The Protective Role of Gay-Straight Alliances for Lesbian, Gay, Bisexual, and Questioning Students: A Prospective Analysis

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Abstract

Prior studies show a strong association between gay-straight alliances (GSAs) and the well-being and safety of sexual minority students at school. However, nearly all existing literature has relied on cross-sectional data. Using data from the first two panels of a multi-site longitudinal study on risk and protective factors for suicide among lesbian, gay, bisexual, and questioning (LGBQ) youth in three U.S. cities, we examined the influence of presence of and participation in a GSA on perceptions of safety at school, homophobic bullying experiences, and psychosocial adjustment (depression and self-esteem) in 327 LGBQ students across two school years. LGBQ students who had GSAs in their schools or were members of GSAs in the prior year showed no differences in psychological adjustment, but they reported perceptions of more school safety and less homophobic bullying in the following school year. Further, changes in GSA presence (gaining a GSA) and changes in participation (from non-participation to participation) were independently associated with stronger perceived safety in the subsequent school year. This study provides the first prospective evidence of the lasting positive role of GSAs for high school students, and documents that changes in GSA presence and participation are associated with safety at school. Education policy and practice implications are discussed.

Keywords

gay-straight alliance; GSA; school safety; bullying; depression; self-esteem

A large body of research has traced the compromised well-being of sexual minority youth to negative experiences at school: homophobic epithets, verbal harassment, and bullying are pervasive in schools in the United States and around the world (Berlan et al., 2010; Poteat & Rivers, 2010; UNESCO, 2012). These negative experiences at school have been clearly linked to feeling unsafe and to compromised psychosocial adjustment among lesbian, gay and bisexual (LGB) youth (Birkett, Espelage, & Koenig, 2009; Espelage, Aragon, Birkett, & Koenig, 2008). In the last decade a growing body of scholarship has focused on policies and programs in schools that may buffer the effects of negative school experiences, or that may

promote well-being (Russell, Kosciw, Horn, & Saewyc, 2010). School-based clubs called Gay-Straight Alliances (GSAs) have emerged as an approach that has been associated with positive school climate (Szalacha, 2003; Russell, Muraco, Subramaniam, & Laub, 2009) and positive adjustment for LGB and questioning students (Goodenow, Szalacha, & Westheimer, 2006; Poteat, Sinclair, DiGiovanni, Koenig, & Russell, 2013).

GSAs have grown in number and visibility in U.S. schools since they began to emerge in the late 1980s (Fetner & Kush, 2008). The percentage of U.S. students reporting that their school has a GSA has more than doubled in the last decade (Kosciw, Greytak, Palmer, & Boessen, 2014). GSAs serve a variety of purposes for student members and for the school community including education and safety, social and interpersonal support and counseling, advocacy training and activities (e.g., Day of Silence, Ally Week, Youth Pride), leadership development, and recreational and social functions (e.g., parties, dances, talent shows) (Griffin, Lee, Waugh, & Beyer, 2004; Poteat, Scheer, Marx, Calzo, & Yoshikawa, 2015; Russell et al., 2010). In one of the first large-scale, state-wide studies of GSAs, Szalacha (2003) showed that overall school climate regarding sexual diversity (tolerance, safety, and respect for sexual minorities) was higher in Massachusetts schools that had GSAs compared to schools with no GSA. Since then multiple studies have documented that the presence of a GSA is linked with positive school climate and individual student adjustment (Vera Cruz, 2015). Poteat and colleagues (2013) found that youth in schools with GSAs reported less smoking, drinking, and less sex with casual partners as compared to students in schools without GSAs. Another study showed that the presence of GSAs is associated with lower alcohol use and lower cocaine, hallucinogens, and marijuana as well as lower risk for use of prescription medication (Heck et al., 2014).

Based on the finding that the presence of GSAs contribute to positive overall school climate, scholars have begun to investigate whether membership or participation in a GSA is the crucial factor that confers benefits. Interviews with GSA members suggest a number of benefits: GSAs help lesbian, gay, bisexual, transgender, and questioning (LGBTQ) youth find "safety in numbers," feel more connected and empowered, normalize their thoughts and feelings, reclaim "a sense of hope," negotiate peer and romantic relationships, navigate the coming out process, and play a role in the development of self-identity and self-esteem (Herdt, Russell, Sweat, & Marzullo, 2007; McCormick, Schmidt, & Clifton, 2014, p. 6; Russell et al., 2009). GSAs are frequently invoked as safe spaces for LGBTQ youth and their allies, and as sites of positive youth development and opportunities for youth activism, civic participation, and self-efficacy: As members of GSAs, youth "have the potential for individual and collective empowerment as agents of social change at school" (Russell et al., 2009, p. 891). Consistent with these qualitative accounts of the benefits of GSAs, a number of studies based on student surveys now document the specific benefits that GSA participation has for students experiences at school (Toomey & Russell, 2013) and general well-being (Davis, Stafford, & Pullig, 2014; Toomey, Ryan, Diaz, & Russell, 2011). We review research on GSAs related to two domains: school experiences and psychological well-being. GSA presence is a pre-condition of membership and participation in a GSA; we review research on GSA presence as well as GSA participation.

GSAs: Experiences at School

Prior studies have examined GSAs in association with individual student experiences, including their feelings of safety and belonging at school, and reports of general as well as homophobic harassment. Studies generally show that the presence of GSAs is associated with greater reported levels of perceived school safety and reported well-being by sexual minority youth (Goodenow et al., 2006; O'Shaughnessy, Russell, Heck, & Calhoun, 2004; Szalacha, 2003; Walls, Freedenthal, & Wisneski, 2008). In a recent review, Vera Cruz (2015) concluded that GSAs had a variety of positive effects on the school experiences of sexual minority students and that GSAs reduced "heterosexist, genderist, homophobic and transphobic attitudes and behaviors" and improved school climates (2015, p. 1883). In a focus group study of 31 LGBT youth attending public high schools, youth consistently named GSAs as a strategy for preventing school violence (Grossman, Haney, Edwards, Alessi, Ardon, & Howell, 2009). The presence of a GSA has also been associated with a greater reported likelihood that school personnel will intervene when they hear homophobic remarks (Kosciw et al., 2014), greater support from teachers and administrators for sexual minority students, more friendships across sexual identities (Fetner & Elafros, 2015), less absenteeism (Poteat et al., 2013), more school belonging (Heck, Flentje, & Cochran, 2011), and higher grade point average for students who score high on school engagement (Seelman, Walls, Hazel, & Wisneski, 2012). In addition to the length of time the GSA had been established, Seelman and colleagues (2015) found that other GSA characteristics may be consequential. In a survey of LGBTQ youth ($N = 152$), they found that although GSA presence and participation did not predict school engagement, specific GSA characteristics were predictive of school engagement, including GSA size, visibility, activity, and the level of support for the GSA among people at school (Seelman, Forge, Walls, & Bridges, 2015).

Several studies show consistent results with respect to victimization, finding that students who have a GSA in their school report significantly less victimization compared to those who do not have GSAs (Heck et al., 2011; Kosciw et al. 2014; Kosciw, Palmer, Kull, & Greytak, 2013; O'Shaughnessy et al., 2004). In one study, analysis of the Massachusetts Youth Risk Behavior Survey showed that students in schools with GSAs reported less victimization, were less likely to be threatened or injured at school, and less likely to skip school because they felt unsafe compared to students in schools without GSAs (Goodenow et al., 2006). A similar result was found using data from a large cohort ($N = 2,037$) of LGBQ students: The students' reports of inclusive programs such as GSAs were associated with lower harassment in schools (Chesir-Teran & Hughes, 2009). Yet two published studies report null findings with respect to general as well as homophobic victimization. In a cross-sectional, population-based study of students in 45 Wisconsin schools, the association between GSA presence and homophobic victimization experiences was not significant (but the direction of the association was consistent with prior findings; Poteat et al., 2012). In another study of 297 LGBTQ youth, Walls, Kane, and Wisneski (2010) found non-significant associations between both GSA presence and GSA membership on general harassment and harassment due to sexual orientation.

Extant research has focused primarily on students' experiences at school in association with the presence of GSAs rather than GSA participation. Several studies examined aspects of

GSA participation among LGBTQ youth and find that participation is linked to higher grade point average (Toomey, & Russell, 2013; Walls et al., 2010) and school belonging (Toomey, & Russell, 2013). Some researchers have raised the concern that participating in a GSA might make a student the target of homophobic harassment (Herdt et al., 2007), however we know of no studies that specifically distinguish between GSA presence and participation in association with students' experiences of victimization.

GSAs: Psychological Well-Being

In the area of psychological well-being, most research on GSAs has focused on compromised mental health (e.g., depression and suicide) over indicators of positive psychological adjustment (e.g., self-esteem). Regarding the former, emerging findings suggest that, compared to having no GSA, the presence of GSAs is associated with less psychological maladjustment. Also, the presence of a GSA has been linked to lower depression and less psychological distress among LGBT young adults (Heck et al., 2011; Toomey et al., 2011). Other studies have documented associations between GSA presence in schools and lower rates of suicide ideation and suicidal behaviors, especially for sexual minority youth (Goodenow et al., 2006; Poteat et al., 2013; Walls et al., 2008; Walls, Wisneski, & Kane 2013). In their investigation of discrimination and suicidality among a large cohort ($N = 21,708$) of high school students, Saewyc and colleagues (2014) concluded that the number of years a GSA had been present at a school was a significant factor in moderating the relationship between having a GSA and students' suicidal thoughts and suicidal behaviors: The effect of GSA presence was only significant for predicting these indicators of psychological well-being when the GSA had been in place for at least three years. In a separate study using data from the California Healthy Kids Survey from 2005 to 2007 (Davis, Stafford, & Pullig, 2014), the presence of a GSA acted as a buffer between the association of anti-gay victimization and suicide attempts by reducing hopelessness. Finally, in one of the only studies of GSA participation that included assessments of poor psychological well-being, a retrospective study of 245 LGBT young adults showed that participating in a GSA buffered the negative associations between LGBT victimization and depression and lifetime suicide attempts, but only for those who reported low levels of victimization as youth (Toomey et al., 2011).

Second, results regarding the association between GSAs and indicators of positive adjustment such as self-esteem are mixed. The presence of a GSA has been associated with higher self-esteem in a narrative study (McCormick et al., 2014) and in a study based on a retrospective survey of LGBT young adults (Toomey et al., 2011); however, having a GSA was not directly associated with self-esteem in a large, national survey of LGBT youth (Kosciw et al., 2013). On the other hand, studies that take participation into account suggest a stronger association with positive psychological well-being: A recent study showed that GSA members' self-esteem was associated with the perceived level of support provided by their GSA and to specific characteristics of GSA advisors (Poteat et al., 2015). Among LGBTQ youth and young adults GSA membership has been associated with significantly greater comfort with one's gender expression (Walls, Wisneski, & Kane, 2013). Further, two qualitative studies have documented the role of GSA participation in comfort with one's sexual orientation (Lee, 2002) and personal empowerment (Russell et al., 2009). Thus,

positive psychological well-being may be more influenced by the nature of participation in a GSA for members, rather than whether or not one is present at school.

The Current Study

A review of existing literature suggests that GSAs are generally associated with positive adjustment for youth, but most of the existing research has focused more on GSA presence than participation, and results appear to differ across domains of adjustment. GSA presence seems to be consistently associated with the perception of safety at school, and there is some evidence for positive associations for GSA participation on perceptions of school safety, but results for homophobic bullying have been inconsistent. Regarding psychological well-being, compared to absence of GSAs, the presence of GSAs has been linked to reports of fewer psychological problems in a retrospective study of young adult LGBTs (Toomey et al., 2011), but the pattern was not found in a study of LGBT students attending secondary schools at the time of assessment (Kosciw et al., 2013). The existing literature suggests that GSA participation or membership may matter more than GSA presence for students' levels of self-esteem.

No prior studies have been based on prospective data of youth to assess whether the influence of GSAs extends beyond concurrent associations to include effects over time. However, results from a retrospective study of LGBT young adults (Toomey et al., 2011) suggests that GSAs do have positive prospective influence. Prospective analysis allows not only the study of individual change over time, but also introduces the possibility that the presence of GSAs, or students' participation in GSAs, may change from one year to the next. Evidence that the duration of a GSA in a school influences students' well-being (Saewyc et al., 2014) points to the potential that changes in GSA presence and participation in any given year may influence youth adjustment. We present findings from the first prospective study that follows a large group of U.S. lesbian, gay, bisexual, and questioning (LGBQ) youth across two school years to examine GSA presence at school as well as student participation in the GSA. We examine the role of GSA presence and participation, and changes in GSA presence and participation, in association with adjustment in two domains: experiences at school, including homophobic bullying and perceptions of school safety; and psychological well-being, with depression and self-esteem as indicators. Because the effect of a GSA on a student may depend on whether they have disclosed their LGBQ identity to others, we account for the degree to which LGBQ youth were out at school in addition to accounting for demographic characteristics.

We expected that compared to those who reported no GSA at their school at panel 1, students in schools with GSAs would report fewer experiences of homophobic bullying, greater perceived safety at school, lower levels of depression, and higher levels of self-esteem at panel 2 (hypothesis 1). We expected that GSA participation at panel 1 would predict greater perceived safety at school and higher self-esteem at panel 2, but would have weaker or no effects on homophobic bullying and depression at panel 2 (hypothesis 2). Further, we hypothesized similar patterns regarding changes (increases or decreases) in these outcomes over time: GSA presence at panel 1 would predict an increase in perceived school safety and self-esteem, and a decrease in experiences of homophobic bullying and level of

depression over one year (hypothesis 3), and GSA participation would predict an increase in perceived safety at school and higher self-esteem, and little or no change in experiences of homophobic bullying and level of depression over time (hypothesis 4). Finally, we anticipated that changes in GSA presence and participation over time would predict an increase in subsequent perceived safety at school and self-esteem (hypothesis 5).

Method

The present study used data from the first two panels of a multi-site longitudinal study on risk and protective factors for suicide among sexual minority youth in three U.S. cities (one each in the Northeast, Southwest, and West Coast). At panel 1, participants were mostly recruited from community-based agencies or college groups frequented by LGBTQ youth, while other youth were referred through snowball sampling. Interested youth were requested to contact a site coordinator and establish an appointment to complete a survey packet. Because seeking parental consent could put participants at risk for exposure of their sexual orientation or gender identity and could lead to verbal or physical harm, we followed the approach used in other studies involving LGB minors (D'Augelli & Grossman, 2006): Specifically, for participants under 18 years old, parental consent was not required, a federal certificate of confidentiality was obtained, and a trained youth advocate explained the study to the youth and helped to ensure informed consent. Panel 1 recruitment took place between November, 2011 and October, 2012. Participants were contacted for panel 2 after 9 months; recruitment began in August 2012 and continued until November 2013. Given this design, panels 1 and 2 represent respondents' experiences in two distinct academic school years. At panel 1, participants completed a paper-and-pencil survey that included standard mental health measures. At panel 2, the survey was also completed by paper-and-pencil; an online version was made available to participants who indicated no suicide risk at panel 1.

Surveys took participants between 40 and 80 minutes to complete. Upon completion of the survey, a trained research assistant or lab manager debriefed the participants and assessed risks for suicidal thoughts and behaviors (debriefing took place by telephone within 48 hours of online survey administration). In the event that the participant was having suicidal thoughts, the research assistant or lab manager provided the participant with a referral to culturally competent mental health services. In the event of imminent risk, a protocol was in place to ensure appropriate emergency procedures; no such referrals were required for any study participants. All participants were provided with a list of LGBTQ-friendly mental health resources, and they received a monetary incentive for participating in the project. Participants from the Northeast and West Coast cities received $30 at panel 1 and $40 at panel 2; participants from the Southwest city received $20 at panel 1 and $30 at panel 2 (participants at the Southwest cite received a lower incentive based on concern that the incentive not be an amount that would be coercive relative to cost of living). The methods of recruitment and procedures of the study were approved by the institutional review boards of two universities involved in the project.

Participants

Three survey items were used as inclusion criteria. Specifically, one question ("Do you attend school?") was used to select a subgroup of youth who were enrolled in high school or college/university at both panels 1 and 2. Two questions were used to limit the present study to participants who reported cisgender identities: "What is your birth sex?" and "What is your gender identity?" The analytic sample included 327 lesbian, gay, bisexual and questioning (LGBQ) cisgender students (ages 15-21 at time of recruitment, $M = 18.02$, $SD = 1.75$). Sample demographics are shown in Table 1. Of the sample, 53.2% was recruited in the Northeast (50.6% in high school and 49.4% in college); 21.4% was recruited on the West Coast (48.8% in high school and 51.2% in college) and 24.4% was recruited in the Southwest (56.7% in high school and 43.3% in college). Approximately one-third (35%) were recruited through community based organizations for LGBTQ youth, while the remaining 65% were recruited through outreach to other agencies and thorough snowball methods. Finally, at panel 2, 12.2% of the sample completed the survey online.

Measures

Background information—Background variables include city, age, sex assigned at birth (dichotomous variable), sexual identity, race, and ethnicity. For sexual identity, the survey included the following categories: "gay," "lesbian," "bisexual, but mostly gay or lesbian," "bisexual, equally gay/lesbian and heterosexual/straight," "bisexual, but mostly heterosexual/straight," "heterosexual/straight," or "questioning/uncertain, don't know for sure." Dichotomous variables were created for these analyses: questioning; the three bisexual categories combined; and "gay" and "lesbian" were combined (and treated as the reference group). For ethnicity, youth were asked whether they were "Hispanic or Latino" (1) or "Not Hispanic or Latino" (0). Youth could check any of seven categories for race, which was coded as dichotomous variables using federal reporting guidelines indicating whether respondents were Asian, Black, American Indian or Alaskan Native, Multiracial or no race reported, with White as the reference group.

GSA presence and participation—Participants reported at both panels whether the school they attended had a GSA (0 = no, 1 = yes). If participants answered that their school did have a GSA, they were asked about their participation in it: "If yes, are you a member of this group?" (0 = no; 1 = yes). The two items were coded in two dummy variables indicating whether the respondents reported GSA presence but not GSA participation (GSA presence = 1) or GSA presence and participation (GSA participation = 1); GSA absence served as the reference for both. Two variables were created in order to account for the changes in GSA presence and participation from panels 1 to 2. The "GSA presence change" and "GSA participation change" variables each range from -1 to 1 and indicate whether respondents reported presence or participation only at panel 1 (-1), at both panels (or no change: 0), or only at panel 2 (1).

Homophobic bullying—A single-item question was used to measure how often on school property participants perceived that they were harassed or bullied due to their being LGBTQ (1 = never, 2 = once/month or less, 3 = once a week, 4 = once a day, 5 = more than once/day).

School safety—Participants' perception of safety at school was assessed through responses to the statement "My school is safe for students who are lesbian, gay, bisexual, transgender, queer, or questioning (LGBTQ)" (1 = strongly disagree to 4 = strongly agree).

Depression—The Beck Depression Inventory–Youth (BDI-Y; Beck, Beck, & Jolly, 2001) was used to assess the degree of current depressive symptomatology. Each item was rated on a 4-point scale (0-3). A sum score of 20 items was used with higher scores indicating the presence of more depressive symptoms. This scale had an internal consistency of $\alpha = .943$ at panel 1 and of $\alpha = .935$ at panel 2.

Self-esteem—The Rosenberg Self-Esteem Scale (Rosenberg, 1979) was used to assess self-esteem. The scale consists of 10 statements reflecting self-worth and self-acceptance. An example of item is "I take a positive attitude toward myself." Each item is rated on a 4-point scale from 0 (strongly disagree) to 3 (strongly agree). Higher sum scores indicate greater self-esteem. Internal consistency was high at both panel 1 ($\alpha = .872$) and panel 2 ($\alpha = .894$).

Being out at school—Being out at school was evaluated through one question from a six-item scale aimed to evaluate the others' perceived knowledge of sexual identity (D'Augelli, Grossman, & Starks, 2008). Specifically, participants reported whether their school peers knew of their sexual identity on a 4-point scale (1 = definitely not; 4 = definitely).

Plan of Analysis

Analyses were performed in R version 3.1.2 (R Core Team, 2013) using the Amelia package for multiple imputation to impute missing values with simulated values based on the available data as suggested by Shafer (1999). A paired sample t test was used to compare means scores of the main outcomes at panel 1 and panel 2. The degrees of freedom for the reported t-statistics vary because of adjustments (Barnard and Rubin, 1999).

We tested OLS multiple regression models to assess effectiveness of homophobic bullying, perceived safety at school, depression, and self-esteem at panel 2 based on GSA presence and participation at panel 1. We controlled for demographic characteristics (i.e., gender, sexual orientation, age, ethnicity, race, and city), whether the participant was in high school or college at panel 1, and school peers' perceived knowledge of sexual identity (i.e., being out at school). Based on the results of the first models, we next tested follow-up hierarchical regression models to assess the changes from panel 1 to panel 2 in outcome measures, controlling for GSA presence and participation changes over time. For these analyses, main effects of GSA presence and participation, demographic characteristics, high school / college status, and being out at school were entered at Step 1 while controlling for initial levels of the outcome measures at panel 1. The two variables for changes in GSA presence and participation were entered in Step 2.

In preliminary analyses we tested differences between participants who were enrolled in high school compared to college or university at panel 1. Statistical associations were stronger among those in high school, but the direction of results for regression models did not differ across school level. Based on these results, we present findings from the larger

sample that include both high school as well as college students. Further, 26 students began the study in high school and were in college at panel 2; we tested the regression models both with and without those cases included. The results did not differ; we present results based on analyses that include these youth.

Results

At the time of the panel 1 survey, 24.2% of participants reported that their school had no GSA, 38.4% reported a GSA in their school but were not members, and 37.4% reported that they were participants in a GSA at their school (see Table 2). At panel 2 most participants' reports about GSAs were consistent, yet GSA presence and participation changed for more than one-third of the participants. For example, among those who reported no GSA at panel 1, 22.1% reported GSA presence and 19.5% being members of a GSA at panel 2; among those who reported GSA presence but were not members at panel 1, 17.2% had become participants at panel 2. On the other hand, 30.3% of panel 1 GSA participants were no longer members at panel 2, and a number of youth who had a GSA at school or were members at panel 1 reported no longer having one (15.6% of those who reported GSA presence at panel 1, and 10.1% of youth who reported GSA participation at panel 1).

Regarding key outcomes, participants reported slight improvements over time related to the experiences at school: on average, fewer experiences of homophobic bullying, $t(281.80) = 3.78$, $p < 0.001$, and more perceived safety at school, $t(242.03) = 2.28$, $p = 0.023$. However there were no changes over time for depression, $t(319.162) = .66$, $p = .506$, or self-esteem, $t(260.058) = -1.59$, $p = .111$. Finally, comparing GSA groups (GSA absence, GSA presence, and GSA participation), no significant differences were found for being out at school, $F(2,324) = .022$, $p = .977$.

GSA Presence and Participation Predict Subsequent Experiences at School

Results of multiple regression analyses are found in Table 3. Regarding school experiences, participants who reported the presence of a GSA at panel 1 reported less homophobic bullying experiences at panel 2 (hypothesis 1), but consistent with our expectations (hypothesis 2), GSA participation at panel 1 was not associated with subsequent experiences of homophobic bullying. Also consistent with expectations (hypotheses 1 and 2), both GSA presence and participation at panel 1 were associated with greater perceived safety at school in the following school year. Young women reported less homophobic bullying experiences than men, participants at the Southwest site reported greater bullying and less perceived school safety compared to those in the Northeast, and being out at school was significantly associated with greater perceived school safety.

We found no longitudinal associations between GSA presence and participation and either measure of psychological well-being (depression or self-esteem). Young women reported lower levels of depression and self-esteem than men, older participants reported higher levels of self-esteem than younger, and across ethnic groups Black youth had higher levels of self-esteem and lower levels of depression compared to White youth. Notably, school peers' perceived knowledge of sexual identity (being out at school) at panel 1 was significantly associated with fewer depressive symptoms and higher self-esteem at panel 2.

Longitudinal Changes in GSAs and School Experiences

Based on the first set of results, we focused attention on changes or trajectories of school experiences over time, incorporating the possibility of changes in GSA presence and participation; results are presented in Table 4. Consistent with results in Table 3, GSA presence was associated with decreasing reports of homophobic bullying from panel 1 to panel 2 (hypothesis 3). Moreover, as anticipated (hypothesis 4), GSA participation did not affect changes in homophobic bullying experiences from panel 1 to panel 2. However, contrary to our expectations (hypothesis 5), changes in GSA presence and participation showed no significant associations with experiences of homophobic bullying, and the overall strength of the model (R-Square) showed no substantial change at Step 2 (R = .01, p = . 900).

The pattern of results for school safety was more complex. Having a GSA and participation in it at panel 1 did not predict an increase or decrease in perceived school safety (Step 1). However, after controlling for GSA changes (Step 2) the pattern of results changed: Changes in GSA presence and participation each independently predict changes in school safety (hypothesis 5). Specifically, gaining a GSA (reporting no GSA in panel 1 and GSA presence or participation in panel 2) or becoming a GSA participant (reporting no participation at panel 1 but participation at panel 2) were associated with increases in school safety over time (and GSA presence and participation significantly predict increases in perceived safety at school once changes in GSAs are taken into account). Further, the two GSA change variables significantly increase the R-Square at Step 2 (R = .05, p = .006).

Discussion

Our study is among the first to explore the association of GSA presence and participation on psychological well-being and school experiences among LGBQ students using prospective data. We first consider the encouraging results regarding the associations between GSA presence and participation on school experiences, and then consider the meaning and implications of the null results related to psychological well-being. In closing we consider study limitations and implications for school policies and programs.

Consistent with previous cross-sectional studies (Heck et al., 2011; Kosciw et al. 2014; Kosciw, Palmer, Kull, & Greytak, 2013; O'Shaughnessy et al., 2004) we found that the presence of a GSA at school was associated with fewer homophobic bullying experiences the following school year. The effect holds when taking homophobic bullying experiences at panel 1 into account, a finding which suggests a protective effect of GSA presence that is associated not only with fewer homophobic bullying experiences but also with a decrease in such bullying from one year to the next. Further, the consistency of the effect regardless of GSA changes over time, affirms that having a GSA protects against subsequent homophobic bullying experiences. However, we found no differences in homophobic bullying experiences based on GSA participation. GSA activities aimed at the prevention of homophobic bullying in schools are intended to benefit the whole school safety climate (that is, not only GSA members; Currie, Mayberry, & Chenneville, 2012; Davis, Stafford, & Pullig, 2014; Fetner et al., 2012). Thus, regarding homophobic bullying, the presence of a GSA appears to be more important than participation in it.

A different pattern was evident in results for perceived safety at school. Also consistent with previous cross-sectional research (Goodenow et al., 2006; Szalacha, 2003; O'Shaughnessy et al., 2004; Walls, Freedenthal, & Wisneski, 2008), we found that GSA presence and participation were associated prospectively with more perceived safety at school for LGBQ students in the following school year, but GSA presence and participation did not predict increases or decreases in perceived school safety from panel 1 to 2. However, once we took changes in GSA presence and participation into account, we found that both GSA presence and participation, as well as gains in GSA presence and participation, each improved perceptions of safety over time. This complex association highlights the relevance of prospective studies as it appears that to understand the changing perceptions of school safety one has to account for changes in GSA presence and participation as well. Overall the findings affirm one of the primary goals of GSAs: to create positive changes in the climate of schools (Russell et al., 2009).

Our results for the associations of GSAs with students' school experience are consistent with the literature; however, contrary to our expectations, we found no associations between GSA presence and participation and psychological well-being. Although results from prior studies have been mixed, several have found that the presence of a GSA at school is associated with positive psychological adjustment for sexual minority students (Toomey et al., 2011; Saewyc et al., 2014; Walls et al., 2010). We consider possible explanations for the findings.

First, our study is limited to a period of 9-13 months. Perhaps after a longer time interval we might have found significant associations with psychological well-being, consistent with the study by Toomey and colleagues (2013) which relied on retrospective reports by LGBTQ young adults ages 21-25 reporting on GSA experiences during high school. In another study, Saewyc and colleagues (2014) found protective effects of GSAs for students who attended schools that had GSAs present for 3 years or longer. These two studies might indicate that the effect of GSAs on mental health emerges later (a lagged effect). Further, since it is well-established in literature that homophobic bullying and lack of safety at school undermine mental health among LGB youth (Birkett, Espelage & Koenig, 2009; Espelage, Aragon, & Birkett, 2008), the effects of GSA on homophobic bullying experiences and perceptions of school safety in the shorter-term of one year may have longer-term effects on self-esteem and depressive symptoms. Such processes could be tested in future longitudinal analyses that follow LGBQ youth for multiple assessments over a longer period of time.

A second explanation may be that the heterogeneity of GSAs – or variability in their structures and functions – may interfere with our ability to determine whether and how GSAs affect students' psychological well-being. For example, one study showed that characteristics of GSAs are predictive of school engagement for LGBTQ students, including GSA size, visibility, activity, and the level of support for the GSA among people at school (Seelman, Forge, Walls, & Bridges, 2015). Fetner and Elafros (2015) interviewed U.S. and Canadian young adults about their memories of high school and the role that having a GSA played in their life; participants reported diverse experiences regarding participation in GSAs and described notable differences in the presence of supportive adults in GSAs, as well as differences in other school policies relevant to LGBTQ inclusion and school safety. The influence of GSAs on psychological well-being may be related less to generic

participation and more to the quality and amount of time spent in GSA activities. Thus, it may be that in order to test psychological benefits of GSAs, multiple dimensions of GSAs need to be assessed (Griffin, 2004, Poteat et al., 2015; Seelman, et al., 2015).

Finally, GSA presence and participation simply may not be sufficient to promote psychological well-being. Schools may need to enact other policies and practices related to sexual orientation and gender identity in order to fully promote psychological well-being for LGBQ students.

Limitations

We note several limitations and directions for future research. Several limitations have to do with the nature of the sample. First, the great advantage of the study is that it is prospective, but the sample is relatively small. Second, 35% of the sample was recruited through community-based organizations for LGBT youth; participants recruited through this method may be more likely to participate in GSAs compared to youth recruited through other methods. Third, and related to both prior points, most of the existing research on GSAs has focused on secondary school; we included high school and college or university students in order to maximize our sample. Importantly, results show that the pattern of results is consistent for college students; however, the results were stronger in the high school subgroup. We took advantage of an existing community-based longitudinal study, but future school-based studies could follow more students over time, and for a longer periods of time. Fourth, the study used a sample from three U.S. cities: generalizing the results from this study to other groups should be made with caution. Finally, compared to other studies that were able to examine the school-level effects of GSAs (Poteat et al., 2015; Saewyc et al. 2014), this study relied on perspectives and experiences of individual participants from cities that included a large number of schools (but it is unknown how many participants attended the same schools). Future research could extend these findings to directly measure and account for characteristics and differences across schools.

There are also limitations related to the methodological approach. First, for two key indicators we relied on single-item measures: homophobic bullying experiences and perceived safety at school. These measures have clear face validity (and the consistency of findings when we tested concurrent compared to longitudinal analyses are encouraging), yet future research could employ more robust measures of these school experiences. Second, our study only measured whether students had a GSA at their school and whether they participated in it: This approach may be susceptible to some biases and participants' responses about GSA presence or participation may be inaccurate. Further, we cannot know the specific nature of the changes in reports of GSAs from panel 1 to panel 1: GSAs could have been disbanded after one year or, alternatively, GSAs may be not visible in the school context or students may have changed school after one year. Future longitudinal studies should collect more in-depth information about the diverse roles that GSAs may play in schools (whether social, educational, or advocacy; Griffin, 2004), as well as diversity in students' experiences as members of GSAs.

Implications for School Policy

In our sample GSA presence and participation did not protect against depressive symptoms or improve self-esteem; school personnel should consider other measures to prevent psychological risks in sexual minority youth. Prior studies have shown that GSAs are among a group of LGBTQ-inclusive school policies and practices that improve mental health, including inclusive anti-bullying and non-discrimination policies (Goodenow, Szalacha, & Westheimer, 2006; Hatzenbeuhler & Keyes, 2013; Szalacha, 2003). There is now consistent and strong evidence that such policies improve not only student mental health but the general school climate for safety and learning (Russell et al, 2010).

One notable aspect of our findings is that being out at school was associated with fewer depressive symptoms and higher levels of self-esteem, a finding consistent with other studies that document the benefits of coming out (e.g., Russell, Toomey, Ryan, & Diaz, 2014). These results bear directly on the importance of establishing school policies and programs to reduce risks related to the coming out at school. Such policies and programs can include, for example, teacher training on LGBTQ issues, LGBTQ inclusive curriculum, and LGBTQ inclusive support and information (Kosciw et al., 2014; O'Shaughnesy et al., 2004; Szalacha, 2003).

Finally, the current study builds upon prior work by documenting that GSAs have lasting positive influence on school experiences of sexual minority students. For school personnel and student GSA members, our findings provide further evidence that GSAs are an effective way of reducing school challenges often faced by sexual minority students. Thus, school administrators who aim to reduce homophobic bullying and to improve safety at school for sexual minority and all students should support the creation of GSAs and – just as important – should sustain them. Further, our study shows that over a one-year period many GSAs may not be stable in terms of presence, and a sizable proportion of students may move in and out of participation: Given the relevance of GSAs for reducing homophobic bullying and promoting school safety, the changing presence of GSAs is itself a notable finding. Based on these and prior findings, school administrators should consider the loss of a GSA, or student drop-out from GSAs, as a significant concern regarding school climate, student engagement, and success.

In a relatively short period of history GSAs have emerged in the United States as an important strategy for promoting safety and well-being for LGBTQ and all students, and for promoting positive school climates. It has been in the period of only two decades that U.S. legal cases established the right of students to establish GSAs in their schools, and some schools continue to resist the formation of GSAs (Fetner & Kush, 2008). Such legal precedent does not exist in many other countries, where LGBTQ students often continue to navigate hostile schools (UNESCO, 2012). The current study points out the possibilities (as well as possible limits) of GSAs in the lives of LGBQ youth. With such information all school stakeholders are in a stronger position to advocate for GSAs and other school policies and programs that support LGBTQ and all students.

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Table 1

Demographic characteristics of the sample

Demographic Characteristics	n(%)
Sexual Identity	
Gay/Lesbian	160(48.9%)
Bisexual	147(45%)
Questioning	20(6.1%)
Gender	
Woman	184(56.3%)
Man	143(43.7%)
Race/Ethnicity	
Latino	129(39.4%)
Asian	20(6.1%)
Black	67(20.5%)
Native American	13(3.9%)
White	84(25.7%)
Multi-racial	64(19.6%)
No Race Reported	79(24.2%)
Site of Provenience	
Northeast	174(53.2%)
West Coast	70(21.4%)
Southwest	83(25.4%)
School level	
High School	169(51.7%)
College/University	158(48.3%)

Table 2

Descriptive Statistics of Outcome Variables and School/Personal Factors

	Panel 1	Panel 2
GSA changes	%	%
No GSA at Panel 1	24.2%	
No GSA at Panel 2		58.4%
GSA Presence at Panel 2		22.1%
GSA Participation at Panel 2		19.5%
GSA Presence at Panel 1	38.4%	
No GSA at Panel 2		15.6%
GSA Presence at Panel 2		67.2%
GSA Participation at Panel 2		17.2%
GSA Participation at Panel 1	37.4%	
No GSA at Panel 2		10.1%
GSA Presence at Panel 2		30.3%
GSA Participation at Panel 2		59.7%
School Experiences	M(SD)	M(SD)
Homophobic Bullying	1.44(.86)	1.25(.57)
Perception of Safety	3.24(.77)	3.36(.69)
Psychological Well-being	M(SD)	M(SD)
Depression	15.73(11.16)	15.36(11.03)
Self Esteem	21.14(5.64)	20.72(5.34)

Table 3

Regression of Depression, Self Esteem, Homophobic Bullying Experiences and Perception of School Safety at Panel 2 on GSA Presence and Participation at Panel 1

	Homophobic Bullyng Panel 2	Perception of Safety Panel 2	Depression Panel 2	Self Esteem Panel 2
	B(SE)	B(SE)	B(SE)	B(SE)
Intercept	1.14[*](.49)	1.88[*](.65)	34.57[*](9.91)	8.26(4.90)
GSA Panel 1				
Presence	-.24[*](.08)	.32[*](.11)	-.69(1.66)	-.56(.82)
Participation	-.06(.09)	.31[*](.11)	-1.25(1.71)	-.13(.84)
Covariates				
Bisexual[a]	-.13(.07)	.10(.09)	.21(1.39)	.70(.69)
Questioning[a]	.02(.11)	.21(15)	.42(2.15)	-1.17(1.08)
Woman[b]	-.24[*](.07)	-.08(.08)	3.34[*](1.29)	-.76[*](.64)
Age	.01(.03)	.01(.03)	-.71(.53)	.51[*](.26)
Latino	-.08(.09)	-.16(.11)	1.25(1.74)	-1.18(.86)
Asian[c]	-.14(.14)	-.07(.17)	-2.80(2.76)	-.94(1.37)
Black[c]	.12(.09)	-.07(.13)	-5.06[*](1.91)	2.30[*](.95)
Native American[c]	-.19(.17)	.34(.21)	-2.85(3.29)	1.45(1.63)
Multi-racial[c]	-.04(.10)	.05(.13)	-1.81(1.97)	1.80(.97)
No Race[c]	-.08(.11)	.09(.14)	-2.82(2.20)	2.81[*](1.09)
West Coast[d]	.14(.08)	.23(.11)	2.97(1.67)	-.85(.83)
Southwest[d]	.22[*](.08)	-.27[*](.10)	.96(1.59)	.53(.80)
College/University[e]	-.11(.09)	.06(.12)	.99(1.88)	-1.75(.94)
Being out at school	.02(.04)	.09[*](.04)	-1.70[*](.67)	1.13[*](.33)
Online Administration[f]	.09(.09)	.03(.15)	-1.50(1.89)	.30(.94)
Adjusted R^2	.10[*]	.04[*]	.06[*]	.10[*]

Note:

[a] Reference groups for categorical variables are Gay/Lesbian.

[b] Man,

[c] White,

[d] Northeast,

[e] High School,

[f] Paper-And-Pencil Administration.

[*] $p < .05$.

Table 4

Longitudinal Effects of GSA Presence and Participation on Homophobic Bullying Experiences and Perceptions of School Safety

	Homophobic Bullying Panel 2		Perception of Safety Panel 2	
	Step 1 *B(SE)*	Step 2 *B(SE)*	Step 1 *B(SE)*	Step 2 *B(SE)*
Intercept	.93(.51)	.93(.51)	1.25(.65)	1.42*(.62)
GSA Panel 1				
Presence	-.19*(.08)	-.21*(.10)	.14(.11)	.36*(.12)
Participation	-.03(.09)	-.07(.10)	.14(.11)	.42*(.13)
GSA Changes at Panel 2				
Presence [1]		-.03(.11)		.39*(.13)
Participation [1]		-.03(.05)		.21*(.06)
Covariates				
Bisexual[a]	-.11(.07)	-.10(.07)	.10(.09)	.05(.09)
Questioning[a]	.05(.11)	.05(.11)	.16(.14)	.18(.14)
Woman[b]	-.22*(.07)	-.22*(.07)	-.07(.08)	-.03(.08)
Age	.01(.03)	.01(.03)	-.01(.03)	-.01(.03)
Latino	-.07(.09)	-.07(.09)	-.18(.11)	-.15(.10)
Asian[c]	-.13(.14)	-.14(.14)	.05(.17)	.07(.16)
Black[c]	.14(.10)	.13(.10)	-.15(.13)	-.08(.12)
Native American[c]	-.18(.16)	-.19(.17)	.32(.21)	.36(.20)
Multi-racial[c]	-.03(.10)	-.04(.10)	-.10(.12)	-.04(.12)
No Race[c]	-.09(.11)	-.10(.11)	.05(.14)	.09(.13)
West Coast[d]	.12(.08)	.12(.08)	-.20(.11)	-.20(.11)
Southwest[d]	.21*(.08)	.20*(.08)	-.21(.10)	-.17(.10)
College/University[e]	-.09(.10)	-.08(.10)	.03(.12)	.03(.12)
Being out at school	.02(.03)	.02(.03)	.07(.04)	.07(.04)
Online Administration[f]	.10(.09)	.10(.09)	.02(.14)	.07(.13)
Panel 1 Baseline				
Homophobic Bullying/Perception of Safety	.11*(.04)	.11*(.04)	.25*(.05)	.25*(.05)
Adjusted R^2	.12*	.11*	.11*	.16*

Note:

[1] GSA Presence Change at Panel 2 and GSA Participation Change at Panel 2 range from -1 to 1 and indicate whether respondents reported presence or participation only at panel 1 (-1), at both panels (or no change: 0), or only at panel 2 (1);

[a] Reference groups for categorical variables are Gay/Lesbian.

[b] Man.

[c] White,

dNortheast,

eHigh School;

fPaper-And-Pencil Administration;

$*$
$p < .05$.