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Incidences of School-based Anti-gay and Gender-related Bullying: Differences across Levels of Education

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ABSTRACT

Anti-gay and gender-related bullying and harassment are pervasive public health problems found in schools and are correlated with negative mental health and educational outcomes for students. This study examines the differences in the forms and prevalence of anti-gay and gender-related bullying with students from middle school, secondary, and post-secondary institutions. This information can assist researchers and practitioners in better understanding the prevalence of anti-gay verbal versus physical harassment at particular education levels. The sample comprised 7,007 participants. Multivariate analysis of variance was used to examine differences across levels of education, race/ethnicity, and gender on the 9-item Gender and Orientation Attitudes Scale. We found that middle school students were least comfortable with others perceived as gay or transgender and least likely to speak up against anti-gay bullying. Both middle school and high school students were most likely to use anti-gay and gender-related verbal slurs. Middle school students reported the greatest prevalence of physical harassment towards peers based on perceived gender and orientation. Implications of these results for public health are discussed.

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BACKGROUND

Bullying is a prevalent and pervasive phenomenon in American youth society that may lead to serious outcomes in youth, including suicide (Centers for Disease Control and Prevention [CDC], 2014a; Feldman, Donato, & Wright, 2013; Gini & Espelage, 2014; Modecki, Minchin, Harbaugh, Guerra & Runions, 2014; Reed, Nugent, & Cooper, 2015). Defined by the American Psychological Association (American Psychological Association, 2017) as “a form of aggressive behavior in which someone intentionally and repeatedly causes another person injury or discomfort...bullying can take the form of physical contact, words, or more subtle actions.” Surveys and studies show a wide range of bullying rates for middle and high school students from 25% to approximately 70% (CDC, 2014a; Youth Truth Student Survey, 2017). One of the common forms of verbal and physical bullying is anti-gay and gender-related harassment. Numerous investigations have

uncovered the occurrence of anti-gay and gender-related bullying across educational settings, including middle school (Birkett, Espelage, & Koenig, 2009; Toomey & Russell, 2016), high school (Chesir-Teran & Hughes, 2009; Friend, 1998; Kosciw, Greytak, Palmer & Boesen, 2014; Rienzo, Button, & Wald, 1996; Toomey & Russell, 2016), and college/university (Rankin, Blumenfeld, Weber, & Frazer, 2010). However, to our knowledge, no studies have compared the prevalence of anti-gay and gender-related bullying across middle, high school, and college levels for a particular region. This is important to inform public health professionals as to which level of education their interventions would best be targeted.

Although gay and transgender students experience the most severe health outcomes related to this type of bullying, heterosexual or questioning students who are perceived as gay or not fitting gender stereotype expectations can also experience similar negative

outcomes (Birkett, Espelage, & Koenig, 2009; Reisner, Greytak, Parsons, & Ybarra, 2014; Toomey & Russell, 2016). Being on the receiving end of anti-gay or gender-related bullying has been significantly associated with myriad negative health outcomes, including feeling unsafe in school, truancy, depression, anxiety, substance use, and suicidality that may persist into adulthood (Birkett & Espelage, 2015; Birkett, Espelage, & Koenig, 2009; Espelage & Swearer, 2008; Huebner, Thoma, & Neilands, 2014; Kopels, 2012; Toomey & Russel, 2016). Youth who consider themselves gay or transgender experience higher rates of bullying than heterosexual youth (Birkett, Espelage, & Koenig, 2009; Espelage & Swearer, 2008; Kosciw et al., 2016). Anti-gay bullying (e.g., being called “faggot,” “dyke,” or “queer”) is the most commonly reported type of bullying nationwide, followed by bullying based on gender expression (e.g., being called “tranny” or “he/she”; Birkett & Espelage, 2015; Kosciw, Greytak, Palmer, & Boesen, 2014). Given the numerous negative health outcomes, most importantly the risk for youth suicide, anti-gay and gender-related bullying constitutes a serious public health concern.

Clearly, the most alarming mental health outcome for gay youth and youth questioning their sexual orientation is the increased risk of suicide (Kann et al., 2016). Previous national research studies have shown gay or questioning youth to be two to three times more likely to consider or attempt suicide than heterosexual youth (Bouris et al., 2010; CDC, 2014b; Robinson & Espelage, 2015). More recently, 6.4% of heterosexual high school students versus 29.4% of gay, lesbian, and bisexual high school students nationwide reported attempting suicide (Kann et al., 2016). In Miami-Dade County, 4.3% of heterosexual high school youth, compared to 22.8% of gay, lesbian, or bisexual youth, and 31.4% of youth unsure of their sexual orientations reported attempting suicide, revealing higher rates for South Florida compared to national averages (Kann et al., 2016). Hatzenbuehler (2011) reports that overall, lesbian, gay, and bisexual youth are significantly more likely to attempt suicide than heterosexual youth (21.5% vs. 4.2%), especially in unsupportive environments, in which the percentage jumps to 20% higher than in supportive environments. There are no nationally representative transgender youth suicide studies to date of which we are aware. One study found that 25% of their sample of transgender youth reported a suicide attempt (Grossman & D’Augelli, 2007). Research by Robinson and Espelage (2015) has found that youth who are perceived as gay experience higher rates of bullying, which is a significant predictor for risk of suicidal ideation and attempt.

Therefore, from a public health perspective, addressing bullying is a component of suicide prevention efforts.

Bullying precipitates additional school difficulties, including absenteeism, lower grade point averages (GPAs), lower academic aspirations, and a decreased sense of school belonging. According to the 2015 Gay, Lesbian, and Straight Education Network (GLSEN) school climate survey, students who felt unsafe or uncomfortable were more than three times as likely to miss at least one entire day of school in the past month compared to students who experienced lower levels of discrimination (Kosciw et al., 2016). Students who were harassed because of their sexual orientation or gender expression had overall lower GPAs than students who were not harassed (Kosciw et al., 2016). Lastly, students who reported frequent gender and orientation-based bullying and harassment were twice as likely to report that they did not plan to pursue post-secondary education than students who were rarely or never victims of anti-gay and gender-related bullying and harassment (10.0% vs. 5.2%; Kosciw et al., 2016).

In 2016, the CDC conducted the Youth Risk Behavior Survey (YRBS), which found that in Miami-Dade County public schools, 10.1% of heterosexual youth versus 23.6% of gay, lesbian, or bisexual youth, reported being bullied on school property; furthermore, 8.8% of heterosexual youth versus 15.4% of gay, lesbian, or bisexual youth reported cyber-bullying (Kann et al., 2016). Additionally, 4.6% of heterosexual youth versus 15.8% of gay, lesbian, or bisexual youth, and further 20.5% of youth unsure of their orientation reported being physically forced to have sexual intercourse (Kann et al., 2016). Approximately 5.6% of heterosexual youth compared to 10.0% of gay and bisexual youth and further 19.8% of youth unsure of their orientation, reported threat or injury with a weapon on school property (Kann et al., 2016). Per the 2016 YRBS, 1.6% of heterosexual youth compared to 6.7% of lesbian, gay, or bisexual youth versus 23.5% of youth unsure of their orientation reported having every used heroin in their lifetime (Kann et al., 2016). Lastly, 6.9% of heterosexual youth compared to 13.4% of gay and bisexual youth and further 35.6% of youth unsure of their orientation reported driving a vehicle when they had been drinking alcohol (Kann et al., 2016).

Despite the nationwide epidemic of anti-gay and gender-related bullying in education, several studies have highlighted the potential mediating effects of the school environment, noting that youth who perceived the school climate as supportive were less likely to suffer from depression, suicidality, and substance use, even if they had experienced anti-gay

bullying (Dessel, 2010; Espelage, Aragon, & Birkett, 2008; Espelage & Swearer, 2008; Poteat, 2015; Robinson & Espelage, 2015). Factors that contribute to perceptions of a positive school environment include an effective gay-straight alliance (GSA), supportive educators, and comprehensive bullying/harassment policies, which are all shown to significantly lower students' psychological distress and negative school related outcomes (Kosciw et al., 2016). Notably, however, the majority of schools in the United States have not implemented comprehensive policies regarding these topics. According to the GLSEN (2016) survey, only 10.2% of students reported that their school had enacted a comprehensive policy with specific inclusions for sexual orientation and/or gender identity/expression (Kosciw et al., 2016). This noteworthy point provides further evidence that school environments are necessary arenas for preventive interventions at both the policy and practice levels.

Anti-gay and Gender-related Bullying across Educational Levels

Although an expansive body of research has addressed the problem of gender- and sexual orientation-based bullying in different levels of education, no prior study has addressed whether bullying and harassment occurs disproportionately across levels of education (middle school, high school, and undergraduate), thereby obscuring which educational levels are most in need of education on gender and sexual orientation. For example, middle school is a difficult time for many students who are beginning to become aware of their sexual orientation. This time may become especially difficult for those students who fall victim to increased levels of bullying that begin at this level of education (Birkett, Espelage, & Koenig, 2009; Nansel et al. 2001). When students begin high school, gender- and orientation-based bullying and harassment are likely to continue.

Several studies have shown that tolerance or even acceptance of gender- and sexual orientation-based bullying is prevalent for many high schools in the United States (Chesir-Teran & Hughes, 2009; Kosciw et al., 2016). Although over time, attitudes towards gay and transgender people have generally improved, a recent meta-analysis by Toomey and Russell (2016) examining middle and high school students suggests that anti-gay bullying is a "persistent and lasting problem that has not dissipated, even as the larger political context has become more affirming of lesbian, gay, bisexual and transgender persons" (p. 190). While descriptions of anti-transgender bullying are rare in the literature, research conducted by Reisner, Greytak, Parson, and

Ybarra (2014) revealed that youth ages 13-18 who transcend binary expectations of gender had fourfold higher odds of being harassed and higher risk of substance use compared to their peers who adhere to more traditional expectations of gender.

Importantly, orientation and gender-related discrimination persists in the undergraduate setting. In 2010, researchers conducted a national study to evaluate the campus climate regarding negative experiences related to gender and orientation on college campuses across the United States (Rankin, Weber, Blumenfeld, & Frazer, 2010). Faculty and student respondents, who categorized their orientation as lesbian, gay, bisexual, or queer were nearly twice as likely as their heterosexual counterparts to experience harassment on campus, and roughly 36% of transgender and gender non-binary respondents reported harassment on campus versus 20% of non-transgender faculty and students (Rankin et al., 2010).

There are two different theories concerning the intersection of race/ethnicity and gay and transgender identity in the literature on bullying and harassment. One theory posits that non-white lesbian, gay, bisexual, or transgender individuals are at greater risk for negative health outcomes than their white gay and transgender peers due to overlapping marginalized statuses (Balsam, Huang, Fieland, Simoni, & Walters, 2004; Greene, 2000; Poteat, Mereish, Digiovanni, & Koenig, 2011; Rood, Reisner, Surace, Puckett, Maroney, & Pantalone, 2016). Another theory states that there are fewer negative health outcomes for these individuals because of increased resilience possibly due to learned coping skills for racial/ethnic discrimination (Bowleg, Huang, Brooks, Black, & Burkholder, 2003; Meyer, 2003; Moradi, DeBlaere, & Huang, 2010; Poteat et al., 2011). The literature supports the inclusion of diverse racial and ethnic experiences when examining gender and sexual orientation as it provides a more robust and nuanced approach to these topics.

Our exploratory study endeavors to identify whether differences exist across education levels with regards to anti-gay and gender-related harassment. Knowledge of potential differences across education levels is important because it will allow researchers, public health practitioners, schools, and community agencies to design better interventions in schools and communities; in turn, these interventions can address the disparities and negative health outcomes of youth within these educational settings.

METHODS

Participants

The current sample is comprised of 7,007 student participants in Florida gathered between June 1, 2009

and May 29, 2015. The middle school sample (n = 294) included students enrolled in 6th grade, 7th grade or 8th grade. The high school sample (n = 3,407) included students enrolled in 9th grade, 10th grade, 11th grade or 12th grade. The undergraduate student

sample (n = 3,306) included students enrolled in freshman year through senior year of university/college. The majority of the records were collected in Miami-Dade County. The remaining records were collected in various counties in Florida.

Table 1. Demographic Characteristics by Education Setting

Characteristics	MS n = 294	HS n = 3,407	UG n = 3,306
Age, M ± SD	12.83 ± 0.69	16.06 ± 1.19	20.01 ± 1.18
Range	11 – 14	14 – 18	18 – 22
Race/Ethnicity			
African/Caribbean Americans	61	667	613
Asian/Pacific Islander Americans	7	112	124
European Americans	63	275	595
Hispanic Americans	67	1949	1606
American Indians/Native Americans	12	36	7
Multiracial Americans	58	154	138
Other racial/ethnic group	15	140	146
Gender			
Female	135	1936	2313
Male	136	1272	900
Neither male nor female	9	66	44

Note.

Total sample size is 7,007. MS = Middle school; HS = High School; UG = Undergraduate.

Measures

Demographics. We asked about age, gender pronoun (i.e., he, she, non-identified), ethnicity/race, and ZIP code (used to identify geographic location).

Gender and Orientation Attitudes Scale. One author created a 9-item self-report survey in 2009, with help from a team of experts in mental health, human sexuality, and community psychology. We used focus groups and pilot tests to develop the instrument for measuring personal attitudes utilizing a 5-point Likert scale. Items include: (1) prior participation in structured discussions on gender and orientation topics participants had received; (2) personal comfort-level with individuals perceived as lesbian, gay, and bisexual; (3) personal comfort-level with individuals perceived as transgender; (4) personal use of anti-gay verbal slurs to tease others; (5) knowledge of specific challenges facing youth and families regarding gender and orientation; (6) hearing anti-gay verbal slurs in school; (7) witnessing anti-gay physical harassment or bullying in school; (8) speaking-up when witnessing anti-gay or gender-related slurs/bullying; and (9) perceived ability to handle a situation that could arise regarding sexual orientation or gender. The scales for items 1, 4, 6, 7, and 8 generally ranged from 1 (least often) to 5 (most often). The scales for items 2 and 3 ranged from 1 (very uncomfortable) to 5 (very comfortable). Finally, the scales for items 5 and 9 ranged from 1 (strongly disagree) to 5 (strongly agree).

Procedure

We distributed surveys at various outreach and education programs in school settings. Persons were notified that their participation in the survey was voluntary, and that their responses are anonymous. Surveys were collected in plain envelopes and provided to the YES Institute. The YES Institute is a private, non-profit agency that conducts research and educational programming on the topics of gender and sexual orientation for organizations and communities with the goals of preventing suicide, violence and discrimination. The YES Institute (cited in Gamache & Lazear, 2009) is a national consultant with the Technical Assistance Network for SAMHSA System of Care grantees (U.S. Department of Health and Human Services), and a continuing education provider with the Florida Department of Health Board of Nursing and Board of Clinical Social Work, Mental Health Counseling and Marriage & Family Therapy (CE Broker, 2017). The YES Institute provides professional development for teachers through Division of Student Services of Miami-Dade County Public Schools and the Diversity, Prevention and Intervention Department of Broward County Public Schools, the 4th- and 6th-largest U.S. school districts. At the completion of the study period, there were 7,007 surveys collected from middle and high schools, and colleges for our analysis.

RESULTS

Preliminary Analysis

Following guidelines set forth by Tabachnick and Fidell (2012), we utilized a multivariate analysis of variance (MANOVA) to examine differences across levels of education, race/ethnicity, and gender on the 9-item Gender and Orientation Attitudes Scale. The independent variables included levels of education (middle school, high school, and undergraduate), race/ethnicity (African/Caribbean American, Asian/Asian Indian/Pacific Islander American, European American, Hispanic/Latino American, American Indian/Native American, multiracial American, and other ethnic/racial group), and gender

(he, she, non-identified). The dependent variables included the nine items from the Gender and Orientation Attitudes Scale. We utilized Levene's test to evaluate the assumption of homogeneity of error variance between groups. For the nine items on the Gender and Orientation Attitudes Scale, this assumption was not met. Moreover, Box's M test revealed that the variance-covariance matrices were not equal across groups (Box's $M = 1892.22$, $F(1080, 64349.94) = 1.55$, $p < .01$). We selected Pillai's criterion as it is most appropriate in a MANOVA with unequal sample sizes (Tabachnick & Fidell, 2012).

Table 2. Analysis of Variance Results for Mean Item Comparison by Education Setting

Items	F	df _{between}	df _{within}	p	η_p^2
Prior training	2.58	2	2934	.076	.002
Witnessed verbal harassment	69.66	2	2934	<.001	.045
Witnessed physical harassment	51.72	2	2934	<.001	.034
Personal comfort with LGB	15.01	2	2934	<.001	.010
Personal comfort with T	8.20	2	2934	<.001	.006
Spoke-out against discrimination	8.11	2	2934	<.001	.005
Knowledge of challenges	7.69	2	2934	<.001	.005
Personal use of verbal slurs	10.82	2	2934	<.001	.007
Feel equipped to respond	7.13	2	2934	.001	.005

Note.

LGB = Lesbian, gay, and bisexual; T = transgender.

Descriptive statistics showed that the majority of students endorsed feeling comfortable with lesbian, gay, and bisexual (84%) and transgender individuals (59%), felt equipped to handle a situation that could arise regarding gender and orientation topics (61%), and were willing to speak up against anti-gay bullying (68%). About half of the students had attended at least one structured educational talk on gender and orientation topics (51%). A large number of participants reported the presence of anti-gay verbal harassment/bullying (95%) and anti-gay physical harassment/bullying (48%) in their schools within the past year. Notably, many students reported witnessing anti-gay verbal discrimination on a daily (45%) or weekly (25%) basis. Moreover, a large number of students reported the personal use of anti-gay words or jokes to tease others (56%). Finally, few students felt knowledgeable about the challenges faced by lesbian, gay, bisexual, and transgender youth (20%).

Results from the MANOVA indicated significant mean differences across the composite dependent variables by level of education (Pillai's trace = .08, $F(18, 5854) = 14.01$, $p < .01$, $\eta_p^2 = .041$), gender (Pillai's Trace = .14, $F(18, 5854) = 23.69$, $p < .01$, $\eta_p^2 = .068$), and race/ethnicity (Pillai's Trace =

.09, $F(54, 17586) = 4.95$, $p < .01$, $\eta_p^2 = .015$). The multivariate test results from Pillai's Trace, Wilk's Lambda, Hotelling's Trace, and Roy's Largest Root had identical significance values for these examined variables. Follow-up analysis of variance (ANOVA) results indicated that specific differences existed across the nine items by level of education, race/ethnicity, and gender. When appropriate, pairwise comparisons were made to test differences between groups and a Bonferroni adjustment was used to control for Type I error associated with multiple comparisons (Tabachnick & Fidell, 2012). Below we describe the most relevant findings that emerged from our analyses.

Comparisons across Education Setting

ANOVA results revealed significant differences across levels of education (i.e., middle school, high school, and undergraduate training) on gender and orientation knowledge of lesbian, gay, bisexual, and transgender issues, witnessing anti-gay verbal harassment/bullying, witnessing anti-gay physical harassment/bullying, speaking up against anti-gay bullying/harassment, level of comfort with transgender individuals, personal use of anti-gay words or jokes to tease others, and feeling equipped

to handle a situation that could arise regarding gender and orientation topics, after controlling for race/ethnicity and gender. Table 2 and Table 3 provide further details regarding these findings. Below we describe the results of pairwise comparisons across education setting.

High school students were more likely than undergraduates to witness verbal discrimination ($M_{diff} = .57, p < .01$). Middle school students were the most likely to witness physical harassment and bullying when compared to high school students ($M_{diff} = .39, p = .03$) and undergraduates ($M_{diff} = .75, p < .01$). High school students were more likely to witness physical harassment than undergraduates ($M_{diff} = .36, p < .01$). Undergraduates were the most likely to report being comfortable with lesbian, gay and bisexual individuals ($M_{UG-HS} = .11, p = .03$; $M_{UG-MS} = .84, p < .01$) and the most likely to speak up against anti-gay bullying and harassment ($M_{UG-HS} = .13, p = .03$; $M_{UG-MS} = .65, p < .01$) compared to students in high school and middle school. High school students, in turn, were more likely to be

comfortable with lesbian, gay and bisexual individuals ($M_{diff} = .73, p < .01$) and more likely to speak up against anti-gay bullying and harassment ($M_{diff} = .52, p = .03$) when compared to middle school students.

Middle school students, compared to undergraduates and high school students, were the least likely to report being knowledgeable of the challenges facing lesbian, gay, bisexual, and transgender youth and families ($M_{MS-HS} = -.46, p < .01$; $M_{MS-UG} = -.51, p < .01$) and the least likely to be comfortable with transgender individuals ($M_{MS-HS} = -.60, p < .01$; $M_{MS-UG} = -.68, p < .01$). Undergraduates were more likely than high school ($M_{diff} = .33, p < .05$) and middle school ($M_{diff} = .11, p < .01$) students to feel equipped to respond to anti-gay bullying and harassment. Finally, high school students were more likely than undergraduates to admit to using anti-gay words or jokes to tease others ($M_{diff} = .23, p < .01$). No significant differences across education level were found on previous participation in structured educational talks on gender and orientation topics.

Table 3. Estimates Item Means, Standard Errors, and 95% Confidence Interval by Education Setting

Items	MS M (SE)	HS M (SE)	UG M (SE)
1. "I've attended public educational talks on gender and orientation topics before." ^a	2.19 (.16) [1.89, 2.49]	1.84 (.06) [1.72, 1.97]	1.85 (.06) [1.73, 1.97]
2. "At my school, I've heard verbal slurs (e.g., faggot, dyke, 'That's so gay') based on 'anti-gay' attitudes." ^a	3.66 (.19) [3.28, 4.04]	4.08 (.08) [3.92, 4.23]	3.51 (.08) [3.36, 3.65]
3. "At my school, I've heard physical harassment or physical bullying based on 'anti-gay' attitudes." ^a	2.31 (.15) [2.00, 2.61]	1.91 (.06) [1.79, 2.04]	1.56 (.06) [1.44, 1.67]
4. "My comfort level with people perceived as gay, lesbian, or bisexual is:" ^b	3.29 (.17) [2.96, 3.63]	4.03 (.07) [3.89, 4.16]	4.14 (.07) [4.01, 4.27]
5. "My comfort level with people perceived as transgender is:" ^a	2.86 (.18) [2.50, 3.22]	3.46 (.08) [3.31, 3.60]	3.54 (.07) [3.40, 3.68]
6. "When possible, I've spoken up when someone is bullied with gender-based or 'anti-gay' slurs." ^a	2.46 (.20) [2.07, 2.85]	2.98 (.08) [2.82, 3.14]	3.11 (.08) [2.96, 3.26]
7. "I am knowledgeable of the specific challenges facing youth and families regarding gender and orientation." ^a	3.31 (.14) [3.04, 3.59]	3.77 (.06) [3.66, 3.88]	3.82 (.06) [3.72, 3.93]
8. "I use 'anti-gay' words or jokes to tease others." ^c	2.41 (.20) [2.02, 2.80]	2.44 (.08) [2.28, 2.60]	2.21 (.08) [2.06, 2.36]
9. "I feel equipped to handle a situation that could arise regarding gender or orientation." ^c	3.36 (.14) [3.09, 3.64]	3.59 (.06) [3.47, 3.70]	3.70 (.06) [3.59, 3.80]

Note.

MS = Middle school; HS = High School; UG = Undergraduate.

^aScales generally ranged from 1 (least often) to 5 (most often).

^bScales ranged from 1 (very uncomfortable) to 5 (very comfortable).

^cScales ranged from 1 (strongly disagree) to 5 (strongly agree).

Comparisons across Ethnicity/Race

In addition to comparing across education settings, we also compared the items across racial/ethnic groups. These included African/Caribbean American, Asian/Asian Indian/Pacific Islander American, European American, Hispanic/Latino American, American Indian/Native American, multiracial American, and other ethnic/racial groups. Results of this comparison showed significant mean differences across race/ethnicity on attending prior structured educational talks on gender and orientation topics ($F(6, 2934) = 7.75, p < .01, \eta_p^2 = .016$), witnessing anti-gay physical harassment/bullying ($F(6, 2934) = 4.71, p < .01, \eta_p^2 = .010$), feeling comfortable with lesbian, gay, bisexual ($F(6, 2934) = 8.69, p < .01, \eta_p^2 = .017$) and transgender individuals ($F(6, 2934) = 6.31, p < .01, \eta_p^2 = .013$), speaking up against anti-gay bullying/harassment ($F(6, 2934) = 13.36, p < .01, \eta_p^2 = .027$), feeling knowledgeable about the challenges faced by lesbian, gay, bisexual, and transgender youth and families ($F(6, 2934) = 3.97, p < .01, \eta_p^2 = .008$), and feeling equipped to handle a situation that could arise regarding gender and orientation topics ($F(6, 2934) = 5.34, p < .01, \eta_p^2 = .011$), after controlling for education level and gender. Below we describe the results of these pairwise comparisons across ethnicity/race.

Hispanic Americans were less likely than African/Caribbean Americans ($M_{diff} = -.29, p < .01$) and European Americans ($M_{diff} = -.20, p = .01$) to have previously attended gender and orientation training. African/Caribbean Americans were more likely to report witnessing anti-gay physical harassment and bullying as compared to European Americans ($M_{diff} = .20, p = .04$) and Hispanic Americans ($M_{diff} = .22, p < .01$). African/Caribbean Americans were less likely to be comfortable with lesbian, gay, or bisexual individuals compared to European Americans ($M_{diff} = -.42, p < .01$), Hispanic Americans ($M_{diff} = -.31, p < .01$), and to those who identified as another race or ethnicity ($M_{diff} = -.41, p < .01$). Similarly, African/Caribbean Americans were also less likely to be comfortable with transgender individuals as compared to European Americans ($M_{diff} = -.30, p < .01$), Hispanic Americans ($M_{diff} = -.32, p < .01$), and to those who identified as another race or ethnicity ($M_{diff} = -.36, p = .01$).

Regarding likelihood to speak up against sexual orientation and gender bullying, European Americans are more likely to speak up than African/Caribbean Americans ($M_{diff} = .61, p < .01$), Asian Americans ($M_{diff} = .55, p < .01$), and Hispanic Americans ($M_{diff} = .26, p < .01$). Those who identified as another race or ethnicity were also more likely to speak up compared to African/Caribbean Americans ($M_{diff} =$

$.76, p < .01$), Asian/Pacific Islander Americans ($M_{diff} = .70, p < .01$), and Hispanic Americans ($M_{diff} = .41, p < .01$). Hispanic Americans were more likely than African/Caribbean Americans to speak up ($M_{diff} = .35, p < .01$).

Hispanic Americans were more likely to report being knowledgeable about lesbian, gay, bisexual, and transgender challenges compared to African/Caribbean Americans ($M_{diff} = .14, p < .01$) and European Americans ($M_{diff} = .16, p < .01$). Hispanic Americans were also more likely to report feeling equipped to stand up to anti-gay discrimination than African/Caribbean Americans ($M_{diff} = .17, p < .01$) and Asian/Pacific Islander Americans ($M_{diff} = .29, p < .01$). Finally, there were no significant differences across race/ethnicity on witnessing anti-gay verbal slurs and personal use of anti-gay verbal slurs to tease others.

Comparisons across Gender

We also compared whether there were significant differences across the items based on gender. The gender groups in this comparison included students who preferred male pronouns, female pronouns, and those students who indicated neither preference. Results revealed significant mean differences across gender on receiving prior training on gender and orientation topics ($F(2, 2934) = 4.36, p < .01, \eta_p^2 = .003$), personal comfort with lesbian, gay, bisexual ($F(2, 2934) = 36.511, p < .01, \eta_p^2 = .024$) and transgender individuals ($F(2, 2934) = 59.48, p < .01, \eta_p^2 = .039$), personal use of anti-gay slurs to tease others ($F(2, 2934) = 143.09, p < .01, \eta_p^2 = .089$), knowledge of challenges faced by lesbian, gay, bisexual, and transgender youth and families ($F(2, 2934) = 13.54, p < .01, \eta_p^2 = .009$), witnessing anti-gay verbal ($F(2, 2934) = 20.61, p < .01, \eta_p^2 = .014$) and physical ($F(2, 2934) = 5.76, p < .01, \eta_p^2 = .004$) harassment and bullying, and speaking up when witnessing anti-gay discrimination ($F(2, 2934) = 49.91, p < .01, \eta_p^2 = .029$), after controlling for education level and race/ethnicity. Below we present findings from the pairwise comparisons.

Male students were more likely than female students to have witnessed anti-gay verbal ($M_{diff} = .31, p = .02$) and physical harassment and bullying ($M_{diff} = .13, p < .01$). Male students also were more likely to report having previously attended gender and orientation trainings ($M_{diff} = .12, p = .02$). Female students, however, reported being more knowledgeable about gender and orientation topics ($M_{diff} = .18, p < .01$) and were more likely to speak up in the face of anti-gay discrimination ($M_{diff} = .47, p < .01$) than male students.

Female students reported being more comfortable than male students with lesbian, gay, bisexual (M_{diff}

= .37, $p < .01$), and transgender individuals ($M_{diff} = .50$, $p < .01$). Female students were less likely to use anti-gay slurs compared to both male students ($M_{diff} = -.85$, $p < .01$) and students who identified as neither male nor female ($M_{diff} = -.64$, $p < .01$). Finally, there were no significant differences across gender on how equipped students felt to handle a situation that could arise regarding anti-gay discrimination.

DISCUSSION

To our knowledge, this is the first exploratory study specifically examining the prevalence of anti-gay and gender-related bullying and attitudes in Florida schools. This foundational work can contribute to future public health research studies and interventions in education settings in the state and region. For stakeholders working to develop more inclusive school environments and reduce anti-gay verbal and physical bullying, designing prevention and intervention initiatives based on empirical findings can provide a more informed approach.

Per available information at the time of this paper, Miami-Dade County Public Schools (MDCPS) has an anti-bullying policy that includes unwanted harm based on gender identity or expression and sexual orientation and has a district-wide curriculum from pre-kindergarten through 12th grade (Miami-Dade County Public Schools, 2017a; Miami-Dade County Public Schools, 2017b). Whereas this curriculum is focused on diffusing instances of bullying, it does not include mention of anti-gay violence until 11th grade. For example, in lesson four of the 11th grade curriculum, *Creating a Model City*, we find the first reference to specific social groups, such as “jocks, nerds, blacks, homosexual[s]” in the standardized curriculum (Miami-Dade County Public Schools, 2017b). Given the high prevalence of anti-gay and gender-related bullying beginning in middle school revealed in our study, including ways to address gender and orientation-based harassment in earlier grade levels could be considered in future updates of the curriculum. MDCPS has a robust district-wide network initiative called the *School Allies for Equity (SAFE Network): Honoring Diverse Orientations and Genders*. The network’s mission is to “build comprehensive and inclusive programs that support all students, including students who are gay, lesbian, bisexual, transgender, or questioning” as well as “providing or coordinating anti-bullying prevention and educational activities” (Miami-Dade County Public Schools, 2017c). Although our study was not able to include elementary level students, one other survey of 3rd through 6th grade students and faculty found 49% of teachers hear anti-gay slurs used by students and feel uncomfortable responding to questions about gay and transgender families

(GLSEN and Harris Interactive, 2012). For practitioners designing intervention and prevention initiatives, the authors of this paper strongly suggest that gender and orientation content be included at earlier grade levels in developmentally appropriate implementations. While the SAFE Network fulfills a vital role in the MDCPS school system, the high rates of middle and high school bullying reveal that more primary prevention-focused work needs to be done.

Rather than discipline as the only tool for intervention for students engaging in bullying behavior, much of the recent literature suggests that educators can also focus on promoting a positive school climate as an additional intervention (Boccanfuso & Kuhfeld, 2011; Dessel, 2010; Kosciw, Greytak, Palmer & Boesen, 2014; Kosciw, Palmer, & Kull, 2014; Robinson & Espelage, 2015). GLSEN and Harris Interactive (2012) noted in their report that, “most teachers report receiving professional development on addressing bullying, but not about subjects like gender issues of LGBT [lesbian, gay, bisexual, transgender] families” (p. xxi). Inclusion of gender and orientation in the curriculum, in anti-bullying initiatives, and in teacher professional development not only fosters a more positive learning environment for all students, but also provides a stronger foundation for safe and affirming middle and high school environments (GLSEN & Harris Interactive, 2012).

Another area for future research is studying which specific mechanisms and indicators are correlated with reduction in anti-gay stigma and increase of knowledge and acculturation with gay and transgender people between each level of education. As our current study shows, undergraduate students reported the least amount of anti-gay bullying and the greatest amount of comfort with and knowledge of lesbian, gay, bisexual, and transgender individuals. If it can be determined which specific mechanisms and indicators account for these changes (controlling for age and developmental maturation), public health researchers and stakeholders would have been more informed in designing age-appropriate primary prevention and intervention efforts in elementary and middle schools. Addressing gender and orientation topics sooner could theoretically lead to a reduction in the negative health and mental health outcomes currently observed with middle and high school students.

Limitations

There were several limitations to this study. First, the YES Institute dataset did not include sufficient representation of elementary school and pre-kindergarten students for inclusion in the analysis. This limitation suggests the need for inclusion of

younger students in bullying research to allow for a fuller understanding of when and how these phenomena develop. As noted in our study, verbal bullying is most prevalent in middle school and physical bullying is most prevalent in high school. By obtaining data on bullying in elementary and pre-kindergarten, this would provide the full picture of the entire educational experience of students. Second, the dataset did not include a fully representative subsample of private and private religious schools at the middle and high school levels in South Florida. Third, whereas the Gender and Orientation Attitudes Scale was created by and received input from social science researchers, it is not a standardized instrument and also reflects students' self-evaluation; thus, all known biases associated with self-report instruments apply to this study.

IMPLICATIONS FOR PUBLIC HEALTH

From a public health perspective, reducing bullying and harassment is a necessary component of addressing educational and mental health outcomes as well as suicide prevention efforts with students. Prior studies have investigated anti-gay and gender-related bullying with specific education cohorts, and found correlations of negative health outcomes including not feeling safe in school, absenteeism, depression, drug abuse, and suicidality. Anti-gay attitudes and gender-stereotypes play a significant role in the phenomenon of bullying and youth suicide

as a whole, in particular among middle and high school students where these anti-gay harassment behaviors are a "persistent and lasting problem that [have] not dissipated" (Toomey & Russell, 2016, p. 190).

In advancing the field's knowledge, our exploratory study compared the prevalence of anti-gay and gender-related verbal and physical harassment across middle, high school, and college cohorts in Florida schools. Knowledge of the distinctions in anti-gay verbal and physical bullying will allow researchers, public health practitioners, schools, and community agencies to design more targeted bullying prevention and intervention in schools and communities. Our findings can help address the question of which grade levels are appropriate to begin such efforts that specifically include content addressing anti-gay and gender-related stigma and attitudes.

School and community-based bullying and suicide prevention and intervention efforts could benefit by including developmentally appropriate content and specifically addressing anti-gay and gender-related stigma and attitudes at earlier education levels, as anti-gay verbal bullying is prevalent by middle school. This work can contribute to future public health research studies and bullying and suicide prevention and intervention in education in Florida schools and the region.

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