

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

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. This survey also helps us to monitor the most significant causes of morbidity among youth. 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 revealed significant health disparities experienced by youth who engaged in same-sex behavior compared and their heterosexual peers.³ This paper highlights recent findings from the 2009 Wisconsin Youth Risk Behavior Survey in an attempt to better understand health disparities, risk behaviors, and health conditions of youth engaging in same-sex sexual behaviors. Limited data from the 2009 Milwaukee Public Schools (MPS) YRBS are also presented.

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

¹ Gay and Lesbian Medical Association and LGBT health experts. Healthy People 2010 Companion Document for Lesbian, Gay, Bisexual, and Transgender (LGBT) Health. San Francisco, CA: Gay and Lesbian Medical Association, 2001. Available from: http://www.glma.org/_data/n_0001/resources/live/HealthyCompanionDoc3.pdf.

² Information on the 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 Department of Health Services. Wisconsin AIDS/HIV Program Notes, October 2009. Available from: <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

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

Findings

Sample characteristics

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 for students who did not respond to the respective question. Same-sex respondents comprise 10% (n=138) of the sexually active respondents, an increase from 8% found in the YRBS 2007 analysis³. Same-sex respondents included more females than males; het-sex respondents included more males than females (Table 1).

Table 1: Wisconsin 2009 YRBS: Youth who had sexual contact, N=1393

Categories	Frequency, n (wght.%)	Gender, n (wght. %)		Age in years, n (wght. %)	
		Males	Females	12 to 15	16 to 18
Same-sex	138 (9.9)	50 (41.3)	88 (58.7)	45 (35.8)	92 (64.2)
Het-sex	1255 (90.1)	637 (53.2)	618 (46.8)	268 (23.1)	986(76.9)

Characteristics of respondents to the 2009 MPS YRBS are provided in Table 2. Same-sex respondents comprised 19% (n=239) of the sexually active respondents, nearly double that of youth statewide. Same-sex respondents comprised nearly the same percentage of males and females (Table 2).

Table 2: 2009 Milwaukee Public School YRBS: Youth who had sexual contact, N=1299

Categories	Frequency, n (wght. %)	Gender, n (wght.%)	
		Males	Females
Same-sex	239 (19.0%)	119 (51.8)	120 (48.2)
Het-sex	1060 (81.0%)	552 (53.4)	508 (46.6)

Analysis of the statewide YRBS found that same-sex youth experienced higher rates of risk behaviors and conditions than het-sex peers in the areas of physical safety, emotional safety and support, tobacco and drug use, and mental health. Disparities experienced by same-sex respondents to the MPS YRBS (not shown here) were similar to those found statewide. Below is a summary of findings by type of risk behaviors for the statewide YRBS.

Physical Safety

This section includes findings related to physical safety while on school property. Same-sex youth experienced higher risks regarding physical safety compared to their het-sex peers (Table 3).

- In the twelve months preceding the YRBS, both same-sex and het-sex youth responded similarly for being threatened or injured one or more times with a weapon such as a gun or knife while on school property. However, same-sex youth were almost five times (15.3%) more likely than het-sex youth (3.2%) to not go to school on one or more of the previous thirty days because they felt unsafe at or on their way to or from school.
- Forty-five percent of same-sex and 32.0% 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 requiring medical attention related to a physical fight 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 4) are addressed in this section.

- A higher percentage of het-sex youth (86.3%) agreed that they had family love, help and support when they needed it compared to same-sex youth (73.1%). Over sixty percent (61.0%) of het-sex youth agreed that their teachers really cared about them, compared to half of same-sex youth (50.3%). In addition, 71.0% of het-sex youth felt that they belonged at school, compared to approximately half of same-sex youth (55.0%).

Mental Health

This section includes findings related to mental health among same-sex and het-sex youth (Table 5).

- In the 12 months preceding the survey, almost one-third of same-sex youth (32.2%) made a plan to attempt suicide, three times more likely than het-sex youth (10.6%). One-in-four same-sex

youth (24.8%) attempted suicide compared 5.7% of het-sex youth. In addition, 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 for tobacco, alcohol and drug use (Table 6).

- 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 het-sex youth to report binge drinking (greater or equal to 5 drinks on 1 occasion) in the 30 days preceding the YRBS. No statistically significant differences were noted in the use of marijuana among the two groups of youth.

Sexual Behavior

Sexual behavior, including safe/unsafe sexual practices and sexual debut, is the focus of this section (Table 7).

- Results of this report mirror those from many other studies documenting a higher prevalence of risk behaviors among gay/lesbian/bisexual teenagers, including but not limited to an earlier age of sexual intercourse debut^{5,6}. For example, same-sex youth (23.8%) were almost four times more likely to have a sexual debut before 13 years of age than het-sex youth (6.4%). No significant differences were found in the reported 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 8).

- Youth who engaged in same-sex sexual behavior participated less frequently in physical activity and appeared to be at somewhat higher risk for becoming overweight and obese and compared to het-sex peers, however, findings were not statistically significant.

⁵ 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.

⁶ 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. *American Journal of Public Health*. 2002;92:203–210.

Limitations

The small sample size of same-sex respondents restricted the ability to perform analysis by stratifying the sample by respondents' age and sex. Future analyses will utilize combined data sets for 2007 and 2009 to increase the sample size and thereby the power of the study.

While the additional survey question added in 2007 regarding sex of sex partners provides useful information, it does not address sexual orientation since students may identify as gay, lesbian, or bisexual but not have had same-sex sexual contact. Students may also have engaged in same-sex contact and identify as heterosexual. In addition, students identifying as transgender are not able to indicate their gender on the questionnaire, thus limiting the ability to identify their health risk behaviors.

Implications

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

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

Table 3: Physical safety: Comparison of youth reporting same-sex and opposite-sex sexual behaviors, 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	0.22	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 4: Emotional Safety and Support: Comparison of youth reporting same-sex and opposite-sex sexual behaviors, 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 5: Mental Health: Comparison of youth reporting same-sex and opposite-sex sexual behaviors, 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 6: Tobacco and Substance Abuse: Comparison of youth reporting same-sex and opposite-sex sexual behaviors, 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	0.50	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	0.51	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	0.10	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	0.27	1.1
QN47	Used marijuana one or more times during the past 30 days	37.8%	±7.0	28.6%	±4.6	0.23	1.3
Q47	Used marijuana ten or more times during the past 30 days	16.6%	±4.2	12.4%	±3.5	0.23	1.3

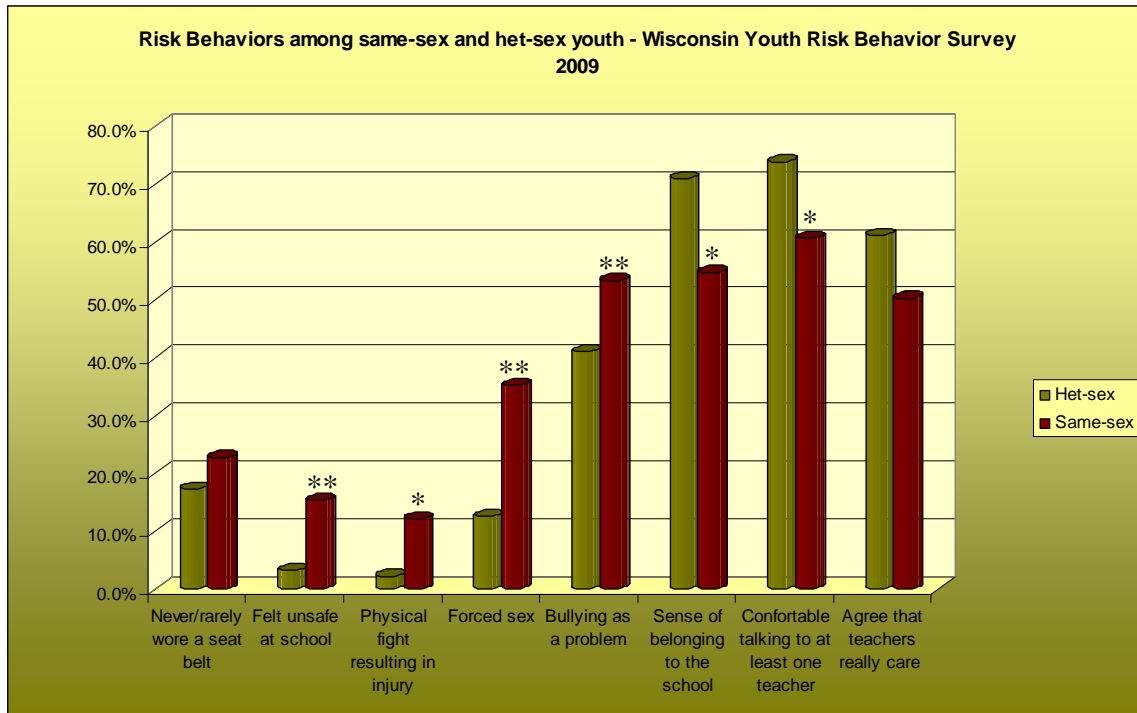
Table 7: Sexual Behavior: Comparison of youth reporting same-sex and opposite-sex sexual behaviors, Wisconsin Youth Risk Behavior Survey 2009

	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	0.17	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	0.07	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	0.55	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 8: Physical Activity, Weight, and Talk About HIV at Home: Comparison of youth reporting same-sex and opposite-sex sexual behaviors, 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	0.14	1.2
QNOWT	At risk for becoming overweight (BMI > 85th and <95th percentile)	16.9%	±7.0	13.7%	±2.6	0.41	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

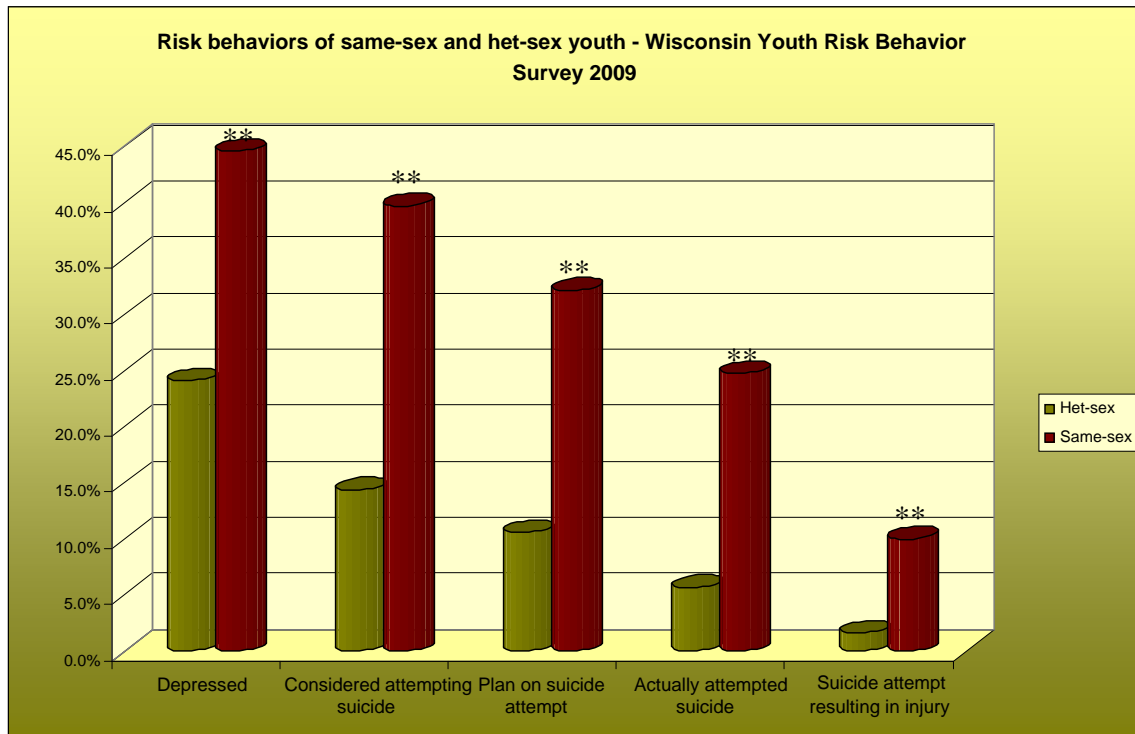
1. Variables related to physical safety and emotional health.



* p-value <0.05

** p-value <0.01

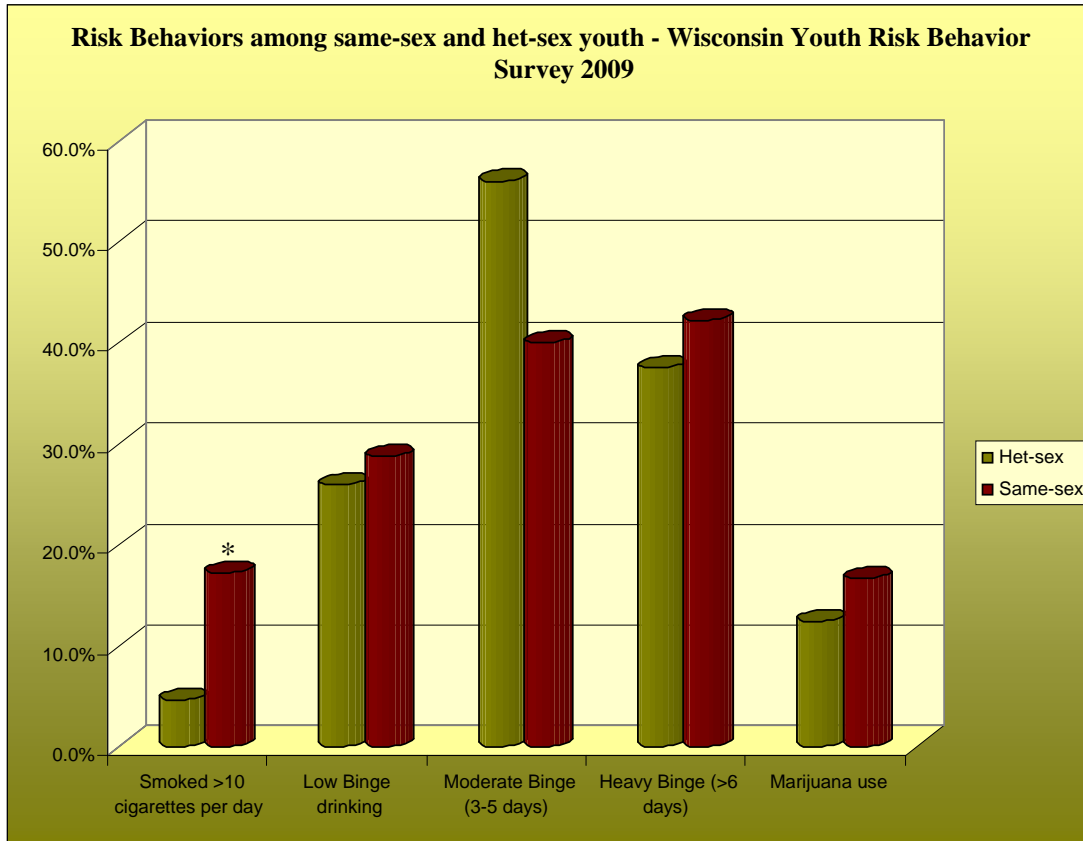
2. Variables related to mental health.



* p-value <0.05

** p-value <0.01

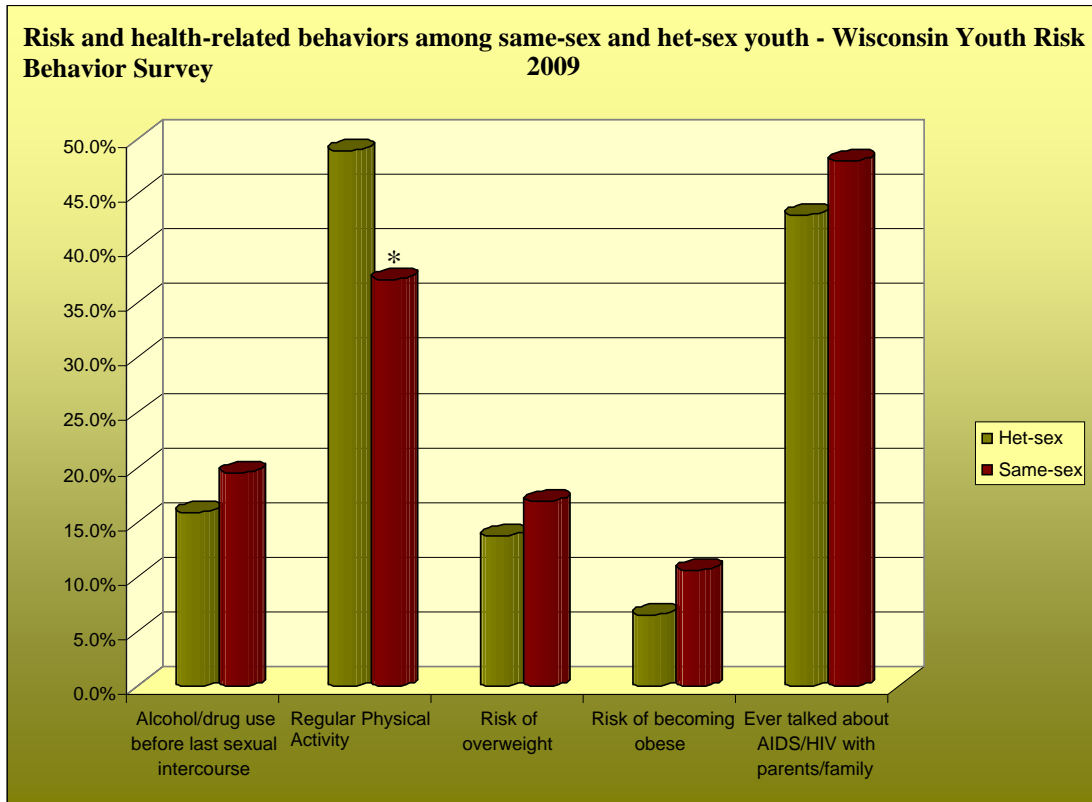
3. Variables related to tobacco and substance abuse.



* p-value <0.05

** p-value <0.01

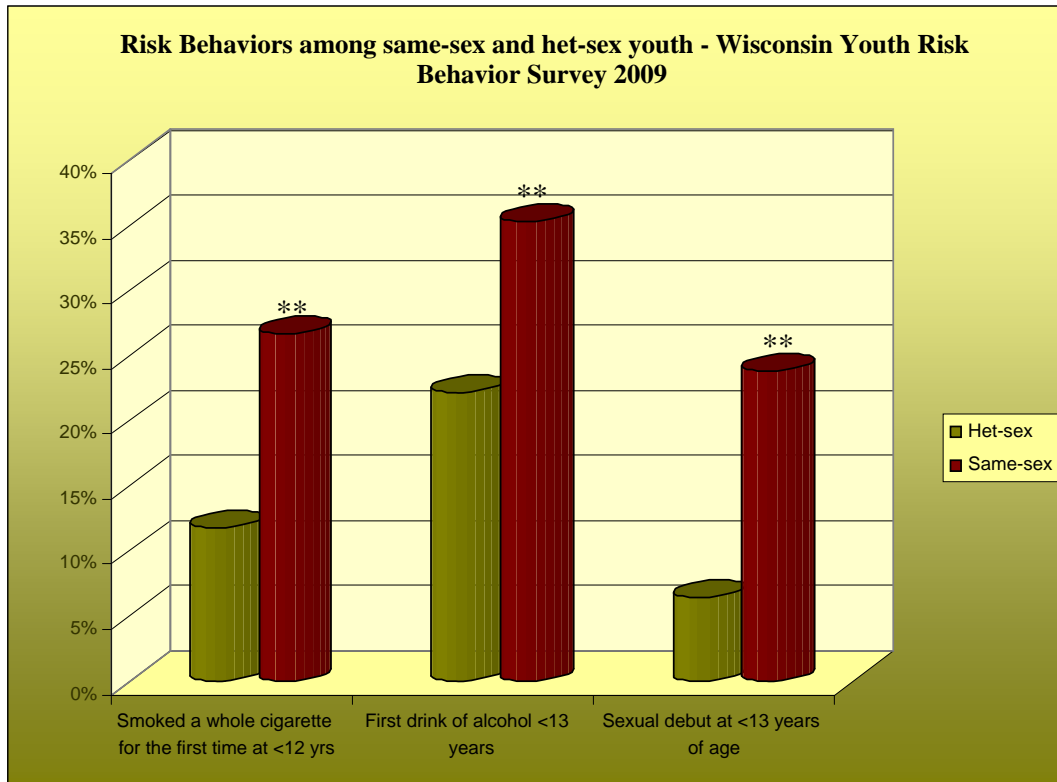
4. Variables related to sexual behavior and physical activity.



* p-value <0.05

** p-value <0.01

5. Age at initiation of risk.



* p-value <0.05

** p-value <0.01