $P < .10$ , \* $P < .05$ , \*\* $P < .01$

**Table 1**

Descriptive statistics, entire sample, and by race/ethnicity

	Total mean (SD)	White mean (SD)	African American mean (SD)	t
Age	15.09 (1.16)	15.17 (1.18)	15.03 (1.15)	1.70
Prior detention history	1.43 (0.50)	1.37 (0.48)	1.47 (0.50)	-2.88**
Self-esteem	12.66 (2.88)	13.03 (3.09)	12.43 (2.72)	2.66*
Depressive affect	22.09 (6.61)	22.42 (6.98)	21.87 (6.35)	1.31
Alcohol-based expectancies for sexual enhancement	27.73 (16.15)	33.22 (17.80)	23.89 (13.66)	8.27**
Condom use self- efficacy	34.98 (06.02)	34.97 (5.79)	34.99 (6.19)	-0.18
Non-condom use	0.36 (0.43)	0.44 (0.46)	0.30 (0.40)	2.87**

\*\*  $P < .01$ ,\*  $P < .05$

Table 2

Intercorrelations among study variables

	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	-	<b>-.09</b>	-.07	-.13	-.01	.06	.01	.00	-.02	-.04	-.02	.06
2. Prior detention history		-	.03	.04	<b>-.08</b>	.02	<b>-.09</b>	<b>-.07</b>	<b>-.10</b>	-.07	-.04	<b>-.09</b>
3. Self-esteem			-	<b>-.28</b>	<b>-.20</b>	<b>-.16</b>	<b>-.15</b>	<b>-.12</b>	<b>-.10</b>	<b>-.17</b>	<b>-.20</b>	<b>-.11</b>
4. Depressive affect				-	.15	-.04	.29	.19	.19	.14	.19	.02
5. Alcohol-based expectancies for sexual enhancement					-	-.03	.19	.14	.11	.07	.09	<b>-.18</b>
6. Condom use self-efficacy						-	.01	.00	.05	.01	-.07	<b>-.07</b>
7. Emotional abuse							-	.68	.42	.44	.48	.08
8. Physical abuse								-	.47	.35	.55	.06
9. Sexual abuse									-	.21	.27	.05
10. emotional neglect										-	.55	-.01
11. Physical neglect											-	-.01
12. Non-condom use												-

Coefficients in bolded text were statistically significant at  $P < .05$



**Table 3**Nested model Tests<sup>a</sup> for mediated pathways

Model	Chi-square	df	Scaling correction factor	Chi-square difference
Unconstrained model	167.25	98	1.015	-
Constrained pathway through alcohol-based expectancies for sexual enhancement	300.63	101	1.004	206.90**
Constrained pathway through condom use self-efficacy	282.47	101	1.019	100.22**

\*\*  
 $P < .01$

<sup>a</sup>Satorra-Bentler test