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Prevalence and Correlates of Sex Exchange Among a Nationally Representative Sample of Adolescents and Young Adults

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Abstract

The present study examines prevalence and correlates of exchanging sex for drugs, money, food shelter, or other favors (sex exchange) among a nationally representative sample of youth and young adults. Adolescents and young adults (n= 11,620, 53% female, 47% male) from the National Longitudinal Study of Adolescent Health were used for the current sample. Participants completed in-home interviews at both waves. Results revealed that sex exchange was reported by 4.9% (n= 569) of the population in Wave 2 or Wave 3, and 4.6% (n = 26) of those who exchanged sex did so at both waves. More males reported exchanging sex than females (n = 332 vs. n = 237). Respondents who reported child sexual abuse were more likely to exchange sex (95% CI 2.51 to 4.28, $p < .05$) than respondents who reported any other form of child abuse. Both males and females who engaged in sex exchange were at greater risk for sexually transmitted infections (STIs), however the odds of ever exchanging sex were highest among males who ever had gonorrhea (OR = 6.2; 95% CI 3.75 to 10.3). Although sex exchange has been studied extensively among homeless and runaway youth, the current study reveals sex exchange also occurs in the general population.

Keywords

Sexual assault; Sexually transmitted infections; Risky sexual behavior; Substance use

The act of exchanging sex for drugs, money, money, food, or shelter (sex exchange) has been researched extensively among the homeless and sheltered youth population (Bailey, Camlin, & Ennett, 1998; Green, Ennett, & Ringwalt, 1999; Halcon & Lifson, 2004; Kral, Molnar, Booth, & Watters, 1997; Miller, Fielden, Tyndall, Zhang, Gibson, & Shannon, 2011). Green and colleagues (1999) reported a total of 37% of street and shelter youth engage in sex exchange. However, prevalence rates of exchanging sex range from 10% to 50% in the

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United States (Green, et al., 1999; Halcon & Lifson, 2004; National Alliance to End Homelessness, 2009; Warf, Clark, Desai, Rabinovitz, Agahi, Clavo, & Hoffmann, 2013), and sex exchange may be more or less common according to geographic context. Although researchers are knowledgeable regarding risk factors and correlates among homeless and sheltered youth, many of these studies are region specific and a more extensive study is needed to identify prevalence and correlates of sex exchange among a nationally representative sample of youth. Adolescents across the United States have reported having sex for drugs or money, or paying someone to have sex with them (Edwards, Iritani, & Hallfors, 2006), thus the current study uses a nationally representative data set to examine correlates of sex exchange and provides a more extensive overview of risk factors and prevalence rates.

Sex exchange is associated with a score of negative outcomes and as such is considered a significant public health concern. Sex exchange has been associated with having more sexual partners, lack of condom use, and having unprotected sex (Halcon & Lifson, 2004; Rudolph, Linton, Dyer, & Latkin, 2013). This risky behavior in turn increases Human Immunodeficiency Virus (HIV) and sexually transmitted infection (STI) risk, a domain in which almost half of new cases diagnosed are among individuals between 15 and 24 (Centers for Disease Control and Prevention [CDC], 2014; Weinstock, Berman, & Cates, 2004). Researchers have consistently shown that exchanging sex is correlated with many other risky sexual behaviors among the homeless population. For example, Bailey and colleagues (1998) found one-third of homeless adolescents exchanging sex failed to use a condom with their romantic partner, and 40% of males who participated in sex exchange did not use a condom during vaginal intercourse. Homeless youth engage in sex exchange not only as a way to survive and meet their basic needs, but also as a means to cope with the stress of being homeless (Santa Maria, Narendorf, Ha, & Bezette-Flors, 2015).

In addition to STI risk, exchanging sex has also been associated with substance use (Heerde & Hemphill, 2015; Kral, et al., 1997), and prior history of drug use is a risk factor for engaging in sex exchange (Haley, Roy, Leclerc, Boudreau, & Boivain, 2004; Kim, Johnson, Goswami, & Puisis, 2011; Weber, Boivin, Blais, Haley, & Roy, 2004). Results from a nationally representative sample found adolescents who exchanged sex were more likely to have used drugs within the past 30 days (Edwards, et al., 2006) and a number of other studies report that injection drug use, specifically heroin, is associated with sex exchange (Bailey, et al., 1998; Haley, et al., 2004; Miller et al., 2011). Furthermore, alcohol use is also a risk factor: heavy alcohol consumption or binge drinkers are more likely to exchange sex (Halcon & Lifson, 2004; Weber, Boivin, Blais, Haley, & Roy, 2002). It is important to note, however, that a review of the literature examining sexual risk and substance use among homeless youth found that while there is an association between substance use and sexual risk behavior, including exchanging sex, the directionality of this relationship remains unknown and understudied (Heerde & Hemphill, 2015).

Victimization, such as experiencing child abuse or other forms of violence, is also associated with sex exchange (Kim et al., 2011; Medrano, Hatch, Zule, & Desmond, 2003; Silbert & Pines, 1981). Most of the research conducted on these associations has been examined retrospectively among adult samples of incarcerated or formerly incarcerated women and

trafficked or street-based adult sex workers. Therefore, it is important to note that the pathways linking child abuse to sex exchange may differ based on age of entry, type of sex exchange, and whether sexual exploitation or sex trafficking occurred, and research examining the association between child abuse and sex exchange among adolescents specifically remains understudied. While there is a dearth of literature among adolescents, researchers have focused on childhood sexual and physical abuse among adult women and found that while both types of abuse are correlated with sex exchange, child sexual abuse is reported more frequently (El-Bassel, Witte, Wada, Gilbert, & Wallace, 2001; Verona, Murphy, & Javdani, 2015). Banducci and colleagues (2014) found that childhood sexual abuse was associated with exchanging sex for drugs among an adult substance-using sample.

Childhood emotional abuse is also associated with sex exchange among adolescents (Stoltz, Shannon, Kerr, Zhang, Montaner, & Wood, 2007), though there is a paucity of research examining this specific pathway. Studies conducted among formerly trafficked women have also found this association (Medrano, et al., 2003), and in a sample of formerly trafficked women, 79% reported experiencing childhood emotional abuse (Roe-Sepowitz, Hickle, & Cimino, 2012). While the association between sex exchange and childhood physical and/or sexual abuse is studied extensively among adults and adolescents (Walsh, Latzman, & Latzman, 2014), more work is needed to further understand the pathway of emotional abuse and sex exchange.

The current study aims to examine prevalence and correlates of exchanging sex for drugs, money, food, shelter, or other favors. Consistent with prior research, we examined factors commonly associated with sex exchange such as substance use, STI risk, and child abuse within the context of a nationally representative data set. Unlike prior studies, the use of the National Longitudinal Study of Adolescent Health (ADD Health) allows us to look at these prevalence rates with a sample that is not limited to homeless or sheltered youth. It is important to note that Edwards and colleagues (2006) also examined the prevalence and correlates of sex exchange using one wave of the ADD Health data. The current study will expand on that earlier work by utilizing another wave of the ADD Health data and additional correlates to provide a more comprehensive review of risk factors associated with and negative outcomes of sex exchange.

Method

The current study uses archival data from the National Longitudinal Study of Adolescent Health (ADD Health). The ADD Health Study is a nationally representative sample of adolescents, in which respondents completed in-home interviews at four separate time points. Wave 1 was completed in 1995, Wave 2 was completed in 1996, Wave 3 was completed between August 2001 and August 2002, and Wave 4 was collected in 2007 and 2008. Recruitment was done throughout the United States using stratified random sampling. All US high schools that included an 11^{th} grade and had at least 30 enrolled students were eligible to participate. Feeder schools were also eligible as long as they had a 7^{th} grade and the students from the middle school would be attending one of the eligible high schools.

Participants

Young adults from the National Longitudinal Study of Adolescent Health (Add Health) were used for the current sample. The sample for this study focuses on respondents who completed both Wave 2 and Wave 3. A total of 14,738 participants completed the Wave 2 in home interviews and 15,197 participants completed the Wave 3 interviews, with a subset of these participants (11,620) completing both waves. Participants in Wave 2 were between the ages of 11 and 23 ($M = 16.18$, $SD = 1.62$). Wave 3 participants were between the ages of 18 and 27 ($M = 21.63$, $SD = 1.63$). The majority of participants were Caucasian (56%), followed by African American (19%), Hispanic (13%), Asian (7%), and American Indian (5%)

Measures

Sex Exchange—Wave 2 and Wave 3 data were used to measure lifetime sex exchange. Single-item question in each wave asked participants whether they had ever exchanged sex for drugs or money. Sex exchange variables were dichotomized to measure how many participants engaged in sex exchange in Wave 2 or Wave 3 and summed together to measure the number of participants who engaged in sex exchange in both waves.

Retrospective Child Abuse—Child abuse was measured retrospectively via self-report in Wave 3. Three survey items were featured measuring if the participant had been a victim of abuse by a parent or caregiver before sixth grade. A sample item is: "*How often had your parents or other adult care-givers not taken care of your basic needs, such as keeping you clean or providing food or clothing?*" Other questions followed the same format, but asked respondents if they had ever been slapped, kicked, or hit, or forced to have sex. Responses for all variables were dichotomized to examine whether child abuse occurred at different rates between those who exchanged sex and those who did not.

Substance Use—Wave 2 and Wave 3 data were used to measure substance use, including alcohol use, cocaine, use and injection drug use, among others. Substances that were measured in both Wave 2 and Wave 3 were summed and dichotomized to measure prevalence at both time points. Wave 3 data was also used to measure substance use within the past 30 days. Some substances were not asked in both Wave 2 and Wave 3.

Sexual Activity—Participants' sexual activity, including intercourse and number of sexual partners was measured in Wave 2 and Wave 3. Some questions were asked in Wave 3 that were not asked in Wave 2, such as the number of sexual partners in the past 12 months.

Sexually Transmitted Infections and HIV/AIDs—Wave 2 and Wave 3 featured questions about participants' STI and HIV/AIDs contraction including chlamydia, gonorrhea, genital warts, and genital herpes. Participants' responses to these questions in Wave 2 and Wave 3 were summed and dichotomized to determine prevalence from both waves.

Demographic variables—Demographic variables including race, gender, and whether participants had ever run away were asked in both waves. Participant education was measured at Wave 3 and served as a proxy for measuring socioeconomic status (SES).

Procedure

In-home interviews were conducted at Wave 2 and Wave 3 in which participants responded to the above questions. The interview also featured many other questions and interview duration was between one to two hours depending on the participant. In order to protect confidentiality, all responses were recorded via laptop computers.

Results

The current study builds on the research by Edwards and colleagues (2006) who used Wave 1 and Wave 2 of the ADD Health data. Our study extends this research by examining additional risk factors (e.g., child abuse) using Wave 2 and Wave 3 of the ADD Health data. Descriptive statistics and bivariate analyses were conducted to determine the associations between sex exchange and individual demographic variables, substance use, sexual behavior and child abuse. Logistic regression analyses were conducted for all dichotomous variables to determine unadjusted odds ratios and the outcome measure of interest for all analyses was whether or not participants exchanged sex. Analyses were conducted separately among males and females to examine whether the pattern of risk factors manifest differently based on gender. Prevalence rates for substance use among those who exchanged sex were similar among males and females; therefore these results are presented together. However it was necessary to present results for sexual behavior and child abuse stratified by gender. See Table 1 for more information. Table 1

Prevalence of sex exchange in Wave 2 or Wave 3 was 4.9% (n = 569). Of those who exchanged sex, 4.6% (n = 26) did so at both waves. A greater number of males (n = 332) reported exchanging sex than females (n = 237), however the odds of exchanging sex were slightly higher for females (*OR* = .618, $p < .001$). African American participants had the highest odds of ever exchanging sex compared to other races (*OR* = 2.72, $p < .001$). Education level was also related to exchanging sex, and males and females who had a high school education or less were 2.73 times more likely to exchange sex compared to participants who had more than a high school education ($p < .001$). See Table 1 for more information on demographics.

Substance use was also more common among participants who exchanged sex compared to those who did not. Lifetime cocaine use was twice as prevalent among the exchange population (21.1% vs. 10.8%;), and those who reported lifetime cocaine use were over two times more likely to report exchanging sex (*OR* = 2.23, 95% CI = 1.79 – 2.74, $p < .05$). Lifetime injection drug use was also higher among those who exchanged sex (6% vs. 1.1%; *OR* = 2.23, 95% CI = 1.79 – 2.74, $p < .05$). Lifetime alcohol use was the only substance in which use was higher among the non-exchanging group (82.3% vs. 77%). However, binge drinking in the past two weeks was slightly higher among the exchange group (33.4% vs. 32%), but results of the logistic regression were not significant. See Table 2 for more information on substance use.

One of the most drastic findings involves participants who have run away from home. Among those who have exchanged sex, 30.4% reported ever running away compared to 12.6% of youth who did not exchange sex. Participants who ran away were also 2.58 times more likely to exchange sex compared to participants who did not (95% CI = 2.12 – 3.16, $p < .001$). Moreover, participants who reported ever being homeless were 2.98 times more likely to exchange sex compared to those who have not been homeless (95% CI = 2.23 – 3.98, $p < .001$).

Reports of experiencing child abuse were higher among youth who exchanged sex compared to youth who did not. Among respondents who exchanged sex, 33.9% reported experiencing physical abuse compared to 27.6% of those who did not exchange sex ($p < .05$). When stratified by gender, males who exchanged sex were more likely to report experiencing child physical abuse compared to females (35.6% vs. 31.9%), though both males and females who experienced child physical abuse were significantly more likely to exchange sex compared to participants who did not report child physical abuse (*OR* = 1.38; 95% CI 1.07 to 1.71 for males vs. *OR* = 1.29; 95% CI .97 to 1.71 for females, $p < .05$). Child sexual abuse was reported by 12.3% of those who exchanged sex, while only 4.1% of those who did not exchange sex reported this type of abuse. Participants who experienced child sexual abuse were 3.23 times more likely to exchange sex compared to those who were not sexually abused (95% *CI* 3.51 to 4.28, $p < .05$). When stratified by gender, a slightly higher proportion of males who exchanged sex reported experiencing child sexual abuse compared to females (13.9% vs. 10.1%). While experiencing child sexual abuse was associated with likelihood of exchanging sex among both genders, males who experienced child sexual abuse were over four times more likely to exchange sex while females who experienced child sexual abuse were only twice as likely to exchange sex (*OR* = 4.63; 95% CI 3.28 to 6.55 for males vs. *OR* = 2.25; 95% CI *1*.45 to 3.49 for females, $p < .05$). Child neglect, or the inability of a parent to meet their child's basic needs such as food, clothing, and shelter, was reported by 21.8% of participants who exchanged sex, while only 10.8% of participants who did not exchange sex reported experiencing neglect. When stratified by gender, the proportion of males who experienced neglect and also exchanged sex was slightly higher than females (24.1% vs. 18.6%), however both males and females who reported neglect were approximately twice as likely to exchange sex compared to those who did not report neglect. Experiencing two ore more types of child abuse occurred slightly more often among participants who exchanged sex (56.8% vs. 51.3%), and those who experienced multiple types of abuse were 1.24 times more likely to exchange sex (95% CI 1.05 to 1.47, $p < .05$). When stratified by gender however, only females who experienced two or more types of child abuse were significantly more likely to exchange sex (*OR* = 1.33; 95% CI *1*.02 to 1.73, $p < .05$). See Table 3 for a more detailed description of child abuse among genders.

Sexual experiences and HIV/STI transmission were examined separately among males and females. Compared to females who exchanged sex, males who exchanged sex had vaginal intercourse at an earlier age (15.1% vs. 15.4%), had a higher mean number of lifetime sexual partners (11.8% vs. 10.1%), and had more sex partners on average in the past 12 months (3.18% vs. 2.24%; $p < .001$). For both males and females, lifetime and past year number of sex partners and age of first vaginal intercourse were higher among participants who exchanged sex.

Incidence of HIV/STI was also higher among those who exchanged sex, although rates were different among males and females. Chlamydia was the most prevalent STI among females who exchanged sex (16.5%), and the odds of exchanging sex were higher among females who reported this STI (*OR* = 3.52; 95% CI 2.45 to 5.05). However, when examining sex exchange by STI, females who reported ever having syphilis were most likely to also report having exchanged sex (*OR* = 3.62; 95% CI 1.25 to 10.4). Among males who exchanged sex, chlamydia was also the most frequently reported STI (10.2%), and the odds of exchanging sex were higher for males with chlamydia compared to males without chlamydia (*OR* = 4.09; 95% CI 2.76 to 6.06). The STI associated with the highest odds of exchanging sex among males was gonorrhea, such that males who reported ever having gonorrhea were 6.2 times more likely to have exchanged sex (95% CI 3.75 to 10.3). The rate of having HIV or AIDS was twice as high among males who exchanged sex compared to females who exchanged sex (4.5% vs. 2.1%). See Tables 4 and 5 for more information on sexual experiences and HIV/STI rates.

Discussion

Among this nationally representative sample, 4.6% of participants reported exchanging sex at Wave 2 and Wave 3. This rate is 1.1% higher than Edwards and colleagues (2006) ADD Health study reporting 3.5% of participants in Wave 1 and Wave 2 exchanged sex. Similar to previous research, males engaged in sex exchange more often than females in this sample (Edwards, et al., 2006) and a larger proportion of those who exchanged sex reported ever running away (30.4% vs. 12.6%) or ever being homeless (10% vs. 3.6%).

Although we were able to replicate some of the measures used in the Edwards and colleagues (2006) study, the design of ADD Health did not allow for exact replication. For example, some of the drug use questions changed from Wave 2 to Wave 3. Methamphetamine use is only measured in Wave 3 and inhalant use is measured alone in Wave 2 but not Wave 3. Sexual activity was also measured differently between waves. In Wave 1 and 2, Edwards and colleagues were able to measure how many participants ever engaged in anal sex as well as whether males ever physically forced someone to have sex or if females were ever physically forced to have sex. Wave 3 did not feature questions on forced sex and anal sex was measured between partners as opposed to lifetime incidence. However, the present study further contributes to the literature by examining correlates of sex exchange that were not measured in Wave 2, such as the number of partners participants engaged in vaginal sex with in the past 12 months, thus providing a more extensive examination of prevalence and correlates of sex exchange among adolescents. Future studies that aim to explore these correlates longitudinally or assess the effect of an intervention on sex exchange may want to be cognizant of having the same measures at each time point in order to measure temporal changes.

We were also able to examine retrospective child abuse, as these questions were featured in Wave 3 but not Wave 2, and found participants who reported child sexual abuse were more likely to exchange sex compared to participants who reported other forms of abuse or no abuse. This finding is consistent with previous research that sexual abuse is often common among women and girls who exchange sex (Banducci et al., 2014; Haley, et al., 2004;

Medrano, et al., 2003; Verona et al., 2015; Weber, et al., 2002). Among those who exchanged sex, prevalence of all types of child abuse was higher for males than females, yet much of the work on child abuse, sex exchange, and sexual exploitation to date focuses on adolescent and adult females (El-Bassel et al., 2001; Miller et al., 2011). Studies that include both genders do not extensively explore gender differences that may arise. The specific pathways underlying the association between child abuse and sex exchange may differ based on gender, and while some work has been conducted among adolescent males (Hailey et al., 2004), more studies inclusive of both genders are needed to determine whether gender mediates this association.

The current work contributes to the existing literature on sex exchange as one of only two studies, to our knowledge, that examined prevalence and correlates of sex exchange among a nationally representative sample. A large body of the literature on sex exchange involves homeless women and youth (Bailey, et al., 1998; Greene, et al., 1999; Halcon & Lifson, 2004; Kral, et al., 1997; Weber, et al., 2002; Weber, et al., 2004), thus it is possible to identify the risk factors and correlates that are not specific to a subset of the general youth population. Inconsistent with previous literature on sex exchange among homeless and runaway youth, only 10% of participants who exchanged sex had ever been homeless. However our finding that those who reported homelessness were three times more likely to have exchanged sex mirrors the current literature, and more work is needed to explore the specific environmental and structural factors that may be driving this association. Given the fact that 90% of participants who reported exchanging sex had never been homeless, more work is needed to determine whether entry into sex exchange and related risky sexual behaviors differ among youth who are not homeless in order to establish more effective intervention and prevention programs. Qualitative studies among both homeless and non-homeless youth who exchange sex may be a useful first step in understanding whether differences exist, and the specific contexts and motivations for exchanging sex.

Another important finding is that more males than females reported exchanging sex, despite the relatively equal division of gender in the sample. Current studies tend to focus on females who exchange sex, however results from this study show males who exchange sex are at the highest risk for developing HIV or AIDS, and exchanging sex increases the likelihood of contracting certain STIs. Future studies should examine the differences in risk factors among males and females in order to develop intervention and prevention programs that incorporate and acknowledge gender differences of STI risk and sexual behavior.

While this descriptive study sheds light on sex exchange among males and females it is not without limitations. Prevalence rates of sex exchange are measured, however participants were not asked who they exchange sex with, if it was with the same partner, or whether a romantic partner forced them to exchange sex with someone else. It is also important to note that participants may not have understood the wording of the question on sex exchange; participants who reported never exchanging sex for drugs, money, food, or shelter may not have realized this was happening if the exchange was with someone they knew, especially someone who was psychologically or economically controlling, therefore resulting in underreporting. Additionally, participants who reported exchanging sex may have included instances that are not inclusive in the definition of sex exchange used by researchers. For

example, there is a chance participants may have viewed going out to dinner with a partner after having sex (when there was no initial mention of sex in exchange for the dinner) as exchanging sex, thus resulting in over reporting. Similar issues may have arisen with the child abuse questions, especially since these questions were asked retrospectively in Wave 3 when participants were between the ages of 18–27. This may have resulted in underreporting due to inability to recall specific instances of abuse, especially if the abuse occurred prior to adolescence. Furthermore, questions about condom use and other forms of protection were only asked about romantic partners. This could be an important oversight as many who exchange sex report being paid more money to have sex without a condom, and also report having inadequate access to other forms of contraception.

These limitations not withstanding, the current study described the factors associated with exchanging sex among a nationally representative sample of adolescents, and thus provides the foundation from which to build a better understanding of the phenomenon among the general adolescent population (e.g., adolescents who are not homeless). Future studies may want to examine how the additive effects of experiencing multiple risk factors (e.g., experiencing child abuse and being homeless, coupled with low socioeconomic status and/or education level) is associated with sex exchange, other risky sexual behavior, and related HIV/STI risk. However, more information is needed to understand contextual, as well as individual risk profiles, and longitudinal research may help tease apart correlated from causal factors. Ultimately, this line of research should work to inform prevention and intervention strategies to reduce the prevalence of adolescents engaging in sex exchange, thereby subsequently reducing related HIV/STI incidence among this population. Health clinics such as Planned Parenthood and other organizations geared toward teenagers may be an effective point of intervention for adolescents already exchanging sex, and providers should be educated about the multiple risk factors for sex exchange among this population in order to provide proper treatment and referral services. Increasing awareness by integrating sex exchange and related HIV/STI risk curriculum into middle schools and high schools may be an important first step to reduce sex exchange among this population.

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References

Bailey S, Camlin C, Ennett S. Substance use and risky sexual behavior among homeless and runaway youth. Journal of Adolescent Health. 1998; 23(6):378–388. http://dx.doi.org/10.1016/S1054-139X(98)00033-0. [PubMed: 9870332]

Banducci AN, Hoffman EM, Lejuez CW, Koenen K. The Impact of Childhood Abuse on Inpatient Substance Users: Specific Links with Risky Sex, Aggression, and Emotion Dysregulation. Child Abuse & Neglect. 2014; 38(5):928–938. http://doi.org.libproxy.sdsu.edu/10.1016/j.chiabu.2013.12.007. [PubMed: 24521524]

Centers for Disease Control and Prevention. Sexual Risk Behavior: HIV, STD, & Teen Pregnancy Prevention. 2014. http://www.cdc.gov/healthyyouth/sexualbehaviors/index.htm

Edwards JM, Iritani BJ, Hallfors DD. Prevalence and correlates of exchanging sex for drugs or money among adolescents in the United States. Sexually transmitted infections. 2006; 82(5):354–358. http://dx.doi.org/10.1136/sti.2006.020693. [PubMed: 16901917]

El-Bassel N, Witte SS, Wada T, Gilbert L, Wallace J. Correlates of partner violence among female street-based sex workers: substance abuse, history of childhood abuse, and HIV risks. AIDS patient care and STDs. 2001; 15(1):41–51. http//dx.doi.org/10.1089/108729101460092. [PubMed: 11177587]

Greene JM, Ennett ST, Ringwalt CL. Prevalence and correlates of survival sex among runaway and homeless youth. American journal of public health. 1999; 89(9):1406–1409. http//dx.doi.org/10.2105/AJPH.89.9.1406. [PubMed: 10474560]

Halcón LL, Lifson AR. Prevalence and predictors of sexual risks among homeless youth. Journal of youth and adolescence. 2004; 33(1):71–80. http//dx.doi.org/10.1023/A:1027338514930.

Haley N, Roy E, Leclerc P, Boudreau JF, Boivin JF. HIV risk profile of male street youth involved in survival sex. Sexually transmitted infections. 2004; 80(6):526–530. http//dx.doi.org/10.1136/sti.2004.010728. [PubMed: 15572629]

Heerde, JA., Hemphill, SA. Sexual Risk Behaviors, Sexual Offenses, and Sexual Victimization Among Homeless Youth A Systematic Review of Associations With Substance Use. Trauma, Violence, & Abuse. 1524838015584371. 2015.

Heerde JA, Scholes-Balog KE, Hemphill SA. Associations between youth homelessness, sexual offenses, sexual victimization, and sexual risk behaviors: a systematic literature review. Archives of sexual behavior. 2015; 44(1):181–212. [PubMed: 25411128]

Kral AH, Molnar BE, Booth RE, Watters JK. Prevalence of sexual risk behaviour and substance use among runaway and homeless adolescents in San Francisco, Denver and New York City. International journal of STD & AIDS. 1997; 8(2):109–117. http//dx.doi.org/10.1258/0956462971919651. [PubMed: 9061410]

Kim S, Johnson TP, Goswami S, Puisis M. Risk factors for homelessness and sex trade among incarcerated women: A Structural equation model. Journal of International Women's Studies. 2011; 12(1):128–148.

Medrano MA, Hatch JP, Zule WA, Desmond DP. Childhood trauma and adult prostitution behavior in a multiethnic heterosexual drug-using population. The American journal of drug and alcohol abuse. 2003; 29(2):463–486. http//dx.doi.org/10.1081/ADA-120020527. [PubMed: 12765216]

Miller CL, Fielden SJ, Tyndall MW, Zhang R, Gibson K, Shannon K. Individual and structural vulnerability among female youth who exchange sex for survival. Journal of Adolescent Health. 2011; 49(1):36–41. http//dx.doi.org/10.1016/j.jadohealth.2010.10.003. [PubMed: 21700154]

National Alliance to End Homelessness. Homeless Youth and Sexual Exploitation: Research Findings and Practice Implications. 2009 Retrieved from: http://www.endhomelessness.org/library/entry/homeless-youth-and-sexual-exploitation-research-findings-and-practice-impli.

Nixon K, Tutty L, Downe P, Gorkoff K, Ursel J. The everyday occurrence violence in the lives of girls exploited through prostitution. Violence against women. 2002; 8(9):1016–1043. http//dx.doi.org/10.1177/107780120200800902.

Roe-Sepowitz DE, Hickle KE, Cimino A. The impact of abuse history and trauma symptoms on successful completion of a prostitution-exiting program. Journal of Human Behavior in the Social Environment. 2012; 22(1):65–77. http//dx.doi.org/10.1080/10911359.2011.598830.

Rudolph AE, Linton S, Dyer TP, Latkin C. Individual, network, and neighborhood correlates of exchange sex among female non-injection drug users in Baltimore, MD (2005–2007). AIDS and Behavior. 2013; 17(2):598–611. http//dx.doi.org/10.1007/s10461-012-0305-z. [PubMed: 22983502]

Santa Maria D, Narendorf SC, Ha Y, Bezette-Flores N. Exploring contextual factors of youth homelessness and sexual risk behaviors: a qualitative study. Perspectives on sexual and reproductive health. 2015; 47(4):195–201. [PubMed: 26575948]

Silbert MH, Pines AM. Sexual child abuse as an antecedent to prostitution. Child Abuse & Neglect. 1981; 5(4):407–411. http//dx.doi.org/10.1016/0145-2134(81)90050-8.

Stoltz JAM, Shannon K, Kerr T, Zhang R, Montaner JS, Wood E. Associations between childhood maltreatment and sex work in a cohort of drug-using youth. Social science & medicine. 2007; 65(6):1214–1221. http/dx.doi.org/10.1016/j.socscimed.2007.05.005. [PubMed: 17576029]

Tyler KA. Risk factors for trading sex among homeless young adults. Archives of Sexual Behavior. 2009; 38(2):290–297. [PubMed: 17653839]

Verona E, Murphy B, Javdani S. Gendered Pathways: Violent Childhood Maltreatment, Sex Exchange, and Drug Use. Psychology of Violence. 2015; 2015:a0039126. http://doi.org/10.1037/a0039126. [PubMed: 26229728]

Walsh K, Latzman NE, Latzman RD. Pathway from Child Sexual and Physical Abuse to Risky Sex Among Emerging Adults: The Role of Trauma-Related Intrusions and Alcohol Problems. The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine. 2014; 54(4):442–448. http://doi.org.libproxy.sdsu.edu/10.1016/j.jadohealth.2013.09.020. [PubMed: 24268710]

Warf CW, Clark LF, Desai M, Rabinovitz SJ, Agahi G, Calvo R, Hoffmann J. Coming of age on the streets: Survival sex among homeless young women in Hollywood. Journal of adolescence. 2013; 36(6):1205–1213. http//dx.doi.org/10.1016/j.adolescence.2013.08.013. [PubMed: 24215967]

Weber AE, Boivin JF, Blais L, Haley N, Roy É. Predictors of initiation into prostitution among female street youths. Journal of Urban Health. 2004; 81(4):584–595. http//dx.doi.org/10.1093/jurban/jth142. [PubMed: 15466840]

Weber MAE, Boivin JF, Blais L, Haley N, Roy É. HIV risk profile and prostitution among female street youths. Journal of Urban Health. 2002; 79(4):525–535. http//dx.doi.org/10.1093/jurban/79.4.525. [PubMed: 12468672]

Weinstock H, Berman S, Cates W. Sexually transmitted diseases among American youth: incidence and prevalence estimates, 2000. Perspectives on sexual and reproductive health. 2000; 36(1):6–10. http//dx.doi.org/10.1363/3600604.

Table 1

Sociodemographic characteristics

	Exchanged (n = 569) %	**Never Exchanged (n = 11051) %**	**Unadjusted odd ratio (95% CI)**
Gender			
Male	58.4	46.4	Referent
Female	41.6	53.6	.618 (.521 to.733)
Age (Mean, SE)	21.6 (1.6)	21.6 (1.6)	1.01 (.963 to 1.06) *
Race/Ethnicity			
White	51.8	69.1	Referent
African American	42.5	21.2	2.72 (2.29 to 3.23)
Asian	4.2	7.7	.575 (.391 to .846)
Native American	1.4	1.9	.902 (.611 to 1.33) *
Education Level			
More than high school	30.8	45.1	Referent
High school or less	69.2	54.8	2.73 (2.28 to 3.28)

Note. All outcomes are significant at p<.05, unless indicated otherwise by an asterisk (*)

Table 2

Lifetime and past 30 days substance use and runaway/homeless experiences

	Exchanged (n = 569) %	Never Exchanged (n = 11051) %	Unadjusted odd ratio (95% CI)
Alcohol			
Ever	77	82.3	.72 (.58 to .88)
Binge drinking past year	41.1	47.5	.771 (.65 to .91)
Binge drinking past 2 weeks	33.4	32	1.06 (.89 to 1.27) *
Marijuana			
Ever	59.9	51.2	1.42 (1.19 to 1.69)
Past 30 days	32.2	21.4	1.74 (1.45 to 2.08)
Cocaine			
Ever	21.1	10.8	2.23 (1.79 to 2.74)
Past 30 days	6.9	3	2.37 (1.68 to 3.34)
Injection Drugs			
Ever	6	1.1	.179 (.121 to .264)
Past 30 days	.4	.3	1.34 (.31 to 5.63) *
Other Illegal Drugs			
Ever	24.4	18	1.47 (1.21 to 1.79)
Past 30 days	8.6	4.3	2.12 (1.56 to 2.88)
Methamphetamine			
Last year	9.1	5.4	1.75 (1.29 to 2.35)
Past 30 days	1.2	.9	2.23 (1.02 to 4.89)
Cigarettes			
Ever	73.5	75.9	1.10 (.99 to 1.23) *
Past 30 days	42.5	31.8	1.59 (1.34 to 1.88)
Ran away			
Ever	30.4	12.6	2.58 (2.12 to 3.16)
Homeless			
Ever	10	3.6	2.98(2.23–3.98)

Note. All outcomes are significant at p<.05 unless indicated otherwise by an asterisk (*)

Reference group is participants who did not use substances

Table 3

Child abuse among males and females who have exchanged and never exchanged sex

	Exchanged (n = 569) %	Never Exchanged (n = 11051) %	Unadjusted odd ratio (95% CI)
Child Physical Abuse			
All respondents	33.9	27.6	1.35 (1.13 to 1.61)
Female	31.6	26.3	1.29 (.97 to 1.71)
Male	35.5	29	1.35 (1.07 to 1.71)
Child Sexual Abuse			
All respondents	12.3	4.1	3.23 (2.51 to 4.28)
Female	10.1	4.8	2.25 (1.45 to 3.49)
Male	13.9	3.4	4.63 (3.28 to 6.55)
Child Neglect			
All respondents	21.8	10.8	2.29 (1.86 to 2.83)
Female	18.6	8.9	2.35 (1.67 to 3.29)
Male	24.1	13.1	2.11 (1.62 to 2.75)
2 or more types of Child Abuse			
All respondents	56.8	51.3	1.24 (1.05 to 1.47)
Female	29.9	19.6	1.33 (1.02 to 1.73)
Male	34.9	22.8	1.15 (.91 to 1.44) *

Note. All outcomes are significant at p<.05 unless indicated otherwise by an asterisk (*)

Reference group is participants who did not experience child abuse

Table 4

Sexual behaviors- Females

	Exchanged (n = 237) %	Never Exchanged (n =5925) %	Unadjusted odd ratio (95% CI)
Number of times exchanged sex in past 12 months (W3)			
Median	0	-	
Mean	.67	-	
Ever had sexual (vaginal) intercourse	93.7	87.3	2.15 (1.26 to 3.65)
Mean age at first vaginal intercourse W3	15.4 (2.26)	16.5 (2.15)	.781 (.73 to .835)
Mean lifetime number of sex partners W3	10.1 (10.7)	5.22 (5.81)	1.07 (1.06 to 1.08)
Mean number of sex partners in past 12 months	2.24 (2.48)	1.5 (1.58)	1.15 (1.08 to 1.22)
Ever had romantic attraction to a male	94.5	96	.748 (.40 to 1.39) N
Ever had romantic attraction to another female	22.8	11.8	2.23 (1.63 to 3.05)
Ever been told by a doctor you have HIV or AIDS?	2.1	.6	3.34 (1.30 to 8.56)
Ever had chlamydia?	16.5	5.3	3.52 (2.45 to 5.05)
Ever had genital warts?	4.2	1.8	2.35 (1.21 to 4.55)
Ever had herpes?	4.2	1.7	2.57 (1.32 to 4.98)
Ever had gonorrhea?	4.2	1.4	3.22 (1.65 to 6.29
Ever had syphilis?	1.7	.5	3.62 (1.25 to 10.4)

Note. All outcomes are significant at p<.05 unless indicated otherwise by an asterisk (*)

Reference group is females who did not engage in sexual behaviors or report STIs/HIV

Table 4

Sexual behaviors- Females

	Exchanged (n = 332) %	**Never Exchanged (n = 5126) %**	**Unadjusted odd ratio (95% CI)**
Number of times exchanged sex in past 12 months (W3)			
Median	1	-	
Mean	.77	-	
Ever had sexual (vaginal) intercourse	89.2	86.1	1.33 (.93 to 1.89) N
Mean age at first vaginal intercourse W3	15.1 (2.36)	16.5 (2.28)	.761 (.721 to .804)
Mean lifetime number of sex partners W3	11.8 (12.69)	6.76 (8.23)	1.04 (1.03 to 1.06)
Mean number of sex partners in past 12 months	3.18 (3.63)	1.91 (2.43)	1.11 (1.08 to 1.15)
Ever had romantic attraction to a female (W3)	92.2	95	.634 (.407 to .988)
Ever had romantic attraction to another male (W3)	10.5	5.2	2.2 (1.52 to 3.19)
Ever been told by a doctor you have HIV or AIDS?	4.5	.9	4.32 (2.45 to 7.51)
Ever had chlamydia?	10.2	2.7	4.09 (2.76 to 6.06)
Ever had genital warts?	3.6	1.4	2.71 (1.45 to 5.05)
Ever had herpes?	4.5	.8	5.87 (3.21 to 10.7)
Ever had gonorrhea?	6.6	1.1	6.20 (3.75 to 10.3)
Ever had syphilis?	3.6	.7	5.02 (2.59 to 9.7)

Note. All outcomes are significant at p<.05 unless indicated otherwise by an asterisk (*)

Reference group is males who did not engage in sexual behaviors or report STIs/HIV