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The Use of the Risky Sex Scale among Adolescents Receiving Treatment Services for Substance Use Problems: Factor Structure and Predictive Validity

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Abstract

The present study evaluated the use of the Risky Sex Scale (RSS; O'Hare, 2001) among youth in outpatient treatment for substance use problems. An ethnically diverse sample of 394 adolescents (280 males; M_{age} = 16.33 years, SD_{age} = 1.15) was recruited from two treatment sites. The study was guided by two aims. First, a confirmatory factor analysis was conducted on RSS item responses. Findings replicated the factor structure identified in previous studies of undergraduate students cited for campus alcohol violations. Second, structural equation modeling (SEM) was used to document associations between RSS subscales and self-reported substance use and sexual risk behaviors. The Risky Sex Expectancies (RSE) subscale was significantly associated with co-occurring alcohol use and sex, alcohol use at last intercourse, and alcohol use during the prior 30 days. The Risky Sex Behaviors (RSB) subscale was significantly associated with cooccurring drug use and sex, condom use at last intercourse and unprotected intercourse during the prior 30 days. The factor structure of the RSS was consistent across age group (12-16 and 16- 18) and across gender, and the links between the RSS subscales and health risk behaviors varied somewhat by gender but not by age group. These findings suggest that the RSS is an appropriate brief screening tool for predicting health risk behaviors among adolescents in substance abuse treatment.

Keywords

Adolescent; Screening Tool; Risky Sex Expectancies; Sexual Risk Behavior; Substance Abuse; Treatment; Gender

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Adolescent substance use is a known risk factor for exposure to HIV and other sexually transmitted infections (STIs; Houk et al., 2006; Morrison-Beedy, Carey, Feng, & Tu, 2008). Substance use before or during sexual behavior may considerably influence partner selection or sexual decision-making processes, placing adolescents at higher risk for HIV/STI exposure. Sexual risk behaviors are associated with a broad range of relational, contextual and individual factors (e.g., Dogan, Stockdale, Widaman, & Conger, 2010; Leigh, 2002; Norris et al., 2009a, b; Zawacki, 2011). Therefore, adolescents with substance use problems are at elevated risk for HIV/STI exposure due to co-occurring substance use and sex, multiple sex partners, co-occurring psychiatric problems, and inconsistent condom use (Abrantes, Strong, Ramsey, Kazura, & Brown, 2006; Brown et al., 2010; Mulatu, Leonard, Godette, & Fulmore, 2008; Oshri, Tubman, Wagner, Morris, & Snyders, 2008). These adolescents are likely to present for, or to be referred to, substance abuse treatment - posing a wide range of challenges for existing service provision systems (Hawkins, 2009).

Participation in substance abuse treatment is an excellent opportunity to remediate behavioral risk factors for HIV/STI exposure or to engage adolescent clients in HIV risk reduction interventions (Metzger, Woody, & O'Brien, 2010). To assign adolescents to selected HIV/STI risk reduction interventions in the context of ongoing substance abuse treatment, brief valid and reliable screening tools are needed to assess (a) relations between specific behaviors related to substance abuse and (b) specific types of sexual risk behaviors (Tubman, Oshri, Taylor, & Morris, 2011). Screening procedures are commonly conducted in the context of substance abuse treatment (Chan, Passetti, Garner, Lloyd, & Dennis, 2011) or interventions for multi-problem, HIV-positive youth (Tanney et al., 2010). However, the limitations of brief screening instruments include: Restriction of range for responses (e.g., use of yes/no formats) and the inability to determine temporal relations among discrete problem behavior items presented in checklist formats.

The Risky Sex Scale (RSS; O'Hare, 2001) is a brief screening tool developed for, and validated among, college students. It was designed to assess three domains of young adults' participation in sexual risk behavior: (a) expectancies for sexual arousal and performance following alcohol use; (b) sexual risk behavior while intoxicated; and (c) perceptions of gender-related risk for sexual violence following alcohol use. The RSS overcomes some of the limitations of existing brief screening tools by using a 5-point Likert-type rating format and by establishing relations between alcohol use and risk behaviors in the wording of each item. The development and validation of brief screening tools such as the RSS is critical for identifying adolescents and young adults who may be at high risk for negative consequences of substance abuse, and for referring these individuals to brief, cost-effective selected prevention modalities to increase their awareness of risks and their motivation for behavior change (Devos-Comby & Lange, 2008; Levy & Knight, 2008). The vulnerability of adolescents with substance abuse problems to HIV/STI exposure provides a strong rationale for the evaluation and dissemination of empirically-supported instruments that can be used: (a) to screen for HIV/STI risk behavior participation and (b) as a source of information to highlight the importance of health behavior change and, therefore, to engage high-risk adolescents into treatment (McBride, Emmons, & Lipkus, 2003).

The present study was guided by two primary aims. First, we sought to describe the factor structure of the RSS in a sample of adolescents receiving treatment for substance abuse problems. Second, we wanted to document associations with other self-reported measures of substance use and sexual risk behavior. In addition, in the present study we examined the equivalence of models of the RSS items across gender and across age groups (early/middle versus later adolescence).

We tested two hypotheses. First, we hypothesized that the three-factor structure of the RSS, as documented in O'Hare (2001), would also emerge in a treatment sample of adolescents with substance abuse problems. Second, we expected to find significant predictive relations between the anticipated beliefs assessed by the RSS and adolescents' self-reported substance use and sexual risk behavior.

Method

Participants and Procedures

The present sample included 394 adolescents (29.9% female) receiving substance abuse treatment services at two outpatient facilities in South Florida. Participants' age ranged from 12 to 18 years old (M = 16.33 years; SD = 1.15 years). The sample was ethnically diverse: 25.4% non-Hispanic White, 44.9% Hispanic, 20.6% non-Hispanic Black, and 9.1% other ethnicities. Of the participants, 83.2% were born in the U.S.; 74.8% reported their father, mother, or both as primary caregiver(s); and 52.7% reported having repeated one or more school grades.

All participants in the present study reported sexual activity during the prior 180 days, with 60.7% reporting one or more episodes (M = 12.49) of unprotected intercourse during that period. Participants reported a median of 7.0 lifetime sex partners (interquartile range, 4.0 to 14.0). The majority of participants reported lifetime substance use of marijuana (93.6%), opioids (32.0%), hallucinogens (29.0%), amphetamines (19.0%), and heroin (3.1%). In addition, 75% of the sample reported alcohol use during the previous 180 days. During the prior 12 months, 89.1% of the sample met diagnostic criteria for one or more DSM-IV diagnoses via the brief version of the CIDI-UM (Kessler et al., 1994), including: Alcohol Abuse (41.3%), Alcohol Dependence (15.0%), Drug Abuse (76.1%), Drug Dependence (45.4%), and Conduct Disorder (48.9%).

Data for the present study were taken from the baseline assessment for a brief motivational HIV risk reduction intervention trial. Adolescents who provided assent, in conjunction with parental consent, were screened for sexual activity during the last six months, and they completed a 60- to 90-minute assessment covering substance use, sexual risk behaviors, DSM-IV psychiatric disorders, demographics, and mediators and moderators (e.g., decisional balance, condom use self-efficacy, psychological maltreatment) of intervention efficacy. Trained graduate students collected data at the treatment facilities using a computer-administered structured interview protocol. Participants received $25 for completing the baseline assessment.

Measures

Risky Sex Scale (RSS)—The 14-item RSS (O'Hare, 2001) was used to measure adolescents' expectancies for sexual arousal and performance following alcohol use (7 items), sexual risk behavior while intoxicated (4 items), and perceptions of gender-related risk for sexual violence following alcohol use (3 items). Each item was rated on a response scale from *strongly agree* (5) to *strongly disagree* (1). The RSS was slightly adapted for use with adolescents receiving substance abuse treatment services by changing "alcohol" to "alcohol or other drugs" where appropriate. The measure's hypothesized three-factor structure has been empirically extracted using samples of college students cited for campus alcohol violations, and the RSS has been shown to generate scores with adequate reliability and concurrent validity (O'Hare, 2005).

Timeline follow back-sexual risk behavior (TLFB-SRB)—Using an adapted calendar format to assist with recall, adolescents were asked to report on substance use and oral, vaginal and anal intercourse via a modified version of the standard TLFB instrument for the 180 days prior to the baseline assessment (Sobell & Sobell, 1996). Similarly adapted TLFB calendar methodology has been used in published research to assess sexual risk behavior with adequate reliability and validity (e.g., Carey, Carey, Maisto, Gordon, & Weinhardt, 2001). Variables derived from the TLFB-SRB for the present analyses included: Number of days of unprotected intercourse during the prior 30 days, total number of drinks during the prior 30 days; number of drinks per drinking day during the prior 30 days; and number of drug use days during the prior 30 days.

Several additional items were assessed as behavioral indicators of risk for HIV/STI exposure. Participants reported, on a Likert scale ranging from 1 (*never*) to 5 (*always*), how often they used a condom during sexual intercourse. Adolescents also reported how often during the past six months they or their partner (a) drank alcohol or (b) used drugs before or during sex, on a Likert scale ranging from 1 (*never*) to 5 (*always*). Adolescents were also asked to report their total number of sex partners during their lifetime, as well as during the past year [the item read "How many different people, including men and women, have you had sex (vaginal, anal, or oral) with, even if only one time?"]. With regard to their last intercourse episode, adolescents were asked if they or their partner (a) drank alcohol or (b) used drugs before or during sex, and (c) if a condom had been used. These last three items were answered *yes* or *no*.

Results

To test Hypothesis 1, we conducted a confirmatory factor analysis (CFA) using *Mplus* Version 5 (Muthén & Muthén, 2007), to assess the hypothesized factor structure of the RSS. As in O'Hare's (1999) original study, three latent constructs were hypothesized: Risky Sex Expectancies (RSE), Risky Sexual Behavior (RSB), and Gender-Based Sexual Risk Perceptions (GSRP). Model fit was assessed using standard structural equation modeling (SEM) indices, including the ratio of the chi-square statistic to the degrees of freedom (χ^2/df), the comparative fit index (CFI), and the root mean square error of approximation (RMSEA). Adequate fit is represented by $\chi^2/df < 3$; CFI ≥ .95, and RMSEA ≤ .08 (Kline,

2011). In addition, the RMSEA index provides a 90% confidence interval, and a finding that this confidence interval falls entirely below .08 offers increased certainty that the model fits the data well (MacCallum, Browne, & Sugawara, 1996).

The results of the CFA indicated good model fit: χ^2 (74) = 182.39, $p < .001$; CFI = .94; RMSEA = .062 (90% CI = .051 to .074). The standardized residuals for each of the observed variables were below .29, suggesting that the items are reasonable indicators of the latent constructs they represented. Descriptive statistics for all RSS items are presented in Table 1, along with all factor loadings ($p < .001$). The Cronbach's alpha estimates were .85 for the RSE subscale; .78 for the RSB subscale, and .64 for the GSRP subscale. All three RSS subscales were significantly intercorrelated: RSE with RSB, $r = .66$, $p < .01$; RSE with GSRP, $r = .16$, $p < .05$; and RSB with GSRP, $r = .25$, $p < .01$.

Predictive Utility of Risky Sex Scale Subscales on Substance Use and Risky Sexual Behavior Variables

To test Hypothesis 2, and to evaluate the predictive utility of the RSS subscales for both substance use and sexual risk behavior outcomes, we estimated a SEM model in which sex while intoxicated, quantity of alcohol use (total drinks during the prior 30 days, number of drinks per drinking day during the prior 30 days), number of lifetime sex partners, consistency of condom use and the total number of days of unprotected intercourse during the prior 30 days were entered as outcome variables. Gender was entered into the model as a covariate by including it as an additional predictor of each outcome.

The majority of the participants indicated no alcohol use (58%) or unprotected intercourse (67%) during the prior 30 days. Many “count” variables, especially those that assess illegal or sensitive behaviors, follow a Poisson distribution, where the majority of the respondents report no involvement in the behavior. The presence of a disproportionate number of zero responses indicates that the variable follows a Poisson distribution, and the presence of an overwhelming (e.g., 70% or more) number of zero responses indicates that the variable follows a zero-inflated Poisson (ZIP) distribution (Coxe, West, & Aiken, 2009). Poisson-distributed variables violate the assumptions of traditional least-squares regression, and as a result, specific Poisson regression techniques must be used. For variables with an overwhelming proportion of zero responses, there is little variability to explain, and it is often difficult to obtain significant results. Zero-inflated Poisson (ZIP) modeling (Atkins & Gallop, 2007) can be utilized to model the zeroes separately from the nonzero count data, and to bring out associations that would otherwise not have emerged.

In ZIP modeling, the variable is split into two parts: (a) a dichotomous indicator reflecting whether the participant engaged in the behavior in question, and (b) a count indicator, reflecting how often the participant engaged in the behavior. For participants reporting no engagement in the behavior, the count variable is specified as missing. The two parts of the ZIP model can be interpreted as indexing prevalence and frequency, respectively. The unstandardized regression coefficient for the dichotomous portion of the ZIP model is interpreted as an odds ratio (OR), and the count portion is interpreted as an incidence rate ratio (IRR). Both ratios are derived by taking the exponential (inverse natural logarithm) of the unstandardized regression coefficient. The OR and IRR coefficients indicate the

multiplicative increase in likelihood or expected count, respectively, given a 1 *SD* increase in the predictor variable. In the present study, the variables analyzed as counts included the co-occurrence of alcohol use and sex during the prior year, the co-occurrence of drug use and sex during the prior year, the number of lifetime sex partners, and the total number of days drug use was reported during the past 30 days. Alcohol use at last intercourse, drug use at last intercourse, and condom use at last intercourse were analyzed as dichotomous variables. ZIP models were used for the number of days of unprotected intercourse during the prior 30 days, alcohol use during the prior 30 days, and number of drinks per drinking day during the prior 30 days.

Results of the SEM models testing Hypothesis 2 are summarized in Table 2. These findings indicated that the Risky Sex Expectancies (RSE) subscale predicted incidence of cooccurring sex and alcohol use, but not incidence of co-occurring sex and drug use, during the prior 12 months. This discrepancy may be related to the normative nature of drug (i.e., marijuana) use in this treatment sample of adolescents. Participants reported significantly lower likelihood of alcohol use (40%) than drug use (69%) during the prior 30 days, McNemar $\chi^2 = 71.57$, $p < .001$. The RSE subscale also significantly predicted prevalence of alcohol use at the last intercourse episode, as well as the number of drinks per drinking day during the prior 30 days. Relations between the RSE subscale and incidence of (a) drug use at last intercourse episode and (b) condom use at last intercourse approached statistical significance ($p < .10$). The Risky Sexual Behavior (RSB) subscale was significantly related to sex under the influence of drugs during the prior 12 months, number of days of unprotected sex during the prior 30 days, and condom use at last intercourse. The Gender-Based Sexual Risk Perceptions (GSRP) subscale did not significantly predict any of the risk behavior outcomes. However, relations between the GSRP and (a) number of lifetime sex partners, (b) drug use at last intercourse episode and (c) total number of drinks during the prior 30 days approached statistical significance ($p < .10$).

Equivalence Testing across Age and Gender Groups

In this final step of analysis, we examined the consistency of the model across age groups – early adolescents ($n = 237$) and late adolescents ($n = 138$); as well as across gender: male ($n = 268$) and female ($n = 106$). For each of these model comparisons, we estimated two models: an unconstrained model with all paths free to vary across age groups, and a constrained model with all paths constrained equally across age groups. The difference between the log-likelihood values for the unconstrained and constrained models was adjusted according to the non-normality corrections used by the robust maximum likelihood estimator (Muthén & Muthén, 2011), and the adjusted difference was interpreted as a chi-square difference value.

The model comparison by age group was not statistically significant, $\Delta\chi^2 (59) = 20.80$, $p = .99$, suggesting that the model fit equivalently for early and late adolescents. For gender, the model comparison was statistically significant, $\Delta\chi^2 (59) = 2123.43$, $p = .001$, suggesting that the model operates differently for male and female adolescents. Given this finding, we sought to identify the specific factor loadings or structural paths that appeared to differ significantly by gender. We began with the fully constrained model and proceeded to free

one path at a time, evaluating the chi-square difference following each freed path (Byrne, 2011). We conducted this process in two steps – first for the RSS measurement model, and second for the structural paths from the RSS subscales to the risk behavior outcomes.

For the measurement model, we did not find any factor loadings that differed significantly across gender. We then tested for structural invariance, starting from the fully constrained structural model and freeing one path at a time. Three paths differed significantly by gender. First, for males only, a negative relationship was observed between Gender-Based Sexual Risk Perceptions and number of lifetime sex partners, *OR* = 0.93, 95% CI = 0.88 to 0.97, $p < .01$. Second, for females only, a positive relationship was observed between the Risky Sex Expectancies (RSE) subscale and the number of drug using days in the month prior to assessment, *OR* = 1.03, 95% CI = 1.01 to 1.05, $p < .01$. Third, the Risky Sexual Behavior subscale was negatively related to the co-occurrence of drinking and sexual activity among males, *OR* = 0.85, 95% CI = 0.73 to 0.93, $p < .05$; whereas this relationship was positive for females, *OR* = 1.29, 95% CI = 1.03 to 1.62, $p < .05$.

Discussion

The present study provided considerable support for the construct and concurrent validity of the Risky Sex Scale (O'Hare, 2001), including the closely replicated factor structure of the RSS and the significant associations between participants' substance use-related beliefs and behaviors and indicators of sexual behavior and substance use. These findings also support the use of the RSS as a brief screening tool for use with multi-problem youth receiving substance use treatment services. The results of the present study with an ethnically diverse group of adolescents in treatment were quite similar to the findings from the original investigations (O'Hare, 1999, 2001) with largely white samples of college students with campus alcohol violations. Both of these original studies identified specific health risk behaviors that covaried directly with expectancies of enhanced arousal and sexual performance following alcohol use and sexual risk behaviors while intoxicated. In the present sample, the RSE subscale from the RSS was significantly associated with sexual intercourse while drinking alcohol and with alcohol use during the prior 30 days. In contrast, the RSB subscale from the RSS was significantly associated with sexual intercourse while using drugs, and with unprotected intercourse, during the 30 days prior to assessment. Gender differences in relations between ratings of (a) sexual risk behaviors and (b) co-occurring sex and alcohol use are similar to findings from other clinical samples (e.g., Hutton, McCaul, Santora, & Erbelding, 2008) and may reflect factors influenced by gender, such as motives for drinking before sex.

Efforts to prevent young people from using alcohol or other substances or engaging in unplanned, unprotected, or impulsive sexual intercourse remain a daunting challenge. Some evidence supports the efficacy of brief cognitive-behavioral interventions designed to reduce sexual risk behaviors and substance use among multi-problem youth (e.g., Schmiege, Broaddus, Levin, & Bryan, 2009), and school-based primary prevention strategies have demonstrated promising, yet modest, results in reducing risk related to substance use and sexual behaviors over time (e.g., Ellickson, McCaffrey, & Klein, 2009). Achieving significant reductions in targeted risk behavior outcomes via primary and secondary

prevention efforts is likely to be even more difficult among youth manifesting co-occurring psychiatric and behavioral disorders. Nevertheless, screening young people for substance use and sexual risk behaviors in settings where health or treatment services are provided to adolescents is an important goal, not only for early detection (Levy, Sherritt, Gabrielli, Shrier, & Knight, 2009), but also because sexual risk behaviors and substance use might signal developmental deficits, as well as foreshadowing other mental health and behavioral problems (Calvert, Bucholz, & Steger-May, 2010; Dogan et al. 2010; Strachman, Impett, Henson, & Pentz, 2009). In addition, screening for particular substance use expectancies or sexual risk behaviors can be used to identify modifiable targets for treatment protocols or to predict treatment outcomes (Adamson, Sellman, & Frampton, 2009; Jones, Corbin, & Fromme, 2001). To that end, the RSS may serve as an effective, brief screening tool in substance abuse treatment facilities or other health care delivery settings.

Although the GSRP subscale may serve other research purposes, the RSE and RSB subscales appear to provide immediate practical value for identifying youth who are likely to engage in substance-abuse related sexual risk behaviors. These 11 items could be appended to a brief but comprehensive assessment battery that covers a range of other important measures and indicators including substance use, psychiatric symptoms, and other indicators of psychopathology or broad social disruption in settings that provide health care or treatment services to vulnerable youth.

Limitations and Future Directions

The present results should be interpreted in light of several important limitations. First, all data used in the present study were collected from a single source, potentially inflating associations among variables. In addition, self-report data are subject to numerous potential biasing factors, such as faulty recall and social desirability. Second, although cross-sectional analyses are presented here to maximize sample size, this decision limits the range of analyses that can be presented to demonstrate the utility of the RSS. Longitudinal studies are needed to determine the predictive value of RSS subscales for specific developmental and intervention outcomes. Third, the present study is based on a sample of adolescents in outpatient substance abuse treatment settings. The present findings may not generalize to samples of adolescents undergoing inpatient treatment or to adolescents with substance use problems in community settings. In addition, the RSS should be validated against other comparable measures, and empirically derived cut-scores should be developed to help practitioners determine when adolescents' beliefs and behaviors about substance use and sexual risk behavior pose serious threats to their health.

Despite these limitations, the present study has generated support for the utility of a brief measure of social-cognitive predictors of sexual risk taking. The fact that the measure appears to work well with a range of populations, including both mandated college students and multi-problem adolescents, suggests that it may serve as a useful screening tool in a number of clinical or service provision settings. We hope that the RSS will find use in helping to minimize HIV risk behaviors among adolescents undergoing substance abuse treatment.

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Table 1

Means, standard deviations and factor loadings in confirmatory factor analysis for the Risky Sex Scale (RSS)

Item	*M*	*SD*	Factor Loadings
Risky Sex Expectancies (RSE)			
1. I often feel hornier after I've had a couple of drinks	3.02	1.41	.67*
2. I'm a better sex partner after a few drinks	3.58	1.17	.77*
3. Women can have orgasms more easily if they have been drinking	3.15	1.07	.44*
4. I enjoy having sex more if I have had some alcohol	3.51	1.22	.84*
5. I am more romantic when I drink	3.86	1.04	.59*
6. I feel more masculine (feminine) after a few drinks	3.60	1.22	.64*
7. After a few drinks, it is easier for me to have sex	3.52	1.23	.76*
Risky Sex Behaviors (RSB)			
8. If I have been drinking or using other drugs, I am probably more likely to have unprotected sex	3.46	1.36	.52*
9. If I have been drinking or using other substances with a new date, I am more likely to have sex with that person	3.12	1.33	.74*
10. I am more likely to have unplanned sex if I have been drinking or using other substances	2.81	1.30	.78*
11. If I have been drinking or using other substances with a familiar friend, I am more likely to have sex with that person	3.12	1.27	.73*
Gender-Based Sexual Risk Perceptions (GSRP)			
12. Women are more likely to be sexually assaulted if they have been drinking or using other drugs	2.15	1.07	.71*
13. Women seem more likely to have sex if they have been drinking, than if they have not been drinking	2.19	1.04	.52*
14. Men are more likely to commit sexual assault if they have been drinking or using other drugs	2.27	1.11	.62*

Note.

* $p < .001$

Table 2

Prediction of Risk Behaviors Outcomes by Risky Sex Scale (RSS) Subscales (N = 361)

Risk behavior outcomes	RSE OR/IRR	95% CI	RSB OR/IRR	95% CI	GSRP OR/IRR	95% CI
Co-occurring sex and alcohol use (past year)	**1.21***	1.06 - 1.39	1.11	0.96 - 1.28	1.03	0.89 - 1.19
Co-occurring sex and drug use (past year)	1.08	0.96 - 1.26	**1.18***	1.03 - 1.35	0.95	0.85 - 1.06
Lifetime sex partners	1.03	0.91 - 1.18	1.05	0.88 - 1.27	0.89§	0.79 - 1.01
Days Unprotected Intercourse[b] (prior 30 days)						
Count	1.16	0.94 - 1.43	1.05	0.75 - 1.48	1.19	0.91 - 1.55
Yes/No	1.09	0.83 - 1.42	**1.68****	1.26 - 2.25	1.08	0.84 - 1.40
Alcohol use last intercourse[a]	**2.04****	1.21 - 3.41	0.95	0.52 - 1.73	1.13	0.76 - 1.68
Drug use last intercourse[a]	1.40§	0.94 - 2.10	0.99	0.64 - 1.52	0.77§	0.55 - 1.06
Condom use last intercourse[a]	1.05§	0.99 - 1.12	**0.90***	0.83 - 0.97	0.99	0.93 - 1.05
Total alcohol use (prior 30 days)[b]						
Count	1.09	0.84 - 1.43	1.22	0.85 - 1.74	0.85§	0.70 - 1.04
Yes/No	**1.83****	1.38 - 2.41	0.85	0.64 - 1.12	1.16	0.90 - 1.48
Number drinks per drinking day (prior 30 days)[b]						
Count	1.03	0.86 - 1.24	1.16	0.90 - 1.50	0.93	0.81 - 1.08
Yes/No	**1.78****	1.36 - 2.31	0.87	0.66 - 1.14	1.16	0.91 - 1.48
Number days drugs used (prior 30 days)	1.05	0.95 - 1.15	1.06	0.95 - 1.17	0.95	0.87 - 1.03

Note.

[a] Analyzed as a dichotomous variable.

[b] Zero-inflated Poisson (ZIP) models were used for these outcomes.

§ $p < .1$

* $p < .05$

** $p < .01$

*** $p < .001$.