Addictive Behaviors 39 (2014) 824–828

Contents lists available at ScienceDirect

Addictive Behaviors

Short Communication

Reducing risk for illicit drug use and prescription drug misuse: High school gay-straight alliances and lesbian, gay, bisexual, and transgender youth

Nicholas C. Heck [a,b,*,1], Nicholas A. Livingston [b,2], Annesa Flentje [c,3], Kathryn Oost [b,2], Brandon T. Stewart [b,2], Bryan N. Cochran [b,2]

[a] Warren Alpert Medical School of Brown University, United States
[b] The University of Montana, United States
[c] University of California, San Francisco, United States

HIGHLIGHTS

- Assessed association between gay-straight alliances (GSAs) and illicit drug use.
- LGBT youth *without* a GSA evidenced greater risk for illicit substance use.
- They also evidenced greater risk for prescription drug misuse.
- GSAs appear to promote favorable health outcomes for LGBT youth.

ARTICLE INFO

Keywords:
Drug use
Gay-straight alliance
High school
LGBT youth
Sexual minority youth

ABSTRACT

Previous research suggests that lesbian, gay, bisexual, and transgender (LGBT) youth are at elevated risk for using illicit drugs and misusing prescription drugs relative to heterosexual youth. Previous research also indicates that LGBT youth who attend high schools with a gay-straight alliance (GSA) report having fewer alcohol problems and lower levels of cigarette smoking. The present study investigates whether the absence of a GSA is associated with risk for illicit drug use and prescription drug misuse in a sample of 475 LGBT high school students (*M* age = 16.79) who completed an online survey. After controlling for demographic variables and risk factors associated with illicit drug use, the results of 12 logistic regression analyses revealed that LGBT youth attending a high school *without* a GSA evidenced increased risk for using cocaine (adjusted odds ratio [$_{adj}OR$] = 3.11; 95% confidence interval [95% CI] = 1.23–7.86), hallucinogens ($_{adj}OR$ = 2.59; 95% CI = 1.18–5.70), and marijuana ($_{adj}OR$ = 2.22; 95% CI = 1.37–3.59) relative to peers attending a high school *with* a GSA. Youth *without* a GSA also evidenced increased risk for the misuse of ADHD medication ($_{adj}OR$ = 2.00; 95% CI = 1.02–3.92) and prescription pain medication ($_{adj}OR$ = 2.00; 95% CI = 1.10–3.65). These findings extend the research base related to GSAs and further demonstrate the importance of providing LGBT youth with opportunities for socialization and support within the school setting. Important limitations of the present study are reviewed.

1. Introduction

When compared to heterosexual youth, lesbian, gay, and bisexual (LGB) adolescents evidence increased risk for illicit drug use (Bontempo & D'Augelli, 2002; Marshal et al., 2008; Mclaughlin, Hatzenbuehler, Xuan, & Conron, 2012). Specifically, LGB youth evidence increased risk for past-year amphetamine, cocaine, ecstasy, hallucinogen, heroin, and marijuana use, and prescription medication misuse (Corliss et al., 2010). Studies utilizing adult samples of transgender individuals indicate that this population may also be at risk for using illicit drugs and misusing prescription drugs (Benotsch et al., 2013; Herbst et al., 2008) and

* Corresponding author at: Bradley/Hasbro Children's Research Center, One Hoppin Street, Suite 204, Providence, RI 02903, United States. Tel.: +1 812 320 2089; fax: +1 401 444 4645.
E-mail address: heck.nicholas@gmail.com (N.C. Heck).
[1] Department of Psychiatry & Human Behavior, Warren Alpert Medical School of Brown University, Bradley/Hasbro Children's Research Center, One Hoppin Street, Suite 204, Providence, RI 02903, United States.
[2] Department of Psychology, The University of Montana, Skaggs Building Room 146, Missoula, MT 59812, United States.
[3] Department of Psychiatry, University of California, San Francisco, San Francisco General Hospital, 1001 Potrero Avenue, Suite 7M, San Francisco, CA 94110, United States.

0306-4603/$ – see front matter © 2014 Elsevier Ltd. All rights reserved.
http://dx.doi.org/10.1016/j.addbeh.2014.01.007

explanatory models (Meyer, 1995, 2003) for the elevated rates of mental health and substance use problems among LGB individuals may generalize to transgender populations (Hendricks & Testa, 2012).

Greater rates of substance use among lesbian, gay, bisexual, and transgender (LGBT) adolescents are often linked to minority-specific stressors, which are rooted in societal heterosexism (see Hendricks & Testa, 2012; Meyer, 1995, 2003). For example, LGB youth are more likely to experience victimization perpetrated by parents/caregivers and peers than heterosexual youth (Fedewa & Ahn, 2011; Friedman et al., 2011). Transgender youth are also likely to experience elevated rates of school-based victimization and parental rejection (Grossman, D'Augelli, Howell, & Hubbard, 2005; McGuire, Anderson, Toomey, & Russell, 2010). In turn, experiencing rejection and victimization is associated with increased illicit drug use and prescription drug misuse among LGBT youth (Bontempo & D'Augelli, 2002; Kecojevic et al., 2012; Mclaughlin et al., 2012; Rosario, Schrimshaw, & Hunter, 2009; Ryan, Huebner, Diaz, & Sanchez, 2010).

One factor that appears to promote positive health outcomes for lesbian, gay, bisexual and transgender (LGBT) youth involves attending a high school with a gay-straight alliance (GSA). A GSA is a school-based club that works to create a supportive school environment for all students, regardless of sexual orientation and/or gender identity and expression. Research suggests that attending a high school with a GSA can reduce the burden of minority stressors (Goodenow, Szalacha, & Westheimer, 2006; Heck, Flentje, & Cochran, 2011; Heck, Lindquist, Stewart, Brennan, & Cochran, 2013). Specifically, LGBT youth attending schools with GSAs report experiencing less school-based victimization, a greater sense of school belonging, and less concealment of their sexual minority statuses (Goodenow et al., 2006; Heck et al., 2011, 2013; Kosciw, Palmer, Kull, & Greytak, 2013). Goodenow et al. (2006) reported that GSAs were associated with lower risk for suicide in adolescence, while Toomey, Ryan, Diaz, and Russell (2011) found that this reduction in suicide risk also extended into young adulthood. Attending schools with GSAs also appears to be associated with lower levels of cigarette use, alcohol consumption, and alcohol-related problems among LGBT adolescents and young adults (Heck et al., 2011; Poteat, DiGiovanni, Sinclair, Koenig, & Russell, 2013).

The present study extends previous research by investigating the relationship between GSAs and drug use using a large sample of LGBT youth. It is hypothesized that after controlling for demographic and potential confounding variables, LGBT youth attending a high school without a GSA will evidence greater risk for lifetime illicit drug use and prescription drug misuse, relative to peers attending a school with a GSA.

2. Method

2.1. Participants and inclusion criteria

The sample included adolescents who completed an online survey about factors and experiences that contribute to mental health and substance use outcomes. Inclusion criteria specified that participants had to be at least 16 years old and attending a public or private high school. Participants also had to identify as LGBT, or with another sexual or gender minority identity (queer, pansexual, etc.). Participants who identified as heterosexual ($n = 40$) were included in the sample if they endorsed having same-sex sexual attractions or engaging in same-sex sexual behavior.

Participants included 179 male, 257 female, and 39 transgender (male to female $n = 7$; female to male $n = 17$) or other ($n = 15$) gender-identified high school students (mean age = 16.79; $SD = 0.78$). Ethnic minorities represented approximately 30% of the sample; 51 participants identified as Hispanic, 36 identified as African American, 17 as Native American, 16 as Asian American, and 26 selected an "other" option to reflect their ethnicities. Using United States Census Bureau (1994) coding for regions, 165 participants were from Western states, while 147, 82, and 81 participants were from Southern, Northeastern, and Midwestern states, respectively. Additional demographic characteristics of the sample are included in Table 1.

2.2. Procedure

Data were collected between September 2011 and April 2012. The study was approved by the Institutional Review Board at the authors' home institution, and a waiver of parental permission was granted for 16 and 17 year olds. Participants were recruited using a recruitment message (for online recruitment via the social networking site Facebook) or flyers and business cards (for recruitment from LGBT community centers, LGBT community groups, and school-based LGBT groups). As an incentive, participants could enter into a raffle to win one of ten $10 gift cards for agreeing to complete a five-item screener, and enter into a second raffle to win one of ten $20 gift cards if they qualified for the study and agreed to participate.

2.3. Measures

Participants reported their age, grade in school, race/ethnicity, relationship status, gender, sexual orientation (both categorical: bisexual, gay or lesbian, straight or heterosexual, unsure, or other; and continuous: 1 [*Heterosexual or Straight*] to 9 [*Gay or Lesbian*]), the size of their city or town, and type of high school (i.e., public or private). GSA status was assessed using the item, "Does your high school have a gay-straight student alliance, queer alliance, or group for LGBT students and their allies?" with yes/no response options.

Childhood abuse was measured using the Childhood Trauma Questionnaire, Short-Form (CTQ-SF; Bernstein et al., 2003). Community climate for LGBT people was assessed using the sum of two items, rated from 1 to 5 (lower scores representing safe and accepting communities), "Please rate how safe your community is for LGBT people" and "Please rate how accepting your community is of LGBT people." Parental acceptance was assessed with two items measuring reactions to learning about their child's sexual identity (ranging from 1: *Rejecting* to 5: *Accepting*). A modified Olweus Bullying and Victimization Scale (Olweus, 1994) was used to assess school victimization.

Lifetime drug use was assessed with yes/no response options to having ever used: cocaine, ecstasy, GHB/ketamine/Rohypnol, hallucinogens, heroin, inhalants, marijuana, methamphetamines, and steroids and "recreational/non-medical use" of: prescription stimulants, anti-anxiety medication or prescription pain medications (with examples given for the different drug classes).

2.4. Statistical analysis

Chi-square tests of independence for categorical variables and independent samples t-tests for continuous variables were used to test for group differences on demographic variables and the selected covariates. Covariates (childhood trauma, community climate, parental acceptance, and school victimization) were included in our models based on their relationship with drug use among sexual minority populations. For each of our 12 logistic regressions, we entered demographic variables (ethnicity, population size, gender, continuous sexual orientation, and school type [private versus public]) at block one, covariates at block two, and GSA status in block three (with GSA as reference group). The analyses were carried out using IBM SPSS Statistics 20.0 (IBM Corp., 2011).

3. Results

Complete results of demographic and covariate comparisons by GSA status are reported in Table 1. Participants without a GSA were more likely to identify their gender as male, identify their sexual orientation as gay or lesbian, attend private school, attend high school in smaller