

Offsetting Risks: High School Gay-Straight Alliances and Lesbian, Gay, Bisexual, and Transgender (LGBT) Youth

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Lesbian, gay, bisexual, and transgender (LGBT) youth are at risk for engaging in negative health behaviors and for experiencing at-school victimization. Specific benefits of attending a high school with a gay-straight alliance (GSA), including lower levels of suicidality, have been published; however, it is unclear whether GSAs are related to lower levels of problematic substance use, depressive symptoms, and psychological distress. Using a sample of 145 LGBT youth recruited from college and university organizations for LGBT students, we examined whether attending a high school with a GSA was related to more positive school experiences and mental health outcomes for LGBT youth. The results indicate that youth who attended a high school with a GSA report significantly more favorable outcomes related to school experiences, alcohol use, and psychological distress. The implications of the findings are discussed as they relate to school psychologists. Important limitations of this study are reviewed.

Keywords: sexual minority youth, LGBT, alcohol, gay-straight alliance, high school

Studies of lesbian, gay, bisexual, and transgender (LGBT)¹ youth have consistently found that this population is at-risk for experiencing psychological distress. Specifically, lesbian, gay, and bisexual (LGB) youth have been found to report more challenges related to depression (D’Augelli, 2002; Fergusson, Horwood, & Beautrais, 1999), suicidality (Faulkner & Cranstron, 1998; Jiang, Perry, & Hesser, 2010; Russell & Joyner, 2001; Silenzio, Pena, Duberstein, Cerel, & Knox, 2007; Zhao, Montoro, Igartua, & Thombs, 2010), and problematic substance use (Bontempo & D’Augelli, 2002; Corliss, Rosario, Wypij, Wylie, Frazier, & Austin, 2010; Faulkner & Cranstron, 1998; Russell, Driscoll, & Truong, 2002) when compared to heterosexual youth. According to McGuire, Anderson, Toomey, and Russell (2010), “the cumulative literature suggests that some transgender youth face significantly more mental health difficulties, such as depression, anxiety, and self harming behaviors. . . than their gender conforming

peers” (p. 1175). This body of literature has grown to the point where meta-analytic evidence suggests that LGB youth are at higher risk for substance misuse when compared to heterosexual youth (Marshal et al., 2008).

Research indicates that others’ reactions to an individual’s sexual orientation may be a key factor in identifying elevated risk. For example, LGB youth who experience parental rejection upon disclosure of their minority statuses appear to be at an increased risk for using illegal drugs, developing depressive symptoms, and for attempting suicide (D’Augelli et al., 2001; Ryan, Huebner, Dias, & Sanchez, 2009), while parental support has been shown to mediate the relationship between sexual orientation and depression and sexual orientation and suicidal thoughts in the transition to young adulthood (Needham & Austin, 2010).

¹ LGBT is a commonly used acronym in the literature that combines aspects of sexual orientation (i.e., lesbian, gay, and bisexual identities) with gender identity (i.e., transgender). *Sexual minority* as a term is also frequently used to describe LGBT people. Though neither categorization can capture the complexities of sexual orientation and gender identity accurately, we use the term LGBT more often throughout this paper, as it best reflects the identities of the participants in this study. As the previous research is reviewed, we have attempted use the terminology that best reflects the samples under study.

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Abuse and Victimization Among LGBT Youth

According to the gay-related stress hypothesis, growing up in a stigmatizing, heterosexist society leads to an increase in substance use and psychological distress among people who identify as LGBT (Rosario, Schrimshaw, Hunter, & Gwadz, 2002; also see Meyer, 1995). Consistent with this hypothesis, LGBT persons report experiencing victimization and abuse at higher rates than heterosexuals. LGBT youth have been found to experience more abuse perpetrated by family members when compared to heterosexual youth (Balsam, Rothblum, & Beauchaine, 2005; Corliss, Cochran, & Mays, 2002; Saewyc, Skay, Petingell, Reis, Bearinger, Resnick, & Combs, 2006; Temeo, Templer, Anderson, & Kotler, 2001), while experiencing parental verbal and physical abuse is a factor related to suicide attempts among transgender youth (Grossman & D'Augelli, 2007).

Saewyc and colleagues (2006) combined data from seven population-based surveys and found that LGBT youth, relative to heterosexual youth, were more likely to report histories of physical and sexual abuse. Using data from a sample of 168 homeless adolescents, Cochran, Stewart, Ginzler, and Cauce (2002) found that LGBT youth were more likely to have left home as a result of physical abuse when compared to a matched sample of homeless, heterosexual youth. Failing to conform to gender-norms also appears to be related to childhood abuse experiences among LGBT youth (D'Augelli, Grossman, & Starks, 2006; Grossman, D'Augelli, Howell, & Hubbard, 2006).

Evidence from population-based studies demonstrates that experiencing verbal, physical, and sexual abuse in childhood is associated with a number of negative health outcomes (Chartier, Walker, & Naimark, 2009; Springer, Sheridan, Kuo, & Carnes, 2007). Additional evidence suggests that the association between childhood abuse and negative health outcomes also extends to LGBT people. For example Robohm, Litzenberger, and Pearlman (2003) found that lesbian and bisexual women with a history of childhood sexual abuse (CSA) were more likely to experience a number of emotional and behavioral challenges, when compared to lesbian women without a history of CSA. Wilsnack et al. (2008) reported higher rates of problematic

drinking and experiences of CSA among lesbian and bisexual women when compared to exclusively heterosexual women. Similar associations between childhood abuse and health risk behaviors, especially unsafe sexual practices, have been reported for gay and bisexual males (Lenderking, Wold, Mayer, Goldstein, Losina, & Seage, 1997; Neisen & Sandall, 1990; Rosario, Schrimshaw, & Hunter, 2006; Saewyc, Skay, Richens, Reis, Poon, & Murphy, 2006).

The victimization of youth at school is a factor associated with negative mental health outcomes for LGBT individuals. Prior research indicates that LGBT youth report experiencing significantly more at-school victimization than their heterosexual peers. Bontempo and D'Augelli (2002) used data collected from 9,188 high school students who completed the Youth Risk Behavior Survey in Massachusetts and Vermont and found that LGB youth reported higher levels of at-school victimization when compared to heterosexual youth. Furthermore, when the entire sample was classified as either experiencing high or low levels of at-school victimization, high victimization LGB youth reported significantly more challenges related to substance use and suicidality than high victimization heterosexual and low victimization LGB youth.

Using a community sample of 97 sexual minority high school students and a matched comparison sample of heterosexual students, Williams, Connolly, Pepler, and Craig, (2005) found more reports of bullying, harassment, and depression among LGBT youth. Victimization at school and social support were found to mediate the associations between sexual orientation and psychological distress; these findings highlight how the school environment can relate to both positive and negative mental health outcomes.

D'Augelli, Pilkington, and Hershberger (2002), collected data from 350 LGB youth and young adults ages 14–21 and found that high school victimization experiences were associated with current mental health problems. Specifically, 9% of the variance in mental health symptoms was accounted for by at-school victimization, while 92% of the sample was between the ages of 18 and 20, suggesting that the effects of at-school victimization may extend beyond the high school years and impact psychosocial adjustment.

According to the Gay, Lesbian, and Straight Education Network's (GLSEN) National School Climate Study, which consisted of more than 6,000 sexual minority high school students, 86% reported being verbally harassed at school within the past year, 44% reported being physically harassed, and 22% reported being physically assaulted (Kosciw & Diaz, 2006). The GLSEN (2008) sampled 1,580 public school principals and found that approximately 30% of principals reported that their teachers were either "fair" or "poor" at being able to address the bullying of sexual minority students. Additionally, 95% of principals reported that students are harassed based upon gender expression and 92% reported harassment based upon sexual orientation. Overall, at-school victimization disproportionately impacts LGBT youth and has been shown to be related to lower levels of school belonging, feeling unsafe at school, poorer academic performance, more substance use, and more depressive symptomatology.

Gay-Straight Alliances (GSAs)

Gay-straight alliances are usually student led, school-based clubs that exist in middle and high schools whose goals involve improving the school climate for LGBT youth and educating the school community about sexual minority issues (GLSEN, 2007). Such school-based organizations can be a place for LGBT youth to spend time with peers and may increase social support for sexual minority youth (Jordan, 2000). Fetner and Kush (2008) found that GSAs were more likely to form in liberal urban and suburban areas, in larger school districts with greater financial resources, and in communities with existing support groups for LGBT youth. There is a limited amount of research available regarding school-based interventions for sexual minority youth; however, promising data exists to suggest that GSAs are related to more favorable psychosocial outcomes for this population (Hansen, 2007). The GLSEN has highlighted key findings that depict the positive benefits related to attending a high school with a GSA.

First, the presence of GSAs in schools may contribute to a safer atmosphere for LGBT youth by sending a message that hate speech and victimization will not be tolerated (GLSEN, 2007). This finding is supported by research conducted by Szalacha (2003), who found that

students attending a high school with a GSA were less likely to hear homophobic comments in school when compared to youth attending a school without a GSA. Lee (2002) conducted qualitative interviews with seven high school students who reported that they felt safer and harassed less because of their involvement with the GSA, a finding that has been consistently supported by research related to attending high schools with GSAs (see Kosciw & Diaz, 2006; Walls, Kane, & Wisneski, 2010). Using data from the Massachusetts Youth Risk Behavior Survey, Goodenow, Szalacha, and Westheimer (2006) found that GSAs were associated with less at-school victimization and lower risk for past-year suicide attempts among LGB youth. At-school victimization was found to significantly predict suicidality, while perceived teacher and staff support was found to offset suicide risk (Goodenow et al., 2006).

Second, by having a GSA in a school, the school may be viewed as a place where LGBT youth feel they belong and are supported (GLSEN, 2007). Research conducted by Kosciw and Diaz (2006) and Walls et al. (2010) found that LGBT youth attending a school with a GSA appear less likely to miss school because of concerns for their physical safety when compared to peers who attend a school without a GSA. Attending a high school with a GSA has also been associated with hearing teachers make positive statements about LGBT people (Szalacha, 2003).

Finally, GSAs may help LGBT youth identify school teachers and staff who are supportive, which is shown to positively impact the academic achievement and experiences of LGBT youth (GLSEN, 2007). LGBT youth attending a high school with a GSA report having more supportive school teachers and staff members; these youth also appear to have higher GPAs and a greater sense of belonging to their schools, when compared to LGBT youth attending a high school without a GSA (Kosciw & Diaz, 2006; Szalacha, 2003; Walls et al., 2010).

At the same time, many LGBT youth in the U.S. still do not have access to a GSA or another type of high school club that provides support (GLSEN, 2007). Lee (2002) pointed out that GSAs are important because they offer support to LGBT youth, but they can also be of benefit to heterosexual youth. GSAs may provide a space where heterosexual youth can be-

come educated about LGBT issues, and they may also provide support to children of same-sex parents.

No studies to date have examined whether attending a high school with a GSA is related to lower levels of problematic drinking and other forms of psychopathology. Therefore, the purpose of this study is to replicate and extend the research base related to the potential benefits of attending a high school with a GSA. Specifically, it is hypothesized that LGBT youth who have attended a high school with a GSA (GSA+) will report significantly more school belonging and less at-school victimization, problematic alcohol use, depression, and general psychological distress when they are compared to LGBT peers who attended a high school without a GSA (GSA-). Furthermore, it is predicted that these significant differences will exist while controlling for abuse (including physical, sexual, and emotional abuse) during childhood, and other important demographic or environmental factors that might distinguish GSA+ and GSA- youth.

Method

Participants

To be included in this study, participants had to identify as LGBT, be between the ages of 18 and 20, and have completed 12 or more years of education. We selected this age range to improve the accuracy of participants' reporting of experiences in high school and to ensure that none of the participants were of legal age to consume alcohol, (i.e., including participants of age 21+ would introduce a confound of legal vs. illegal alcohol consumption). Initially, 153 potential participants were considered for inclusion in the study. Four participants did not meet the inclusion criteria because they self-identified as heterosexual and four participants were excluded because of their age and/or education level. Thus, data from 145 subjects is analyzed for this study and comprise our sample.

Seventy-nine participants indicated that they attended a high school with a GSA, while 66 indicated that they had not. In terms of ethnicity, 102 (70.8%) participants identified as White, while 14 (9.7%) identified as African American, 8 (5.6%) identified as Asian American, 7 (4.9%) identified as Hispanic or Chicano,

one (0.7%) identified as Native American, 12 (8.3%) selected "other" to represent their ethnicities, and 1 participant failed to provide a response to the ethnicity item. Additional demographic information for the sample is located in Table 1.

Measures

The survey contained standard demographic questions including age, gender, ethnicity, relationship status, years of education, and the population of the city or town where participants attended high school. The Outness Inventory (OI; Mohr & Fassinger, 2000) was administered to measure how open participants were about their sexual orientation with various individuals (e.g., parents, siblings, extended family members). Participants reported their current levels of outness using a scale from 1, "person definitely does not know about your sexual orientation status" to 7, "person definitely knows about your sexual orientation, and it is openly talked about" (an option to enter 0, "does not apply" was also provided).

Participants also completed two items that assessed the climate for LGBT youth in their high schools and their communities. Response options for these items ranged from 1-5 and included the following descriptors: (1) "Extremely safe and accepting," (2) "Safe and accepting," (3) "Neutral," (4) "Unsafe and not accepting," and (5) "Extremely unsafe and not accepting." For the purposes of this study, LGBT status was verified by asking participants to select the option that best described their sexual orientation. The options included: gay, lesbian, or homosexual; bisexual; heterosexual; and not sure. Sexual orientation was also assessed using a continuous scale from 1: "Exclusively Heterosexual" to 7: "Exclusively Homosexual" and additional domains of sexual orientation (behavioral and affective) were also assessed but not analyzed for this study.

At-school victimization (while in high school) was assessed using nine questions taken from the Olweus' Bullying and Victimization Scale (Olweus, 1994). An additional item that assessed hearing homophobic jokes and comments was also included. The 10 items were revised so they could be answered retrospectively (e.g., "In high school, I was called mean names, made fun of, or teased in a hurtful way

Table 1
Demographic Characteristics of the Entire Sample and a Comparison of GSA+ and GSA- Groups to Determine Potential Covariates

Variable	Entire sample (n = 145)	GSA+ (n = 79)	GSA- (n = 66)	GSA+ and GSA- comparison	
	n (%)	n (%)	n (%)	t/ χ^2	p-value
Gender				3.33	.189
Female	87 (60.0)	52 (65.8)	35 (53.0)		
Male	48 (33.1)	21 (26.6)	27 (40.9)		
Transgender/other	10 (6.9)	6 (7.6)	4 (6.1)		
Ethnicity				6.09	.297
African American	14 (9.7)	6 (7.6)	8 (12.1)		
Asian American	8 (5.6)	5 (6.4)	3 (4.5)		
White	102 (70.8)	56 (71.8)	46 (69.7)		
Hispanic/Chicano	7 (4.9)	2 (2.6)	5 (7.6)		
Indian/Native American	1 (0.7)	0 (0.0)	1 (1.5)		
Other	12 (8.3)	9 (11.5)	3 (4.5)		
Sexual orientation				8.42	.015
Bisexual	54 (37.2)	37 (46.8)	17 (25.8)		
Gay/lesbian	83 (57.2)	40 (50.6)	43 (65.1)		
Other	8 (5.6)	2 (2.5)	6 (9.1)		
Relationship status				3.85	.146
Dating	42 (29.0)	24 (30.4)	18 (27.3)		
Married/committed	31 (21.3)	21 (26.6)	10 (15.2)		
Single	72 (49.7)	34 (43.0)	38 (57.6)		
Population				18.11	.003
Less than 2,500	9 (6.2)	0 (0.0)	9 (13.6)		
2,500–4,999	9 (6.2)	4 (5.1)	5 (7.6)		
5,000–9,999	19 (13.1)	8 (10.3)	11 (16.7)		
10,000–49,999	43 (29.7)	31 (39.7)	12 (18.2)		
50,000–250,000	36 (24.8)	21 (26.9)	15 (22.7)		
More than 250,000	28 (19.3)	14 (17.9)	14 (21.2)		
Education				1.60	.660
12 years	25 (17.2)	13 (16.5)	12 (18.2)		
13 years	53 (36.6)	26 (32.9)	27 (40.9)		
14 years	49 (33.8)	30 (38.0)	19 (28.8)		
15 years	18 (12.4)	10 (12.7)	8 (12.1)		
	Mean (SD)	Mean (SD)	Mean (SD)		
Age	19.17 (0.76)	19.06 (0.75)	19.30 (0.74)	-1.91	.058
Community climate	2.90 (1.19)	2.67 (1.13)	3.18 (1.21)	-2.63	.009
CTQ-SF total score	21.28 (8.35)	21.02 (8.83)	21.58 (7.80)	-0.39	.694
CTQ-SF sexual	6.25 (3.43)	6.16 (3.87)	6.35 (2.83)	-0.32	.749
CTQ-SF physical	6.46 (2.86)	6.39 (3.00)	6.53 (2.71)	-0.29	.774
CTQ-SF emotional	8.57 (4.02)	8.47 (4.08)	8.70 (3.98)	-0.34	.735
Outness inventory	26.41 (8.71)	26.22 (9.51)	26.65 (7.72)	-0.29	.775
Sexual orientation	5.52 (1.39)	5.28 (1.37)	5.82 (1.35)	-2.38	.019

Note. GSA+ = participants who attended a high school with a gay-straight student alliance; GSA- = participants who attended a high school without a gay-straight student alliance. Population refers to the population of the city or town where the participant attended high school for the longest period of time. CTQ-SF = Childhood Trauma Questionnaire-Short Form that provides a total score and three subscales for sexual, physical, and emotional abuse.

by other students”) and so that participants could indicate whether they felt the victimization was related to their sexual orientation. Researchers studying bullying have often relied on retrospective self-reports, and the accurate re-

porting of bullying experiences by victims has been demonstrated (Olweus, 1993).

For each item, participants indicated how often they experienced each form of at-school victimization using a Likert scale ranging from 0 (this

never happened to me in high school) to 4 (this happened to me several times each week). For an item to count toward the total victimization score, participants also had to indicate that they felt the victimization experience was because of their sexual orientation. Thus, the total score is one that is comprised of victimization experiences that are uniquely linked to sexual orientation and not other factors that may also put youth at-risk for experiencing victimization.

The Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, de la Fuente, & Grant, 1993) was used to measure problematic alcohol use. The AUDIT contains 10 items that assess the frequency of alcohol consumption, potential alcohol dependence, and harmful aspects of alcohol use. The AUDIT is scored on a scale from 0–40, with higher scores indicating more problematic alcohol use. The AUDIT has demonstrated sound psychometric qualities across a number of empirical investigations (Meneses-Gaya, Zuardi, Loureiro, & Crippa, 2009). The Beck Depression Inventory-II (BDI-II; Beck, Steer, Ball, & Ranieri, 1996) was used to assess depressive symptoms. The BDI-II is a 21-item self-report measure that assesses depressive symptomatology using a 4-point scale for each item; total scores on the BDI-II range from 0 to 63 with greater scores indicating higher levels of reported depressive symptoms. The Brief Symptom Inventory (BSI; Derogatis, 1993), which contains 53-items that assess how often over the past week participants experienced general psychological distress in relation to specific problems (e.g., feeling lonely, feeling blue) on a scale from 0 “not at all” to 4 “extremely,” was also administered. The BSI has been used to assess psychological distress among sexual minority youth in a number of previous studies and has demonstrated excellent reliability with alphas ranging from .70 to .95 (D’Augelli et al., 2002). The Childhood Trauma Questionnaire, Short Form (CTQ-Short Form; Bernstein et al., 2003) was used to assess childhood abuse. The CTQ-SF contains 24-items that assess experiences of emotional, physical, and sexual abuse during childhood and adolescence; the measure has demonstrated internal consistency coefficients ranging from .80 to .95 for the three abuse categories (Bernstein et al., 2003). A total score to quantify abuse was calculated by adding the scores from the emotional, physical, and

sexual abuse subscales. Finally, to measure high school belonging, four items from Rostosky, Owens, Zimmerman, and Riggle, (2003) were used. These items measure high school belonging using a 5-point Likert scale where participants indicate their degree of agreement or disagreement. These items are: “I was happy to be at school,” “I felt safe at school,” “The teachers at my school treated me fairly,” and “I felt like I fit in at school.” An additional item, “I attended or was involved in some kind of school related activity or school function,” was also added.

Procedures

Participants were recruited from college and university LGBT student organizations between April and July of 2009. A total of 152 colleges and universities were identified as having one or more student organizations for sexual minorities. A recruitment e-mail that included information about the purpose of the study was sent to faculty advisors and/or student leaders of such organizations. Potential participants were informed that this study sought to understand their experiences in high school, and how those experiences shaped their development. Student organizations distributed the recruitment e-mail with a link to the survey to their members via e-mail distribution lists and/or by posting the recruitment information on a social networking website. The recruitment e-mail requested that faculty advisors and/or student leaders inform the researcher if or when the study information was distributed. The recruitment e-mail suggested that the researcher be blind carbon copied (BCCed) on e-mails sent to student distribution lists; 59 universities were determined to have participated based on this information. As an incentive for their participation, participants could elect to enter into a raffle to win 1 of 10, 10-dollar gift certificates for an online merchant.

Analyses

To examine our hypotheses, a total of seven individual analyses of covariance (ANCOVAs) were calculated using the presence or absence of a GSA as our independent variable. For each analysis, childhood abuse scores (from the CTQ-SF) were entered as a covariate. This covariate was selected a priori and based upon the multiple studies that demonstrate

that LGBT youth are often the victims of childhood abuse. As childhood abuse is associated with a number of negative psychosocial outcomes, we sought to minimize the influence of childhood abuse on our dependent variables of interest.

Additionally, some preexisting differences were found between GSA+ and GSA- groups as depicted in Table 1. Chi-square analyses revealed that more GSA+ youth identified as bisexual in comparison to GSA- youth, and more GSA+ youth attended high schools in cities or towns with larger populations. Significant differences in community climate and sexual orientation were detected between GSA+ and GSA- youth using independent samples *t* tests; GSA- youth reported significantly higher scores on the continuous measure of sexual orientation, while GSA+ youth reported attending high school in safer and more accepting communities. Given these differences, sexual orientation, population, and community climate were also included as covariates. A significant difference in current levels of outness was not detected.

Results

Cronbach’s alpha was calculated for each measure corresponding to a dependent variable: .672 (Victimization), .770 (AUDIT), .815 (school belonging), .920 (BDI-II), and .960 (BSI). Overall means, group means, and *SDs* for each dependent variable can be found in Table 2. In addition, Table 3 presents the results of the seven ANCOVAs that are discussed below and provides *F*-statistics, *p* values, and effect size mea-

asures for the covariates and the independent variable.

High School Experiences: School Belonging and At-School Victimization

As predicted, GSA+ youth reported significantly higher ratings of school belonging compared to GSA- youth when controlling for the effects of the four covariates $F(1, 137) = 9.04, p = .003, \eta_p^2 = .062$. The overall adjusted R^2 for the model was .195. Community climate was a significant predictor of school belonging in the model, while population and sexual orientation, were not significant at the $p < .05$ level. A trend toward statistical significance was observed for childhood abuse. In addition, GSA+ youth reported significantly less at-school victimization because of their sexual orientation, $F(1, 137) = 4.39, p = .038, \eta_p^2 = .031$. The overall adjusted R^2 for this model was .287. Childhood abuse and community climate were significant predictors in the model, while population and sexual orientation were not.

Problematic Alcohol Use

As predicted, GSA+ youth reported more favorable outcomes related to their alcohol use behaviors. Specifically, GSA+ youth endorsed significantly lower total AUDIT scores compared to their GSA- peers when controlling for the covariates, $F(1, 135) = 16.93, p < .001, \eta_p^2 = .111$. The overall adjusted R^2 for the model was .087. None of the covariates were significant predictors of total AUDIT scores.

Table 2
Sample, GSA+ and GSA- Means and SDs for Dependent Variables

Measure	Entire sample		GSA+ youth		GSA- youth	
	Mean	<i>SD</i>	Mean	<i>SD</i>	Mean	<i>SD</i>
School belonging	19.59	4.67	20.92	4.01	17.98	4.91
Olweus revised	4.55	5.29	3.41	4.39	5.91	5.95
AUDIT-total	5.20	4.57	3.94	3.47	6.72	5.26
AUDIT-dependence	0.48	0.94	0.27	0.55	0.73	1.22
AUDIT-consumption	3.23	2.32	2.73	2.16	3.83	2.38
BDI-II	12.79	11.21	10.79	10.19	15.18	11.97
BSI	38.52	33.14	32.25	28.34	45.68	36.83

Note. AUDIT-total = alcohol use disorders identification test total score; AUDIT-consumption = consumption subscale of AUDIT; AUDIT-dependence = dependence subscale of AUDIT; BDI-II = Beck Depression Inventory-II; BSI = Brief Symptom Inventory.

Table 3
 Overview of Results Including Covariates and the Independent Variable of GSA Status

Measure covariate or IV	<i>F</i>	<i>p</i> -value	η_p^2	Overall model R^2/R_{adj}^2
School belonging				.224/.195***
Sexual orientation	0.04	.847	.000	
CTQ-SF	3.00	.086	.021	
Population	1.42	.236	.010	
Community climate	10.77	.001	.073	
GSA status	9.04	.003	.062	
Olweus revised				.312/.287***
Sexual orientation	0.30	.585	.002	
CTQ-SF	27.47	<.001	.167	
Population	0.09	.768	.001	
Community climate	13.82	<.001	.092	
GSA status	4.39	.038	.031	
AUDIT total				.120/.087**
Sexual orientation	0.29	.591	.002	
CTQ-SF	0.08	.777	.001	
Population	2.14	.146	.016	
Community climate	0.63	.428	.005	
GSA status	16.93	<.001	.111	
AUDIT dependence				.122/.090**
Sexual orientation	0.38	.541	.003	
CTQ-SF	3.55	.062	.025	
Population	3.88	.051	.028	
Community climate	1.11	.295	.008	
GSA status	12.44	.001	.084	
AUDIT consumption				.073/.039 [†]
Sexual orientation	0.40	.528	.003	
CTQ-SF	0.15	.699	.001	
Population	0.53	.467	.004	
Community climate	0.60	.438	.004	
GSA status	10.09	.002	.069	
BDI-II				.159/.128***
Sexual orientation	1.35	.247	.010	
CTQ-SF	14.37	<.001	.095	
Population	0.12	.730	.001	
Community climate	2.72	.101	.019	
GSA status	4.83	.030	.034	
BSI				.145/.112***
Sexual orientation	3.93	.049	.030	
CTQ-SF	8.52	.004	.062	
Population	0.00	.968	.000	
Community climate	2.29	.133	.017	
GSA status	5.83	.017	.043	

Note. AUDIT-total = alcohol use disorders identification test total score; AUDIT-consumption = consumption subscale of AUDIT; AUDIT-dependence = dependence subscale of AUDIT; BDI-II = Beck Depression Inventory-II; BSI = Brief Symptom Inventory; CTQ-SF = Childhood Trauma Questionnaire-Short Form Total Score; and population refers to the population of the city or town where the participant attended high school for the longest period of time.

[†] $p < .100$. ** $p < .01$. *** $p < .001$, variables found to be significant ($p < .05$) appear in bold.

In examining AUDIT Dependence scores, GSA+ youth reported significantly lower scores when controlling for the effects of the covariates, $F(1, 136) = 12.44$, $p = .001$, $\eta_p^2 = .084$. The overall adjusted R^2 for the model was

.090. Population and childhood abuse approached significance in the model, while community climate and sexual orientation were not significant predictors of AUDIT Dependence scores. Additionally, GSA+ youth reported sig-

nificantly lower AUDIT Consumption scores when controlling for the influence of the covariates, $F(1, 137) = 10.09, p = .002, \eta_p^2 = .069$. The overall adjusted R^2 for this model was .039, and none of the covariates were significant predictors of AUDIT Consumption scores.

Depression and General Psychological Distress

As predicted, GSA+ youth had more positive outcomes related to depression and general psychological distress when compared to GSA- youth. Specifically, GSA+ youth reported significantly lower scores on the BDI-II when controlling for the covariates, $F(1, 137) = 4.83, p = .030, \eta_p^2 = .034$. The overall adjusted R^2 for the model was .128. Childhood abuse was a significant predictor of depression in this model, while population, community climate, and sexual orientation were not. A significant difference was also found on the BSI with GSA+ youth reporting significantly lower scores, $F(1, 129) = 5.83, p = .017, \eta_p^2 = .043$. The overall adjusted R^2 for this model was .112. Childhood abuse and sexual orientation were significant predictors of total BSI scores.

Discussion

As predicted, GSA+ youth reported more school belonging and less at-school victimization because of their sexual orientation when compared to GSA- youth. These findings, along with those of Goodenow et al. (2006); Kosciw and Diaz (2006); Szalacha, (2003), and Walls et al. (2010) again highlight the benefits of attending a high school with a GSA for LGBT youth. Additionally, GSA+ youth reported more favorable outcomes related to alcohol use, depression, and general psychological distress. These findings extend previous research examining GSAs and may hold implications for considering a high school GSA as a protective factor that offsets some risk for developing problematic substance use, depression, and psychological distress among LGBT youth as they enter into young adulthood. GSAs may offset these risks by reducing experiences of at-school victimization, while increasing feelings of connectedness to the school environment for LGBT youth.

An interesting and unexpected result, which was not the focus of this study, was the absence of a relationship between childhood abuse and problematic alcohol use. A substantial body of research has consistently reported this association. At the same time, Rosario, Schrimshaw, and Hunter (2004) failed to find an association between CSA and problematic drinking among LGB youth. Rosario and colleagues argued that periods of time during an individual's identity development are potentially risky for experiencing increased substance use. Identity development experiences may be partially related to the aforementioned differences in substance use. However, the absence of a difference in outness scores between the GSA+ and GSA- youth may suggest that the influence of high school and college experiences has a greater impact on the current alcohol use behaviors of our participants relative to childhood abuse experiences and identity development processes.

Implications for School Psychologists

School psychologists possess a unique training that blends research, assessment, counseling/intervention/prevention knowledge, and an appreciation for culture and diversity (National Association of School Psychologists; NASP, 2008). In turn, school psychologists may be best suited to identify potential solutions to reduce the risks that LGBT youth experience at school and to intervene at various levels within the dynamic and multifaceted school system (Graybill, Varjas, Meyers, & Watson, 2009; NASP, 2003). Specific recommendations for how to improve the school climate for sexual minority youth may involve: (1) establishing and publicizing an anti-bullying policy that specifically prohibits bullying and bullying based upon factors such as sexual orientation, gender, and gender identity; (2) training teachers to recognize and intervene when students engage in behaviors that are homophobic or transphobic in nature; (3) supporting the establishment of GSAs or similar student organizations; (4) working to integrate information about sexual orientation and gender identity into educational curricula and modern conceptualizations of diversity (Russell, McGuire, Laub, & Manke, 2006).

A school psychologist's role may include advocating for changes in policies through brief conversations and suggestions with teachers,

staff, and administrators; this process may be effective in shaping the school climate toward acceptance of LGBT youth. School psychologists may also consider working with teachers and administrators to help these individuals decide how to effectively prevent homophobic slurs and bullying (e.g., by having teachers discuss the topic at the beginning of each semester and/or incorporating anti-discrimination policies into syllabi). They may also recommend self-disclosure on the part of the teachers and staff members by encouraging these individuals to express offense to homophobic language. School psychologists can also assist teachers in developing appropriate disciplinary actions in an effort to foster a supportive and affirming atmosphere (Graybill et al., 2009; NASP, 2003). They may also be helpful in the process of forming GSAs by identifying teachers who might be willing to sponsor such a club; factors related to motivation to become a GSA advisor include having a protective attitude toward LGBT youth and having a personal connection to LGBT people (Valenti & Campbell, 2009).

Overall, the results of this study are important because they suggest that the high school environment may be related to experiences of psychological distress and problematic substance use as LGBT youth enter young adulthood. School psychologists are valuable assets within the school environment and may help to promote a safe and affirming school climate for LGBT youth by assisting in the development of policies and interventions that protect this population, and by helping teachers and administrators prevent and respond to homophobia and transphobia within the school context.

Limitations

There are a number of limitations that clearly limit the generalizability of the results and prevent causal inferences from being drawn. First, because participants were not randomly assigned to schools with and without GSAs, causality cannot be inferred with regard to the relationship between GSA status and any of the outcome variables of the study. Rather, GSAs should be viewed as indicative of an environment that may be conducive to healthy development for LGBT youth. Though we did attempt to control for the acceptance of and safety for LGBT people in the communities that par-

ticipants attended high school, some of the benefits detected in this study may still stem from living in a community where the climate for sexual minorities is quite positive. These communities are more likely to have schools with a GSA and other resources, compared to communities where the climate for LGBT people is less than desirable (Fetner & Kush, 2008).

Second, our participants were reporting on experiences and behaviors within the context of communities and states that are likely to have varying levels of systemic and/or institutionalized homophobia that can give rise to varying degrees of psychopathology (Hatzenbuehler, Keyes, & Hasin, 2009). Statistical control over these state and community level systemic factors was not obtained, though they are likely to differentially influence the experiences of the LGBT youth.

A third limitation of this study involves the generalizability of the findings because of the homogenous sample of college-age participants who elected to participate in the study. Because this study utilized a convenience sample of participants who were self-selected, the participation rate for the study cannot be determined and we cannot know if the findings are applicable to those individuals who were targeted by our recruitment efforts but decided not to complete the survey. Additionally, the results may not generalize to LGBT individuals who are older, who "come out" later in life, who do not seek higher education, who do not join a college LGBT organization, and who are ethnic minorities. In addition, LGBT youth who are most "at-risk," such as youth who dropped out of high school, were not targeted by our recruitment method. If GSAs enhance school belonging and reduce at-school victimization, youth who dropped out of high school may be more likely to have been attending schools without a GSA, and if they had been included, the group differences reported herein might actually be larger than reported.

A fourth limitation involves the sample size. Had the sample been larger, additional analyses could have examined whether the findings are consistent with respect to gender and behavioral and affective domains of sexual orientation. Recent findings highlight the importance of considering both gender and multiple domains of sexual orientation when evaluating risks for developing substance use disorders and psychopa-

thology (Bostwick, Boyd, Hughes, & McCabe, 2009; McCabe, Hughes, Bostwick, West, & Boyd, 2009).

Finally, the retrospective nature of this study may have influenced the accuracy of data obtained in relation to at-school victimization, school belonging, childhood abuse, and community climate, in particular. Though the results consistently demonstrated more positive outcomes among GSA+ youth, future research that is conducted longitudinally would eliminate concerns about retrospective reporting and could resolve a number of the limitations noted in this study.

Future Directions

In the future, longitudinal studies with larger samples that can account for genetic factors, systemic/institutionalized homophobia, community climate, school climate, family environment, as well as the role of GSAs, may be able to illuminate the contributions of these factors in the development of problematic substance use and other mental health outcomes. Future research could begin by studying LGBT youth who live in the same state and same city or town, but attend high schools with and without GSAs. Additionally, recruiting heterosexual siblings of these youth could provide some controls for genetic factors and family environment. Though random assignment may not be feasible, additional control over these factors may allow researchers to examine the unique variance that can be accounted for by GSAs in relation to various outcome variables of interest.

Future research must also attempt to understand the possible effects of attending a high school with a GSA on heterosexual youth. If LGBT youth are viewed as being at-risk for experiencing at-school victimization, then the question of "Who are the victimizers, and what affect does attending a school with a GSA have upon them?" will require evaluation. In addition, researchers should attempt to study youth who display gender-nonconforming behaviors, regardless of sexual orientation. Longitudinal studies that incorporate teacher, student, and peer ratings could be used to understand how GSAs might benefit youth who defy gender norms.

Though school psychologists might engage in any of the above efforts, they might also

serve as program evaluators to monitor the impact that establishing a GSA has on the school environment. Assessment could include student and staff perceptions of the safety for and acceptance of LGBT youth in schools, the attendance and performance of LGBT youth, and the frequency with which LGBT youth are involved in behaviors that require disciplinary actions. Programmatic research that identifies aspects of GSAs that are effective in fostering a safe school environment would not only be valuable to the scientific community, but could also be used on a community level to determine best practices within school systems.

In the end, if GSAs are a source of protection for LGBT youth, future research with this population can, and must, be guided to better maximize this protectiveness while advancing theories that seek to explain why LGBT youth are an at-risk population in the first place. Collaboration among students, teachers, administrators, and school psychologists practicing in schools and school psychologists in academia alike must occur so that programs that encourage education, awareness, prevention, and intervention in an integrative manner will be developed and implemented to produce positive changes that will better the lives of all youth.

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