

**Risk Behaviors and Risk Factors of Youth Engaging in Same-Sex Sexual Behaviors:
Analysis of the 2009 Wisconsin Youth Risk Behavior Survey (YRBS)
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Background

Lesbian, gay, bisexual and transgender (LGBT) youth and adults experience health disparities compared to their heterosexual peers¹. The Wisconsin Youth Risk Behavior Survey (YRBS)² is conducted as part of a national effort by the U.S. Center for Disease Control and Prevention (CDC) to monitor health-risk behaviors of the nation's high school students. These behaviors, in turn, result in the most significant causes of both mortality and morbidity during youth and adulthood. In 2007, for the first time, Wisconsin added a question to its YRBS asking respondents the sex of the person(s) with whom they had had sexual contact. Information from this question allows better understanding of the health conditions and behaviors of youth engaging in same-sex sexual behaviors compared to peers engaging in only opposite-sex sexual behaviors. Analysis of YRBS 2007 data, published elsewhere³, revealed significant health disparities experienced by youth who engaged in same-sex behavior compared and their heterosexual peers. This report illustrates the continuing disparities experienced by this population.

Methods

SAS 9.1.3 statistical software was used to conduct the analyses following the analytical methods outlined in the CDC publication *Software for Analysis of YRBS data*⁴. Risk behaviors and health conditions of students who reported having had opposite-sex sexual contact only (referred to here after as “het-sex”) were compared to students who had had same-sex sexual contact (referred to here after as “same-sex”). Same-sex students may also have had sexual contact with persons of

¹ Healthy People 2010: Companion Document for Lesbian, Gay, Transgender Health http://www.lgbthealth.net/side_hp2010.shtml

² Information on National and Wisconsin YRBS is available at the following links
<http://www.cdc.gov/HealthyYouth/yrbs/index.htm> , <http://dpi.wi.gov/sspw/yrbsindx.html>

³ Wisconsin AIDS/HIV Program Notes, October 2009
<http://dhs.wi.gov/aids-hiv/ProgramNotes/Program%20Notes/Oct09AIDSHIVProgramNotes.pdf>

⁴ Software for Analysis of YRBS data available at
http://www.cdc.gov/HealthyYouth/yrbs/pdf/YRBS_analysis_software.pdf

the opposite sex in addition to their same-sex experience(s). Youth who reported not having engaged in any sexual contact, either same or opposite-sex (“no-sex”) were excluded from the analysis.

Findings

The 2009 YRBS sample of 2,430 includes 138 same-sex, 1,255 het-sex and 1,027 no-sex students. There are also 10 missing data points which refer to the students who have not responded to the respective question. Same-sex respondents comprise of 10% of the students who have had sexual contact, up from 8% found in YRBS 2007 analysis⁵. On nearly all questions related to physical safety, emotional safety and support, tobacco and drug use, and mental health, same-sex youth experienced higher rates of risk behaviors and conditions than did their het-sex peers. Below is the summary of the findings presented in the tables.

Physical Safety

This section includes findings related to physical safety while on school property. Same-sex youth experienced relatively higher risks regarding physical safety compared to their het-sex peers (Table 1).

- In the twelve months preceding the YRBS, although both the groups responded similarly for being threatened or injured with a weapon such as gun, knife on school property one or more times; same-sex youth were almost five times (15.3%) more likely than were het-sex youth (3.2%) to not go to school on one or more of the past thirty days because they felt unsafe at or on their way to or from school.
- Forty-five percent of same-sex and 32% of het-sex youth were in a physical fight one or more times in the past twelve months. However, same-sex youth had more than five times (12.1%) the risk having an injury related to a physical fight that needed to be treated by a doctor or nurse compared to het-sex youth (2.2%).

Emotional Safety and Support

Findings related to emotional support for youth both at school and at home (Table 2) are addressed in this section.

⁵ Wisconsin AIDS/HIV Program Notes, October 2009
<http://dhs.wi.gov/aids-hiv/ProgramNotes/Program%20Notes/Oct09AIDSHIVProgramNotes.pdf>

- A higher percentage of het-sex youth (86.3%) agreed that they had the family love, help and support when they needed it compared to same-sex youth (73.1%). Also, 61% of het-sex youth agreed that their teachers really cared about them, compared to approximately half of same-sex youth (50.3%). In addition, 71% of het-sex youth felt like they belonged at school compared to approximately half of same-sex youth (55%).

Mental Health

This section includes findings related to poor mental health among youth (Table 3).

- In the 12 months preceding the survey, one in three same-sex (32.2%) youth made a plan to attempt suicide, a factor of three greater than the percentage of het-sex youth (10.6%). Also, one in four same-sex youth (24.8%) actually attempted suicide compared 5.7% of the het-sex youth. In addition, the suicide attempts by same sex youth (10.0%) were much more likely to be serious enough to require medical attention than was the case for het-sex youth (1.6%).

Tobacco and Substance Abuse

This section includes the findings of tobacco, alcohol and drug use among the two groups (Table 4).

- Rates of regular tobacco use (smoking 10 cigarettes per day on the days they smoked in the 30 days preceding the YRBS) were four times higher in same-sex youth (17.2%) than among their het-sex peers (4.6%).
- However, same-sex youth were as likely as the het-sex youth to report binge drinking (≥ 5 drinks on 1 occasion) in 30 days preceding the YRBS. We also did not observe any statistically significant difference in the use of marijuana among the two groups of youth.

Sexual Behavior

Sexual behavior including safe/unsafe sexual practices, and sex debut are the focus of this section (Table 5).

- Our results mirror the findings from many other studies that have documented higher prevalence of risk behaviors among gay/lesbian/bisexual teenagers, including but not limited to earlier age of sexual intercourse debut compared to their peers^{6,7}. For example, we found that same-sex youth (20.5%) were three times more likely to have a sexual debut before 13

⁶ Garofalo R, Wolf RC, Kessel S, Palfrey SJ, DuRant RH. The association between health risk behaviors and sexual orientation among a school-based sample of adolescents. *Pediatrics*. 1998;101:895–902.

⁷ Goodenow C, Netherland J, Szalacha L. AIDS related risk among adolescent males who have sex with males, females, or both: evidence from a statewide survey. *Am J Public Health*. 2002;92:203–210.

years than were het-sex youth (6.4%). We found no significant differences in the number of sexual partners, condom use, or alcohol and drug use before the last sexual intercourse in the three months preceding the YRBS.

Physical Activity and Weight

This section includes findings related to the risk of becoming overweight or obese and efforts to lose weight (Table 6).

- There were no statistically significant differences among the two groups of youth for trying to lose weight, and risk of becoming overweight or obese.

Limitations

In addition to the limitations inherent in the YRBS, the sample size of the same-sex respondents is too small to stratify the results by respondents' age or sex. Future analyses will utilize the combined data sets for 2007 and 2009 to increase the sample size and thereby the power of the study.

While the question regarding sex of sex partners provides useful information, it does not address sexual orientation per se, as students may identify as gay, lesbian, or bisexual, but not have had same-sex sexual contact. Or students may have engaged in same-sex contact and identify as heterosexual. In addition, students identifying as transgender have no way of identifying their gender on the questionnaire.

Implications

Findings from these data further bolster the results of YRBS 2007 data, which make it evident that youth engaging in same-sex behavior comprise a substantial percentage of high school students and that same-sex youth experience significant and persistent disparities in physical, mental and emotional health. Policy changes and timely comprehensive programmatic interventions are necessary to support same-sex youth and reduce the disparities.

The following tables summarizes the results of the analyses with weighted percentages in bold highlighted columns, 95% confidence intervals, p-values from Wald chi-square tests and relative risks for each of the variable.

Analysis of YRBS 2009: Comparing youth reporting same-sex and youth reporting only opposite-sex sexual behaviors

Table 1: Comparison of youth reporting same-sex and opposite-sex sexual behaviors for physical safety : Wisconsin Youth Risk Behavior Survey 2009							
	Variables	Respondents who had same sex sexual contact (may have also had opposite-sex sexual contact)		Respondents who had only opposite sex sexual contact		p-value	Relative Risk : Same-sex/Het-sex
		Weighted percent	95% confidence Interval	Weighted percent	95% confidence Interval		
Q9	Never or rarely wore a seatbelt while riding a car driven by someone else	22.7%	±6.3	17.3%	±3.0	0.222	1.3
Q15	Did not go to school on one or more of the past 30 days because they felt they would be unsafe at school or on their way to or from school	15.3%	±5.9	3.2%	±1.2	<0.01	4.9
Q16	Had been threatened or injured with a weapon such as a gun, knife, or club on school property one or more times during the past 12 months	8.7%	±5.0	7.5%	±2.6	0.71	1.2
Q17	Were in a physical fight one or more times during the past 12 months	44.6%	±9.1	32.3%	±4.9	<0.05	1.4
Q18	Were in a physical fight which resulted in injury and had to be treated by doctor or nurse in the past 12 months	12.1%	±5.3	2.2%	±1.0	<0.01	5.5
Q20	Were ever hit, slapped, or physically hurt on purpose by their boyfriend or girlfriend during the past 12 months	26.5%	±9.1	10.9%	±1.7	<0.01	2.4
Q92	Someone had tried to hurt them by hitting, punching, or kicking them while on school property one or more times during the past 12 months	29.5%	±8.8	20.3%	±3.6	0.05	1.4
Q93	Never felt safe from physical harm when they are at school	11.8%	±5.7	5.4%	±1.1	<0.05	2.2
Q95	Have ever been forced, either verbally or physically, to take part in a sexual activity	35.2%	±9.0	12.5%	±1.8	<0.01	2.8

Table 2: Comparison of youth reporting same-sex and opposite-sex sexual behaviors for emotional safety and support : Wisconsin Youth Risk Behavior Survey 2009

	Variables	Respondents who had same sex sexual contact (may have also had opposite-sex sexual contact)		Respondents who had only opposite sex sexual contact		p-value	Relative Risk : Same-sex/Het-sex
		Weighted percent	95% confidence Interval	Weighted percent	95% confidence Interval		
Q92	Strongly agree or agree that harassment and bullying by other students is a problem at their school	53.3%	±8.5	41.0%	±3.7	<0.01	1.3
Q113	Strongly agree or agree that their family loves them and gives them help and support when they need it	73.1%	±8.4	86.3%	±2.6	<0.01	0.8
Q114	Strongly agree or agree that their teachers really care about them and give them a lot of encouragement	50.3%	±9.1	61.2%	±3.9	0.07	0.8
Q115	Strongly agree or agree that they feel like they belong at this school	54.7%	±9.3	71.0%	±3.7	<0.05	0.8
Q116	Would feel comfortable talking to at least any one teacher in the school if they had any problem	60.6%	±10.0	73.9%	±3.1	<0.05	0.8

Table 3: Comparison of youth reporting same-sex and opposite-sex sexual behaviors for mental health : Wisconsin Youth Risk Behavior Survey 2009

	Variables	Respondents who had same sex sexual contact (may have also had opposite-sex sexual contact)		Respondents who had only opposite sex sexual contact		p-value	Relative Risk : Same-sex/Het-sex
		Weighted percent	95% confidence Interval	Weighted percent	95% confidence Interval		
Q23	Felt so sad or hopeless almost every day for two weeks or more in a row that they stopped doing some usual activities during the past 12 months	44.6%	±8.6	24.1%	±3.1	<0.01	1.9
Q24	Seriously considered attempting suicide during the past 12 months	39.7%	±8.6	14.4%	±2.1	<0.01	2.8
Q25	Made a plan about how they would attempt suicide during the past 12 months	32.2%	±7.4	10.6%	±2.0	<0.01	3.0
Q26	Actually attempted suicide one or more times during the past 12 months	24.8%	±7.3	5.7%	±1.6	<0.01	4.4
Q27	Suicide attempt that resulted in injury, poisoning or overdose that had to be treated by a doctor or nurse in the past 12 months	10.0%	±5.2	1.6%	±0.8	<0.05	6.3

Table 4: Comparison of youth reporting same-sex and opposite-sex sexual behaviors for tobacco and substance abuse : Wisconsin Youth Risk Behavior Survey 2009

	Variables	Respondents who had same sex sexual contact (may have also had opposite-sex sexual contact)		Respondents who had only opposite sex sexual contact		p-value	Relative Risk : Same-sex/Het-sex
		Weighted percent	95% confidence Interval	Weighted percent	95% confidence Interval		
Q30	Smoked cigarettes more than 10 days in the past 30 days	26.8%	±6.3	13.1%	±3.1	<0.01	2.0
Q31	On the days when they smoked, smoked more than 2 cigarettes per day in the past 30 days	29.4%	±5.7	15.2%	±3.1	<0.01	1.9
QN31	Among students who reported current cigarette use, the percentage who smoked more than 10 cigarettes per day on the days they smoked during the past 30 days	17.2%	±11.3	4.6%	±2.3	<0.05	3.7
Q41	Had at least one drink of alcohol on one or more of the past 30 days	85.5%	±8.3	87.9%	±4.2	0.503	1.0
QN40	First drink of alcohol <13 years	35.4%	±7.6	22.2%	±3.7	<0.01	1.6
Q 42	Had five or more drinks of alcohol in a row, that is, within a couple of hours, on one/two days during the past 30 days (low binge)	28.7%	±7.2	25.9%	±3.7	0.5068	1.1
Q 42	Had five or more drinks of alcohol in a row, that is, within a couple of hours, on 3 to 5 days during the past 30 days (medium binge)	40.0%	±23.3	56.0%	±7.4	0.099	0.7
Q 42	Had five or more drinks of alcohol in a row, that is, within a couple of hours, on six or more of the past 30 days (heavy binge)	42.2%	±6.7	37.5%	±4.7	0.2727	1.1
QN47	Used marijuana one or more times during the past 30 days	37.8%	±7.0	28.6%	±4.6	0.234	1.3
Q47	Used marijuana ten or more times during the past 30 days	16.6%	±4.2	12.4%	±3.5	0.228	1.3

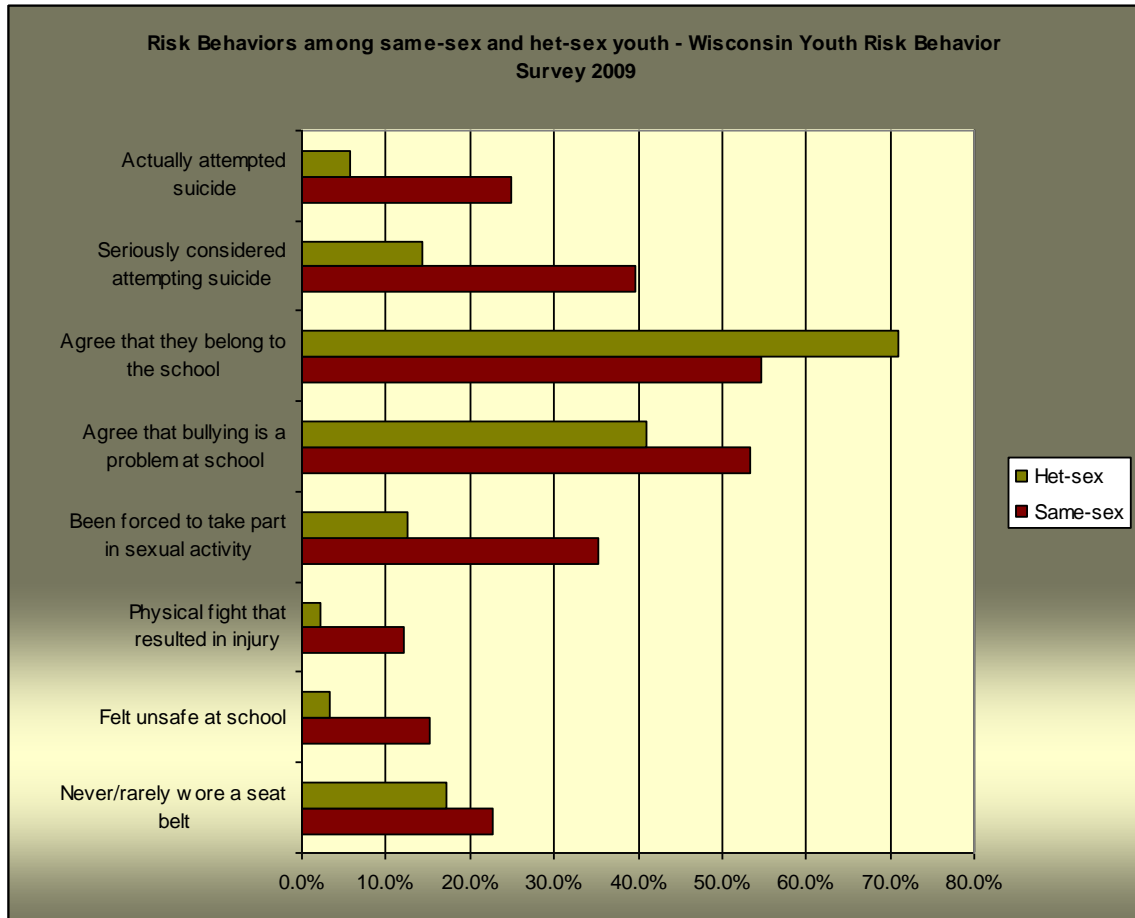
Table 5: Comparison of youth reporting same-sex and opposite-sex sexual behaviors for sexual behavior : Wisconsin Youth Risk Behavior Survey 2009

	Variables	Respondents who had same sex sexual contact (may have also had opposite-sex sexual contact)		Respondents who had only opposite sex sexual contact		p-value	Relative Risk : Same-sex/Het-sex
		Weighted percent	95% confidence Interval	Weighted percent	95% confidence Interval		
Q58	Ever had sexual intercourse	76.7%	n/a	70.5%	n/a	0.171	1.1
QN59	Sexual intercourse for the first time before the age 13 years	23.8%	±6.6	6.4%	±2.4	<0.01	3.7
QN60	Sexual intercourse with four or more people during their life	35.5%	±13.5	23.0%	±5.3	0.068	1.5
QN62	Among students who had sexual intercourse during the past three months, alcohol or drug use before last sexual intercourse	19.5%	±8.8	15.9%	±3.2	0.549	1.2
QN63	Among students who had sexual intercourse during the past three months, percentage of students who did not use a condom before last sexual intercourse	59.2%	±10.3	33.7%	±4.2	<0.05	1.8
Q64	Among students who had sexual intercourse during the past three months, students who did not adopt a contraceptive method before last sexual intercourse	23.4%	±15.5	7.26%	±2.8	0.08	3.2

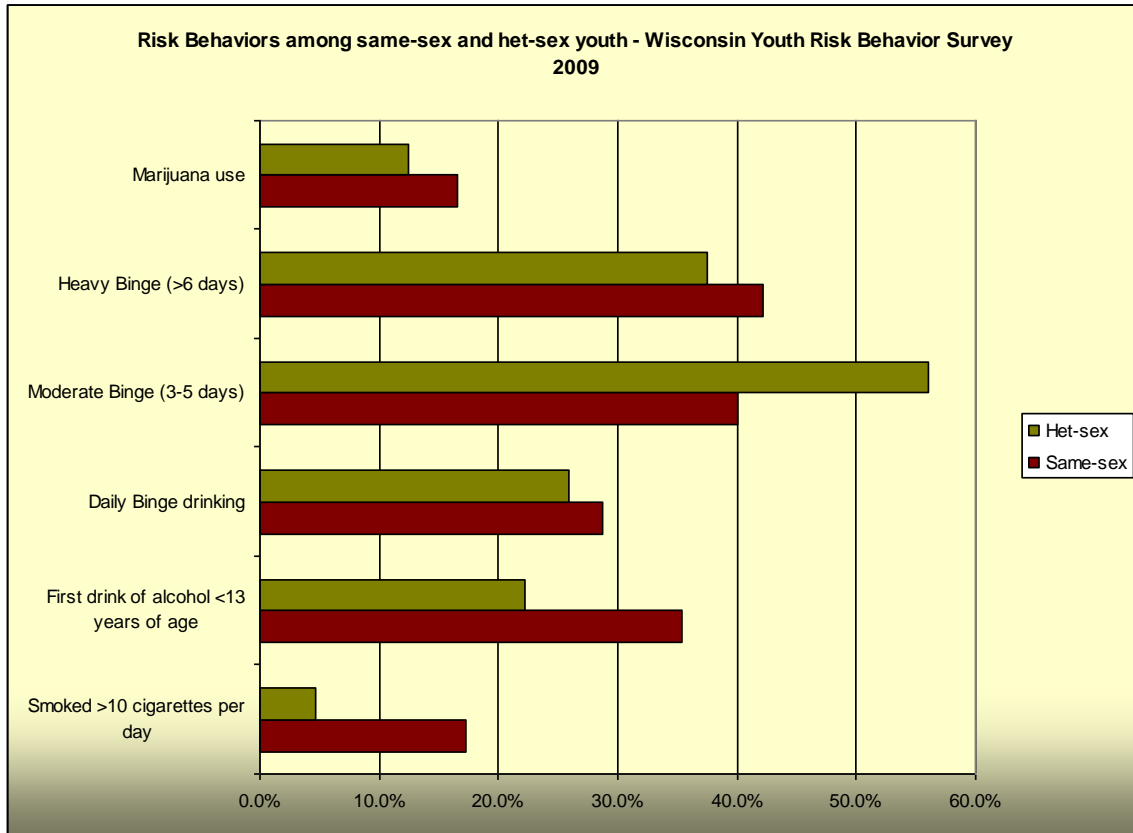
Table 6: Comparison of youth reporting same-sex and opposite-sex sexual behaviors for physical activity, weight and talk about HIV at home : Wisconsin Youth Risk Behavior Survey 2009

	Variables	Respondents who had same sex sexual contact (may have also had opposite-sex sexual contact)		Respondents who had only opposite sex sexual contact		p-value	Relative Risk : Same-sex/Het-sex
		Weighted percent	95% confidence Interval	Weighted percent	95% confidence Interval		
Q80	Exercised or participated in vigorous physical activity for at least 60 minutes on three or more of the past seven days	37.2%	±7.6	49.0%	±3.8	<0.05	0.8
Q66	Trying to lose weight	47.2%	±6.7	40.6%	±3.3	0.137	1.2
QNOWT	At risk for becoming overweight (BMI > 85th and <95th percentile)	16.9%	±7.0	13.7%	±2.6	0.408	1.2
QNOBESE	At risk for becoming obese (BMI > or =95th percentile)	10.6%	±6.6	6.5%	±1.8	0.24	1.6
	TALK ABOUT HIV AT HOME						
Q112	Ever talked about AIDS or HIV infection with their parents or other adults in their family	48.0%	±7.7	43.1%	±2.7	0.28	1.1

1. Graphical representation of variables related to physical safety



2. Graphical representation of variables related to tobacco and substance abuse



3. Graphical representation of variables related to sexual behavior and physical activity

