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## Childhood Maltreatment and Unprotected Sex among Female Juvenile Offenders: Evidence of Mediation by Substance Abuse and Psychological Distress

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### ABSTRACT

**Purpose:** Research has shown that childhood maltreatment is associated with sexual risk taking among female juvenile offenders; however, the mechanisms by which maltreatment influences sexual risk remain poorly understood. We assessed whether substance abuse, psychological distress, and dating violence mediate the relationship between childhood maltreatment and unprotected sex.

**Methods:** Sexually active female juvenile offenders (13–17 years of age) completed audio computer-assisted self-interviews ( $n = 232$ ). Logistic regression with a risk decrement approach, the Sobel test, and the Goodman I test were used to evaluate mediation.

**Results:** Maltreatment before sixth grade was common in our sample, including physical abuse (48.7%), sexual abuse (14.7%), supervision neglect (57.3%), and physical neglect (18.5%). Cumulative childhood maltreatment was also high with 42.2% reporting two or more types. In the fully adjusted model, cumulative childhood maltreatment remained associated with unprotected sex (odds ratio, 2.43; 95% confidence interval, 1.27, 4.65). The percent of the total effect in the relationship between childhood maltreatment and unprotected sex that was mediated by substance abuse was 16.4% (Sobel = 2.54 [ $p = .01$ ]; Goodman I = 2.49 [ $p = .01$ ]) and psychological distress accounted for 23.7% (Sobel = 2.55 [ $p = .01$ ]; Goodman I = 2.51 [ $p = .01$ ]). Dating violence was not a significant mediator in our analyses.

**Conclusion:** We found a strong relationship between childhood maltreatment and unprotected sex among female juvenile offenders that was partially mediated through substance abuse and psychological distress. These findings can be used to develop public health strategies to increase condom use among female juvenile offenders. Trauma-informed approaches to sexual health promotion that address substance abuse and psychological distress are warranted.

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Female adolescents involved with the juvenile justice system often engage in risky sexual behaviors such as early age of sexual initiation, having sex with multiple partners, and inconsistent condom use (Bryan, Schmiede, & Magnan, 2012; Elkington et al., 2008; Hendershot, Magnan, & Bryan, 2010; Teplin et al., 2005),

resulting in a disproportionate burden of sexually transmitted infections (Spaulding et al., 2013). Traumatic life histories are also highly prevalent among female juvenile offenders (Dierkhising et al., 2013; Fox, Perez, Cass, Baglivio, & Epps, 2015; King et al., 2011) and studies evaluating the cumulative impact of childhood maltreatment have found a strong and often graded influence on sexual risk behaviors in this population (Lopez et al., 2011; Odgers, Robins, & Russell, 2010; Smith, Leve, & Chamberlain, 2006). Collectively, these studies provide evidence that child maltreatment is an important risk factor for sexual risk taking among female juvenile offenders; however, the mechanisms by which child maltreatment influences sexual risk behaviors such as unprotected sex in adolescent populations remain poorly understood.

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It has been hypothesized that maltreated children may develop coping strategies such as substance use to deal with the trauma they experience (Dube et al., 2006). Studies with female juvenile offenders have demonstrated a strong relationship between child maltreatment and substance use (King et al., 2011; Smith & Saldana, 2013) and the relationship between substance use and unprotected intercourse in this population is also well-established (Castrucci & Martin, 2002; Bryan et al., 2012; Elkington et al., 2008; Hendershot et al., 2010; Kingree, Braithwait, & Woodring, 2000; Schmiede, Levin, & Bryan, 2009; Teplin et al., 2005). However, findings from studies designed to assess the mediating role of substance use in the relationship between childhood maltreatment and unprotected sex are inconsistent. A study with adolescents recruited from outpatient treatment settings found that drug abuse and dependence symptoms mediated the relationship between childhood neglect and unprotected sexual intercourse. However, the path from childhood sexual abuse to unprotected sex via drug symptoms was mediated in the opposite direction and no mediation through alcohol symptoms was detected (Oshri, Tubman, & Burnette, 2012). Furthermore, a study that matched female adolescents recruited from child protective service agencies to hospital-based controls found a significant relationship between child maltreatment, regulatory deficits, and risky sexual behaviors, but an indirect mediation effect was not detected when substance use was added to the model (Noll, Haralson, Butler, & Shenk, 2011).

Another mechanism by which childhood maltreatment may influence unprotected sex is psychological distress. Studies with juvenile offenders have shown that childhood maltreatment is related to internalizing problems such as depression and anxiety (King et al., 2011; Wanklyn, Day, Hart, & Girard, 2012) and female adolescents who experience psychological distress experience greater barriers to condom use, lower perceived control in a sexual relationship, more fear of the adverse consequences of negotiating condom use, and lower condom use self-efficacy (DiClemente et al., 2001; Seth, Raiji, DiClemente, Wingood, & Rose, 2009; Seth et al., 2011). Although a study with female and male youth with an arrest history did not find an association between depressive symptoms and condom use (Tolou-Shams, Brown, Houck, & Lescano, 2008), several studies with community samples of African American female adolescents have shown that psychological distress increases the risk of inconsistent condom use (Brown et al., 2006; DiClemente et al., 2001; Seth et al., 2009; Seth et al., 2011). Despite the extant literature linking psychological distress to childhood trauma as well as unprotected sex, only two studies have assessed Psychological

distress as a potential mediator in the relationship between child maltreatment and sexual risk taking. A study with female juvenile detainees found a significant path between childhood trauma, depressive self-concept (a combination of depression and self-esteem measures), alcohol-related sexual enhancement expectations, and unprotected sex (Lopez et al., 2011). Another study with low-income urban girls explored internalizing symptomatology (depression, anxiety, and somatic complaints) and external symptomatology as mediators in the relationship between childhood violence exposure and unprotected sex and only found evidence of mediation through external symptoms (Wilson et al., 2015).

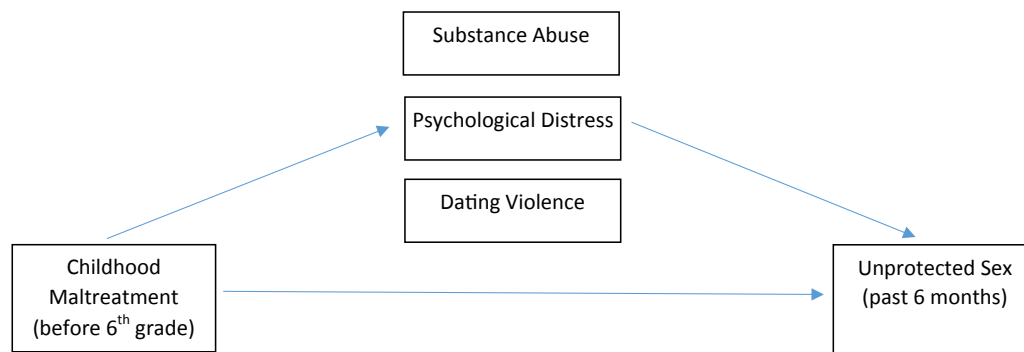
Another potential mediator in the relationship between child maltreatment and unprotected sex is dating violence, which is commonly reported by girls involved with the juvenile justice system (Buttar, Clements-Nolle, Haas, & Reese, 2013; Kelly, Cheng, Peralez-Dieckmann, & Martinez, 2009). Research has linked child maltreatment with dating violence during adolescence (Miller et al., 2011). Furthermore, female adolescents exposed to dating violence have lower rates of condom use (Walton et al., 2011; Wingood, DiClemente, McCree, Harrington, & Davies, 2001), possibly owing to fear of the consequences of negotiating condom use (Wingood et al., 2001). We are not aware of research assessing dating violence as a potential mediator in the relationship between child maltreatment and sexual risk taking, but this is a plausible pathway that warrants investigation.

To further elucidate the relationship between childhood maltreatment and adolescent sexual risk taking among female adolescents, we conducted a study with 289 sexually active female juvenile offenders to determine 1) whether there is a direct relationship between cumulative childhood maltreatment and unprotected sex after controlling for sociodemographics, juvenile justice involvement, substance abuse, psychological distress, and dating violence, and 2) whether substance abuse, psychological distress, and dating violence mediate the relationship between childhood maltreatment and unprotected sex (Figure 1).

## Material and Methods

### Participants and Procedures

The methods for this study have been described in detail previously (Buttar et al., 2013). Female adolescents (13–17 years of age) involved with two juvenile justice systems (on formal probation, deferred status probation, or diversion) in Nevada



**Figure 1.** The relationship between childhood maltreatment and unprotected sex. Potential mediation by substance abuse, psychological distress, and dating violence.

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