Transactional Sex Involvement: Exploring Risk and Promotive Factors Among Substance-Using Youth in an Urban Emergency Department

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ABSTRACT. Objective: The current study aims to evaluate individual, relational, and community-level risk and promotive factors for transactional sex involvement among substance-using youth. **Method:** Youth (ages 14–24 years) presenting for care in an urban emergency department, who reported drug use within the past 6 months, were surveyed as part of a larger study assessing violence. Of the 600 youth enrolled in this study, 350 presented to the emergency department with violent injury. Based on youth presenting with violent injury, a proportionally selected (age and gender) comparison group of youth ($n = 250$) presenting without violent injury were enrolled. Participants were queried about both risk and promotive factors at the individual, relational, and community levels. **Results:** Of the sample, 7.3% reported involvement in transactional sex within the past month. Regression analyses indicated

that being African American or other race (as compared with White), having more than one sexual partner, depressive symptoms, negative peer influence, and substance use treatment utilization were positively associated with transactional sex involvement. Increased school involvement was negatively related to involvement in transactional sex. **Conclusions:** Drug-using youth who reported recent transactional sex involvement are more likely to experience increased HIV risk, depressive symptoms, and negative peer influence and are less likely to experience the promotive factors of school involvement. Future research is needed to better understand the bidirectional relationship between transactional sex involvement and both risk and promotive factors at multiple ecological levels. (*J. Stud. Alcohol Drugs*, 75, 573–579, 2014)

IN THE UNITED STATES, it is estimated that 4% of 7th to 12th graders have engaged in transactional sex (TS; Edwards et al., 2006), a behavior defined as the exchange of a sexual behavior for payment (e.g., money, drugs, shelter). The average age at initiation into TS among females ranges from 13 to 18 years (Potterat et al., 1998; Silbert and Pines, 1982), with the length of involvement ranging from less than 1 month to more than 10 years (Chudakov et al., 2002). Young people who engage in TS are more likely to also report using drugs (Edwards et al., 2006; Flom et al., 2001) and are at higher risk for contracting sexually transmitted infections (STIs), including HIV (Silverman, 2011). Because initiation into TS involvement often occurs during adolescence, and due to the extra vulnerability toward substance use and HIV risk among young people involved in TS, sexual risk and substance misuse prevention and intervention efforts during adolescence and emerging adulthood are of paramount importance.

Conceptualizing transactional sex involvement

An integration of ecological systems (Bronfenbrenner, 1979) and resiliency (Luthar, 2003) can be used to conceptualize TS involvement among youth. Ecological systems theory posits that individuals exist and interact within a system of nested environments and that individuals are affected by relational (e.g., parents and peers) and community (e.g., violence) variables. Resiliency models suggest that individuals experience both risk factors (which increase the probability of experiencing a negative outcome) and promotive factors (which may partially or fully compensate the influence of risk on adverse outcomes; Fergus and Zimmerman, 2005). For the current study, it was postulated that substance-using youth experience risk and promotive factors at the individual, relational, and community levels, and that risk factors increase the likelihood of involvement in TS (Kraemer et al., 1997), whereas promotive factors serve to reduce the likelihood of involvement in TS (Fergus and Zimmerman, 2005; Rutter, 1985).

Prior research has indicated that youth involved in TS experience a multitude of risks. For instance, at the individual level, TS-involved youth are more likely to engage in HIV risk behaviors (Atwood et al., 2012; Burgos et al., 2000–2001), report using alcohol or other drugs (Clarke et al., 2012), and experience depressive symptoms (Heilemann and Santhiveeran, 2011). At the relational

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level, youth who engage in TS are more likely to report unhealthy peer relationships (Heilemann and Santhiveeran, 2011) and substance use in the family (Clarke et al., 2012). TS-involved youth are also more likely to experience violence (Heilemann and Santhiveeran, 2011) and are less likely to be involved in school (Kaestle, 2012). Less research has been done to examine the relationship between TS involvement and promotive factors, such as engaging in treatment or experiencing positive relationships with peers or parents (Heilemann and Santhiveeran, 2011). Kaestle (2012) conducted a longitudinal study using data from the National Longitudinal Study of Adolescent Health (Add Health) to examine risk and promotive factors among adolescents who began engaging in TS during the course of the study and found that a history of abuse, ever running away, and marijuana use were significant risk factors, whereas school connectedness was a significant promotive factor for TS initiation. However, substance use, a known correlate to TS involvement, was not controlled for in this study. The current study will build on Kaestle's findings by examining the association between TS involvement within a high-risk group (notably substance users) to discern which risk and promotive variables may influence TS involvement above and beyond substance use.

Engaging transactional sex-involved youth through the emergency department

Youth who engage in TS are a difficult-to-reach population (Melrose, 2002), and research with youth involved in TS is made more difficult because of issues of consent/assent, child abuse reporting laws, and other factors that limit access to this marginalized population, such as poverty (Melrose, 2002). More information is needed regarding novel locations in which young people who are engaging in multiple risky behaviors (including TS, HIV risk behaviors, and substance use) can be engaged into prevention or intervention programs related to their risky behaviors. One promising locale may be the hospital emergency department (ED). Prior research examining TS involvement among adults receiving ED services has been documented. Bernstein et al. (2012) conducted a study examining a brief intervention with adult heroin/cocaine users through an ED and found that 12% of the sample reported TS involvement. In another study examining TS involvement among adult substance users, Burnette et al. (2008) found that ED care was associated with TS involvement for women. Patton et al. (in press) examined TS involvement among a general sample of ED adult patients, including those with and without a history of substance use, and found that approximately 14% of the sample reported a history of TS involvement. Further, in a qualitative analysis examining the life experiences of adult women involved in sex trafficking, the majority of respondents reported repeated ED

visits while actively involved in TS. These findings indicate that the ED may be a valuable engagement site for such a difficult-to-reach population. As a secondary aim, the current study will add to prior work by exploring the potential utility of recruiting youth who engage in TS from the ED, a topic that has yet to be explored among youth.

Method

Design

The data used for the current study were collected as part of a longitudinal, observational project assessing violence and substance use among youth recruited from an urban ED (Flint Youth Injury Study) in a Level 1 trauma center in the Midwest (December 2009 to September 2011). Study procedures were approved by institutional review boards at the University of Michigan and Hurley Medical Center; a Certificate of Confidentiality from the National Institutes of Health was obtained. As part of the larger project, youth presenting to the ED with a violence-related injury (e.g., physical assault, firearms-related injury, being cut or pierced) and who reported substance use within the past 6 months were oversampled. A comparison group of youth who presented to the ED with non-violence-related complaints (i.e., abdominal pain, flu, fall), and who reported substance use in the past 6 months, was systematically sampled (proportionally balanced on gender and age to the violent injury group). Individuals who did not receive parental permission (for those under age of consent), who were involved in another study, or who presented to the ED with insufficient cognitive orientation, sexual assault, child abuse, or suicidal ideation/attempt were excluded before consent.

Participants and procedure

Research assistants approached patients ages 14–24 years to determine eligibility for the study. Written assent (ages 14–17 years and parental consent) or consent (ages 18–24 years) was obtained, and a computerized screening survey (~25 minutes) was self-administered (\$1.00 gift item remuneration; i.e., cards, lotion). Participants in the screening who reported past-6-month substance use completed an additional assent/consent form and a baseline assessment (~90 minutes; \$20 remuneration). All respondents were also tested for HIV and provided with referral information if they received a positive test (Bonar et al., in press).

Measures

Transactional sex involvement. TS involvement was assessed using a modified question from Add Health (Harris et al., 2003). Specifically, participants were asked the following

question: "How many times, in the past month, have you been paid for sex with money or drugs, or have you paid for sex with money or drugs?"

Reason for emergency department visit. Participants were asked to report if the reason for their visit was injury related and, if so, if the injury was related to a conflict, argument, or physical attack. This variable was recoded to include two groups—those who visited the ED because of a violence-related injury versus all others.

Demographics. Participants were asked to self-report current gender, age (Handelsman et al., 2005), and race, as based on the guidelines from the National Institutes of Health. To assess parenting status, youth were asked how many children they had (Zimmerman and Schmeelk-Cone, 2003). Public assistance, a proxy measure for poverty status, was assessed by combining questions about parent aid and self-aid (Harris et al., 2003). Specifically, participants were asked two yes/no questions to ascertain if (a) their parent or guardian received public assistance or (b) they received public assistance themselves.

Risk variables. Individual risk factors included alcohol use, other drug use, HIV risk behaviors, and depressive symptoms. Alcohol use was assessed using the consumption score from the Alcohol Use Disorders Identification Test (AUDIT-C; Bush et al., 1998; Chung et al., 2002). A summary AUDIT-C score was created by combining three questions about past-6-month alcohol ($\alpha = .859$).

Marijuana use was assessed using the Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST; WHO ASSIST Working Group, 2002). Six Likert-type questions were asked about marijuana use frequency in the past 6 months ($\alpha = .699$).

HIV risk behaviors were assessed using the HIV Risk-Taking Behavior Scale (Ward et al., 1990). Respondents were asked about participating in the following risk behaviors within the past month: number of sexual partners, inconsistent condom use, and being diagnosed with an STI. Participants were also asked if they had ever been tested for HIV and, if so, if a medical professional informed them that they had a positive HIV test (Harris et al., 2003). Additionally, HIV saliva testing was offered. All respondents who tested positive were referred to their primary care provider or other resource listed in the provided resource manual to obtain confirmatory testing (see Bonar et al., in press).

Depressive symptoms were assessed using the Brief Symptom Inventory (Derogatis and Spencer, 1982). Participants were asked six Likert-type questions assessing different depressive symptoms experienced within the past week, which were added together for a total composite score ($\alpha = .878$).

Relational-level risk factors included dating violence (with a dating or married partner), parental substance use, and negative peer influence. Dating violence was assessed

using a summary score from the revised Conflict Tactics Scale (Straus et al., 1996). Respondents were asked about both partner perpetration and victimization within the past 6 months, although only victimization scores were included in the analysis because of the high correlation between these two variables. A dating partner was defined as a girlfriend/boyfriend, fiancée/fiancé, or wife/husband. This variable was recoded into a dichotomous variable comparing those who reported dating violence in the past 6 months with those who did not report any dating violence.

Parental substance use and negative peer influence were measured using modified questions from the Flint Adolescent Study (Doljanac and Zimmerman, 1998; Ramirez-Valles et al., 1998; Zimmerman and Schmeelk-Cone, 2003). A summary score was created for each variable ($\alpha = .746$ and $\alpha = .802$, respectively). Regarding negative peer influence, participants were asked to indicate how many of their friends were involved in negative activities (e.g., substance use, selling drugs, fighting, carrying a weapon; Ostaszewski and Zimmerman, 2006).

Community violence was assessed, as a community-level risk factor, using five modified questions from the "Things I've Seen and Heard" survey (Richters and Saltzman, 1990). The questions ask about community-level violence experienced in the past 6 months, such as hearing gun shots, seeing drug deals, seeing someone get shot, having one's house broken into, and seeing gangs in the neighborhood ($\alpha = .732$).

Promotive variables. Substance use treatment utilization was used to assess an individual-level promotive factor. Participants were asked a yes/no question about whether they had attended any substance use treatment within the past 6 months (Smith et al., 2006).

Relational-level promotive factors included in the current study were positive peer influence ($\alpha = .750$) and parental support ($\alpha = .915$), and community-level promotive factors included dichotomous measures of (a) community, (b) religious, and (c) school involvement. Modified composite scores from the Flint Adolescent Study (Doljanac and Zimmerman, 1998; Ramirez-Valles et al., 1998; Zimmerman and Schmeelk-Cone, 2003) were used to assess these variables.

Data analysis plan

Analyses were conducted in SAS version 9.3 (SAS Institute Inc., 2012). Descriptive statistics were ascertained to characterize the sample. Chi-square analysis and independent *t* tests (based on variable distribution) were conducted to determine which demographic, risk, and promotive factors were significantly different between youth involved in TS compared with other substance-using youth in the sample. Based on variables that were significant in the bivariate analysis, a logistic regression was conducted to identify variables associated with TS involvement.

TABLE 1. Correlates of transactional sex among high-risk adolescents: Multivariate logistic regression ($n = 600$)

Risk factors	Model 1 AOR [95% CI]	Model 2 AOR [95% CI]
Gender, male	1.15 [0.61, 2.17]	1.48 [0.71, 3.09]
Race		
African American	2.63 [1.14, 6.09]*	4.01 [1.63, 10.51]**
Other	3.25 [1.04, 10.11]*	3.69 [1.04, 13.12]*
Depressive symptoms		1.09 [1.03, 1.15]**
Dating violence (yes)		1.83 [0.78, 4.33]
Negative peer influence (yes)		1.07 [1.00, 1.14]*
More than one sexual partner (yes)		2.37 [1.21, 4.66]**
Substance misuse treatment utilization (yes)		2.45 [1.00, 6.07]*
School involvement (yes)		0.74 [0.57, 0.97]*
Model statistics		
-2Log L	307.54 ($df = 3$)	254.83 ($df = 9$)

Notes: AOR = adjusted odds ratio; 95% CI = 95% confidence interval.

* $p < .05$; ** $p < .01$.

Results

Characteristics of the entire sample ($n = 600$)

The majority of participants were male (58.8%), with an average age of 20.1 years. Most participants were African American (58.2%), 73% received public assistance, and 40.3% had at least one child. Regarding HIV risk of the full sample, 30.2% reported having sex with more than one partner, 57.3% reported inconsistent condom use, 30.3% reported ever being diagnosed with an STI, 67.2% had ever been tested for HIV, and 1.3% had tested positive in the past (see Bonar et al., in press). Because participants self-reported HIV testing and status, the percentage of those who received additional consultation after testing/diagnosis is unknown. Of the whole sample, 7.3% of the participants reported being involved in the act of exchanging sex for money or drugs, or vice versa, within the past month. Regarding substance use, participants scored an average of 2.7 ($SD = 3.1$; range: 0–12) on the AUDIT-C for alcohol consumption and 13.3 ($SD = 9.0$; range: 0–39) on the ASSIST for marijuana use. The average AUDIT score for the current sample did not meet the cutoff criteria for alcohol misuse (which is assessed as a score of 3 or higher for youth younger than 18 years old and 4 or higher for youth who are 18 years or older). The average ASSIST score for the current sample indicated hazardous or harmful use of marijuana (assessed as a score of between 4 and 26 on the ASSIST).

Bivariate findings

Chi-square and t test analyses indicated that youth who reported TS involvement were significantly more likely (at $p < .05$) to report the following factors: being African American (OR = 2.62) or other race (OR = 3.22), having multiple sexual partners (OR = 3.04), using marijuana (OR = 1.04),

experiencing depressive symptoms (OR = 1.11), dating violence (OR = 2.31), negative peer influence (OR = 1.09), and substance use treatment utilization (OR = 3.07) than other substance-using youth in the sample. TS-involved youth were less likely to report school involvement (OR = 0.81) as compared with other substance-using youth. Nonsignificant variables were not included in the regression model (i.e., parenting status, receipt of public assistance, alcohol use, inconsistent condom use, being diagnosed with an STI, ever being tested for HIV, being HIV positive, parental substance use, community violence, positive peer influence, parental support, community involvement, and religious involvement).

Multivariate findings

Variables that were found to be significant in the bivariate analysis were used to build a model using multivariate logistic regression. Gender was also included in the model, despite not being significant in the bivariate analysis, because gender has been shown to have significant implications in most prior TS research. Two steps were included in the model. Gender and race were added in the first step, and risk and promotive factors were added into the second step. An analysis for multicollinearity indicated a strong linear relationship between marijuana use and substance use treatment utilization. To address this issue, marijuana use was excluded from the final regression model (as it was insignificant in the regression model). Removing this variable did not significantly change the fit of the model.

In the final model, the following variables were significantly positively associated with TS involvement: race, depressive symptoms, multiple sex partners, negative peer influence, and substance use treatment utilization. School involvement was significantly negatively associated with less TS involvement. See Table 1 for more details regarding regression results.

Discussion

The current study examined the prevalence of TS involvement among a sample of substance-using youth receiving care in an urban ED, a location unexplored to date. The present study found that youth in a hospital setting reported recent TS involvement at two to three times higher rates than those in a national sample of school-aged youth (2%–4%; Edwards et al., 2006; Kaestle, 2012). This finding suggests that screening for TS involvement among substance-using males and females in the ED may allow for more TS-involved youth to be engaged in prevention and intervention programs. Gender or poverty status was not significantly associated with TS involvement for the current sample. This finding may be related to floor effects because the majority of the sample met poverty guidelines as measured in the current study. Minority race was associated with TS. Although prior research has supported this finding (Bobashev et al., 2009; Reuben et al., 2011), future research is needed to examine the potential intersectionality of minority race and TS involvement with other variables, such as poverty, to better understand the complexity of this association.

Regarding substance use, marijuana use was bivariately associated with TS involvement but was not significant once other risk factors (e.g., negative peer influences, depressive symptoms) were considered. It is also possible that these youth are just at the beginning of the increased substance use trajectory; thus, the association between substance use and TS involvement may increase across development, which is consistent with data reported in adult samples involved in TS (Millay et al., 2009; Murphy, 2010), making engagement of these youth critical for substance use intervention efforts.

Interestingly, substance use treatment utilization was related to an increased likelihood of TS involvement. This counterintuitive finding may reflect the cross-sectional nature of the study and differences in time frame for measures, as it was not possible to determine the timing of past-6-month substance use treatment in relation to TS involvement in the past month. This finding also suggests, however, that substance use treatment may not have the same promotive value for adolescents who engage in substance use and TS as it does for adults (Burnette et al., 2009). It is also possible that a history of substance use treatment is indicative of more severe substance use problems, which is associated with increased sexual risk behaviors among youth (Guo et al., 2002). More research that teases apart factors such as type of treatment (e.g., 12-step vs. harm reduction), primary drug of choice, and reason for being in treatment (e.g., court ordered vs. voluntary) is needed to explore this relationship.

Regarding HIV risk, the TS group reported a significantly higher number of sexual partners than did the non-TS group, thereby putting the TS group at increased exposure to possible STI or HIV infection. Yet, the TS group was no more or less likely to engage in preventative behaviors, such as

consistently using condoms or being tested for STIs or HIV. The overall HIV risk among the whole sample was high, as the majority of the sample reported inconsistent condom use and 30% reported having been diagnosed with an STI at least once. Further, eight youth (1.3%) received a positive HIV test. These findings suggest that this population could benefit from outreach and a focus on HIV prevention within the ED setting.

Bivariate findings showed that youth who reported increased rates of dating violence were also more likely to report TS involvement. Previous research has explored the connection between substance use and dating violence with a dating or married partner among a general youth sample from the ED (Epstein-Ngo et al., 2013; Walton et al., 2009) and among adult samples (Karandikar and Próspero, 2010; Taylor, 2011; Williamson and Cluse-Tolar, 2002). The current findings expand on prior research by showing that dating violence and TS are also related among TS-involved adolescents and emerging adults. Still, more research is needed to explore the connection between substance use, dating violence, and TS among adolescents and emerging adults and to dissect the complex association between TS-related violence and dating violence among youth samples.

In the current study, the only promotive factor with a significant association to TS involvement was school involvement. This finding supports prior work, which indicated the utility of school involvement in reducing youth's involvement in TS (Clarke et al., 2012). Although the current study suggested that the ED is a possible venue for engaging these youth, as it may allow for engagement of school-disconnected youth, a component of this intervention could address increasing connectedness to school. Other substance use or HIV risk education/prevention programs that have shown some level of effectiveness (e.g., Across Ages or All Stars; Harrington et al., 2001; LoSciuto et al., 1996; McNeal et al., 2004; Taylor and LoSciuto, 1997) could be useful templates for designing (re)engagement strategies for this population.

Limitations

Several limitations of the study must be noted. The data were collected from one ED located in an urban area in the Midwest, limiting the generalizability of the findings, particularly to other ethnic groups such as Hispanics. The data were also self-reported by the participants, although measures were put in place to collect the most reliable data possible. For instance, audio computer-assisted self-interviews were used and have been shown to improve the reliability of data (Schackman et al., 2009). Further, because the data source was secondary in nature, the variables assessed were limited to the data collected for the original project, thereby limiting which risk and promotive factors could be explored. For instance, data were not available to examine the history of sexual assault, general healthcare utilization, or sexual

education/knowledge—variables that should be included in future work. Enough cross-sectional data were available, however, to evaluate associations among risk and promotive factors at the individual, relational, and community level, thereby giving some depth to the analysis and allowing for the use of a theoretical conceptualization (e.g., resiliency and ecological systems) to explore the research questions under inquiry. Future longitudinal studies, however, are needed to examine causal associations and potential mediating/moderating influences of risk and promotive factors on TS involvement.

Conclusion

Despite these limitations, the current study adds to the knowledge base regarding TS involvement among youth. The findings suggest that the ED may be an efficacious recruitment site for engaging these youth into sexual risk and substance use prevention and intervention programs. Future research that explores the feasibility of engaging these youth in an ED setting would be beneficial. Future research is also needed to determine how the lack of difference in substance use rates among subsets of substance-using youth affects substance use prevention and intervention for youth. Findings from the current study also suggest that increased dating violence is associated with TS involvement, and more research is needed to examine the relationship between dating violence and TS among youth.

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