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Sexual Identity and Behavior among U.S. High School Students, 2005–2015

Gregory Phillips II, PhD, MS¹, Lauren B. Beach, PhD¹, Blair Turner, MPH¹, Brian A. Feinstein, PhD¹, Rachel Marro, BA¹, Morgan M. Philbin, PhD², Paul Salamanca¹, Dylan Felt, BA¹, and Michelle Birkett, PhD¹

¹Department of Medical Social Sciences, Feinberg School of Medicine, Northwestern University, Chicago, IL, 60611

²Department of Sociomedical Sciences, Columbia University Mailman School of Public Health, New York, NY, 10032

Abstract

Sexual orientation is a multidimensional construct which is increasingly recognized as an important demographic characteristic in population health research. For this study, weighted Youth Risk Behavior Survey (YRBS) data were pooled across 47 jurisdictions biennially from 2005 to 2015, resulting in a national sample of 98 jurisdiction-years (344,815 students). Respondents were a median of 15.5 years, 49.9% male, and 48.8% White. Sexual identity and behavior trends from 2005 to 2015 were assessed with logistic regression analysis. Overall, 13.9% of females and 7.0% of males identified as lesbian, gay, bisexual (LGB), or not sure, while 9.1% of females and 4.2% of males indicated both same-and-different-sex behavior or same-sex behavior. In total, 17.0% of female and 8.5% of male youth reported non-heterosexual (LGB or not sure) sexual identity, same-sex sexual behavior, or both. LGB youth were approximately twice as likely as other youth to report lifetime sexual behavior. White and Asian youth were less likely to report non-heterosexual identity and/or have engaged in same-sex sexual behaviors than youth of other races/ethnicities. Prevalence of non-heterosexual identities increased over time for both sexes, but only female youth reported significantly more same-sex behavior over time. This is the first study to simultaneously assess adolescent sexual identity and behavior over time within a national dataset. These findings are critical for understanding the sexual health needs of adolescents, and for informing sexual health policy and practice.

Corresponding Author: Gregory Phillips II, MS, PhD, 625 N Michigan Ave #14-043, Chicago, IL, 60611, Phone: (312)503-3447, Fax: (312)503-6700, glp2@northwestern.edu.

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¹In the 2007 survey, Delaware changed option 2 from “Gay or lesbian” to “Homosexual (gay or lesbian).”

²In the 2005 survey, Boston and Massachusetts asked “During your life, the person(s) with whom you have had sexual contact is (are)” and the response options were “I have not had sexual contact with anyone,” “Female(s),” “Male(s),” or “Female(s) and male(s).” In the 2005 survey, Maine asked “The person(s) with whom you have had sexual contact during your life is (are)” and the response options were “I have never had sexual contact,” “Female,” “Male,” or “Male and female.”

Keywords

Sexual minority; sexual behavior; sexual identity; Youth Risk Behavior Survey; adolescent/youth

INTRODUCTION

Researchers, policy makers, and advocates have increasingly recognized sexual orientation as an important demographic characteristic that should be assessed in population health research (Institute of Medicine Committee on Lesbian, Gay, Bisexual, and Transgender Health Issues and Research Gaps and Opportunities, 2011). Sexual orientation is a multidimensional construct that has been measured using at least three distinct dimensions: identity, behavior, and attraction (Patterson, Jabson, & Bowen, 2017). People can be categorized as sexual minorities based on their self-identification (e.g., identify as lesbian, gay, or bisexual [LGB]), the sex of their sexual partners (e.g., same-sex or both same-and-different-sex), and/or their attractions (e.g., same-sex or both same-and-different-sex). Each of these dimensions can be assessed independently or in combination to measure the prevalence of sexual minority status in the general population (Patterson et al., 2017).

Multiple population-based studies have documented the prevalence of sexual minority identity and behavior among U.S. adults using these metrics (Chandra, Mosher, Copen, & Sionean, 2011; Copen, Chandra, & Febo-Vazquez, 2016; Farley, Stephens, Harvey, Sikes, & Wenger, 1992; Hsieh & Ruther, 2016). However, few of these studies have examined changes in the prevalence of sexual minority status over time using more than one dimension of sexual orientation or assessed if these trends vary among demographic groups (Chandra et al., 2011; Copen et al., 2016; Patterson et al., 2017). Even fewer studies have examined these trends within nationally representative samples of youth under the age of 18 years, many of whom may not yet have engaged in sexual behavior and may self-identify as unsure of their sexual identity (Everett, Schnarrs, Rosario, Garofalo, & Mustanski, 2014; Kann et al., 2016; Mustanski et al., 2014). Given that fewer youth have engaged in sexual behavior than adults, it is particularly important to measure sexual identity in addition to sexual behavior to identify sexual minority and unsure youth populations (Johns, Zimmerman, & Bauermeister, 2013; Priebe & Svedin, 2013). Accordingly, the current study examined the prevalence of sexual minority identity and behavior in a national, demographically diverse sample of U.S. high school students over a 10-year period.

Recent studies indicate that both sexual minority identity and behavior are increasing among adults. A meta-analysis of sexual identity, behavior, and attraction using national survey data from 2002–2011 found that 3.5% of adults identified as LGB, 8.2% reported same-sex sexual behavior, and 11.0% reported same-sex attraction (Gates, 2011). Subsequently, a Gallup polling study revealed that, from 2012 to 2016, the prevalence of U.S. adults who identified as lesbian, gay, bisexual, or transgender (LGBT) increased from 3.5% to 4.1% with the greatest increase noted in female-identified and racial/ethnic minority (i.e., non-White) respondents (Gates, 2017). Interestingly, the prevalence of LGBT identity in the 2012–2016 data differed across demographic groups: across all years, LGBT identity was

significantly higher among non White, female, and younger respondents. Moreover, LGBT identity increased more quickly over time among younger versus older adults.

Compared to adults, little is known about trends in dimensions of sexual orientation among national samples of U.S. youth over time. Only four federally-sponsored multistate U.S. health surveillance surveys contain questions about sexual identity and/or sexual behavior and have measured these self-reported outcomes among adolescents under 18 years of age. Three of these studies, the National Longitudinal Study of Adolescent to Adult Health (Add Health) (Savin-Williams & Ream, 2007), the Growing up Today Study (GUTS) (Ziyadeh et al., 2007), and the National Survey of Family Growth (NSFG) (Chandra et al., 2011), have reported the prevalence of either sexual identity or behavior among youth 18 years or younger. Reports from the Youth Risk Behavior Surveillance System (YRBS), however, have included analyses of both adolescent sexual identity and behavior since 1999 for certain jurisdictions, and since 2015 nationally (Kann et al., 2016a). A significant limitation of all these studies is the lack of separate assessment of sex assigned at birth and gender identity. The conflation of these categories, as well as the potential bias it introduces into studies of sexual orientation and behavior (Lunn, Obedin-Maliver, & Bibbins-Domingo, 2017), must be noted for any reports using these surveillance surveys, including our own. Results from each of these surveys are described below in order of the year of data collection.

Wave I of Add Health assessed sexual behavior (but not identity) among a nationally representative adolescent cohort with a mean age of 15.8 years in 1994–1995; 0.7% of males and 0.8% of females reported both-sex sexual contact, whereas 0.4% of males and females reported only same-sex sexual contact (Savin-Williams & Ream, 2007). In 1999, GUTS used attraction based questions to assess sexual identity by asking adolescent children (ages 12–18) of the participants in the Nurses' Health II study whether they were attracted to individuals of the same and/or opposite sex. In total, 1.0% of these youth described themselves as LGB, 5.0% as “mostly heterosexual,” 2.0% as unsure, and 92.0% as heterosexual (Ziyadeh et al., 2007); sexual behavior was not assessed. The 2006–2008 NSFG assessed sexual minority behavior among youth ages 15–17, and Chandra et al. (2011) found that 10.3% of females and 1.7% of males reported any same-sex sexual behavior in their lifetimes; sexual identity and/or attraction were not reported.

Kann et al. (2011) reported state-level estimates and pooled state-level median estimates for sexual identity (9 states) and/or behavior (12 states) using combined YRBS data from 2001–2009. Kann et al. found that 1.3% of youth identified as gay or lesbian, 3.7% as bisexual, and 2.5% as unsure. For sexual behavior, 2.5% reported only same-sex sexual contact and 3.3% reported both-sex sexual contact. In 2015, the first year that the national YRBS included questions on sexual identity and behavior, Kann et al. (2016a) reported that 2.0% of U.S. high school students identified as gay or lesbian, 6.0% identified as bisexual, and 3.2% identified as not sure. Kann et al. also found that 1.7% of YRBS respondents reported only same-sex sexual behavior, while 4.6% reported both same-sex and different-sex sexual behavior.

The work of Kann et al. provides a strong foundation for understanding the prevalence of sexual minority identity and behavior among high school students. However, several critical gaps remain. Kann et al. did not examine whether the prevalence of sexual identity and behavior varied over time or by the race/ethnicity of respondents. Given the myriad health disparities facing sexual minority youth (Everett et al., 2014; Marshal et al., 2013; Seth, Walker, & Figueroa, 2017), in particular youth navigating the intersectionality of multiple minority identities, monitoring the prevalence of sexual minority identity and behavior over time and across race/ethnicity is important for understanding and addressing the health needs of the general population. This is especially true if, as observed among U.S. adults (Gates, 2017), the prevalence of sexual minority identification in youth is increasing over time. The inclusion of multiple dimensions of sexual orientation in population-level health surveillance is critically important, not only because of the lower levels of sexual behavior among youth compared to adults, but also because the scope and magnitude of health disparities observed among sexual minority populations can differ based on which dimension of sexual orientation is monitored (Bostwick, Boyd, Hughes, & McCabe, 2010; Farmer, Bucholz, Flick, Burroughs, & Bowen, 2013; Johns et al., 2013; Lindley, Walsemann, & Carter, 2012; Priebe & Svedin, 2013) and by other intersecting demographics characteristics (Hsieh & Ruther, 2016).

Like income, sex, race/ethnicity, and disability, sexual orientation has been identified as a fundamental social determinant of health across the life course (Institute of Medicine Committee on Lesbian Gay Bisexual and Transgender Health Issues and Research Gaps and Opportunities, 2011; Penman-Aguilar, Bouye, & Liburd, 2016). Compared to other social determinants, however, little is known about how the proportion of sexual minority individuals in society by identity and/or behavior has changed over time or how changes in this proportion may affect population health. The invisibility of sexual minority status compared to other stigmatized demographic traits (e.g., non-White race/ethnicity) further complicates this question. Social desirability bias can result in an under-reporting of stigmatized traits within survey research studies (Tourangeau & Yan, 2007). Sexual minority status is stigmatized (Herek & McLemore, 2013); therefore, survey research participants may consider questions about sexual orientation to be “sensitive” and may not disclose their sexual minority status to researchers.

Even without complete amelioration of stigma, longitudinal decreases in stigma may likewise result in increased participant reporting of stigmatized traits within survey-based research studies. Public attitudes toward LGB people have become increasingly favorable over time. These improved attitudes have been detected both by measures of interpersonal stigma administered within the general population (Helms & Waters, 2016; Herek, 2002; Herek & McLemore, 2013; Twenge, Sherman, & Wells, 2015) and by the passage of inclusive public policy measures (e.g., marriage equality). Studies have correlated decreases in sexual minority stigma at the interpersonal and structural levels with decreased health expenditures and better mental health outcomes among sexual minority populations (Duncan & Hatzenbuehler, 2014; Everett, Hatzenbuehler, & Hughes, 2016; Hatzenbuehler et al., 2012). These reductions in stigma may be responsible for the increased disclosure of sexual minority status within national studies, especially since 2014 when marriage equality was attained at the national level (Gates, 2017). The extent to which increased reporting of sexual

minority status due to stigma reduction may be true among diverse sub-populations, however, remains understudied.

Recent studies show that studying the intersections of sociodemographic characteristics is of growing public health significance (Penman-Aguilar et al., 2016). One review demonstrated that measuring more than one social determinant at a time better estimates health outcomes among multiply marginalized populations, which comprise over 50% of the population (Hatzenbuehler, Phelan, & Link, 2013). Differences in health outcomes have been detected among sexual minority populations who are also gender and/or racial/ethnic minorities compared to those who are not (Bostwick et al., 2014; Corliss et al., 2014; Lytle, De Luca, & Blosnich, 2014). Therefore, studies of the demographics of sexual minority populations should optimally report intersections with race/ethnicity, age, sex, and gender. Future work should also determine if trends in reporting of sexual minority status are changing among all demographic subpopulations at the same rate.

The Current Study

Within this study, we used pooled jurisdiction-level YRBS data from 2005–2015 to address three main study objectives: (1) to report the prevalence of U.S. high school students who identify as a sexual minority—operationalized in this study as both sexual minority identity, which includes LGB students, and non-heterosexual identity, a slightly broader category which encompasses LGB students as well as students who report a “not sure” sexual identity—and to examine trends in sexual identity over time; (2) to determine if these trends differ based on whether sexual orientation is assessed using sexual identity and/or sexual behavior; and (3) to assess the relative prevalence of different combinations of sexual identity and behavior with a focus on differences by sex and race/ethnicity.

Based upon previous analyses within the YRBS (Kann et al., 2016a) and other young adult populations (Gates, 2017), the current study tested three hypotheses related to these objectives. First, we hypothesized that the prevalence of sexual minority and non-heterosexual identity would be higher than the prevalence of sexual minority behavior among U.S. youth. Second, we hypothesized that the prevalence of (1) sexual minority and non-heterosexual identity as well as (2) sexual minority behavior would be higher among female and non-White youth (compared to male and White youth). Third, we hypothesized that the prevalence of (1) sexual minority and non-heterosexual identity as well as (2) sexual minority behavior would increase among both males and females from 2005–2015.

METHOD

Participants

The YRBS is a biennial national survey that has been conducted by the Centers for Disease Control and Prevention (CDC) since 1991 to collect health data on students in Grades 9–12 (Brener et al., 2013). The YRBS monitors health-related behaviors among youth, such as alcohol and drug use, experiences with violence, suicidal ideation, sexual behaviors, and eating habits, among others (Kann et al., 2016b). For this study, we used data from local versions of the YRBS, which are administered on a state, large urban school district, or

county level by departments of education or health. In this implementation, jurisdictions used a two-stage cluster sample design to identify a representative sample of students (Brener et al., 2013). In the first stage, schools were selected with a probability proportional to their enrollment. In the second stage, classes of a required subject or during a required period were randomly selected and all students within these classes were eligible to participate. Participation was voluntary and anonymous, and students completed the self-administered surveys during the span of that single class period. A new sample was selected in this manner each year that the survey is administered; the same students were not followed over time. For a complete description of the sampling procedure, see Kann et al. (2016b).

Analytic Sample

Local YRBS data were pooled across multiple jurisdictions (city and state) and years (biennially from 2005–2015). The entire dataset consisted of 47 jurisdictions across 6 time points, and 541,410 youth. A total of 114 jurisdiction-years (distinct surveys administered by a particular jurisdiction in a specific year) assessed sexual identity, and 115 jurisdiction-years assessed sexual behavior (sex of sexual contacts). For the present analyses, only jurisdiction-years that assessed both sexual identity and behavior were included, resulting in a sample size of 98 jurisdiction-years (344,815 students).

Measures

All measures included in these analyses were identical across all jurisdiction-years unless otherwise noted.

Sex—Sex was determined by asking participants “What is your sex?” with the choices: (1) male or (2) female. As mentioned above, the YRBS does not ask about gender identity; therefore, we will refer only to “male” or “female” participants in this article.

Sexual Identity1—Sexual identity was assessed by asking, “Which of the following best describes you?” Response options included: (1) heterosexual (straight); (2) gay or lesbian; (3) bisexual; and (4) not sure.

Sexual Behavior2—Sexual behavior was assessed by asking, “During your life, with whom have you had sexual contact?” Response options included: (1) I have never had sexual contact; (2) females; (3) males; and (4) females and males. This variable was recoded based on the students’ reported sex. The recoded variable included four categories: no sexual partners, only different-sex partners, only same-sex partners, and both same-and-different-sex partners. Throughout, we use the term “any same-sex sexual behavior” to describe participants who reported either only same-sex sexual partners or both same-and-different-sex sexual partners.

Assessing Prevalence of Sexual Identity and Behavior—For the purposes of this study, YRBS respondents were classified as “sexual minority youth (SMY)” if they reported a sexual minority (i.e., LGB) identity, any lifetime sexual minority behavior (i.e., any same-sex sexual behavior), or both. To account for individuals who were not sure of their identity

and not sexually active, YRBS respondents were classified as “non-heterosexual youth (NHY)” if they reported a non-heterosexual identity (i.e., LGB or not sure of their sexual identity), any lifetime sexual minority behavior, or both.

Race/Ethnicity—Race/ethnicity was assessed using two questions. First, participants were asked if they identified as Hispanic or Latino (yes or no). Second, participants were asked to select all of the races that applied from the following list: American Indian or Alaska Native; Asian; Black or African American; Native Hawaiian or Other Pacific Islander; and White. Using the CDC’s (2016) classification, these variables were combined into 7 racial/ethnic groups: (1) American Indian or Alaska Native; (2) Asian; (3) Black or African American; (4) Hispanic/Latino (regardless of reported race); (5) Native Hawaiian/Other Pacific Islander; (6) White; and (7) Multiple Races (Non-Hispanic).

School Grade—Participants were asked, “In what grade are you?” Response options included: 9th grade, 10th grade, 11th grade, 12th grade, and ungraded or other grade. Students who selected “ungraded or other grade” ($n = 457$) were excluded from analyses.

Statistical Analysis

All data cleaning and recoding was conducted in SAS Version 9.4 (SAS Institute Cary, NC). Analyses were carried out using SAS-Callable SUDAAN Version 11.0.1 (RTI International, Research Triangle Park, NC) to appropriately weight estimates and to account for the complex sampling design of the YRBS. The YRBS data weights adjust for student non-response and distribution of students by grade, sex, and race/ethnicity in each jurisdiction (Brener et al., 2013).

We first conducted descriptive analyses to determine the prevalence of sexual identity, sexual behavior, and other demographics among the entire pooled sample. We conducted t-tests to test for sex differences in prevalence of sexual identity and behavior. Next, we examined the prevalence of sexual identity, behavior, and their combinations at each time point. Trends in prevalence estimates from 2005 to 2015 were examined using logistic regression. As recommended by the CDC, time was modeled as a continuous variable using orthogonal coefficients to reflect the biennial spacing of the surveys (Esser, Clayton, Demissie, Kanny, & Brewer, 2017; Trolden, 1988). These analyses were stratified by sex, controlled for grade and race/ethnicity, and assessed linear and non-linear (quadratic and cubic) trends. All cubic trends were non-significant and, as such, are not discussed further. The Bonferroni method was used to correct for multiple testing. Trend results were significant at the level $p = .00125$ ($k = \alpha/40$). A significant p-value indicates there is evidence of a linear change. If the associated beta for the significant linear time variable is negative, there is evidence of a linear decrease. Similarly, if the associated beta is positive, there is evidence of a linear increase. The linear regression is an average measure of increase or decrease across the 6 time points. Whether the slope is significantly different from 0 is a measure of whether the trend is on average upward or downward. Finally, we examined the prevalence of sexual identity, behavior, and their combinations stratified by sex and race/ethnicity using the entire pooled sample.

Demographics—The pooled YRBS sample contained nearly equal weighted proportions of male (49.9%) and female youth (50.1%; Table 1). Nearly one-half of youth in the weighted sample identified as White (48.8%), followed by 24.7% Hispanic and 16.6% Black. The largest number of participants were in 9th grade (27.3%), with slightly decreasing representation across increasing grade (10th, 25.8%; 11th, 24.0%; 12th, 23.0%; Table 1).

RESULTS

Prevalence of Sexual Minority Orientation

In total, 10.1% of all YRBS respondents were classified as sexual minority youth (SMY), while 12.7% were classified as non-heterosexual youth (NHY) in our analyses. Collectively, 13.8% of females and 6.4% of males were classified as SMY, while 17.0% of females and 8.5% of males were classified as NHY (Table 1)

Sexual Identity

Within the pooled sample, 7.2% of youth identified as sexual minorities (e.g., LGB). Including these, 10.5% were classified as non-heterosexual (i.e., LGB or not sure), with 3.3% reporting they were not sure. Separated by sex, 1.8% of female youth identified as lesbian, 8.2% identified as bisexual, and 4.0% identified as not sure (Table 1). Compared to female youth, substantially fewer male youth identified as non-heterosexual in the pooled sample—2.0% identified as gay, 2.4% identified as bisexual, and 2.6% identified as not sure (Table 1). There were significant sex differences in the number of students who identified as heterosexual, bisexual, and not sure ($p < .0001$).

Sexual Behavior

Between 2005 and 2015, reports of no lifetime sexual contact increased over time from 37.8% to 47.3% for males and from 46.0% to 51.4% for females (Table 4). A total of 6.7% of respondents reported engaging in any lifetime same-sex behavior. In total, 9.1% of female youth reported any lifetime same-sex sexual behavior—2.5% with only same-sex partners and 6.6% with both same-and-different-sex partners (Table 1). Compared to female youth, fewer male youth reported sexual minority behavior—2.2% reported only same-sex partners and 2.0% reported both same-and-different-sex partners (Table 1). There were significant sex differences in the number of students who reported no lifetime sexual contact, same-and-different-sex partners, and different-sex partners ($p < .0001$).

Trends in Sexual Minority Identity and Behavior over Time

There were significant increases between 2005 and 2015 in the proportion of female youth who identified as lesbian (0.8% to 1.9%; $p < .0001$), bisexual (4.6% to 9.4%; $p < .0001$), and not sure (2.3% to 5.2%; $p < .0001$) (Table 2). Similar to female youth, there were significant increases in the proportion of male youth who identified as non-heterosexual between 2005 and 2015; however, the magnitude of change was much smaller (gay: 1.2% to 2.1%, $p = .0012$; bisexual: 1.6% to 2.8%, $p < .0001$) (Table 3). All non-heterosexual identity trends are visualized in Figure 1.

In conjunction with an increase in minority sexual identity, the proportion of female youth who reported sexual minority behavior significantly increased from 2005 to 2015. The percent of female youth who reported only same-sex partners increased from 1.5% to 2.8% ($p < .0001$) and the percent of female youth who reported both same-and-different-sex partners increased from 4.6% to 6.6% ($p = .0006$) (Table 4). Unlike among female youth, there were no significant changes in sexual minority behavior among male youth for reports of only same-sex partners ($p = .326$) or reports of both same-and-different-sex partners ($p = .9954$) (Table 4). All sexual behavior trends are visualized in Figure 2.

Intersections of Sexual Identity and Behavior

In addition to analyzing sexual identity and behavior separately, we also explored how sexual identity and behavior intersect for both females (Table 2) and males (Table 3) over time. When accounting for sexual identity among both male and female youth across all years in the pooled YRBS dataset, SMY were significantly more likely to report any lifetime sexual behavior than heterosexual or unsure youth. Overall, 25.2% of lesbian female youth and 27.3% of bisexual female youth reported that they had never had sex compared to 50.4% of all heterosexual and 54.1% of unsure female youth. Similarly, 31.5% of gay male youth and 33.2% of bisexual male youth reported that they had never had sex compared to 44.0% of heterosexual male youth and 49.0% of unsure male youth.

Among heterosexual and not sure youth, the most common response option selected for sexual behavior was “no sex,” followed by “different sex only.” Small percentages of heterosexual youth reported only same-sex partners (1.0% of males and 1.1% of females) and both same-and-different-sex partners (0.7% of males and 2.2% of females). In contrast, larger percentages of unsure youth reported sexual minority behavior. Specifically, 21.0% of unsure female youth and 22.4% of unsure male youth reported any lifetime same-sex sexual behavior, including 16.4% of unsure males and 18.0% of unsure females who reported both same-and-different-sex partners, and 6.0% of unsure males and 3.0% of unsure females who reported only same-sex partners.

Compared to heterosexual and not sure youth, students reporting sexual minority (i.e., LGB) identities reported more same-sex sexual behaviors. The most common response option for sexual behavior among gay male and lesbian female youth was “same sex only” followed by “no sex.” Sizeable percentages of gay males also reported both same-and-different-sex partners (11.5%) and only different-sex partners (15.0%). Lesbian female youth were more likely to report both same-and-different-sex partners (23.6%) than only different-sex partners (7.7%). In contrast, among bisexual male youth, identical percentages reported both same-and-different-sex partners (33.2%) and no sex (33.2%), while nearly twice as many reported only different-sex partners (21.7%) as only same-sex partners (12.0%). Bisexual females most commonly reported sex with both same-and-different-sex partners (43.4%) followed by no sex (27.3%). Notably, bisexual female youth were over four times more likely to report sex with only different-sex partners (23.6%) than with only same-sex partners (5.7%).

In addition to increases in reporting of same-sex sexual behaviors, the proportion of youth reporting “no sex” increased from 2005 to 2015 among females who identified as not sure,

and males who identified as bisexual. Among females who identified as heterosexual, the proportion of youth reporting “no sex” increased from 2011 to 2015, and from 2009 to 2015 among males who identified as heterosexual (Tables 2 and 3). Despite the overall decreasing trend in reported sexual behavior from 2005 to 2015, there was a statistically significant increase in reporting only same-sex partners among lesbian females from 24.9% to 48.3% (Table 2). Statistically significant decreases in reporting sexual behavior with both same- and-different-sex partners were also observed among bisexual female youth from 2005–2015 (Table 2). In contrast, there was no significant change in reporting same-sex behavior among male NHY (Table 3).

Sexual Identity and Behavior Intersections by Race/Ethnicity

Finally, we examined racial/ethnic differences in sexual identity, behavior, and their intersections using the pooled YRBS dataset (i.e., combining 2005–2015). Overall, both male and female White and Asian youth were the least likely to identify as sexual minorities (Tables 5 and 6), whereas multiracial female youth were the most likely to identify as sexual minorities (13.7% of multiracial female youth identified as lesbian or bisexual) (Table 5).

Both male and female Asian youth were the least likely to report any lifetime sexual behavior (Table 7). Asian youth were also the least likely to report any same-sex sexual behavior (2.3% of Asian males and 3.4% of Asian females). Among females, multiracial youth were the most likely to report any same-sex sexual behavior (13.7%), followed by American Indian/Alaskan Native youth (12.1%). Among all males, the youth most likely to report any same-sex sexual behavior were multiracial (5.7%), Native Hawaiian/Other Pacific Islander (5.7%), and Black (5.6%).

Similar to the overall sample, SMY were more likely to report any lifetime sexual behavior compared to heterosexual and unsure youth regardless of sex and race/ethnicity. However, this trend was weakest among Black male youth, due to the comparatively lower percentage of Black heterosexual (30.0%) and unsure (36.0%) males who reported no sex (Table 6).

DISCUSSION

By utilizing a diverse, national dataset we were able to provide estimates of sexual minority identity and behavior among U.S. high school aged youth. Additionally, we examined whether the prevalence of SMY and NHY changed over a period of 10 years to address three hypotheses grounded in previous literature. Consistent with our first hypothesis and with prior studies of sexual orientation among adolescents (Kann et al., 2016a), a lower percentage of youth reported any lifetime same-sex sexual behavior (6.7%) than a sexual minority (LGB) identity (7.2%) or a non-heterosexual (LGB or unsure) identity (10.5%). These three groups were found to be significantly different from each other ($p < .0001$). The lower prevalence of sexual minority behavior compared to identity among youth within the 2015 YRBS contrasts with the pattern observed among adults in the NSFG (Chandra et al., 2011; Copen et al., 2016), which likely reflects the fact that adolescents have had less time to accumulate sexual experience compared to adults—approximately half of the youth in the YRBS sample reported any lifetime sexual behavior, compared with approximately 90–95% of adults (Copen et al., 2016; Gates, 2017).

Hypotheses 2a and 2b were both supported for sex, but only partially supported for race/ethnicity. Consistent with previous research with youth (Hu, Xu, & Tornello, 2016; Savin-Williams, Joyner, & Rieger, 2012) and adults (Copen et al., 2016; Gates, 2017), we found that female youth were more likely than male youth to report a sexual minority identity (10.0% vs. 4.4%) or a non-heterosexual identity (13.9% vs. 7.0%). These differences are likely driven by female youth being three times more likely to identify as bisexual than their male counterparts. As previously observed (Chandra et al., 2011), sex differences were also observed for sexual behavior: female youth were more likely than male youth to report any lifetime same-sex sexual behavior (9.1% vs. 4.2%). In support of our hypothesis that non-White students would be more likely to identify as sexual minorities or as non-heterosexual, all non-White youth except for Asian youth were more likely to report a non-heterosexual identity than White youth within the pooled 2005–2015 YRBS dataset. Interestingly, Asian males and females were less likely to report a sexual minority identity, but more likely to report an unsure identity than their sexmatched White counterparts. Similar trends were found by sex and race/ethnicity for sexual minority behavior. With the exception of Asian youth, all other non-White youth were more likely to report lifetime sexual minority behavior than White youth.

Hypothesis 3a was supported for both males and females. Non-heterosexual identities significantly increased among male and female adolescents from 2005–2015; this effect was stronger for female than for male respondents. Hypothesis 3b, however, was only supported for females. Despite an overall trend in decreasing sexual behavior over time across the sample as a whole, and including female SMY, same-sex sexual behaviors significantly increased among female youth; same-sex sexual behavior also increased among male youth, but this increase was not statistically significant. We were unable to test factors that accounted for these increases in non-heterosexual identity and same-sex behavior among female youth. However, other studies indicate that changes in interpersonal and structural stigma are likely involved: the increased prevalence of non-heterosexual youth over time coincides with improvements in social attitudes toward sexual minority individuals during the same time period (Friedman et al., 2014). In other words, decreases in social stigma may contribute to youth's willingness/comfort in reporting a non-heterosexual identity and/or same-sex behaviors, and therefore to increased reporting of non-heterosexual sexual identities and/or same-sex behaviors in research (Robertson, Tran, Lewark, & Epstein, 2017).

Our study had both strengths and limitations. Few studies have explored whether the prevalence of various dimensions of sexual orientation differ based on sex and race/ethnicity nor have they assessed change over time. To our knowledge, this is the first analysis that assesses not only the prevalence of sexual identity and behavior, as well as their intersections among high school aged youth, but also assesses trends in sexual identity and behavior over time using a pooled national sample. Due to the large sample size of the dataset, we were also able to assess racial/ethnic differences in sexual identity and behavior combinations across all racial/ethnic groups studied and stratified by sex. However, some groups had a small sample size, which limited the statistical testing that could be used to analyze racial/ethnic differences. Further, while it is important that the National YRBS added sexual identity and behavior in 2015, its study design does not include the third dimension of sexual

orientation—namely sexual attraction (Patterson et al., 2017). Future survey years could benefit by including this construct in order to obtain a more complete picture of adolescent sexual orientation. Additionally, the design of YRBS did not allow for assessment of asexual orientation, either by attraction or identity. Moreover, YRBS did not measure gender identity before 2017, which makes the results from this study difficult to compare to recent LGBT population estimates (Lunn et al., 2017; Gates, 2017) which typically consider gender identity in concert with sex assigned at birth. While sexual orientation is typically measured via self-report, some researchers have examined physiological responses to sexual stimuli in an effort to understand the physiological manifestations of sexuality (e.g., Chivers, 2017). Although the design of YRBS presents significant barriers to the use of physiological measurement, the integration of self-report and physiological measurement in future studies has the potential to further advance our understanding of sexuality.

Another consideration is the anonymous, self-administered format of the YRBS and resulting inability to verify if respondents were answering truthfully; this limitation is ubiquitous in survey-based research, and the magnitude of its effect on the prevalence of reported sexual minority identity or behavior is a topic of ongoing debate (Katz-Wise, Calzo, Li, & Pollitt, 2015; Robinson-Cimpian, 2014; Savin-Williams & Joyner, 2014). Although this study assessed trends in sexual minority identity and behavior over time, the students completing YRBS surveys were not the same across years; therefore, unlike ongoing cohort studies such as Add Health or GUTS, we cannot draw within-person inferences. There is some evidence that within-person changes in sexual orientation over time are associated with depression (Everett, 2015) and substance use (Needham, 2012; Ott et al., 2013). As such, it will be important to continue to examine within person trajectories of sexual orientation and their implications for health and wellbeing. However, our data provide a representation of national trends—in other words, our data are more generalizable than a longitudinal cohort study and have important implications for the study and practice of sexual minority health nationwide.

National Trends

Trends over time indicate that, while sexual minority behavior is increasing, particularly among sexual minority youth, the percentage of sexual minority youth who are reporting no sex is increasing as well. These numbers, in concert with a decrease in reported heterosexual identity, may indicate that more sexual minority youth (and female youth in particular) are identifying as gay, lesbian, or bisexual without sexual experience than before.

Unlike many studies of adults, our analyses of combinations of sexual identity and behavior was inclusive of youth who identified as not sure of their sexual identity and who had not yet had sex. Consistent with prior reports indicating that assessment of multiple dimensions of sexual orientation can yield novel and important information (Bostwick et al., 2010; Lindley et al., 2012; Patterson et al., 2017), analyses of combinations of sexual identity and behavior in our sample revealed several novel findings—first, that LGB youth were less likely to report “no sex” compared to heterosexual and not sure youth. Second, same-sex sexual behavior increased among all non-heterosexual female youth as well as among gay male youth. Third, within sexual minority youth sub-populations who had engaged in same-sex sexual

behaviors, both gay males and lesbian females were more likely to report only same-sex partners than both same-and different-sex partners. In contrast, these trends were reversed among bisexual male and female individuals.

Identity Development

Past demographic analyses of sexual orientation among U.S. youth have found significantly higher rates of uncertainty and lower rates of sexual minority identity in comparison to our sample (Remafedi, Resnick, Blum, & Harris, 1992). It is possible that changing social attitudes regarding non-heterosexual identities and behaviors may affect the ways in which non-heterosexual youth approach the process of identity formation. Decreases in social stigma have been associated with an increased likelihood of disclosure of sexual minority status within surveys. Decreases in stigma may also have reduced social expectations for compulsory heterosexuality; this phenomenon may have led fewer youth to select “heterosexual” as a “default response” within YRBS (Miller & Ryan, 2011). More research should examine trends over time in how youth approach sexual identity formation through changing cultural contexts. Individual and environmental differences in approaches to identity formation may be particularly relevant considering the prevalence of youth who were not sure of their identity despite engaging in different types of sexual behavior, as well as youth who were sure of their identities despite not having engaged in any lifetime sexual behavior.

Another interesting finding in our analyses was that, while only a small percentage of heterosexual youth reported engaging in any same-sex behavior (3.3% of females and 1.6% of males), due to the larger number of heterosexual youth overall, heterosexual youth comprised 40.7% of female and 45.7% of male youth reporting any lifetime same-sex sexual behaviors. Analogously, sizeable percentages (7.8% of female and 3.4% of male participants) who reported only different-sex partners also reported a non-heterosexual identity. The fact that 3.3% of high school students indicated that they were not sure of their sexual identity highlights the developmental nature of sexual identity (Remafedi et al., 1992). Studies using the national YRBS dataset, which was not used in our analyses, report similar rates of “not sure” reporting (3.2%) nationwide (Caputi, Smith, & Ayers, 2017).

Individuals who indicated a not sure sexual identity, while significantly more likely to report engaging in same-sex behaviors than heterosexual individuals, were only half as likely to engage in any same-sex behavior as LGB students. This illustrates the critical importance of considering SMY and NHY as disparate categories, as not sure youth demonstrate patterns of sexual behavior distinct from both heterosexual and LGB youth. When not sure students reported engaging in same-sex behaviors, similar to bisexual youth, they were more likely to report both same-and-different-sex partners than only same-sex partners.

Policy Implications

Our results demonstrate that the prevalence of youth who identify as non-heterosexual and who report same-sex behaviors is growing over time, particularly among female youth. Averaging across the 10 years of data available, 1 in 6 high school aged females and 1 in 8 high school aged males reported a non-heterosexual identity and/or having engaged in same-

sex behavior. These findings indicate that nearly two out of three high school aged non-heterosexual youth are female. Additionally, with the exception of Asian youth, a greater percentage of non-White youth identified as non-heterosexual and/or engaged in same-sex behavior than White youth.

These findings reveal that, among non-heterosexual youth, female and non-White youth represent a greater proportion of the non-heterosexual population than their White and/or male counterparts. Funding for LGB research, however, disproportionately supports studies focused on the health of sexual minority men (Coulter, Kenst, Bowen, & Scout, 2014), especially those at risk for or living with HIV. While there is no doubt that such populations deserve this attention and funding, it is also true that an increasing number of studies have shown that sexual minority women often experience greater health disparities than sexual minority men across many other dimensions of health, including obesity, mental health problems, and alcohol abuse (Gonzales, Przedworski, & Henning-Smith, 2016; Hsieh & Ruther, 2016; Ward, Dahlhamer, Galinsky, & Joestl, 2014; Ward, Joestl, Galinsky, & Dahlhamer, 2015). On top of this, the present study demonstrates that sexual minority youth, especially female youth, are a growing part of the national population with substantial diversity. However, the vast majority of federal dollars allocated to SGM research are directed towards HIV/AIDS, which primarily affects populations such as men who have sex with men (MSM) (National Institutes of Health Sexual and Gender Minority Research Office, 2018). More work should focus on the health needs of sexual minority women, particularly non-White sexual minority women, and funding agencies should consider expanding available capital to address their unique health needs. Additional research should also aim to explore the drivers of sexual identity formation among youth and whether or not these are influenced by cultural context. Finally, health researchers, advocates, and policy makers must consider and address the national implications of increasing numbers of U.S. youth who report a sexual minority identity and/or non-heterosexual behavior.

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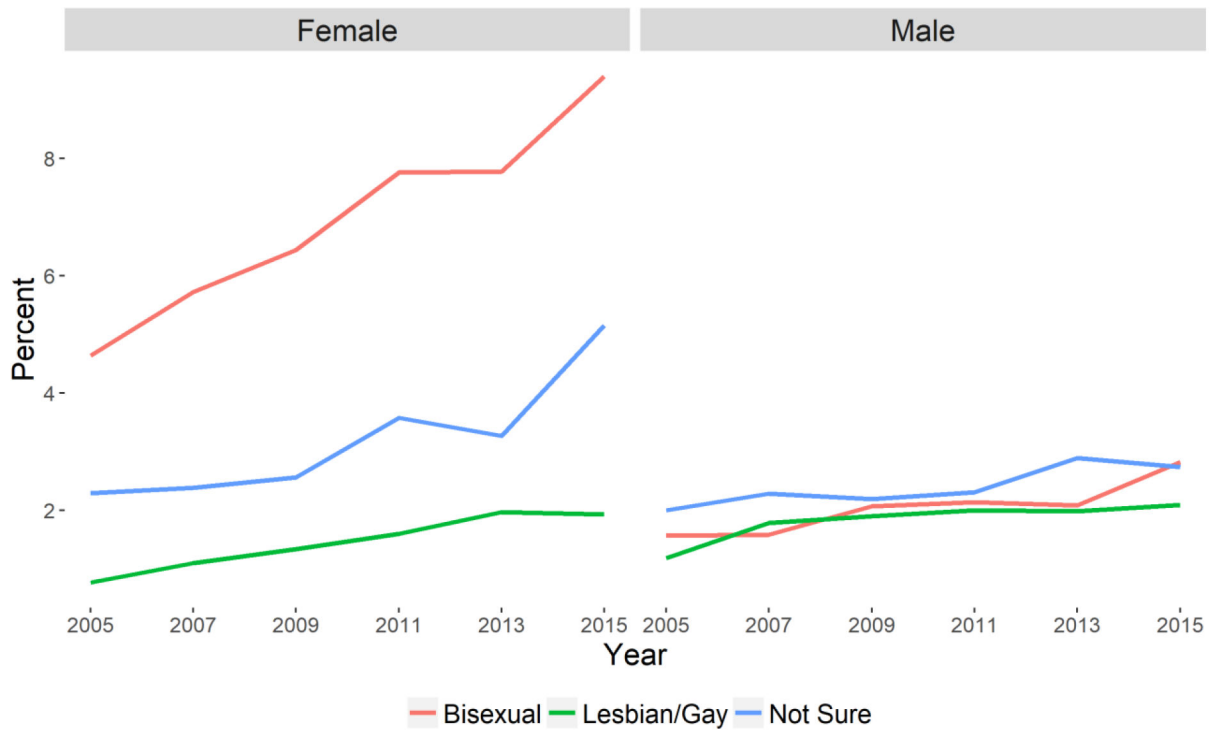


Figure 1:
Sexual Identity by Sex over Time among Non-Heterosexual Youth: YRBS 2005–2015

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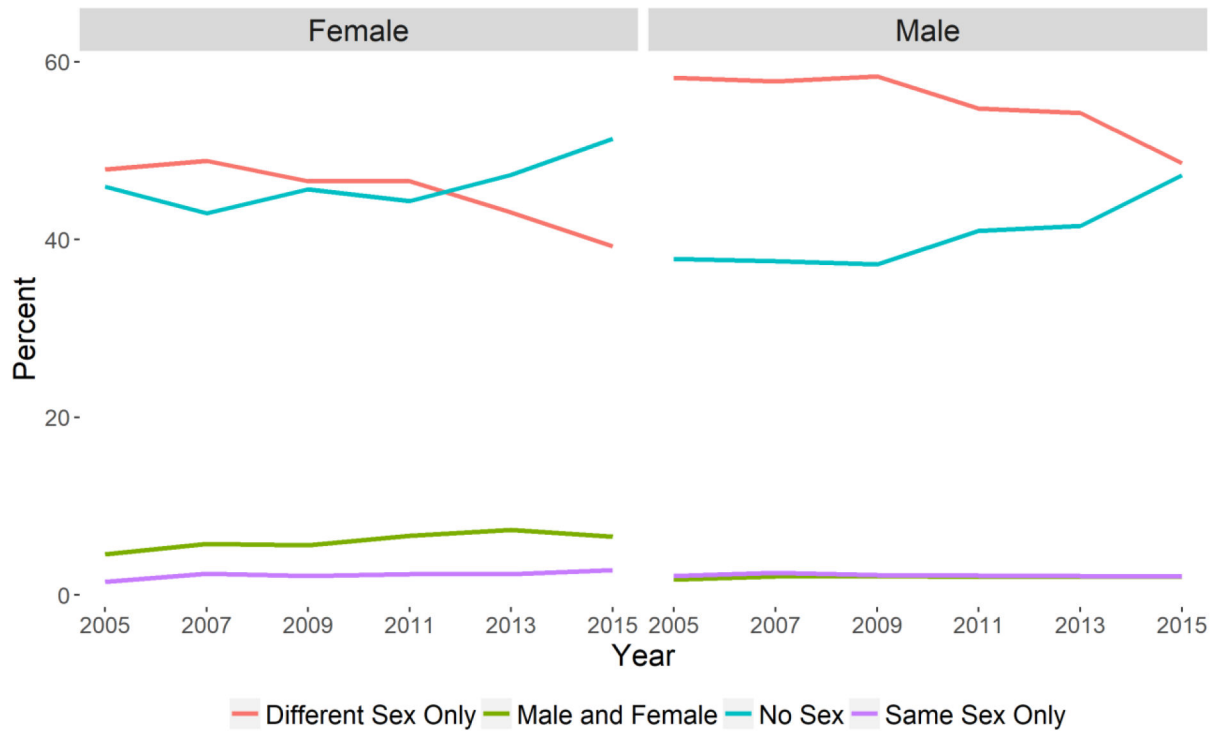


Figure 2:
Sexual Behavior by Sex over Time: YRBS 2005–2015

Table 1:
Demographic Characteristics by Sex, 2005–2015 YRBS

	Combined			Female		Male	
	N	%	Unweighted %	N	%	N	%
Sex							
Female	182,236	50.14	52.13	182,236	50.14	N/A	
Male	167,375	49.86	47.87	N/A		167,375	49.86
Race/Ethnicity							
American Indian/ Alaskan Native	5,386	0.86	1.54	2,511	0.75	2,875	0.98
Asian	25,243	5.43	7.22	12,724	5.26	12,519	5.6
Black or African American	58,363	16.63	16.69	31,394	17.26	26,969	16
Hispanic/Latino	88,333	24.67	25.27	46,667	24.84	41,666	24.5
Native Hawaiian/ Other PI	6,225	0.77	1.78	3,112	0.71	3,113	0.84
White	148,229	48.76	42.4	76,099	48.15	72,130	49.38
Multiple Races	17,832	2.87	5.1	9,729	3.03	8,103	2.71
Grades							
9th	94,956	27.34	27.47	49,299	26.90	45,657	27.79
10th	91,508	25.75	26.47	47,967	25.78	43,541	25.73
11th	85,489	23.95	24.73	44,694	24.08	40,795	23.83
12th	73,753	22.95	21.33	38,529	23.24	35,224	22.66
Sexual Identity							
Heterosexual	310,307	89.55	88.76	155,369	86.09	154,938	93.03
Gay/Lesbian	7,049	1.86	2.02	3,529	1.75	3,520	1.97
Bisexual	20,429	5.3	5.84	16,144	8.20	4,285	2.39
Not Sure	11,826	3.29	3.35	7,194	3.97	4,632	2.61
Sexual Behavior							
No Sex	164,297	45.73	46.99	90,527	48.25	73,770	43.21
Same Sex Only	9,214	2.35	2.64	5,235	2.52	3,979	2.17
Male and Female	16,126	4.32	4.61	12,441	6.59	3,685	2.04
Different Sex Only	159,974	47.6	45.76	74,033	42.64	85,941	52.58
Sexual Minority Youth (SMY)							
Yes	38,854	10.14	11.11	27,136	13.84	11,718	6.43
No	310,757	89.86	88.89	155,100	86.16	155,657	93.57
Non-Heterosexual Youth (NHY)							
Yes	48,050	12.72	13.74	32,744	16.98	15,306	8.45
No	301,561	87.28	86.26	149,492	83.02	152,069	91.55

Table 2:

Sexual Identity and Sexual Behavior Trends among Female Youth

	2005		2007		2009		2011		2013		2015		Combined		Change 2005–2015 ^a	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	β	P
Heterosexual	9326	92.3	12116	90.81	14414	89.66	22661	87.07	31662	86.97	43647	83.53	133826	86.19	-0.7	<.0001
No sex	4847	47.49	6006	44.82	7529	47.33	11279	46.4	16295	49.96	23740	53.69	69696	50.4	0.38	<.0001
Same Sex Only	96	1.21	148	1.65	218	1.61	338	1.55	485	1.11	757	1.33	2042	1.134	-0.25	.0443
Male and Female	123	1.64	208	2.32	240	2.02	521	2.04	759	2.63	1062	2.1	2915	2.21	0.07	.4777
Different Sex Only	4258	49.66	5754	51.22	6427	49.05	10523	50.01	14123	46.29	108088	42.88	59173	46.05	-0.38	<.0001
Lesbian	90	0.77	158	1.1	244	1.34	405	1.6	701	1.97	1292	1.93	2890	1.75	0.63	<.0001
No sex	20	15.37	29	16.67	60	31.62	123	24.57	170	23.18	312	26.74	714	25.24	0.27	.37
Same Sex Only	33	24.92	71	44.18	104	33.22	152	35.66	292	43.06	660	48.28	1312	43.47	0.88	<.0001
Male and Female	23	41.93	45	30.3	62	25.78	92	28.48	177	27.32	227	18.37	626	23.55	-0.96	.0001
Different Sex Only	14	17.78	13	8.84	18	11.38	38	11.29	62	6.44	93	6.61	238	7.74	-0.93	.0116
Bisexual	498	4.64	779	5.72	1285	6.44	2312	7.76	3070	7.78	5543	9.4	13387	8.1	0.57	<.0001
No sex	126	21.03	157	17.53	326	24.4	530	23.07	745	22.02	1670	32.34	3554	27.29	0.48	.0269
Same Sex Only	18	3.53	39	7.3	52	3.43	135	4.32	190	5.11	392	6.7	826	5.73	0.56	.0187
Male and Female	204	50.75	356	47.93	548	44.49	1017	47.55	1389	49.17	2186	38.77	5700	43.43	-0.44	<.0001
Different Sex Only	130	24.68	227	27.23	359	27.68	530	25.06	746	23.7	1295	22.19	3307	23.56	-0.27	.0334
Not Sure	253	2.29	336	2.38	500	2.56	967	3.58	1334	3.27	2586	5.15	5976	3.97	0.83	<.0001
No sex	126	46.25	167	46.62	249	48.23	533	49.43	728	50.72	1451	57.64	3254	54.05	0.75	<.0001
Same Sex Only	5	1.37	4	0.85	18	2.86	28	3.67	60	3.8	118	2.74	233	2.98	0.28	.4019
Male and Female	38	17.61	67	23.53	95	22.18	150	21.28	238	20.24	437	15.82	1025	18.04	-0.47	.0062
Different Sex Only	84	34.77	98	28.99	138	26.73	256	25.62	308	25.24	580	23.8	1464	24.93	-0.22	.3976

^aLinear trend based on trend analyses using logistic regression model controlling for grade and race/ethnicity, *p* < .05

Table 3:
Sexual Identity and Sexual Behavior Trends among Male Youth

	2005		2007		2009		2011		2013		2015		Combined		Change 2005–2015 ^a	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	β	<i>p</i>
Heterosexual	9106	95.25	11819	94.37	13529	93.84	22798	93.55	31418	93.04	44368	92.35	133038	93.05	-0.36	< .0001
No sex	3958	38.25	4875	37.38	5799	37.24	9577	40.93	13819	41.91	20583	47.83	58611	43.5	0.48	< .0001
Same Sex Only	102	1.35	140	1.64	159	1.18	275	1.17	404	1.02	518	0.7	1598	0.96	-0.65	< .0001
Male and Female	56	0.62	69	0.74	97	0.67	156	0.78	225	0.59	337	0.63	943	0.65	-0.13	.592
Different Ses Only	4990	59.78	6735	59.75	7478	60.91	12790	57.12	16967	56.48	22930	50.84	71886	54.88	-0.4	< .0001
Gay	124	1.18	188	1.78	285	1.9	493	2	690	1.98	1153	2.09	2933	1.98	0.23	.0012
No sex	28	23.37	33	28.33	98	32.86	183	26.88	205	30.87	329	30.73	876	31.45	-0.07	.7552
Same Sex Only	44	49.73	86	33.72	99	39.53	171	37.39	278	39.3	496	45.73	1174	42.02	-0.33	.1875
Male and Female	30	17.74	36	18.07	32	9.68	52	8.37	90	11.67	140	11.65	380	11.52	0.04	.8673
Different Sex Only	22	9.16	33	19.88	56	17.93	87	17.36	117	18.16	188	11.84	503	15.02	-0.05	.7997
Bisexual	166	1.57	225	1.58	340	2.07	564	2.14	816	2.08	1404	2.82	3515	2.36	0.52	< .0001
Noses	40	18.37	51	25.36	103	29.87	167	32.29	241	29.54	456	36.87	1058	33.17	0.73	.0013
Same Sex Only	22	13.54	30	12.48	40	11.68	57	10.67	107	11.65	168	12.31	424	11.96	0.04	.9012
Male and Female	63	46.32	96	38.42	109	37.72	203	26.54	279	36.71	406	29.05	1156	33.19	-0.65	.0047
Different Sex Only	41	21.57	48	23.74	88	20.73	137	20.5	189	22.1	374	21.73	877	21.68	0.01	.9773
Not Sure	214	2	232	2.28	320	2.19	639	2.31	1000	2.89	1522	2.74	3927	2.62	0.28	.0056
No sex	91	41.3	100	39.9	153	47.36	328	54.46	499	46.3	731	50.95	1902	48.95	0.17	.4291
Same Sex Only	8	3.88	11	8.43	19	6.56	35	5.02	61	6.32	101	5.86	236	6.00	-0.07	.8651
Male and Female	35	12.46	38	21.35	49	25.59	100	17.07	160	17.7	229	13.75	611	16.43	-0.37	.1574
Different Sex Only	80	41.86	83	30.32	99	20.49	175	23.45	280	29.67	461	29.44	1178	28.62	-0.03	.878

^aLinear trend based on trend analyses using logistic regression model controlling for grade and race/ethnicity, *p* < .05

Table 4:

Sexual Behavior over Time among Male and Female Youth

Male Youth Sexual Behavior	2005		2007		2009		2011		2013		2015		Combined		Change 2005–2015 ^a	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	β	p
No Sex	4117	37.83	5059	37.56	6153	37.22	10255	40.98	14764	41.56	22099	47.25	62447	43.16	0.46	< .0001
Same Sex Only	176	2.17	267	2.53	317	2.25	539	2.19	850	2.15	1283	2.11	3432	2.17	-0.11	.326
Male and Female	184	1.77	239	2.11	287	2.16	511	2.07	757	2.06	1112	2.03	3090	2.04	0.00	.9954
Different Sex Only	5133	58.22	6899	57.8	7717	58.37	13189	54.76	17553	54.23	23953	48.62	74444	52.63	-.44	< .0001
Female Youth Sexual Behavior	2005		2007		2009		2011		2013		2015		Combined		Change 2005–2015 ^a	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	β	p
No Sex	5119	45.59	6359	42.99	8164	45.66	12465	44.35	17938	47.28	27173	51.37	77218	48.23	0.34	< .0001
Same Sex Only	152	1.5	262	2.42	392	2.14	653	2.38	1027	2.34	1927	2.81	4413	2.5	0.38	< .0001
Male and Female	390	4.59	676	5.74	945	5.6	1780	6.68	2563	7.32	3912	6.57	10266	6.55	0.2	.0006
Different Sex Only	4506	47.92	6092	48.85	6942	46.59	11347	46.58	15219	43.06	20056	39.25	64182	42.72	-0.43	< .0001

^aLinear trend based on trend analyses using logistic regression model controlling for grade and race/ethnicity, $p < .05$

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Table 5:
Sexual Identity and Sexual Behavior among Female Youth by Race/Ethnicity

	White		Black		Hispanic/Latino		Asian		American Indian/Alaskan		Native Hawaiian/Other		Multiple		Combined	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Heterosexual	67016	88.04	26019	84.08	38525	84.28	11295	88.13	2012	82.19	2643	80.33	7859	80.06	155369	86.09
No sex	34038	47.87	12963	48.28	19648	52.51	8305	71.46	1063	51.82	1302	51.16	3993	48.89	81312	50.42
Same Sex Only	741	1.06	528	1.73	718	1.69	140	0.88	45	2.23	68	3.49	110	0.89	2350	1.34
Male and Female	1423	2.25	696	2.38	931	2.21	96	0.82	46	1.62	53	2.19	282	3.8	3527	2.22
Different Sex Only	30814	48.82	11832	47.61	17228	43.59	2754	26.85	858	44.33	1220	43.16	3474	46.43	68180	46.02
Lesbian	1072	1.44	910	2.63	1070	1.87	121	0.81	56	2.02	72	2.18	228	1.95	3529	1.75
No sex	312	27.52	196	22.18	241	24.7	55	44.03	16	29.02	16	13.42	53	17.58	889	25.34
Same Sex Only	434	36.26	458	48.82	502	51.29	38	38.8	22	39.27	30	28.29	104	49	1588	43.97
Male and Female	255	28.26	176	20.86	227	17.9	21	12.8	9	24.15	16	51.2	54	18.36	758	23.03
Different Sex Only	71	7.97	80	8.15	100	6.12	7	4.38	9	7.56	10	7.09	17	15.06	294	7.66
Bisexual	5534	6.99	3232	9.63	5046	9.76	589	5.14	309	10.12	252	6.47	1182	11.71	16144	8.2
No sex	1569	25.81	807	21.88	1340	30.53	268	64.02	73	17.34	65	20.99	304	20.23	4426	27.32
Same Sex Only	271	5.36	268	7.87	319	5.21	45	4.37	22	9.45	23	9.55	72	5.52	1020	5.86
Male and Female	2311	45.48	1452	45.51	2145	40.57	146	16.82	131	54.06	105	42.92	557	52.99	6847	43.48
Different Sex Only	1383	23.36	705	24.73	1242	23.69	130	14.8	83	19.15	59	26.53	249	21.27	3851	23.34
Not Sure	2477	3.53	1233	3.66	2026	4.09	719	5.92	134	5.67	145	11.01	460	6.28	7194	3.97
No sex	1421	55.16	576	46.85	953	52.43	567	74.69	77	57.79	71	77.35	235	42.05	3900	54.51
Same Sex Only	64	2.02	75	4.96	85	3.03	16	1.78	7	1.26	7	0.76	23	7.7	277	2.97
Male and Female	395	16.91	276	21.17	432	21.27	58	5.05	22	19.72	33	14.26	93	20.48	1309	17.92
Different Sex Only	597	25.91	306	27.03	556	23.27	78	18.47	28	21.24	34	7.64	109	29.77	1708	24.6

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Table 6:
Sexual Identity and Sexual Behavior among Male Youth by Race/Ethnicity

	White		Black		Hispanic/Latino		Asian		American Indian/Alaskan		Native Hawaiian/Other		Multiple		Combined	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Heterosexual	67642	93.94	24965	92.93	38125	91.86	11526	92.98	2579	87.56	2772	88.08	7329	91.28	154938	93.03
No sex	32808	46.14	7859	30.44	15073	40.43	8047	71.8	1075	42.97	1156	44.55	3190	43.53	69168	43.58
Same Sex Only	514	0.76	478	1.83	507	0.88	106	0.47	30	0.7	56	0.97	91	0.93	1782	0.95
Male and Female	465	0.68	170	0.65	290	0.62	48	0.34	21	0.9	31	0.78	62	0.56	1087	0.64
Different Sex Only	33855	52.42	16458	67.07	22255	58.06	3325	27.39	1453	55.43	1569	53.7	3986	54.99	82901	54.83
Gay	1193	1.63	646	2.19	1050	2.42	224	1.36	78	2.08	105	5.94	224	2.81	3520	1.97
No sex	405	32.54	167	28.71	263	29.13	96	42.27	11	12.2	35	52.86	61	21.8	1038	31.1
Same Sex Only	482	40.86	226	39.76	467	45.47	77	37.48	36	56.93	33	30.22	98	60.2	1419	42.56
Male and Female	158	12.48	83	12.28	134	10.15	20	10.52	10	7.58	18	9.57	31	9.82	454	11.44
Different Sex Only	148	14.12	170	19.25	186	15.24	31	9.73	21	23.28	19	7.34	34	8.19	609	14.9
Bisexual	1609	2.22	690	2.48	1241	2.62	256	1.81	91	4.92	106	2.18	292	3.21	4285	2.39
No sex	598	33.47	162	18.3	318	35.1	133	56.37	30	56.16	28	21.03	74	29.31	1343	32.57
Same Sex Only	137	9.74	105	18.49	164	12.33	33	11.29	8	2.00	16	26.73	34	13.87	497	12.08
Male and Female	461	32.56	256	41.14	453	33.58	47	14.51	24	18.28	31	32.9	109	34.09	1381	33.26
Different Sex Only	413	24.23	167	22.07	306	18.99	43	17.83	29	23.56	31	19.34	75	22.72	1064	22.09
Not Sure	1686	2.21	668	2.4	1250	3.1	513	3.85	127	5.44	130	3.8	258	2.69	4632	2.61
No sex	887	51.79	264	36.86	471	43.12	367	74.86	56	54.27	60	49.44	116	48.36	2221	48.9
Same Sex Only	85	7.91	58	6.96	93	4.02	14	3.18	6	1.34	8	6.12	17	10.95	281	6.17
Male and Female	261	14.47	103	21.93	246	18.4	55	7.64	23	16.5	20	7.76	55	21.26	763	16.3
Different Sex Only	453	25.83	243	34.24	440	34.45	77	14.31	42	27.88	42	36.68	70	19.44	1367	28.63

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Table 7:

Sexual Behavior by Race/Ethnicity among Male and Female High School Aged Youth

Sexual Behavior Female Youth	White		Black		Hispanic/Latino		Asian		American Indian/Alaskan		Native Hawaiian/Other		Multiple		Combined	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
2005–2015																
No sex	37340	46.29	14542	45	22182	49.84	9195	71.04	1229	48.21	1454	51.27	4585	44.49	90527	48.25
Same Sex Only	1510	1.9	1329	3.68	1624	3.02	239	1.42	96	3.66	128	4.12	309	2.8	5235	2.52
Male and Female	4384	6.16	2600	7.71	3735	7.02	321	1.99	208	8.4	207	7.23	986	10.89	12441	6.59
Different Sex Only	32865	45.65	12923	43.62	19126	40.11	2969	25.55	978	39.73	1323	37.39	3849	41.82	74033	42.64
Sexual Behavior Male Youth	White		Black		Hispanic/Latino		Asian		American Indian/Alaskan		Native Hawaiian/Other		Multiple		Combined	
2005–2015	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
No sex	34698	45.76	8452	30.26	16125	40.1	8643	71.23	1172	43.59	1239	44.71	3441	42.59	73770	43.21
Same Sex Only	1218	1.78	867	3.2	1231	2.36	230	1.28	80	1.97	113	3.46	240	3.28	3979	2.17
Male and Female	1345	1.88	612	2.42	1123	2.27	170	1.01	78	2.75	100	2.27	257	2.45	3685	2.04
Different Sex Only	34869	50.58	17038	64.12	23187	55.27	3476	26.47	1545	51.69	1661	49.55	4165	51.68	85941	52.58

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