

High School Gay–Straight Alliances (GSAs) and Young Adult Well-Being: An Examination of GSA Presence, Participation, and Perceived Effectiveness

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Gay–Straight Alliances (GSAs) are student-led, school-based clubs that aim to provide a safe environment in the school context for lesbian, gay, bisexual, and transgender (LGBT) students, as well as their straight allies. The present study examines the potential for GSAs to support positive youth development and to reduce associations among LGBT-specific school victimization and negative young adult well-being. The sample includes 245 LGBT young adults, ages 21–25, who retrospectively reported on the presence of a GSA in their high school, their participation in their school’s GSA, and their perceptions of whether or not their GSA was effective in improving school safety. Findings revealed that the presence of a GSA, participation in a GSA, and perceived GSA effectiveness in promoting school safety were differentially associated with young adult well-being and, in some cases, buffered the negative association between LGBT-specific school victimization and well-being. Implications for future research and schools are discussed.

Contemporary lesbian, gay, and bisexual adolescents are known to be disproportionately at risk for experiencing negative psychosocial well-being and health problems. Evidence has increasingly shown a disproportionate risk among transgender youth. Specifically, previous research documents that sexual minority (e.g., those who report same-sex attractions or relationships) young people are at greater risk than heterosexuals for suicide ideation and attempts (for review, see Russell, 2003), depression

(Russell, 2006), substance use (see Marshal et al., 2008), and lower self-esteem (Russell, 2006). Recent studies using the National Longitudinal Study of Adolescent Health document that the disparate risks reported by this population for suicidality and depression are particularly heightened in the developmental period of adolescence and dissipate in young adulthood for same-sex attracted males (Russell & Toomey, 2010; Ueno, 2010). These findings are of particular importance because they clarify for researchers, policymakers, and individuals working with young people that a prime opportunity to potentially reduce risk for lesbian, gay, bisexual, and transgender (LGBT) individuals is during adolescence.

Adolescents spend a large portion of their time in the school context. Thus, schools are a potential setting for positive youth development and resiliency. Nonetheless, LGBT adolescents report high rates of verbal and physical school-based victimization (e.g., Human Rights

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Watch, 2001; Kosciw, Greytak, Diaz, & Bartkiewicz, 2010) and report that their school environments are unsafe (Kosciw et al., 2010; O'Shaughnessy, Russell, Heck, Calhoun, & Laub, 2004; Russell & McGuire, 2008). These negative school experiences have been linked to long-term negative mental health (e.g., Rivers, 2001a) and health outcomes (e.g., Russell, Ryan, Toomey, Diaz, & Sanchez, 2011; Toomey, Ryan, Diaz, Card, & Russell, 2010), as well as concurrent academic outcomes (e.g., Kosciw et al., 2010). The disparity in positive school experiences for LGBT young people and the lack of information about positive development for LGBT adolescents necessitates the need for research on specific experiences of LGBT adolescents in positive school-based contexts, such as extracurricular activities. In fact, much like their heterosexual peers, these school-based activities may be a primary setting that fosters positive youth development (e.g., Eccles & Barber, 1999; Eccles, Barber, Stone, & Hunt, 2003; Fredricks & Eccles, 2006; Zaff, Moore, Papillo, & Williams, 2003).

The goal of this article is to examine LGBT young adult's retrospective reports of various facets of their high school's Gay–Straight Alliances (GSAs), a specific school-based extracurricular activity/club that focuses on LGBT students and their heterosexual allies. In this article we examine associations of GSA presence, GSA participation, and perceived GSA effectiveness in promoting school safety in adolescence with psychosocial well-being and educational attainment for LGBT young adults. In the next section, we review the literature on GSAs in schools. We then provide our results from an empirical investigation of 245 young adults retrospectively reporting on GSA information during their high school years.

Gay–Straight Alliances: Presence and Membership

Despite the dearth of literature on positive development for LGBT young people, a growing body of research examines the experiences of LGBT adolescents and their straight allies in one specific school-based extracurricular activity: Gay–Straight Alliances (GSAs). GSAs are student-led, school-based clubs that aim to provide a safe place for LGBT students (Goodenow, Szalacha, & Westheimer, 2006; Human Rights Watch, 2001; O'Shaughnessy et al., 2004). In recent decades the number of GSAs in schools has risen dramatically: according to the Gay, Lesbian, and Straight Education Network (GLSEN, 2010), there are over 4,000 GSAs registered in the United States. Previous research has examined the associations between GSAs and student outcomes in two ways: the presence of a GSA in a student's school and membership of a student in the school's GSA.

Research suggests that the presence of a GSA can serve as a protective factor for LGBT adolescents, such that LGBT adolescents who report that their school

has a GSA tend to report more school safety and greater well-being (Goodenow et al., 2006; Lee, 2002; Kosciw et al., 2010; O'Shaughnessy et al., 2004; Walls, Freedenthal, & Wisneski, 2008; Walls, Kane, & Wisneski, 2010). In a study of over 7,000 LGBT students, Kosciw and colleagues found that the presence of a GSA was associated with fewer homophobic comments from peers, less victimization related to sexual orientation and gender expression, greater school safety and school connectedness, and more instances of teacher intervention in homophobic harassment. Further, Walls and colleagues (2010) found that the presence of a GSA was associated with greater levels of school safety, fewer reports of missing school due to fear, and greater awareness of a safe adult in the school context. Finally, a few studies have documented that the presence of a GSA is associated with reduced suicide risk for sexual minority youths (Goodenow et al., 2006; Walls et al., 2008).

Beyond whether a school has a GSA or not, research finds that being a member of a GSA is associated with better academic achievement and interpersonal relationships (Lee, 2002; Mayberry, 2006), and more comfort with one's own sexual orientation (Lee, 2002) and personal empowerment (Russell, Muraco, Subramaniam, & Laub, 2009). Walls and colleagues (2010) found that GSA members reported higher grade point averages than nonmembers; however, they found no differences between members and nonmembers on several key outcomes (i.e., school safety, absenteeism, weapon carrying, school harassment). Thus, the presence of a GSA seems to have more of an impact on school climate issues, such as safety at school or victimization levels, whereas membership in a GSA seems to have more impact on person-specific outcomes, such as personal empowerment or academic achievement.

A limitation of these studies is that they all examine GSA presence or membership with concurrent adolescent outcomes and thereby do not examine whether the positive influence of GSAs continues into young adulthood. That is, the unknown factor remains the associations of high school GSA presence and membership with psychosocial adjustment and educational attainment in young adulthood. In this study, we seek to extend current adolescent-limited findings about the associations among GSA presence and participation and well-being by examining psychosocial and educational outcomes in young adulthood. Our measures of GSA presence and member participation are retrospective which is also a limitation; however, this examination is the first to explore the associations of GSA presence and participation with well-being in young adulthood.

Further, we add to the literature a new construct that explores whether students' perceptions of their GSA's effectiveness in promoting school safety are associated with young adult psychosocial adjustment

and educational attainment. Previous research has documented that the foci, roles played in schools, and activity levels of GSAs differ between schools (e.g., Griffin, Lee, Waugh, & Beyer, 2004; Perrotti & Westheimer, 2001). Specifically, Griffin and colleagues noted important between school differences on how safe students deemed their GSAs to be and on how much their GSAs contributed to broader school efforts to create safer school environments. Arguably, students' perceptions of the effectiveness of a GSA in creating safer school environments may be more strongly associated with psychosocial and academic outcomes beyond whether a school has a GSA or a student is a member of that GSA. That is, if a school has a GSA but students do not perceive that their school is a safer environment because of the club, then the associations between GSA presence or GSA membership and well-being for students in that school may be attenuated. On the other hand, if a student is in a school that has a GSA that is perceived to be effective in promoting a safer school environment, then the associations between GSA presence or GSA membership and well-being may be stronger. This may be the case because students whose GSAs are effective in creating safer school environments may have experienced more supportive environments and less school victimization and harassment because of their LGBT status. Further, drawing from the safe schools literature, perceptions of school safety are positively associated with psychosocial and academic outcomes (e.g., Elze, 2003) and are critical for productive learning (e.g., Tirozzi & Uro, 1997). Thus, an understanding of how effective students perceived their GSAs to be in promoting school safety is critical for understanding the associations between GSAs and young adult well-being.

Current Study: Research Questions

This study examines the following research questions and hypotheses:

1. Is the *presence of a GSA* in adolescence associated with young adult psychosocial well-being and educational attainment? As described previously, existing literature suggests links among the presence of a GSA and concurrent student well-being and academic achievement; therefore, we hypothesized that GSA presence during adolescence would also be associated with less depression, fewer suicide attempts and substance abuse related problems, more self-esteem, and higher educational attainment in young adulthood.
2. Does the *presence of a GSA* buffer the associations among school victimization and young adult psychosocial well-being and educational attainment? We expected that the presence of a GSA in high

school would buffer the associations among school victimization and young adult well-being, such that those with GSAs would be protected against the negative effects of victimization.

3. Is *GSA membership* in adolescence associated with young adult psychosocial well-being and educational attainment? The current literature has not thoroughly examined the relationships between GSA membership and psychosocial well-being. However, we hypothesized that GSA membership during adolescence would be positively associated with better psychosocial well-being and higher educational attainment in young adulthood.
4. Does *GSA membership* buffer the associations among school victimization and young adult psychosocial well-being and educational attainment? We expected that membership in a high school GSA would buffer the associations among school victimization and young adult well-being, such that those who belonged to GSAs would be protected against the negative effects of victimization.
5. Is *perceived effectiveness of the participant's high school GSA to promote school safety* associated with young adult psychosocial well-being and educational attainment? While no research has examined the perceived effectiveness of GSAs in promoting school safety, because safe school environments are associated with more positive outcomes, we hypothesized that participants whose GSAs were more effective in promoting school safety would also report better young adult psychosocial well-being and higher educational attainment.
6. Does *perceived GSA effectiveness to promote school safety* buffer the associations among school victimization and young adult psychosocial well-being and educational attainment? We expected that GSA effectiveness would buffer the associations among school victimization and young adult well-being, such that those with more effective GSAs would be protected against the negative effects of victimization.

METHOD

Sample

The *Family Acceptance Project's* young adult survey includes 245 lesbian, gay, bisexual, and transgender (LGBT) young adults (for more detailed information about study design and sampling procedures, see Ryan, 2010; Ryan, Huebner, Diaz, & Sanchez, 2009). In 2005, participants were recruited in 249 venues that LGBT young adults use within 100 miles of the research center

in the San Francisco Bay Area, after comprehensively mapping the universe of services and venues that serve this population. Nearly half of the sites were community, social, and recreational agencies and organizations that served LGBT young adults; the other half included LGBT bars and clubs. Bilingual recruiters (English and Spanish) conducted venue-based recruitment from bars and clubs and contacted program directors at each agency to access all young adults who use their services to maximize representation and minimize bias.

Eligibility criteria for study participation included: age (21–25 years), self-identification as LGBT in adolescence, disclosure of sexual orientation to at least one parent or caregiver in adolescence, and at least part-time residence with at least one parent or caregiver during adolescence, since the sample was drawn to study experiences related to family, peers, and school. Those who qualified and agreed to participate received a personal identification number, which they used to access the survey. Consent was obtained as a preface to the survey using Rosser and colleague's online consent procedures (see Rosser et al., 2009). Participants completed the survey in either English or Spanish and in pencil-paper or computer-assisted formats. Participants completed the survey anonymously and received a \$50 stipend for their participation. The university's institutional review board approved the study protocol.

Of the 245 participants, 114 (46.5%) self-identified as male, 110 (44.9%) as female, and 21 (8.6%) as transgender. Approximately 70% of participants self-identified as lesbian or gay, 13% identified as bisexual, and 17% identified as having a different sexual identity (i.e., queer, dyke, or homosexual). The participants were divided equally in terms of ethnicity: 126 (51%) were Latino and 119 (49%) were White, Non-Latino. Nearly 19% ($n = 46$) of the sample identified as immigrants to the United States. Family-of-origin socioeconomic status was assessed (1 = both parents in unskilled positions or unemployed, 16 = both parents in professional positions; $M = 6.75$, $SD = 4.77$), and indicated that the sample came from a diverse range of socioeconomic backgrounds.

Measures

Gay–Straight Alliance Measures

Participants retrospectively reported whether the high school they attended had a GSA or any other school diversity club related to sexual orientation (0 = no, 1 = yes). If participants answered that their school did have a GSA or similar club, they were asked two follow-up questions. First, participants reported on their own participation level in their schools' GSAs: "Did you participate in a GSA or any kind of school diversity club related to sexual orientation in high school?" (0 = not at all, 1 = somewhat, 2 = very much, 3 = extremely).

Because we are primarily interested in whether or not any GSA participation mattered for young adult well-being, and to stay consistent with methodologies used in previous studies, we dichotomized the choice responses for this item (0 = no participation, 1 = any participation). The perceived effectiveness of the school's GSA to promote school safety was assessed by one item: "Did having a GSA or any kind of school diversity club related to sexual orientation in your school improve the school climate (help students feel safer)?" (0 = not at all, 1 = somewhat, 2 = very much, 3 = extremely).

Past LGBT-Specific School Victimization

A sum of 10 items assessed the degree to which participants retrospectively reported on school victimization due to their LGBT status. These items were adapted from the *California Healthy Kids Survey* measure on violence, safety, harassment, and bullying (see, for example, California Healthy Kids Survey, 2010). Sample items include: "During my middle or high school years, while at school, I was made fun of because of my looks or the way I talk. How often did this occur because people knew or assumed you were LGBT?" and "During my middle or high school years, while at school, I was afraid of being beaten up. How often did this occur because people knew or assumed you were LGBT?" (0 = never, 1 = once or twice, 2 = a few times, 3 = many times). Preliminary analyses indicated positive skewness on these items; a square root transformation was performed which returned the variables to acceptable ranges ($M = 5.33$, $SD = 4.91$). Reliability of this scale was excellent ($\alpha = .91$).

Young Adult Psychosocial Adjustment

Four indicators of young adult psychosocial adjustment are examined: depression, self-esteem, lifetime suicide attempts, and problems due to substance abuse. Current depression was assessed with the 20-item Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977, 1991). Preliminary analyses revealed significant skewness in this variable, which was corrected with a square root transformation ($M = 12.41$, $SD = 8.24$). This measure demonstrated excellent reliability in this sample ($\alpha = .94$). The 10-item Rosenberg Self-Esteem Scale (Rosenberg, 1979) was used to assess current self-esteem and demonstrated excellent internal consistency ($\alpha = .88$; $M = 2.80$, $SD = .38$). One item assessed lifetime suicide attempts: "Have you ever, at any point in your life, attempted taking your own life?" (0 = no, 1 = yes [41%]). Finally, substance-abuse related problems were assessed by four items (e.g., Ryan et al., 2009). The four items included: "In the past five years, have you lost a job because of your alcohol or drug use?" "In the past five years, have you passed out or lost

consciousness because of your alcohol or drug use?” “In the past five years, have you had problems with the law because of your alcohol or drug use?” and “In the past five years, have you had conflicts with family, lovers, or friends because of your alcohol or drug use?” (0 = no, 1 = yes). From these four items, a single measure was created to represent “ever” having problems (0 = never, 1 = ever [56%]).

Adolescent and Young Adult Educational Outcomes

Two indicators of adolescent and young adult educational attainment were examined: high school dropout status and college-level educational attainment. Participants were asked two questions that assessed past and current educational attainment: “What is the highest level of education you have completed?” (1 = less than elementary school to 7 = post-graduate) and “Are you currently in school?” (0 = no, 1 = yes). The range of education completed in this sample was from some high school to post-graduate ($M = 4.96$, $SD = .83$). High school dropouts included participants with less than a high school education (0 = no [88.6%], 1 = yes [11.4%]), and our college-level educational attainment indicator included those with some college to a post-graduate degree (0 = no [41.2%], 1 = yes [58.8%]).

Plan of Analysis

Missing data was imputed using the expectation maximization (EM) algorithm in PRELIS, a component of LISREL 8.80, prior to conducting the analyses. The total percentage of missing data represented in the initial data set was less than 5%. Imputation of missing data maximizes the power to detect effects and maximizes sample size available for analyses (Graham, Cumsille, & Elek-Fisk, 2003).

We first utilized basic statistical tests (using chi-square analyses, t -tests, and ANOVAs) that examined demographic differences between participants whose schools had GSAs or similar clubs versus those who reported that their schools did not have this type of club. We also examined demographic differences on reports of GSA participation and perceived GSA effectiveness.

We next tested multiple regression models to assess young adult adjustment and educational outcomes based on GSA presence in school, individual-level GSA participation, and perceived GSA effectiveness to promote school safety. To examine our dichotomous outcomes (lifetime suicide attempt, clinical level depression, problems related to substance abuse, high school dropout status, and college-level educational attainment) we used multiple logistic regression. Our initial regression models contained only the GSA variables to obtain unadjusted estimates of the relationships between GSA presence,

participation, and perceived effectiveness and young adult adjustment and educational outcomes. In all other models, we controlled for sociodemographic characteristic of participants (i.e., gender, sexual orientation, ethnicity, immigration status, socioeconomic status) that have known associations with our outcomes of interest (see Ryan et al., 2009). Finally, we examined the interactions between each of our three GSA variables with the experience of past LGBT-specific school victimization to examine whether GSAs can buffer the negative experience of victimization. Interaction terms were created with the mean centered variables to reduce collinearity (Jaccard & Turrisi, 2003). The illustrations of the significant interactions show three levels of LGBT-specific victimization and GSA participation. These three levels correspond to -1 standard deviation below the mean, the mean, and $+1$ standard deviation above the mean for ease of interpretation.

Models that tested GSA presence included the full sample ($n = 245$) whereas models that examined GSA participation and perceived GSA effectiveness included only the subsample of participants whose schools had a GSA ($n = 86$). The subsample of students who attended schools with GSAs is small and is a limitation of the study; therefore, these analyses should be replicated with larger samples in the future.

RESULTS

Demographic Characteristics of GSA Indicators

Of the 245 participants, 86 (35.10%) reported that their high school had a Gay–Straight Alliance or similar student club. Of those 86 participants, 50% identified as female, 45.35% as male, and 4.65% as transgender. Over half (69.77%) of the 86 participants whose school had a GSA identified as gay or lesbian, 13.95% as bisexual, and 16.28% as queer, dyke, or homosexuals. Over half (54%) of these 86 participants were White, non-Latino, and nearly 10% were immigrants to the United States. Of these demographic characteristics, there was only one significant difference between participants whose schools had GSAs compared to those who did not: immigrants were less likely to report that their schools had GSAs than non-immigrants (19.57% vs. 38.69%; χ^2 ($df = 1$) = 6.00, $p < .05$).

GSA participation and effectiveness levels were only evaluated for the 86 students who reported the presence of a GSA in their school. Of the participants with GSAs in their schools, 55 (63.95%) reported some level of participation in their GSA. The average level of effectiveness rating of GSAs was low ($M = 1.07$, $SD = .79$). No significant differences were found among GSA participants on demographic characteristics: 50.91% were female, 41.82% were male, and 7.27% were transgender. Most

(58.18%) GSA participants identified as gay or lesbian, 23.64% identified with other orientations (queer, dyke, homosexual), and 18.18% identified as bisexual. The majority of GSA participants were White, non-Latino, and only 12.73% identified as immigrants. There were no significant differences between GSA participants and non-participants on family-of-origin SES or past reports of LGBT-specific school victimization. Analyses examined demographic characteristics associated with reports of GSA effectiveness and the only significant association was the correlation between GSA effectiveness and past reports of LGBT-specific school victimization ($r = -0.44$). Thus, participants with GSAs that were more effective in promoting safe school climates reported lower levels of LGBT-specific school victimization.

Research Questions 1 and 2: GSA Presence and Young Adult Psychosocial Well-Being and Educational Attainment

The presence of a GSA in high school was significantly associated with young adult psychosocial well-being and educational attainment. Without adjusting for demographic characteristics, the presence of a GSA was negatively associated with young adult depression and positively associated with young adult self-esteem (Table 1). Further, the presence of a GSA was associated with less high school dropout risk and greater college education attainment (Table 1).

After adding demographic characteristics to the model, the presence of a GSA remained negatively associated with young adult depression and positively associated with young adult self-esteem (Table 2). Furthermore, the presence of a GSA in school remained associated with a greater likelihood of college-level educational attainment (Table 3). Presence of a GSA was not associated with lifetime suicide attempts, problems due to substance abuse, or high school dropout status (Table 3). Contrary to our expectations, we found no significant interactions between LGBT-specific school

TABLE 2
The Associations Among GSA Presence, GSA Participation, and GSA Effectiveness and Young Adult Adjustment

		<i>Outcome 1: Depression</i>
Model 1: GSA Presence		-2.60 (1.03)*
School Victimization		0.45 (0.11)***
Model 2: Presence × Victimization		0.20 (0.21)
Model 3: GSA Participation		-2.77 (1.69)
School Victimization		0.67 (0.17)***
Model 4: Participation × Victimization		0.67 (0.34)*
Model 5: GSA Effectiveness		-2.06 (1.14)†
School Victimization		0.51 (0.19)**
Model 6: Effectiveness × Victimization		-0.24 (0.22)
		<i>Outcome 2: Self-Esteem</i>
Model 1: GSA Presence		0.10 (0.05)*
School Victimization		-0.01 (0.005)**
Model 2: Presence × Victimization		0.00 (0.01)
Model 3: GSA Participation		0.12 (0.08)
School Victimization		-0.02 (0.01)*
Model 4: Participation × Victimization		-0.02 (0.02)
Model 5: GSA Effectiveness		0.02 (0.05)
School Victimization		-0.02 (0.01)†
Model 6: Effectiveness × Victimization		0.00 (0.01)

Note. Unstandardized estimates with standard errors are shown. All analyses control for gender, sexual orientation, ethnicity, immigrant status, and family of origin SES. The sample size for Models 1 and 2 of each outcome is 245 participants and the sample size for Models 4–6 of each outcome is 86 participants.

* $p < .05$. ** $p < .01$. *** $p < .001$. † $p < .10$.

victimization and the presence of a GSA on young adult outcomes.

Research Questions 3 and 4: GSA Participation and Young Adult Psychosocial Well-Being and Educational Attainment

Of the 86 participants who reported the presence of a GSA in the high school they attended, 55 (64%) reported some level of participation in the GSA. Before adjusting

TABLE 1
The Unadjusted Associations Among GSA Presence, GSA Participation, and GSA Effectiveness With Young Adult Adjustment and Educational Outcomes

	<i>Depression^a</i>	<i>Self-Esteem^a</i>	<i>Lifetime Suicide Attempt^b</i>	<i>Substance Abuse Problems^b</i>	<i>High School Dropout^b</i>	<i>College Education Attainment^b</i>
Model 1: GSA Presence	-3.24 (1.09)*	0.12 (0.05)**	0.77 (0.45–1.32)	0.66 (0.39–1.12)	0.27 (0.09–0.82)**	2.23 (1.28–3.91)*
Model 2: GSA Participation	-1.66 (1.69)	0.06 (0.07)	1.76 (0.68–4.51)	0.37 (0.15–0.91)*	0.55 (0.07–4.09)	1.61 (0.72–4.18)
Model 3: Perceived GSA Effectiveness	-3.66 (0.97)***	0.05 (0.05)	0.58 (0.31–1.06)	0.52 (0.29–0.95)**	0.88 (0.24–3.32)	2.02 (1.02–4.01)**

Note. The sample size for Model 1 of each outcome is 245 participants and the sample size for Models 2 and 3 of each outcome is 86 participants.

^aUnstandardized estimates with standard errors are shown.

^bOdds ratios with 95% confidence intervals are shown.

* $p < .05$. ** $p < .01$. *** $p < .001$.

TABLE 3
Adjusted Odds Ratios for Young Adult Well-Being and Educational Outcomes by GSA Presence, GSA Participation, and GSA Effectiveness

	<i>Outcome 3: Lifetime Suicide Attempt</i>
Model 1: GSA Presence	0.81 (0.44–1.49)
School Victimization	1.19 (1.11–1.27)***
Model 2: Presence × Victimization	1.02 (0.90–1.17)
Model 3: GSA Participation	1.30 (0.41–4.12)
School Victimization	1.18 (1.05–1.32)**
Model 4: Participation × Victimization	1.36 (1.06–1.73)*
Model 5: GSA Effectiveness	0.83 (0.38–1.78)
School Victimization	1.17 (1.03–1.32)*
Model 6: Effectiveness × Victimization	0.93 (0.80–1.09)
	<i>Outcome 4: Substance Abuse Problems</i>
Model 1: GSA Presence	0.65 (0.37–1.14)
School Victimization	1.05 (0.99–1.11)
Model 2: Presence × Victimization	1.06 (0.94–1.19)
Model 3: GSA Participation	0.24 (0.08–0.73)*
School Victimization	1.13 (1.01–1.27)*
Model 4: Participation × Victimization	1.16 (0.93–1.44)
Model 5: GSA Effectiveness	0.54 (0.27–1.10)†
School Victimization	1.07 (0.95–1.20)
Model 6: Effectiveness × Victimization	0.89 (0.76–1.05)
	<i>Outcome 5: High School Dropout^a</i>
Model 1: GSA Presence	0.40 (0.13–1.27)
School Victimization	1.02 (0.94–1.12)
Model 2: Presence × Victimization	1.09 (0.87–1.36)
Model 3: GSA Participation	—
School Victimization	—
Model 4: Participation × Victimization	—
Model 5: GSA Effectiveness	—
School Victimization	—
Model 6: Effectiveness × Victimization	—
	<i>Outcome 6: College Education Attainment</i>
Model 1: GSA Presence	2.15 (1.16–3.98)*
School Victimization	0.95 (0.89–1.01)
Model 2: Presence × Victimization	1.07 (0.95–1.21)
Model 3: GSA Participation	1.80 (0.59–5.51)
School Victimization	0.98 (0.88–1.09)
Model 4: Participation × Victimization	1.00 (0.81–1.25)
Model 5: GSA Effectiveness	2.11 (0.89–5.01)†
School Victimization	1.03 (0.91–1.16)
Model 6: Effectiveness × Victimization	0.92 (0.79–1.08)

Note. Logistic regressions included sociodemographic characteristics (gender, sexual orientation, ethnicity, immigration status, socioeconomic status, and past LGBT school victimization). The sample size for Models 1 and 2 of each outcome is 245 participants and the sample size for Models 4–6 of each outcome is 86 participants.

^aThe models predicting high school dropout status from GSA participation and perceived GSA effectiveness did not converge because of the low cell sizes.

* $p < .05$. ** $p < .01$. *** $p < .001$. † $p < .10$.

for demographic characteristics, GSA participation was associated with fewer problems due to substance abuse (Table 1). This finding remained significant after accounting for demographic characteristics (Table 3). GSA participation was not directly associated with any of the other outcomes tested. However, we did find a significant interaction between LGBT-specific school victimization and GSA participation on depression (Table 2) and lifetime suicide attempts (Table 3).

The interaction between LGBT school victimization and GSA participation on young adult depression suggests that participation in GSAs buffers the association of low levels of school victimization on depression (see Figure 1). As shown in Figure 1, being a GSA participant in high school seems to buffer the direct association of LGBT school victimization on young adult depression at low levels of victimization. However, at high levels of LGBT school victimization, there was no difference between GSA participants and nonparticipants. This suggests that high levels of school victimization eliminate the benefits of GSA participation.

The interaction between LGBT school victimization and GSA participation for lifetime suicide attempts was also significant and the pattern across varying levels of LGBT school victimization and participation was similar to the findings for depression. As shown in Figure 2, at low levels of LGBT school victimization, participation in a GSA seems to buffer the risk for lifetime suicide attempts. However, at moderate and high levels of LGBT school victimization, GSA participation no longer buffers the risk for lifetime suicide attempts. The graph also suggests a disturbing possibility that GSA participants who experience high levels of LGBT school harassment may be at greatest risk for lifetime suicide attempts. We conducted follow-up analyses of between-group differences by GSA participation on lifetime suicide attempts using chi-square tests at low and high levels of LGBT school victimization. There

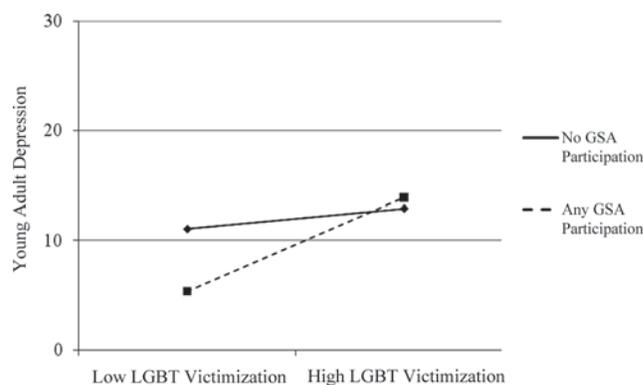


FIGURE 1 The interaction between GSA participation and LGBT-specific school victimization on young adult depression.

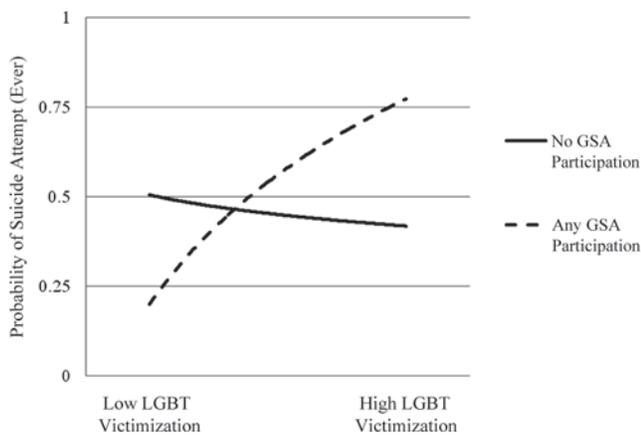


FIGURE 2 The interaction between GSA participation and LGBT-specific school victimization on lifetime suicide attempts.

were no significant differences between GSA participation groups at low (χ^2 (df = 1) = 1.74, $p > .05$) or high (χ^2 (df = 1) = 1.76, $p > .05$) levels of victimization on lifetime suicide attempts, suggesting that the two groups differed in their slopes, but not the probability of a lifetime suicide attempt.

Research Questions 5 and 6: *Perceived GSA Effectiveness* and Young Adult Psychosocial Well-Being and Educational Attainment

Prior to accounting for demographic characteristics, perceived GSA effectiveness in promoting school safety for students was significantly associated with less depression, fewer problems due to substance abuse, and greater college education attainment (Table 1). After accounting for these characteristics, perceived GSA effectiveness remained significantly associated with fewer problems due to substance abuse and greater college education attainment (Table 3). Contrary to our expectations, we found no significant interactions between LGBT-specific school victimization and perceived GSA effectiveness on young adult outcomes.

DISCUSSION

Consistent with previous research that documents concurrent associations among GSA presence and psychosocial and academic well-being (e.g., Kosciw et al., 2010; Lee, 2002; Walls et al., 2008, 2010), we found that the presence of a high school GSA was associated with better young adult well-being, and more college-level educational attainment. Also consistent with previous research, we did not find that GSA participation was associated with health and academic outcomes (Walls et al., 2010), except for the association with fewer problems related to substance abuse in young adulthood.

Finally and as an important addition to the literature, we found that perceived GSA effectiveness was positively associated with college-level educational attainment and negatively associated with depression and problems related to substance abuse.

At low levels of LGBT school victimization, GSA participation seemed to buffer the direct negative associations between LGBT victimization and young adult depression, such that participants who were involved in their high school GSA compared to those who were not involved reported significantly lower levels of young adult depression at low levels of LGBT school victimization. Similarly, we found that GSA participation buffered the direct association between LGBT school victimization on these negative outcomes, which suggests that more efforts need to be focused on understanding how to reduce LGBT victimization in schools.

Our study adds to the current literature by examining young adult well-being and academic attainment. To our knowledge, all previous literature that examined the many facets of GSAs has concentrated only on adolescent outcomes. While our study is limited because of our reliance on retrospective reports of GSA presence, membership, and effectiveness, further discussed in the following, we feel that this is an important first step in documenting the lasting benefits of this particular high school extracurricular activity for LGBT young people.

Consistent with previous research, we find that the presence of a GSA seems to be a more salient predictor of well-being than GSA membership (e.g., Walls et al., 2010). It is surprising to find that participation in a GSA does not directly contribute to well-being and academic attainment in young adulthood, given that prior literature on extracurricular activity involvement finds such connections (e.g., Fredricks & Eccles, 2006). Perhaps for the LGBT adolescent population, the presence of a GSA in school is more important for their well-being because schools with GSAs likely have safer school climates overall. This potential explanation is particularly plausible because of our finding that an effective GSA was also associated with positive well-being and greater educational attainment.

One may question the benefit of GSA participation given our lack of direct findings in support of positive associations with young adult adjustment and academic attainment. However, our limited sample size reduces the statistical power to find results and so our results should be interpreted with caution. It also may be the case that participation in a GSA is less likely to produce beneficial results if the GSA is not effective. As post-hoc

analyses, we explored the associations among interactions between GSA participation and GSA effectiveness and our outcomes of interest. However, none of these interactions were significant. Thus, in our sample and consistent with previous studies (e.g., Walls et al., 2010), GSA participation seems to be less directly linked to mental health and well-being. Future studies should continue to incorporate measures of empowerment and possibly civic engagement, given that other studies have documented the links between GSA participation and these types of outcomes (e.g., Russell et al., 2009; Russell, Toomey, Crockett, & Laub, 2010). The finding that lifetime suicide risk was not buffered for LGBT youth involved in GSAs who experienced high levels of school victimization based on sexual orientation needs to be explored in future research. Perhaps, this finding suggests that the creation of and membership in GSAs in schools cannot be accepted by schools as the only solution for creating safer school climates for LGBT youth. In fact, much like previous research suggests, schools need to enact other measures, such as enumerated school policies, to promote school climates that are safe for all students (e.g., Russell & McGuire, 2008). As discussed by others, relying on a GSA to be the sole vehicle for promoting safe schools for LGBT students may not be sufficient to alter the system-level heterosexism and homophobia that continues to exist in schools (e.g., Chesir-Teran, 2003; Griffin et al., 2004; Toomey, Russell, & McGuire, 2011). Further, given that the outcome of interest was *lifetime* suicide attempts, it is plausible that the suicide attempt occurred prior to participation in a GSA. Prospective research is needed to better understand this complex association.

In sum, we document that the presence of a GSA in high schools seems to facilitate well-being that continues into young adulthood, especially if the GSA is perceived to be effective in promoting safer school climates. We found fewer significant associations for GSA participation; however, we did find that GSA participation was important for understanding the complex associations between LGBT school victimization on depression and lifetime suicide attempts. The lack of significance of findings may be due to our limited sample size in exploring participation and effectiveness, or may also be due to the fact that there are qualitative differences between schools where GSAs exist.

Gay–Straight Alliances and Implications for School Policy

The presence of GSAs in schools is a matter of contemporary public debate, even though the 1984 Federal Equal Access Act mandates that schools receiving federal funding cannot discriminate against student groups. In

the recent decade, several schools have denied students the right to assemble in Gay–Straight Alliances. For instance, in 2009 students of Yulee High School won a suit against the School Board of Nassau County for barring the formation of a Gay–Straight Alliance in their middle and high schools (ACLU, 2009). Similarly, students won a 2008 case against Okeechobee High School for denying their GSA the right to meet on campus (ACLU, 2008). A detailed history of legal cases involving GSAs and school districts is available elsewhere (see Berkley, 2004; Lee, 2002).

Our findings suggest that there are several associations between GSA presence and positive well-being for LGBT young people. While we cannot draw conclusions about directionality because the information about high school experiences was retrospective, based on the findings presented here and elsewhere (e.g., Walls et al., 2010), there appear to be positive associations between GSAs and well-being and educational attainment. Our finding that students who were in schools with GSAs were more likely to obtain a college education underscores the potential impact on educational achievement and socioeconomic and occupational status as an adult. In addition, given the heightened attention to suicides of young males who were known or perceived to be gay and bisexual that have been linked to anti-gay harassment at school (e.g., Katz, 2010), our findings point to GSAs as a potential context for reducing this risk—at least at low levels of LGBT school victimization—given the significant interaction between GSA participation and LGBT school victimization on lifetime suicide attempts.

In sum, our findings suggest that school administrators and personnel should be supportive in helping students to form and facilitate GSAs in schools as a potential source of promoting positive development for this underserved population. Additionally, given that the presence of a GSA did not buffer the negative association between LGBT school victimization and young adult well-being and educational attainment, school administrators and personnel should consider additional policies and programs that are associated with safer schools for LGBT students. For example, previous research has identified that enumerated anti-harassment and bullying policies that include sexual orientation and gender identity and expression are associated with greater school safety (e.g., O’Shaughnessy et al., 2004). Other policies and programs identified in the past literature that are associated with safer school climates for LGBT students include teacher trainings that focus on LGBT issues, teacher intervention in anti-LGBT bias victimization, LGBT inclusive curriculum, LGBT inclusive and accessible support, and information (e.g., Kosciw et al., 2010; O’Shaughnessy et al., 2004).

Limitations

The study has several limitations. First, the sample size was relatively small for examining the associations among GSA participation and perceived effectiveness with young adult indicators. It is plausible that a larger sample size would have had the statistical power to find significant associations among GSA participation and perceived effectiveness with young adult outcomes. Future studies need to explore these complex associations using larger, more diverse samples. Further, future studies should examine the dosage (amount of time spent in GSA activities) and roles (e.g., leadership role, member) associated with GSA involvement for a more comprehensive examination. The sample was geographically limited to California. Thus, results are not generalizable beyond this geographic region of the United States.

Although other studies have found that retrospective reports of school victimization remain relatively stable over time and do not notably influence reports of mental health (Rivers, 2001b), the retrospective design limited control for adolescent indicators of well-being and academic achievement in our regression models (Frazier, Tix, & Barron, 2004). Future studies should examine these associations longitudinally to allow for more direct conclusions about directionally of effects.

The sample included young adults whose LGBT identity was known by at least one parent or caregiver. Future studies should examine these associations with a more heterogeneous LGBT population. Finally, information was not available to assess whether schools that had GSAs were significantly different from those without GSAs. Future studies are needed to disentangle the broader environmental and contextual features of schools and the neighborhoods in which they are nested from the unique associations of GSA presence with young adult well-being and educational attainment.

CONCLUSIONS

This study contributes new knowledge about the positive impacts that Gay–Straight Alliances can provide to LGBT young people, an important finding given the dearth of knowledge about positive development for this population. Specifically, we document that GSAs are associated with positive well-being and educational attainment in young adulthood. This finding is particularly important given the sole focus on concurrent adolescent well-being in previous literature. Given the heightened media attention to gay and bisexual young men suicides (for a summary, see Katz, 2010), these findings document that if schools can effectively minimize school victimization related to LGBT status, there is potential to also reduce the disparity that exists for this

population related to suicide risk (Russell, 2003). Finally, this study contributes to the literature by introducing a measure of how effective a GSA was in promoting a safe school climate for LGBT persons. This measure is important for understanding the nuanced differences that may exist in a simple measure of GSA presence: that is, it is likely that some GSAs are more effective than others in promoting safe school climates and challenging the heteronormative culture within a school.

This study builds on prior work by documenting that the existence of a GSA has a positive influence on the lives of LGBT young people. Our findings have implications for school-based personnel in that they provide one avenue through which professionals may offer and support a positive school environment for LGBT young people. Schools should support these school-based clubs given that they offer the potential for positive development and greater educational attainment. The results of this study warrant future research to examine specific facets of GSAs that promote well-being. For instance, an in-depth, multi-school study of facets of GSAs may provide insight as to what specific attributes of a GSA are associated with effectiveness for improving school climate and later well-being.

REFERENCES

- American Civil Liberties Union (ACLU). (2008, July 30). Okeechobee, FL high school gay-straight alliance wins groundbreaking federal lawsuit. Retrieved from http://www.aclu.org/lgbt-rights_hiv-aids/okeechobee-fl-high-school-gay-straight-alliance-wins-groundbreaking-federal-law
- American Civil Liberties Union (ACLU). (2009, August 10). ACLU settles Yulee high school gay-straight alliance lawsuit; students to meet on campus. Retrieved from http://www.aclufl.org/news_events/?action=viewRelease&emailAlertID=3768
- Berkley, B. (2004). Making gay straight alliance student groups curriculum-related: A new tactic for schools trying to avoid the equal access act. *Washington & Lee University Law Review*, *61*(4), 1847–1902.
- California Healthy Kids Survey (2010). California health kids survey: Survey content & download. Retrieved from <http://chks.wested.org/administer/download>
- Chesir-Teran, D. (2003). Conceptualizing and assessing heterosexism in high schools: A setting-level approach. *American Journal of Community Psychology*, *31*, 267–279. DOI: 10.1023/A:1023910820994
- Eccles, J. S., & Barber, B. L. (1999). Student council, volunteering, basketball, or marching band: What kind of extracurricular involvement matters?. *Journal of Adolescent Research*, *14*, 10–43. DOI: 10.1177/0743558499141003
- Eccles, J. S., Barber, B. L., Stone, M., & Hunt, J. (2003). Extracurricular activities and adolescent development. *Journal of Social Issues*, *59*, 865–890. DOI: 10.1046/j.0022-4537.2003.00095.x
- Elze, D. E. (2003). Gay, lesbian, and bisexual youths' perceptions of their high school environments and comfort in school. *Children & Schools*, *25*, 225–239.
- Frazier, P. A., Tix, A. P., & Barron, K. E. (2004). Testing moderator and mediator effects in counseling psychology research. *Journal of Counseling Psychology*, *51*, 115–134. DOI: 10.1037/0022-0167.51.1.115

- Fredericks, J. A., & Eccles, J. S. (2006). Is extracurricular activity participation associated with beneficial outcomes? Concurrent and longitudinal relations. *Developmental Psychology, 42*, 698–713. DOI: 10.1037/0012-1649.42.4.698
- Gay, Lesbian, and Straight Education Network (GLSEN). (2010). Mission and history of GLSEN. Retrieved from <http://www.glsen.org/cgi-bin/iowa/all/about/history/index.html>
- Goodenow, C., Szalacha, L., & Westheimer, K. (2006). School support groups, other school factors, and the safety of sexual minority adolescents. *Psychology in the Schools, 43*, 573–589. DOI: 10.1002/pits.20173
- Graham, J. W., Cumsille, P. E., & Elek-Fisk, E. (2003). Methods for handling missing data. In J. Shrinka, & W. Velicer (Eds.), *Handbook of psychology: Vol. 2, Research methods in psychology* (pp. 87–114). New York, NY: Wiley.
- Griffin, P., Lee, C., Waugh, J., & Beyer, C. (2004). Describing roles that gay-straight alliances play in schools: From individual support to school change. *Journal of Gay & Lesbian Issues in Education, 1*, 7–22. DOI: 10.1300/J367v01n03_03
- Human Rights Watch. (2001). *Hatred in the hallways: Violence and discrimination against lesbian, gay, bisexual, and transgender students in U.S. schools*. New York, NY: Human Rights Watch.
- Jaccard, J., & Turrissi, R. (2003). *Interaction effects in multiple regression* (2nd ed.). (Sage University Papers Series on Quantitative Applications in the Social Sciences, series no. 07-072). Thousand Oaks, CA: Sage.
- Katz, N. (2010, October 11). Schools battle suicide surge, anti-gay bullying. Retrieved from www.cbsnews.com
- Kosciw, J. G., Greytak, E. A., Diaz, E. M., & Bartkiewicz, M. J. (2010). *The 2009 National School Climate Survey: The experiences of lesbian, gay, bisexual and transgender youth in our nation's schools*. New York, NY: GLSEN.
- Lee, C. (2002). The impact of belonging to a high school gay/straight alliance. *The High School Journal, Feb/Mar*, 13–26. DOI: 10.1353/hsj.2002.0005
- Marshal, M. P., Friedman, M. S., Stall, R., King, K. M., Miles, J., Gold, M. A. . . . Morse, J. Q. (2008). Sexual orientation and adolescent substance use: A meta-analysis and methodological review. *Addiction, 103*, 546–556. DOI: 10.1111/j.1360-0443.2008.02149.x
- Mayberry, M. (2006). The story of a Salt Lake City gay-straight alliance: Identity work and LGBT youth. *Journal of Gay & Lesbian Issues in Education, 4*, 13–31. DOI: 10.1300/J367v04n01_03
- O'Shaughnessy, M., Russell, S., Heck, K., Calhoun, C., & Laub, C. (2004). *Safe place to learn: Consequences of harassment based on actual or perceived sexual orientation and gender non-conformity and steps for making schools safer*. San Francisco, CA: California Safe Schools Coalition.
- Perrotti, J., & Westheimer, K. (2001). *When the drama club is not enough: Lessons from the safe schools program for gay and lesbian students*. Boston, MA: Beacon Press.
- Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*, 385–401. DOI: 10.1177/014662167700100306
- Radloff, L. S. (1991). The use of the center for epidemiological studies depression scale in adolescents and young adults. *Journal of Youth and Adolescence, 20*, 49–166. DOI: 10.1007/BF01537606
- Rivers, I. (2001a). The bullying of sexual minorities at school: Its nature and long-term correlates. *Educational and Child Psychology, 18*, 32–46.
- Rivers, I. (2001b). Retrospective reports of school bullying: Stability of recall and its implications for research. *British Journal of Developmental Psychology, 19*, 129–142. DOI: 10.1348/026151001166001
- Rosenberg, M. (1979). *Conceiving the self*. New York, NY: Basic Books.
- Rosser, B. R., Gurak, L., Horvath, K. J., Oakes, J. M., Konstan, J., & Danilenko, G. P. (2009). The challenges of ensuring participant consent in internet-based sex studies: A case study of the Men's INternet Sex (MINTS-I and II) studies. *Journal of Computer-Mediated Communication, 14*, 602–626. DOI: 10.1111/j.1083-6101.2009.01455.x
- Russell, S. T. (2003). Sexual minority youth and suicide risk. *American Behavioral Scientist, 46*, 1241–1257. DOI: 10.1177/0002764202250667
- Russell, S. T. (2006). Substance use and abuse and mental health among sexual-minority youths: Evidence from Add Health. In A. M. Omoto, & H. S. Kurtzman (Eds.), *Sexual orientation and mental health: Examining identity and development in lesbian, gay, and bisexual people* (pp. 13–35). Washington, DC: APA.
- Russell, S. T., & McGuire, J. K. (2008). The school climate for lesbian, gay, bisexual, and transgender (LGBT) students. In M. Shinn, & H. Yoshikawa (Eds.), *Toward positive youth development: Transforming schools and community programs* (pp. 133–149). New York, NY: Oxford University Press.
- Russell, S. T., Muraco, A., Subramaniam, A., & Laub, C. (2009). Youth empowerment and high school gay-straight alliances. *Journal of Youth and Adolescence, 38*, 891–903. DOI: 10.1007/s10964-008-9382-8
- Russell, S. T., Ryan, C., Toomey, R. B., Diaz, R., & Sanchez, J. (2011). Lesbian, gay, bisexual, and transgender adolescent school victimization: Implications for young adult health and adjustment. *Journal of School Health, 81*, 223–230. DOI: 10.1111/j.1746-1561.2011.00583.x
- Russell, S. T., & Toomey, R. B. (2010). Men's sexual orientation and suicide: Evidence for developmental risk. *Social Science and Medicine*. Advance online publication. DOI: 10.1016/j.socscimed.2010.07.038
- Russell, S. T., Toomey, R. B., Crockett, J., & Laub, C. (2010). LGBT student activism and civic engagement. In L. Sherrod, C. Flanagan, & J. Torney-Purta (Eds.), *Handbook of research on civic engagement in youth* (pp. 471–494). Hoboken, NJ: Wiley.
- Ryan, C. (2010). Engaging families to support lesbian, gay, bisexual, and transgender youth: The Family Acceptance Project. *The Prevention Researcher, 17*(4), 11–13.
- Ryan, C., Huebner, D., Diaz, R. M., & Sanchez, J. (2009). Family rejection as a predictor of negative health outcomes in White and Latino lesbian, gay, and bisexual young adults. *Pediatrics, 123*, 346–352. DOI: 10.1542/peds.2007-3524
- Tirozzi, G., & Uro, G. (1997). Education reform in the United States: National policy in support of local efforts for school improvement. *American Psychologist, 52*, 241–249. DOI: 10.1037/0003-066X.52.3.241
- Toomey, R. B., McGuire, J. K., & Russell, S. T. (2011). Heteronormativity, school climates, and perceived safety for gender nonconforming peers. *Journal of Adolescence*. Advance online publication. DOI: 10.1016/j.adolescence.2011.03.001
- Toomey, R. B., Ryan, C., Diaz, R., Card, N. A., & Russell, S. T. (2010). Gender nonconforming lesbian, gay, bisexual, and transgender youth: School victimization and young adult psychosocial adjustment. *Developmental Psychology, 46*, 1580–1589. DOI: 10.1037/a0020705
- Ueno, K. (2010). Same-sex experience and mental health during the transition between adolescence and young adulthood. *The Sociological Quarterly, 51*, 484–510. DOI: 10.1111/j.1533-8525.2010.01179.x
- Walls, N. E., Freedenthal, S., & Wisneski, H. (2008). Suicidal ideation and attempts among sexual minority youths receiving social services. *Social Work, 53*, 21–29.
- Walls, N. E., Kane, S. B., & Wisneski, H. (2010). Gay-straight alliances and school experiences of sexual minority youth. *Youth & Society, 41*, 307–332. DOI: 10.1177/0044118X09334957
- Zaff, J. F., Moore, K. A., Papillo, A. R., & Williams, S. (2003). Implications of extracurricular activity participation during adolescence on positive outcomes. *Journal of Adolescent Research, 18*, 599–360. DOI: 10.1177/0743558403254779