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An Initial Investigation of Sexual Minority Youth Involvement in School-Based Extracurricular Activities

Russell B. Toomey and

Arizona State University, Prevention Research Center, PO Box 876005, Tempe, AZ, 85287-6005, (520) 429-6496 (phone)

Stephen T. Russell

John & Doris Norton School of Family and Consumer Sciences, University of Arizona, 650 North Park Avenue, PO Box 210078, Tucson, AZ 85721-0078, (520) 621-1231 (phone), (520) 621-9445 (fax)

Russell B. Toomey: russell.toomey@asu.edu; Stephen T. Russell: strussel@email.arizona.edu

Abstract

Sexual minority youth are at risk for negative school-based experiences and poor academic outcomes. Yet, little is known about their experiences in positive school-based contexts. Using the *National Longitudinal Study of Adolescent Health* (1,214 sexual minority and 11,427 heterosexual participants), this study compared participation rates in, predictors of, and outcomes associated with three types of school-based extracurricular activities - sports, arts, and school clubs - by sexual orientation and gender. Findings revealed several significant sexual orientation and gender differences in participation rates in school-based sports, clubs, and arts activities. Further, findings suggested that the outcomes associated with extracurricular activity involvement do not differ by sexual orientation and gender; however, predictors of participation in these domains varied across groups.

Keywords

Extracurricular activities; sexual minority youth; school belonging; academic achievement

Sexual minority youth experience disparate rates of poor academic outcomes (e.g., Kosciw, Greytak, Diaz, & Bartkiewicz, 2010; Pearson, Muller, & Wilkinson, 2007), and are at risk for negative school-based experiences, such as victimization based on sexual orientation (Saewyc, 2011). Yet, few studies have systematically examined sexual minority youth involvement in school-based extracurricular activities, despite several calls in the literature to better understand the role of positive developmental contexts for sexual minority youth (e.g., Russell, 2005; Scourfield, Roen, & McDermott, 2008). Research with general adolescent samples has consistently demonstrated that school-based extracurricular activities provide youth with an array of positive developmental and academic benefits; that is, participation is associated with both short- and long-term psychosocial well-being and academic achievement (e.g., Barber, Eccles, & Stone, 2001; Larson, 2000). However, there is some evidence to suggest that school-based activities, such as sports, may be hostile environments for sexual minority youth (e.g., Gill, Morrow, Collins, Lucey, & Schultz, 2010).

The current study examines participation rates of sexual minority youth in school-based extracurricular activities using a nationally representative sample of adolescents who were enrolled in grades 7–12 in the United States. Beyond participation rates, this study also examines whether predictors of and academic outcomes related to extracurricular activity participation differ by sexual orientation and gender for activities that are not specifically tailored to the needs of sexual minority youth (such as Gay-Straight Alliances; Goodenow, Szalacha, & Westheimer, 2006). In the following sections, we first review the literature on school experiences of sexual minority youth in order to build a conceptual rationale about the importance of understanding a positive school-based context for this population. We then review literature that examines predictors of and associations with involvement in school-based extracurricular activities for adolescents. Finally, we use secondary data from the *National Longitudinal Study of Adolescent Health* (the Add Health study) to document rates of participation in three different types of school-based extracurricular activities (i.e., sports, arts, and school clubs) by sexual orientation and gender, examine differential sociodemographic predictors of activity involvement across these groups, and compare associations between involvement in extracurricular activities and later academic outcomes (i.e., grade-point average, school belonging) among sexual minority and heterosexual youth.

School Experiences of Sexual Minority Youth

Several studies over the past 20 years have documented that sexual minority youth experience high levels of school victimization (Saewyc, 2011). For example, a 2009 study of lesbian, gay, bisexual, and transgender youth documented that nearly 85% of these students experienced verbal harassment at school, 40% experienced physical harassment, and 20% experienced physical assault (Kosciw et al., 2010). Studies have also consistently documented associations between school victimization and negative well-being for these youth (e.g., Russell, Ryan, Toomey, Diaz, & Sanchez, 2011; Swearer, Turner, Givens, & Pollack, 2008), suggesting that these negative school-based experiences are detrimentally associated with concurrent well-being and future adjustment.

Research has also shown that sexual minority youth disproportionately report negative academic outcomes, such as lower grade-point averages, less school safety, and less belonging to school (e.g., Kosciw et al., 2010; O'Shaughnessy, Russell, Heck, Calhoun, & Laub, 2004; Pearson et al., 2007). Given these disparities, it is important to understand sexual minority youth participation in school-based contexts that are traditionally conceptualized as positive developmental settings, such as extracurricular activities. It may be the case that similar to heterosexual youth, participation in these activities is promotive of well-being for sexual minority youth; that is, certain contexts may allow youth to express their individuality in a healthy way (e.g., participation in the arts or sports). Alternatively, these contexts may represent heteronormative spaces where difference such as same-sex sexual orientation is not tolerated, and thus, sexual minority youth may not be involved in these activities at the same rates as heterosexual youth (e.g., Gill et al., 2010). Further, even if sexual minority youth are involved, participation in these activities may not have the same positive benefits if they experience a hostile climate because of their same-sex sexual orientation. Thus, it is important to understand the rate at which sexual minority youth participate in these activities and whether or not these experiences promote well-being for this population.

School-Based Extracurricular Activities

Participation in school-based extracurricular activities is expected to provide all youth with opportunities to create social connections with peers, adult mentors, and with the larger community. More broadly, structured activities – including school-based extracurriculars –

provide opportunities for youth to positively grow and develop (e.g., Larson, 2000). These structured activities typically contain one or more of the following features that help to promote positive development and mental health among adolescents: physical and psychological safety, structure, supportive relationships, opportunities to belong, positive social norms, support for efficacy and mattering, opportunities for skill building, and integration of family, school, and community efforts (National Research Council and Institute of Medicine, 2002). However, these features may not be present for all youth: that is, youth from diverse backgrounds, including youth who identify as sexual minorities, may not experience school-based extracurricular activities as physically and psychologically safe spaces. Indeed, research has found that levels of involvement in extracurricular activities are lower for marginalized populations because of their lack of access to culturally-sensitive activities and mentors (e.g., Villarruel, Montero-Sieburth, Dunbar, & Outley, 2005). Thus, even though extracurricular activities are traditionally conceptualized as contexts that promote positive development, youth may have negative experiences in organized activities, such as negative peer group dynamics or unsupportive adult leaders (e.g., Dworkin & Larson, 2006; Hansen, Larson, & Dworkin, 2003). Yet, involvement in extracurricular activities that contain the features of contexts that promote positive development suggested by the National Research Council and Institute of Medicine (2002) may provide opportunities to modify adolescent exposure to risk factors, such as school-based victimization or rejection. A focus on extracurricular activity participation by marginalized youth is important because it will likely provide opportunities to adapt existing programs to be more sensitive to youth's needs, which could result in increased participation and enhanced developmental and health outcomes.

What predicts involvement in extra-curricular activities?

Several sociodemographic characteristics are associated youth participation in extracurricular activities. Barber, Stone, and Eccles (2010) recently reviewed the literature on school-based extracurricular activity involvement and found that socioeconomic and physical capital, family characteristics (e.g., family interest in activities), and race and ethnicity were consistently associated with youth participation in activities. Specifically, youth from higher socioeconomic statuses, youth from families who place greater emphasis on involvement in an array of activities, and White, non-Latino youth are more likely to participate in extracurricular activities compared to their counterparts. Further, others have documented that obesity is associated with less participation in extracurricular sports activities (e.g., Elkins, Cohen, Koralewicz, & Taylor, 2004) and that those who participate in activities have less risk over time for obesity (as measured by the body mass index; Mahoney & Eccles, 2008). Finally, youth who were born outside of the United States are substantially less likely to participate in school-based extracurricular activities (Reardon-Anderson, Capps, & Fix, 2002). As noted by Barber and colleagues (2010), surprisingly little work has examined the role of sexual orientation in predicting participation in school-based extracurricular activities. Beyond person-specific predictors of participation, studies have also linked contextual features to extracurricular activity participation. Specifically, McNeal (1998, 1999) found that students in larger schools participated less than students in small to medium-sized schools; further, students in rural schools participated at a greater rate than those in suburban schools.

What outcomes are associated with involvement in extracurricular activities?

Researchers have consistently found that adolescent participation in school-based extracurricular activities is positively associated with indicators of concurrent psychosocial and academic adjustment (e.g., Barber et al., 2010; Feldman & Matjasko, 2005). Further, compared to time spent in academic classes and hanging out with peers, participation in organized activities is associated with higher levels of personal development (e.g., goal

setting, identity exploration) and interpersonal development (e.g., social skills; Hansen et al., 2003). Adolescent participation in school-based extracurricular activities also has lasting implications: Researchers have demonstrated that adolescent participation in school-based extracurricular activities is associated with young adult psychosocial well-being (Barber et al., 2001; Feldman & Matjasko, 2005). Notably, there is some evidence to suggest that participation in sports is not all positive: Studies have found that sports participation is associated with greater substance use and delinquency (e.g., Fauth, Roth, & Brooks-Gunn, 2007).

Specific to the school context, youth participation in extracurricular activities has been linked to higher academic achievement (e.g., higher grade-point averages), stronger connections to school (e.g., school belonging), and higher educational attainment (e.g., less risk of dropout) (for reviews, see Barber et al., 2010; Feldman & Matjasko, 2005). Importantly, Hansen and colleagues (2003) found differential associations between the types of activities that youth were engaged in and the developmental outcomes linked with those activities, suggesting that it is important to examine the type of activity when exploring the associations among activity involvement and adjustment.

Sexual minority youth involvement in extracurricular activities

Participation in school-based extracurricular activities may help to buffer negative school experiences (e.g., victimization) and promote positive academic outcomes for sexual minority youth. Alternatively, if sexual minority youth are involved in activities that are characterized as hostile environments (e.g., sports; Gill et al., 2010), these “positive developmental contexts” may actually heighten risk. The current body of literature that explores sexual minority youth participation in school-based extracurricular activities is largely focused on one sexual minority-specific school club, Gay-Straight Alliances (GSAs). GSAs are student-led, school-based clubs that provide a safe place for sexual minority students (Goodenow et al., 2006; O’Shaughnessy et al., 2004). Research suggests that the presence of a GSA serves as a protective factor for sexual minority students, such that sexual minority students who report that their school has a GSA tend to report greater school safety and well-being (Goodenow et al., 2006; Lee, 2002; O’Shaughnessy et al., 2004; Toomey & Russell, 2011). Further, a recent study documented that the presence of a GSA in high school has positive academic and health benefits that continue in young adulthood (Toomey, Ryan, Diaz, & Russell, 2011). This study seeks to extend those findings by exploring sexual minority youth participation in general, school-based extracurricular activities; that is, does participation in sports, the arts, or school clubs have similar positive benefits for sexual minority youth as participation in Gay-Straight Alliances?

To date, a few studies have focused on the experiences of sexual minority youth in school-based sports. For example, Carragher and Rivers (2002) found that sports participation may be an attempt for gay and bisexual male youth to hide their sexual orientation from their peers by participating in a masculine activity. Further, others have documented that male disinterest in sports may be perceived by a peer group as a marker of same-sex sexual orientation (e.g., Carragher & Rivers, 2002; Waldo, Hesson-McInnis, & D’Augelli, 1998), and thus place these youth at risk for victimization. Alternatively, Kivel and Kleiber (2000) found that for sexual minority females, participation in sports was an opportunity to explore gender outside the traditional boundaries in the school context and to potentially meet student athletes from other schools who also identified as sexual minorities. Thus, it appears that gender complicates whether or not sexual orientation is a predictor of participation in different activity types, and whether or not involvement in these activities is beneficially linked with academic outcomes.

Similarly, gendered expectations may be relevant for understanding sexual minority youth involvement in extracurricular activities that focus on the arts (e.g., band, dance, drama). For instance, Kivel and Kleiber (2000) found that the instrument choice of sexual minority youth who were engaged in the school band was usually a deliberate strategy to combat rumors about their sexual orientation (e.g., sexual minority males deliberately chose to play the trumpet instead of a woodwind instrument). However, few studies have examined the rates at which sexual minority youth participate in the arts, and we know of no studies that have examined the potential academic benefits (or risks) of sexual minority youth participation in these contexts. Finally, to date, no studies have examined sexual minority youth participation in school clubs (e.g., French club, debate team), except for the literature on Gay-Straight Alliances. It is likely that school clubs have fewer enforced expectations about sexual orientation for participants; however, there may be certain gendered expectations depending on the focus of the club (e.g., science clubs may be particularly dominated by males).

The Current Study

This study systematically examines sexual minority youth involvement in school-based extracurricular activities that are not tailored to the needs of this population (e.g., Gay-Straight Alliances). Prior research provides little basis for specific hypotheses about sexual minority adolescent extracurricular participation, or of the predictors or academic outcomes associated with participation. Three main research questions are examined:

1. Is the frequency of sexual minority adolescent participation in school-based extracurricular activities similar to or different from heterosexual adolescents, examined separately by gender?
2. What sociodemographic characteristics and school experiences are concurrently associated with adolescent involvement in different types of school-based extracurricular activities (i.e., sports, arts, school clubs), and how do these associations differ by sexual orientation and gender?
3. Is involvement in school-based extracurricular activities differentially associated with later academic outcomes by sexual orientation and gender?

Method

Study Design and Sample

The current study utilizes Waves 1 and 2 of *The National Longitudinal Study of Adolescent Health* (the Add Health study), a nationally representative sample of adolescents who were enrolled in grades 7 through 12 (ranging in age from 12 to 19 years) at the beginning of the study (Harris et al., 2008). The Add Health study utilized a clustered sampling frame that included all high schools and their feeder schools in North America. Over 90,000 adolescents in grades 7 through 12 completed the in-school survey between September of 1994 and April of 1995. Of those participants, 20,745 adolescents completed an in-home interview at Wave 1. These interviews took place between April and December of 1995. Wave 2 interviews took place from April to August of 1996; participants who had been in 12th grade at Wave 1 were excluded ($n = 14,738$). Additional detailed information about the study design and dataset are available at the Add Health study website (see <http://www.cpc.unc.edu/projects/addhealth>). Importantly, information about sensitive topics in adolescence was collected in the in-home interviews through the use of Audio-CASI (computer-aided self-interview). This method allowed adolescents to enter their responses into a laptop computer after they listened to the questions through earphones; it reduces the

potential of outsider influence on adolescent responses to sensitive questions (Turner et al., 1998).

The analytic sample for the current study included a total of 12,641 adolescents (2,097 participants were not included because they did not have valid sample weights for a longitudinal analysis of Wave 1 and Wave 2 data [$n = 1,173$; see Chantala (2006) for details], were missing data on sexual orientation at Waves 1 and 2 [$n = 21$], did not identify an attraction to either sex at Wave 1 or Wave 2 [$n = 795$], or identified as Native American [$n = 108$; Native American adolescents were not included in the analytic sample because of the small number of same-sex attracted Native American youth [$n = 16$]). The multiple imputation (MI) procedure in SAS (PROC MI) was used to handle missing data, with the exception of sample weights and the two attraction items that assessed sexual orientation as described above. Twenty data sets were imputed; this method maximizes statistical power and minimizes bias due to nonrandom missing data (e.g., Acock, 2005; Schlomer, Bauman, & Card, 2010).

Of the 12,641 adolescents included in the analytic sample, 1,214 (9.6%) were identified as sexual minorities and 11,427 (90.4%) were heterosexual. The average age of the sample at Wave 1 was 15.35 years ($SD = 1.59$). The sample was evenly divided between female ($n = 6,546$; 51.78%) and male ($n = 6,095$; 48.22%) adolescents. Further, the sample was racially and ethnically diverse: 20.6% identified as non-Latino Black, 17.2% as Latino, 6.5% as non-Latino Asian, and 55.7% as non-Latino White. Further, 8.3% of the participants were immigrants to the United States. On average, parents of the adolescents in the study reported 13.9 years of education ($SD = 2.9$). In terms of the larger context, 7.49% of participants attended private schools (compared to public); most students were enrolled in large-sized schools (46.6%), compared to medium (37.7%) and small (15.7%) schools. Finally, the majority of students were located in suburban areas (53.9%), whereas fewer were located in urban (28.8%) and rural (17.3%) areas

Measures

Sexual minority status—Participants were asked about romantic attractions to males and to females, separately, at both Waves. In Wave 1, participants were asked: “Have you ever had a romantic attraction to a female?” and “Have you ever had a romantic attraction to a male?” (0 = *no*, 1 = *yes*). In Wave 2, participants were asked about romantic attractions to both males and females since the time of the last interview. Participants who responded positively in either Wave 1 or 2 that they had ever had a romantic attraction to a person of the same-sex were categorized as sexual minorities ($n = 1,214$; 9.6%). This identification process is similar to methods utilized in previous research (e.g., Russell & Joyner, 2001; Russell, 2006).

Involvement in school-based extracurricular activities—Adolescents were asked about their participation in 32 school clubs, organization, and teams at school, on the in-school portion of the survey (Wave 1). The extracurricular activities included on the survey incorporated a range of activities including school clubs ($n = 15$; e.g., French club, debate Team, science club), sports ($n = 13$; e.g., soccer, football, wrestling), the arts ($n = 4$; e.g., band, drama club, chorus or choir, orchestra). For the purposes of this study, three dichotomous measures of participation was created to assess involvement by activity type (i.e., sports, arts, or school clubs; Simpkins, O'Donnell, Delgado, & Becnel, 2011).

School belonging—A five-item measure of school connectedness was administered at both Waves (see Bonny, Britto, Klostermann, Hornug, & Slap, 2000; McNeely & Falci, 2004). Each item was measured on a 5-point Likert scale (1 = *strongly disagree* to 5 =

strongly agree). A mean score was computed; reliability was acceptable at Wave 1 ($\alpha = .76$) and Wave 2 ($\alpha = .77$).

Grade-point average—Self-reported grade – point average (GPA) was an average of English, Math, History, and Science grades (1= *Ds or lower*, 4= *As*; e.g., Russell, Seif, & Truong, 2001), and was assessed at Waves 1 and 2.

Sociodemographic variables—We examined several Wave 1 sociodemographic variables as predictors of extracurricular activity involvement including: age, race and ethnicity (three dichotomous controls for Black, Latino, and Asian; White, non-Latino, as reference group); parental education (number of years of education from parent with highest education; parent reported) as a proxy indicator of socioeconomic status, immigrant status (dichotomous: 0 = *immigrant to United States*, 1 = *born in United States*), type of school (dichotomous: 0 = *private*, 1 = *public*), size of school (two dichotomous controls for small and large schools; medium schools as reference group); body mass index (BMI), and prejudiced school climate (school average of 1 item from school survey: “The students at this school are prejudiced”; 1 = *strongly disagree*, 5 = *strongly agree*).

Overview of Analysis

The design of the Add Health Study introduces complexity to statistical analysis because it is a nationally representative, probability-based survey. That is, statistical models need to include information about the sampling weights, clusters (i.e., schools), and stratification (i.e., region of the country where the school was located; Chantala, 2006). The first two research questions were examined in SAS, using PROC MIANALYZE to synthesize results from each of the multiply imputed data sets and PROC SURVEY procedures that account for Add Health’s complex survey design. *Mplus* (Muthén & Muthén, 2010) was used to estimate the final path model, which also accounted for the complex survey design. Further, given the large sample size included in the analysis and the number of parameters included in our models, more conservative cut-off value was used to evaluate significance of models and parameters ($p < .01$).

To explore the first research question about whether sexual minorities participated in school-based extracurricular activities at similar or different levels compared to heterosexual adolescents, we examined the difference in 99% and 99.9% confidence intervals (Wickens, 1989). To explore the second research question we used logistic regression to examine concurrent sociodemographic predictors of the three different types of extracurricular activity involvement (sports, school clubs, and the arts). We examined the sociodemographic predictors in four separate models by sexual orientation and gender (i.e., heterosexual males, heterosexual females, sexual minority males, and sexual minority females) for each type of activity in order to examine whether different predictors emerged for these different groups. Odds ratios and their 95% confidence intervals are presented for interpretation of effect sizes. For the last research question, multiple-group path analysis in *Mplus* (Muthén & Muthén, 2010) were conducted to examine whether or not change in grade-point average and school belonging, as predicted by type of activity, differed by the four sexual orientation by gender groups (Kline, 2011). Three global fit indices were used to assess model fit of the path analyses: the model chi-square statistic, the root mean square error of approximation (RMSEA), and the comparative fit index (CFI). To examine whether the associations between extracurricular activity involvement and grade-point average and school belonging differed by sexual orientation and gender groupings, we examined the significance of the difference in chi-square values in the free versus constrained models. A series of sequential nested model comparisons were tested to identify where moderation existed in the model if a significant difference was found in the omnibus comparison.

Results

Correlations, means, and standard deviations among all study variables are presented in Table 1. Overall, 57.80% (95% C.I.: 56.08% – 60.64%) of the sample reported being involved in at least one school-based sports activity; fewer students were involved in school clubs (33.46%; 95% C. I.: 31.58%–35.34%) and arts-focused activities (28.97%; 95% C. I.: 26.89%–31.05%).

Research Question 1: Do Groups Differ in Extracurricular Activity Participation Rates?

Table 2 displays participation rates in each of the three different types of school-based extracurricular activities by sexual orientation and gender. Heterosexual males were more likely than heterosexual females and sexual minorities (both male and female) to participate in sports. Further, sexual minority females were less likely than sexual minority males and heterosexual females to participate in sports. As for participation in school clubs, heterosexual females were more likely to participate compared to sexual minority youth and heterosexual males. Males did not differ in the level of participation in school clubs by sexual orientation. Finally, there were no sexual orientation differences in levels of participation in the arts; however, a gender difference emerged such that females were more likely than males to engage in these types of activities.

Research Question 2: Predictors of Involvement by Groups

Next, we examined whether sociodemographic characteristics, such as race and ethnicity and school contextual factors, predicted participation in the three types of extracurricular activities differently by sexual orientation and gender. As shown in Table 3, heterosexual adolescents (both genders) with more educated parents, higher grade-point averages, and greater connections to their schools were more likely to participate in sports. Additionally, heterosexual females with a higher BMI were less likely to participate in sports. Notably, there were no significant predictors of sexual minority youth participation in school-based sports.

As shown in Table 4, attending a school in an urban setting and having a higher grade-point average emerged as consistent predictors of school club participation for heterosexual students. Grade-point average was also associated with school club participation for sexual minority males, but not for sexual minority females. Two additional predictors emerged for heterosexual females: older heterosexual females and those who felt a stronger connection to their schools were more likely to participate in school clubs. Consistent with the findings for involvement in sports, none of the variables significantly predicted school club participation for sexual minority females.

Finally, as shown in Table 5, three variables emerged as consistent predictors of arts-related activity involvement for heterosexual adolescents (but not for sexual minority youth): heterosexual adolescents who were older, had more educated parents, and had higher grade-point averages were more likely to participate in arts-related extracurricular activities. Heterosexual Latina females were less likely than their White counterparts to participate in arts-related activities at school. Consistent with the previous two analyses, no significant predictors of participation in arts activities emerged for sexual minority youth.

Research Question 3: Longitudinal Associations with Involvement

We examined whether the associations among the three types of extracurricular activity involvement and changes in grade-point average and school belonging differed based on sexual orientation and gender. Given that the sociodemographic variables included in the prior analyses were significantly related to the outcomes of interest (see Table 1), we also

included them in the model as covariates. In order to test for differences, an unconstrained model in which all the paths were freely estimated was compared to a constrained model in which all paths were constrained to be equal (Kline, 2011). A significant difference in chi-square ($p = .01$) suggests that there are sources of invariance based on sexual orientation and gender. The initial multi-group path model that allowed all pathways to be free across all four groups had good fit: $\chi^2 (df = 8) = 84.585, p < .001$; CFI = .988; RMSEA = .055. To examine whether or not the model (e.g., each estimated pathway) differed by sexual orientation x gender groups all beta pathways were constrained to be equal across all groups. The difference between these models was significant, $\chi^2 (df = 110) = 151.715, p < .01$, suggesting that one or more of the constraints in the model was not tenable. To identify which paths differed by sexual orientation X gender groups, a series of nested models were tested, constraining each path individually to assess the potential for difference across groups. If the difference in chi-square values was not significant the paths were constrained to be equal across groups; however, if the difference in chi-square values was significant, then follow-up tests were conducted to examine which groups differed on the value.

The models that constrained each predictor to be equal across all four groups revealed that none of the associations among school-based extracurricular activities and later school belonging and grade-point average differed by sexual orientation and gender (range in χ^2 [$df = 3$] = 2.037 to 3.896). However, three predictor-outcome associations were moderated by sexual orientation X gender groupings. First, the association between being Asian and later school connectedness was only significant for heterosexual males (see Figure 1), such that there was a negative association between Asian ethnicity and later school belonging, $\chi^2 (df = 3) = 11.44, p < .01$. Second, the association between being Latino and later school connectedness was only significant for sexual minority youth and the association was stronger for sexual minority males compared to sexual minority females (see figure 1); $\chi^2 (df = 3) = 18.13, p < .001$. Finally, the association between attending an urban school and later school connectedness differed by sexual orientation X gender groups, $\chi^2 (df = 3) = 13.95, p < .01$. However, follow-up analyses revealed that although these paths were different from one another, there was not a significant association between an urban environment and later school belonging for any of the four groups.

The final model (shown in Figure 1) had excellent fit, $\chi^2 (df = 102) = 202.417, p < .001$; CFI = .984; RMSEA = .018. At the covariate level, being Black, attending a small or public school, and attending a school with an environment characterized by prejudice were associated with decreases in school belonging over time. Being Black was also associated with decreases in grade-point average over time. Finally, adolescents with more educated parents experienced increases in school belonging and grade-point average from Wave 1 to Wave 2. As discussed above, being Asian was associated with decreases in school belonging for heterosexual males; whereas, being Latino was associated with increases school belonging for sexual minority males.

Involvement in sports was related to increases in school belonging for all youth ($\beta = .05, p < .01$), but was not related to changes in grade-point average. Involvement in school clubs was associated with increases in grade-point average for all youth ($\beta = .03, p < .001$), but was not related to changes in school belonging. Finally, involvement in the arts was not related to changes in school belonging or grade-point average.

Discussion

This study was the first to examine school-based extracurricular activity participation for sexual minority adolescents using a nationally representative sample of in school youth and a range of school activities. We found that sexual minority and heterosexual males differed

in their levels of participation in school-based sports, such that sexual minority males participated at lower levels than heterosexual males. Further, sexual minority females were less likely to participate in sports compared to their heterosexual female counterparts. Similarly, sexual minority females were less likely to participate in school clubs compared to heterosexual females; however, there was no difference by sexual orientation for males. Finally, there was no sexual orientation difference in levels of participation in arts-focused activities; rather, a sex difference emerged such that females were more likely than males to participate in this type of activity. In the context of previous research that suggests that sexual minority adolescents experience high levels of school victimization (e.g., Kosciw et al., 2010), some may speculate that these negative school experiences may inhibit this population's participation in school-based activities. Yet, aside from sports (particularly for sexual minority females), our finding suggests that extracurricular activities may be a ripe context to explore positive youth development in schools for sexual minority youth.

We also documented several differences in predictors of extracurricular activity involvement by sexual orientation. Notably, across the three contexts of extracurricular activities, none of the theoretically-chosen predictors that we examined significantly predicted participation for sexual minority females. Similarly, for sexual minority males, only grade-point average emerged as a significant predictor for involvement in school clubs, a finding that was consistent with heterosexual participants. Thus, across the board, predictors of activity involvement that were based on prior studies among general adolescents do not explain why some sexual minority youth are involved in different types of activities. This finding has important implications for future research: perhaps sexual minority youth who are involved in extracurricular activities, compared to those who are not, can only be distinguished in terms of sexual minority-specific indicators (e.g., school climate for sexual minority students or gender expression). For example, both Carragher and Rivers (2002) and Kivel and Kleiber (2000) documented important differences in levels of activity involvement by gender expression. Given that this is beyond the scope of the Add Health data set, future studies should include sexual-minority specific variables to examine whether they are useful in discriminating which participants are involved in different types of extracurricular activities.

Further, we found that the associations between extracurricular activity involvement and academic outcomes were equivalent for all of the adolescents in the study, regardless of sexual orientation. Importantly, we documented that sports participation was related to increases in school belonging over a one year period and that school club participation was related to increases in grade-point average over the course of a year. These findings suggest that sports participation and participation in school clubs may be opportunities for sexual minority youth to positively experience the school context, such that involvement is related to better academic outcomes. Participation in the arts was not significantly associated with future academic outcomes for heterosexual or sexual minority youth, even though youth with higher grade-point averages were more likely to engage in these activities (with the exception of sexual minority females). It may be plausible that youth in the arts already have high grade-point averages and therefore have little room to improve (i.e., a ceiling effect). In sum, these results suggest that school-based extracurricular activities, particularly school-based sports and clubs, are ripe contexts for intervention and prevention efforts aimed at reducing academic disparities for sexual minority youth.

Sports, Homophobia, and Masculinity

The one sexual orientation difference in levels of extracurricular activity participation that did emerge from the analyses was that sexual minority males and females were less likely to report participating in sports compared to heterosexual males and females. This finding is consistent with prior literature that has described the sports context as particularly hostile for

sexual minority male youth (e.g., Carragher & Rivers, 2002; Gill et al., 2010). For instance, are sexual minority males less involved in sports because they are faced with bias-based harassment from their peers or a lack of support from the coach? Other studies have found that both students and teachers report frequent instances of homophobic behaviors in school-based sports and physical education courses (e.g., Morrow & Gill, 2003). Thus, sports activities may not provide the types of features needed to foster positive development for sexual minorities (e.g., physical and psychological safety, supportive relationships, opportunities to belong; National Research Council and Institute of Medicine, 2002). Further, these results provide additional evidence of the link between homophobia, masculinity, and sports; that is, sports have historically been a space where boys and young men enact masculinity in order to prove their heterosexuality (Kimmel, 1994). The lower level of sports involvement by sexual minority males in this large representative sample suggests that school-based sports remain spaces for heterosexual males.

Although not testable in the current study, prejudicial attitudes such as homophobia may be enacted and tolerated in activities such as sports at greater levels compared to other extracurricular activities (e.g., the arts). Future research is needed that examines the effectiveness of programs and interventions aimed to reduce homophobia and other prejudice attitudes in the sports context at all levels (e.g., student athletes, coaching staff, and sports fans).

Limitations

This study has several limitations. First, our measure of sexual orientation was limited to reports of same-sex romantic attractions. The Add Health study did not measure sexual identity (e.g., lesbian, gay, or bisexual [LGB]) during adolescence, and others have found important differences among those who identify as a sexual minority versus those who report same-sex attractions (e.g., Zhao, Montoro, Igartua, & Thombs, 2010). However, as others have argued, romantic attractions may be a more appropriate indicator of sexual orientation in adolescence given that youth may have not yet labeled themselves as LGB (e.g., Pearson et al., 2007; Saewyc, 2011). Nonetheless, extracurricular activities may be a more hostile environment for adolescents who have disclosed their sexual orientation to others; therefore, future studies should examine participation in these activities with youth who openly identify as LGB.

A second limitation is that we relied on dichotomous indicators of involvement in different types of school-based extracurricular activities. There are important differences in how researchers categorize youth involvement in organized activities for understanding the links between activity participation and outcomes (e.g., breadth, intensity, engagement, or duration; Bohnert, Fredricks, & Randall, 2010). Therefore, future studies should examine sexual minority youth participation with a more nuanced measurement strategy (which is not available in the Add Health study). For instance, the associations between indicators of extracurricular activity involvement and the academic outcomes of interest may have been stronger had we been able to use a measure of activity engagement, which provides information about emotional, behavioral and cognitive engagement in the activity, compared to our discrete measure of whether or not an adolescent was involved in an activity. A final limitation of the study is the lack of generalizability to other organized activities, such as community-based activity involvement, or to other types of outcomes. Thus, future research is needed that examines sexual minority youth participation in other organized activities, and that expands on the current research to include a focus on socio-emotional and health outcomes. That is, is participation in extracurricular activities associated with better health and well-being for sexual minority youth?

Conclusions

Despite these limitations, this study adds new information about sexual minority youth involvement in school-based extracurricular activities and potential pathways to positive development for this vulnerable population. Specifically, we found that sexual minority youth are just as involved in school-based extracurricular activities as their heterosexual peers, with the exception of sports. We also documented that sociodemographic predictors of participation discussed in the current literature (e.g., Barber et al., 2010) may not be consistent for non-heterosexual youth, suggesting that future studies need to examine what factors contribute to the participation in extracurricular activities for these youth. Further, we documented consistent (albeit small) longitudinal associations between extracurricular activity involvement and later grade-point average and school belonging for all youth, regardless of sexual orientation. Importantly, these results should be considered in the historical context of the Add Health study, which was conducted in the mid- to late 1990s. Comparatively, contemporary sexual minority youth are coming out at younger ages and in larger numbers (Floyd & Bakeman, 2006). It may be possible that contemporary studies of sexual minority youth may find differences in levels of participation in extracurricular activities; however, as noted in the review of the literature these youth still experience violence and victimization related to their perceived or actual sexual orientation in the school context. Thus, future prospective studies should examine the experiences of contemporary sexual minority youth in order to investigate whether or not there are significant cohort differences in extracurricular activity participation.

In sum, this study is a starting point for future efforts to identify means by which sexual minority youth may be more connected to their schools and excel academically. Future research is critically needed to identify characteristics that may promote sexual minority youth participation in extracurricular activities, given that these contexts were ripe for positive development. Further, research is needed that identifies best practices for teachers, advisors, coaches, and other school personnel for preventing homophobia within school-based contexts.

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Figure 1.

Results from the Multiple Group Path Analysis.

Note. Standardized coefficients are shown. Control variables are presented in light grey. On paths with multiple numbers, the first number is for heterosexual males, second number is for heterosexual females, third number is for sexual minority males, and fourth number is for sexual minority females. Non-significant pathways are not shown in the figure for ease of interpretation.

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

Table 1

Correlations, Means, and Standard Deviations by Sexual Orientation

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Mean (SD)
1. W1 sports	---	.14***	.05	.15***	.11	.09	.09	-.05	.03	-.03	-.03	-.04	.13	-.01	.06	.10	-.08	-.11	-.05	-.02	0.50 (0.50)
2. W1 clubs	.17***	---	.24***	.09	.04	.22***	.17***	.01	-.01	.03	.01	-.00	.09	.03	-.02	.02	-.04	-.08	0.00	-.01	0.29 (0.45)
3. W1 arts	.06***	.17***	---	.04	-.02	.15***	.12	-.05	.05	.03	-.01	-.05	.16***	.03	.03	.01	.06	-.01	-.06	.02	0.27 (0.44)
4. W1 school belonging	.16***	.11***	.08***	---	.48***	.19***	.13***	-.08	-.08	.05	.08***	.02	.05	.06	.05	.06	-.09	-.07	-.12	.02	3.57 (0.81)
5. W2 school belonging	.16***	.10***	.06***	.56***	---	.12**	.13**	-.07	-.09	-.03	.00	.12***	.01	-.01	.01	.02	-.07	-.07	-.05	-.01	3.57 (0.82)
6. W1 GPA	.13***	.24***	.17***	.26***	.24***	---	.58***	-.01	-.03	-.07	.09	-.10	.25***	-.01	.05	.03	-.01	-.11**	-.03	-.07	2.54 (0.89)
7. W2 GPA	.11***	.20***	.14***	.20***	.27***	.64***	---	.04	-.03	-.09	.06	-.10	.23***	.03	.07	.03	.01	-.13***	-.01	-.10	2.57 (0.86)
8. Age	-.07***	-.01	-.12***	-.13***	-.08***	-.14***	-.07***	---	-.12**	-.01	.09	.03	-.04	-.03	.11	-.14	.42***	-.01	.24***	.14***	15.30 (1.62)
9. U.S. born	.07***	.01	.06***	-.01	-.01	-.02	.00	-.06	---	.07	-.32***	-.36***	.10	-.19**	.12***	.09	-.16**	-.03	.06	.05	0.91 (0.28)
10. Black	-.02	-.02	-.04	-.05***	-.06***	-.13***	-.14***	.05	.08***	---	---	---	-.03	.00	-.04	.03	-.09	.01	-.17***	.14***	0.16 (0.37)
11. Asian	-.02	.04*	-.01	.01	.01	.09***	.07***	.02	-.37***	---	---	---	.09	.01	-.07***	-.03	.10	-.01	-.08	-.02	0.03 (0.18)
12. Latino	-.07***	-.02	-.08	-.01	-.02	-.09***	-.10***	.01	-.29***	---	---	---	-.29***	.34***	-.16***	-.08	.19	.07**	-.05	.04	0.16 (0.37)
13. Parental education	.13***	.10***	.15***	.09***	.11***	.28***	.26***	-.06	.08**	-.06*	.06***	-.22***	---	-.12	-.01	-.05	.03	-.20***	-.03	-.11**	13.41 (2.92)
14. Urban school	-.02	.05	-.02	-.02	-.02	-.03	-.04	.01	-.17***	.05	.02	.28***	-.05	---	---	-.11	.25	-.07	-.07	.01	0.27 (0.44)
15. Rural school	.05	.01	.00	.03	.01	-.01	-.01	.06	.10***	-.03	-.08***	-.12**	-.06	---	---	.10	-.03	.04	.06	.07	0.13 (0.34)
16. Small school	.10***	.02	.03	.08**	.07**	.02	.01	-.22***	.08***	-.00	-.05	-.05	-.04	.03	.15	---	---	-.19	-.14**	-.04	0.16 (0.37)
17. Large school	-.08***	-.04	-.06**	-.09***	-.11***	-.07**	-.04	.40***	-.11**	-.06	.07	.15**	.01	.20	-.06	---	---	.12	.13	.05	0.41 (0.49)
18. Public school	-.11***	-.04	-.03	-.08***	-.09***	-.09***	-.08***	.03	-.01	.05	-.08	.00	-.15***	-.16	.07	-.28**	.15**	---	.08	.04	0.94 (0.23)
19. School climate	-.06**	-.03	-.06***	-.11***	-.10***	-.06**	-.03	.26***	.06**	-.15***	-.06***	-.05	-.05	-.07	.07	-.19***	.19***	.16***	---	.06	3.23 (0.68)
20. BMI	-.07***	-.05*	-.03	-.04***	-.04	-.11***	-.10***	.19***	.03*	.09***	-.04**	.04	-.09***	-.02	.05	-.01	.06**	.04	.05**	---	22.86 (4.53)
Mean (SD)	0.59 (0.49)	0.34 (0.47)	0.29 (0.45)	3.74 (0.76)	3.71 (0.76)	2.75 (0.86)	2.76 (0.85)	15.08 (1.62)	0.94 (0.23)	0.15 (0.36)	0.04 (0.18)	0.12 (0.32)	13.78 (2.74)	0.25 (0.43)	0.16 (0.37)	0.18 (0.39)	0.36 (0.48)	0.93 (0.25)	3.20 (0.68)	22.20 (4.39)	

Note. GPA= grade-point average. BMI = body mass index. Correlations for sexual minorities are presented above the diagonal and correlations for heterosexuals are presented below the diagonal. Means and standard deviations for sexual minorities are presented on the right side of the table, where means and standard deviations for heterosexuals are presented on the bottom of the table. SD = standard deviation. Correlations are not provided among nominal categories (i.e., race and ethnicity, school size, and location of school).

 $p < .001$.

**
 $p < .01$.

Table 2
Weighted Frequencies of Participation in Extracurricular Activities by Sexual Orientation and Gender

	SM males (A)		SM females (B)		Heterosexual males (C)		Heterosexual females (D)		Comparisons
Actual sample size	650		564		5,445		5,982		
Weighted sample size	971,410		749,323		7,650,951		8,047,531		
	%	95% C. I.	%	95% C. I.	%	95% C. I.	%	95% C. I.	
Participation in sports	53.88	(48.25, 59.52)	45.93	(37.99, 53.86)	62.58	(59.91, 65.25)	54.98	(53.44, 58.65)	A > B ^{***} ; D > B ^{***} A,B,D < C ^{***}
Participation in school clubs	24.97	(19.77, 30.17)	33.40	(27.52, 39.28)	26.92	(24.76, 29.08)	39.96	(38.21, 43.19)	A,C < B ^{***} A,C < D ^{***}
Participation in the arts	21.09	(16.38, 25.81)	33.86	(26.24, 41.48)	21.69	(19.33, 24.03)	35.63	(33.58, 39.20)	A,C < B,D ^{***}

Note. SM = sexual minority. C.I. = confidence interval. Estimates are based on multiply imputed data and all variables were measured at Wave 1.

 $p < .001$.

**
 $p < .01$.

Table 3

Survey-Adjusted Logistic Regression Odds Ratios and 95% Confidence Intervals Predicting **Participation in Sports Activities** by Sexual Orientation and Gender

	SM males	SM females	Heterosexual males	Heterosexual females
Age	0.93 (0.76, 1.13)	1.05 (0.85, 1.30)	1.02 (1.00, 1.10)	0.97 (0.91, 1.03)
Body mass index	1.04 (0.98, 1.11)	0.96 (0.90, 1.02)	0.99 (0.97, 1.01)	0.96 (0.94, 0.98) ***
Black	0.80 (0.42, 1.51)	0.80 (0.38, 1.70)	1.02 (0.78, 1.32)	1.01 (0.77, 1.32)
Latino	1.04 (0.42, 2.55)	1.12 (0.37, 3.34)	0.76 (0.56, 1.03)	0.94 (0.66, 1.35)
Asian	0.69 (0.16, 2.94)	0.49 (0.07, 3.62)	0.91 (0.55, 1.49)	0.69 (0.45, 1.05)
Born in U.S. (vs. not native)	1.03 (0.36, 2.96)	1.09 (0.38, 3.16)	1.32 (0.84, 2.07)	1.59 (1.04, 2.43)
Parental education	1.05 (0.95, 1.16)	1.12 (1.00, 1.25)	1.08 (1.04, 1.12) ***	1.06 (1.02, 1.10) **
Public (vs. private school)	0.57 (0.17, 1.88)	0.42 (0.07, 2.48)	0.64 (0.41, 1.01)	0.46 (0.26, 0.84)
Small school (vs. medium)	1.19 (0.59, 2.42)	2.09 (0.76, 5.74)	1.30 (0.90, 1.87)	1.45 (1.06, 1.99)
Large school (vs. medium)	0.75 (0.39, 1.45)	1.12 (0.54, 2.32)	0.86 (0.67, 1.11)	0.95 (0.75, 1.20)
Rural school (vs. suburban)	1.23 (0.61, 2.45)	1.68 (0.60, 4.73)	1.27 (0.94, 1.72)	1.30 (0.98, 1.72)
Urban school (vs. suburban)	1.06 (0.55, 2.03)	1.01 (0.48, 2.14)	1.07 (0.85, 1.35)	1.04 (0.80, 1.34)
School climate (aggregated school-level)	0.90 (0.54, 1.49)	1.04 (0.66, 1.65)	0.88 (0.76, 1.01)	1.00 (0.80, 1.34)
Grade-point average	1.07 (0.74, 1.53)	1.16 (0.83, 1.63)	1.22 (1.08, 1.38) ***	1.14 (1.04, 1.26) **
School belonging	1.59 (1.09, 2.32)	1.21 (0.80, 1.83)	1.44 (1.27, 1.62) ***	1.37 (1.23, 1.53) ***

Note. SM = sexual minority. Estimates are based on multiply imputed data and all variables were measured at Wave 1.

 $p < .001$.

**
 $p < .01$.

Table 4

Survey-Adjusted Logistic Regression Odds Ratios and 95% Confidence Intervals Predicting **Participation in School Clubs** by Sexual Orientation and Gender

	SM males	SM females	Heterosexual males	Heterosexual females
Age	0.99 (0.80, 1.23)	1.12 (0.93, 1.35)	1.08 (1.00, 1.17)	1.13 (1.05, 1.21)***
Body mass index	0.99 (0.93, 1.07)	0.99 (0.94, 1.05)	0.98 (0.96, 1.01)	0.99 (0.97, 1.01)
Black	1.58 (0.73, 3.42)	1.20 (0.56, 2.57)	1.05 (0.80, 1.38)	1.11 (0.87, 1.41)
Latino	1.00 (0.35, 2.85)	1.83 (0.68, 4.94)	0.97 (0.67, 1.41)	1.31 (1.01, 1.71)
Asian	0.54 (0.06, 4.65)	1.47 (0.21, 10.54)	1.32 (0.78, 2.22)	1.80 (1.14, 2.84)
Born in U.S. (vs. not native)	1.07 (0.29, 3.91)	1.15 (0.42, 3.12)	1.31 (0.78, 2.20)	1.48 (1.01, 2.15)
Parental education	1.07 (0.96, 1.19)	1.02 (0.90, 1.16)	1.05 (1.01, 1.09)	1.05 (1.01, 1.08)**
Public (vs. private school)	0.55 (0.23, 1.32)	1.19 (0.30, 4.77)	1.14 (0.77, 1.70)	1.24 (0.69, 2.21)
Small school (vs. medium)	1.17 (0.46, 2.94)	0.81 (0.36, 1.84)	0.98 (0.68, 1.41)	1.12 (0.82, 1.55)
Large school (vs. medium)	1.10 (0.55, 2.20)	0.46 (0.23, 0.90)	0.73 (0.56, 0.95)	0.75 (0.59, 0.95)
Rural school (vs. suburban)	0.87 (0.43, 1.78)	0.91 (0.48, 1.73)	1.13 (0.83, 1.53)	1.26 (1.01, 1.58)
Urban school (vs. suburban)	1.11 (0.55, 2.21)	1.30 (0.62, 2.74)	1.55 (1.21, 1.98)***	1.53 (1.19, 1.98)***
School climate (aggregated school-level)	1.15 (0.73, 1.80)	1.05 (0.66, 1.66)	0.98 (0.85, 1.13)	0.95 (1.43, 1.81)
Grade-point average	2.11 (1.30, 3.45)**	1.40 (0.94, 2.09)	1.94 (1.69, 2.23)***	1.61 (1.43, 1.81)***
School belonging	1.18 (0.76, 1.85)	1.17 (0.78, 1.76)	1.11 (0.96, 1.30)	1.29 (1.13, 1.46)***

Note. SM = sexual minority. Estimates are based on multiply imputed data and all variables were measured at Wave 1.

 $p < .001$.

**
 $p < .01$.

Table 5

Survey-Adjusted Logistic Regression Odds Ratios and 95% Confidence Intervals Predicting **Participation in the Arts** by Sexual Orientation and Gender

	SM males	SM females	Heterosexual males	Heterosexual females
Age	0.89 (0.72, 1.10)	0.92 (0.73, 1.17)	0.89 (0.82, 0.97) **	0.90 (0.84, 0.97) **
Body mass index	1.01 (0.95, 1.09)	1.02 (0.95, 1.09)	1.01 (0.99, 1.04)	1.02 (1.00, 1.04)
Black	1.35 (0.62, 2.91)	1.17 (0.55, 2.50)	0.86 (0.64, 1.16)	0.75 (0.54, 1.05)
Latino	0.84 (0.30, 2.39)	0.94 (0.34, 2.64)	0.71 (0.47, 1.07)	0.59 (0.42, 0.84) **
Asian	0.54 (0.09, 3.23)	0.86 (0.07, 10.05)	1.16 (0.66, 2.05)	0.73 (0.43, 1.23)
Born in U.S. (vs. not native)	1.59 (0.32, 7.90)	1.59 (0.44, 5.74)	2.26 (1.06, 4.80)*	1.21 (0.80, 1.82)
Parental education	1.15 (1.01, 1.31)*	1.11 (0.98, 1.24)	1.10 (1.05, 1.16) ***	1.09 (1.05, 1.13) ***
Public (vs. private school)	1.09 (0.38, 3.13)	2.49 (0.59, 10.57)	0.98 (0.55, 1.74)	1.05 (0.71, 1.57)
Small school (vs. medium)	1.48 (0.62, 3.53)	1.07 (0.40, 2.89)	0.81 (0.56, 1.19)	1.10 (0.78, 1.56)
Large school (vs. medium)	1.41 (0.62, 3.18)	1.49 (0.66, 3.38)	0.92 (0.67, 1.27)	0.98 (0.75, 1.29)
Rural school (vs. suburban)	0.69 (0.30, 1.57)	2.15 (0.87, 5.32)	1.11 (0.78, 1.60)	1.00 (0.76, 1.32)
Urban school (vs. suburban)	1.57 (0.80, 3.09)	1.17 (0.51, 2.67)	1.19 (0.87, 1.64)	1.01 (0.78, 1.30)
School climate (aggregated school-level)	0.90 (0.52, 1.55)	0.79 (0.51, 1.22)	0.86 (0.72, 1.04)	0.90 (0.76, 1.05)
Grade-point average	1.67 (1.10, 2.54)*	1.08 (0.70, 1.66)	1.32 (1.12, 1.55) ***	1.28 (1.15, 1.44) ***
School belonging	1.10 (0.70, 1.74)	1.07 (0.74, 1.53)	1.09 (0.93, 1.27)	1.14 (1.01, 1.28)*

Note. SM = sexual minority. Estimates are based on multiply imputed data and all variables were measured at Wave 1.

 $p < .001$.

**
 $p < .01$.