

HEALTHY BROOKLINE  
VOLUME XV



HEALTH RISK BEHAVIORS  
AND SEXUAL IDENTITY

*Youth Risk Behavior Survey*

Brookline Department of Public Health  
2014

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Bruce Cohen, PhD, Chair

Milly Krakow, PhD

Cheryl Lefman, MA

Pat Maher, MS, RN, CS

Anthony Schlaff, MD

Roberta Gianfortoni, MA

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Deb Holman, Brookline High School Headmaster

Teddi Jacobs, Curriculum Coordinator, Health and Physical Education

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Major Contributors:

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# **EXECUTIVE SUMMARY**

## **INTRODUCTION**

The Brookline Department of Public Health publishes Healthy Brookline on an annual basis. Each volume presents data on the health status of the Brookline community in regard to a particular health issue. Previous editions have focused on Brookline's population of elderly immigrants from the former Soviet Union (Volume II) and Brookline youth's risk behaviors (Volumes IV, VIII, XI and XIV).

Healthy Brookline Volume XV provides information regarding selected youth risk behaviors for 9th–12th grade Brookline High School students who identify as lesbian, gay, bisexual or as questioning their sexual orientation (LGBQ). The data were collected using Brookline High School Health Survey (BHSHS), which is based on the national Youth Risk Behavior Survey (YRBS).

The YRBS was developed by the United States Centers for Disease Control and Prevention in the early 1990's to monitor health risk behaviors that contribute markedly to physical illness, mental illness, and social problems among youth in the United States. These behaviors, often established during childhood and early adolescence, include:

- Alcohol and Tobacco Use
- Other Drug Use
- Unhealthy Dietary Behaviors
- Inadequate Physical Activity
- Unsafe Sexual Behaviors
- Behaviors that contribute to unintentional injuries and violence
- Stress, Anxiety and Suicidal Behaviors

Both the YRBS and the BHSHS are administered every two years, and provide valuable data that allows Brookline Department of Public Health to suggest the prevalence of health risk behaviors, assess trends and, when possible, compare state and national data to Brookline data.

In Healthy Brookline XV, the following topics were selected to compare the responses of LGBQ Brookline High School students to their heterosexual peers:

- Bullying, Violence and the School Environment
- Mental Health and Suicide
- Alcohol and Tobacco Use
- Other Drug Use

A Note on Terminology: The use of the acronyms LGBT, LGBQ, and LGBTQ can incorrectly imply that the experiences, problems, concerns and opinions among people within these groups are uniform and one-dimensional. This is not the case, as the experience of being in a sexual minority is different for each person. In this report, the acronym LGBQ is used in relation to the BSHHS and the YRBS because these surveys do not include ‘transgender’ as a possible response to the sexual orientation question. Thus, no conclusions can be drawn from this report regarding transgender individuals. The acronym LGBT is used in this report when discussing the entire spectrum of people who are of a non-conforming gender and/or sexual identity.

The majority of people who identify as lesbian, gay, bisexual, transgender or questioning (LGBT) have normal mental, physical, and emotional health; and thus demonstrate healthy, adaptive functioning across the lifespan.<sup>1,2</sup> LGBT populations face the same challenges that most people face, but due to persistent homophobia, heterosexism and institutionalized discrimination (both public and private), LGBT populations face many additional challenges when coping with life stresses.<sup>3,4</sup>

Due to these added stressors, LGBT populations are at an increased risk for mental health problems and unhealthy behaviors (smoking, drug use, excessive alcohol use, sexual risk behaviors, poor exercise and nutrition) compared to heterosexual populations, and may lack social support due to stigma and sexuality stress.<sup>2,5,6</sup> In addition, many LGBT populations have difficulty accessing adequate healthcare, which is most likely due to well-documented financial barriers and healthcare provider bias against LGBT patients.<sup>3</sup> Bisexual and transgender populations may experience increased stigma, even within LGBT communities. There is also a lack of longitudinal data about these populations, but considering the possibility of even more stigma and ostracism, bisexual and transgender individuals may be at an even higher risk for the same health problems as their gay and lesbian peers.<sup>3,7</sup>

Youth who are LGBT are one of the highest risk groups. As adolescents develop their sense of self and try to ‘fit in’, most youth experience stress. Adolescents who are LGBT are more likely to have a more stressful and complex process of identity formation, due to sexuality stress, which is related to development in a heteronormative environment.<sup>5</sup> During this process, youth who are LGBT are at higher risk of being rejected by family, friends and/or other organizations (church groups, sports teams, schools) which normally provide support.<sup>3</sup> Parental and/or caregiver support is one of the most important protective factors for LGBT youth. LGBT adolescents that face high levels of parental rejection are nearly 6 times as likely to have high levels of depression, more than 8 times as likely to have attempted suicide, more than 3 times as likely to use illegal drugs and more than 3 times as likely to engage in unprotected sex or other risky sexual behaviors compared to LGBT adolescents who had low levels of parental rejection.<sup>8</sup> The persistent stigma associated with people who are LGBT and the significant stress of dealing with

a non-conforming sexual identity in high school may prevent these adolescents from forming good social support systems, which are very important in establishing self-worth, managing stress, and influencing positive health behaviors.<sup>5</sup> With all these combined stresses, LGBT adolescents are more likely to engage in poor health behaviors and have significant physical, mental and social health issues compared to their heterosexual peers.

## **METHODOLOGY**

The Brookline High School Health Survey was a non-randomized survey of all Brookline High School Students present in school on the two days the survey was administered, in March and April of 2013. The survey was administered during each student's homeroom period. This included 1,184 students in grades 9-12.

In this report, a few comparisons with the national and state YRBS are present. This data is a representative sample compiled from national and state YRBS surveys from 2001-2009.

Chi Squared Test for Independence and Fischer's exact test were utilized where appropriate to determine independence of LGBQ status and survey responses. Statistically significant results at the level of 95% confidence ( $p < 0.05$ ) are noted as such in the body of the report.

## **SUMMARY OF RESULTS**

### **Section 1 – Self-Reported Sexual Identity of BHS Students**

11% of Brookline High School (BHS) Students reported that they were either lesbian, gay, bisexual or questioning. Popular estimates of national rates of the prevalence of LGBT individuals are at 11% while estimates for Boston and Massachusetts are reported around 7% and 6% respectively.

### **Section 2 – Bullying, Sexual Violence and the School Environment**

About 3 out of 4 students of ALL sexual identities heard negative comments about LGBT people at school in the last month. There was not a statistically significant association between hearing such comments and a student's sexual identity.

About 25% of LGBQ students at BHS reported being a target of bullying in the past 12 months, compared to 15% of heterosexual students.

11% of LGBQ students report ever being forced to have sexual contact against their will, compared to 6% of heterosexual students.

About 3 out of 4 of all students have an adult to talk to at school about problems.

### Section 3 – Mental Health and Suicide

84% of LGBQ BHS students reported feeling overwhelming stress or anxiety in the past 12 months, compared to 76% of heterosexual students.

40% of LGBQ BHS students reported feeling suicidal at least once in the past year, compared to 18% of heterosexual students.

Nearly half of LGBQ BHS students sought mental health help in the past year, compared to 20% of heterosexual students.

### Section 4 – Alcohol and Tobacco Use

21% of LGBQ BHS students reported that they had smoked at least once in the past 30 days, compared with 9% of heterosexual students. There was a statistically significant association between sexual identity and smoking in the past month.

There was no statistically significant association between sexual identity and recent alcohol use, binge drinking, or risky sexual behavior.

### Section 5 – Illegal Drug Use

There was a statistically significant association between sexual identity and recent marijuana use, and also with any previous use of amphetamines or use of prescription pain medication recreationally.

## LIMITATIONS

This report has several limitations. First, the survey was conducted only at a public high school, so the sample may not be representative of all adolescents in Brookline. Second, due to the stigma and stress associated with identifying as LGBT, surveying and analyzing data about LGBT populations is difficult. Even though a total sample size may be large, the number of respondents willing to identify at all as LGBT can prevent adequate representation of LGBT populations. Using survey questions that ask respondents to self-label sexual identity and about the sex/gender of their sexual contacts can help with this problem. Third, the exclusion of transgender as a possible answer to the sexual identity survey question prevents any analysis of this sub-population. Nationally, nearly 1/3 of LGBT students drop out of high school, about 3 times the national average<sup>9</sup> so the sample of LGBQ students acquired in Brookline may not be representative of all LGBQ adolescents.

The following definitions are used in this report:

**Sex** – A person’s biological or anatomic sex

**Gender** – Social perception of a person being male or female

**Gender Identity** – The subjective and personal experience of ‘feeling’ male or female, regardless of biological sex

**Sexual Orientation** – Gender to which an individual is romantically or sexually attracted

**Sexual Identity** – Internal experience and interpretation regarding the gender or sex to which a person is romantically or sexually attracted

**Heteronormative** -- Implicit or explicit assumptions that promote heterosexual conformity to the detriment of other sexual orientations<sup>2</sup>

**Sexuality Stress** – Stress specifically caused by being non-heterosexual in a heteronormative environment, regardless of the presence of overt prejudice or discrimination<sup>5</sup>

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## **Section 1 -- Self-Reported Sexual Identity of Brookline, Boston and Massachusetts High School Students**

According to The Williams Institute, 8.2% of Americans report that they have engaged in same-sex sexual behavior. In addition, 0.3% reporting that they are transgender.<sup>1</sup> In terms of the number of LGBT youth, among Massachusetts students grades 9-12, 1.3% report they are gay or lesbian, 3.7% bisexual and 2.5% unsure of their sexual orientation.<sup>2</sup> However, for reasons related to the persistent stigmatization of these individuals, it is difficult to accurately measure the number of LGBT people.<sup>3</sup> Acceptance of LGBT individuals has increased over the last 10 years, according to the Pew Research Center for People and the Press. Sixty percent of people polled in 2013 said that homosexuality should be accepted by society, up from 47% in 2003.<sup>4</sup> In another poll, Pew found that, among LGBT respondents, 92% said society is now more accepting of LGBT people than it was 10 years ago, but there is still substantial discrimination—from verbal harassment to family rejection and physical attacks.<sup>5</sup>

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Text of Brookline High School Health Survey Sexual Identity Question  
 Which of the following best describes you?

- a) Heterosexual
- b) Gay or lesbian
- c) Bisexual
- d) Not sure (questioning)

Heterosexual	1,035
Gay or Lesbian	15
Bisexual	55
Questioning	58
No Response	21
<b>Total</b>	<b>1,184</b>

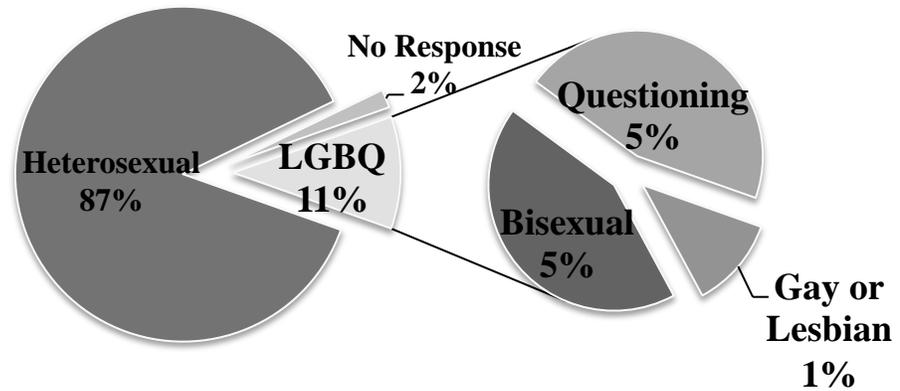


Figure 1- Self reported Sexual Identity of Brookline High School Students. *Brookline High School Health Survey, 2013*

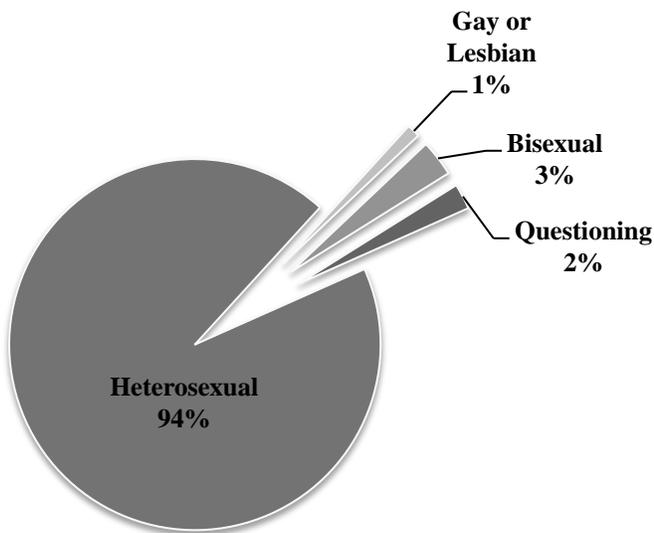


Figure 2- Self reported sexual Identity of Boston High School Students, 2001-2009. *Youth Risk Behavior Survey*

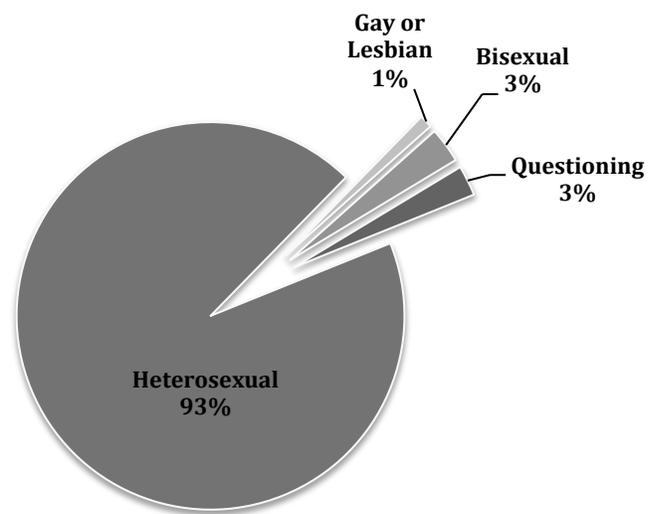


Figure 3- Self-Reported Sexual Identity of Massachusetts High School Students, 2001-2009. *Youth Risk Behavior Survey*

## Section 2 -- Bullying, Sexual Violence, and the School Environment for LGBQ Adolescence

In 2012, nearly six percent of all high school students nationally did not go to school on one or more days because they felt unsafe either at school or on the way to school. Among LBGQ youth nationally, the proportion that felt unsafe at or on the way to school was nearly 25%.<sup>i,ii</sup> Issues of school safety are increasingly important to the public due to the numerous recent incidents of fatal in-school violence. Additionally, adolescents are also more likely to experience sexual violence than any other age group, and sexual violence can have a devastating impact on healthy psychological development.<sup>i</sup> Adolescents who are LGBQ are especially at an increased risk for bullying and sexual violence compared to heterosexual adolescents, likely due to negative attitudes towards gender non-conforming individuals that may be held by other students, teachers, or even the student's own family.<sup>i,ii</sup>

Bullying experiences are associated with several negative behavioral and emotional health consequences. These negative impacts of bullying not only affect the target, but bullies and even bystanders of bullying can experience related and persistent problems.<sup>i</sup> Thus, bullying is a significant public health concern. The definition of bullying involves two important aspects. First, bullying is a pattern of negative behavior established over time. Second, there must be differences in physical and/or psychological power between the bully and the target.<sup>i</sup> A variety of behaviors can constitute bullying, such as verbal aggression, rumor spreading, social rejection and of course, physical violence. The emotional and behavioral problems associated with bullying behavior can cause negative consequences that persist for many years, and may decrease adaptive functioning.<sup>i</sup>

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<sup>1</sup> Garofalo, R (2006). The association between health risk behaviors and sexual orientation among a school-based sample of adolescents. *Pediatrics* , 101, 895-902.

<sup>1</sup> Kaufman MD, M. (2008). Care of the Adolescent Sexual Assault Victim. *Pediatrics* , 122 (2), 462-470.

<sup>1</sup> Coker, T et al. (2010). The Health and Health Care of Lesbian, Gay, and Bisexual Adolescents. *Annual Review of Public Health* , 31, 457-477.

<sup>1</sup> Centers for Disease Control and Prevention. (2013, 1 25). CDC releases data on interpersonal and sexual violence by sexual orientation. Retrieved 8 10, 2013, from [http://www.cdc.gov/media/releases/2013/p0125\\_NISVS.html](http://www.cdc.gov/media/releases/2013/p0125_NISVS.html)

<sup>1</sup> Hamburger, M., Basile, K., & Vivolo, A. (2011). Measuring Bullying Victimization, Perpetration, and Bystander Experiences: A Compendium of Assessment Tools. Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Atlanta.

<sup>1</sup> Olweus, D. (1994). Bullying at school: Long-term outcomes for the victims and an effective school-based intervention program. In L. Huesmann (Ed.), *Aggressive Behavior: Current Perspectives* (pp. 97-130). New York, NY: Plenum Press.

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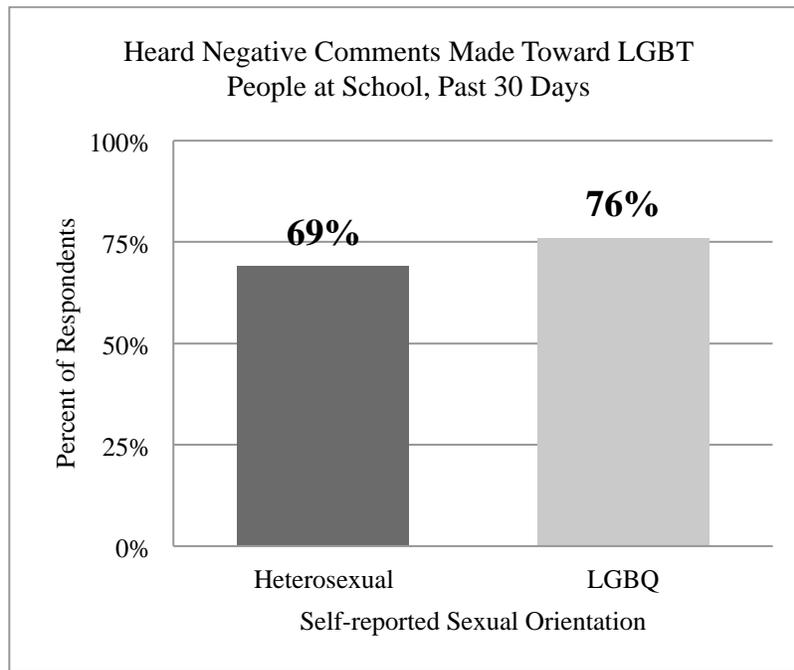


Figure 1 – Fischer’s Exact  $p=0.12$ , the association between sexual identity and hearing negative comments is not statistically significant at the level of 95% confidence. Brookline High School Health Survey, 2013.

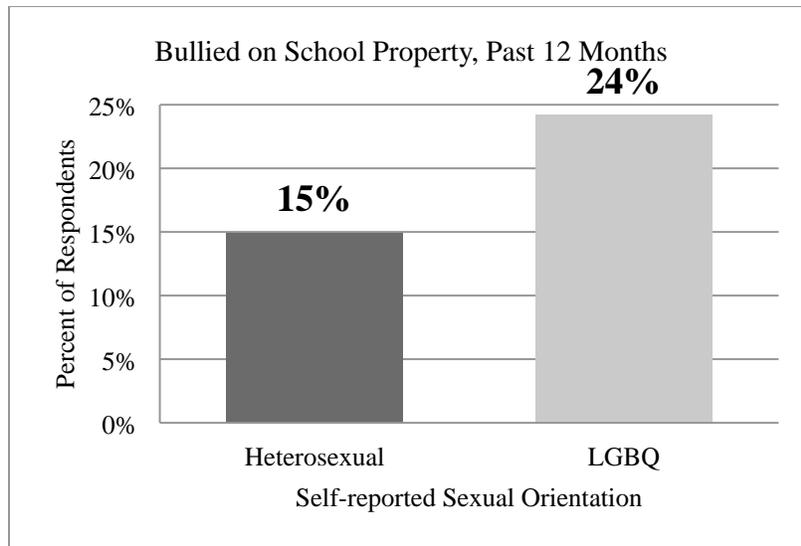


Figure 2 –Fischer’s Exact  $p=0.012$ , the association between sexual identity and experiencing bullying is statistically significant at the level of 95% confidence. Brookline High School Health Survey, 2013.

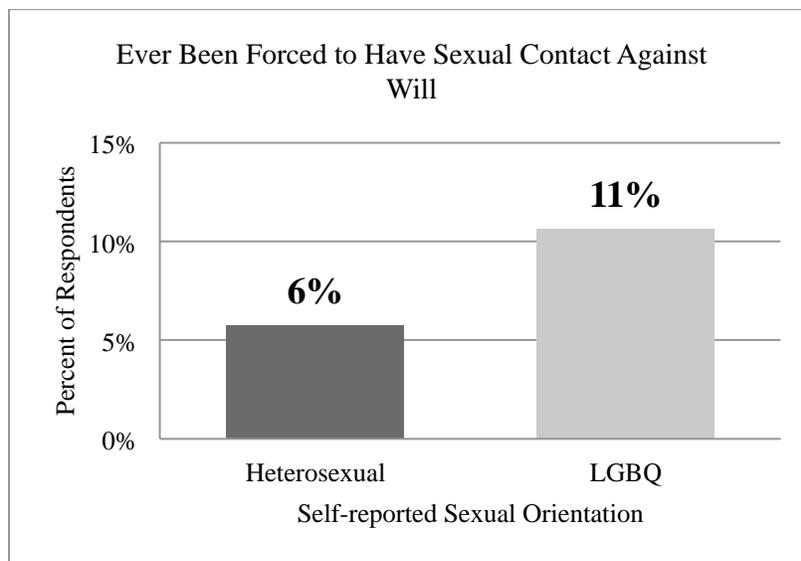


Figure 3 –Fischer’s Exact  $p=0.045$ , the association between sexual identity and ever being forced to have sexual contact is statistically significant at the level of 95% confidence. Brookline High School Health Survey, 2013.

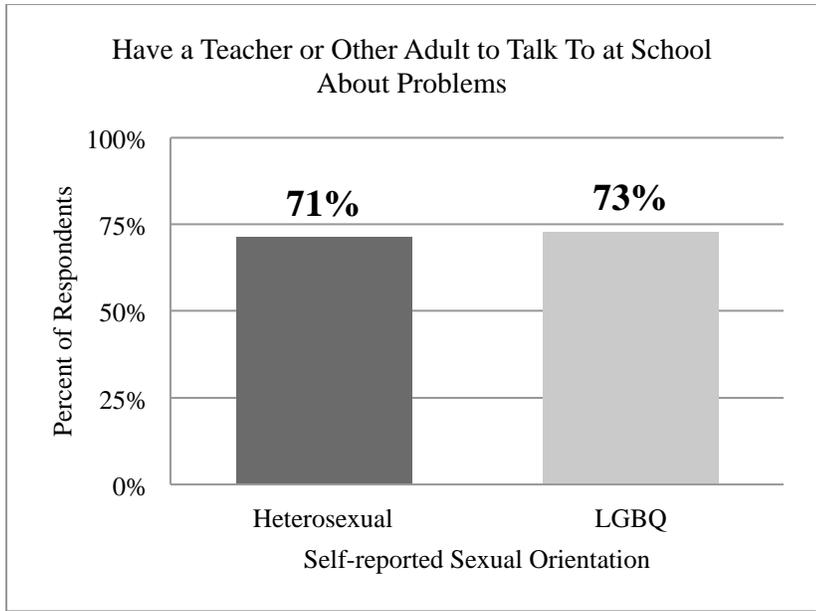


Figure 4 –Chi Squared  $p = 0.38$ , association between sexual identity and having a n adult to talk to at school is not statistically significant at the level of 95% confidence. Brookline High School Health Survey, 2013

### Section 3 -- Mental Health and Suicide

Experiences during childhood and adolescence play a significant role in identity formation. Many factors, such as genetics, family situation, peer groups and socioeconomic status all contribute to the experiences adolescents have that shape future behavior.<sup>1</sup> The physical, mental and emotional changes of adolescence coupled with the social stresses of identity formation are a significant source of stress for most teens.<sup>2</sup> About 11 percent of adolescents have a depressive disorder by age 18, and about 8 percent of teens ages 13-18 have an anxiety disorder. Adolescents who are LGBT face additional challenges during this time, and are at a higher risk for mental health issues than their heterosexual peers, most likely due to persistent homophobic and heteronormative attitudes.

One of the most serious issues regarding adolescent mental health is the issue of suicide. Suicide is the third leading cause of death for youth between the ages of 10 and 24, and having a history of depression or other mental illness, alcohol or drug abuse, significant stressful life events or losses, and exposure to the suicidal behavior of others all increase the risk of suicide.<sup>3</sup> LGBT youth are at an increased risk for suicide compared to their heterosexual peers. In fact, rates of attempted suicide among LGBT youth are 20-40% higher than among heterosexual youth.<sup>3</sup>

Appropriate treatment for mental health problems is essential to managing these illnesses. Unfortunately, LGBT youth are more likely to have difficulties privately accessing secondary mental health services due to age restrictions, transportation problems and an inability to pay for treatment. Additionally, adolescents struggling with their sexual orientation may not want to contact a mental health provider or reveal their sexual orientation to parents or primary care providers, for fear of being 'outed.'<sup>4</sup>

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Primary Cause of Stress

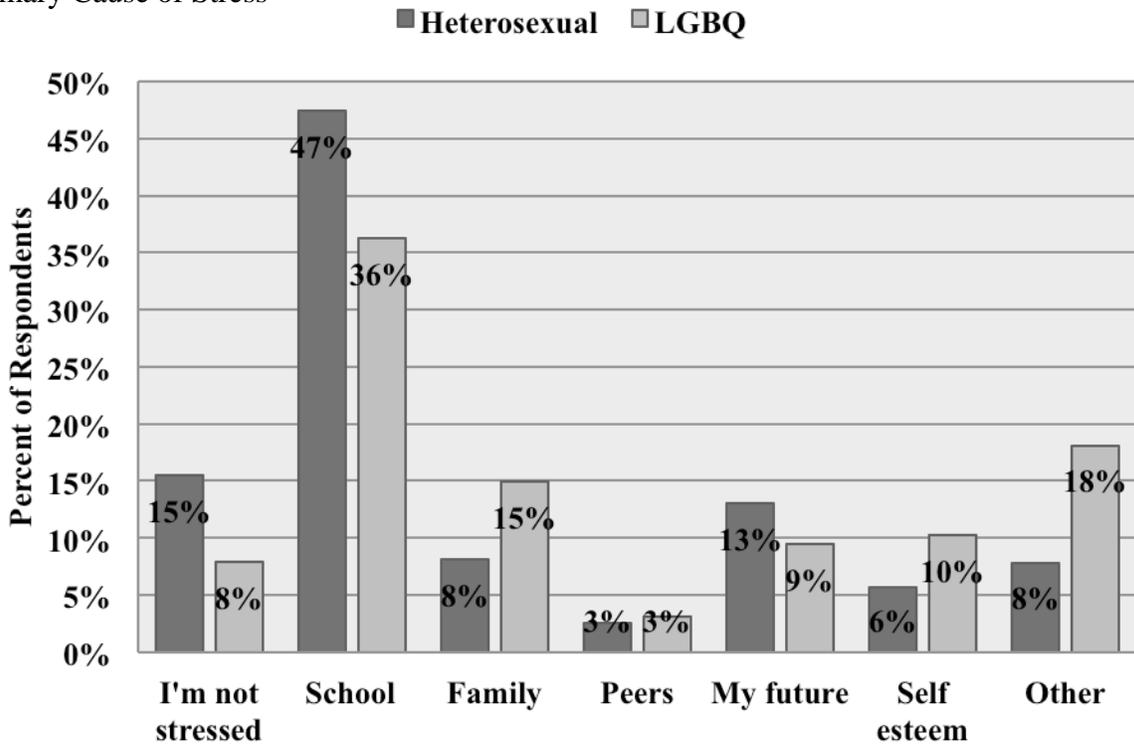


Figure 5 - Chi-Squared  $p < 0.0001$ , the association between sexual identity and primary cause of stress is statistically significant at the level of 95% confidence. Brookline High School Health School Survey, 2013

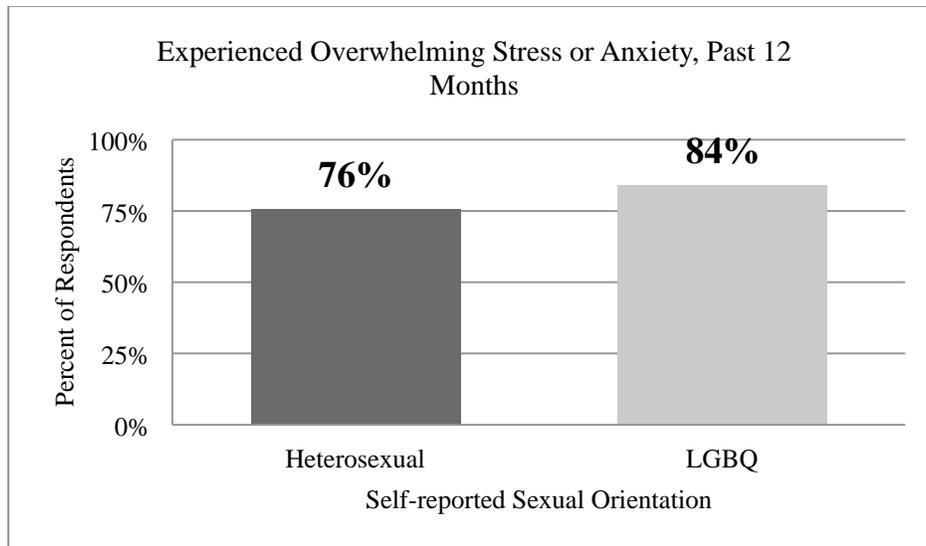


Figure 6 – Fischer’s Exact  $p=0.0341$ , the association between sexual identity and experiencing overwhelming stress is statistically significant at the level of 95% confidence. Brookline High School Health Survey, 2013.

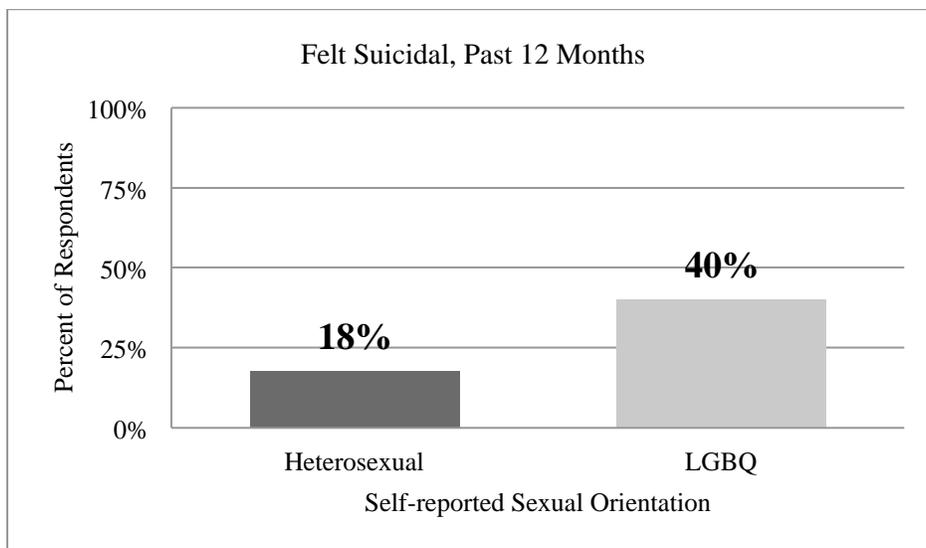


Figure 7 – Fischer’s Exact  $p<0.0001$ , the association between sexual identity and feeling suicidal are statistically significant at the level of 95% confidence. Brookline High School Health Survey, 2013.

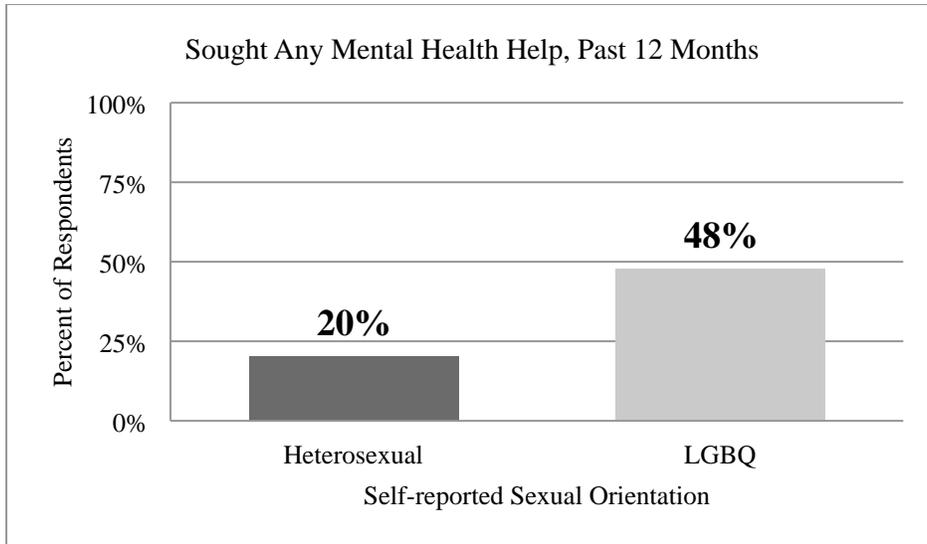


Figure 8 - Fischer's Exact  $p < 0.0001$ , the association between sexual identity and seeking mental health help is statistically significant at the level of 95% confidence. Brookline High School Health Survey, 2013.

## Section 4 -- Alcohol and Tobacco

Over the past 20 years, alcohol and tobacco use among adolescents has generally been declining, both nationally and in Massachusetts.<sup>1,2</sup> However, people who are lesbian, gay, bisexual, transgender or questioning have higher rates of tobacco and alcohol use than their heterosexual peers.<sup>3,4</sup> This is true for LGBT adults as well as for LGBT adolescents. Use of tobacco and alcohol during adolescence is associated with high-risk sexual behavior, use of illegal drugs, higher rates of depression, anxiety, and stress, problems in school and with the law, increased risk for many cancers, and changes in brain development that may have life-long effects.<sup>5,6</sup>

Adolescents drink less frequently than adults, but when they do drink, they drink more heavily. When adolescents consume alcohol, they drink on average about 5 drinks per occasion about six times a month, whereas adults age 26 and older consume, on average, two to three drinks per occasion about 9 times a month.<sup>7</sup> Adolescents who binge drink are at a higher risk for these negative outcomes. LGBT adolescents are both at higher risk to begin use of alcohol and tobacco, and more likely to lack social support, and important factor in stopping use of these substances.<sup>8</sup>

In this section, data presented are: cigarette use in the past 30 days, alcohol use in the past 30 days, and binge drinking in the past 30 days.

The following definitions were used in this section:

**Binge Drinking** – 5 or more drinks within a couple hours any time in the past month

**Current Alcohol Use** – At least one drink on at least one day in the past month

**Current Cigarette Use** – Any use of a cigarette on at least one day in the past month

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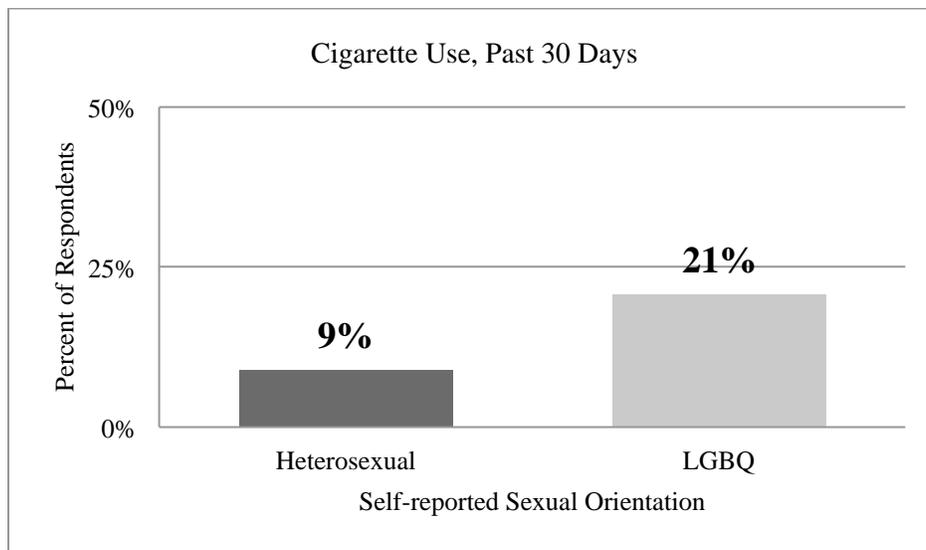


Figure 9 - Fischer's Exact  $p < 0.0001$ , the association between sexual identity and cigarette use is statistically significant at the level of 95% confidence. Brookline High School Health Survey, 2013.

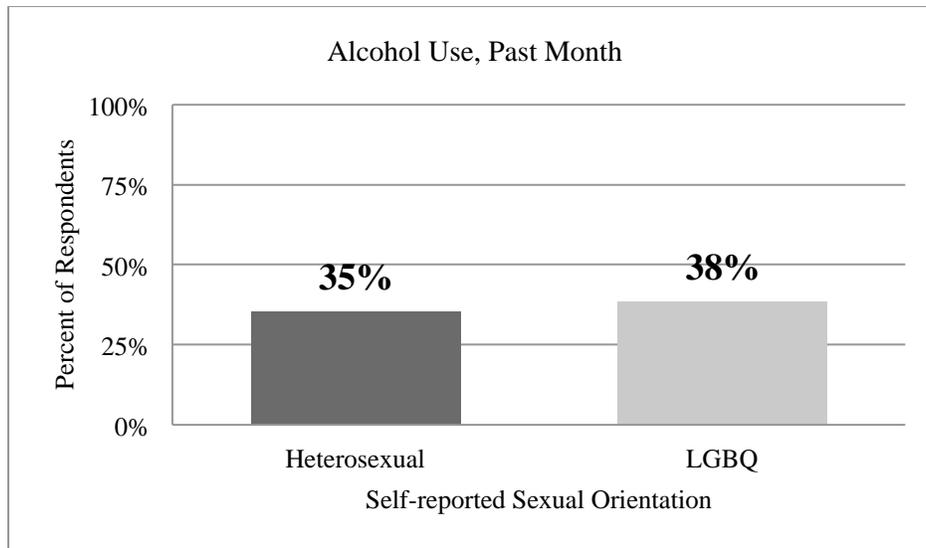


Figure 10 - Fischer's Exact  $p=0.5529$ , the association between sexual identity and alcohol use is not statistically significant at the level of 95% confidence. Brookline High School Health Survey, 2013.

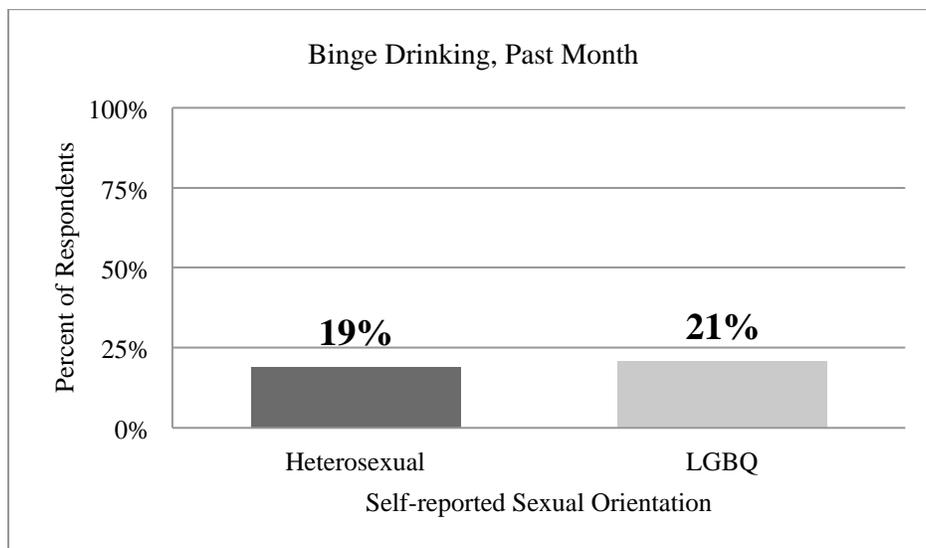


Figure 11 - Fischer's Exact  $p=0.63$ , the association between sexual identity and binge drinking is not statistically significant at the level of 95% confidence. Brookline High School Health Survey, 2013.

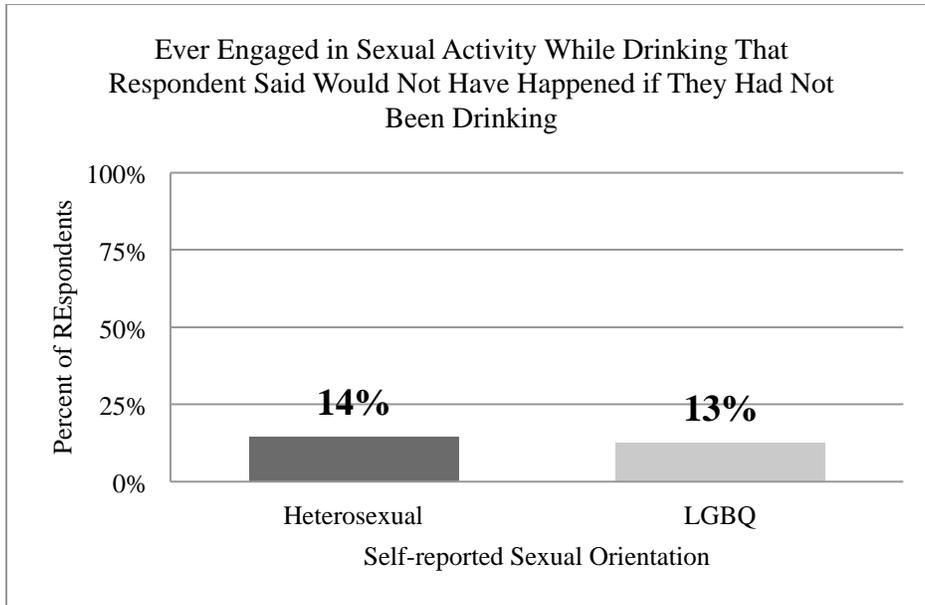


Figure 12 – \*Question asked respondent “Have you engaged in sexual activity after using alcohol that you wouldn’t have if you weren’t drinking”. Fischer’s Exact  $p=0.678$ , the association between sexual identity and sexual activity during alcohol use is not statistically significant at the level of 95% confidence. Brookline High School Health Survey, 2013.

## Section 5 -- Illegal Drug Use and LGBT Adolescents

Substance use has a large economic and social impact, including \$11 billion in healthcare costs.<sup>1</sup> The use and presence of illegal drugs in a community is also associated with a range of destructive social conditions including: domestic violence, child abuse, crime, failure in school, and lost job productivity.<sup>2</sup> Individually, use of illegal drugs increases risk for several health problems such as cardiovascular disease, pregnancy complications, sexually transmitted diseases and sexual violence, homicide, and suicide.<sup>2</sup> Certain subpopulations of people who are LGBT are at higher risk for substance use and addiction than their heterosexual counterparts, which in turn is associated with higher rates of sexual risk taking behaviors and mental health disorders.<sup>3</sup> Among both heterosexual and LGBT youth, experimentation with drug use during adolescence is not uncommon. However, LGBT youth may have few options for safe social interaction with peers, and thus may frequent bars, clubs and other venues that normalize drug and alcohol use.<sup>4</sup> Additionally, some adolescents may self-medicate depression or anxiety with drug use.<sup>4</sup>

The most common classes of illegal drugs used by adolescents are cannabinoids (Marijuana), amphetamines and prescription painkillers, such as opioids. While the same drugs are used by LGBT youth, use of “club drugs” (such as ecstasy and ketamine) by LGBT youth is increasing.<sup>4</sup> The use of prescription drugs recreationally is an emerging epidemic among youth, with 14.8 percent of high school seniors in 2012 reporting that they used a prescription drug non-medically in the past year. In fact, after Marijuana, prescription drugs are the most commonly used illegal recreational drugs among 12th graders.<sup>5</sup> LGBT youth tend to report high rates of drug use; with one recent meta-analysis finding that LGBT youth are nearly twice as likely to report drug use than their heterosexual peers.<sup>6</sup> Considering the associated risk factors for mental health issues in LGBT youth, substance use in this population is a significant public health issue.

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1 Office of National Drug Control Policy. (2004). *The Economic Costs of Drug Abuse in the United States, 1992-2002*. Executive Office of the President, Washington, DC.

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3 Makadon MD, H., Mayer MD, K., Potter MD, J., & Goldhammer MS, H. (2008). *The Fenway Guide to Lesbian, Gay, Bisexual and Transgender Health*. Philadelphia, PA: American College of Physicians Press. pp. 209

4 Ibid., 89

5 National Institutes of Health. (2012, 12). *DrugFacts: High School and Youth Trends*. (National Institute on Drug Abuse) Retrieved 8 10, 2013, from <http://www.drugabuse.gov/publications/drugfacts/high-school-youth-trends>

6 Marshal, M., Friedman, M., Stall, R., King, K., Miles, J., Gold, M., et al. (2008). Sexual orientation and adolescent substance use: a meta-analysis and methodological review. *Addiction*, 103 (4), 546-556.

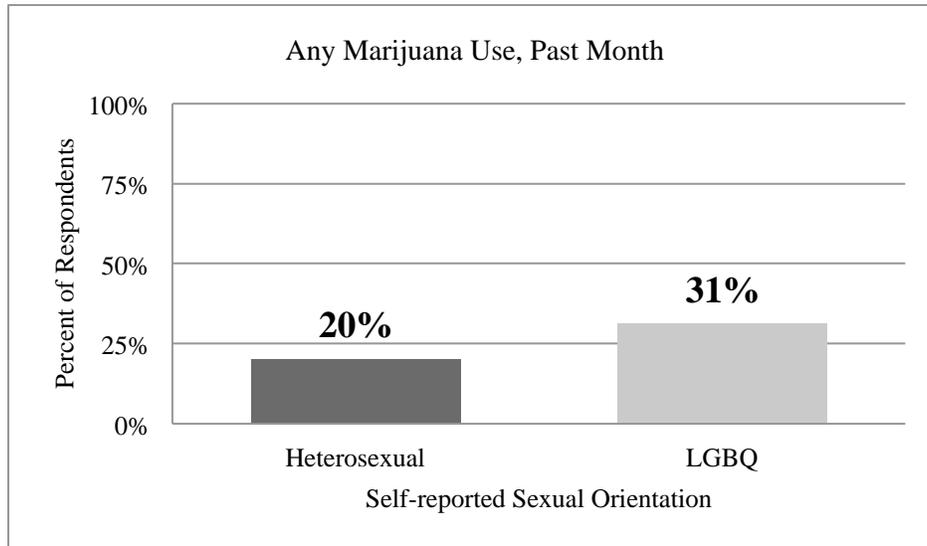


Figure 13 - Fischer's Exact  $p=0.0054$ , the association between sexual identity and marijuana use is statistically significant at the level of 95% confidence. Brookline High School Health Survey, 2013.

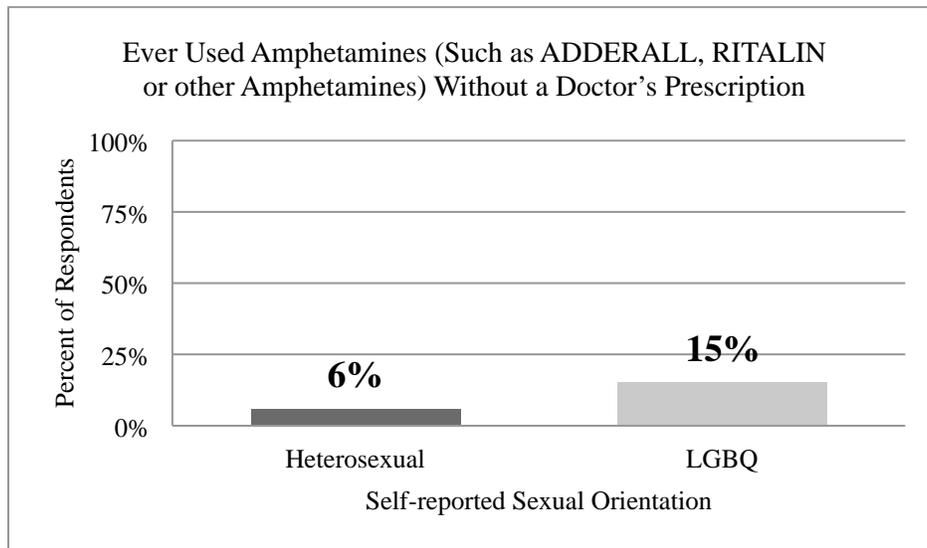


Figure 14 – The use of the term Amphetamines includes substances such as ADDERALL, RITALIN or other Amphetamines. Fischer's Exact  $p=0.0004$ , the association between sexual identity and ever having used amphetamines is statistically significant at the level of 95% confidence. Brookline High School Health Survey, 2013.

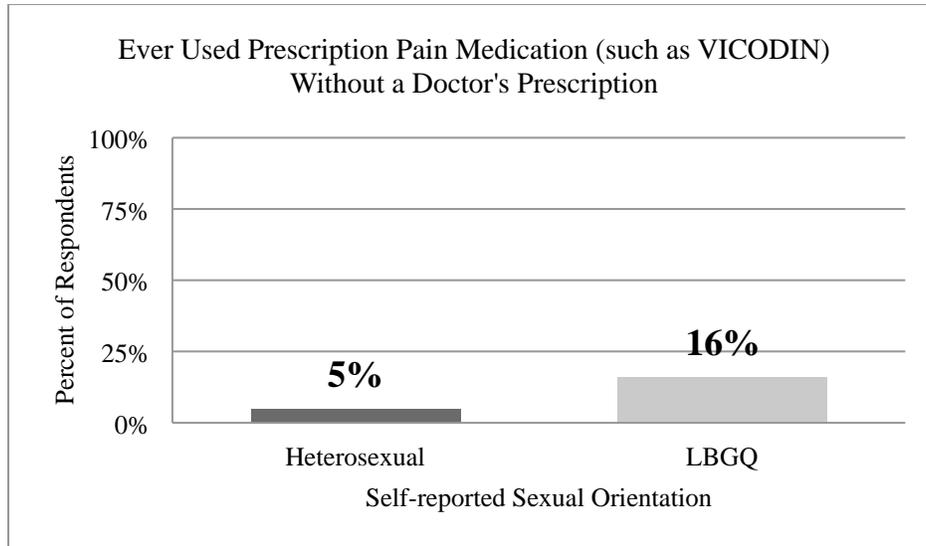


Figure 15 – Prescription pain medications include substances such as VICODEN and Oxycodone. Fischer’s Exact  $p < 0.0001$ , the association between sexual identity and recreational use of prescription pain medication is statistically significant at the level of 95% confidence. Brookline High School Health Survey, 2013.

## **Additional Resources**

- <sup>i</sup> Centers for Disease Control and Prevention. (2012). *Youth Violence Fact Sheet*. Retrieved 8 10, 2013, from <http://www.cdc.gov/violenceprevention/pdf/yv-datasheet-a.pdf>
- <sup>ii</sup> Garofalo, R (2006). The association between health risk behaviors and sexual orientation among a school-based sample of adolescents. *Pediatrics* , 101, 895-902.
- <sup>iii</sup> Kaufman MD, M. (2008). Care of the Adolescent Sexual Assault Victim. *Pediatrics* , 122 (2), 462-470.
- <sup>iv</sup> Coker, T et al. (2010). The Health and Health Care of Lesbian, Gay, and Bisexual Adolescents. *Annual Review of Public Health* , 31, 457-477.
- <sup>v</sup> Centers for Disease Control and Prevention. (2013, 1 25). *CDC releases data on interpersonal and sexual violence by sexual orientation*. Retrieved 8 10, 2013, from [http://www.cdc.gov/media/releases/2013/p0125\\_NISVS.html](http://www.cdc.gov/media/releases/2013/p0125_NISVS.html)
- <sup>vi</sup> Hamburger, M., Basile, K., & Vivolo, A. (2011). *Measuring Bullying Victimization, Perpetration, and Bystander Experiences: A Compendium of Assessment Tools*. Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Atlanta.
- <sup>vii</sup> Olweus, D. (1994). Bullying at school: Long-term outcomes for the victims and an effective school-based intervention program. In L. Huesmann (Ed.), *Agressive Behavior: Current Perspectives* (pp. 97-130). New York, NY: Plenum Press.
- <sup>viii</sup> Gladstone, G., Parker, G., & Malhi, G. (2006). Do bullied children become anxious and depressed adults? A cross-sectional investigation of the correlates of bullying and anxious depression. *The Journal of Nervous and Mental Disease* , 194, 201-208.