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Characteristics of Schools With and Without Gay-Straight Alliances

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Abstract

Research shows that Gay-Straight Alliances (GSAs) are associated with school climate and student well-being, but it is unclear what school characteristics may account for some of these findings. The current study describes characteristics of schools with and without GSAs. Using a population-based sample of 1360 California public high schools, inferential statistics show that schools with larger enrollment, more experienced teachers, and lower pupil/teacher ratios were more likely to have GSAs. In addition, among schools with GSAs, larger enrollment, more experienced teachers, fewer socioeconomically disadvantaged students, and higher academic achievement are among the factors related to a longer presence of GSAs. Implications for GSA and policy implementation, as well as the importance of accounting for school characteristics in research on GSAs are discussed.

Keywords

Gay-Straight Alliance; GSA; LGBTQ; high school; adolescents

Lesbian, gay, bisexual, transgender, and queer or questioning (LGBTQ) youth often face harassment in school (Kosciw, Greytak, Giga, Villenas, & Danischewski, 2016; Russell & Fish, 2016). In response to negative school experiences, Gay-Straight Alliance clubs (GSAs), or Genders and Sexualities Alliances, create safe spaces for youth to express their sexual and gender identities, as well as provide social support and opportunities to advocate for their peers (Russell, Muraco, Subramaniam, & Laub, 2009). Recent studies have documented the positive role of GSAs in schools. A meta-analysis of 15 studies shows that students in schools with GSAs report feeling safer, hearing fewer homophobic remarks, and experiencing less homophobic victimization (Marx & Kettrey, 2016). Yet in spite of these encouraging results, prior studies have traced the presence of GSAs to individual students'

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experiences and well-being with less attention to the characteristics of schools with GSAs that may facilitate the initiation of GSAs and explain some of the findings. Using a state-wide GSA registry, the current study examines differences in school characteristics between schools with and without GSAs, as well as correlates of a longer presence of GSAs.

Schools with GSAs and Student Wellbeing

Overall, findings show that youth in schools with GSAs are less likely to feel unsafe, hear homophobic remarks, or experience homophobic victimization (Ioverno, Belser, Baiocco, Grossman, & Russell, 2016; Marx & Kettrey, 2016). They also report better academic and mental health outcomes (Toomey, Ryan, Diaz, & Russell, 2011), and lower illicit drug use and prescription misuse compared to youth in schools without GSAs (Heck et al., 2014; Heck, Flentje, & Cochran, 2011). Further, GSAs in schools have been found to mitigate the association between gay-bias victimization and suicidality (Davis, Royne Stafford, & Pullig, 2014). A recent longitudinal study by Ioverno and colleagues provided prospective evidence for the role of GSAs. Their findings show that LGBQ students in schools with GSAs in the prior year felt safer and reported less homophobic bullying in the following school year (Ioverno et al., 2016). Important to note, GSAs are found to benefit the wider school climate and not only those who are members of GSAs or the LGBTQ students in a school (Marx & Kettrey, 2016; Toomey et al., 2011). Previous research suggests that GSAs may be catalysts for positive change in schools by improving school safety, inclusiveness, and student civic engagement (Poteat, Calzo, & Yoshikawa, 2018; Poteat, Yoshikawa, Calzo, Russell, & Horn, 2017).

A study by Poteat and colleagues controlled for important school characteristics in their analyses of differences between students in schools with and without GSAs (Poteat, Sinclair, DiGiovanni, Koenig, & Russell, 2013). Overall, their findings show that students in schools with GSAs, compared to students in schools without GSAs, reported lower substance use, suicidality, truancy, and sex with casual partners. They controlled for school size, the proportion of racial minority students in school, the proportion of LGBTQ students in school, and socioeconomic status of students in school, and found that schools with GSAs were larger, had a lower proportion of White students, a higher proportion of LGBTQ students, and more socioeconomic advantaged students than schools without GSAs (Poteat et al., 2013).

Selection Bias in Research on GSAs

Because most of the research on GSAs is cross-sectional, scholars have asked whether the positive effects of GSAs are really due to selection bias: schools with positive school climates that are accepting of gender and sexual minority youth may be more likely to facilitate the initiation of a GSA. Using correlational data it is not possible to infer an “effect” of having a GSA in school, and the student-initiated nature of GSAs complicates experimental designs. However, knowing more about factors that distinguish schools with and without GSAs in size and resources available to them would tackle at least part of the selection bias that is inherent to this question. In addition, knowing more about

characteristics of schools that have had a GSA for a longer period of time, would tell us what school contexts are optimal for initiating and sustaining a GSA over time.

The limited inclusion of school characteristics when studying the role of GSAs in school and student functioning means we know very little about school-level factors that are important to take into account in research on GSAs. Knowledge of these school characteristics would enable a better understanding of the correlates of GSA presence. In 2008, Fetner and Kush compared schools with and without GSAs on a number of factors (Fetner & Kush, 2008). Their findings show that urban and suburban schools were more likely to have a GSA than schools in towns or rural areas. In addition, having fewer students eligible for free and reduced price meals, was a predictor of having a GSA—indicating a link between school resources and the presence of GSAs. Another important school characteristic was student body size: larger schools were more likely to have a GSA (Fetner & Kush, 2008). One reason for this could be that small schools do not have “enough” LGBTQ students to facilitate a GSA or these students may be less likely to disclose their sexual identity (Fetner & Kush, 2008)—although it should be noted that GSAs are also initiated by heterosexual students (Poteat et al., 2015). Though this research suggests important school characteristics that should be taken into account in studies on GSAs, these data were collected in 2001-2002 (Fetner & Kush, 2008). Since that time, the number of GSAs in the US has grown (GLSEN, 2017) in tandem with increases in societal tolerance and acceptance of LGBTQ people (Russell & Fish, 2016). It is critical to have a contemporary understanding of school characteristics associated with GSA initiation, particularly from a statewide sample of schools.

Current Study

In this study, we combine multiple sources of statewide data from California public high schools to examine the characteristics of schools that have GSAs compared to those that do not. Based on previous findings (Fetner & Kush, 2008; Kosciw et al., 2016; Poteat et al., 2013), we hypothesize that schools in urban areas, with a larger student body, and more socioeconomic advantaged students are more likely to have a GSA. We also explore whether a range of other available school-level factors are related to having a GSA or not, such as teacher experience, pupil/teacher ratio, academic achievement, dropout, and truancy rates. We use data on GSA presence and duration of presence from the Genders and Sexualities Alliance (GSA) Network, and publicly available data on school characteristics from The California Department of Education (CDE) and National Center for Education Statistics (NCES), to examine differences in school characteristics between schools with and without GSAs, and the correlates with a longer duration of GSA presence.

Method

Data on school characteristics and presence of GSAs in 2015 were merged at the school level for public high schools in California from three sources: The CDE, NCES, and the Genders and Sexualities Alliance Network, formerly known as Gay-Straight Alliance Network. All three sources included individual school identity codes which enabled data to be merged at the school level. The final analytic sample included 1360 high schools.

Measures

GSA presence.—Schools were coded for the presence of a GSA up until 2015 and the number of years GSAs had been in schools based on data from the Genders and Sexualities Alliance Network (GSA Network), which maintains a California statewide registry of GSAs (http://gsanetwork.org/).

School characteristics.—The CDE provides online public access databases on demographic indicators by school. In the current study, data on student enrollment (2014-2015), average years of teaching by teachers in the school (2014-2015), pupil/teacher ratio (number of students per teacher; 2014-2015), percent of socioeconomically disadvantaged students (based on whether a student receives free or reduced price lunches; 2014-2015), percent of students who dropout (2013-2014), percent of students who received an ACT score higher or equal to 21 (2013-2014), truancy rate (2014-2015), and ethnic diversity (higher values indicate a more even distribution of students among race/ethnicity categories; 2014-2015) were used and merged at the school level (for more information, see http://www.cde.ca.gov/ds/). The NCES provides 12 categories that reflect the degree of urbanicity based on the location of schools (2013-2014) (see Table 1; https://nces.ed.gov/). The score distributions for student body size, pupil/teacher ratio, and dropout rates were skewed; we transformed (squared) these three variables for analyses. Pearson correlations between school characteristics are shown in Table 2.

Analytical Strategy—Pearson correlations were conducted to examine the association among school characteristics, and with the duration of GSAs presence. To examine whether schools with and without GSAs differed in terms of school characteristics, we conducted bivariate robust regression analyses to handle potential outliers (Verardi & Croux, 2009) including a dichotomous measure of GSA presence (0 = not present, 1 = present). To examine which school characteristics would predict GSA presence in school, we conducted a logistic regression analysis and entered all school characteristics at once with GSA presence as the dependent variable (0 = GSA not present, 1 = GSA present). Last, with bivariate robust regression analyses we examined whether school characteristics were associated with the number of years a GSA had been present in a school—only among schools with GSAs. We calculated Cohen's d effect sizes from the t-value provided in all robust regression analyses (Rosnow & Rosenthal, 1996).

Results

In this sample of 1360 public high schools in California, 54.3% had a GSA. To examine whether schools with and without GSAs differed in school characteristics, we performed bivariate robust regression analyses (Table 2). The findings from the bivariate robust regression analyses show that schools with GSAs had significantly larger student body sizes ($B = 26.48$, $SE = 0.85$, $p < .001$, Cohen's d = 1.70), teachers with more years of teaching experience ($B = 1.00$, $SE = 0.29$, $p < .001$, Cohen's d = 0.19), more pupils per teacher ($B = 0.12$, $SE = 0.04$, $p = .001$, Cohen's d = 0.18), fewer socioeconomically disadvantaged students ($B = -9.86$, $SE = 2.69$, $p < .001$, Cohen's d = −0.20), lower rates of dropout ($B = -0.32$, $SE = 0.16$, $p = .043$, Cohen's d = −0.16), more students with higher ACT scores ($B =$

35.38, $SE = 3.52$, $p < .001$, Cohen's d = 0.63), higher truancy rates ($B = 24.07$, $SE = 3.22$, $p < .001$, Cohen's d = 0.41), and more heterogeneous ethnic/racial composition ($B = 4.93$, $SE = 1.21$, $p < .001$, Cohen's d = 0.22). Schools with and without GSAs did not differ in their degree of urbanicity ($B = 0.08$, $SE = 0.19$, $p = .669$, Cohen's d = 0.02).

A logistic regression analysis was used to predict GSA presence based on the same school characteristics. The findings of the logistic regression show that when all school characteristics are added simultaneously, schools with larger student body sizes are found to be more likely to have a GSA (OR = 1.07, 95%CI [1.04, 1.10], as well as schools with more experienced teachers (OR = 1.09, 95%CI [1.02, 1.17], more pupils per teacher (OR = 0.34, 95% CI [0.14, 0.79]. Rates of dropout, urbanicity, student ACT scores, truancy rates, socioeconomic status, and ethnic diversity were not independent predictors of GSA presence.

We also assessed whether the number of years a GSA had been in a school (min = 0.21 | max = 15.67) was correlated with school characteristics. For these analyses, the subset of schools with GSAs was used. Pearson correlation analyses showed that schools that had GSAs for a longer period of time, also had higher enrollment, more experienced teachers, fewer socioeconomically disadvantaged students, more students with higher ACT scores, higher truancy, and more heterogeneous ethnic/racial composition (See Table 2). Next, we conducted bivariate robust regression analyses to examine whether the duration of a GSAs presence was associated with school characteristics. Schools that had GSAs for a longer period of time had larger student body sizes ($B = -.26$, $SE = .10$, $p = .009$, Cohen's d = 0.19), fewer socioeconomically disadvantaged students ($B = -2.32$, $SE = .57$, $p < .001$, Cohen's d = −0.30), more students with higher ACT scores ($B = 3.78$, $SE = .91$, $p < .001$, Cohen's d = 0.31), higher truancy rates ($B = 1.86$, $SE = 0.56$, $p = .001$, Cohen's d = 0.25), and more heterogeneous ethnic/racial composition ($B = 0.54$, $SE = 0.23$, $p = 0.19$, Cohen's d = 0.17). Urbanicity of schools, teacher experience, pupil/teacher ratio, and rates of dropout were not related to the duration of the presence of a GSA ($ps > .05$).

Discussion

This study combined three independent sources of data (two sources of publicly available administrative data and data from a national youth organization), aggregated at the school level to examine the characteristics of schools with and without GSAs. These data represent the population of all public high schools in California and, although not representative of private schools, provide a new vantage point on the nature of these schools and highlight innovation that is possible when combining publicly available data to answer novel research questions.

Similar to earlier work (Fetner & Kush, 2008; Kosciw et al., 2016; Poteat et al., 2013) we found that GSAs are primarily located in larger schools with more experienced teachers. In addition, among schools with GSAs, the duration of a GSA's presence in school was associated with the same school characteristics. Together, the findings indicate that these school-level factors are important for the initiation of GSAs, but that these factors may also be important for sustaining GSAs over time.

Although not specifically related to our research questions, the bivariate correlations revealed important associations among school characteristics, for example, between socioeconomic advantage and academic achievement. This suggests a crucial role of resources in student achievement and success. However, the finding that schools with GSAs have *more* pupils per teacher and *higher* truancy rates contradicts the idea that all schools with GSAs are advantaged. Moreover, despite previous findings that rural schools have more hostile climates for LGBTQ students (Kosciw, Greytak, & Diaz, 2009) and are less likely to have GSAs (Fetner & Kush, 2008; Kosciw et al., 2016), the current findings show that in 2015 GSAs are not more likely to be present in rural, suburban, or urban California high schools.

The difference between schools with and without GSAs was largest for enrollment: On average, schools with GSAs were 2.3 times larger than schools without. This may be explained by the greater availability and variety of social spaces in larger schools than in smaller schools (Fetner & Kush, 2008). Together with our findings on years of teacher experience, this pattern points to the need for attention to LGBTQ student support in communities where GSAs remain uncommon (at least in California), or in smaller schools, which may have a general lack of extracurricular activities. Overall, effect sizes and correlations were small and should be interpreted with caution—statistical significance could partially be attributed to the large sample size.

Conclusion

With the current study, we cannot conclude whether the initiation of a GSA is in response to hostile school climates, or that the initiation of a GSA helps to improve the school climate over time. Longitudinal data with pre- and post-measurements are necessary to examine changes in school climate in response to GSAs. However, the current study does point to important school-level characteristics for which many studies on GSAs do not account. Considering that well-resourced schools may, in general, have better school climates or serve healthier student populations, this may mean that some of the previous findings on GSAs could be confounded. We recommend a multilevel approach when assessing the presence and function of GSAs in school, accounting for important school characteristics such as student body size, teacher experience, and percentage dropout. Further, we encourage further research—both quantitative and qualitative—to more deeply understand the implementation and impact of GSAs for LGBTQ youth and the broader community.

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References

Davis B, Royne Stafford M, & Pullig C (2014). How gay-straight alliance groups mitigate the relationship between gay-bias victimization and adolescent suicide attempts. Journal of the American Academy of Child & Adolescent Psychiatry, 53, 1271–1278.e1. 10.1016/j.jaac.2014.09.010 [PubMed: 25457925]

Fetner T, & Kush K (2008). Gay-straight alliances in high schools: Social predictors of early adoption. Youth & Society, 40, 114–130. 10.1177/0044118X07308073

GLSEN. (2017). About Gay-Straight Alliances. Retrieved from https://gsanetwork.org/files/resources/GSA.QA_.ACLU_.pdf

Heck NC, Flentje A, & Cochran BN (2011). Offsetting risks: High school gay-straight alliances and lesbian, gay, bisexual, and transgender (LGBT) youth. School Psychology Quarterly, 26, 161–174. 10.1037/a0023226

Heck NC, Livingston NA, Flentje A, Oost K, Stewart BT, & Cochran BN (2014). Reducing risk for illicit drug use and prescription drug misuse: High school gay-straight alliances and lesbian, gay, bisexual, and transgender youth. Addictive Behaviors, 39, 824–828. 10.1016/j.addbeh.2014.01.007 [PubMed: 24531638]

Ioverno S, Belser AB, Baiocco R, Grossman AH, & Russell ST (2016). The protective role of gay–straight alliances for lesbian, gay, bisexual, and questioning students: A prospective analysis. Psychology of Sexual Orientation and Gender Diversity, 3, 397–406. 10.1037/sgd0000193 [PubMed: 28042585]

Kosciw JG, Greytak EA, & Diaz EM (2009). Who, what, where, when, and why: Demographic and ecological factors contributing to hostile school climate for lesbian, gay, bisexual, and transgender youth. Journal of Youth and Adolescence, 38, 976–988. 10.1007/s10964-009-9412-1 [PubMed: 19636740]

Kosciw JG, Greytak EA, Giga NM, Villenas C, & Danischewski DJ (2016). The 2015 National School Climate Survey: The Experiences of Lesbian, Gay, Bisexual and Transgender Youth in Our Nation's Schools. New York, NY: GLSEN Retrieved from https://eric.ed.gov/?id=ED535177

Marx RA, & Kettrey HH (2016). Gay-Straight alliances are associated with lower levels of school-based victimization of LGBTQ+ youth: A systematic review and meta-analysis. Journal of Youth and Adolescence, 45, 1269–1282. 10.1007/s10964-016-0501-7 [PubMed: 27221632]

Poteat VP, Calzo JP, & Yoshikawa H (2018). Gay-Straight Alliance involvement and youths' participation in civic engagement, advocacy, and awareness-raising. Journal of Applied Developmental Psychology, 56, 13–20. 10.1016/J.APPDEV.2018.01.001 [PubMed: 29805190]

Poteat VP, Sinclair KO, DiGiovanni CD, Koenig BW, & Russell ST (2013). Gay-straight alliances are associated with student health: A multischool comparison of LGBTQ and heterosexual youth. Journal of Research on Adolescence, 23, 319–330. 10.1111/j.1532-7795.2012.00832.x

Poteat VP, Yoshikawa H, Calzo JP, Gray ML, DiGiovanni CD, Lipkin A, … Shaw MP (2015). Contextualizing gay-straight alliances: student, advisor, and structural factors related to positive youth development among members. Child Development, 86, 176–93. 10.1111/cdev.12289 [PubMed: 25176579]

Poteat VP, Yoshikawa H, Calzo JP, Russell ST, & Horn S (2017). Gay-straight alliances as settings for youth inclusion and development: Future conceptual and methodological directions for research on these and other student groups in schools. Educational Researcher, 46, 508–516. 10.3102/0013189X17738760

Rosnow RL, & Rosenthal R (1996). Computing contrasts, effect sizes, and counternulls on other people's published data: General procedures for research consumers. Psychological Methods, 1, 331–340. Retrieved from http://psycnet.apa.org/buy/1996-06601-001

Russell ST, & Fish JN (2016). Mental health in lesbian, gay, bisexual, and transgender (LGBT) youth. Annual Review of Clinical Psychology, 12, 465–487. 10.1146/annurev-clinpsy-021815-093153

Russell ST, Muraco A, Subramaniam A, & Laub C (2009). Youth empowerment and high school gay-straight alliances. Journal of Youth and Adolescence, 38, 891–903. 10.1007/s10964-008-9382-8 [PubMed: 19636734]

Toomey RB, Ryan C, Diaz RM, & Russell ST (2011). High school gay–straight alliances (GSAs) and young adult well-being: An examination of GSA presence, participation, and perceived effectiveness. Applied Developmental Science, 15, 175–185. 10.1080/10888691.2011.607378 [PubMed: 22102782]

Verardi V, & Croux C (2009). Robust regression in Stata. Stata Journal, 9, 439–453. 10.2139/ssrn.1369144

Table 1

Frequencies and Percentages of High Schools With and Without GSAs Across Locations in California

Location	Total	No GSA (%)	GSA (%)
Rural, Remote Census-defined Rural Territory	44	20 (45)	24 (55)
Rural, Distant Census-defined Rural Territory	47	27 (57)	20 (43)
Rural, Fringe Census-defined Rural Territory	78	36 (46)	42 (54)
Town, Remote Territory	28	9 (32)	19 (68)
Town, Distant Territory	65	26 (40)	39 (60)
Town, Fringe Territory	54	23 (43)	31 (57)
Suburb, Small Territory	37	13 (35)	24 (65)
Suburb, Mid-size Territory	40	18 (45)	22 (55)
Suburb, Large Territory	380	159 (42)	221 (58)
City, Small Territory	86	37 (43)	49 (57)
City, Mid-size Territory	101	38 (38)	63 (62)
City, Large Territory	277	114 (41)	163 (59)

Table 2

Robust Regression Comparisons of School Characteristics between Schools With and Without GSAs, Odds Ratios of GSA Presence by School Characteristics, and Bivariate Correlations Between School Characteristics

	No GSA	GSA	*B*	*OR*									
School characteristic (range)	***M* (*SD*)**	***M* (*SD*)**			**1.**	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**	**9.**
1. Enrollment (2-4814)	779.87 (766.74)	1773.70 (826.22)	26.48***	**1.07**	--								
2. Urbanicity (1-12)	8.28 (3.33)	8.53 (3.16)	.08	1.02	.03	--							
3. Average years of teaching (1-21)	8.24 (4.49)	11.30 (3.27)	1.00**	**1.09**	.49***	−.02	--						
4. Pupil/teacher ratio (1.1-272)	21.53 (13.94)	22.93 (3.21)	0.12**	**0.34**	.39***	.00	.12***	--					
5. % Socioeconomically disadvantaged students (0.8-100)	65.24 (23.39)	51.98 (26.25)	−9.86***	0.98	−.23***	−.06*	−.18***	−.14***	--				
6. % Dropouts (1.4-92.9)	17.43 (16.11)	8.34 (7.01)	−0.32*	1.02	−.56***	.01	−.35***	.00	.38***	--			
7. % ACT scores ≥ 21 (0-100)	43.01 (25.63)	55.45 (25.01)	35.38***	1.00	.28***	.06	.21***	.13***	−.85***	−.53***	--		
8. % Truancy (0-100)	30.64 (25.90)	38.92 (24.19)	24.07***	1.00	.21***	−.05	.20***	−.00	.19***	−.07	−.25***	--	
9. Ethnic diversity (heterogeneity) (0-75)	30.01 (16.51)	37.26 (16.48)	4.93***	1.01	.20***	.07*	.10***	.07***	−.51***	−.23***	.55***	−.06	--
10. Number of years GSA was present	--	--	--	--	.22***	.05	.29***	−.07	−.22***	−.08	.22***	.09*	.24***

Note. For the measure of ethnic diversity, higher values indicate more evenly distributed students among race/ethnicity categories. For the bivariate correlations, sample sizes ranged from 593 to 1337. Bold ORs refer to significant odds ratios.

* $p < .05$,

** $p < .005$,

*** $p < .001$