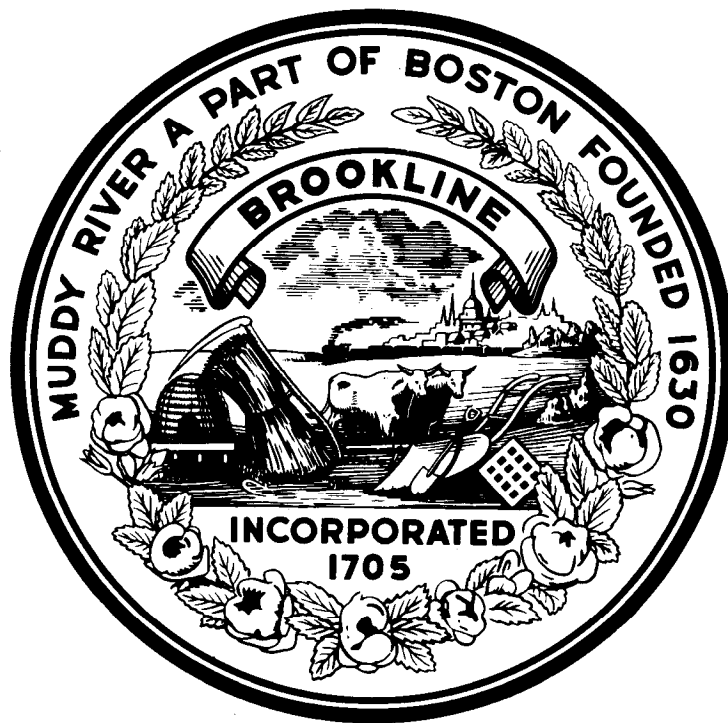


HEALTHY BROOKLINE
VOLUME XIV



YOUTH RISK BEHAVIOR SURVEY

Brookline Department of Public Health
2012

Acknowledgements

This report was prepared by Shari Sprong, MA, MS and Holly Careskey, under the direction of Alan Balsam, Ph.D., M.P.H., Director of Brookline Public Health and Human Services and Mary Minott, LICSW, Division Director, Brookline Substance Abuse and Violence Prevention Programs for Youth. Special thanks to Bruce Cohen, PhD, Director of Health Statistics and Research, Massachusetts State Department of Public Health for his editorial comments.

A Special thanks to the Advisory Council on Public Health

Bruce Cohen, PhD, Chair

Milly Krakow, PhD

Cheryl Lefman, MA

Pat Maher, MS, RN, CS

Anthony Schlaff, MD

Roberta Gianfortoni, MA

Support and information were also provided by:

Dr. Robert Weintraub, Brookline High School Headmaster

Teddi Jacobs, Curriculum Coordinator, Health and Physical Education

The staff at Brookline High School and the Brookline K – 8 Schools, who were responsible for implementing the survey

Major Contributors:

Beth Israel Deaconess Medical Center

Brigham and Women's Hospital

St. Elizabeth's Medical Center

Children's Hospital

With Additional Support from:

Blue Cross Blue Shield of Massachusetts

Brookline Community Foundation

Harvard Pilgrim Health Care

Tufts Health Plan

We thank them all for their generous support.

Implementation of the Brookline Health Survey and the compilation of this report were made possible with funding from a Drug Free Communities grant, administered by the Office of National Drug Control Policy (ONDCP) and the Substance Abuse and Mental Health Services Administration (SAMHSA), in recognition and support of ongoing programming to prevent teen substance abuse.

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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 reports 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 and XI*).

Healthy Brookline Volume XIV provides updated information on Brookline youth's risk behaviors. *Volumes IV, VIII and XI* presented data from the Brookline High School Health Survey, which was based on the national Youth Risk Behavior Survey (YRBS). The YRBS was developed by the Centers for Disease Control and Prevention in 1990 to monitor priority health risk behaviors that contribute markedly to the leading causes of death, disability, and social problems among youth and adults in the United States. These behaviors, often established during childhood and early adolescence, include:

- Alcohol and other drug use;
 - Tobacco use;
 - Unhealthy dietary behaviors;
 - Inadequate physical activity;
 - Sexual behaviors that contribute to unintended pregnancy and sexually transmitted diseases, including HIV infection;
 - Behaviors that contribute to unintentional injuries and violence.
- The YRBS is administered biannually both state and nationwide, and provides national data representative of high school students in public and private schools in the United States, as well as data representative of the state and local school districts in which it is administered. This range of information allows *Healthy Brookline XIV* to:
 - Suggest the prevalence of health risk behaviors;
 - Assess whether health risk behaviors appear to increase, decrease, or stay the same over time;
 - Examine the co-occurrence of health risk behaviors;
 - Provide comparable national, state, and local data;
 - Provide comparable data among subpopulations of youth.
 -

Methodology

The national and statewide surveys of the YRBS, to which the Brookline sample is compared, were administered during the spring of 2009. Both used a multi-stage clustering sampling design to produce randomly selected, representative samples of students. The US YRBS included 16,460 questionnaires from a national survey completed in 158 public and private schools, grades 9 – 12. There is no national survey for the middle school level.

Massachusetts conducted two youth surveys: the YRBS, which measured high school risk behaviors over time; and the Youth Health Survey, which provided a snapshot of middle school student risk behaviors, as well as other health status indicators in high school. Altogether, 8,514 students in 121 schools participated in the surveys. Students taking the middle school survey represented 6th, 7th and 8th grades. The school and student participation at both levels was voluntary and anonymous.

Because of the high student and school response rates, the results of this survey can be generalized to apply to all public high schools across Massachusetts.

Brookline's sample was non-randomized. All of the students who were present at Brookline High School (BHS) on the days the survey was given, March 29th and April 11, 2011, took the survey during their homeroom period. This included 1,259 students in grades 9 – 12. The middle school health survey was given in the eight Brookline K - 8 Schools during the week of March 21, 2011. The total included 770 students in grades 7-8. Students in the 6th grade were not surveyed. The state middle school YRBS survey includes 6th, 7th, and 8th graders. The results for the Brookline sample were compiled in the fall and winter of 2011-2012.

Pearson's chi square and Fischer's exact tests were utilized to determine the statistical significant of reported results at a 95% confidence interval ($p < 0.05$). Statistically significant changes are denoted as such within the body of the report.

Summary of Results

Alcohol Use

Nearly all measures of alcohol use among 9th – 12th graders appeared to remain somewhat constant from 2009 to 2011, with no significant changes.

- Lifetime use rates were 62% in both 2009 and 2011.
- First use of alcohol before age 13 also remained about the same, 11% in 2009 and 12% in 2011.
- Reported use of alcohol during the month prior to the survey was 36% in 2011, as compared to 38% in 2009.
- Twenty-one percent reported binge drinking in the month prior to the survey in 2011, as compared to 24% in 2009.
- Rates of reported drinking during the school day were 7% in 2009 and 5% in 2011.
- Twelfth graders reported significantly higher rates of several behaviors than 9th graders, including lifetime and recent use, recent binge drinking, and riding with a driver under 21 who had been drinking.
- Males reported higher rates than females of first use of alcohol under age 13, recent binge drinking, and drinking during the school day.

Among 7th and 8th graders, most of the measures of alcohol use also changed very little from 2009 to 2011.

- Lifetime use rates were 22% in 2009 and 25% in 2011.
- Rates of first use of alcohol before age 13 decreased slightly, but not significantly, from 19% in 2009 to 15% in 2011. However, the rate of students who reported that their first

use of alcohol was at or before age 8 decreased significantly, from 7% in 2009 to 3% in 2011.

- Rates of recent use of alcohol were 11% in 2009 and 9% in 2011.
- Eighth graders reported significantly higher rates than 7th graders in lifetime and recent use of alcohol.

For most comparable alcohol use indicators, Brookline 9th – 12th graders reported lower rates than state and national levels. Rates were similar for recent binge drinking. National data are not collected at the middle school level, so there is none to compare. Brookline 7th and 8th graders reported similar or lower rates than the statewide survey.

Marijuana Use

The changes in reported rates among Brookline 9th – 12th graders from 2009 to 2011 were not significant, except for an increase in the use of marijuana 100 or more times.

- Reported rates of having ever used marijuana were about the same from 2009 (39%) to 2011 (40%). However, as mentioned above, there was a significant increase in the rate of students who reported using marijuana 100 or more times in their lives, from 8% in 2009 to 10% in 2011.
- There was little change in the reported rate of first using marijuana before age 13, from 4% in 2009 to 3% in 2011.
- Reported use of marijuana during the month before the survey remained similar, 24% in 2009 and 26% in 2011.
- Twelfth graders reported significantly higher rates than 9th graders in most behaviors, except first use younger than age 13 and recent driving after using marijuana.
- Males reported significantly higher rates than females in all categories.

Among Brookline 7th and 8th graders, most of the measures of marijuana use decreased significantly from 2009 to 2011, other than lifetime use.

- Lifetime use rates were 8% in 2009 and 6% in 2011.
- Rates of marijuana use before age 13 decreased significantly from 5% in 2009 to 2% in 2011, and use at or before age 8 also decreased significantly, from 4% in 2009 to 1% in 2011.
- Reported use of marijuana in the month prior to the survey was 4% in 2011, significantly lower than 6% in 2009.
- Eighth graders reported significantly higher rates of lifetime and recent use of marijuana, as well as first use before age 13.

Brookline 9th – 12th graders' rates of marijuana use before age 13 were lower than state and national levels, but the rate of recent use was about the same as Massachusetts and higher than the US rate. Brookline 7th and 8th graders' rates were similar to statewide rates.

Other Illegal Drug Use

Most measures of the use of other illegal drugs remained relatively low in Brookline; reported usage was at or below 7% for all the illegal drugs surveyed. Rates of several drugs decreased significantly among high school students, including cocaine, heroin, steroids without a prescription, and hallucinogens (though the wording of that question was changed somewhat for this year's survey).

- Use of any illegal drug besides marijuana decreased significantly from 6% in 2009 to 4% in 2011.
- Cocaine use among BHS students decreased significantly from 6% in 2009 to 3% in 2011.
- Reported rates of heroin use and use of steroids without a prescription were also significantly decreased, both from 4% in 2009 to 2% in 2011.
- The reported rate of use of hallucinogens decreased significantly from 2009 (8%) to 2011 (6%), but the question was slightly different on the 2011 survey, so the rates may not be comparable.
- In use of all types of illegal drugs, other than steroids and over-the-counter drugs, 12th graders reported significantly higher rates of use than 9th graders.
- Similarly, males reported significantly higher rates of use than females in all categories except cocaine, steroids, and over-the-counter drugs.

There was very little change in rates for 7th – 8th graders from 2009 to 2011. Two new questions gathered data on the use of ADHD drugs (without a prescription) and other amphetamines, as well as prescription painkillers (without a prescription).

- Among 7th and 8th graders, reported rates of illegal drugs remained very low from 2009 to 2011:
 - Cocaine: 1% in 2011 (2% in 2009)
 - Inhalants: 6% in 2011 (same as 2009)
 - Steroids (pills or shots, without prescription): 1% in 2011 (2% in 2009)
- New questions were asked about two additional types of drugs on the 2011 middle school survey, and rates were low. Two percent of students reported use of Ritalin, Adderall, Concerta (without a prescription) or other amphetamines, and 1% reported use of prescription painkillers (without a prescription) to get high.
- Eighth graders reported significantly higher rates of use of cocaine, Ritalin (and the other amphetamines), and prescription painkillers than 7th graders.

The only comparable questions on the state and national high school surveys were about cocaine, heroin and steroids. Brookline 9th – 12th graders' rate of cocaine use was considerably lower than state and national figures, but rates of heroin and steroid use were comparable. There were no comparable Massachusetts middle school data.

Tobacco

Rates of tobacco use remain relatively low in Brookline, with the only significant changes at the high school involving decreases in recent smoking and recent use of chewing tobacco, snuff or dip.

- Among BHS students, the rate of lifetime cigarette smoking remained the same in 2009 and 2011 (26%), as did the rate of first use of tobacco at less than age 13 (5%). (There was a change in the wording of the lifetime use question).
- There were significant decreases in recent cigarette smoking, from 16% in 2009 to 11% in 2011, and in recent use of chewing tobacco, snuff or dip.
- Among smokers, the rate of those who have tried to quit was 35% in 2009 and 38% in 2011.

At the 7th and 8th grade level, there were significant decreases in first use of tobacco at or before age 8, recent smoking, and students who had smoked daily for at least a month.

- Lifetime use rates remained similar from 2009 (11%) to 2011 (10%). (As on the high school survey, there was a change in the wording of the lifetime use question.)
- The rate of first use of cigarettes before age 13 remained the same in 2009 and 2011 (5%), but the rate of students who reported that they had their first cigarette at or before age 8 decreased significantly, from 3% in 2009 to 1% in 2011.
- Recent use (past month) of cigarettes also decreased significantly from 5% in 2009 to 3% in 2011.
- Similarly, the rate of students reporting that they had smoked cigarettes daily for at least a month at some time in their lives decreased significantly from 5% in 2009 to 2% in 2011.
- Eighth graders reported significantly higher rates of lifetime and recent smoking cigarettes, as well as recent use of chewing tobacco, snuff and dip.

At the high school level, Brookline's rates were lower than the state and national rates for lifetime and recent use of cigarettes, as well as recent use of chewing tobacco, snuff and dip. The Brookline 7th – 8th grade rate of lifetime use was lower than the state rate (slightly difference question) and about the same as the state in recent cigarette smoking.

Violence Related Behavior

BHS students reported fewer violence related risk behavior than their MA and US counterparts in several categories:

- In 2011, 5% of BHS students reported being in a physical fight on school property in the past 12 months, compared to 11% students in the US in 2009 and 9% in MA in 2009. There was a decrease in school fights from BHS students from 8% in 2009 to 5% in 2011.
- In 2011, 17% of BHS students reported being bullied at school in the past 12 months. The rates of bullying were highest among 9th graders (20%) and lowest among 12th graders (12%). In the 7th-8th students, 29% of students reported being bullied on school property in the past 12 months.

Sexual Behavior

The rate of Brookline High School students 9th-12th grade students in reporting ever having sexual intercourse decreased to 27% in 2011 from 32% in 2009. This decrease is statistically significant. This rate is considerably lower than both the 2009 MA and US rate of 46%.

- In 2011, BHS males reported having ever had sexual intercourse (30%) more than females (23%). Six percent (6%) of Brookline 7th-8th grade students reported having ever had sexual intercourse.
- Among sexually active BHS students, 74% reported usually using a condom during sexual intercourse in 2011. This rate has been consistently decreasing from a high of 83% in 2005.

Suicidal Behavior

The rate of BHS students who report having seriously considered suicide in the past 12 months and making a plan (a marker of severe suicidality) has remained constant at 3% since 2005. Eleven percent of 7th-8th grade students report having EVER had serious thoughts of suicide.

- In 2011, BHS Gay, Lesbian, Bisexual, or Questioning students were more likely to report symptoms of depression (50%) than heterosexual students (22%). This is a statistically significant difference.
- Female (13%) 7th-8th grade students reported symptoms of depression more often than male students (10%).

Body Weight and Dietary Behaviors

This survey asked students about their perceived body weight. Students were not asked about their actual body weight.

- In 2011, 20% of BHS students described themselves as slightly overweight or very overweight. More females described themselves as overweight (23%) than males (18%). In the middle schools, 22% of 7th-8th grade students describe themselves as slightly overweight or very overweight. The rates were similar among 7th-8th grade females (23%) and males (22%).

Physical Activity

In 2011, the question regarding cardiovascular physical activity was changed from previous surveys. Previous surveys asked students about exercise in months over the past year. This survey simplified the question to number of days in the past week.

- In 2011, 73% of BHS students reported 60 minutes of cardiovascular activity for at least 3 of the past 7 days. 53% of BHS students reported participating in strengthening or toning exercises for at least 3 days in the past 7 days. In 2011, 81% of Brookline 7th-8th grade students reported 60 minutes of cardiovascular activity for at least 3 of the past 7 days.
- In 2011, 35% of BHS students and 28% of 7th-8th grade students reported spending 3 or more hours per average school day play videogames or using a computer (for non-school related activities).

Attitudes and Perceptions

Students' perceptions of the risk of using various drugs and of the level of parental disapproval of their use affected their reported rates of use of those drugs.

- More BHS students perceived a "great risk" of smoking one or more packs of cigarettes a day (69%) than the students who believed there was a "great risk" involved in binge drinking (62%), drinking 1 – 2 alcoholic drinks nearly every day (53%), or smoking marijuana regularly (27%).
- Significantly more females than males perceived a "great risk" of use of all of the drugs; significantly more 9th graders than 12th graders perceived a "great risk" of use of marijuana and binge drinking.
- In all cases, students who believed there was a "great risk" of harm (physical or other) if someone used the drug in question reported significantly lower rates of use of that drug themselves than did students who believed there was "no risk," "slight risk," or "moderate risk."

- In the case of marijuana, reported use of the drug decreased significantly with each increase in the perceived level of risk (e.g., from “no risk” to “slight risk”).
- The highest rate of perceived parental disapproval was towards cigarette smoking (89%), followed by binge drinking (85%), smoking marijuana regularly (72%), and drinking alcohol at least twice a month (70%).
- Significantly more females than males believed that their parents would disapprove of their use of any of the drugs; significantly more 9th graders than 12th graders believed their parents would disapprove of their use of alcohol (regular use or binge drinking) and marijuana.
- BHS students who believed their parents disapproved of their use of alcohol, marijuana or cigarettes used significantly less of those drugs, as evidenced by rates of lifetime and recent use, as well as heavy use (recent binge drinking or use of marijuana 100 or more times in one’s life).
- The highest rate of student disapproval of others their age using various drugs involved the use of illegal drugs other than marijuana (LSD, cocaine, heroin, amphetamines, ecstasy, etc.), followed by smoking cigarettes (55%), binge drinking (49%), drinking alcohol at least twice a month (31%) and smoking marijuana regularly (30%).
- Significantly more females than males disapproved of use of all of the drugs, except cigarettes; significantly more 9th graders than 12th graders disapproved of use of all of the drugs.
- Seventy percent or more of BHS students believed it would be “fairly easy” or “very easy” to access cigarettes, alcohol, or marijuana, followed by methamphetamines or Ritalin, Adderal, or Concerta without a prescription (29%). Fewer than 20% of students believed it would be “fairly easy” or “very easy” to access the other drugs mentioned: cocaine, heroin, steroids, or any other illegal drug.
- Significantly more females than males believed it would be “fairly easy” or “very easy” to access alcohol, whereas significantly more males believed it would be easier to access marijuana, steroids or illegal drugs; generally, as grade level increased, perceived ease of access of each type of drug increased, with a significant increase from 9th grade to 12th grade.
- At least one-third of BHS students overestimated their peers’ use of various drugs:
 - 41% overestimated the number of students who smoke cigarettes.
 - 32% believed that more students drink alcohol than actually do.
 - 39% overestimated the binge drinking among BHS students.
 - 30% stated that they believed more students use marijuana than the rate reported.

Resiliency and Protective Factors

Most of the rates of the protective factors addressed in the BHS survey remained similar to 2009, except for significant increases in the number of students who, in the past year, received mostly As, Bs, and Cs, and those who participated on at least one BHS sports team in the past year.

- The rate of BHS students reporting that they received mostly A’s, Bs, and C’s increased significantly from 94% in 2009 to 96% in 2011.
- From 2009 to 2011, the rates of students participating in volunteer work (48% to 49%) or

extracurricular activities (64% to 65%) remained about the same.

- Similarly, the rates of students who said they had a teacher or other adult in school to talk with about problems stayed about the same from 2009 (65%) to 2011 (64%).
- The rate of students reporting participation on at least one BHS athletic team increased significantly from 57% in 2009 to 62% in 2011.
- The only significant changes between 9th and 12th grades was an increase in the rate of students who said they have a teacher or other adult in school to talk to about problems, and a decrease in the rate of those who said that, while they didn't have an adult in school, they had a parent or other adult outside of school to talk with about problems.
- Females reported significantly higher rates of having an adult in school to talk with, volunteering, and participating in extracurricular activities. Males, on the other hand, reported significantly higher rates of not talking with any adult about problems and participating on at least one BHS athletic team.

When cross-referenced with selected risk behaviors, only two factors had a clear, strong protective effect.

- Higher grades in school and having an adult in school or outside of school to talk to about problems were both associated with significantly lower rates of all of the risk behaviors that were cross-referenced: recent binge drinking, lifetime marijuana use, recent cigarette smoking, and lifetime use of prescription painkillers to get high.
- Participation in extracurricular activities was protective in some instances (heavy marijuana use, recent cigarette smoking, and lifetime use of prescription painkillers), but not in others.
- Volunteering had no protective effect
- Participation on BHS athletic teams had no effect in all cases except two:
 - Participation on three or more teams was associated with significantly less cigarette smoking than those students who were not on any teams; and
 - Involvement in two teams was associated with significantly less use of prescription painkillers than participation on no teams or on three or more teams.

The only question asked on the Middle School survey related to protective factors was about the number of school or community sports teams on which students participate and the rates have not changed significantly.

- The rate of 7th – 8th graders who participated on athletic teams was similar from 2009 (76%) to 2011 (75%).
- There was little difference across grades or genders, except that significantly more males participated on three or more teams than did females.

Similar to the high school data, there was little or no protective effect provided for middle school students by participation on athletic teams. In fact, in some cases it was just the opposite.

- Participation on any number of teams was associated with significantly *higher* rates of recent alcohol use.
- Students on two teams reported *higher* rates of lifetime marijuana rates.
- Participation on three or more teams was associated with a significantly *higher* feeling of pressure to use drugs.
- There were no significant effects on either recent cigarette smoking or lifetime use of prescription painkillers.

2009 and 2011 Brookline Health Survey Responses by Grade and Sex

High School:

	2009	2011
Grade		
9 th grade	366	341
10 th grade	327	353
11 th grade	312	308
12 th grade	275	267
Gender		
Female	649	627
Male	639	632

Middle School:

	2009	2011
Grade		
7 th grade	356	370
8 th grade	337	385
Gender		
Female	363	359
Male	339	372

**Summary Comparison Table of Risk Behaviors
Brookline High School 9th - 12th Graders (2005, 2007, 2009, 2011)
Compared to State and US 9th-12th Graders (2009)**

2011 High School Survey Questions	Brookline 2005 (9 th -12 th) %	Brookline 2007 (9 th -12 th) %	Brookline 2009 (9 th -12 th) %	Brookline 2011 (9th-12th) %	State 2009 (9 th -12 th) %	US 2009 (9 th -12 th) %
ALCOHOL USE						
Lifetime alcohol use	68	69	62**	62	71	73
Alcohol use, past 30 days	40	43	38**	36	44	42
Alcohol use before age 13	12	13	12	11	17	21
Binge drinking, past 30 days	24	25	24	21**	25	24
Drinking during school day, past 30 days	7	7	7	5**	4 *(On school property)	5 *(On school property)
Driving after drinking, past 30 days	7	5	6	4**	9	10
Riding in vehicle with driver who had been drinking (driver over age 21/driver under age 21)	15 ‡(Driver age not specified)	16‡ ‡ (Driver age not specified)	15‡ ‡(Driver age not specified)	12 (over age 21) 9 (under age 21)	27* *(Driver age not specified)	28* *(Driver age not specified)
MARIJUANA USE						
Lifetime marijuana use	42	41	39	40	43	37
Lifetime marijuana use, over 100 times	7	7	8	10	N/A	N/A
Marijuana use before age 13	4	5	4	3	9	8
Marijuana use, past 30 days	23	25	24	27	27	21
Marijuana use during school day, past 30 days	8	9	9	9	6 *(On school property)	5 *(On school property)

* Different Wording Between Brookline, State, and National Surveys (difference noted)

‡The question changed wording between the 2005-2009 Brookline surveys and 2011 Brookline survey (difference noted)

** Statistically significant difference between marked survey and previous year survey

N/A – Statistic not available as question was not in survey

**Summary Comparison Table of Risk Behaviors
Brookline High School 9th - 12th Graders (2005, 2007, 2009, 2011)
Compared to State and US 9th-12th Graders (2009)**

2011 BHS Survey Questions	Brookline 2005 (9 th -12 th) %	Brookline 2007 (9 th -12 th) %	Brookline 2009 (9 th -12 th) %	Brookline 2011 (9th-12th) %	State 2009 (9 th -12 th) %	US 2009 (9 th -12 th) %
OTHER ILLEGAL DRUG USE						
Lifetime cocaine use	4	8	6**	3**	6	6
Lifetime heroin use	3	3	4	2**	2	3
Lifetime use of Ritalin, Adderal, Concerta, amphetamines without a prescription	8‡ ‡(Lifetime use of methamphetamines, Ritalin, adderal, concerta without Rx)	10‡ ‡(Lifetime use of methamphetamines, Ritalin, adderal, concerta without Rx)	8‡ ‡(Lifetime use of methamphetamines, Ritalin, adderal, concerta without Rx)	7	3 *(methamphetamine use only)	4 *(methamphetamine use only)
Lifetime steroid use without a prescription	3	4	4	2**	3	3
Lifetime use of hallucinogens, LSD, mushrooms, Ketamine, ecstasy	6‡ ‡(Lifetime use of inhalants, LSD, PCP, mushrooms, Ketamine, Rohypnol, GHB)	8‡ ‡(Lifetime use of inhalants, LSD, PCP, mushrooms, Ketamine, Rohypnol, GHB)	8‡ ‡(Lifetime use of inhalants, LSD, PCP, mushrooms, Ketamine, Rohypnol, GHB)	6**	N/A	N/A
Lifetime prescription painkiller use to get high (Percocet, Oxycontin, Oxycodone, Vicodin)	7‡ ‡(Lifetime painkiller use to get high)	8‡ ‡(Lifetime painkiller use to get high)	7‡ ‡(Lifetime painkiller use to get high)	6	N/A	N/A
Lifetime OTC cough/cold medicine use (to get high)	6	6	6	5	N/A	N/A
Lifetime medical treatment for overdose	3	3	3	4	N/A	N/A
Illegal drug use (other than marijuana), past 30 days	5	6	6	4**	N/A	N/A
TOBACCO						
Ever tried smoking, even just a puff	28‡ ‡(tried smoking a whole cigarette)	25‡ ‡(tried smoking a whole cigarette)	26‡ ‡(tried smoking a whole cigarette)	26	43 *(even one or two puffs)	46 *(even one or two puffs)

* Different Wording Between Brookline, State, and National Surveys (difference noted)

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**Summary Comparison Table of Risk Behaviors
Brookline High School 9th - 12th Graders (2005, 2007, 2009, 2011)
Compared to State and US 9th-12th Graders (2009)**

2011 BHS Survey Questions	Brookline 2005 (9 th -12 th) %	Brookline 2007 (9 th -12 th) %	Brookline 2009 (9 th -12 th) %	Brookline 2011 (9th-12th) %	State 2009 (9 th -12 th) %	US 2009 (9 th -12 th) %
TOBACCO (CONTINUED)						
Started smoking before age 13	6	4	5	5	9	11
Smoking, past 30 days	9	15	16	11**	16	20
Smoking at school, past 30 days	7	7	8	5**	7 *(on school property)	5 *(on school property)
Use of chewing tobacco, snuff, dip, past 30 days	4	5	7**	4**	8	9
Tried to quit smoking cigarettes (% of smokers)	38	39	35	38	58	51†
VIOLENCE-RELATED BEHAVIORS						
Carried a gun, past 30 days	5	5	6	3**	4	6
Carried weapon (such as knife or club) at school, past 30 days	10	8	9	5**	4 *(gun, knife, or club)	6 *(gun, knife or club)
Physical fight requiring treatment by doctor or nurse, past 12 months	7	7	7	6	3	4
Physical fight on school property, past 12 months	9	9	8	5**	9	11
Skipped school because felt unsafe, past 30 days	6	7	8	4**	4	5
Heard prejudiced language/remarks made towards gay, lesbian or bisexual students, past 30 days	80	73	67**	72**	N/A	N/A
Bullied at school, past 12 months	20‡ ‡(At least 1 time)	21‡ ‡(At least 1 time)	22‡ ‡(At least 1 time)	17‡ ‡(answered Yes)	19	20

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Brookline High School 9th - 12th Graders (2005, 2007, 2009, 2011)
Compared to State and US 9th-12th Graders (2009)**

2011 BHS Survey Questions	Brookline 2005 (9 th -12 th) %	Brookline 2007 (9 th -12 th) %	Brookline 2009 (9 th -12 th) %	Brookline 2011 (9th-12th) %	State 2009 (9 th -12 th) %	US 2009 (9 th -12 th) %
SUICIDAL BEHAVIOR						
Felt overwhelming stress or anxiety occasionally or frequently, past 12 months	72	72	66**	79**	N/A	N/A
Felt suicidal, past 12 months	20	21	20	19	14 *(seriously consider suicide)	14 *(seriously consider suicide)
Seriously considered suicide and made a suicide plan, past 12 months	3	3	3	3	11 *(made a plan)	11 *(made a plan)
Attempted suicide that resulted in medical treatment, past 12 months	2	2	2	<1	3	2
SEXUAL BEHAVIOR						
Ever had sexual intercourse	28	29	32	27**	46	46
Sexual intercourse before age 13	5	5	7**	2**	5	6
Three or more sexual partners	9	11	12	9**	13 *(4 or more partners)	14 *(4 or more partners)
Sexual contact against one's will	10	10	10	7**	11	7 *(forced sexual intercourse)
Usually use a condom during sexual intercourse (among sexually active students)	83	82	78	74	58 *(used at last intercourse)	61 *(used at last intercourse)
Engaged in sexual activity after using alcohol that you wouldn't have if you weren't drinking	15	17	16	13**	24 *(Alcohol or drug use at last intercourse)	22 *(Alcohol or drug use at last intercourse)

* Different Wording Between Brookline, State, and National Surveys (difference noted)

‡ The question changed wording between the 2005-2009 Brookline surveys and 2011 Brookline survey (difference noted)

** Statistically significant difference between marked survey and previous year survey

N/A – Statistic not available as question was not in survey

**Summary Comparison Table of Risk Behaviors
Brookline High School 9th - 12th Graders (2005, 2007, 2009, 2011)
Compared to State and US 9th-12th Graders (2009)**

2011 BHS Survey Questions	Brookline 2005 (9 th -12 th) %	Brookline 2007 (9 th -12 th) %	Brookline 2009 (9 th -12 th) %	Brookline 2011 (9th-12th) %	State 2009 (9 th -12 th) %	US 2009 (9 th -12 th) %
BODY WEIGHT AND DIETARY BEHAVIORS						
Describe self as slightly or very overweight	24	22	22	20	29	28
Fasted for 24 hours or more to lose or maintain weight, past month	7‡ ‡(past year)	6‡ ‡(past year)	8‡ ‡(past year)	7	8	11
Took diet pills, powders, or liquids without Dr.'s advice to lose or maintain weight, past month	2‡ ‡(past year)	2‡ ‡(past year)	2‡ ‡(past year)	2	5	5
PHYSICAL ACTIVITY						
Participated in 60 minutes of cardiovascular activity for at least 5 of the past 7 days	56‡ ‡(participated in cardiovascular exercise at least 3 times a week for 5 or more of past 12 months)	59‡ ‡(participated in cardiovascular exercise at least 3 times a week for 5 or more of past 12 months)	58‡ ‡(participated in cardiovascular exercise at least 3 times a week for 5 or more of past 12 months)	50	34 *	37
Participated in exercise to strengthen or tone muscles at least for at least 3 of the past 7 days	40‡ ‡(participated in toning exercises at least 3 times a week for at least 30 minutes for 5 or more of past 12 months)	42‡ ‡(participated in toning exercises at least 3 times a week for at least 30 minutes for 5 or more of past 12 months)	45‡ ‡(participated in toning exercises at least 3 times a week for at least 30 minutes for 5 or more of past 12 months)	53	63 *(at least 20 minutes for 3 or more days in last 7 days)	N/A
Participated on at least 1 BHS sports team in the past 12 months	51	54	57	61**	59 *(school or community)	58 *(school or community)

* Different Wording Between Brookline, State, and National Surveys (difference noted)

‡The question changed wording between the 2005-2009 Brookline surveys and 2011 Brookline survey (difference noted)

** Statistically significant difference between marked survey and previous year survey

N/A – Statistic not available as question was not in survey

**Summary Comparison Table of Risk Behaviors
Brookline High School 9th - 12th Graders (2005, 2007, 2009, 2011)
Compared to State and US 9th-12th Graders (2009)**

2011 BHS Survey Questions	Brookline 2005 (9 th -12 th) %	Brookline 2007 (9 th -12 th) %	Brookline 2009 (9 th -12 th) %	Brookline 2011 (9th-12th) %	State 2009 (9 th -12 th) %	US 2009 (9 th -12 th) %
Watched 3 or more hours of TV on an average school day	25‡	27‡	25‡	15 *(TV)	30 *(TV)	33 *(TV)
Used a computer for non-school related work for 3 or more hours (ie videogames, facebook, surfing the web), on an average school day	‡ (Watched 3 or more hours of TV or played computer/videogames on an average school day)	‡ (Watched 3 or more hours of TV or played computer/videogames on an average school day)	‡ (Watched 3 or more hours of TV or played computer/videogames on an average school day)	35 *(Computer/Videogames)	30 *(Computer /video games)	25 *(Computer/Video games)
PROTECTIVE FACTORS						
Received mostly As, Bs and Cs	95	95	94	96	N/A	N/A
Participated in volunteer work (at least 1 hour/month)	49	51	48	48	N/A	N/A
Participated in organized extra- curricular activities (at least 1 day in past week)	67	67	64	65	N/A	N/A
Has teacher or other adult in school with whom one can talk about problem	62	59	65**	64	N/A	N/A

* Different Wording Between Brookline, State, and National Surveys (difference noted)

‡ The question changed wording between the 2005-2009 Brookline surveys and 2011 Brookline survey (difference noted)

** Statistically significant difference between marked survey and previous year survey

N/A – Statistic not available as question was not in survey

**Summary Comparison Table of Risk Behaviors
Brookline Middle Schools, 7th-8th Grade (2009, 2011)
Compared to 2009 Massachusetts data**

2011 Middle School Survey Questions	Brookline 2007 (7 th -8 th) %	Brookline 2009 (7 th -8 th) %	Brookline 2011 (7th-8th) %	State 2009 (6 th -8 th) %
ALCOHOL USE				
Lifetime alcohol use	33	25	22	28
Alcohol use, past 30 days	N/A	11	8	11
Alcohol use before age 13	26	19	15	N/A
Riding in vehicle with driver who had been drinking	23	18	8*	N/A
Felt pressured to drink alcohol	12	14	9*	N/A
MARIJUANA USE				
Lifetime marijuana use	10	8	6	9
Marijuana use before age 13	9	5	2*	N/A
Marijuana use, past 30 days	N/A	6	4	5
Felt pressured to use marijuana	10	10	10	N/A
OTHER ILLEGAL DRUG USE				
Lifetime cocaine use	4	2	1	N/A
Lifetime use of Ritalin, Adderal, Concerta, Amphetamines without a prescription	N/A	N/A	2	N/A
Lifetime steroid use without a prescription	3	2	1	N/A
Lifetime use of sniffing glue, spray cans, paints or sprays to get high	9	6	6	N/A
Lifetime prescription painkiller use to get high (Percocet, Oxycontin, Vicodin)	N/A	N/A	1	N/A
Felt pressure to try any drugs	8	8	8	N/A

N/A-Statistic not available as the question was not asked in the survey or the data is not published

* Statistically significant difference between marked survey and previous year survey

‡ The question changed wording between the 2005-2009 Brookline surveys and 2011 Brookline survey (difference noted)

**Summary Comparison Table of Risk Behaviors
Brookline Middle Schools, 7th-8th Grade (2009, 2011)
Compared to 2009 Massachusetts data**

2011 Middle School Survey Questions	Brookline 2007 (7 th -8 th) %	Brookline 2009 (7 th -8 th) %	Brookline 2011 (7th-8th) %	State 2009 (6 th -8 th) %
TOBACCO				
Ever tried smoking, even just a puff	16	11	9	15
Started smoking before age 13	8	5	5	4
Smoking, past 30 days	5	5	2*	N/A
Use of chewing tobacco, snuff, dip, past 30 days	5	3	2	N/A
Use of other forms of tobacco (smoke-free, dissolvable, cigarillos, flavored cigarettes)	6	5	2*	N/A
Felt pressure to use tobacco products	12	10	9	N/A
VIOLENCE-RELATED BEHAVIORS				
Ever carried a weapon (gun, club, or knife)	22	82	16*	N/A
Access to a gun	N/A	N/A	5	N/A
Physical fight in the past 12 months	N/A	N/A	27	N/A
Ever in a physical fight requiring treatment by doctor or nurse	8	7	5	N/A
Deliberately hit, slapped or physically hurt by boyfriend or girlfriend, past year	N/A	N/A	6	N/A
Heard prejudiced language/remarks made towards gay, lesbian or bisexual students, past 30 days	N/A	N/A	80	N/A
Bullied at school, past 12 months	N/A	51‡ ‡Ever bullied at school	29	36
Electronically bullied, past 12 months	18	22	16*	N/A
SUICIDAL BEHAVIOR				
Felt overwhelming stress or anxiety occasionally or frequently, past 12 months	N/A	N/A	71	N/A
Ever seriously thought about killing self	15	11	11	N/A
Ever made a plan to about how to kill self	11	9	7	N/A
Ever attempted suicide	5	4	3	5‡ ‡in past year
Ever attempted self harm (ie cutting, burning)	16	10	10	15

N/A-Statistic not available as the question was not asked in the survey or the data is not published

* Statistically significant difference between marked survey and previous year survey

‡The question changed wording between the 2005-2009 Brookline surveys and 2011 Brookline survey (difference noted)

**Summary Comparison Table of Risk Behaviors
Brookline Middle Schools, 7th-8th Grade (2009, 2011)
Compared to 2009 Massachusetts data**

	Brookline 2007 (7 th -8 th) %	Brookline 2009 (7 th -8 th) %	Brookline 2011 (7th-8th) %	State 2009 (6 th -8 th) %
2011 Middle School Survey Questions				
SEXUAL BEHAVIOR				
Ever had sexual intercourse	13	8	6	N/A
Sexual intercourse before age 13	12	4	4	N/A
Three or more sexual partners	8	3	3	N/A
Sexual contact against one's will	N/A	N/A	4	N/A
Usually use a condom during sexual intercourse (among sexually active students)	64	67	65	N/A
Know what oral sex is	84	85	84	N/A
Participated in oral sex	13	9	8	N/A
Felt pressure to have oral sex	11	9	7	N/A
Felt pressure to have sexual intercourse	17	15	7*	N/A
BODY WEIGHT AND DIETARY BEHAVIORS				
Describe self as slightly or very overweight	24	22	22	N/A
Fasted for 24 hours or more to lose or maintain weight, past 30 days	10	8	6	N/A
Took diet pills, powders, or liquids without Dr.'s advice to lose or maintain weight, past month	3	2	1	N/A
Currently trying to lose weight	61	34	34	N/A
Ever vomited or taken laxatives for to lose or maintain weight	5	5	2*	N/A
PHYSICAL ACTIVITY				
Participated in 60 minutes of cardiovascular activity for at least 3 of the past 7 days	75	77	81	N/A
Watched 3 or more hours of TV on an average school day	25	18	16	N/A
Used a computer for non-school related work for 3 or more hours (ie videogames, facebook, surfing the web), on an average school day	17	15	28*	N/A

N/A-Statistic not available as the question was not asked in the survey or the data is not published

* Statistically significant difference between marked survey and previous year survey

‡ The question changed wording between the 2005-2009 Brookline surveys and 2011 Brookline survey (difference noted)

Alcohol Use

Each year in the United States, approximately 75,000 deaths result from the excessive use of alcohol.¹ Alcohol is a factor in approximately 41% of all deaths from motor vehicle crashes.² Among youth, the use of alcohol and other drugs additionally has been linked to unintentional injuries, physical fights, academic and occupational problems, and illegal behavior.³ In 2009, 27% of students reported riding with a driver who had been drinking alcohol and 9% reported driving after drinking in the past 30 days.⁴

Long-term alcohol misuse also is associated with liver disease, cancer, cardiovascular disease, and neurological damage, as well as psychiatric problems such as depression, anxiety, and antisocial personality disorder.⁵ Each year, approximately 5,000 people under the age of 21 die as a result of underage drinking. This includes about 1,900 deaths from car accidents, 1,600 homicides, 300 suicides, and hundreds of other deaths due to accidents like falls, burns and drowning.⁶ Alcohol use by youths has been linked to delinquent behaviors, such as stealing, illicit drug use, and problems in school. Research also indicates that early drinkers are more likely than nondrinkers to engage in delinquent behaviors.⁷ Young persons who begin drinking before age 13 are four times more likely to develop alcohol dependence and twice as likely to develop alcohol abuse as those who begin drinking at age 21.⁸ The way young people drink also results in harm to self and others including: risky sexual behavior; physical and sexual assaults; potential deleterious effects on the developing brain; problems in school, at work, and with the legal system; various types of injury; car crashes; homicide and suicide; and death from alcohol poisoning.⁹

Adolescents drink less frequently than adults, but when they do drink, they drink more heavily than adults often with the attention of getting drunk. When youth between the ages of 12 and 20 consume alcohol, they drink on average about five drinks per occasion about six times a month. By comparison, adult drinkers age 26 and older consume on average two to three drinks per occasion about nine times a month.¹⁰

In the United States, 17.6 million people--about 1 in every 12 adults--abuse alcohol or are alcohol dependent is highest among young adults ages 18-29.¹¹ In general, more men than women are alcohol dependent or have alcohol problems, and alcohol problems.

Relatively new research indicates that the developing adolescent brain may be particularly susceptible to long-term negative consequences from alcohol use. Recent studies show that alcohol consumption has the potential to trigger long-term biological changes that may have detrimental effects on the developing adolescent brain, including cognitive impairment.¹²

Adolescents' attitudes about the risks associated with substance use are often closely related to their substance use, (the prevalence of risk perceptions decreases, the prevalence of drug use increases).¹³ Nationally, only 40% of adolescents perceived great risk from having five or more drinks of alcohol once or twice a week.¹⁴ Instead, adolescents believe that the positive benefits of drinking (feeling good, fitting in with peers) are more likely to occur than the negative effects of drinking (feeling sick, causing serious health problems).¹⁵

Nationally, alcohol use has continued to decline among high school seniors, with past-month use falling from 43.5% to 41.2% and alcohol binge drinking (defined as 5 or more drinks in a row in the past 2 weeks) declining from 25.2% to 23.2% in 2010. Declines were also observed for all measures among 12th graders reporting the use of flavored alcoholic beverages. Past-year use fell from 53.4% to 47.9%.¹⁶

Across Massachusetts, the percentage of students who reported ever having at least one drink of alcohol during their lives (lifetime use) has decreased from 81% in 2001 to 71% in 2009, and binge drinking rates have also declined over that period, from 33% of students to 25%. Early initiation of alcohol use also decreased considerably between 2001 and 2009, from 28% to 17%. Lifetime alcohol use, current alcohol use, and binge drinking increased with grade in school, and rates of early initiation of alcohol use were significantly higher among males than females.

In this report the following definitions were used:

Lifetime alcohol use: Any consumption of alcohol during one's life, other than a few sips

Recent alcohol use: One or more alcoholic drinks on at least one of the 30 days prior to the survey

Binge drinking: Five or more alcoholic drinks in a row, within a couple of hours, on at least one day during the month prior to the survey

The Brookline Middle School and High School (BHS) 2011 Health Surveys asked 7th - 8th or 9th - 12th grade students, respectively, to report on their patterns of alcohol use, including lifetime and recent use, as well as age of first use. The High School survey included questions about binge drinking and alcohol use during the school day. Students were also asked about drinking and driving, both their own (high school) and riding with a driver who had been drinking.

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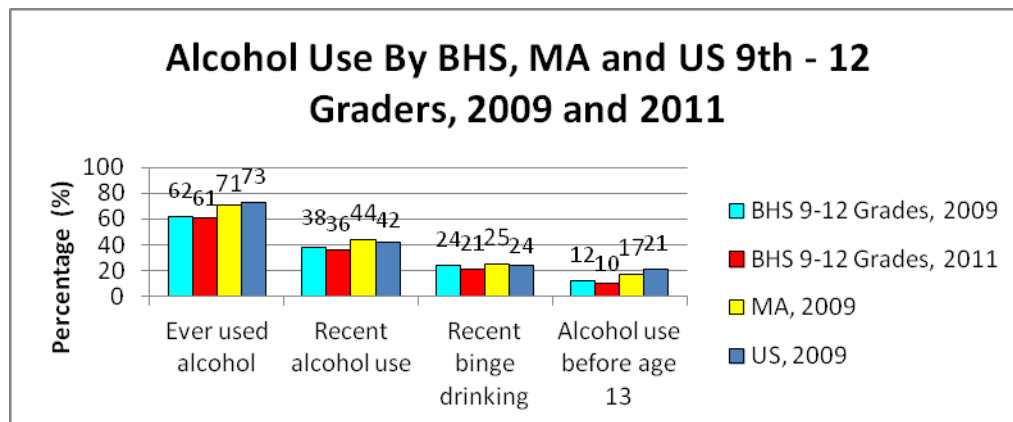
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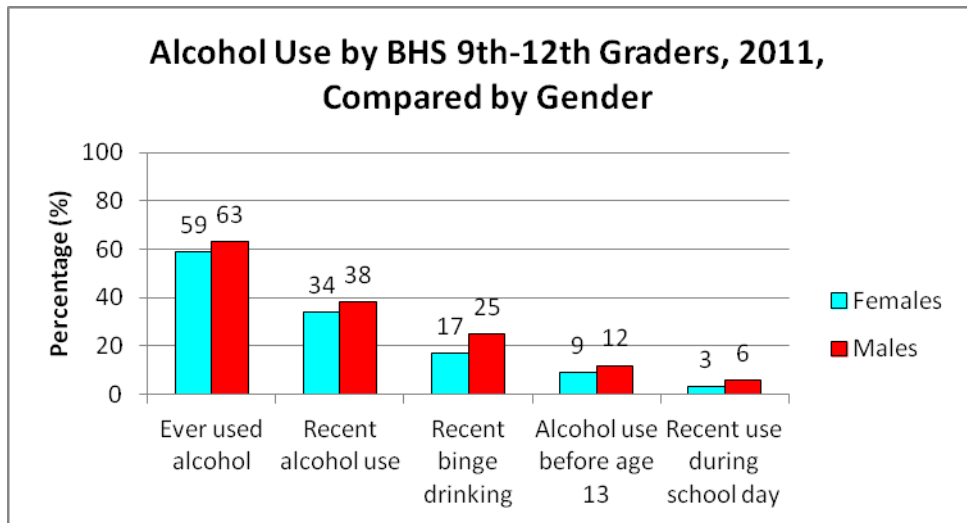
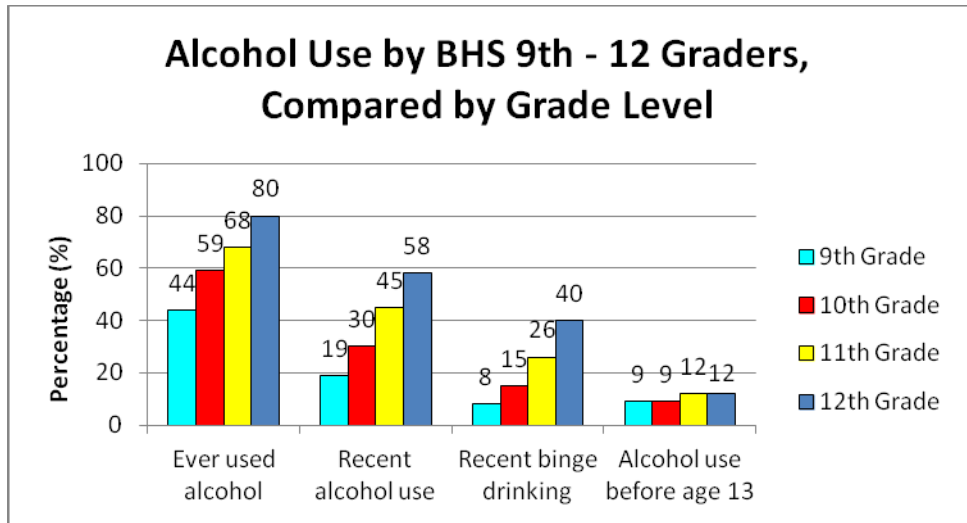
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Alcohol Use

High School Data

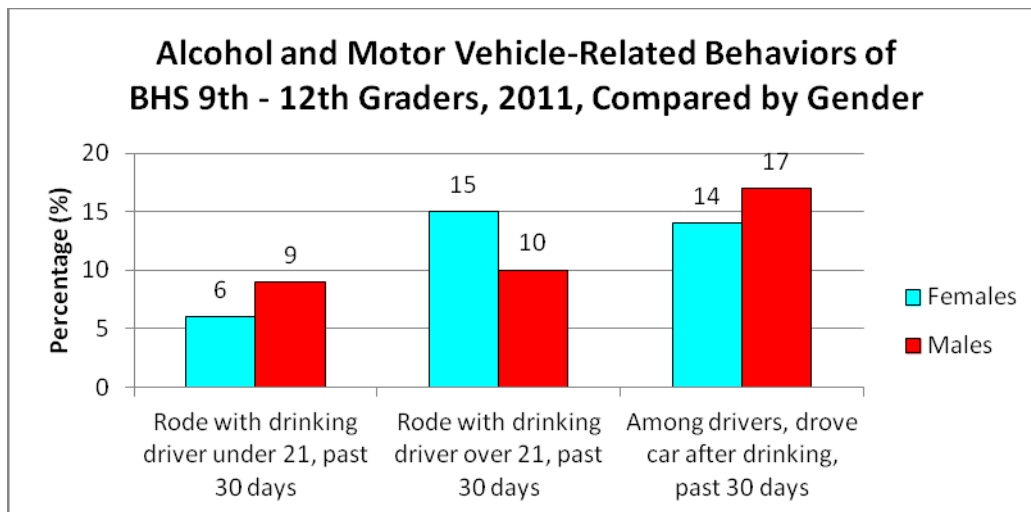
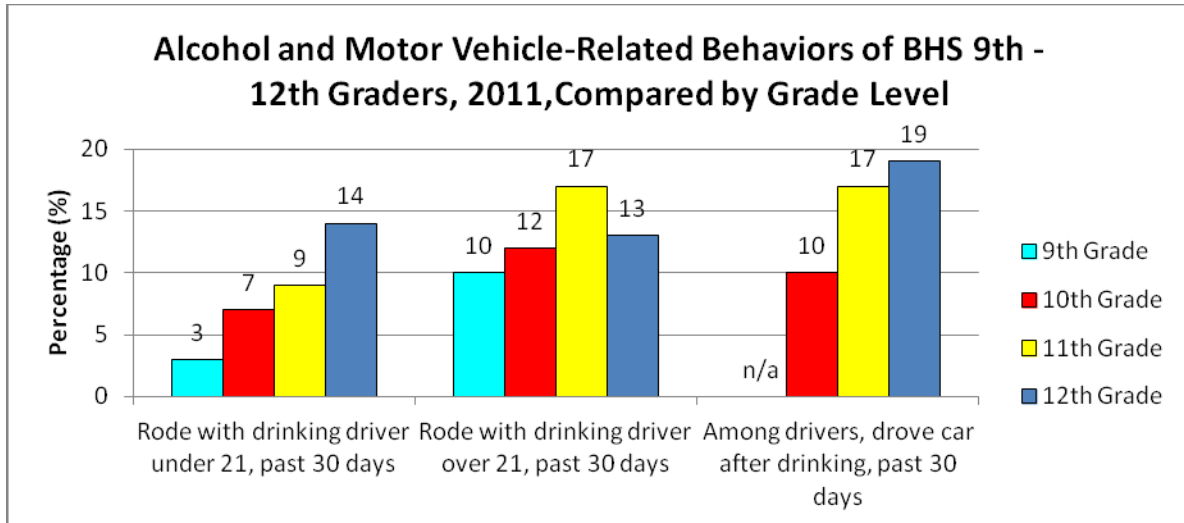
- In both 2009 and 2011, 62% of BHS students reported having used alcohol in their lifetime. There was a range of 44% of 9th graders to 80% of 12th graders in 2011. The figures for the State and US were considerably higher than Brookline's average, 71% and 73%, respectively.
- The rate for females' lifetime use of alcohol was 59%, as compared to males' lifetime use of 63%.
- Eleven percent reported using alcohol before the age of 13, as compared to 12% in the last survey (2009). This is lower than the state (17%) and US (21%) rates. Twelve percent of Brookline males reported alcohol use before age 13, significantly more than females (9%).
- Thirty-six percent of 2011 BHS students reported alcohol use in the 30 days prior to the survey, as compared to 38% of 2009 students. The US rate was 42%, as compared to the Massachusetts rate of 44%. There is a significant difference across grades at BHS, with 19% of 9th graders and 58% of 12th graders reporting recent drinking.
- In 2011, the reported BHS rate of binge drinking within the month prior to the survey was 21%, as compared to 25% for the State, and 24% for the US. The 2009 BHS rate was 24%. Rates across grade levels were 8% for 9th graders, 15% for 10th graders, 26% for 11th graders, and 40% for 12th graders, with a significant difference from 9th to 12th grades. Rates for males (25%) were significantly higher than those for females (17%).
- Five percent of BHS students reported having at least one drink during the school day, as compared to 7% in 2009. This is similar to state and national figures (4% and 5%, respectively), although the question is worded differently on those surveys to ask if students have been drinking on school property, rather than during the school day. Three percent of 9th graders reported the behavior, compared to 6% of 12th graders. Significantly more males (6%) drank during the school day than females (3%).





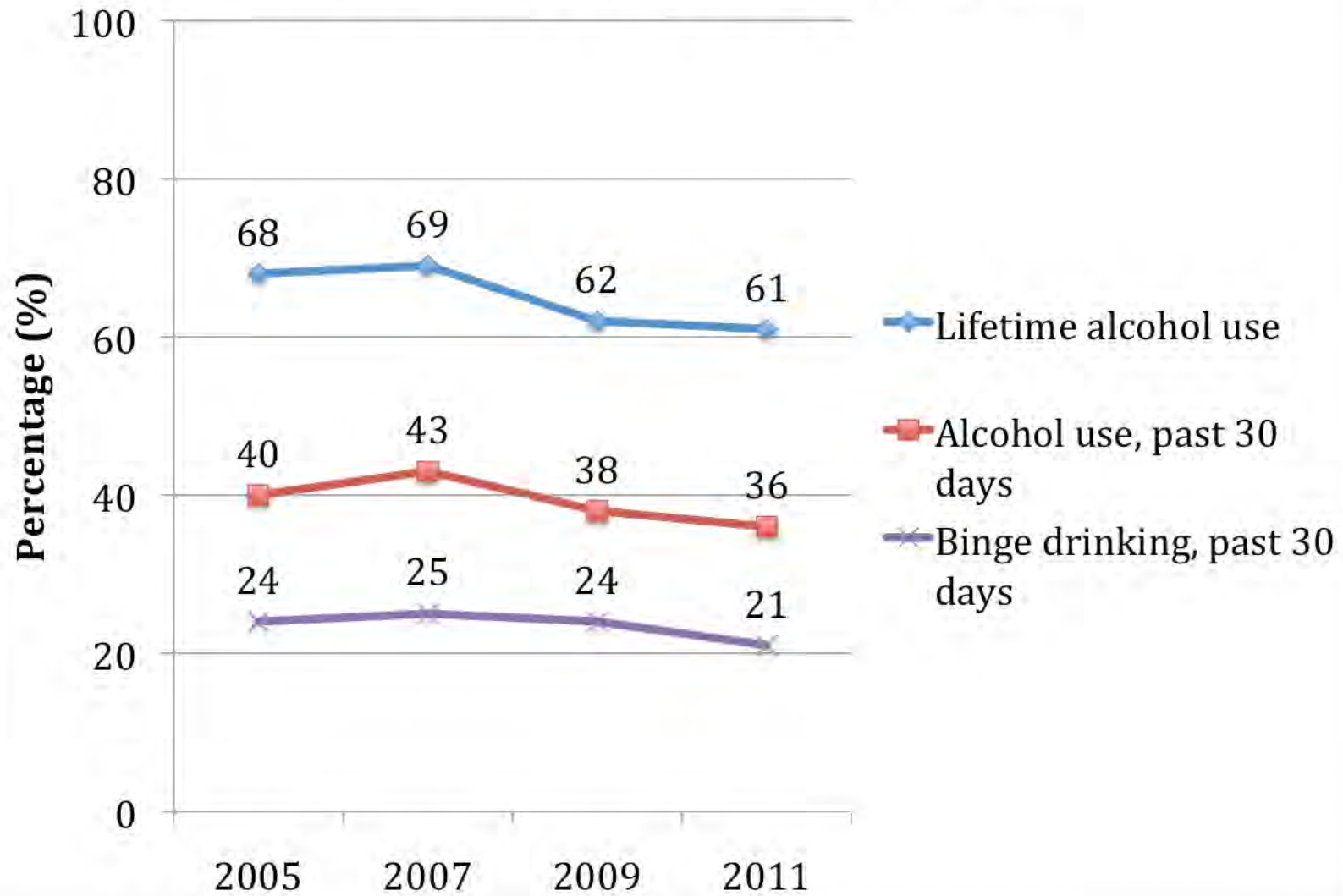
- The 2011 survey asked two questions about riding with a driver who had been drinking alcohol, distinguishing whether the driver was younger or older than 21 years of age. Eight percent of BHS students reported riding with a person younger than 21 who had been drinking, as compared to 12% who rode with someone over 21.
- Nine percent of males reported riding with underage drivers who had been drinking, as compared to 6% of females. However, 15% of females reported riding with drivers over 21 years who had been drinking, significantly more than males (10%). The rates increased significantly across grade levels, from 3% of 9th graders to 14% of 12th graders (riding with drivers under 21) and from 10% of 9th graders to 17% of 11th graders (riding with drivers over age 21). The exception was that 13% of 12th graders reported riding with a driver over age 21 who had been drinking.

- Among BHS students who drive, 17% reported driving after drinking at least once in the month prior to the survey. Slightly more males than females acknowledged it. More 12th grade drivers reported driving after drinking than drivers in other grades (not significant).

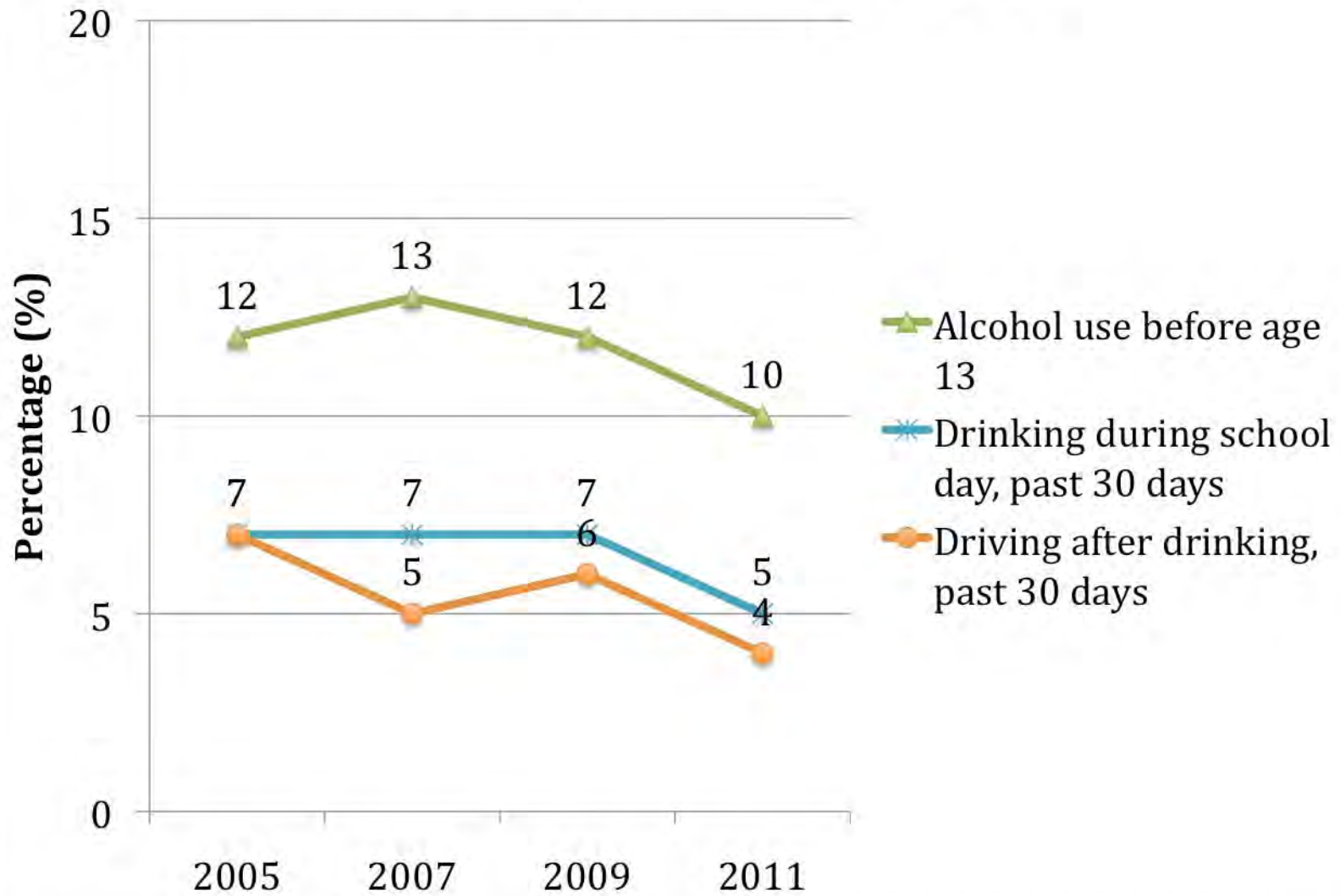


The trend line data show that lifetime and recent drinking, as well as drinking before age 13 and driving after drinking, have all decreased significantly since 2005, when data were first collected from 9th – 12th graders at BHS. Rates of binge drinking have decreased significantly from their highest point in 2007. The other changes were not statistically significant. See graph on the following page.

BHS Alcohol Use trends, 2005-2011



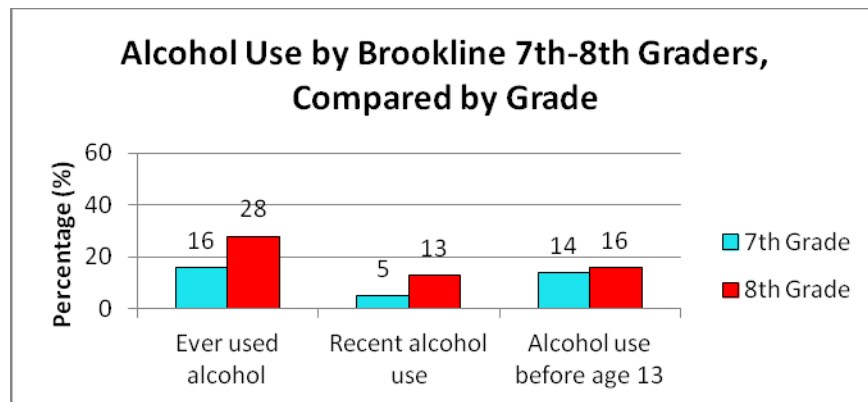
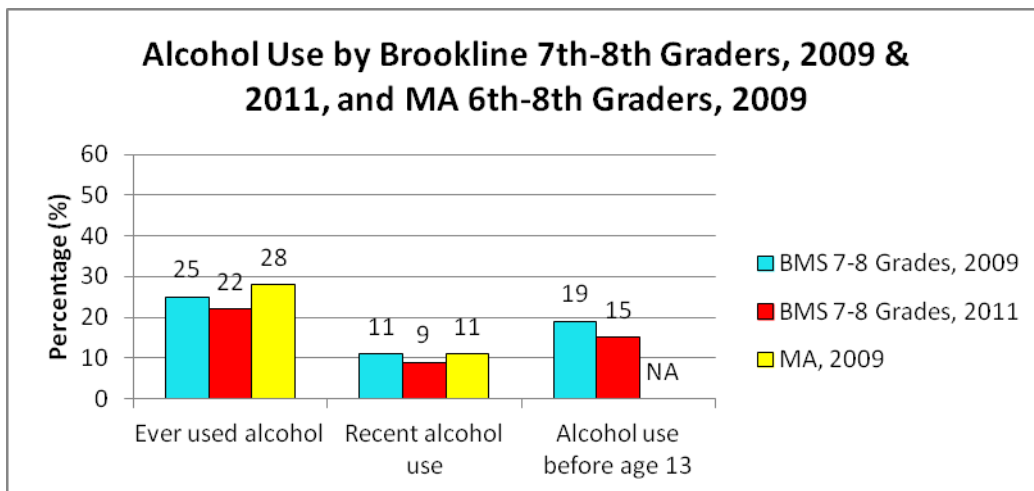
BHS Alcohol Use trends, 2005-2011



Middle School Data

Note: There are no US middle school data for comparison.

- Among Brookline middle school students reported lifetime use of alcohol was 25% in 2009 and 22% in 2011. In Massachusetts, the lifetime use rate was 28% in 2009.
- Eighth graders were significantly more likely to have ever used alcohol than 7th graders (28% and 16%, respectively). There was only a small difference between males (24%) and females (20%).
- In 2011, 15% of 7th and 8th graders reported using alcohol before the age of 13, compared to 19% in 2009. The percent of Brookline middle school students who reported starting to use alcohol at age 8 or younger decreased significantly from 7% in 2009 to 3% in 2011. Two-thirds of those who started alcohol use at or before age 8 were males.
- Nine percent of 7th and 8th graders reported using alcohol in the 30 days prior to the survey in 2011, compared to 11% in 2009. The rate for MA middle school students was also 11% in 2009.
- Significantly fewer 7th graders (5%) reported recent alcohol use than 8th graders (13%). There was little difference between genders (males, 10% and females, 8%).



Illegal Drug Use

Drug abuse and addiction have enormous negative consequences for individuals and for society. Estimates of the total overall costs of illicit drug abuse in the United States, including productivity and health- and crime-related costs, approximate \$181 billion.¹ More importantly, the use of illegal drugs can have a devastating impact on personal health and safety, especially youth. Illegal drug use can lead to injury, violence, unwanted sexual contact, teen pregnancy, school failure, and delinquency.

Marijuana, the most commonly abused illegal drug in the United States, can seriously affect adolescents in a number of ways. The short-term effects can include impaired short-term memory, attention, judgment, and other cognitive functions; difficulty in thinking and problem solving; loss of coordination and balance; and increased heart rate.² Students who smoke marijuana get lower grades and are less likely to graduate from high school, compared with their nonsmoking peers.³ A number of studies have shown an association between chronic marijuana use and increased rates of anxiety, depression, and schizophrenia. Some of these studies have shown that the age at which marijuana is first used is an important risk factor, with early use a marker of increased vulnerability to later problems. Chronic marijuana use, especially in a very young person, may also be a marker of risk for mental illnesses - including addiction - for those with genetic or environmental vulnerabilities (such as early exposure to stress or violence). Currently, there is strong evidence linking marijuana use and schizophrenia and/or related disorders.⁴

Recent research has shown the presence, in both mainstream and sidestream smoke of known carcinogens and other chemicals implicated in respiratory diseases (similar to tobacco smoke).⁵ Studies have found that people who smoke marijuana frequently, but do not smoke tobacco, have more health problems and miss more days of work than nonsmokers, especially due to respiratory illnesses.⁶ This is reflected in student absenteeism, as well.

Evidence from both real and simulated driving studies indicates that marijuana can negatively affect a driver's attentiveness, perception of time and speed, and ability to draw on information obtained from past experiences.⁷ Youth who use marijuana are also more likely to drink alcohol, and a study from the National Highway Traffic Safety Administration found that while a moderate dose of marijuana alone was shown to impair driving performance, the effects of even a low dose of marijuana combined with alcohol were markedly greater than for either drug alone.⁸

Many other illegal drugs are also used by a small percentage of adolescents in the United States, ranging from cocaine, heroin, and hallucinogens (e.g., LSD, peyote, psilocybin, and PCP), to over-the-counter and prescription drugs (used without a doctor's prescription). There are numerous negative physiological effects (e.g., irregular heartbeat, high body temperature, depressed brain function) associated with these drugs, and users may be at greater risk for developing a number of psychological problems (e.g., anxiety disorders, phobias, depression).^{9, 10} Additionally, youth involved in violent behavior are more likely to have used illicit drugs or alcohol than were youths not involved in violent behavior.¹¹

According to the national Monitoring the Future (MTF) study, although there were no statistically significant increases in past-month use of any illicit drug among grades 8, 10 and 12 between 2010 and 2011, there has been an upward trend in use over the past five years among 10th and 12th graders. Among 10th graders it increased from 16.8% in 2006 to 19.2% in 2011, and among 12th graders it increased from 21.5% in 2006 to 25.2%. For 8th graders, the 2011 estimate of 8.5% is statistically unchanged from the 2006 estimate of 8.1%.¹²

Because most drug users use marijuana either by itself or in combination with other substances, marijuana typically drives the trends in estimates of any illicit drug use. Not surprisingly, then, the trends shown in the national MTF survey in past-month use of marijuana mirror the trends for past-month use of any illicit drug in all three grades. Past-month use of marijuana among 10th graders increased from 14.2% in 2006 to 17.6% in 2011, and from 18.3% in 2006 to 22.6% among 12th graders. For 8th graders, the 2011 estimate of 7.2% is statistically unchanged from the 2006 estimate of 6.5%. These national increases on marijuana use are of particular concern, since the perception of marijuana as harmful declined over the same period of time. Prior research indicates that declines in perception of risk are predictive of increases in use.¹²

After marijuana, prescription and over-the-counter medications account for most of the top illegal drugs abused by 12th graders in the past year. On the positive side, according to the national MTF study, past-year nonmedical use of Vicodin by 10th graders declined from 7.7% in 2010 to 5.9% in 2011, and the decrease in the use of Vicodin by high school seniors reported last year remained unchanged, albeit at an unacceptably high level of 8.1% in this year's survey. However, OxyContin use remains an area of concern, with past year nonmedical use holding steady across all the three grades for the past 5 years. The abuse of stimulants is also cause for alarm. For example, 8.2% of high school seniors reported past year use of amphetamines in 2011, up from 6.6% in 2009.¹³

The 2011 Brookline High School Health Survey asked questions about lifetime rates of a variety of illicit drugs, as well as rates of current drug use (marijuana or other) and age of first use. In addition, students were asked to report if they used marijuana during the school day and if they drove a car or other vehicle after having used marijuana or drugs other than alcohol or marijuana. The Brookline Grades 7 and 8 Health Survey asked questions about lifetime and recent marijuana use, age of first use of marijuana, and lifetime use of other illegal drugs.

In this report, the following definitions were used:

Lifetime use: Any use during one's life

Recent use: Any use within the 30 days prior to the survey

Heavy use: Reported use 100 or more times in one's life

Prescription painkillers: Use of prescription opiates (such as Percocet, Oxycontin, or Vicodin), to get high

Ritalin, Adderal or Concerta, or any other amphetamines: Use of these drugs without a doctor's prescription

Cocaine use: Use of any form of cocaine, including powder, crack or freebase

Steroid use: Use of steroids (pills or shots) without a doctor's prescription

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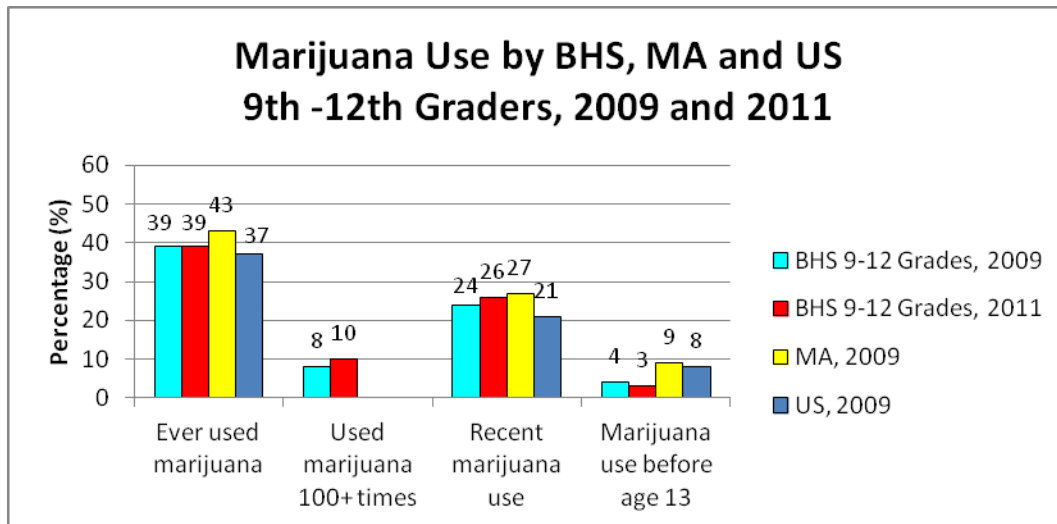
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- ¹³ National Institute on Drug Abuse (2011). Monitoring the Future Survey, Overview of Findings 2011. [online] Retrieved on January 4, 2012 from <http://www.nida.nih.gov/newsroom/11/mtf11overview.html>.

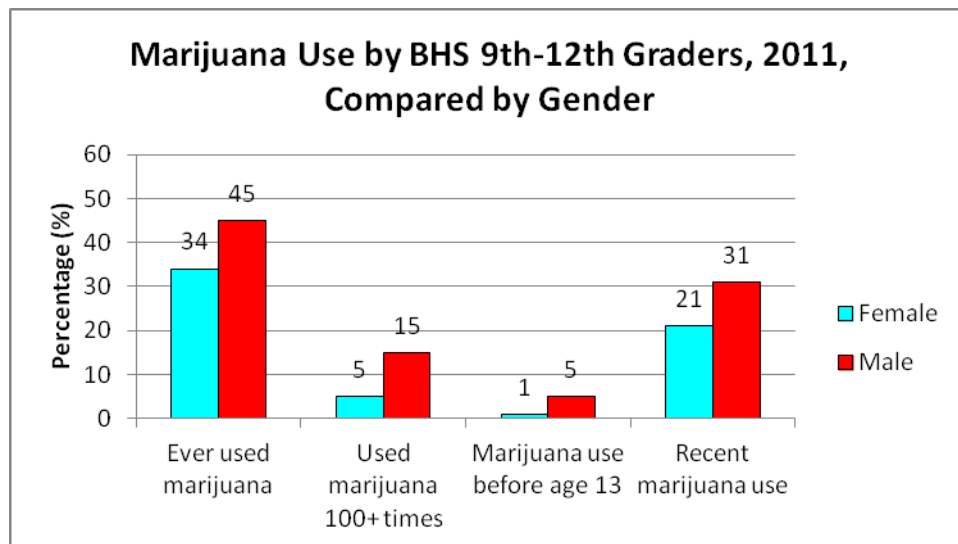
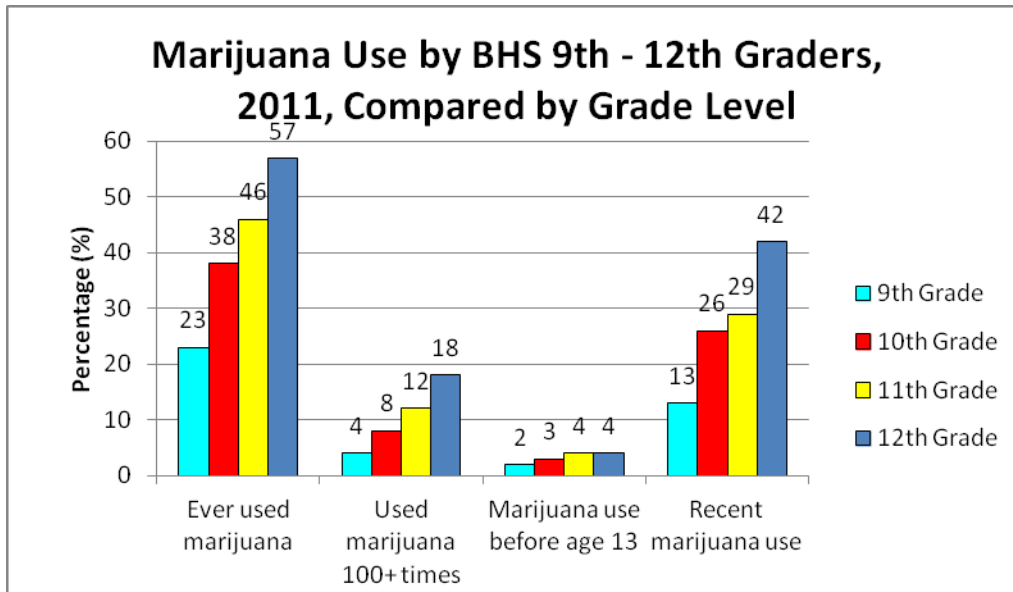
Marijuana Use

High School Data

Note: In every reported behavior related to marijuana, males used significantly more than females. Twelfth graders reported significantly higher rates than 9th graders in all behaviors, except first use of marijuana before age 13 years. However, the changes from 2009 to 2011 were not significant, except for an increase in the use of marijuana 100 or more times.

- In 2011, 40% of BHS students reported having used marijuana at some time during their lifetime, compared to 39% in 2009. This increased as students got older: 9th grade (23%), 10th grade (38%) 11th grade (46%) and 12th grade (57%). The difference between 9th grade and 12th grade was significant. Significantly more males (45%) reported use than females (34%).
- In 2011, 10% of BHS students reported heavy use (using marijuana 100 or more times), a significant increase from 8% in 2009. Males' rates (15%) are three times higher than females' (5%). There is also a large difference across grades in reporting heavy use, from 4% of 9th graders to 18% of 12th graders.
- The percent of students reporting first use of marijuana before age 13 was 3% in 2011, about the same as in 2009. This is considerably less than the state (9%) and national (8%) rates. Significantly more males reported first use before age 13 (5%), as compared to 1% of females.
- The rate of use of marijuana in the month prior to the survey was 26% in 2011, as compared to 24% in 2009. The 2009 Massachusetts rate was 27% and the 2009 national rate was 21%. Across grade levels, there is a striking difference, with 13% of 9th graders and 42% of 12th graders acknowledging recent use. Thirty-one percent of males and 21% of females reported recent use. Seven percent of males and 2% of females reported the highest rates of use (20 or more times in the past month).

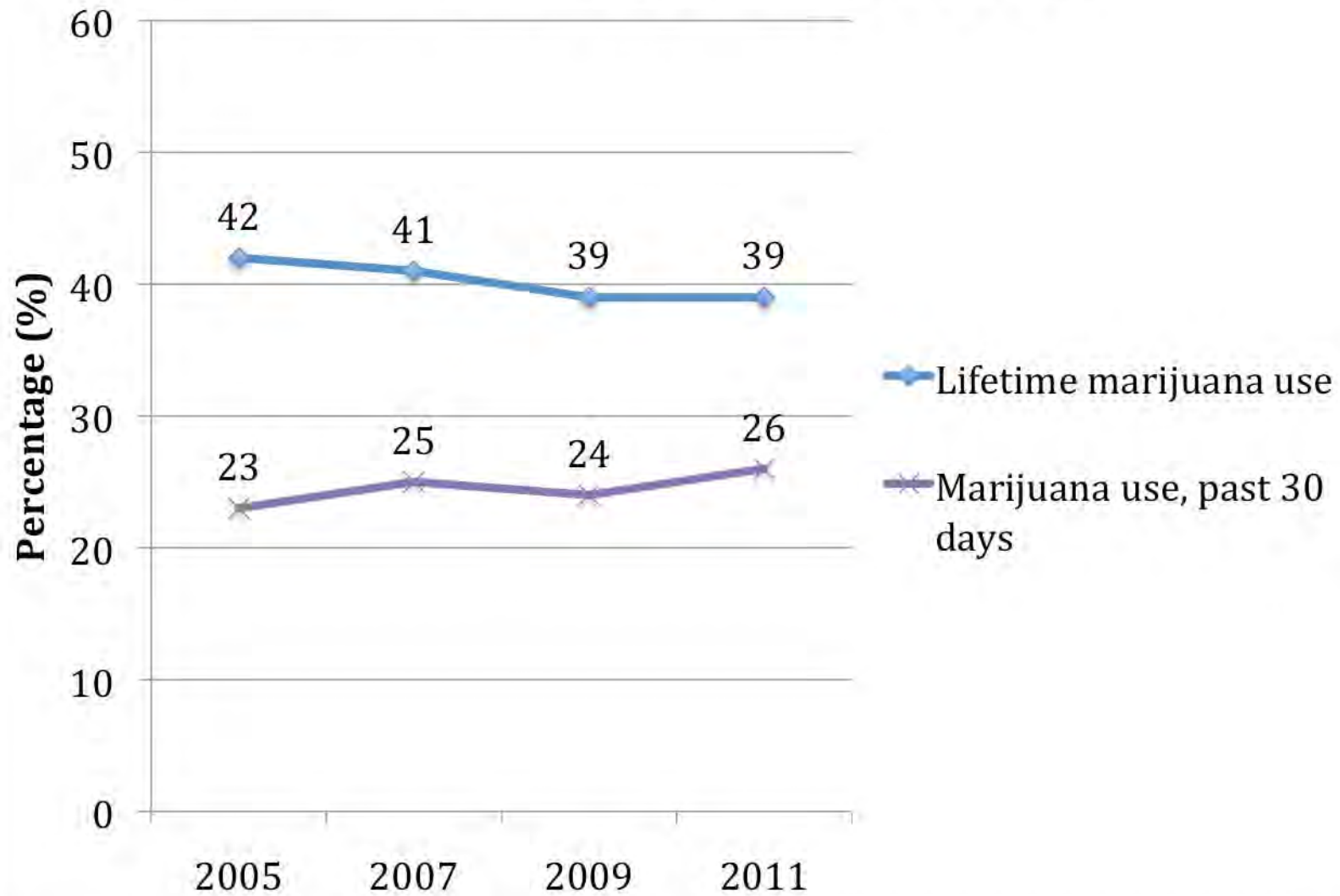




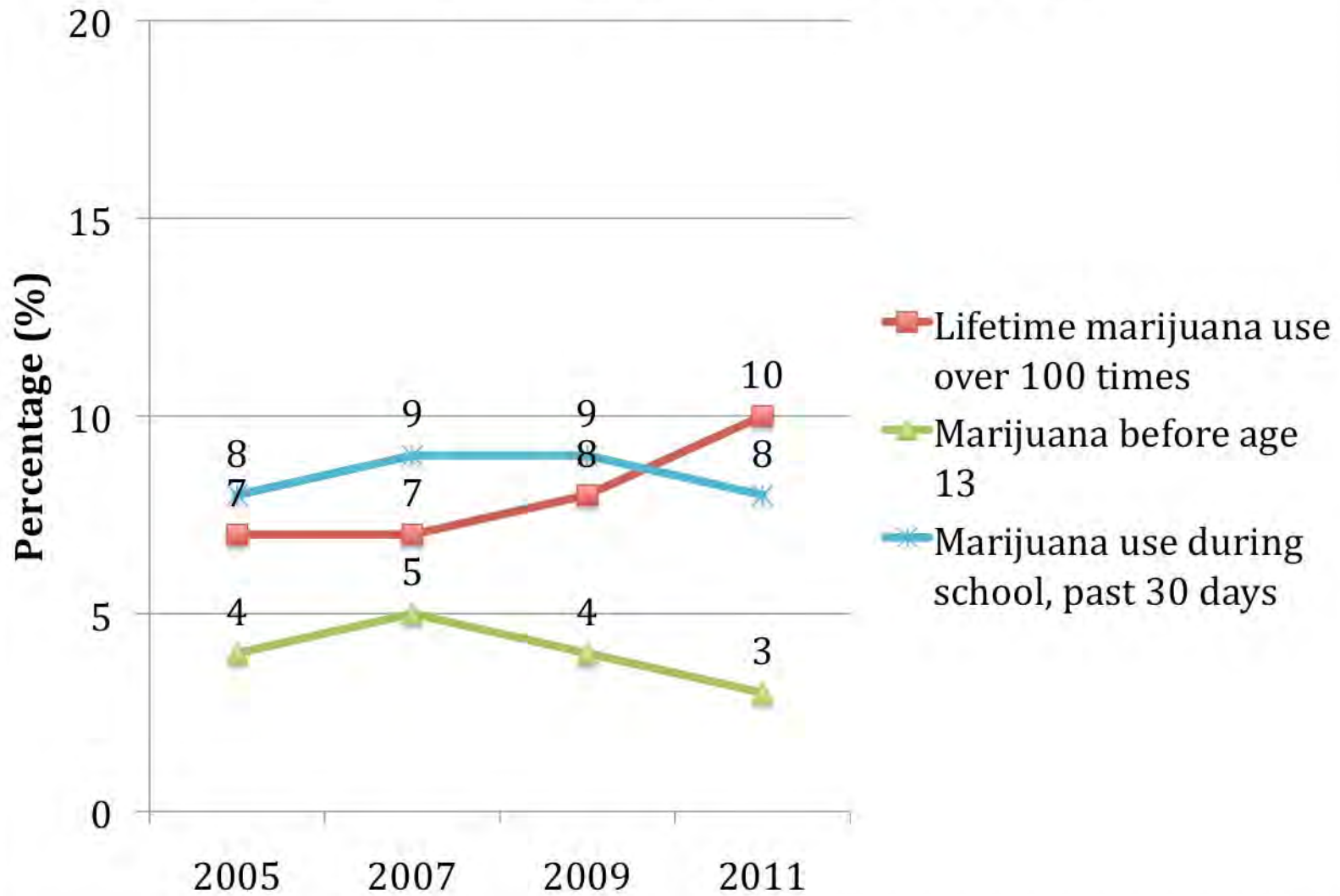
- Marijuana use during the school day also showed a significant increase from 9th grade (5%) to 12th grade (16%), and gender variation, with (11%) males vs. females (6%).
- Among students who drive, 20% reported having driven a car or other vehicle after using marijuana (28% of males and 10% of females). This question was new on the 2011 survey, so there is no 2009 comparison data.

Trend line data indicate a significant increase in the rate of students who have used marijuana over 100 times since 2005, when data was first collected from 9th – 12th graders at BHS. Rates of first use before age 13 have decreased significantly from their highest point in 2007. While there appears to be a slight decrease in lifetime use and a slight increase in recent use, neither is statistically significant. The other changes were not statistically significant. (See graphs on the following pages.)

BHS Marijuana Use trends, 2005-2011



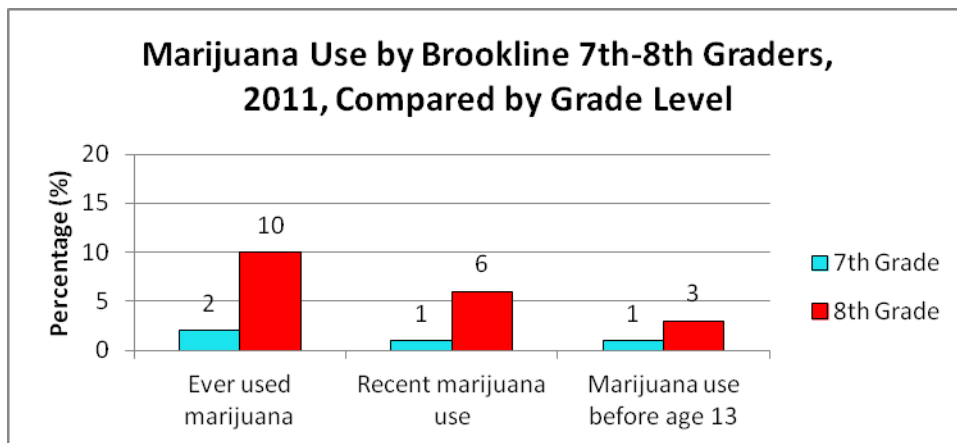
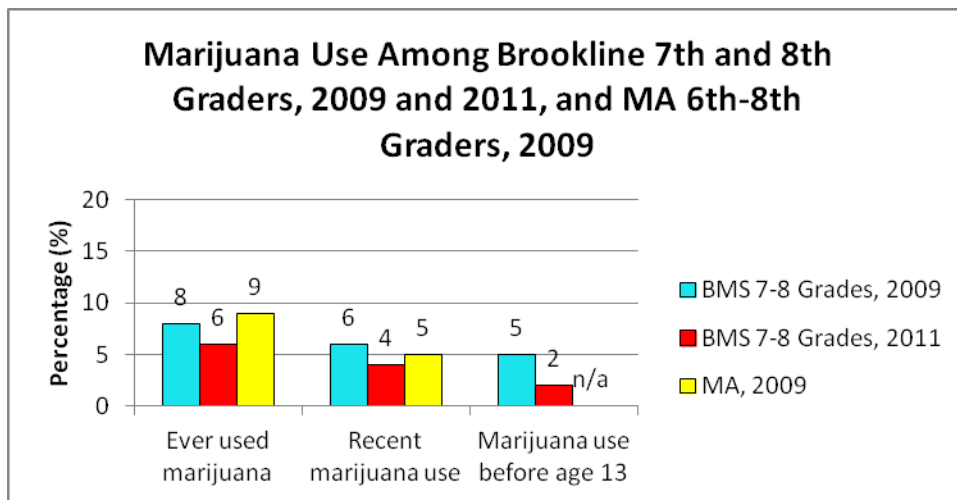
BHS Marijuana Use trends, 2005-2011



Middle School Data

Note: There are no US middle school data for comparison.

- In 2011, 6% of Brookline 7th and 8th graders reported ever having smoked marijuana, as compared to 8% in 2009. Across the state, the rate was 9%. Among 8th graders, the rate was 10%, significantly higher than 7th graders, 2%. There was no difference between genders.
- The percent of students reporting having used marijuana before age 13 was 2% in 2011, down significantly from 5% in 2009. The rate of students reporting marijuana use at age 8 or before was very low, only 1% in 2011, also a significant decrease from 4% in 2009. Significantly more 8th graders reported starting to use marijuana before age 13 (3%) than 7th graders (1%).
- In 2011, the rate of Brookline middle school students who reported smoking marijuana in the month before the survey was 4%, which was significantly lower than the rate in 2009 (6%). The statewide rate was 5% in 2009. Only 1% of 7th graders reported recent marijuana use, significantly less than 8th graders (6%). There was little difference between genders.

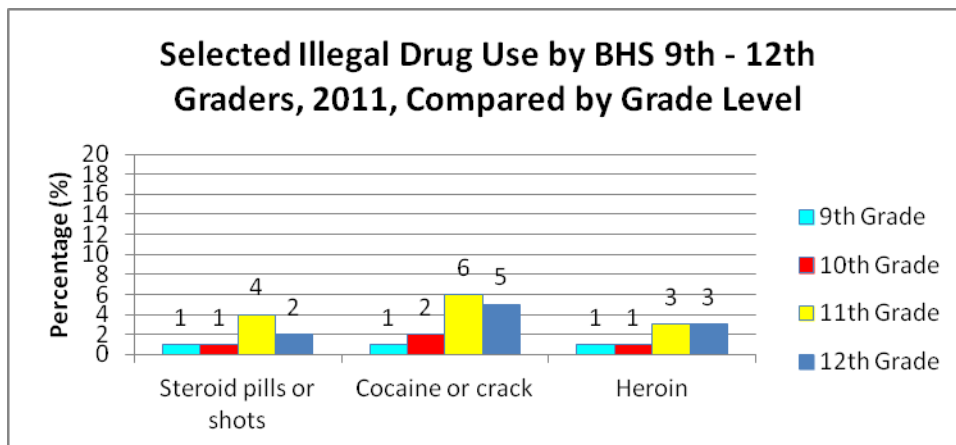
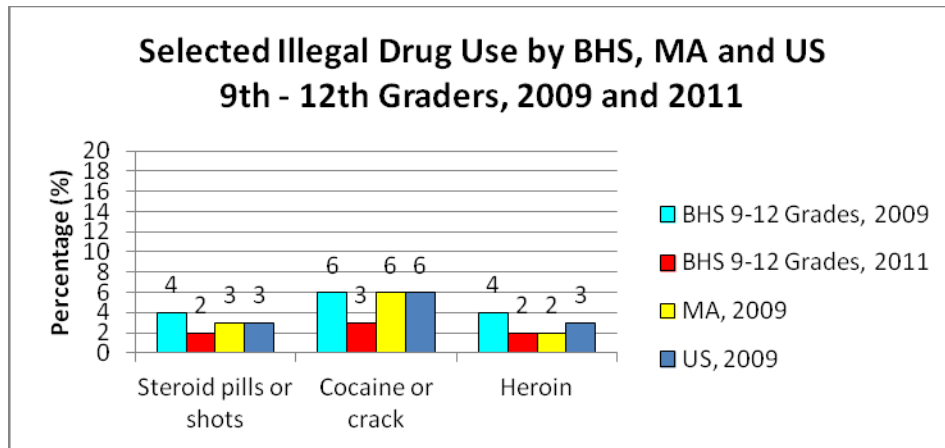


Other Illegal Drug Use

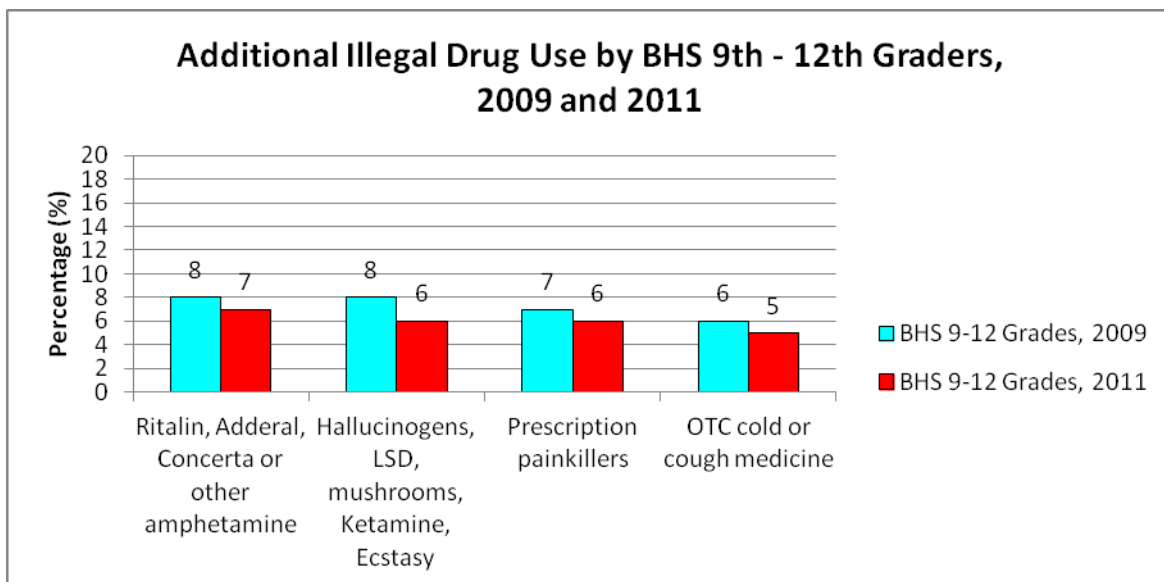
High School Data

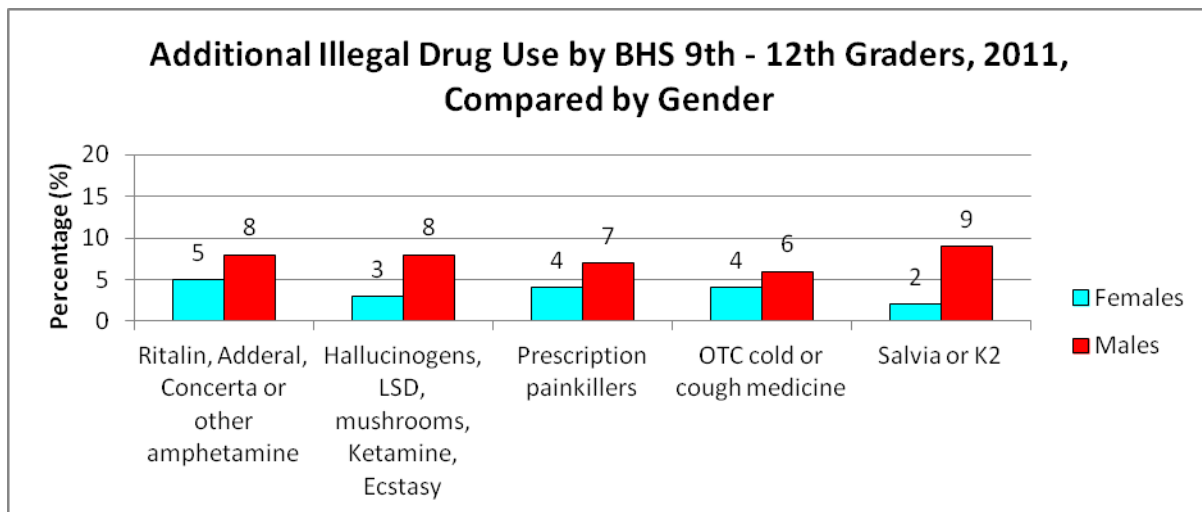
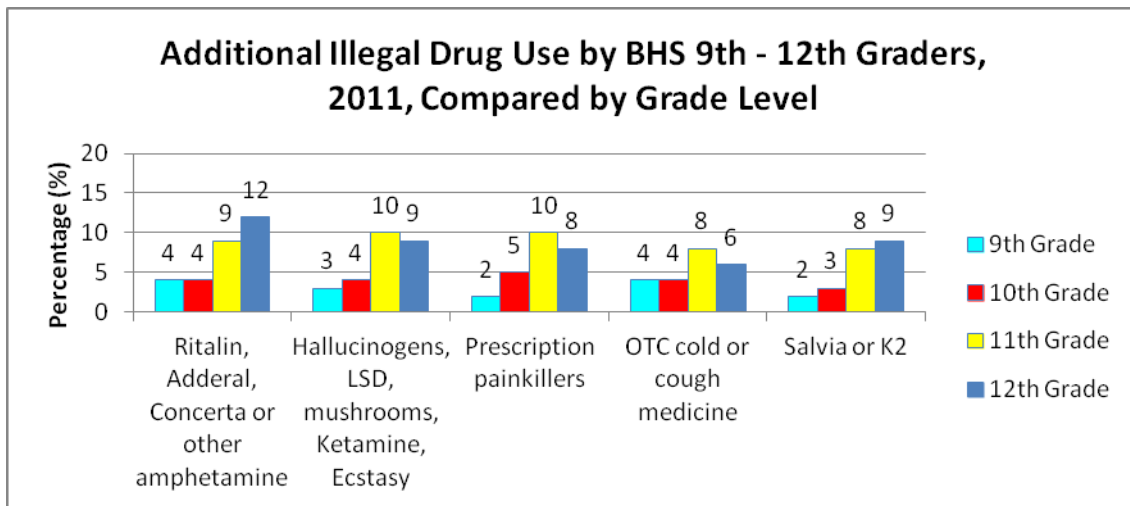
Note: The only comparable questions on the state and national surveys are about cocaine, heroin and steroids.

- The reported rate of cocaine use by Brookline 9th - 12th graders decreased significantly, from 6% to 3%. State and national levels were 6%. There was a significant increase in use across grade levels, from 9th grade (1%) to 12th grade (5%). Four percent of males and 2% of females reported use.
- Heroin use was reported by 2% of BHS students in 2011, a significant decrease from 4% in 2009. State and national rates were 2% and 3%, respectively. Rates increased significantly across grade levels (1% for 9th graders, 3% for 12th graders). Significantly more males (2%) reported using heroin than females (less than 1%).
- Use of steroids without a prescription by BHS 9th - 12th graders also decreased significantly from 4% in 2009 to 2% in 2011, similar to state and national rates (both 3%). Three percent of males and 1% of females used steroids. There was little difference between 9th and 12th graders.



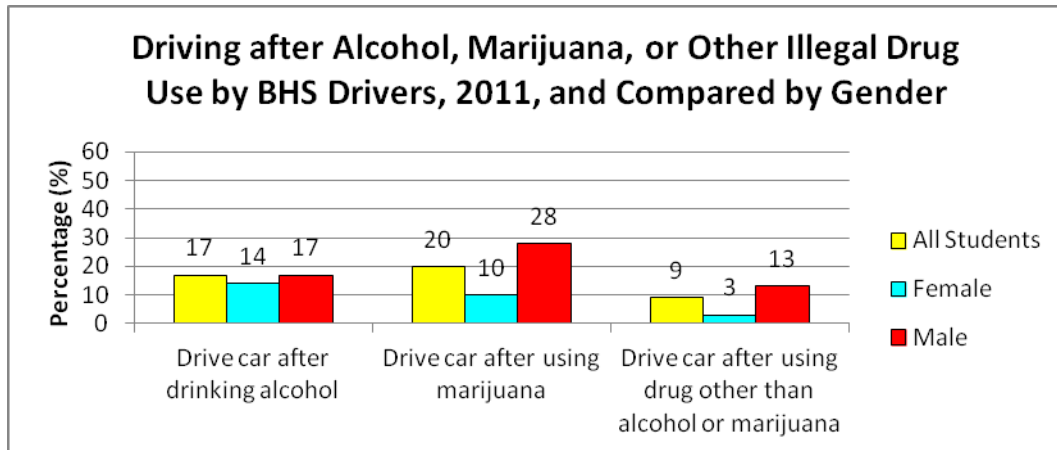
- Seven percent of BHS students used Ritalin, Adderal, or Concerta or other amphetamines without a doctor’s prescription in 2011. In 2009, the rate was 8%, but the question was asked slightly differently, since it also included methamphetamines. There was a significant difference between genders (females, 5% and males, 8%), and across grades, with freshmen and sophomores reporting at a rate of 4%, juniors 9%, and seniors 12%.
- In 2011, 6% of students at BHS used prescription painkillers (e.g., Percocet, Oxycontin, Oxycodone, or Vicodin) “to get high,” as compared to 7% in 2009. The word “prescription” was inserted into the question for the current survey. Males were significantly more likely to use them than were females (7% and 4%, respectively). There was also a significant increase from 9th (2%) to 12th (8%) grades.
- Hallucinogens, such as LSD, mushrooms, Ketamine, and ecstasy, were used by 6% of students in 2011. Again, the question was changed slightly for the present survey, so the 8% rate from 2009, though significantly higher, is not really comparable. Males (8%) were more than twice as likely to have used them as females (3%), a significant difference. Three percent of freshmen reported use, significantly fewer than the 10% of seniors who said they had used hallucinogens.
- Six percent of BHS students reported using salvia or K2 to get high. Again, males were significantly more likely to have used these substances than females (9% and 2%, respectively). The difference across grades was also significant, with 2% of 9th graders and 9% of 12th graders reporting use. This question was new on the 2011 survey, so there is no 2009 comparison data.
- Use of over-the-counter cold or cough medicines was reported at 5% in 2011 and 6% in 2009, with 4% of 9th graders and 6% of 12th graders reporting use.





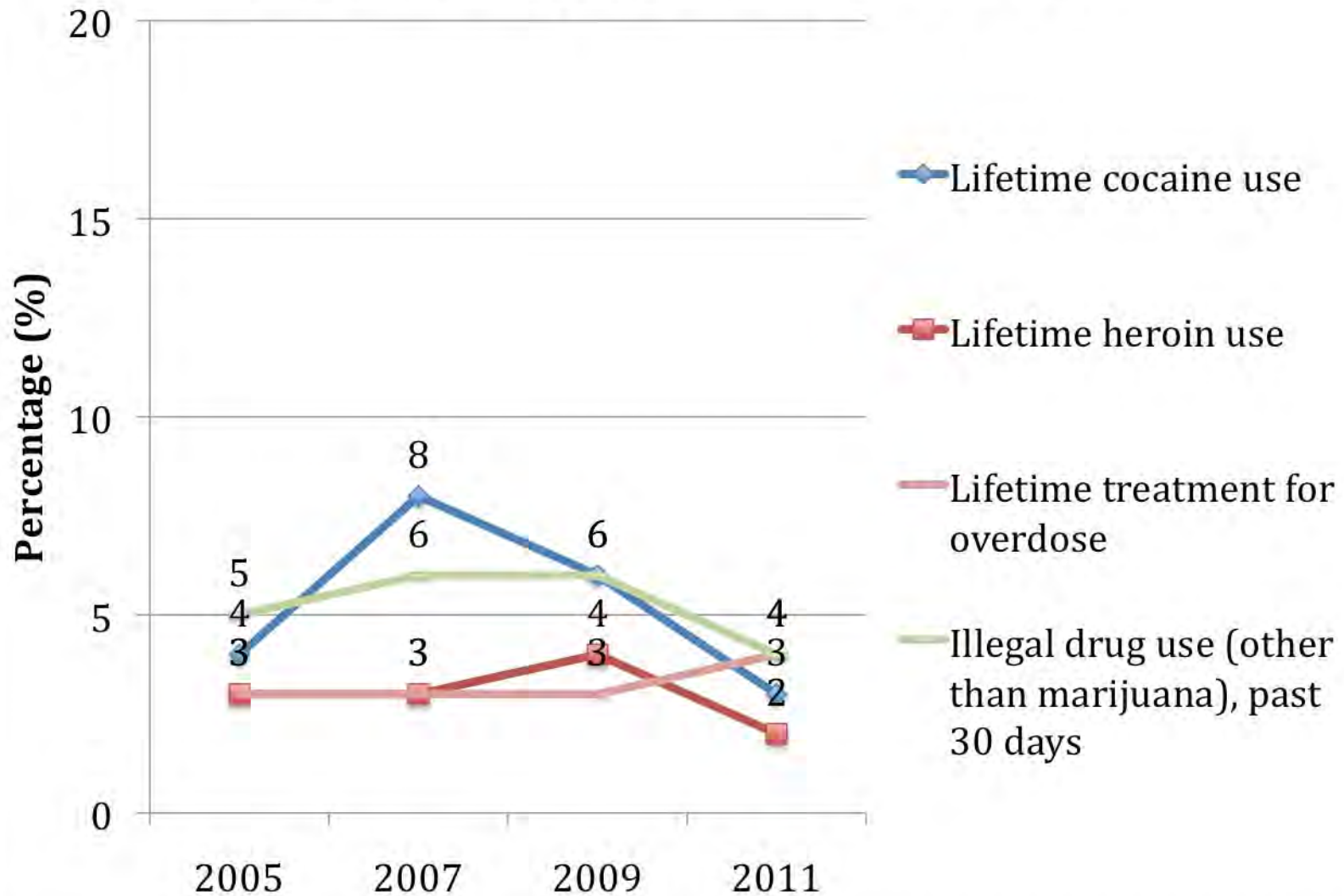
- There was a significant decrease in the rates of recent use of illegal drugs other than marijuana from 2009 (6%) to 2011 (4%). Rates were significantly higher among 12th graders (6%) than 9th graders (2%) and among males (6%) compared to females (3%).
- As with marijuana, heavy use of other illegal drugs (defined as 20 or more times in one's lifetime) was higher among males. The percentages were small (e.g., females <1%), but in all cases, males' rates were two to ten times higher than the females. Males' rates were significantly higher for the use of hallucinogens, salvia or K2, heroin, and over the counter drugs to get high.

- Among students who drive, 9% reported having driven a car or other vehicle after using drugs other than alcohol or marijuana. This question was new on the 2011 survey, so there is no 2009 comparison data. Significantly more males (13%) than females (3%) reported this behavior.

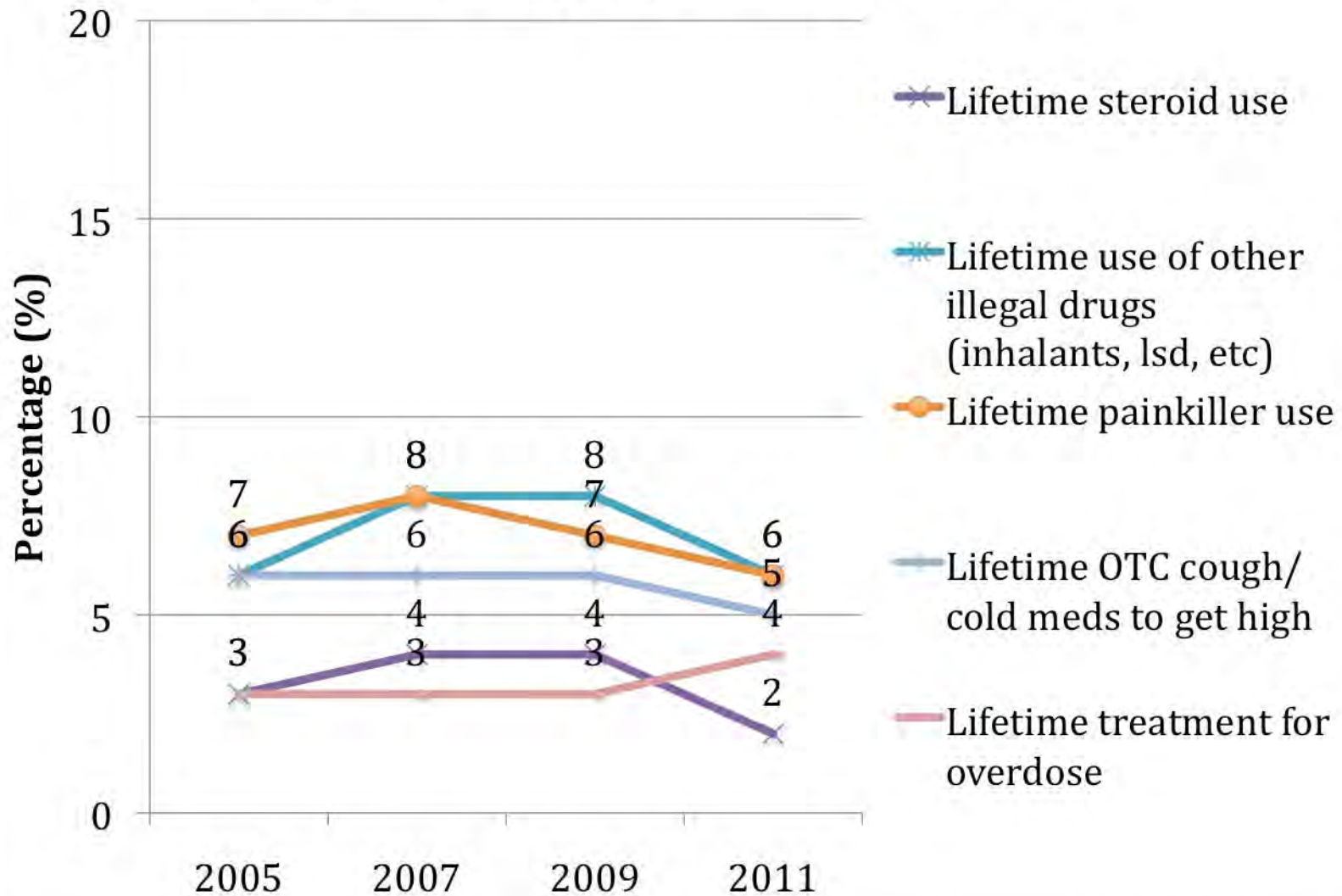


Trend line data indicate a significant decrease in the rate of lifetime use of cocaine and steroids since 2007, the highest point of use. Heroin use rates declined significantly from 2005. Rates of recent use of illegal drugs other than marijuana decreased significantly from the 2007 rates, as well. The other changes were not statistically significant. (See graphs on the following pages.)

BHS illicit drug use trends, 2005-2011



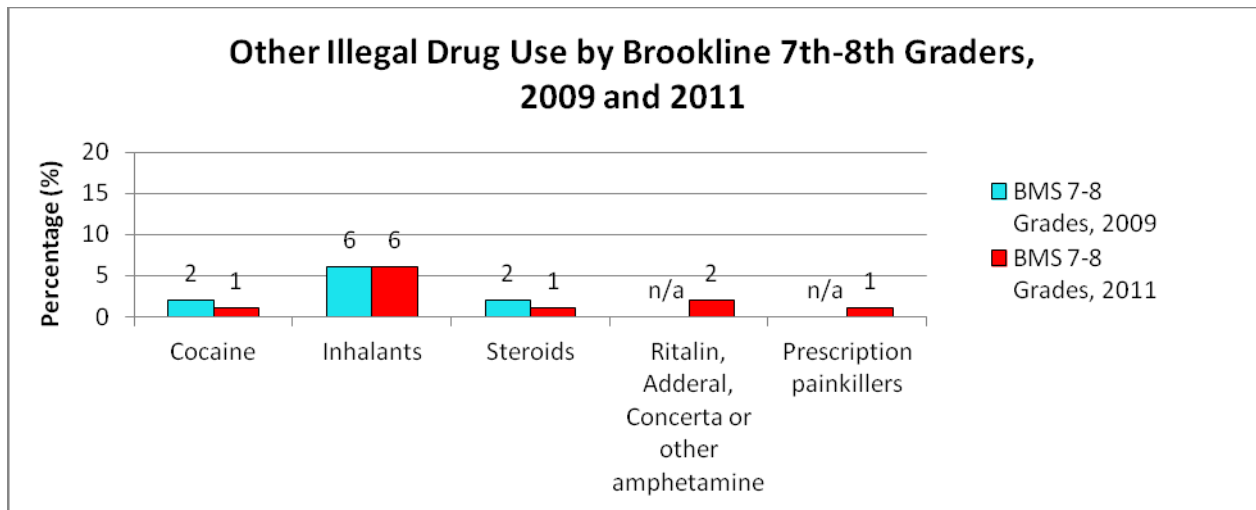
BHS illicit drug use trends, 2005-2011



Middle School Data

Note: There is no Massachusetts or US middle school data for comparison.

- Among Brookline middle school students, 2% reported ever having used Ritalin, Adderall, Concerta or other amphetamines without a doctor's prescription. This was a new question in 2011, so there is no 2009 comparative data. Eighth graders reported significantly higher rates of use (4%) than 7th graders (1%). Rates among females (3%) and males (2%).
- Another new question in 2011 asked about students' lifetime use of prescription painkillers to get high 1% of Brookline middle school students reported use two percent of 8th graders reported 0% of 7th graders. Usage varied little across genders.
- Lifetime use rates of other illicit drugs among Brookline middle school students changed little since 2009:
 - Cocaine: 1% in 2011 (2% in 2009)
 - Inhalants: 6% in 2011 (same as 2009)
 - Steroids (pills or shots, without prescription): 1% in 2011 (2% in 2009)



- Rates of lifetime use of cocaine, inhalants and steroids across genders and grades were similar, except that significantly more 8th graders than 7th graders had used cocaine. The rates were quite low, with 2% of 8th graders and less than 0.5% of 7th graders reporting use.
- In the statewide middle school survey, several illicit drugs were put together in one question, including cocaine, heroin, inhalants, amphetamines, methamphetamines, and ecstasy, and the reported rate of use was 4% in 2009.

Tobacco Use

Tobacco use is the leading *preventable* cause of disease, disability and death in the United States, responsible for one in every five deaths in the United States. Each year, an estimated 443,000 people die prematurely from smoking or exposure to secondhand smoke, and another 8.6 million have a serious illness caused by smoking. In addition, for every person who dies from smoking, 20 more people suffer from at least one serious tobacco-related illness.¹ Tobacco-related health problems such as heart disease, cancer, stroke, and chronic respiratory illness are the leading causes of death each year. Since tobacco decreases lung function, even with short-term use, it can increase absenteeism among students. Additionally, smokeless tobacco use (chewing tobacco or snuff) causes oral cancer and other health problems.²

In 2010, more than 27% of Americans age 12 and older reported current use of tobacco, including cigarettes, cigars, smokeless tobacco, and pipe tobacco.^{1, 3} Tobacco use among young people poses especially serious risks. Adolescent tobacco use not only threatens health, but is also associated with drinking and illegal drug use, and with poor school performance. Research indicates that the earlier young people begin to smoke the greater their permanent lung damage and the more likely they are to become heavily addicted.⁴ Since 1997, cigarette use among adolescents has continued to decline. Declines in other tobacco products actually rebounded from the mid-2000s to 2010, but declines were again noted in the 2011 Monitoring the Future survey.⁵ Still, nearly one-fifth (18%) of U.S. high school students have used some form of tobacco in the past year.⁶

Indicators of cigarette smoking have significantly declined among Massachusetts high school students since 2003 (e.g., a decrease from 21% to 16% for smoking in the past 30 days). However, about 50% of youth who start smoking as adolescents will continue to smoke for 15 – 20 years.⁷ Unfortunately, the prevalence of smokeless tobacco use has risen from 4% in 2003 to 8% in 2009.⁸

The Massachusetts Education Reform Law of 1993 made it illegal for students, school staff, and visitors to smoke or use tobacco products on school property at any time. Since then, the proportion of adolescent smokers reporting that they had smoked on school property has dropped significantly, though the MA state average is still higher than the national average.

In 1994, Smokefree Brookline led the charge to make Brookline a smoke-free community, and town law now states that smoking is illegal in restaurants/lounges, public spaces, retail establishments, and most worksites. Tobacco retailers must have permits to sell tobacco and are periodically monitored to determine whether they are selling tobacco to minors. Additionally, in 2011, Brookline banned the sale of tobacco products at drug stores in town.

The 2011 Brookline High School Health Survey asked students to report their history and current use of cigarettes, both on and off school property. The survey also asked questions about their recent use of smokeless and other types of tobacco, and about their attempts to quit smoking, as well as age of first use. The Brookline Grades 7 and 8 Health Survey asked similar questions, plus questions about how they accessed cigarettes.

In this report the following definitions were used:

Lifetime cigarette use: Smoking a cigarette, even just a puff, in one's lifetime. *Note:* This is a change since the previous surveys (2009 and earlier), made to match the wording of the state and national surveys.

Recent cigarette smoking: Any cigarette smoking in the 30 days before the survey.

Recent use of chewing tobacco, snuff or dip: Any use of these products in the 30 days before the survey.

Recent use of other forms of tobacco: Any use of tobacco other than the above, such as smoke-free and dissolvable (like Snus and Orbs), tip cigars, cigarillos, or other flavored cigars (like Phillies Blunt or Black and Mild).

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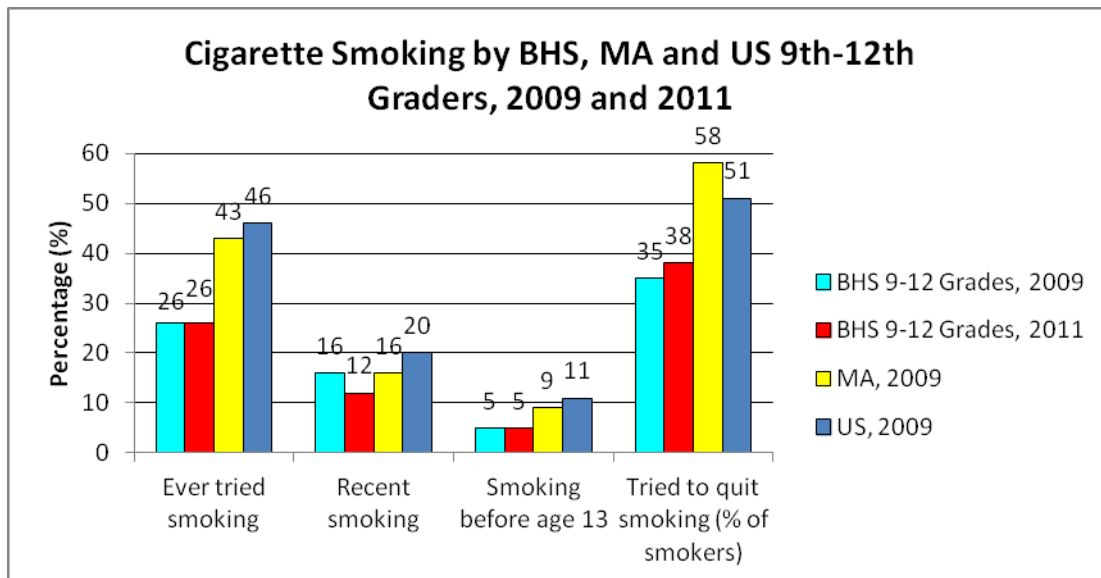
⁷ Lukas, Scott E. From presentation, "Adolescent Drug and Alcohol Abuse, Addiction and Treatment," given October 30, 2007. Waltham, MA.

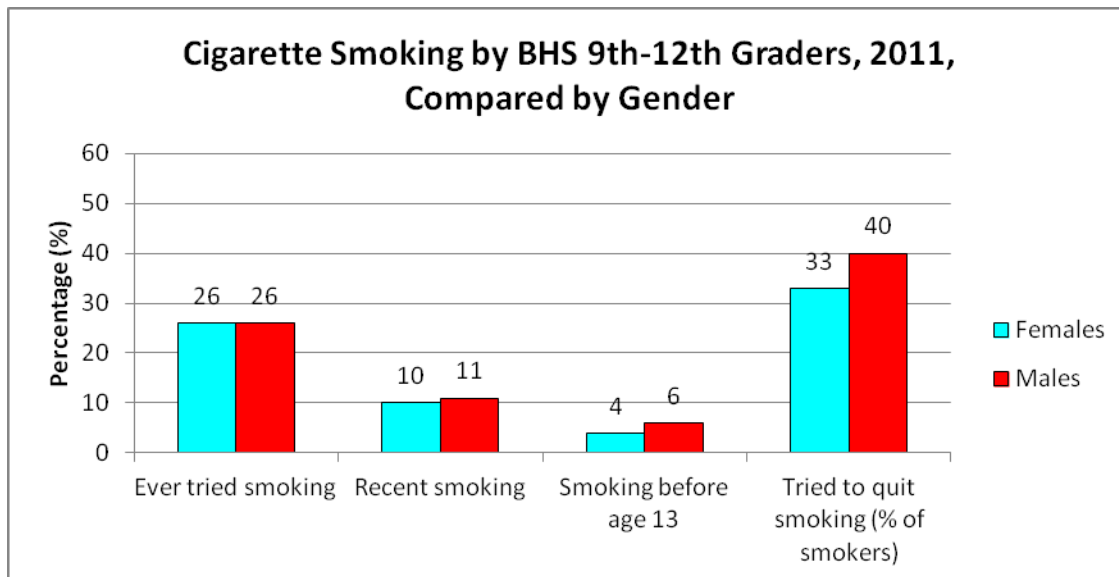
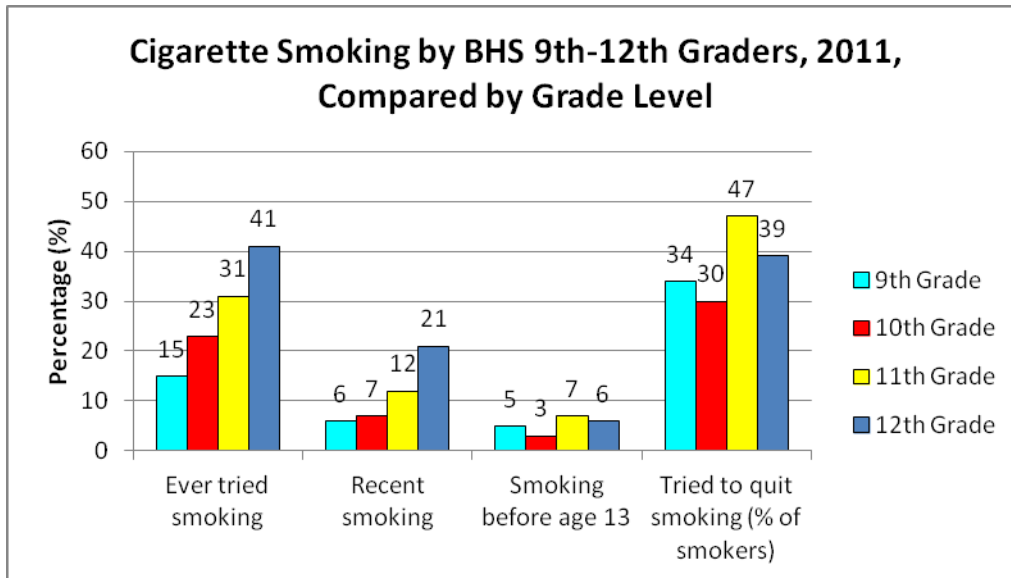
⁸ MA Department of Elementary and Secondary Education (2010). *2009 Health and Risk Behaviors of Massachusetts Youth*. www.doe.mass.edu/cnp/hprograms/yrbs.

Tobacco Use

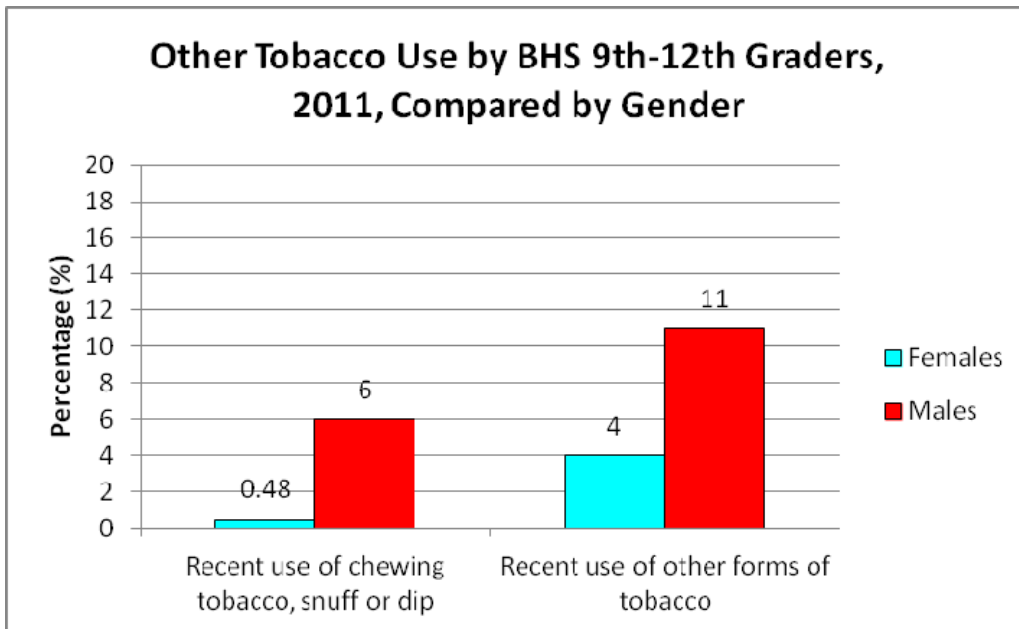
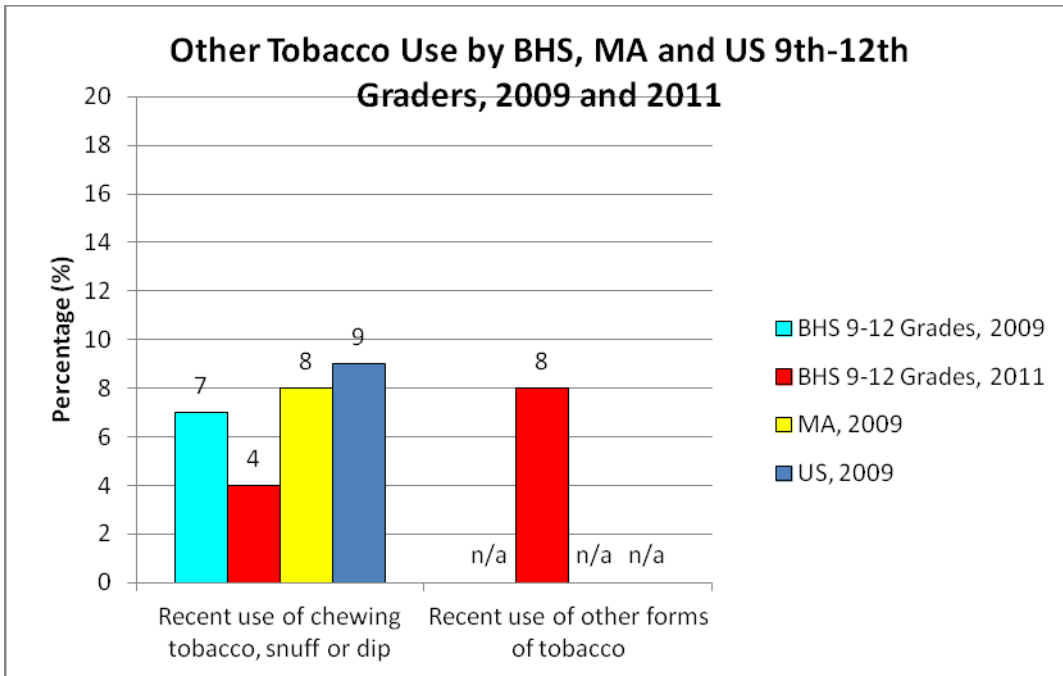
High School Data

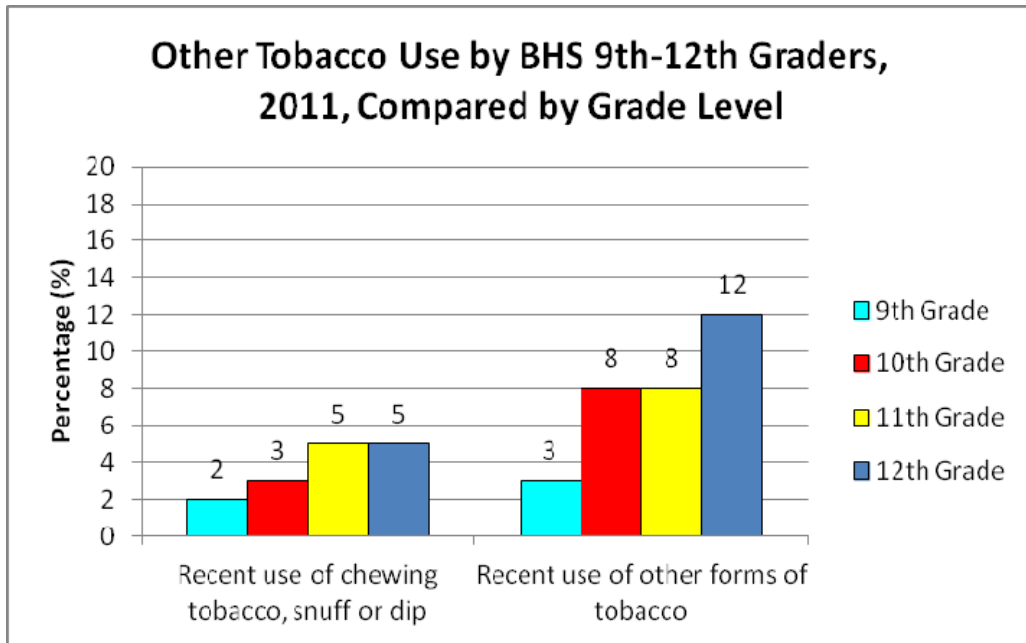
- The percentage of BHS students who have ever smoked a cigarette, even just a puff, was 26% in both 2009 and 2011, although the wording of the question was changed from “ever smoked at least one whole cigarette” to “ever smoke a cigarette, even just a puff.” Unfortunately, the initial answer choice on the survey was not changed as is should have been and remained “I have never smoked a whole cigarette.” The state (43%) and national (46%) figures. Across grade levels, the rate for seniors (41%) was significantly higher than that for freshmen (15%).
- The rate of students who started to smoke cigarettes before age 13 years remained the same from 2009 to 2011, 5%. There was little variation in the rate across grade levels or genders.
- The rate of students who reported smoking at least once during the month prior to the survey decreased significantly from 16% in 2009 to 11% in 2011. This remains lower than the state (16%) and national (20%) rates. The rate was similar across genders, but varied significantly across grades from 9th (6%) to 12th (21%) grades.
- The breakdown of BHS smokers had tried to quit smoking cigarettes at least once, as compared to 38% in 2011. Across grade levels, the rates were 34% of 9th graders, 30% of 10th graders, 47% of 11th graders and 39% of 12th graders. Forty percent of males have tried to quit as compared to 33% of females.





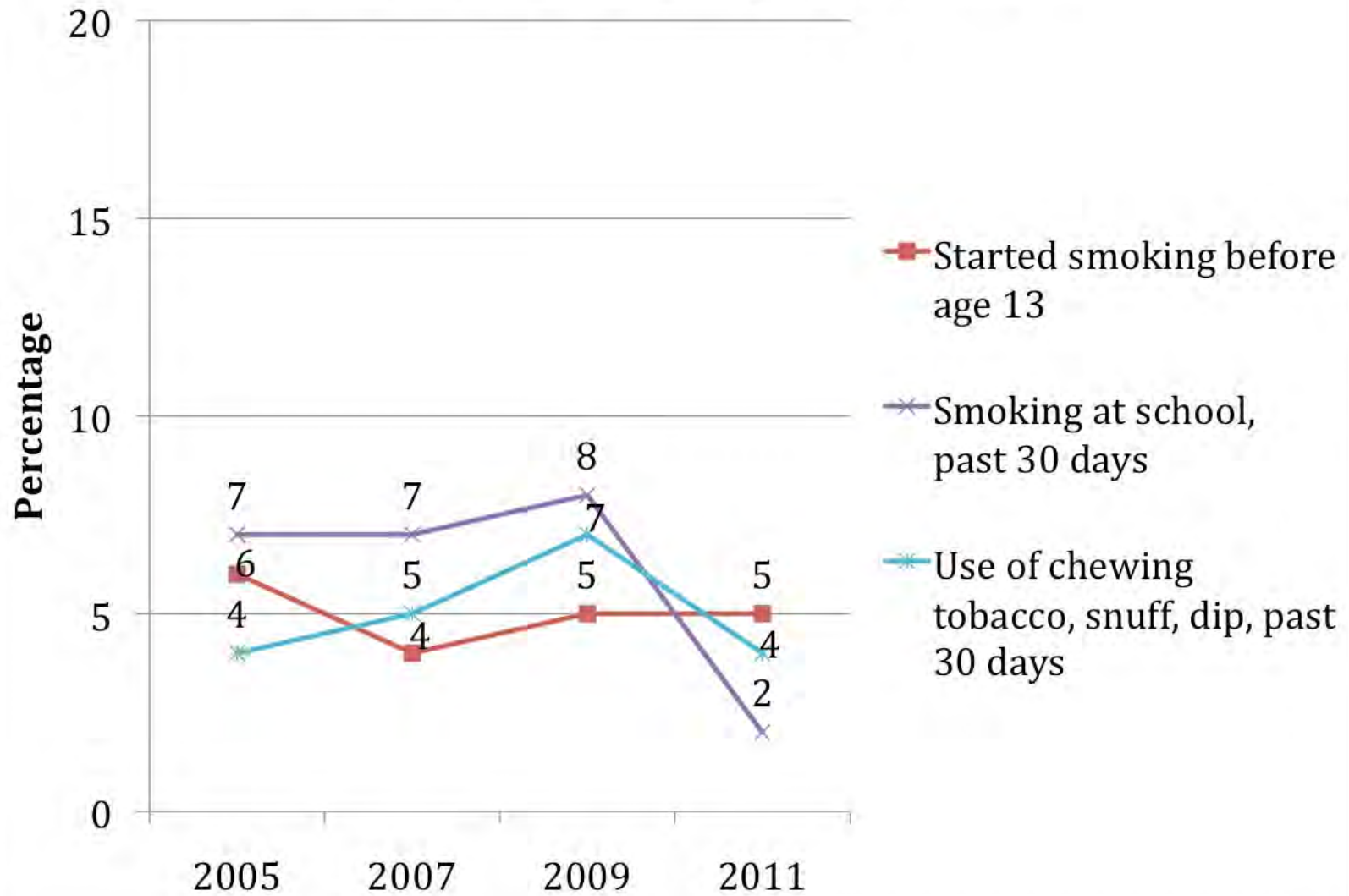
- Recent BHS student use of chewing tobacco, snuff or dip was relatively low in 2011 at 4%, a significant decrease from 7% in 2009. State (8%) and national (9%) rates were considerably higher. Rates were significantly higher among males (6%) than females (<1%).
- Seven percent of students reported having used other forms of tobacco (such as Smoke-Free and Dissolvable, like Snus and Orbs; Tip Cigars, Cigarillos, or other flavored cigars, like Phillies Blunt and Black and Mild). This was a new question on the 2011 BHS survey, so there is no comparative data from previous years or from the state or national surveys. There was a significant difference in use between 9th (3%) grades and 12th grades (12%), and males reported significantly more use (11%) than females (4%).





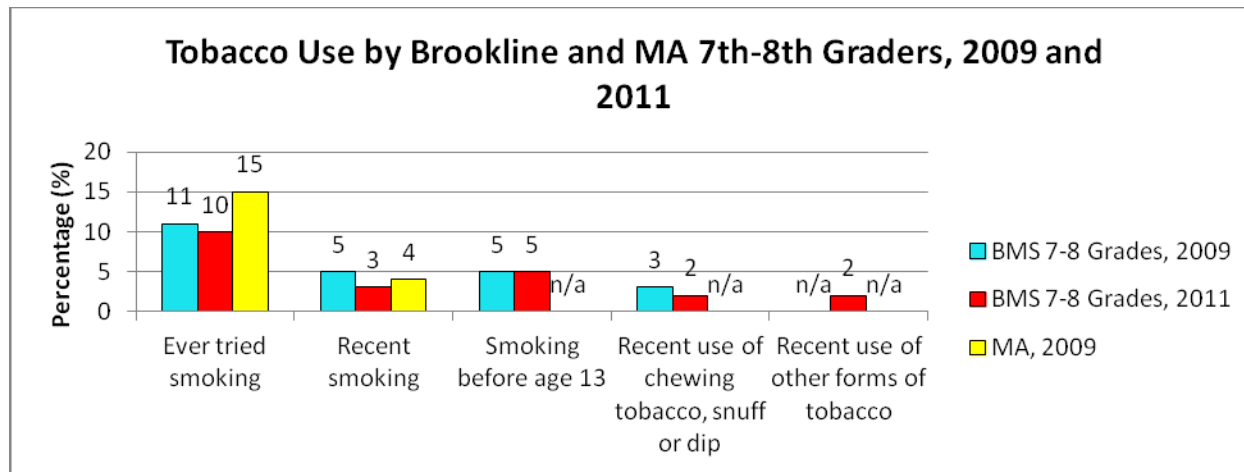
The trend line data show that rates of smoking during the school day have decreased significantly since 2005, when data was first collected from BHS. Students rates of past month use of chewing tobacco, snuff and dip also decreased significantly from their highest point, 2009. The other changes were not statistically significant. See graph on the following page.

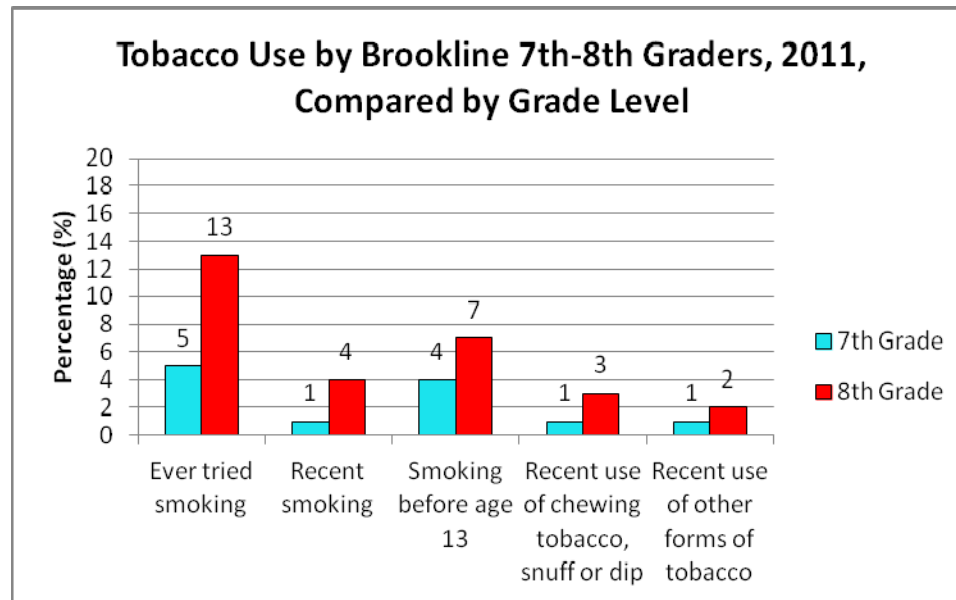
BHS Tobacco Trends, 2005-2011



Middle School Data

- In 2011, 10% of Brookline 7th and 8th graders reported ever having tried smoking cigarettes, even just a puff, similar to 11% in 2009. However, as with the high school survey, there was an error on the middle school survey, and the initial answer choice stated “I have never smoked a whole cigarette,” rather than “I have never tried smoking, even just a puff,” which is what the question asked. Among MA middle school students, the rate of ever having tried cigarettes was 15% in 2009.
- Thirteen percent of 8th graders reported lifetime use, significantly more than 7th graders (5%). Rates across genders were the same.
- The number of middle school students reporting first use of cigarettes before age 13 stayed the same from 2009 to 2011, at 5%. However, the number who reported starting at or before age 8 decreased significantly from 2009 to 2011, from 3% to 1%. Seven percent of 8th graders and 4% of 7th graders reported smoking cigarettes before age 13.
- In 2011, 3% of Brookline middle school students reported smoking cigarettes in the month prior to the survey, significantly fewer than in 2009 (5%). The statewide rate was 4% in 2009. There was a significant difference across grades, with 4% percent of 8th graders and 1% of 7th graders reporting recent use. There was no significant difference between genders.





- There was a significant decrease in the number of students who reported having smoked daily for at least a month at some time in their lives from 2009 (5%) to 2011 (2%).
- Recent use of chewing tobacco, snuff, or dip among middle school students remained low at 2% (3% in 2009). Rate of use by 8th graders (3%) was significantly higher than 7th graders (1%).
- Past month use of other forms of tobacco (e.g., smoke-free and dissolvable, tip cigars, cigarillos, or flavored cigars) was also 2%. This was a new question in 2011, so there is no comparison data. Rates across grades and genders were similar.

Violence-Related Behaviors

Violence-related behaviors, such as carrying weapons, fighting, and bullying, pose serious risks to the health and safety of young people. In Massachusetts, homicide is the second leading cause of death for young people aged 15 to 24¹. In the United States in 2007, there was an average of 16 youth (age 10-24) homicide victims per day. The majority of these young people (84%) were killed with a firearm². Nationally, 43% of adolescent suicide deaths involve the use of a firearm³. In the 2009 Massachusetts Youth Risk Behavior Survey report, 29% of Massachusetts high school students reported involvement in a physical fight.⁴

According to the American Academy of Pediatrics, adolescents also are more likely to experience sexually violent crimes than any other age group⁵. Sexual violence, including sexual coercion and assault, can have a devastating impact on healthy psychological development⁶. Teen dating violence has serious long-term consequences, both in itself and as a possible precursor to adult domestic violence.

In recent years, issues of school safety have been moved to the forefront of public attention because of high-profile incidents of fatal in-school violence. Even among young people who are not directly involved or physically hurt by school violence, the threat of violence has a negative impact on academic learning and achievement. Prior state Youth Risk Behavior Surveys have shown that some high school students reported being threatened at school and avoid attending school because of fears for their own safety⁶.

Bullying has become a major concern at all levels a large government initiative directed towards children, parents, and educators began in 2010⁷. (Bullying is generally defined as the repeated and intentional intimidation, harassment, or physical harm of victims perceived as unable to defend themselves⁹.) The American Academy of Pediatrics maintains that bullying is not merely a normal part of growing up and can lead to serious physical and mental health consequences⁸. Nationally, 20% of high school students report being bullied in the past 12 months⁹.

Attention has been paid to the internet, cell phones, and social networking as emerging venues for electronic bullying or cyberbullying. Cyberbullying is when a person under 18 years old is tormented, threatened, harassed, humiliated, embarrassed, or otherwise targeted by another child under 18 years old using the internet or other digital technology, including cell phones⁷. Cyberbullying is different from in-person bullying in several ways. It allows for anonymity, rapid information dissemination, separation of the victim and perpetrator, and lacks adult oversight.

The 2011 Brookline High School and Middle School Health Surveys asked questions about bullying, electronic bullying, weapon-carrying, physical fighting, perceived safety at school, and dating violence. Perceived safety questions included questions about

witnessing derogatory remarks made about gay, lesbian, bisexual, and transgendered people. For the report of forced sexual contact, see the Sexual Behaviors section.

In this report, the following definitions were used:

Past 12 months or past year: Participation in the reported behavior at least once during the 12 months prior to the survey

Recent or past month: Participation in the reported behavior on at least one of the 30 days prior to the survey.

Ever: Participation in the reported behavior at any time during the student's lifetime.

Electronic Bullying: Bullied through e-mail, chat rooms, instant messaging, websites, or texting (cell phones)

Carried a weapon: The high school survey—all non-firearm weapons like knives or clubs. The middle school survey—inclusive of all weapons including firearms like guns.

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⁴ Massachusetts Department of Education and Massachusetts Department of Public Health. (2009) Health and Risk Behaviors of Massachusetts Youth.

⁵ American Academy of Pediatrics (2008). Care of the Adolescent Sexual Assault Victim. *Pediatrics*, 122 (2) pp 462-470.

⁶ Massachusetts Department of Education and Massachusetts Department of Public Health. (2009, 2007, 2005, 2003) Health and Risk Behaviors of Massachusetts Youth.

⁷ Department of Health and Human Services, Department of Education, and Department of Justice. www.stopbullying.gov Accessed: February 4, 2012.

⁸ American Academy of Pediatrics (2009). Role of the Pediatrician in Youth Violence Prevention, 124 (1) pp 393-402.

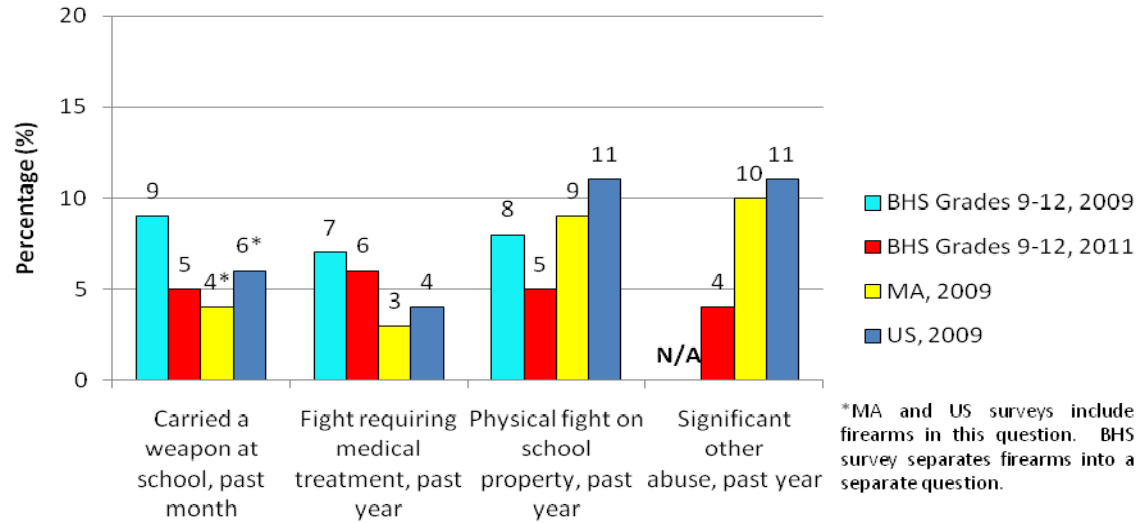
⁹Centers for Disease Control and Prevention. [2009] Youth Risk Behavior Survey. Available at: www.cdc.gov/yrbvs.

Violence-Related Behaviors

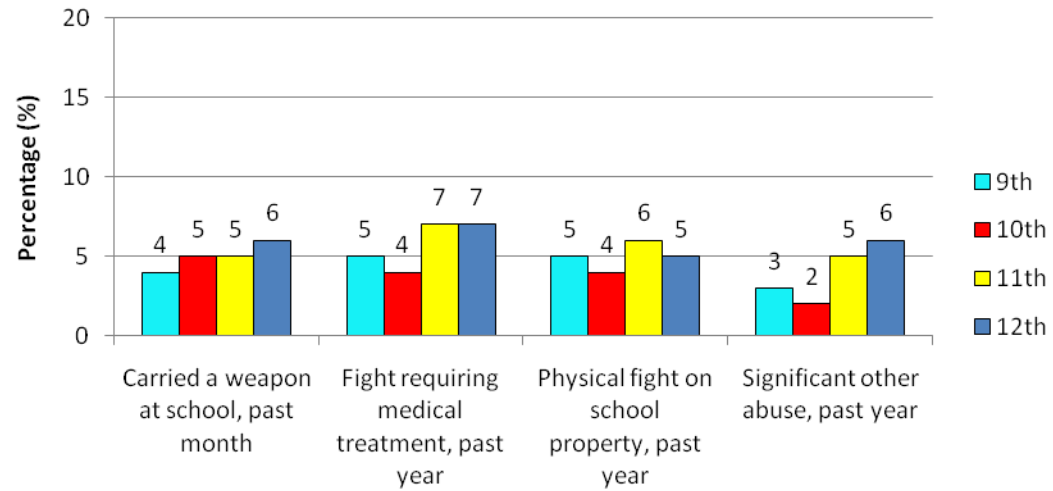
High School Data

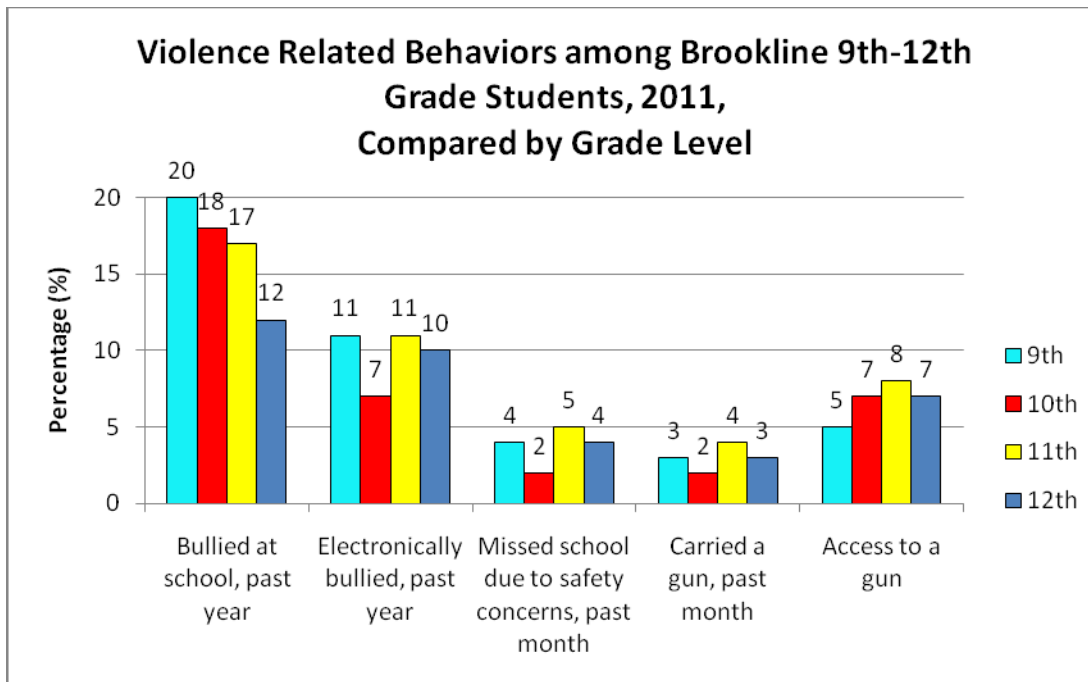
- The 2011 overall rate for BHS students having carried a weapon (like a knife or club) on school property within the 30 days prior to the survey was 5%. This was a statistically significant decrease from the 2009 survey. Across grade levels, the rates were 4% for 9th graders, 5% for 10th graders, 5% for 11th graders, and 6% for 12th graders.
- Three percent of BHS students reported having carried a gun in the past month. This is a statistically significant decrease from the 2009 BHS survey result of 6% and lower than state was 4% and national 6%. There was not a statistically significant difference between genders. Seven percent of BHS students reported having access to a gun.
- Six percent of BHS students reported being in a physical fight that resulted in injury and medical treatment in the past year. This is comparable to the 7% results from the 3 prior surveys. The Brookline rate is higher than the state and national rates of 3% and 4%, respectively. Significantly more males (9%) reported physical fights resulting in medical treatment than females (2%).
- There was a significant drop in students reporting being in a physical fights on school property from 2009 (8%) to 2011 (5%). This is below the 2009 state (9%) and national (11%) rates.
- Four percent of BHS students reported missing school because of feeling unsafe. This is a significant decrease from the 2009 survey (8%). It is comparable to the state (4%) and national (5%) rates.
- There is no significant difference in school bullying between genders. Females report more electronic bullying than males (12% for females, 7% for males).

Violence Related Behaviors of BHS, MA, & US, 9th-12th Grade, 2009 & 2011



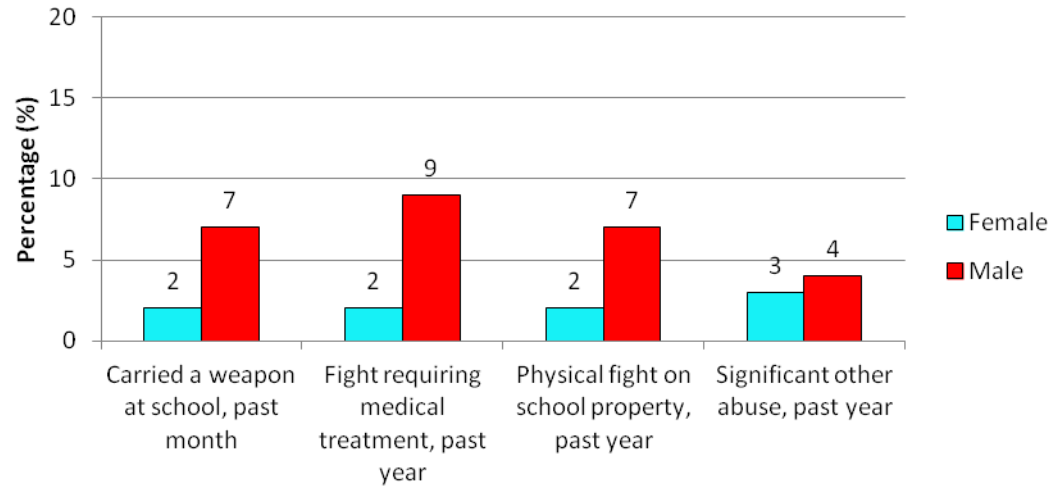
Violence Related Behaviors among Brookline 9th-12th Grade Students, 2011, Compared by Grade Level

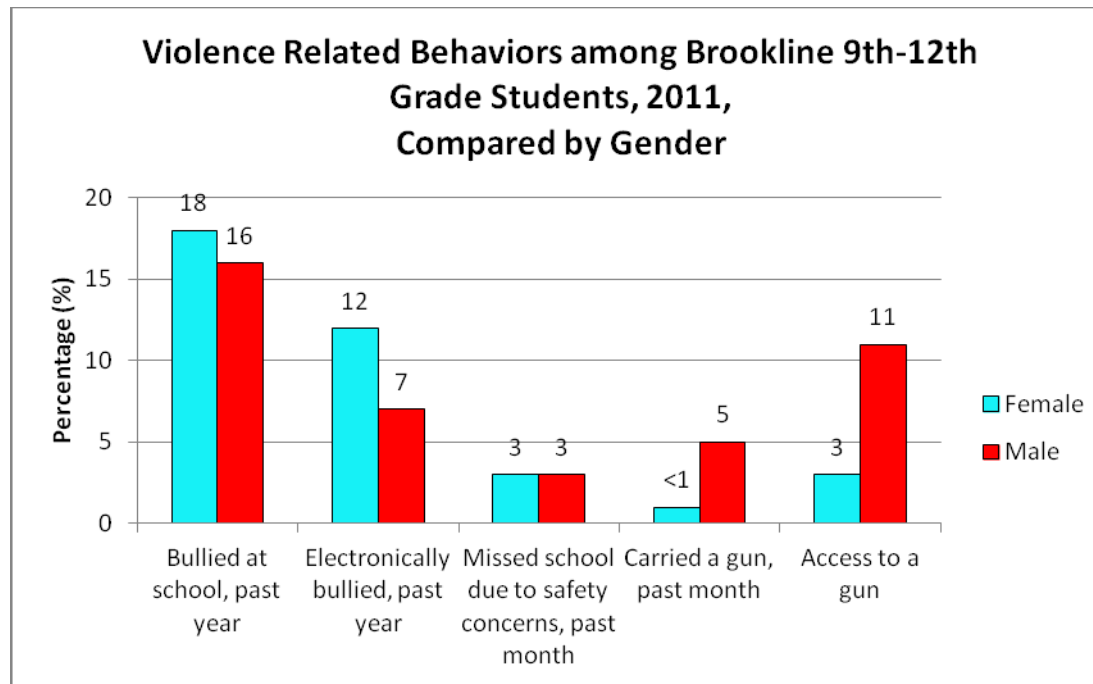




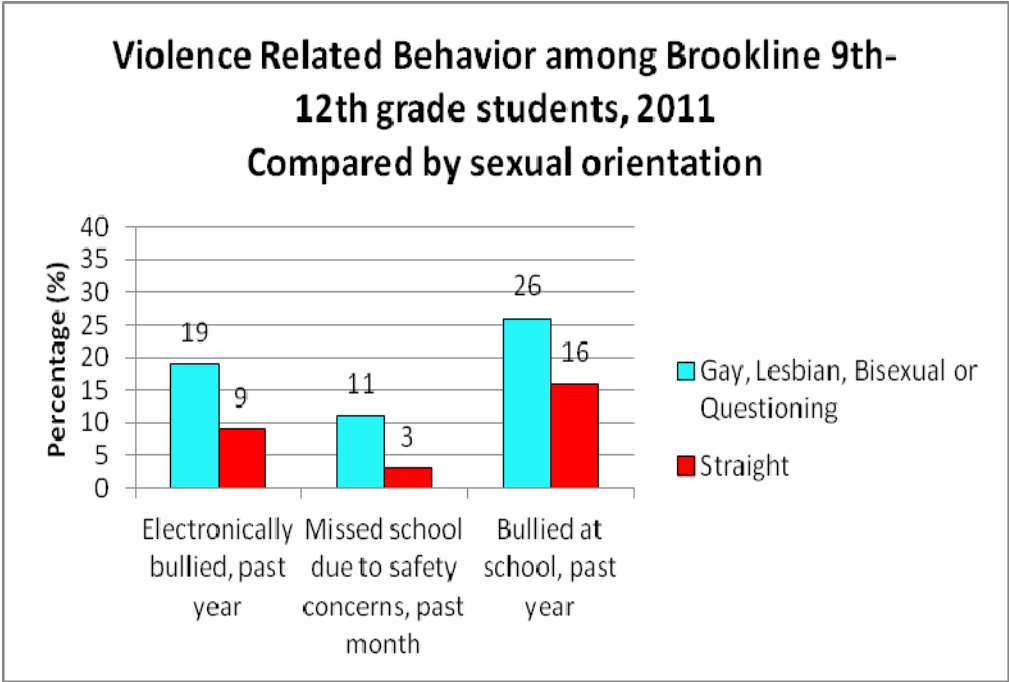
- The rate of BHS students reporting hearing derogatory remarks regarding sexual orientation at school increased in 2011 to 72% from 67% in 2009. This is a statistically significant increase. The rates were similar among grade levels 9th graders (72%), 10th graders (74%), 11th graders (73%), and 12th graders (70%). Males reported hearing derogatory remarks about LGBT students more often than females (79% for males, 66% for females).

Violence Related Behaviors among Brookline 9th-12th Grade Students, 2011, Compared by Gender



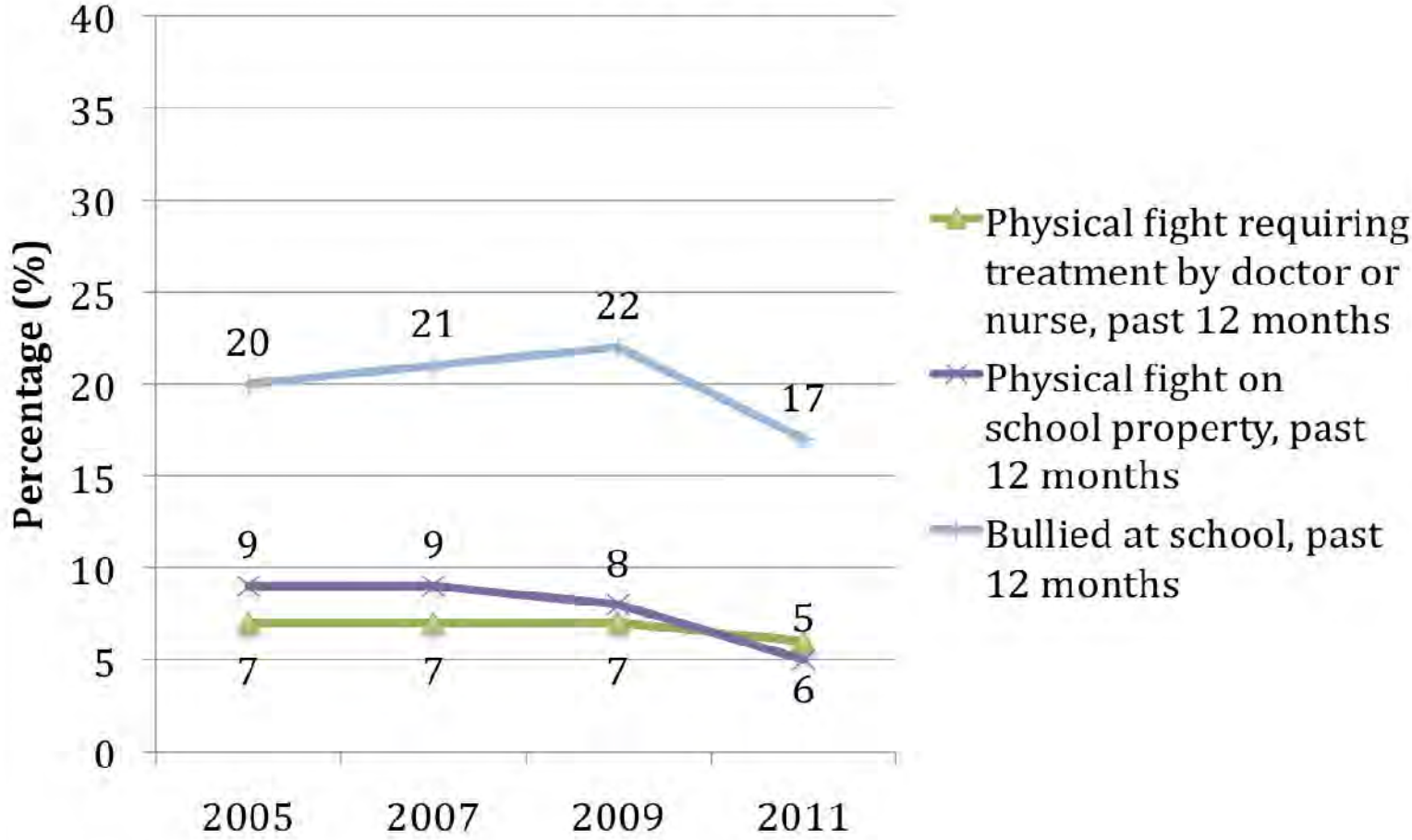


- Seventeen percent of BHS students reported being bullied at school in the past year. This is a significant decrease from 2009 (22%). This is significantly lower than the national rate (20%). It is also lower than the state rate (19%), although this difference is not statistically significant. There is a statistically significant decrease in bullying rates from 9th grade to 12th grade 9th graders (20%), 10th graders (18%), 11th graders (17%), and 12th graders (12%).
- Ten percent of BHS students reported being electronically bullied in the past year. Significantly more females (12%) report cyberbullying than male students (7%). Rates of electronic bullying are consistent across grade levels.
- Students who self-identified as Gay, Lesbian, Bisexual or Questioning (or Not Sure) were more likely to report being bullied at school, and electronically, and reported missing school at least once in the past month. Twenty six percent of non-heterosexual students report being bullied in the past year (compared to 16% of heterosexual students).

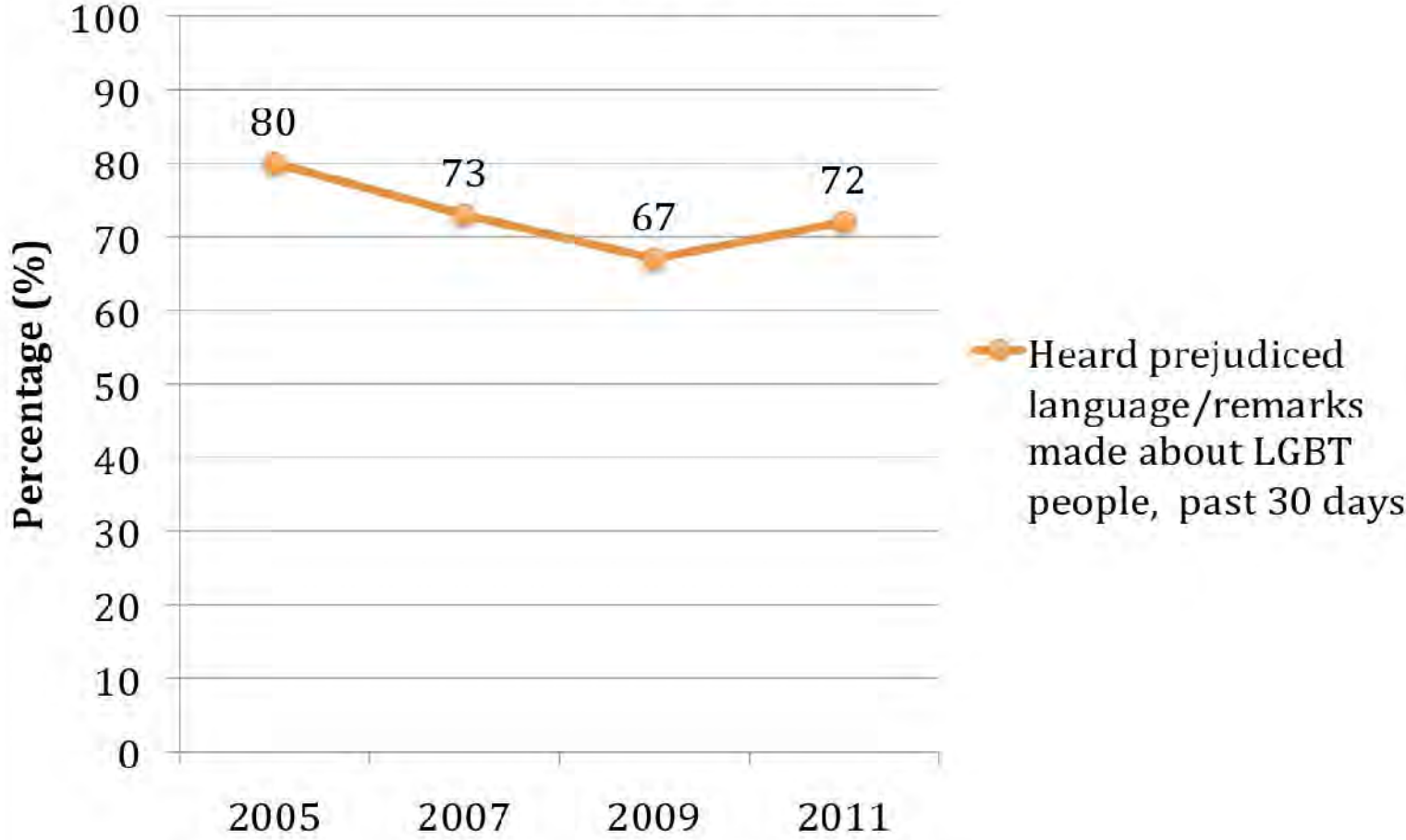


The trend line data shows that there were statistically significant decreases in the following violence-related behaviors from 2005-2009 compared to 2011: carried a gun, past 30 days; carried a weapon (knife/club) at school, past 30 days; skipped school because felt unsafe, past 30 days; and fights on school property. The decrease in bullying at school from 2007-2009 compared to 2011 is also statistically significant. In addition, the decrease in hearing prejudiced remarks about LGBT people from 2005 to 2011 is statistically significant, but the increase from 2009 to 2011 is also a significant change in the other direction. The other changes were not statistically significant. (See graphs on the following pages.)

BHS Violence related behavior trends, 2005-2011



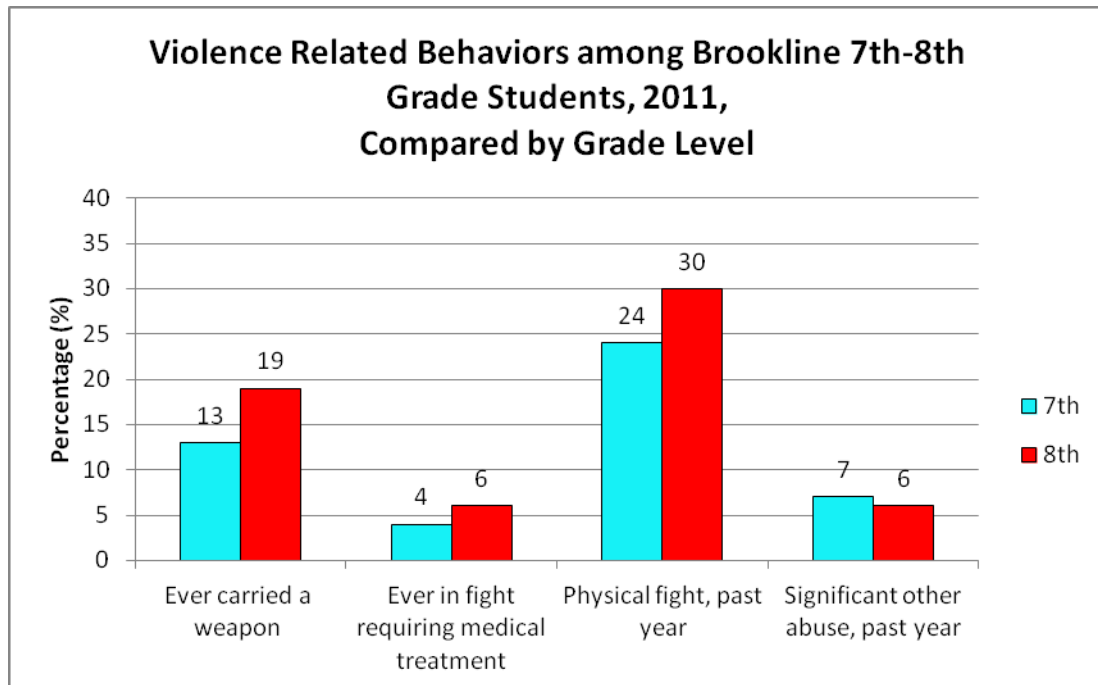
BHS Violence related behavior trends, 2005-2011



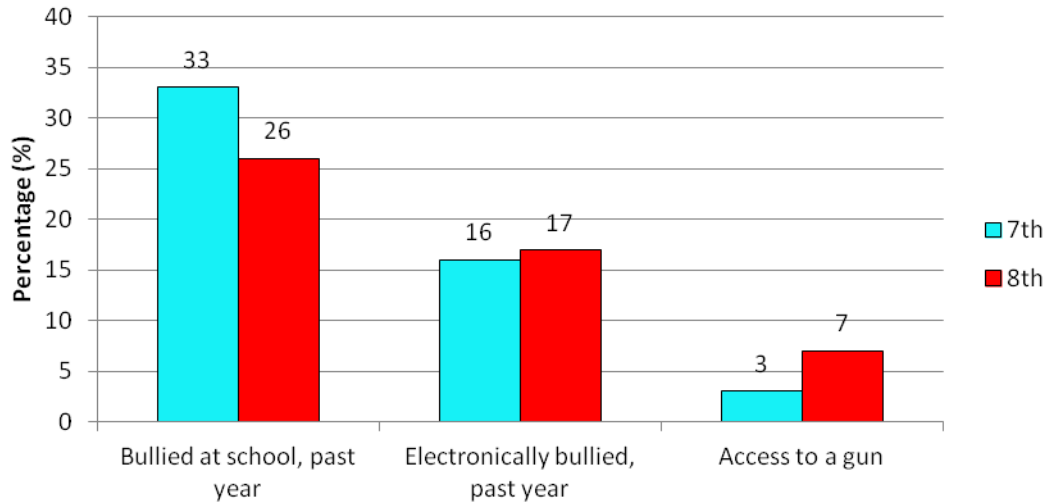
Middle School

Note: There are no US middle school data for comparison. There is minimal state data, which is reported below.

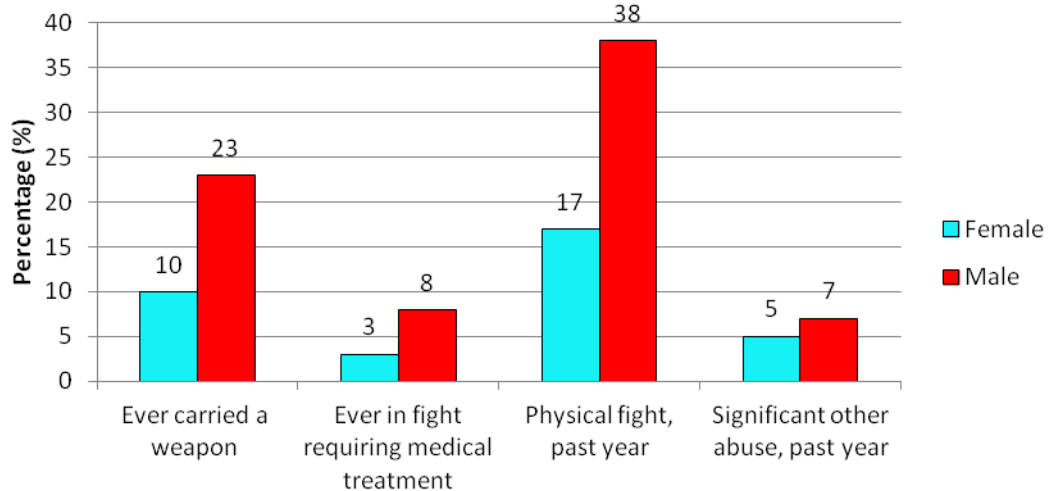
- Sixteen percent of Brookline 7th-8th grade students reported having *ever* carried a weapon (including gun, knife, or club). There is a statistically significant difference between middle school females (10%) and males (23%).
- Five percent of Brookline 7th-8th grade students report having *ever* been in a physical fight that resulted in injury and required medical treatment significantly more males (8%) than females (3%).
- Five percent of middle school students reported having access to a gun. The rate of gun access is identical between genders. Significantly more 8th graders (7%) reported access to a gun compared to 7th graders (3%).
- Several questions were asked about bullying. 35% of students reported having been bullied in the past year. 26% of students reported having bullied someone else in the past year. Sixteen percent of students reported having been bullied electronically. The rates of electronic bullying were similar between grades. There is a statistically significant difference in electronic bullying between females (22%), and males (11%).
- Twenty-nine percent of Brookline 7th-8th graders reported being bullied on school property in the past year. This is compared to 36% of Massachusetts middle school students (grades 6th-8th) who reported being bullied at school in the past 12 months.

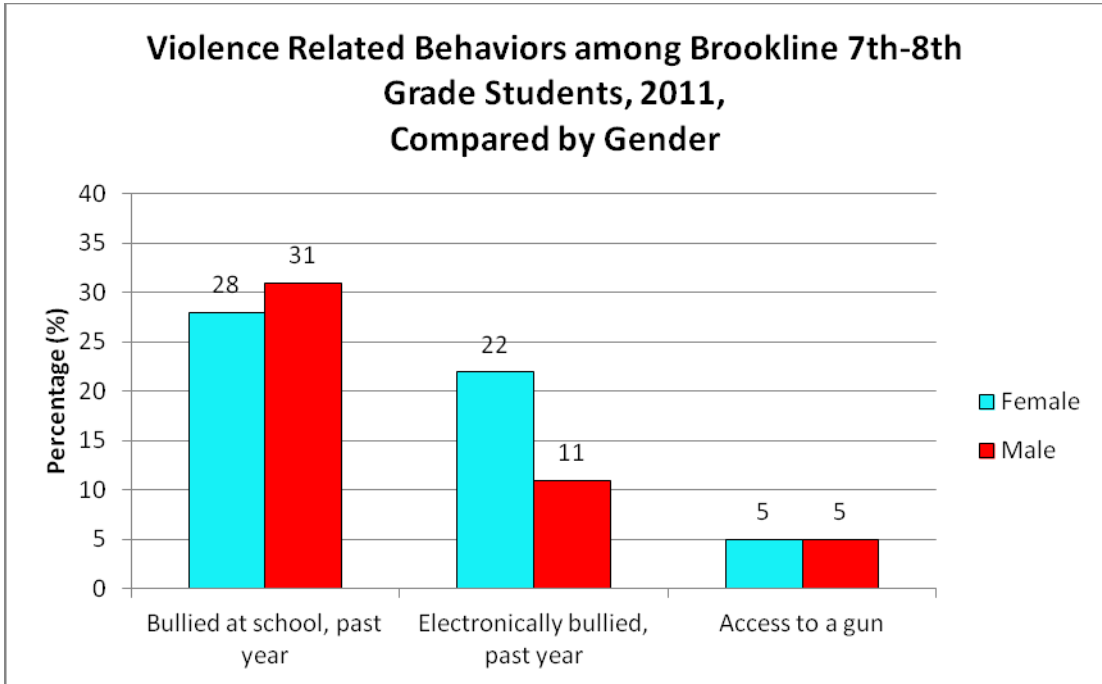


Violence Related Behaviors among Brookline 7th-8th Grade Students, 2011, Compared by Grade Level



Violence Related Behaviors among Brookline 7th-8th Grade Students, 2011, Compared by Gender





- Eighty percent of 7th and 8th grade students reported hearing negative comments about gay, lesbian, bisexual, or transgendered people at school in the past 30 days. The rates were similar between grades and genders.

Sexual Behavior

Many adolescents engage in sexual activity that may pose a serious threat to their health and their plans for the future. Early sexual activity, multiple sexual partners, and the lack of condom or other contraceptive use are associated with unintended pregnancy and sexually transmitted diseases (STDs), including Human Immunodeficiency Virus (HIV), the virus that causes AIDS.

The United States has one of the highest rates of adolescent pregnancy, abortion, and childbearing in the Western industrialized world^{3, 4}. Each year, almost 750,000 adolescents, most 15-19 year olds become pregnant. However, the rates of teen pregnancy and teen abortion are lower now than they have been in the past 40 years. Most of the decline has been attributed to increased contraceptive use, although a small portion is due to a reduction in sexual activity². Massachusetts has one of the lowest teen birth rates in the country, over 10,200 teen pregnancies in the Commonwealth¹.

Almost one half of the nineteen million new STD infections each year occur among young persons under age 25⁵. Adolescent females are more susceptible than are older women to STDs, severe consequences can include pelvic inflammatory disease, ectopic pregnancy, infertility, and cervical cancer⁶. Additionally, someone with an active sexually transmitted disease is more likely than a person without STDs to become infected with HIV if exposed to the virus.

Research has shown that formal, comprehensive sexual education programs that instruct students on the value of postponing sexual activity and the correct use of condoms are successful in delaying the onset of sexual activity and increasing condom use⁷. Further, two recent studies provide evidence that both parents and the public in general support such a comprehensive approach⁸. Clear parent-adolescent communication also can be a strong deterrent to risky sexual behavior among youth. It is important that families communicate their values and expectations regarding sexual behavior to adolescents. Several recent studies have demonstrated that parent-teenager discussions about sexuality and sexual risk were associated with lower rates of adolescent risk behavior^{9, 10}.

The 2011 Brookline High School Health Survey posed questions about age at first sexual intercourse, number of sexual partners, forced sexual contact, condom usage and sexual behavior that occurred after alcohol use.

The 2011 Brookline Middle School Health Survey posed questions about oral sex, age of first sexual intercourse, number of sexual partners, condom usage, and pressure to have oral sex and sexual intercourse.

- In this report, the following definitions were used:

Ever: Participated in the behavior or expressed the feelings/thoughts at any time in the student's life

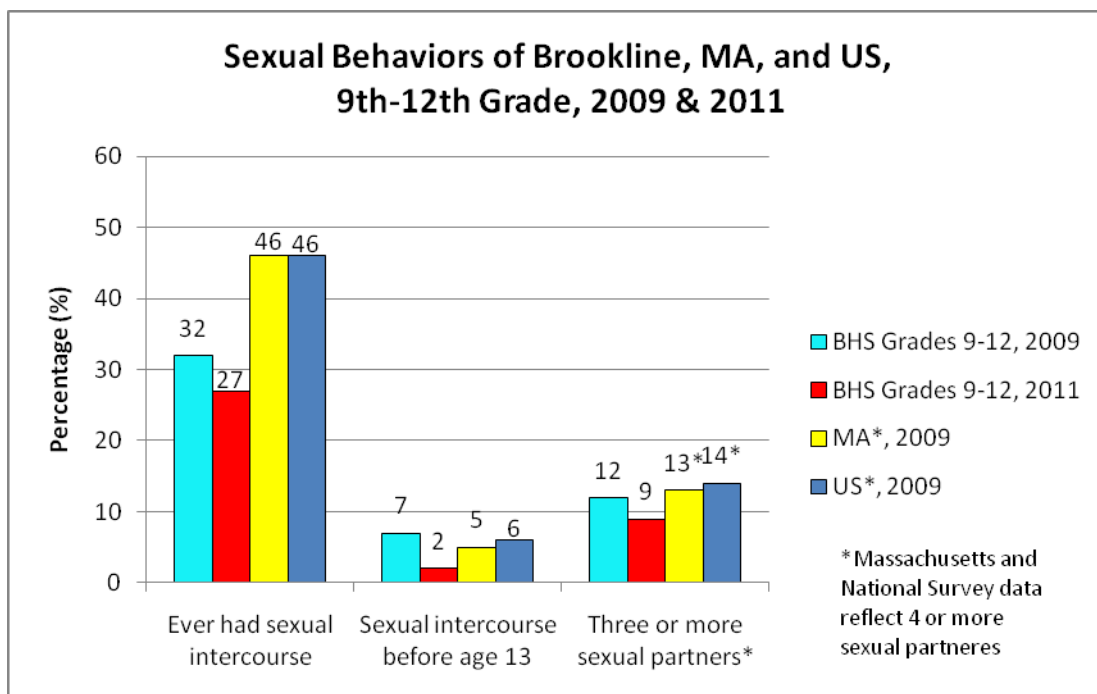
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- ¹⁰ Blake, S., Simkin, L., Ledsky, R., Perkins, C., Calabrese, J., (2001) Effects of a parent-child communications intervention on young adolescents' risk for early onset of sexual behavior. *Family Planning Perspectives*. 33: 52-62.

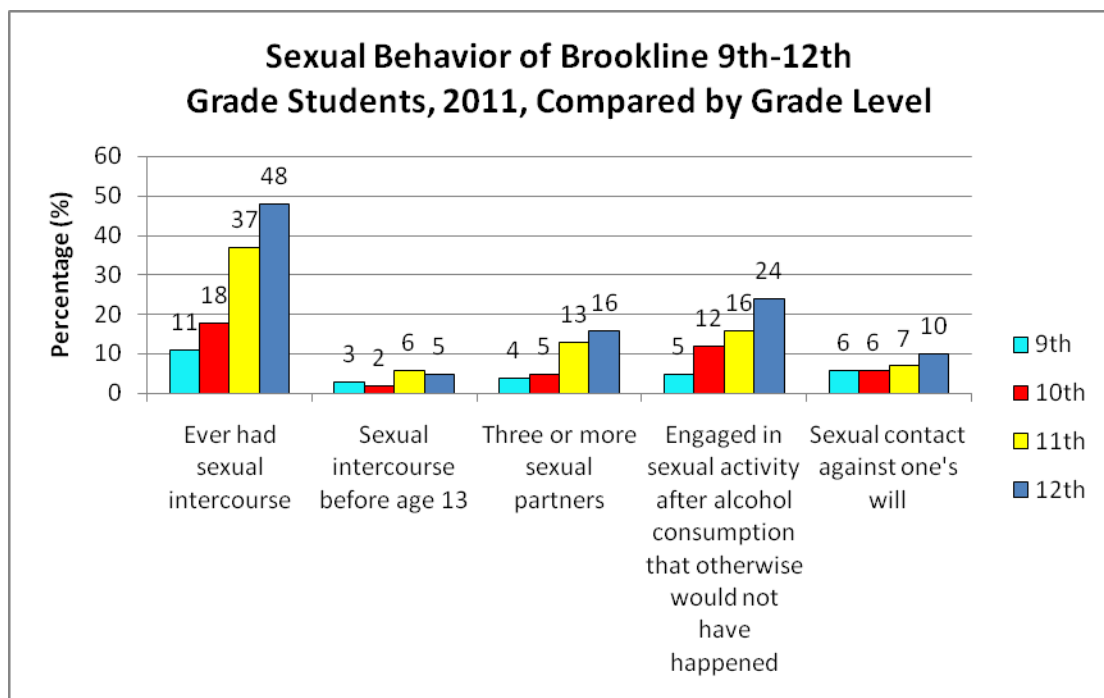
Sexual Behavior

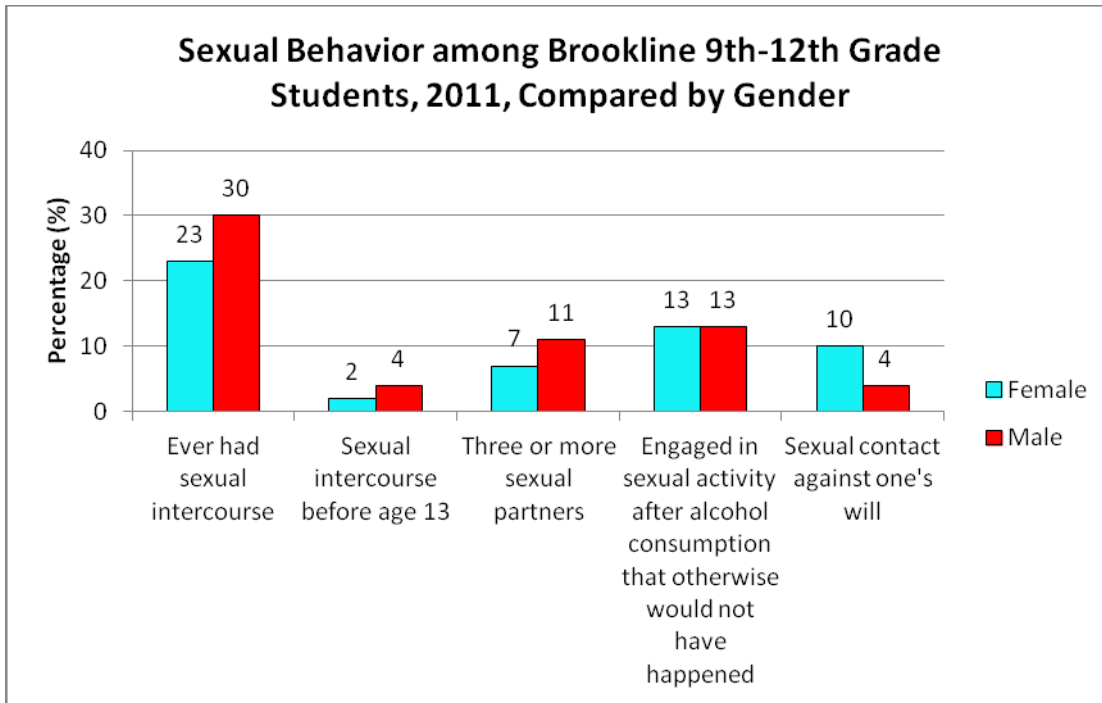
High School Data

- In 2011, the percentage of BHS students who had ever had sexual intercourse was 27%. This was a statistically significant decrease from 32% in 2009. This rate is considerably lower than 2009 state and national values (both 46%).
- The percentage of students reporting that they have ever had sexual intercourse increases steadily from the 9th grade through the 12th grade: 11% of 9th graders, 18% of 10th graders, 37% of 11th graders, and 48% of 12th graders.
- In 2011, 2% of BHS students reported having had sexual intercourse before age 13. This is a statistically significant decrease from the 7% in 2009. The state rate was (5%) and national rate was (6%).
- Nine percent of BHS students reported having had multiple sexual partners. This is a statistically significant decrease from the 2009 value of 12%. The state and national survey collects data about students who have had four or more sexual partners, with rates of 13% and 14%, respectively.
- Males reported more instances of multiple sexual partners than females (males 11%, females 7%)
- The number of students who reported multiple sexual partners increased with grade level: 4%, in 9th grade, 5% in 10th Grade, 13% in 11th grade, -16% in 12th grade.



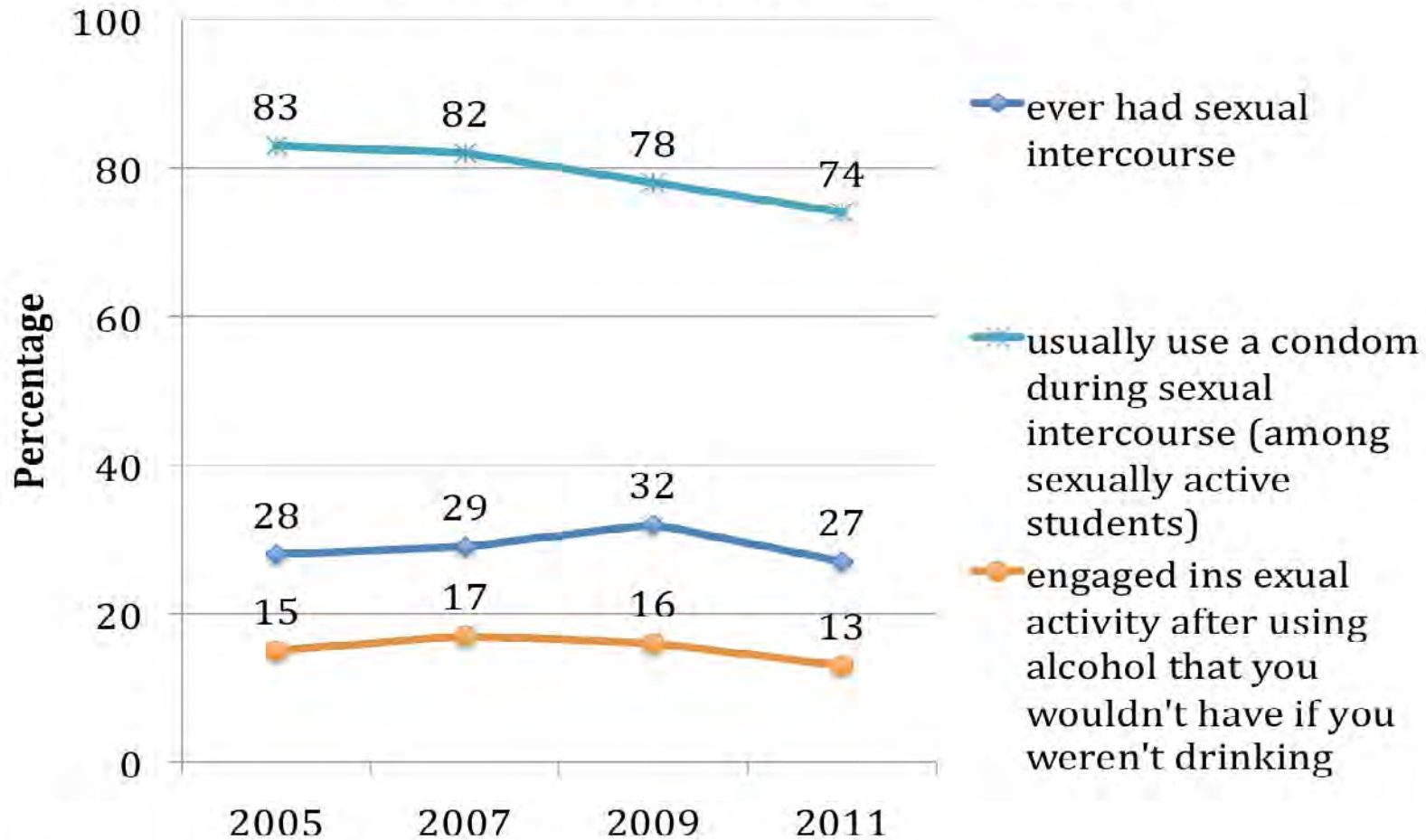
- In 2011, 74% of BHS students that reported having had sexual intercourse reported that they or their partner *usually* use a condom when they have sex. 2009 state and national rates were 58% and 61%, respectively; however, the question in those surveys was specific to condom use at last intercourse.
- Thirteen percent of BHS students reported having engaged in sexual activity after alcohol use that they otherwise would not have engaged in. These rates increase with grade level: 5% of 9th graders, 12% of 10th graders, 16% of 11th graders, and 24% of 12th. This coincides with the increased alcohol consumption in higher grades (see Alcohol Use section).
- In 2011, 7% of BHS students reported having had sexual contact against their will. This was highest in 12th grade students and in female students (both 10%).



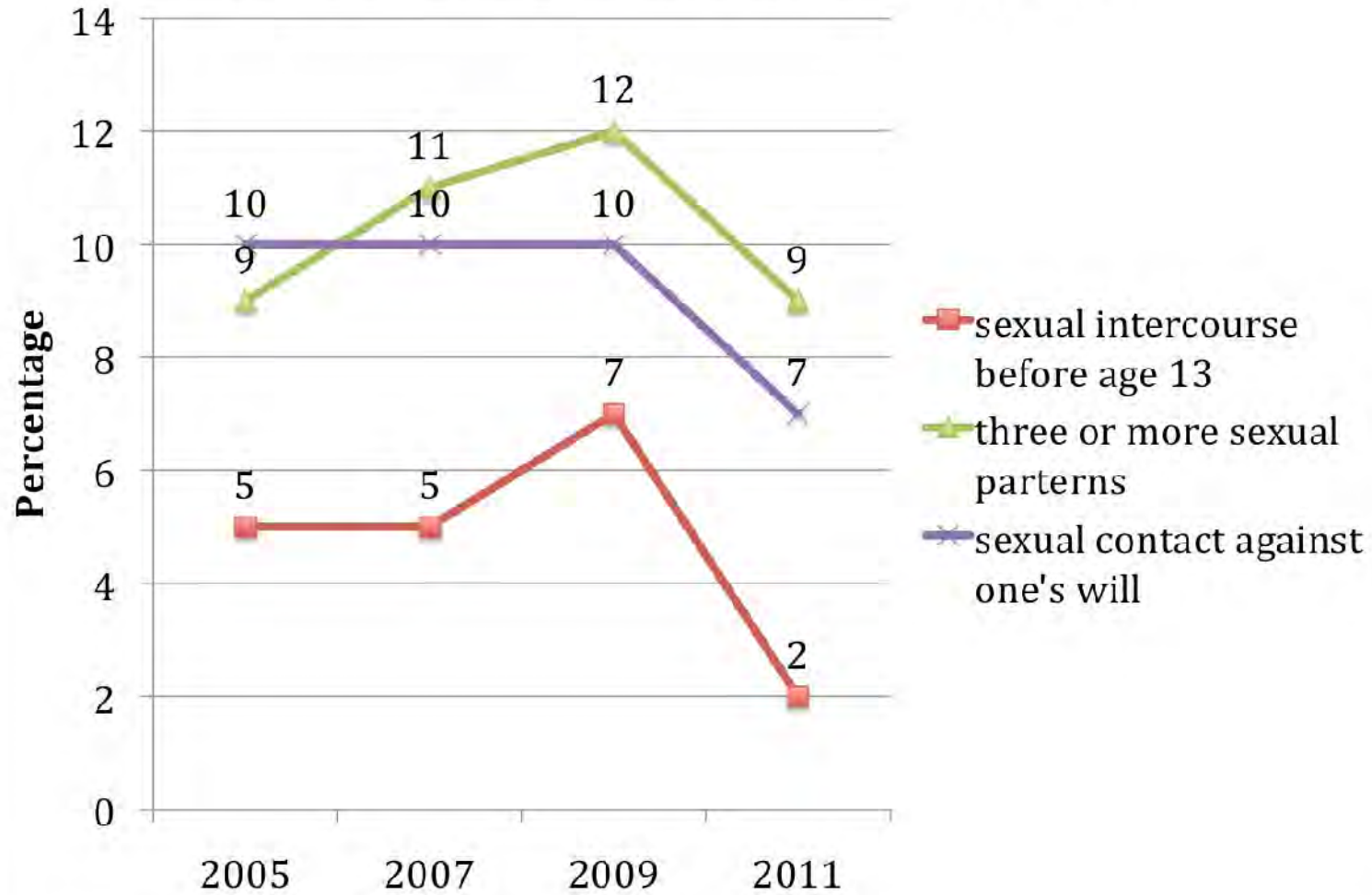


Trend line data show that the decreases from 2007 to 2011 in the rates of students who reported having had sexual intercourse and having engaged in sexual activity under the influence of alcohol were statistically significant. Additionally, there were statistically significant decreases from 2009 to 2011 in sexual intercourse before age 13, three or more sexual partners, and sexual contact against one's will. The other changes were not statistically significant. See graphs on the following pages.

BHS Sexual Behavior trends, 2005-2011



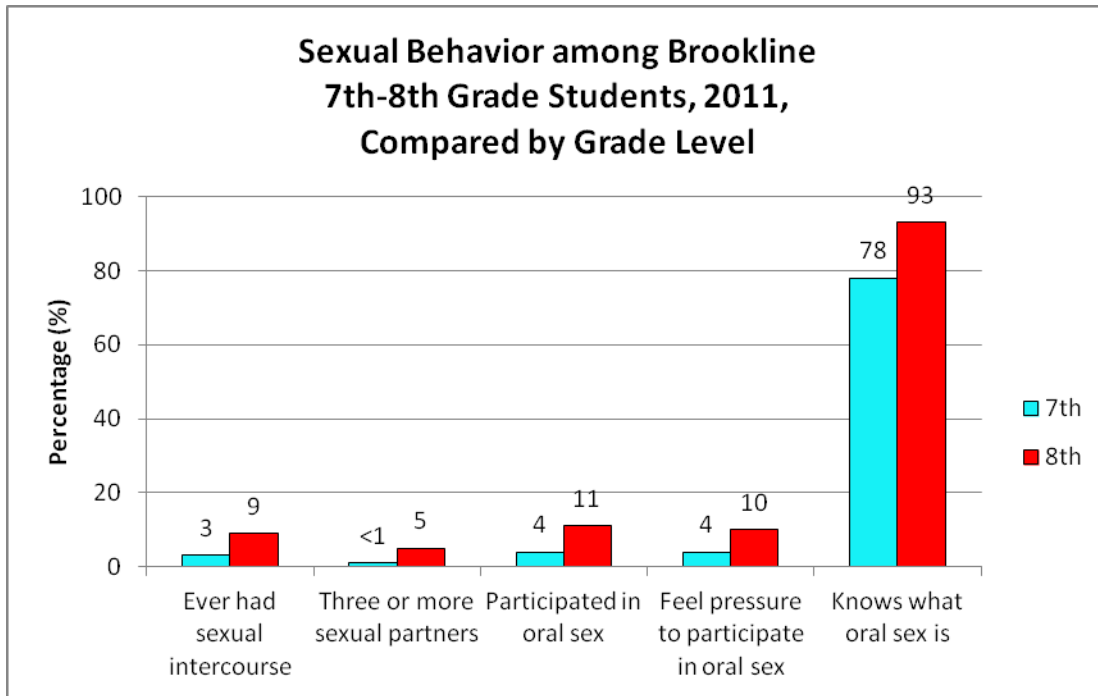
BHS Sexual Behavior trends, 2005-2011



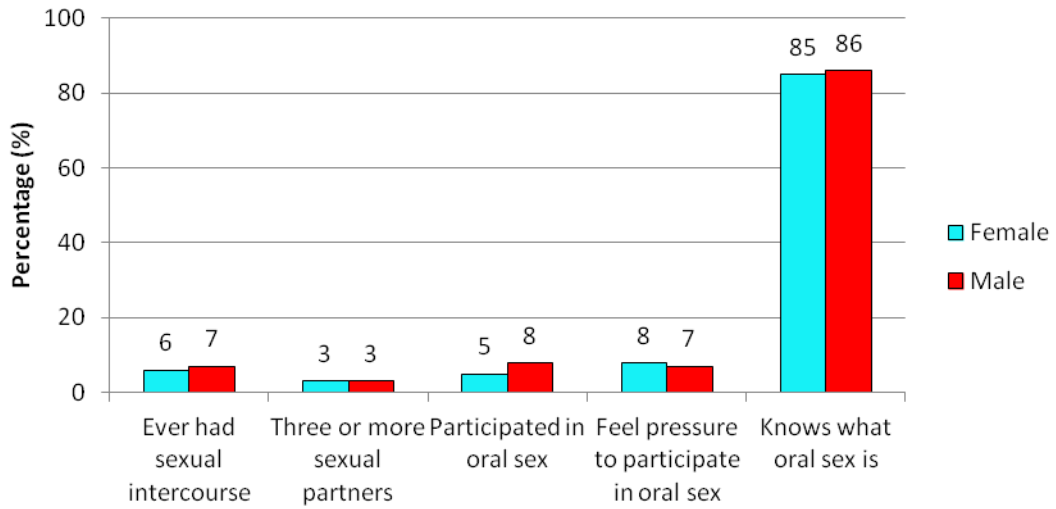
Middle School Data

Note: There are no US or state middle school data for comparison.

- Six percent of Brookline 7th and 8th graders reported having ever had sexual intercourse. Of those who had sexual intercourse, 65% reported using a condom at last intercourse.
- Most middle school students (85%) reported knowing about oral sex. Significantly more 8th grade students (93%) reported this than 7th grade students (78%).
- Eight percent of Brookline 7th and 8th grade students reported having participated in oral sex. More males than females reported having participated in oral sex (10% males, 6% females). Seven percent of students reported feeling pressured to have oral sex with slightly more females than males reporting so (8% females, 7% males).



Sexual Behavior among Brookline 7th-8th Grade Students, 2011, Compared by Gender



Suicide-Related Behaviors

- Nationally, youth suicide rates tripled in the second half of the 20th century¹. As of 2009, suicide is the 3rd leading cause of death for young people aged 10-24, both nationally and in Massachusetts². One risk factor for youth suicide is undiagnosed, untreated, or undertreated mental illness. Other risk factors include bullying, physical or sexual abuse, stressful life events or losses, substance abuse, and easy access to lethal methods like firearms or weapons^{3,4}. When assessing suicidal thoughts, severity is broken down into the following categories: suicidal thoughts, planning how one would complete a suicide, and history of suicide attempts⁵.
- Recently, national media attention has focused on the increased rates of suicide among young lesbian, gay, bisexual, queer, and transgendered people. News coverage has brought increased awareness to this issue; however, it is by no means a new issue⁶. In addition to the risk factors previously mentioned, this population also has the additional risk of family rejection⁷.
- The 2011 Brookline High School and Middle School Health Surveys elicited information about feelings of overwhelming stress and anxiety, as well as about suicidal thoughts, plans and attempts. The Middle School survey also asked about self-harm practices (like cutting or self-burning). Bullying data is reported in the Violence-Related Behavior section. Sexual abuse and dating violence is reported on in the Sexual Behavior section.

In this report, the following definitions were used:

Past 12 months or past year: Expressed the feelings or thoughts at least once during the 12 months prior to the survey

Ever: Expressed the feelings or thoughts at any time in the student's life

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¹ US Department of Health and Human Services (1990). Prevention '89/90: Federal programs and progress. Washington, DC: US Government Printing office.

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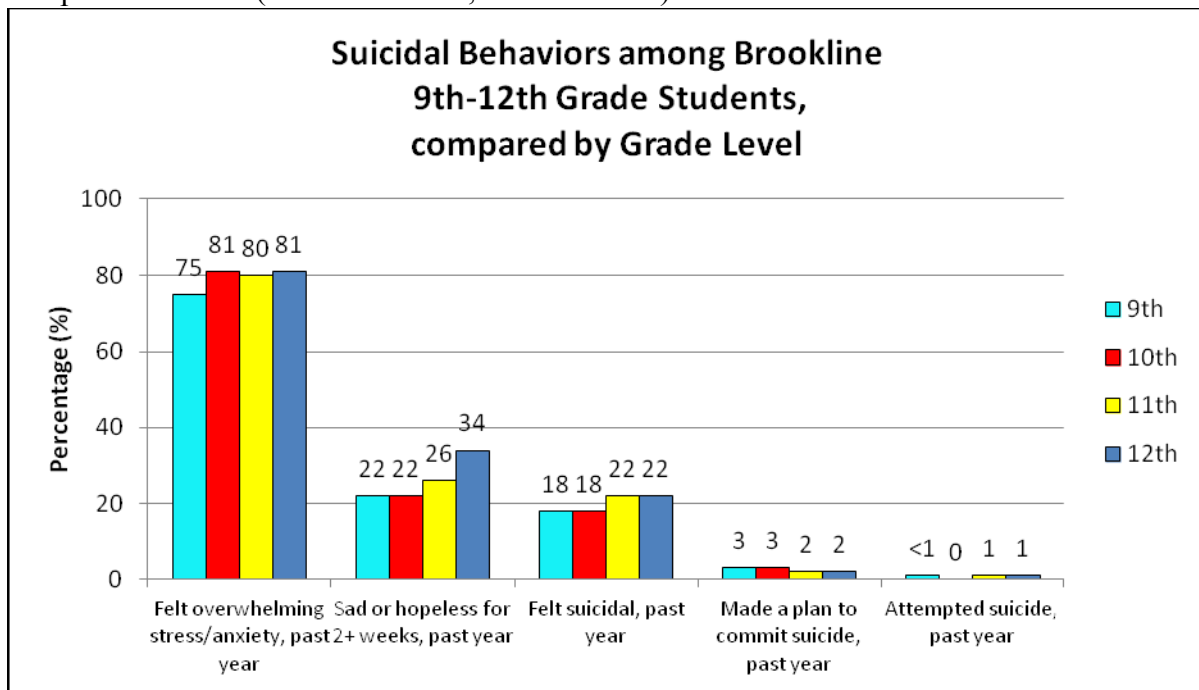
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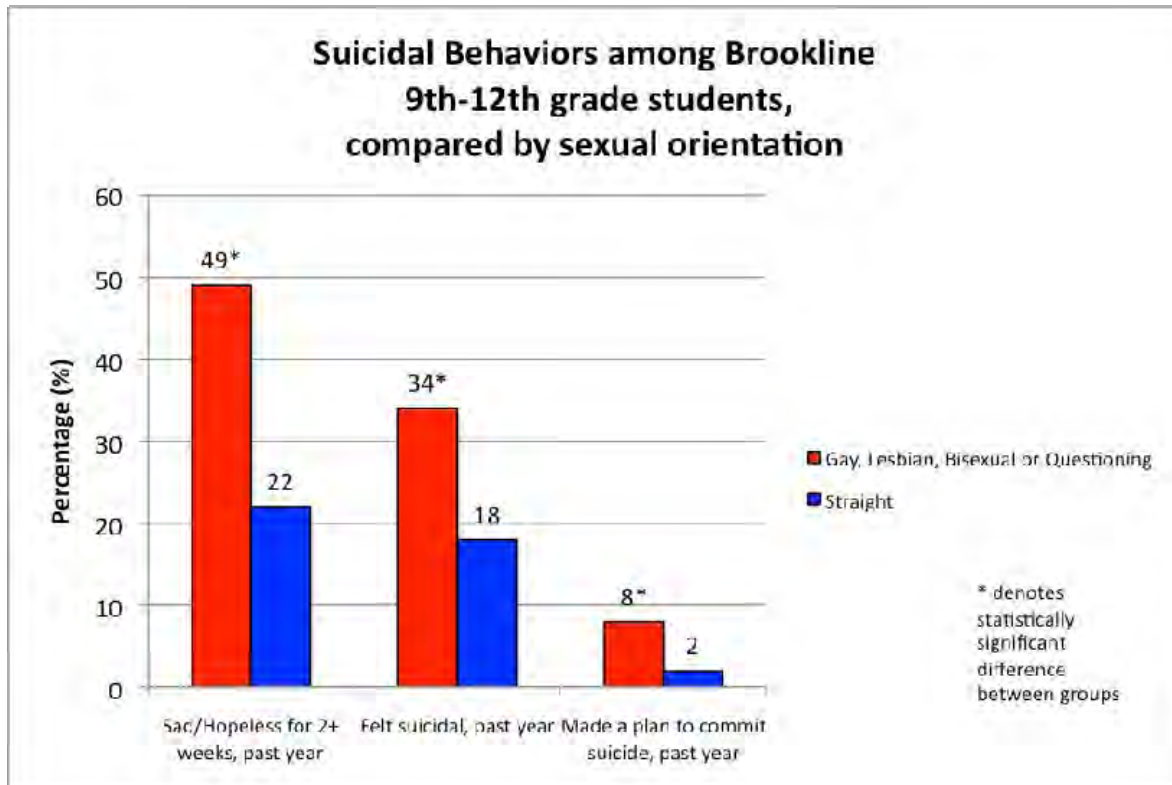
Suicide-Related Behaviors High School Data

- In 2011, 79% of Brookline High School students reported feeling overwhelming stress or anxiety occasionally or frequently during the 12 months prior to the survey. This is a statistically significant increase from the 2009 result of 66% of students. Feelings of stress or anxiety were higher in older grades (74% among 9th graders and 81% for 12th graders). Females reported markedly more stress (89%) than males (69%).
- Nineteen percent of BHS students reported having felt suicidal in the 12 months prior to the survey, as compared to 20% in 2009. The decrease is not statistically significant. The reported rates remained relatively constant across grade levels.
- Females were more likely to report feeling suicidal in the 12 months prior to the survey, as compared to males (21% of females; 17% of males).



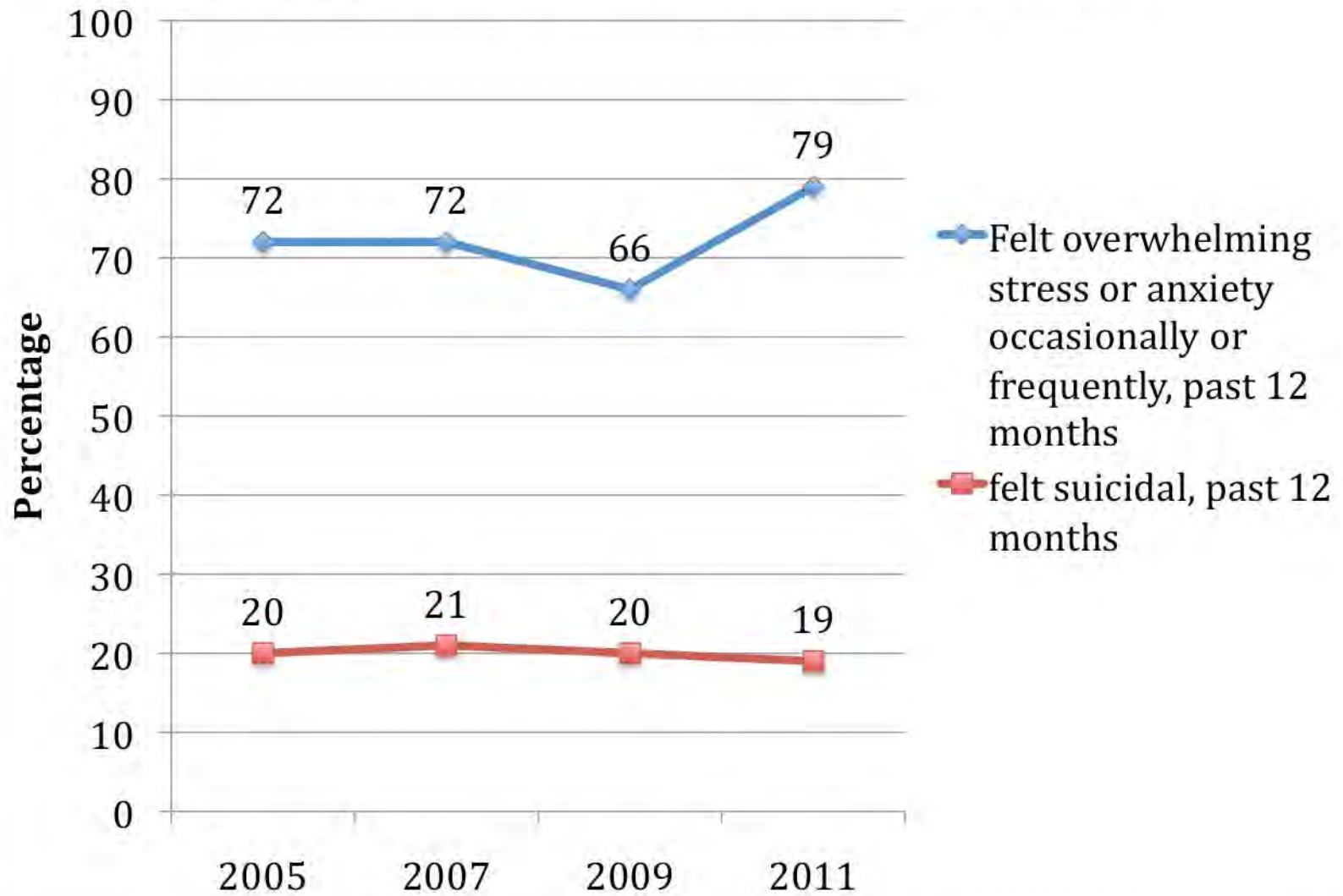
- The rate that BHS school students reported having seriously considered suicide and made a suicide plan within the year prior to the survey has remained consistent at 3% since 2005. 2009 state and national rates were both 11%. The state and national surveys asks specifically about making a plan. The Brookline survey asks about ideation, making a plan, and suicide attempts.
- The number BHS students who attempted suicide within the year prior to the survey is less than 1% in 2011. This is a decrease from a 2% rate in the prior three surveys (2009, 2007, and 2005), and less than 2009 state (3%) and national (2%).

- Students who self identified as Gay, Lesbian, Bisexual or Questioning (or Not Sure) were more likely to report symptoms of depression, suicidal thoughts, and suicidal attempts than students who identified as heterosexual. The difference in rates is statistically significant in each of the categories.

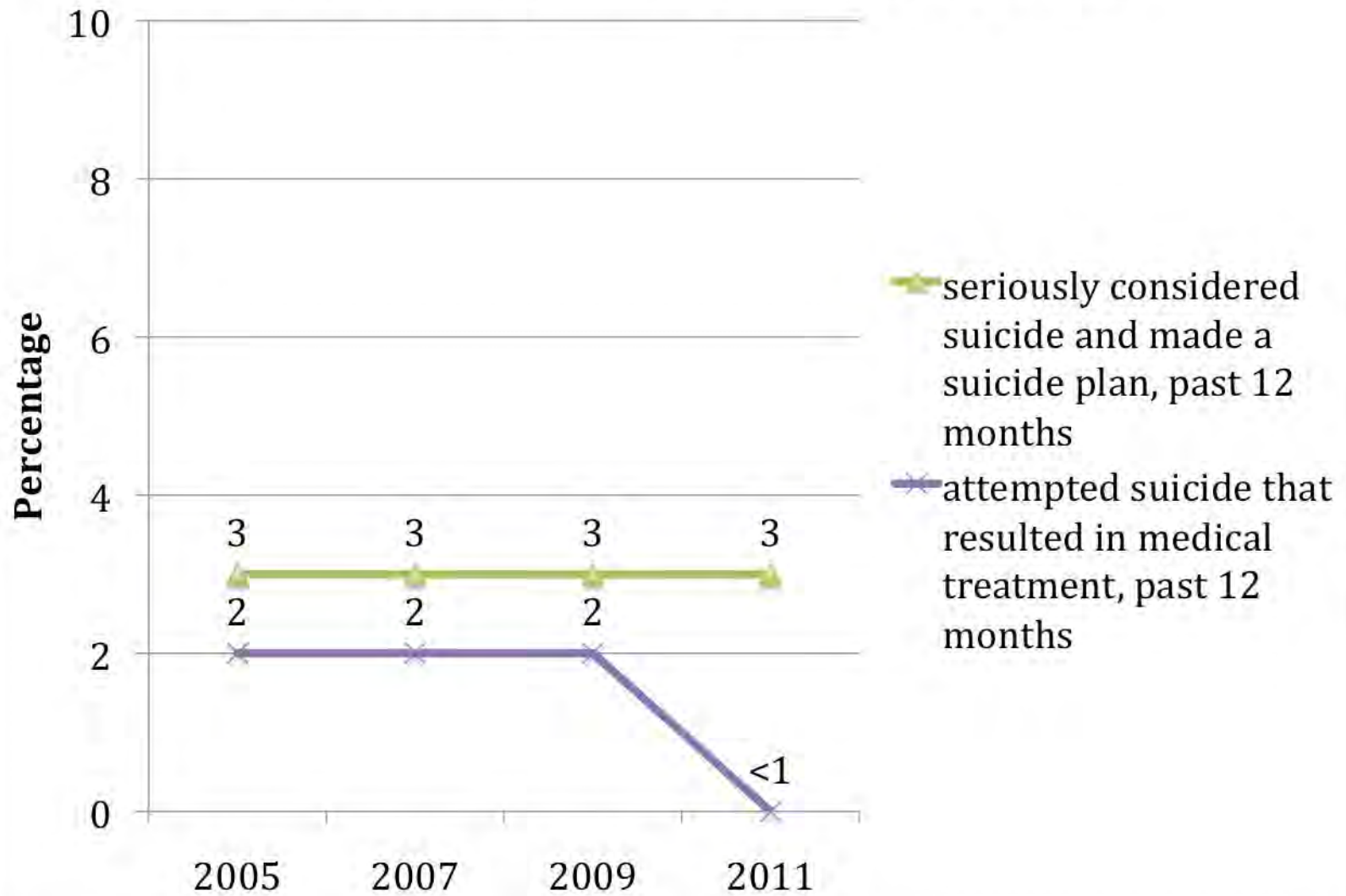


Trend line data show that there is a statistically significant increase in students who report having had overwhelming stress or anxiety in the previous 12 months from 2005-2009 to 2011. The other changes were not statistically significant, including rates of suicidal ideation, which have remained stable, and rates of suicide planning and suicide attempts, which have remained consistently low (3% or less). See graphs on the following pages.

BHS Suicidal behavior trends, 2005-2011



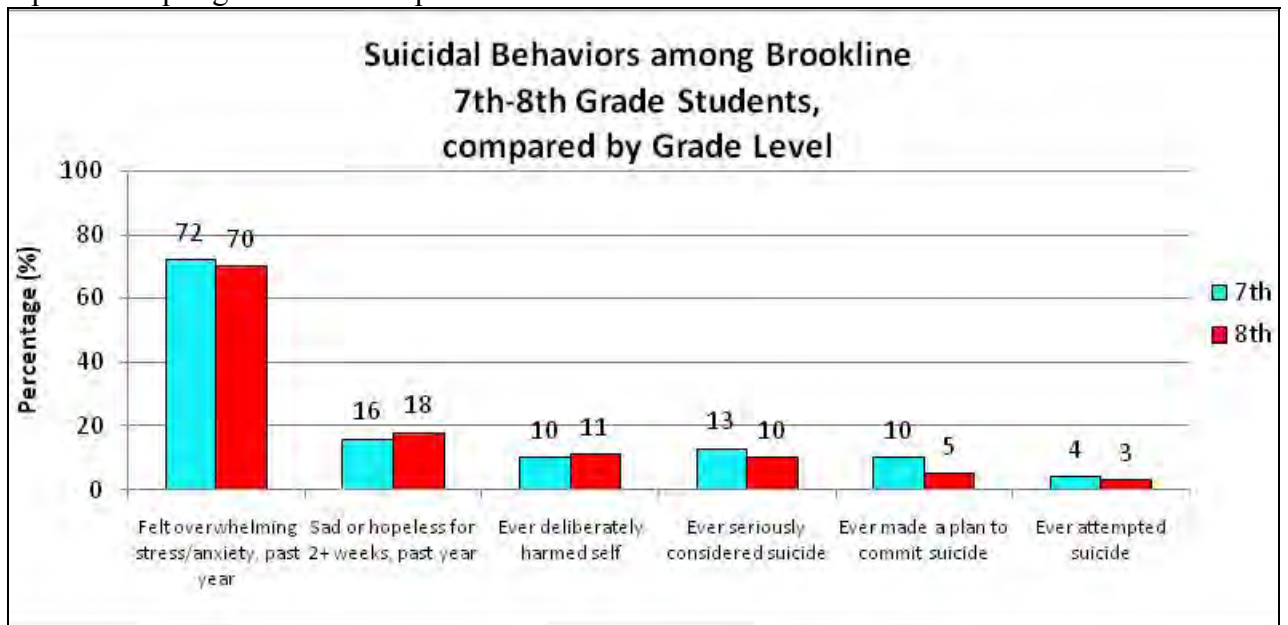
BHS Suicidal behavior trends, 2005-2011



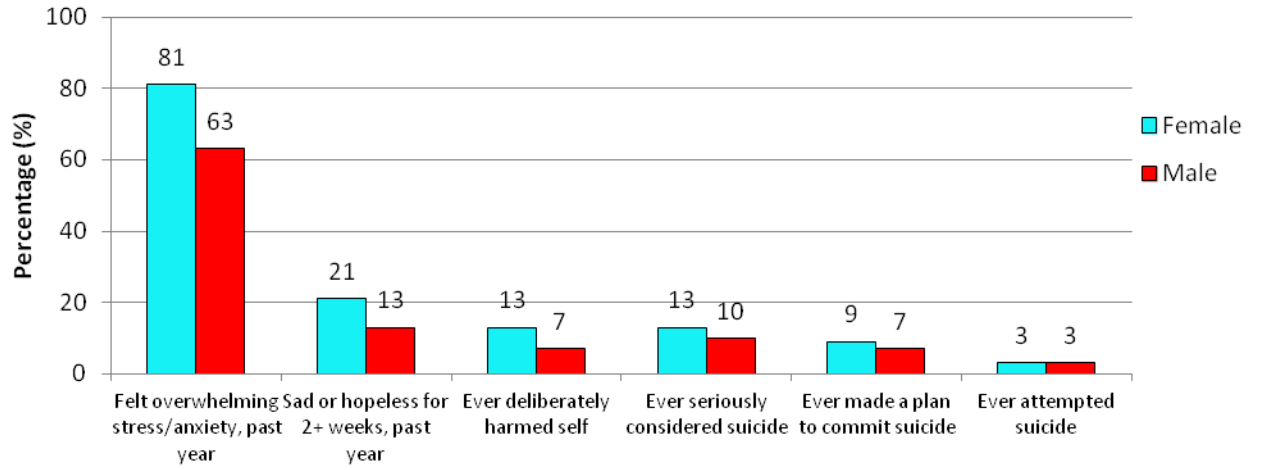
Middle School Data

Note: There are no US middle school data for comparison. There is minimal state data, which is reported below.

- In 2011, 71% of Brookline 7th and 8th grade students reported feeling overwhelming stress or anxiety occasionally or frequently during the 12 months prior to the survey. Rates were similar between genders and grades.
- Eleven percent of students reported having ever had serious thoughts about suicide in 2011. Rates were higher among females (13%) than males (10%).
- The surveys asked students about deliberate self-harm. Ten percent of students reported having attempted self-harm. Significantly more females (13%) reported having attempted self-harm than males (7%).
- The survey asks about a common symptom of depression in the form of feeling sad or hopeless for 2 or more weeks. Sixteen percent of 7th-8th grade students reported this symptom of depression over the past year. Significantly more females (21%) reported this than male (13%).
- Three percent of Brookline 7th and 8th grade students reported having EVER attempted suicide. The Massachusetts state survey shows 5% of state middle school students (6th-8th) report attempting suicide in the past 12 months.



Suicidal Behaviors among Brookline 7th-8th Grade Students, compared by Gender



Physical Activity

In addition to proper nutrition and healthy eating habits, regular physical activity is vital for maintaining a healthy body weight, muscle strength, and bone health¹. Millions of Americans suffer from chronic illnesses that could be prevented or improved through regular physical activity, including coronary heart disease, diabetes, osteoporosis, certain cancers, and high blood pressure²⁻⁶. Regular physical activity increases life expectancy⁶ and is associated with good mental health and self-esteem¹. Yet, almost one-third of adolescents do not engage in sufficient amounts of physical activity⁷.

School physical education programs promote increased levels of physical activity and have been found to have a positive effect on the health and fitness of young people. In addition, there is evidence that participation in a health-related physical education program can have a positive effect on student achievement⁸. A 2012 systemic review of 12,000 young people suggests that participation in physical activity has a positive relationship with academic performance⁹.

Young people have access to screens in the form of television, computers, and cell phones. Eliminating screen time altogether is nearly impossible with the necessity of the internet to complete homework assignments and communicate. However, several studies report that limiting a child's exposure to screens (especially during the school week) is linked to worsening school performance¹⁰. The American Academy of Pediatrics recommends that children age 2-18 limit non-educational screen time to 2 or fewer hours daily¹¹. They note not only poor school performance with high levels of screen time but also decreased physical activity and increased obesity rates.

The 2011 Brookline High and Middle School Student Health Surveys asked students to report on their participation in cardiovascular and strengthening exercises, TV usage, and computer/videogame usage. The 2011 survey asked about exercise in the past 7 days. Previous surveys (2005-2009) have asked about exercise in the previous 12 months. A question was also asked about participation in school athletics. The results of that question are reported in the following section about Resiliency and Protective Factors.

In this report the following definitions were used:

Past week: Participation in the reported behavior at least once during the 7 days prior to the survey.

Average School Day: Participation in the reported behavior on a typical school day when school is in session.

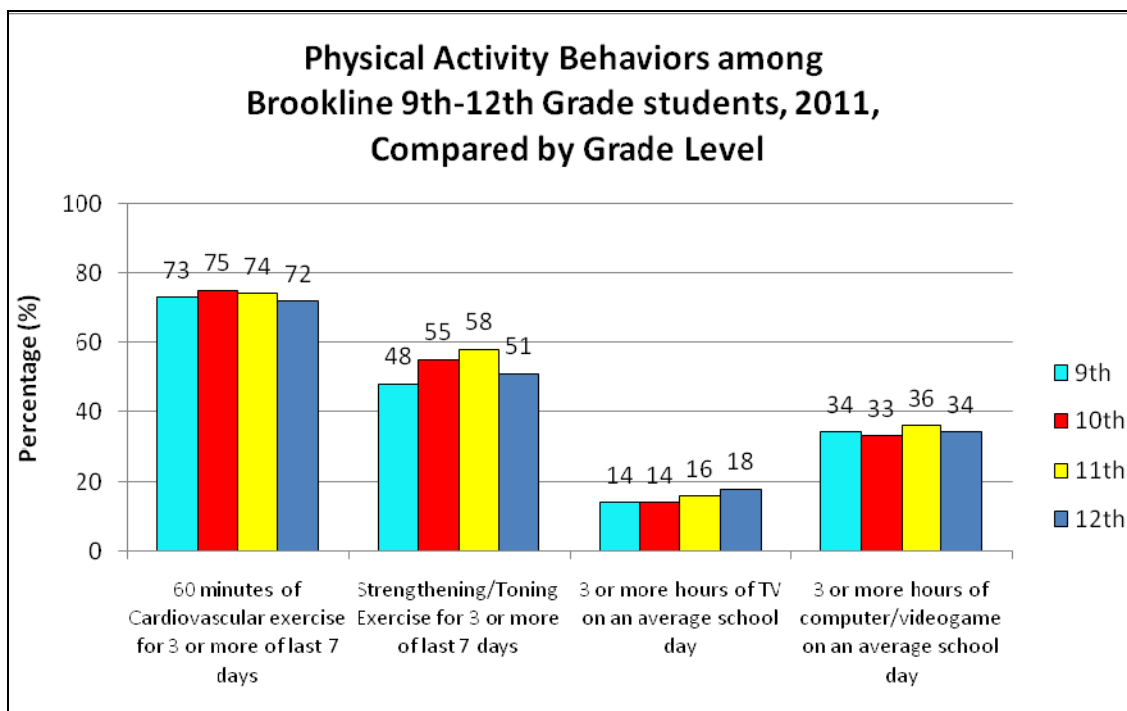
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Physical Activity

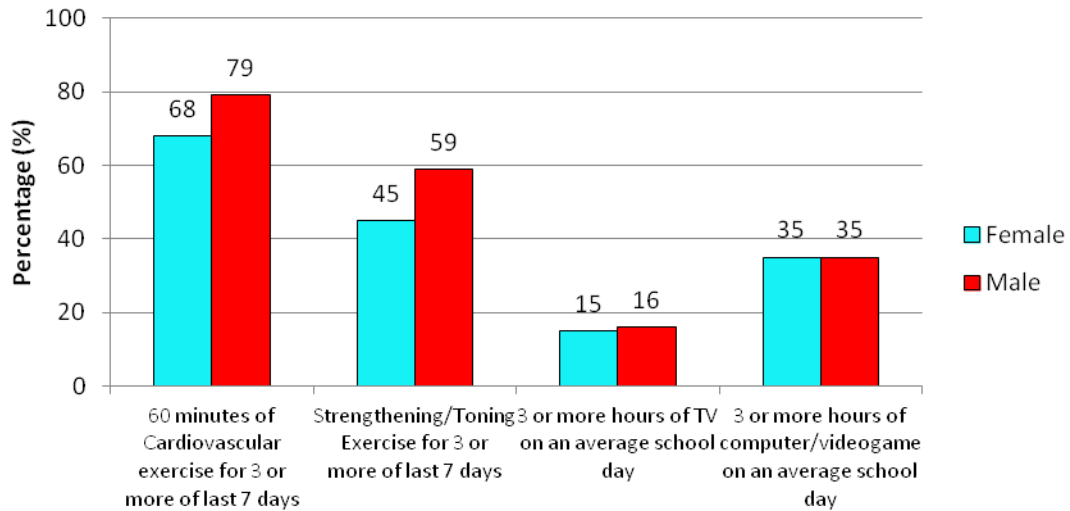
High School Data

- Seventy-three percent of BHS students reported participating in 60 minutes of cardiovascular activity for at least 3 days in the past week. Fifty three percent of students reported participating in strengthening or toning exercises for at least 3 days in the week prior to the survey.
- Females reported cardiovascular exercise (for 60 minutes a day for 3 of last 7 days) at a rate of 68%. Males reported a rate of 79%. Activity levels were similar across grade levels (9th grade: 73%, 10th grade: 75%, 11th grade: 74%, 12th grade: 72%)

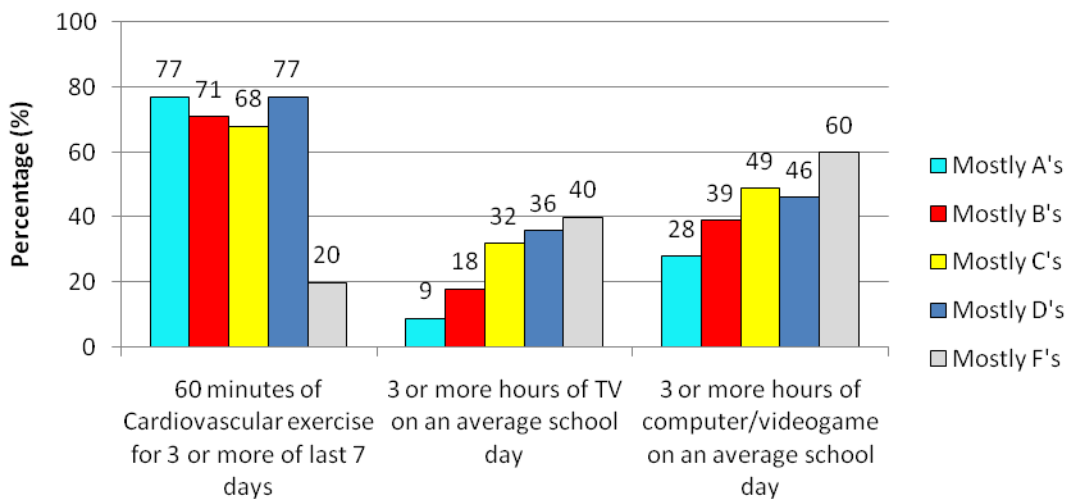


- For strengthening exercise, the reported rate for females was 45% and for males it was 59% (3 or more of last 7 days). The rates across grade levels were 9th grade (48%), 10th grade (55%), 11th grade (58%), and 12th grade (51%).
- For average school day 15% of BHS students reported spending three or more hours watching television. Thirty-five percent of students reported spending three or more hours playing videogames or using a computer for non-school related activities. Rates for TV and computer/videogame usage were similar among gender and grade levels.

**Physical Activity Behaviors among
Brookline 9th-12th Grade students, 2011, Compared by
Gender**



**Physical Activity Behavior among
Brookline 9th-12th Grade Students, 2011,
Compared by grades in school**

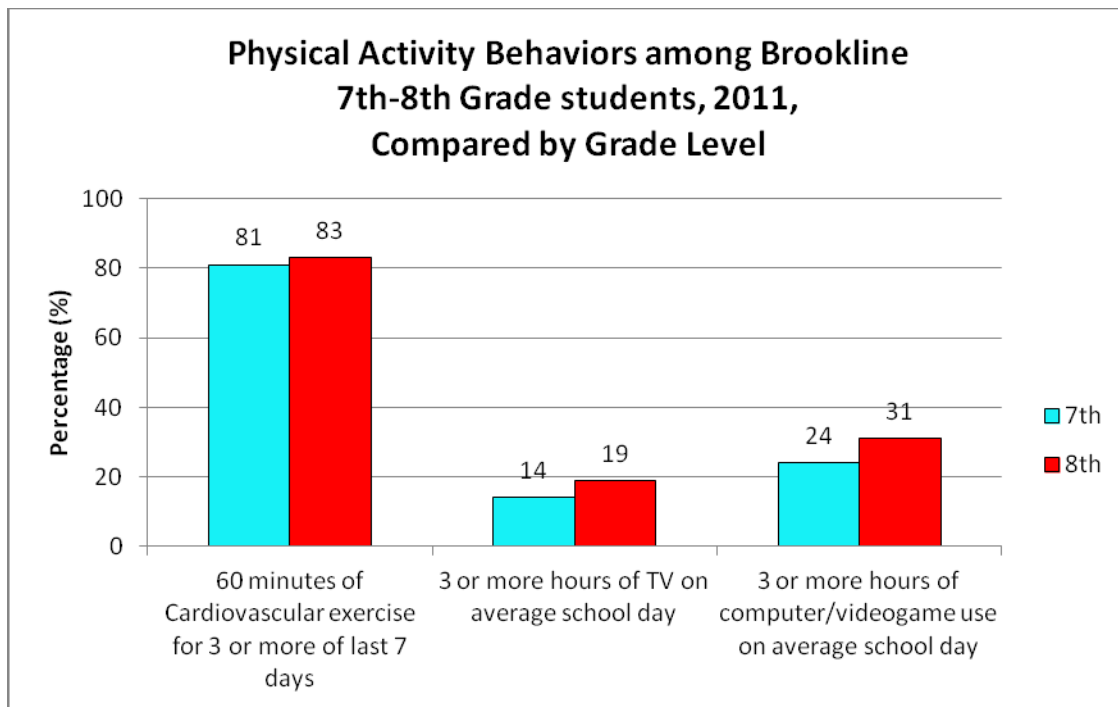


Trend line data is unable to be generated as there was a significant change in the questions from the 2005-2009 surveys and the 2011 survey.

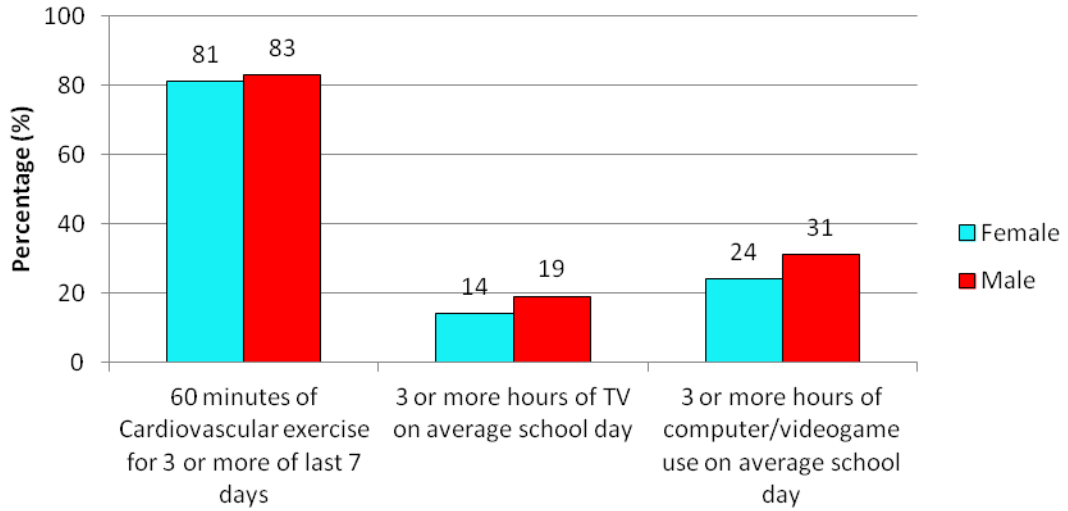
Middle School Data

Note: There are no US or state middle school data for comparison.

- Eighty-one percent of 7th-8th grade students reported participating in 60 minutes of cardiovascular activity for at least 3 days in the past week.
- For an average school day 16% of students reported watching 3 or more hours of TV (16% of females and 17% of males). Twenty-eight percent reported playing videogames or using a computer for non-school related activities.
- 8th grade students reported watching more TV (19%) and using the computer more than (31%) 7th grade students. (TV, 14%; computer/videogame, 24%)



Physical Activity Behaviors among Brookline 7th-8th Grade students, 2011, Compared by Gender



Body Weight and Dietary Behaviors

In public health and in the media, increasing concern and attention has been drawn to the obesity epidemic in the United States. The percentage of American adults who are obese rose from 16% in 1995 to nearly 28% in 2010⁸. Seventeen percent of children and adolescents are obese⁹. Obesity in adolescence may persist into adulthood, increasing later risk for chronic conditions such as diabetes, heart disease, high blood pressure, stroke, and certain cancers¹⁰. Obesity during adolescence is also related to psychological stress, depression, problems with family relations, and poor school performance¹¹.

On the other hand, an overemphasis on thinness during adolescence may contribute to some eating disorders, such as anorexia nervosa and bulimia nervosa. Anorexia nervosa is a disease in which people severely limit their food intake. Bulimia nervosa is a disease which involves compulsive overeating followed by purging through vomiting, laxative use, or excessive exercise¹². Approximately 10% of eating disorder cases eventually lead to death from cardiac arrest, starvation, or suicide⁵.

Lifetime dietary patterns are established during childhood and adolescence, so it is important to teach and reinforce throughout a child's development healthy eating and exercise habits.

The 2011 Brookline High and Middle School Health Surveys asked students questions about their perception of their own weight, dietary habits, exercise habits, sedentary behavior and dieting practices.

In this report, the following definitions were used:

Past 12 months or past year: Participation in the reported behavior at least once during the 12 months prior to the survey.

Recent or past month: Participation in the reported behavior on at least one of the 30 days prior to the survey.

Ever: Participated in the behavior at any time in the student's life.

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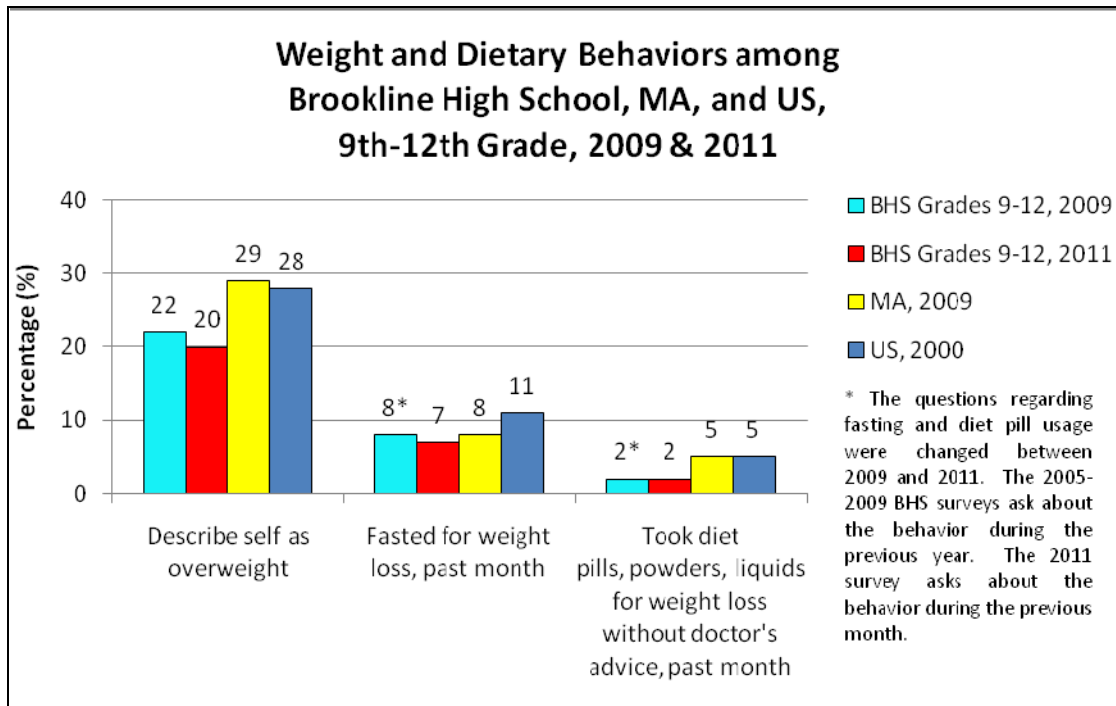
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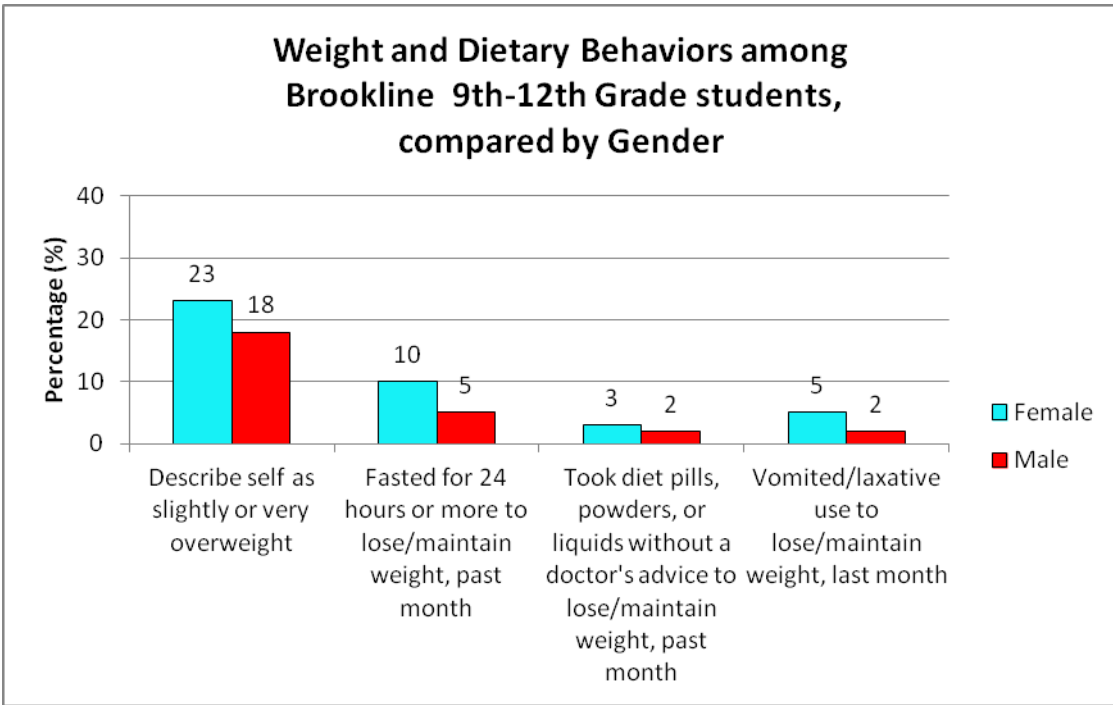
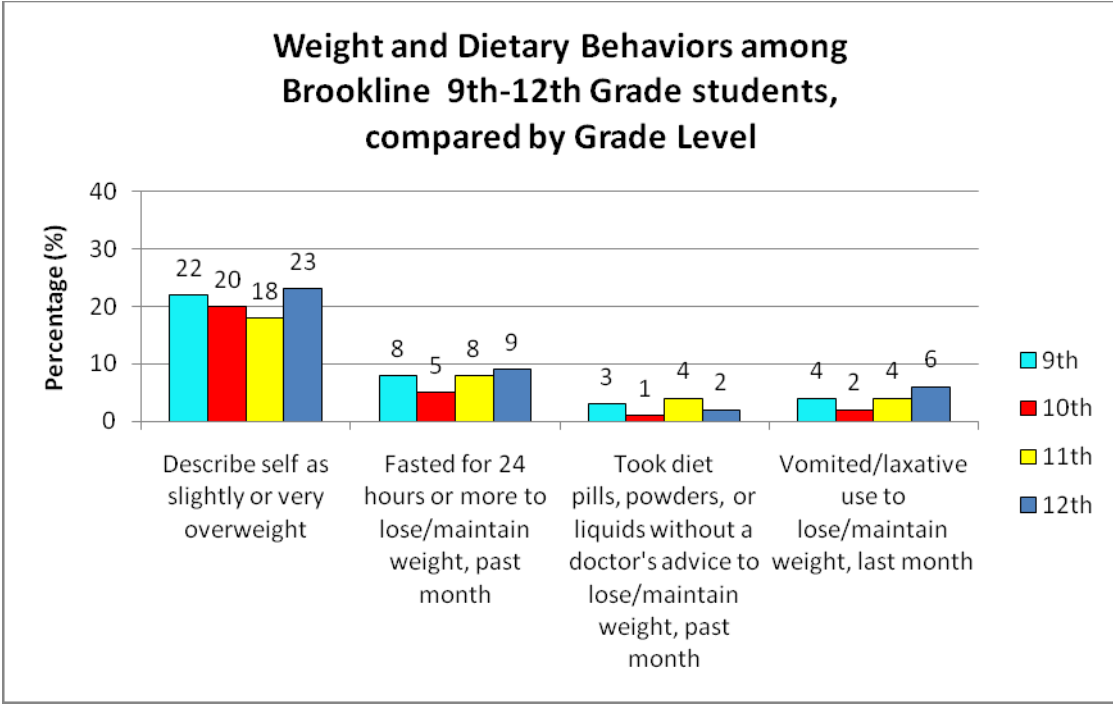
Body Weight and Dietary Behaviors

High School Data

- Among BHS students, 20% described themselves as slightly or very overweight. This is compared to 29% and 28% for Massachusetts and nationally, respectively.

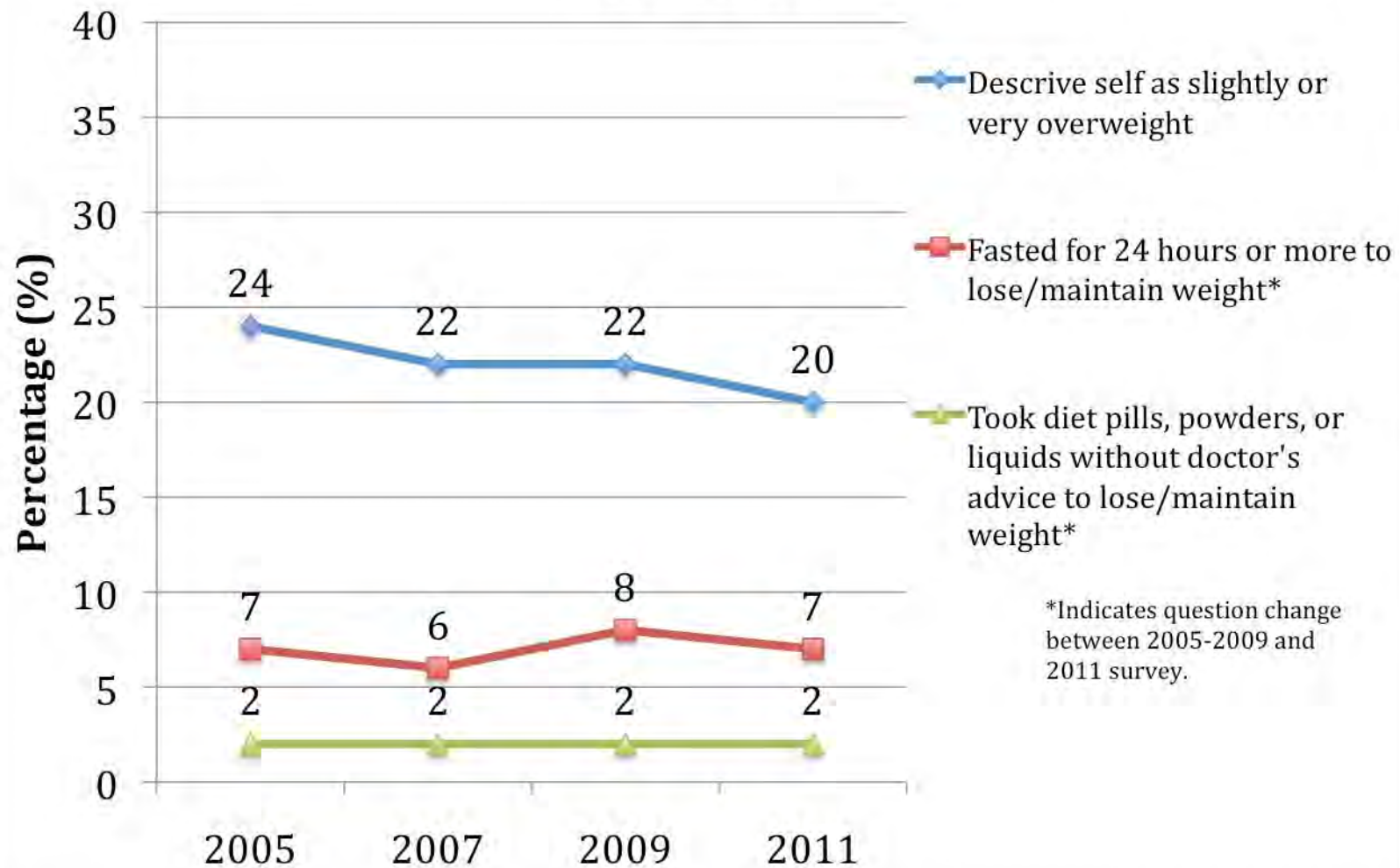


- Twenty-one percent of BHS females and 17% of BHS males perceived themselves as somewhat overweight. Sixty-six percent of females and 62% of males considered themselves to be about the right weight. Three percent of females and 1% of males considered themselves to be very overweight.
- Seven percent of BHS students reported having fasted for 24 hours or more (for the purpose of weight loss) during the past 30 days. Two percent of BHS students reported taking diet pills, powders or liquids (not prescribed by a doctor) in the past month.
- Females (23%) were significantly more likely to describe themselves as slightly or very overweight compared to males (18%). Females (5%) were also significantly more likely to report purging (vomiting or laxative use) than males (2%). Females (10%) were significantly more likely to report fasting than males (5%).



The trend line data show that there was a statistically significant decrease in students who describe themselves as slightly or very overweight from 2009 to 2011. The decrease from 2005 to 2011 is nearly statistically significant ($p=0.06$). This is related to sample size as fewer students took the survey in 2005. The other changes were not statistically significant See graph on the following page.

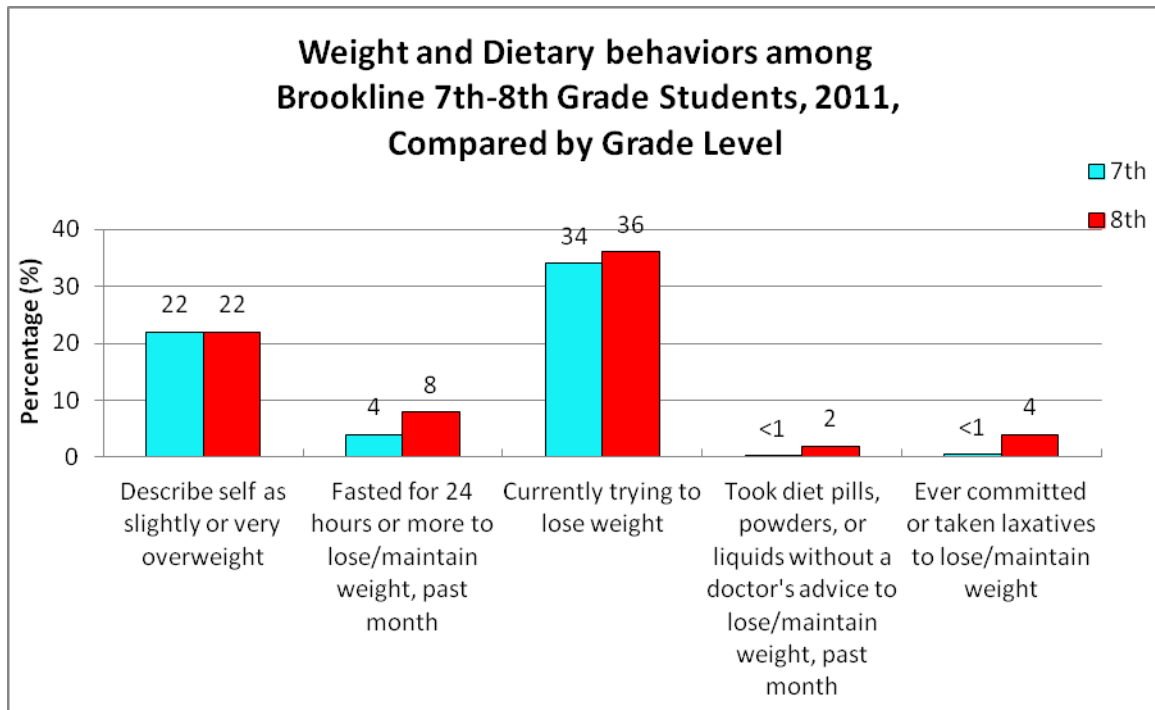
BHS Body weight and dietary behavior trends, 2005-2011



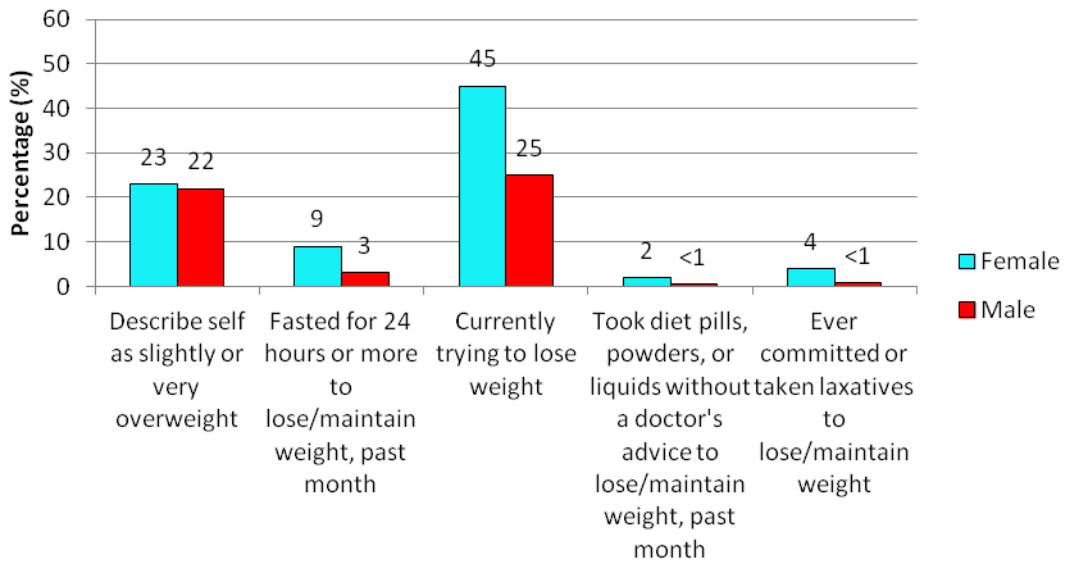
Middle School

Note: There are no US or state middle school data for comparison.

- Among Brookline 7th and 8th graders, 22% described themselves as slightly or very overweight. This was consistent between the grade levels and genders. Thirty-four percent of 7-8th grade students reported currently trying to lose weight. A significantly higher proportion of females (45%) reported trying to lose weight than males (25%).
- Six percent of students reported having fasted to lose weight in the past month. (9% females compared to 3% of males.) More 8th graders reported fasting (8%) than 7th graders (4%).
- One percent of middle school students reported using diet pills, powders, or liquid for weight loss in the past month. This was consistent between genders. Almost all of the students reporting this behavior were 8th grade students (8th was 2%, 7th was <1%).
- Two percent of students reported having ever vomited or taken laxatives for weight loss. This behavior was reported more often in females (4%) than males (1%). Most of the students reporting this behavior were 8th grade (4% vs. <1%).



Weight and Dietary Behaviors among Brookline 7th-8th Grade Students, 2011 Compared by Gender



Attitudes and Perceptions

The attitudes and perceptions of teens, their peers and their families have the ability to affect teen drug use. Individual and environmental risk factors can also influence perceptions and, therefore, impact decision making. These factors may include low self-esteem, anxiety, abuse, peer pressure and school/family environment.¹ Youth perception of the risks of using a substance as well as its availability can impact rates of use, as can how peers and parents feel about substance use. A perceived increase in risk or a decrease in social acceptance can lead to decreased teen use, whereas a perception of decreased risk and a higher level of acceptance can have the opposite effect.²

Nationally, illicit drug use is higher than it has been in eight years, primarily due to the increase in marijuana use. Some researchers believe that the increase in drug abuse is related to lower perception of harm and fewer prevention messages aimed at youth.³ According to the results of the national Monitoring the Future Survey, of all illicit drugs, marijuana has the highest level of use and one of the lowest levels of perceived risk and disapproval of use. These relationships suggest that individuals who believe that the use of a particular drug involves risk of harm and/or who disapprove of its use are less likely to use that drug; indeed, strong correlations also exist at the individual level between use of a drug and attitudes and beliefs about that drug. Students who use a given drug are less likely to disapprove of its use and to see its use as dangerous.⁴

Parental attitudes regarding substance use can affect not only whether adolescents decide to use or not, but also how much they use. Adolescents whose parents feel it is wrong to use substances are less likely to use or use less than their peers.⁵

Perceived level of peer substance use also can be a factor in adolescent decision making. The higher the perception is of peers using, the higher the use tends to be. The desire to fit-in and conform to the group is prevalent during the middle school years, making peer perception of use a significant factor in the onset of use.⁶

As youth get older and more independent, the influence of peers increases relative to other sources (e.g., parents) and appears to peak, at least for antisocial behavior, in the ninth grade.⁷ Negative peer pressure, in the form of modeling behavior or forming norms and attitudes, may increase experimentation or use. This is especially true when combined with the increase exposure to alcohol and other drugs, during the middle school years. For example, studies have shown a significant increase in marijuana use from 6th to 7th grades.^{8,9}

The 2011 BHS Health Survey included several measures of perceptions and attitudes among students. These included: (1) perception of harm of using substances, (2) approval or disapproval of peer drug use, (3) perception of parent approval or disapproval, (4) perceived accessibility of substances, and (5) perception of other BHS students' drug use. The 7th and 8th Grade Health Survey examined measures of perceptions and attitudes including: (1) perception of harm of using substances, (2) perception of parent approval or disapproval, and (3) perceived accessibility of substances.

References

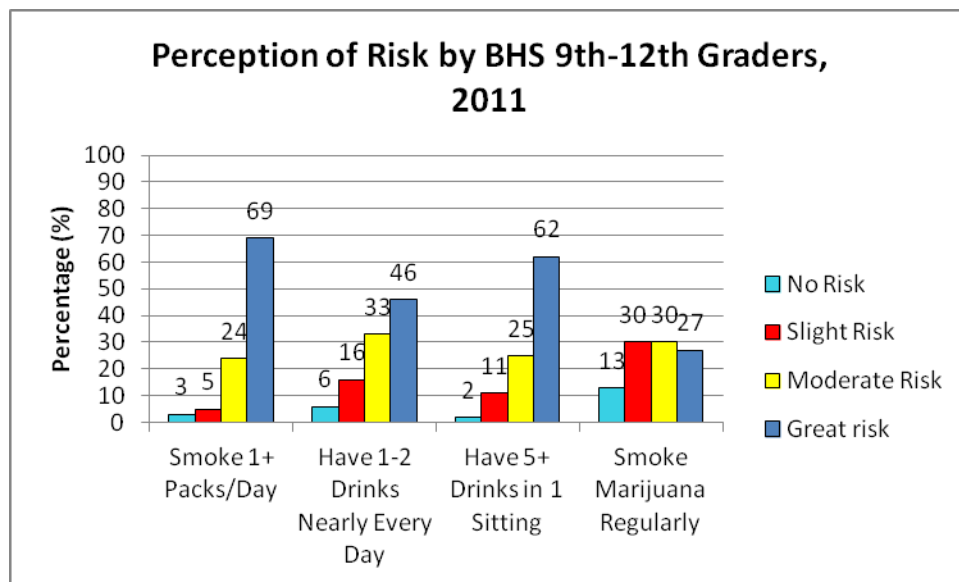
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Attitudes and Perceptions about Drug Use

High School Data

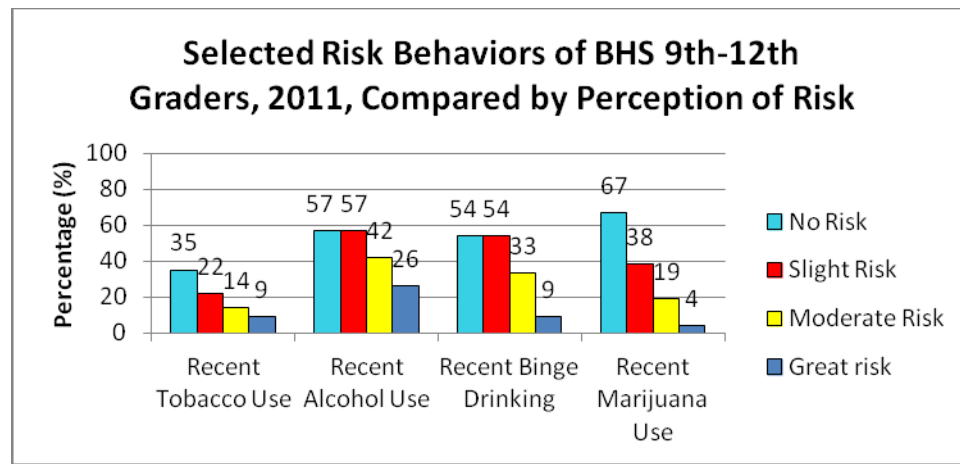
Perception of Risk

- Sixty-nine percent (over 2/3) of BHS students believe that there is a “great risk” of people harming themselves (physically or in other ways) if they smoke one or more packs of cigarettes a day.
- More than half (53%) of students believe that there is a “great risk” of people harming themselves if they have one to two drinks (beer, wine, liquor) nearly every day, followed by 32% who believe there is a “moderate risk.”
- Sixty-two percent of students believe that there is a “great risk” of people harming themselves binge drinking (five or more alcoholic drinks in one sitting.) Significantly more 9th graders than 12th graders believed there was “risk” in binge drinking.
- Only 27% of students believe that there is a “great risk” of people harming themselves if they smoke marijuana regularly, while 30% said there is a “moderate risk” and 30% a “slight risk.” Significantly more 9th graders than 12th graders believed there was a “great risk” of harm in using marijuana.
- Significantly more females than males believed there was a “great risk” of people harming themselves by using each of the drugs mentioned above.



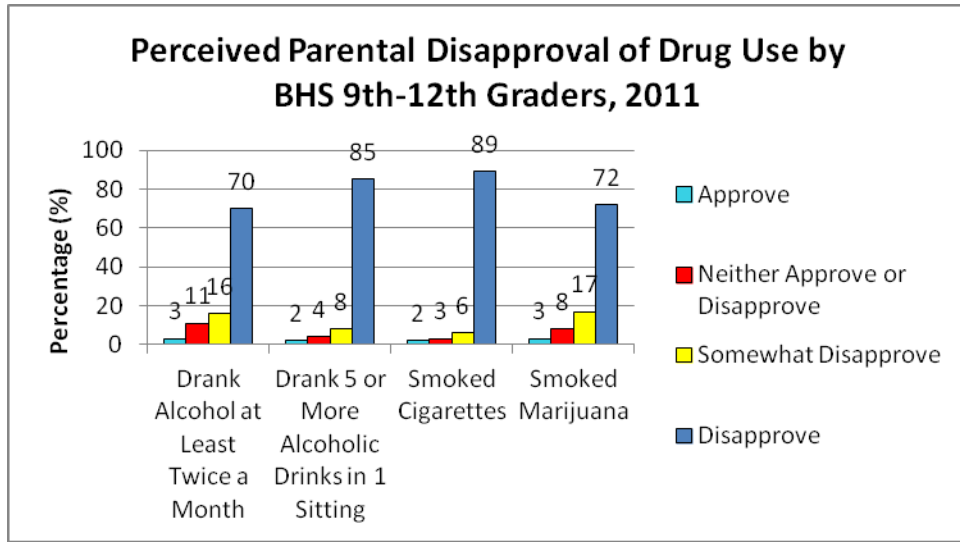
Perception of Risk Compared to Reported Drug Use

- Students who perceived a higher level of risk of a particular behavior reported a lower rate of that behavior than those who perceived less risk.
- In all cases, students who believed there was a “great risk” of harm (physical or other) if someone used the drug in question reported significantly lower rates of use of that drug themselves than did students who believed there was “no risk,” “slight risk,” or “moderate risk.”
- In the case of marijuana, reported use of the drug decreased significantly with each increase in the perceived level of risk (e.g., from “no risk” to “slight risk”).



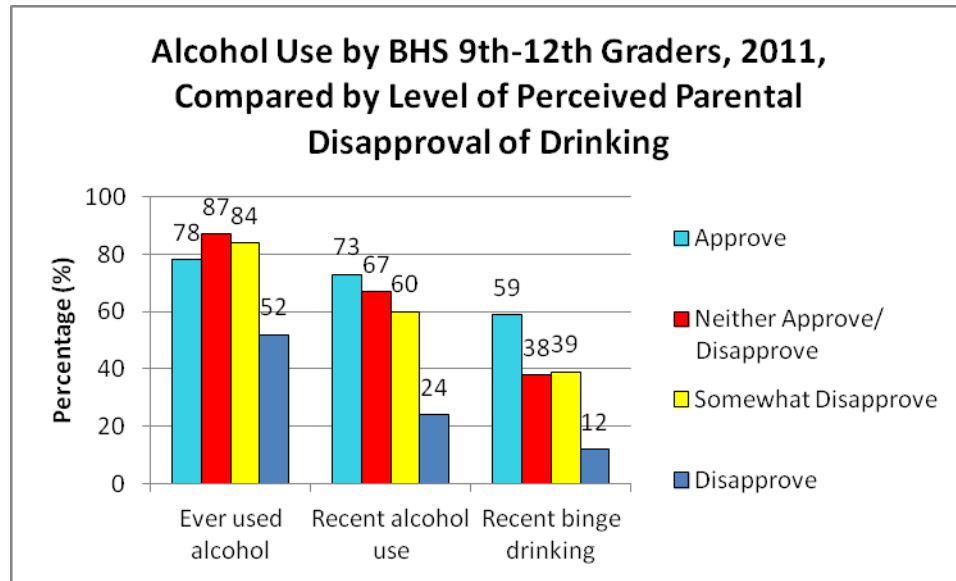
Perception of Parental Disapproval

- Significantly more females than males believed their parents disapproved of their use of alcohol (regular use and binge drinking), marijuana and cigarettes.
- Seventy percent of BHS students believed that their parents would disapprove if they drank alcohol regularly (at least twice a month). Significantly more 9th graders than 12th graders believed their parents would disapprove.
- An even larger majority, 85%, believed that their parents would disapprove if they drank five or more alcoholic drinks in one sitting. As above, significantly more 9th graders than 12th graders believed their parents would disapprove of their binge drinking.
- The highest perceived disapproval rating was for smoking cigarettes, 89%. There was no significant difference between the disapproval rates perceived by 9th graders and 12th graders.
- Similar to the rate for alcohol, 72% of BHS students believed that their parents would disapprove if they smoked marijuana. Again, significantly more 9th graders than 12th graders believed their parents would disapprove of their use of marijuana.

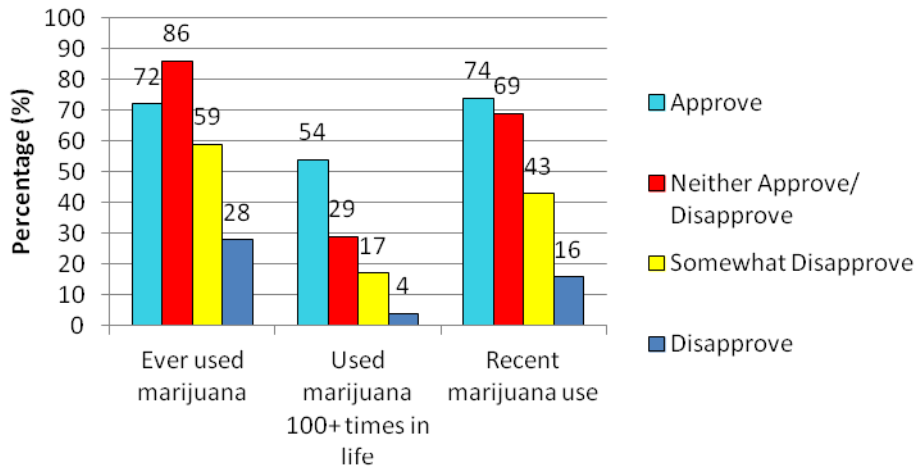


Perception of Parental Disapproval Compared to Reported Drug Use

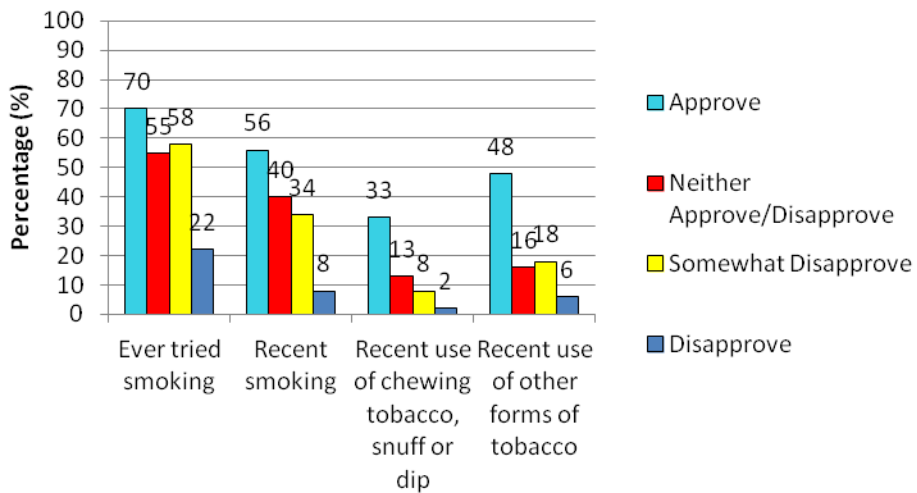
- BHS students who believed their parents disapproved of their use of alcohol, marijuana or cigarettes used significantly less of those drugs, as evidenced by rates of lifetime and recent use, as well as heavy use (recent binge drinking or use of marijuana 100 or more times in one's life).



Marijuana Use by BHS 9th-12th Graders, 2011, Compared by Level of Perceived Parental Disapproval

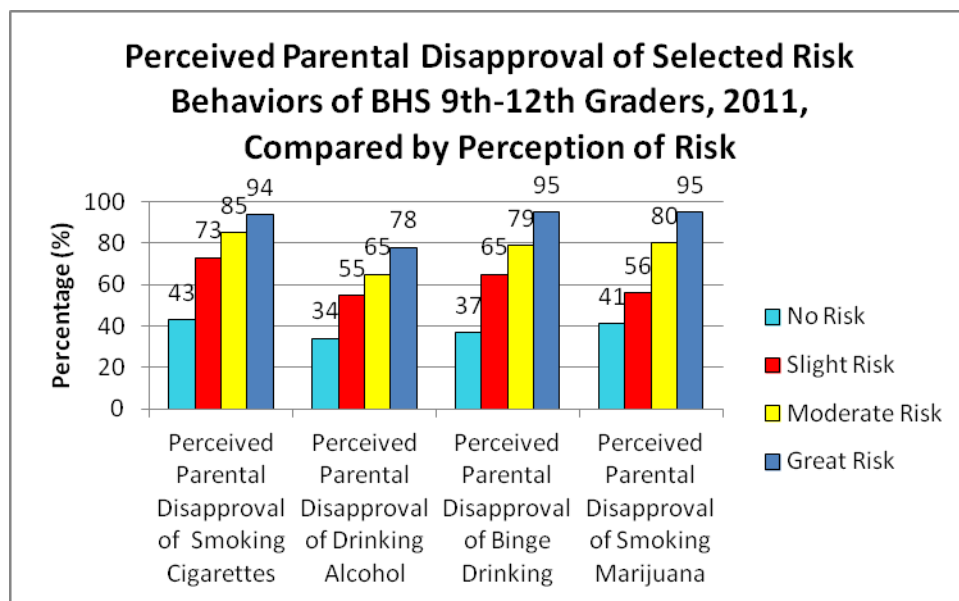


Tobacco Use by BHS 9th-12th Graders, 2011, Compared by Perceived Parental Disapproval



Perception of Risk and Perception of Parental Disapproval

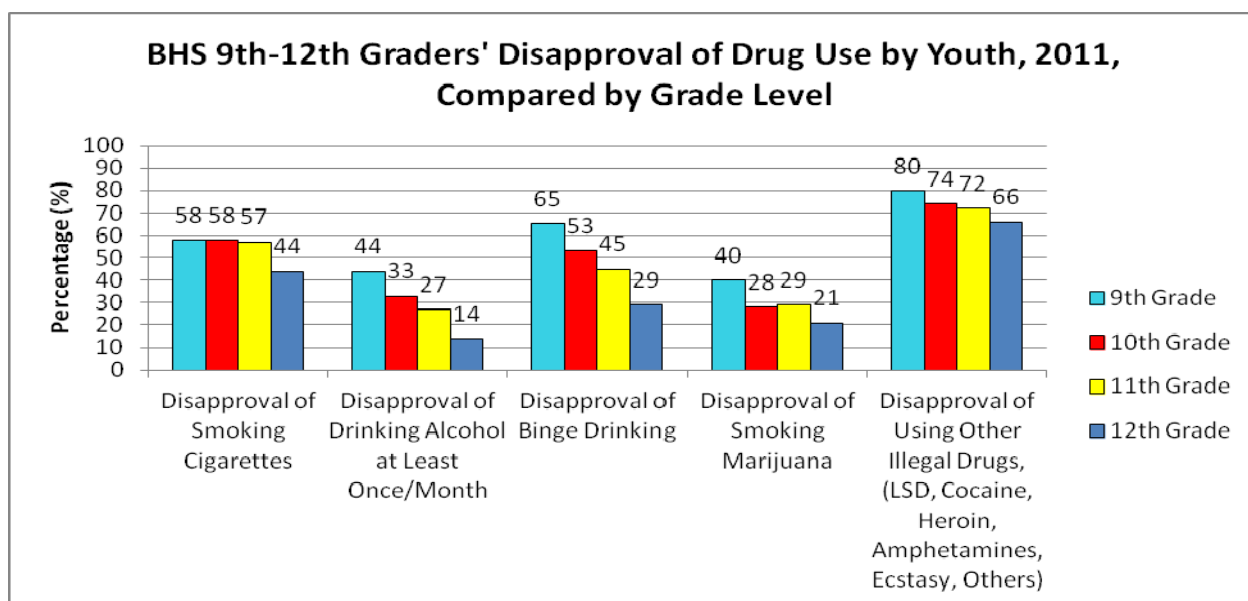
- Students who believed there was “no risk” in engaging in a particular risk behavior reported significantly lower rates of perceived parental “disapproval” of their engaging in that behavior. Conversely, more students who felt there was a “great risk” reported significantly higher rates of parental “disapproval.”
- The following chart shows the percentages of students who believed that their parents disapproved of their use of each drug, broken down by how much risk they perceived to be associated with each drug. For example, 94% of students who believed there was a *great risk* of smoking cigarettes also believed their parents would disapprove of their smoking cigarettes, whereas only 43% of students who believed there was *no risk* of smoking cigarettes also believed their parents would disapprove of their smoking.



Student Disapproval of Drug Use

- Females reported significantly higher rates than males of “disapproval” of someone their age using any of the drugs mentioned above, except for smoking cigarettes, for which rates were similar. In all instances, 9th graders also reported significantly higher rates than 12th graders of “disapproval” of use of the drugs above.
- Fifty-five percent of BHS students “disapprove” of someone their age smoking cigarettes.
- Thirty –five percent “neither approved nor disapproved” of someone their age drinking alcohol regularly (at least twice a month) and (31%) “disapproved”.
- Similarly, just over 1/3 of students “neither approved nor disapproved” of someone their age smoking marijuana (36%) and just under 1/3 “disapproved” (30%).
- Nearly one half (49%) of students ‘disapproved’ of someone their age drinking five or more alcoholic drinks in one sitting, though another 25% “neither approved nor disapproved.”

- Nearly three-quarters (73%) of students “disapproved” of someone their age using other illegal drugs, such as LSD, cocaine, heroin, amphetamines, ecstasy, or others.
- Forty-two percent of students said they “neither approved nor disapproved” of someone their age attending an unsupervised house party when the parent or house owner was away, followed by 23% who “approved.” Only 17% “disapproved.”
- When asked how they feel about someone their age smoking cigarettes, 75% of students in grades 9, 10, and 11 “somewhat disapproved” or “disapproved,” compared to a significantly lower percentage of 12th graders, (65%).
- There was a slight decrease from one grade to the next of students who “disapproved” of someone their age using other illegal drugs, with a significant difference from 9th grade to 12th grade.

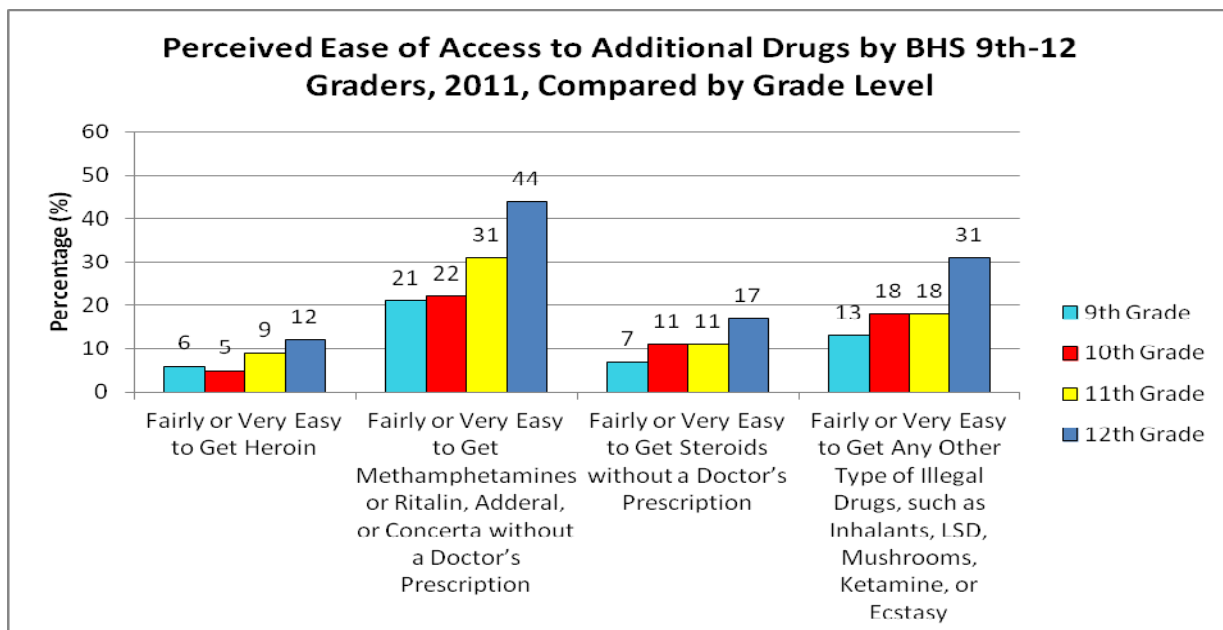
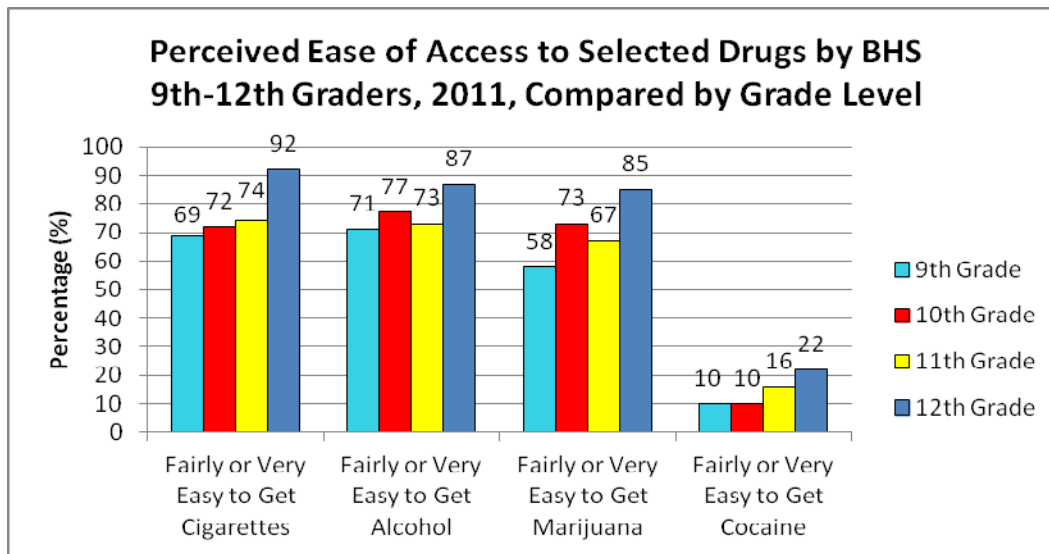


Perception of Access to Drugs

The following percentages of BHS students reported that it would be “fairly easy” or “very easy” to get these drugs:

Type of Drug	Fairly or Very Easy to Access
Cigarettes	76%
Alcohol	76%
Marijuana	70%
Cocaine	14%
Heroin	8%
Methamphetamines or Ritalin, Adderal, Concerta without a doctor’s prescription	29%
Steroid pills or shots without a doctor’s prescription	11%
Any other type of illegal drugs, such as inhalants, LSD, mushrooms,	19%

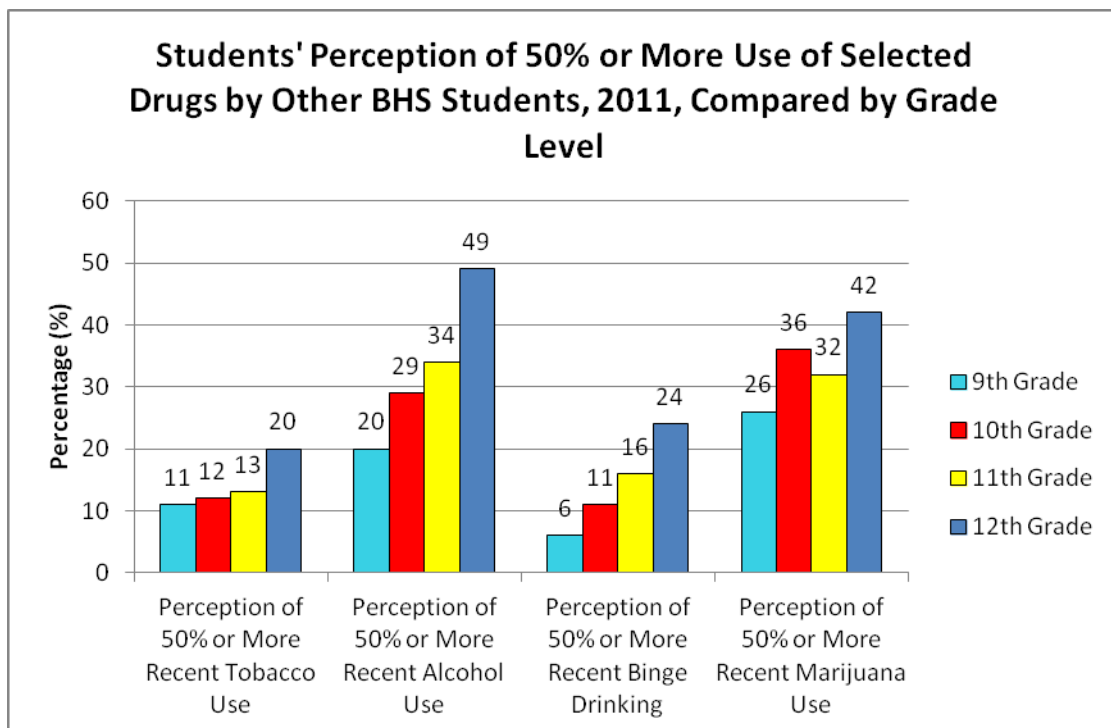
- Significantly more females than males believed it would be “fairly easy” or “very easy” to access alcohol, whereas significantly more males believed it would be easier to access marijuana, steroids or illegal drugs (e.g., inhalants, LSD, mushrooms, Ketamine, or ecstasy). There was no significant difference between genders regarding perceived ease of access to the following drugs: cocaine; heroin; methamphetamines, Ritalin, Addreal or Concerta; or cigarettes.
- Generally, as grade level increased, perceived ease of access to each type of drug increased, with a significant increase from 9th grade to 12th grade.



Perceived Drug Use Compared to Reported Drug Use at BHS

Note: The answer options for the questions about the percent of Brookline High students perceived to be using each drug were: “less than 10%,” “10%-25%,” “25%-50%,” “50%-75%,” and “more than 75%.”

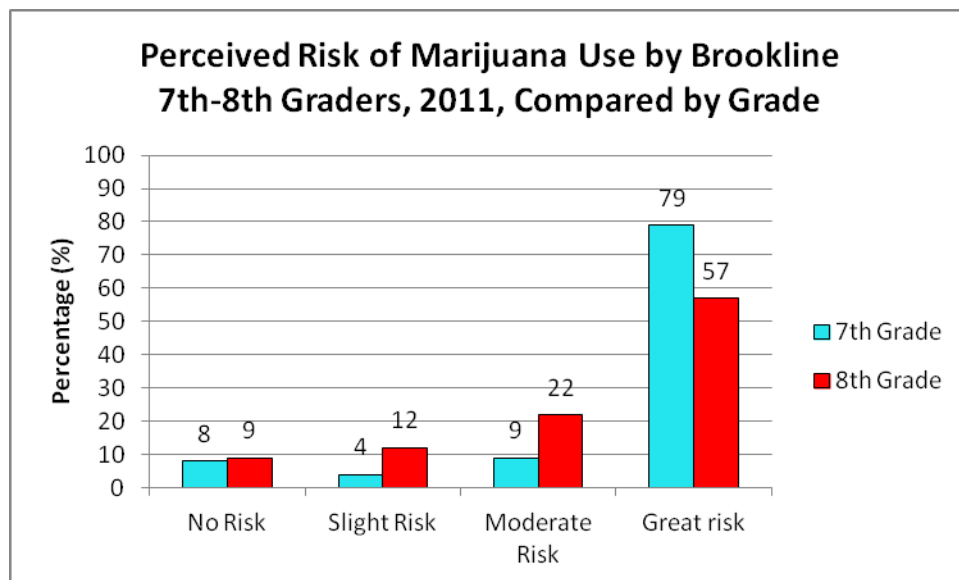
- The majority (59%) of students believed that “25% or fewer” BHS students smoked cigarettes in the past 30 days. In fact, 12% of students reported recent smoking;
- Thirty-two percent of students believed that “50% or more” of BHS students drank during the month prior to the survey, while 36% of students actually reported current drinking,
- Thirty-nine percent of BHS students believed that “25% or more” of BHS students engaged in recent binge drinking, While 21% of students actually reported doing it.
- Student beliefs about the percentage of BHS students who smoked marijuana were split into thirds: 1/3 – “25% or fewer”; 1/3 – “25% - 50%”; 1/3 – “50% or more.” Twenty-seven percent of students reported smoking marijuana in the past month.
- The only significant difference between female and male perception of drug use was regarding tobacco. Seventeen percent of females believed that at least half of BHS students used tobacco in the month prior to the survey, compared to 11% of males.
- Generally, as the grade level increased, the perceived percentage of BHS students engaged in each risk behavior also increased. In each case, significantly more 12th graders than 9th graders believed that at least half of BHS students engaged in the risk behaviors.



Middle School Data

Perception of Risk

- Seventy – seven percent of Brookline 7th and 8th grade students believe that there is a “great risk” of their peers harming themselves if they smoke one or more packs of cigarettes per day.
- Forty-two percent believe there is a “great risk” of harm if their peers have one or two drinks of an alcoholic beverage (beer, wine, hard liquor) nearly every day. Another 36% believe there is a “moderate risk”.
- Sixty eight percent of Brookline 7th and 8th graders believe that there is a “great risk” of harm if their peers smoke marijuana regularly.
- Across grades, there was little difference in perception of risk, except for marijuana use. Significantly more 8th graders believed there was “slight” or “moderate risk,” while significantly more 7th graders believed there was “great risk.”

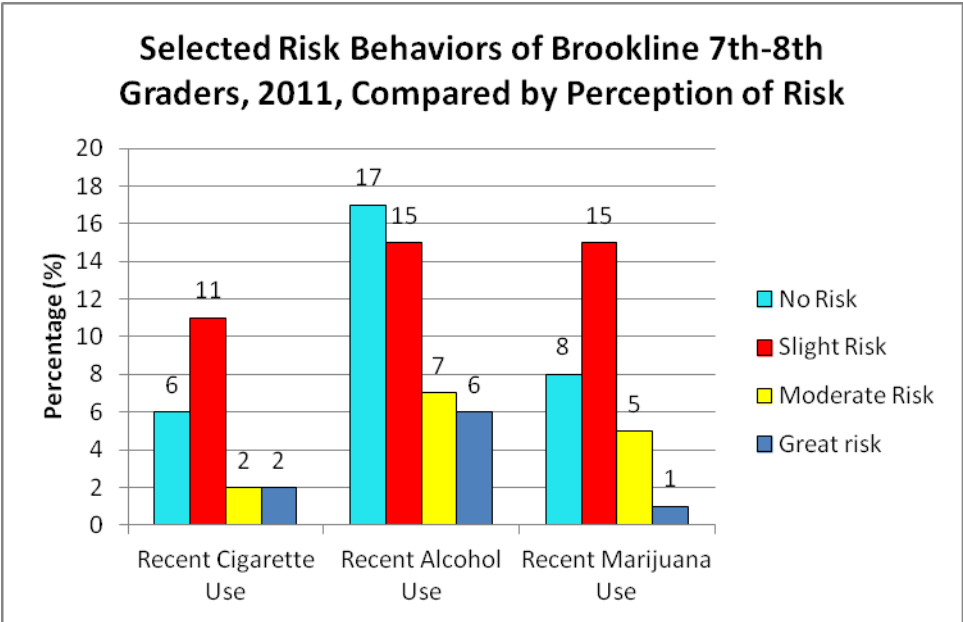


- There was no difference between males’ and females’ perception of risk of smoking cigarettes, but significantly more females believed there was a “great risk” associated with using alcohol and marijuana.

Perceived of Risk Compared to Reported Drug Use

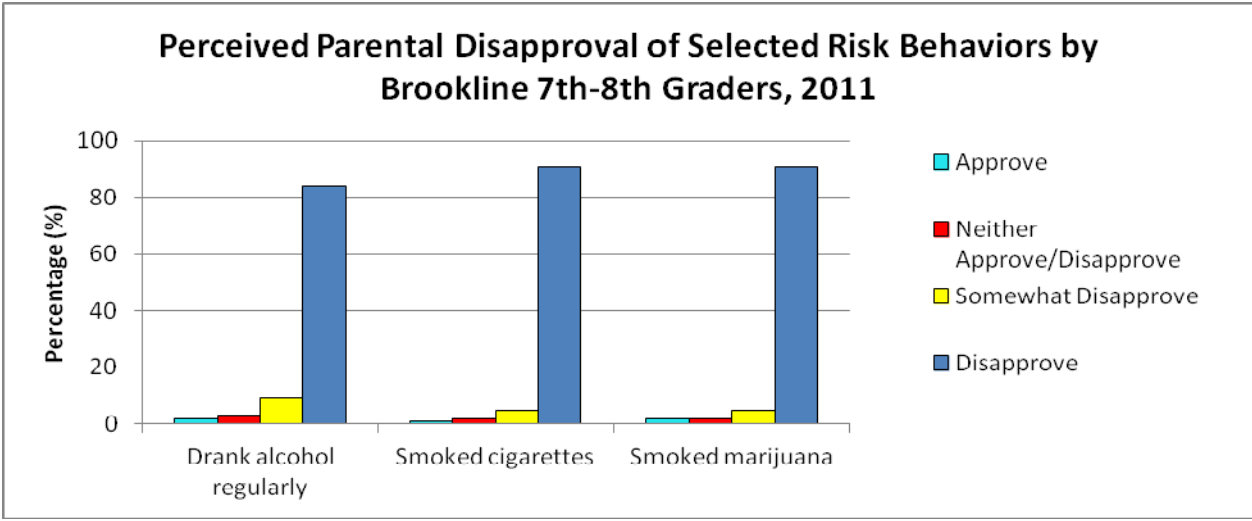
- Students who perceived a higher level of risk of a particular behavior tended to report a lower rate of that behavior.
- There were no significant differences in the amount of cigarette smoking in relation to the amount of risk perceived.
- In the case of alcohol, however, students who believed there was a “great risk” used significantly less than those who believed there was “no risk” or a “slight risk.”

- Similarly, students who believed there was a “great risk” involved in using marijuana used significantly less than those who believed there was a “moderate risk,” who, in turn, used significantly less than those students who believed there was “no risk” or a “slight risk.”



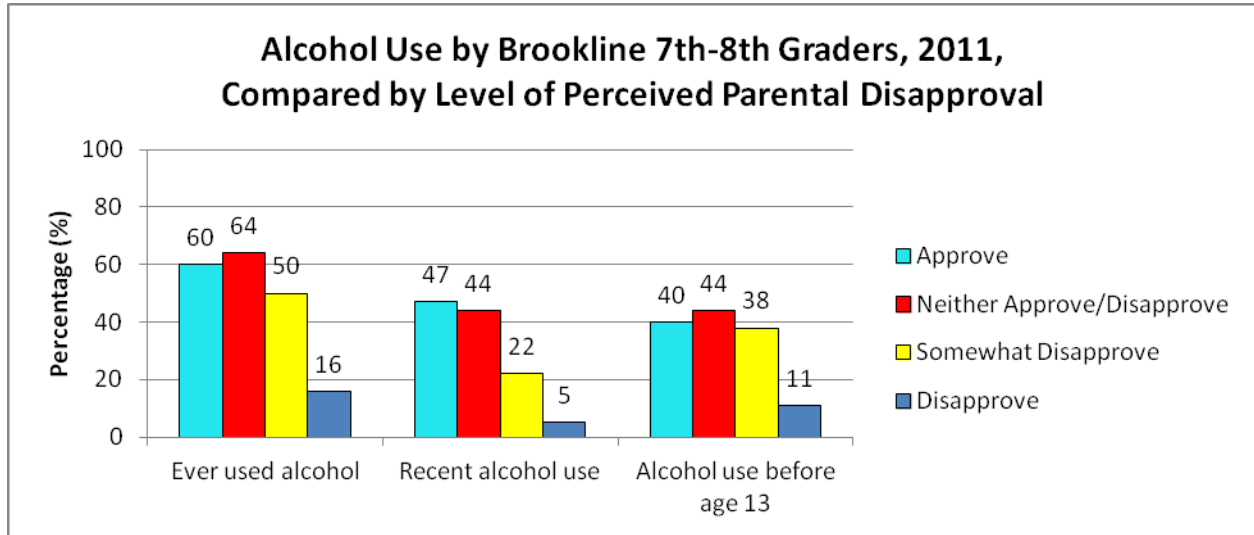
Perception of Parental Disapproval

- Eighty-four percent of Brookline 7th and 8th graders believed that their parents would disapprove if they drank alcohol regularly. There were no significant differences across grades or gender.
- The perceived rates of parental disapproval for smoking cigarettes and for smoking marijuana were both 91%. In both cases, 7th graders reported a significantly higher rate for both substances (96%) than 8th graders, (88%).

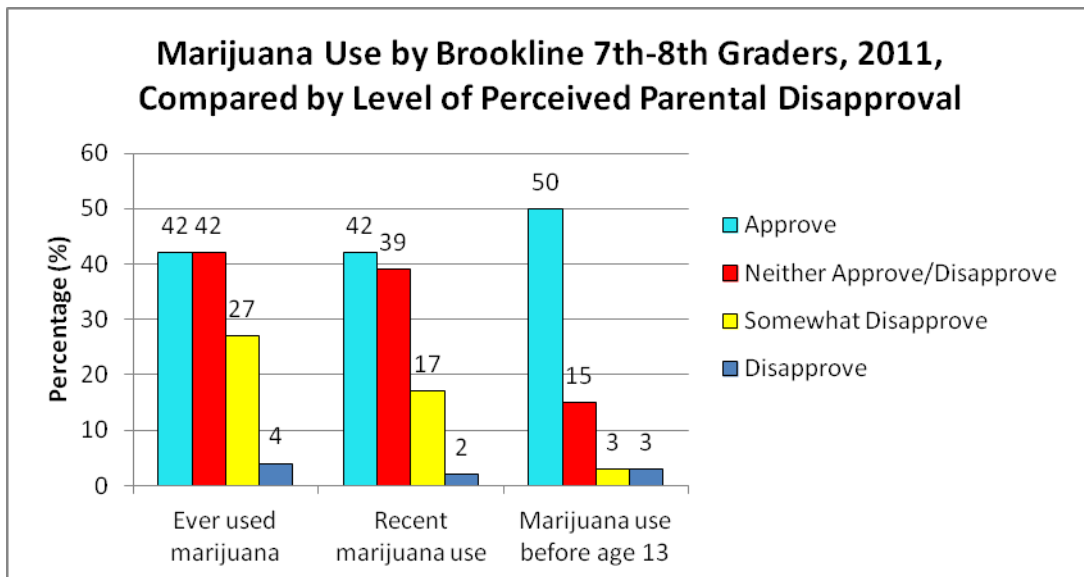


Perception of Parental Disapproval Compared to Reported Drug Use

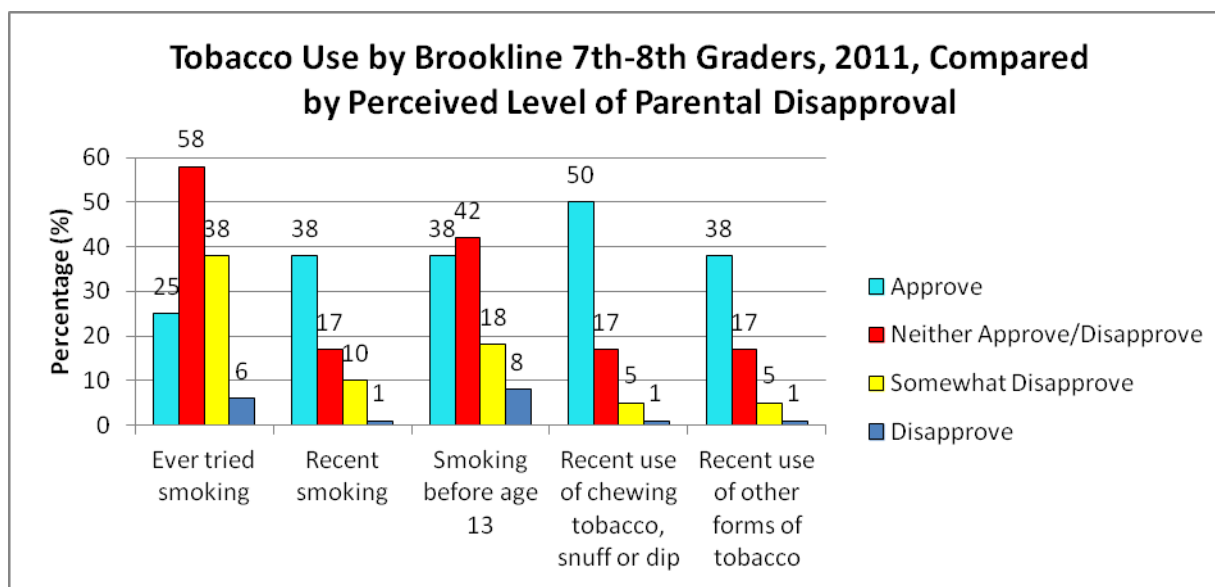
- Brookline 7th and 8th graders who believed their parents disapproved of their use of alcohol, marijuana or cigarettes used significantly less of those drugs.
- Only 5% of students who believed that their parents disapproved of their use of alcohol reported drinking alcohol in the month prior to the survey. This compares to 47% of those who believed their parents approved, 44% who believed their parents neither approved nor disapproved, and 22% who believed their parents somewhat disapproved.



- Only 4% of students who believed their parents would disapprove of their use of marijuana reported ever having used marijuana, but those who believed their parents approved (42%), neither approved nor disapproved (42%), or somewhat disapproved (27%) reported significantly higher rates.

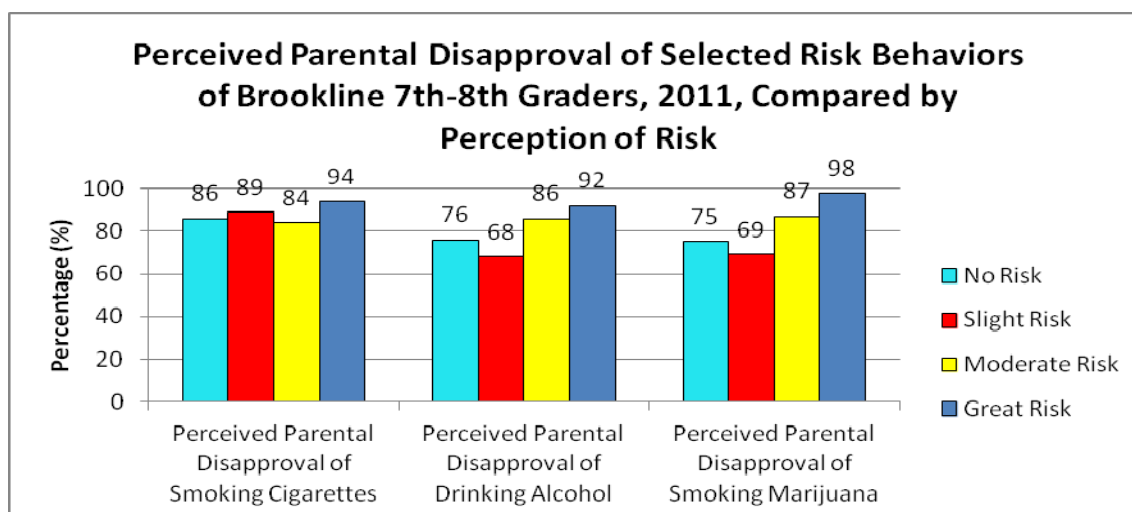


- Similarly, rates of recent cigarette smoking were significantly lower for students who believed their parents disapproved (1%) than for students who believed their parents approved (38%), neither approved nor disapproved (17%), or somewhat disapproved (10%).



Perception of Risk and Perception of Parental Disapproval

- Students who believed that there was a “great risk” in using alcohol or marijuana reported significantly higher rates of perceived parental disapproval of the use of those drugs than students who believed there was “no,” “slight,” or “moderate risk” involved. Interestingly, in both cases the lowest rates of perceived parental disapproval were among those students who believed there was a “slight risk” of use, rather than “no risk.”
- There was less of a discernible pattern with cigarette smoking. Students who believed that there was a “great risk” reported significantly higher rates of parental disapproval than those who believed there was “no risk” or a “moderate risk,” but not more than those who believed there was a “slight risk.”

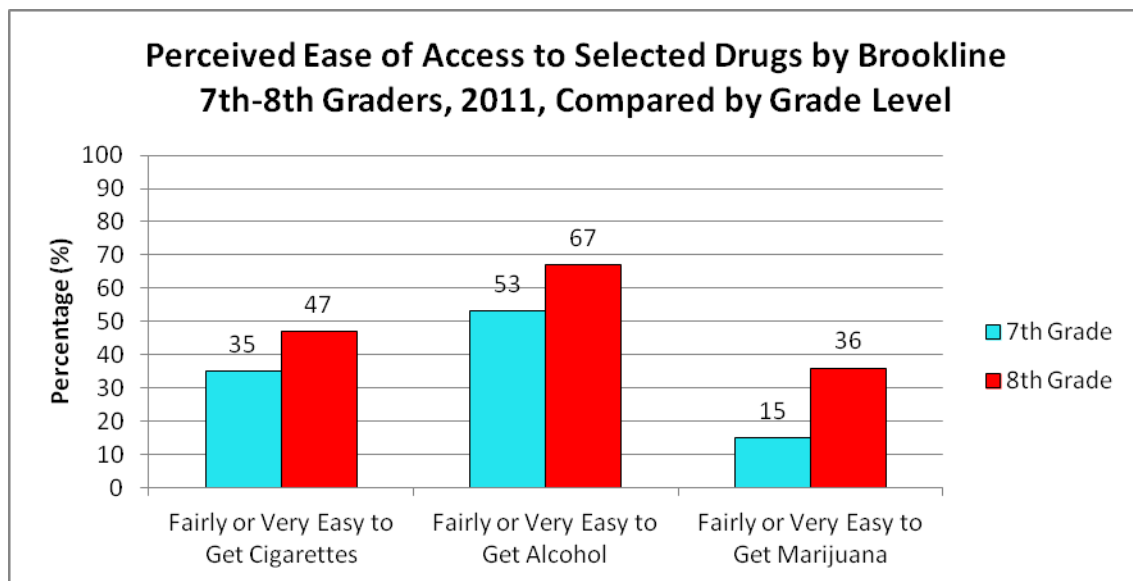


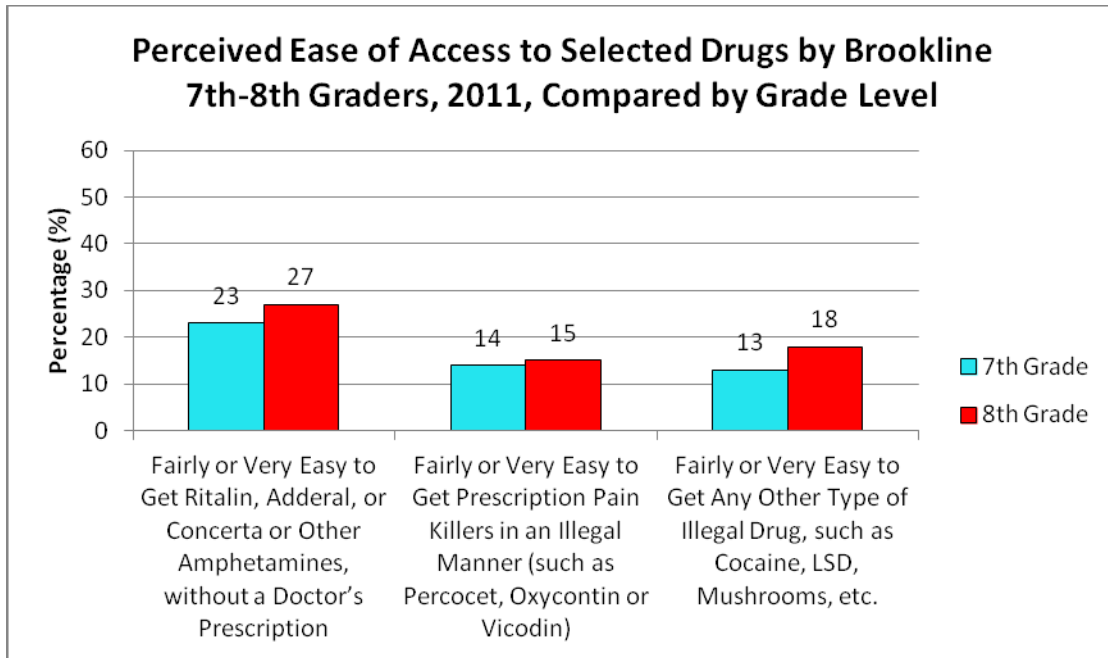
Perception of Access to Drugs

The following percentages of Brookline 7th and 8th graders reported that it would be “fairly easy” or “very easy” to get these drugs:

Type of Drug	Fairly or Very Easy to Access
Cigarettes	41%
Alcohol	60%
Marijuana	26%
Ritalin, Adderal, Concerta or other amphetamines without a doctor’s prescription	13%
Prescription pain killers in an illegal manner (such as Percocet, Oxycontin or Vicodin)	14%
Any other type of illegal drugs, such as cocaine, LSD, mushrooms, etc.	7%

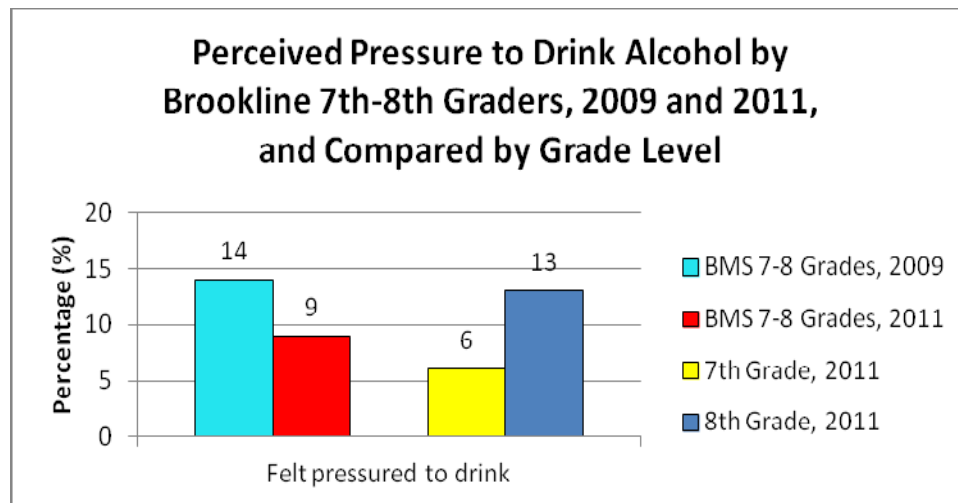
- As grade level increased, perceived ease of access of each type of drug increased.
- There was a significant increase from 7th to 8th grade in ease of access of cigarettes, alcohol, marijuana and other types of illegal drugs, such as cocaine, LSD, mushrooms, etc.
- The only major difference between females and males involved accessing prescription painkillers in an illegal manner, for which females reported a significantly higher rate of "fairly easy" to access than males.



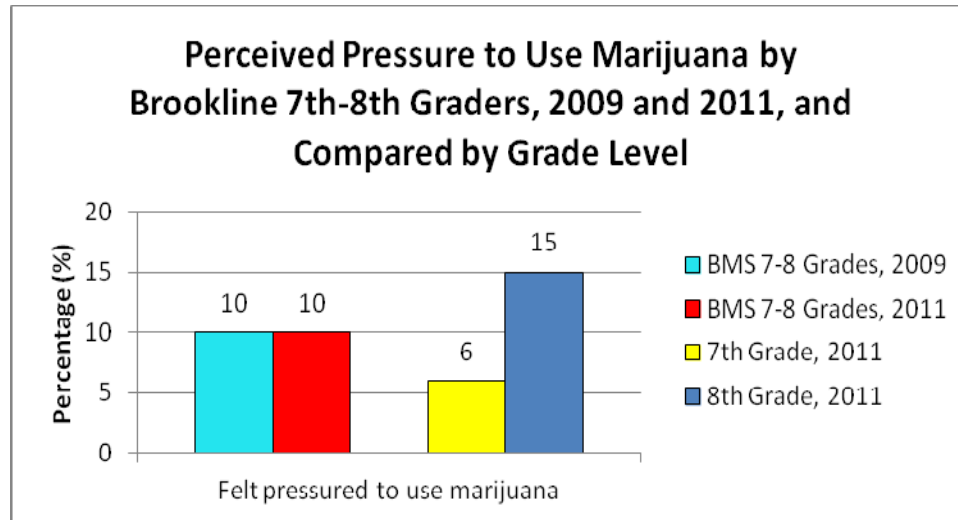


Perception of Pressure to Use

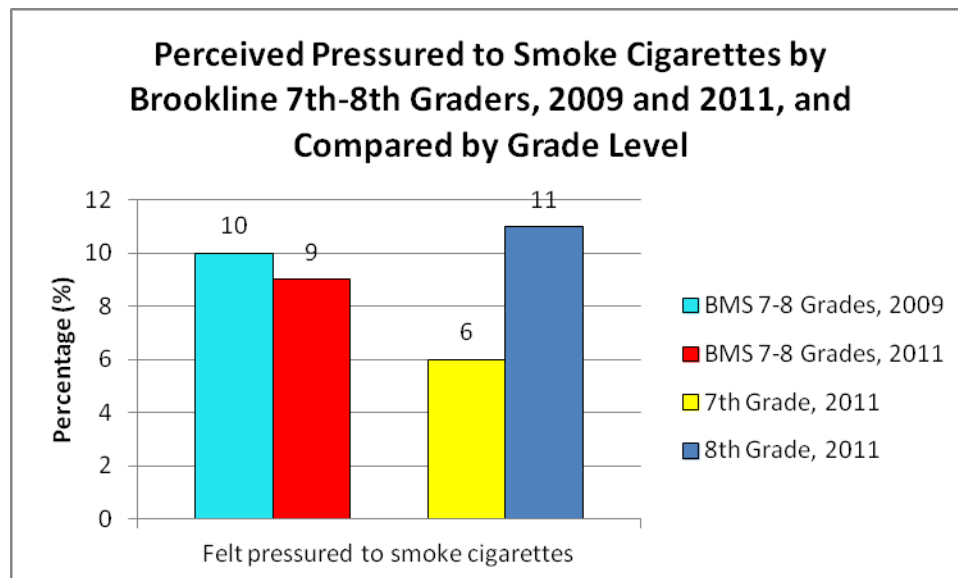
- Nine percent of 7th and 8th grade students reported feeling pressure to use alcohol in 2011, significantly less than in 2009 (14%). Eighth graders reported significantly higher rates than seventh graders, but there was no significant difference between females and males.



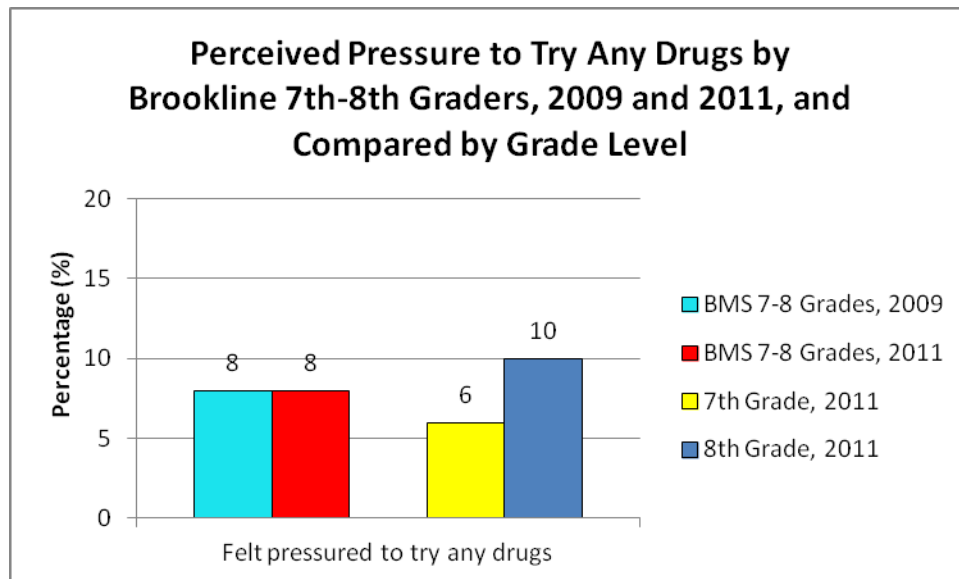
- In 2011, 10% of 7th and 8th graders reported feeling pressure to use marijuana, the same as in 2009. As with alcohol, 8th graders reported a significantly high rate of perceived pressure than 7th graders.



- Nine percent of students felt pressure to smoke cigarettes in 2011, similar to the rate of 10% in 2009. Significantly more 8th graders felt pressure to smoke than 7th graders.

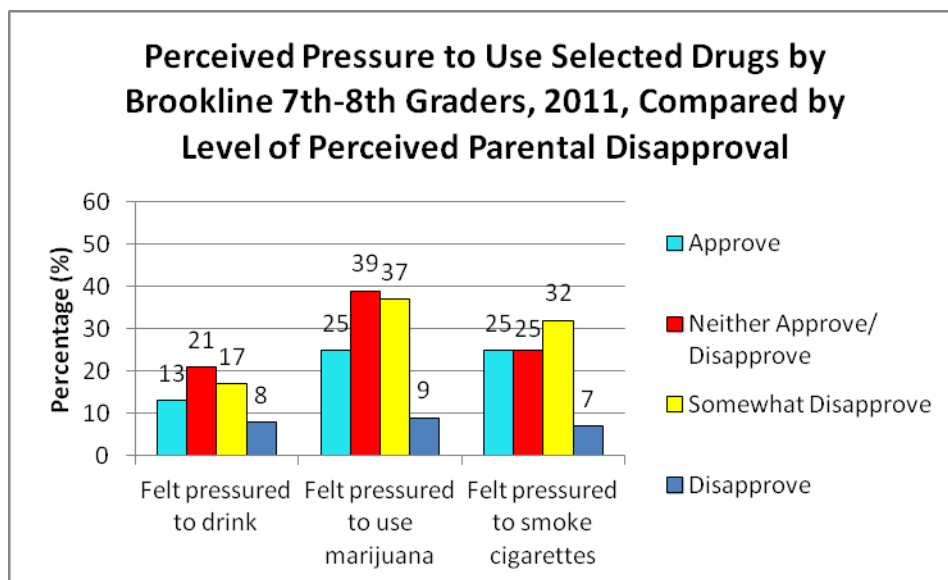


- In 2011, 8% of 7th and 8th graders felt pressure to try any drugs, the same as students in 2009. There was no significant difference between grades or genders.



Perception of Pressure to Use Compared to Perceived Parental Disapproval

- Students who believed their parents disapproved of their use of alcohol, marijuana or cigarettes reported that they felt significantly less pressure to use those drugs than the rest of the students.



Resiliency and Protective Factors

It has been shown that young people who do not become involved in risk behaviors share a common set of characteristics, collectively called resiliency, that enable them to make healthy choices. Children can become resilient through the interaction of protective factors found within themselves, their families, their schools, and their communities. Risk and protective factors within these areas of influence include variables that operate at different stages of development². Strategies to prevent substance use or other risk behaviors generally are designed to reduce the influence of risk factors and enhance the effectiveness of protective factors.

Potential protective factors include academic achievement, a significant relationship with a parent or caregiver, a significant relationship with an adult member of the school community, and involvement in community service. Research has shown that these factors are associated with lower rates of risk behaviors, including emotional distress, suicidal ideation and behavior, violence, substance use, and early sexual initiation.³⁻⁵

In addition, participation in extracurricular activities can positively influence a student's behavior. Compared to their peers, students who participate in extracurricular activities feel more connected to school, and therefore may be less likely to engage in risk behaviors.⁶⁻⁸ Further, students who participate on sports teams are less likely than their peers to smoke tobacco or use alcohol or other drugs.^{9,10}

The 2011 BHS Health Survey included several measures of potential protective factors among students. These included: (1) academic achievement, (2) perceived teacher or other adult support (in school or outside of school), (3) participation in volunteer work or community service, (4) participation in organized extracurricular activities, and (5) participation on Brookline High School athletic teams. The Brookline Middle School Health Survey asked only about participation on athletic teams (school or community).

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- ² Robertson, E. B., David, S. L., & Rao, S. A. (2003, October). Preventing drug use among children and adolescents: A research-based guide for parents, educators, and community leaders (NIH Publication No. 04-4212(A), 2nd ed.). Bethesda, MD: National Institute on Drug Abuse. [Available as a PDF at <http://www.drugabuse.gov/pdf/prevention/RedBook.pdf>]
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school effects. *Social Science Quarterly*, 80, 291-309.

⁷ Mahoney, J.L. (2000). School extracurricular activity participation as a moderator in the development of antisocial patterns. *Child Development*, 71, 502-516.

⁸ Northeastern University (2008, March 21). Can Involvement In Extra-curricular Activities Help Prevent Juvenile Delinquency?. *ScienceDaily*. Retrieved March 8, 2012, from <http://www.sciencedaily.com/releases/2008/03/080321174211.htm>

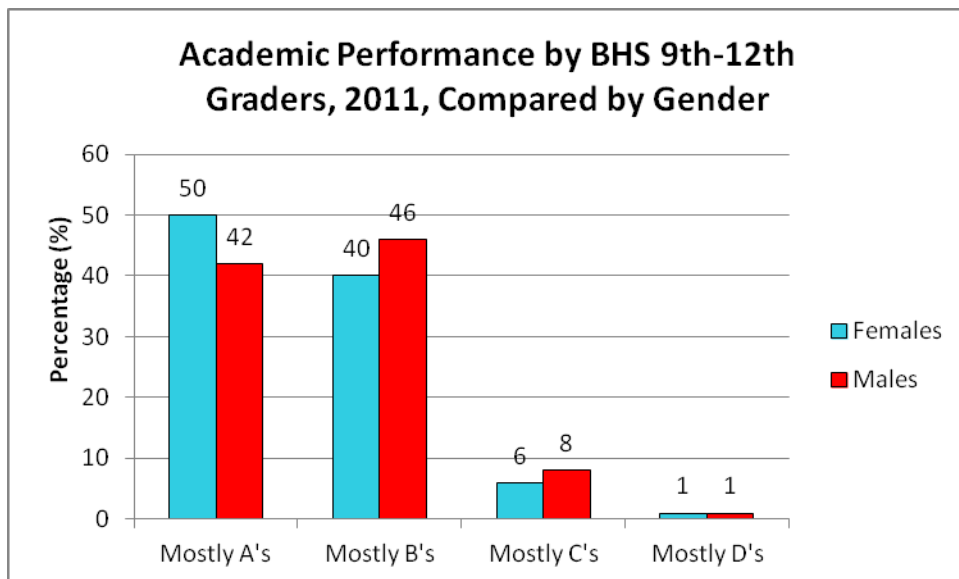
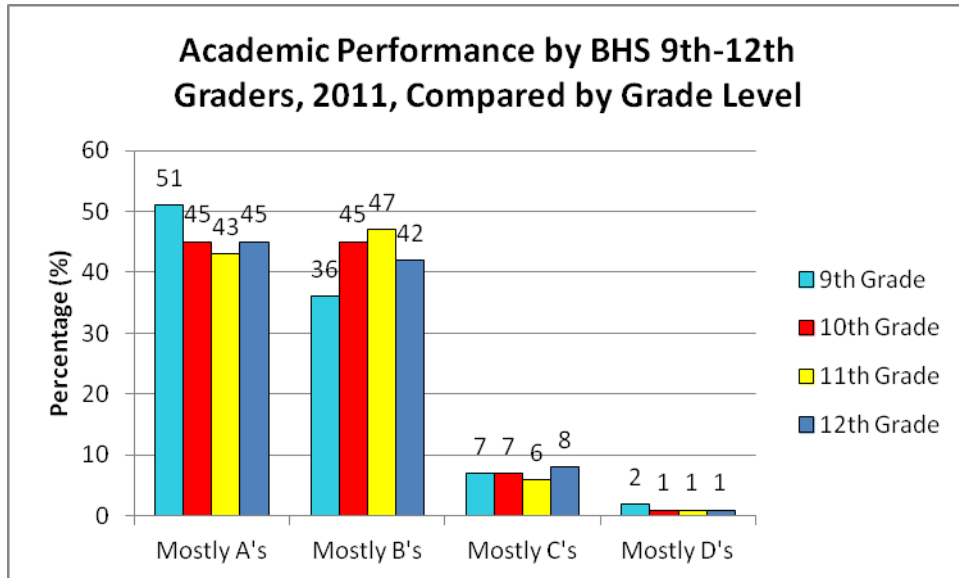
⁹ Escobedo, L.G., Marcus, S.E., Holtzman, D. & Giovino, G.A. (1993). Sports participation, age at smoking initiation and the risk of smoking among U.S. high school students. *Journal of the American Medical Association*, 269, 1391-5.

¹⁰ Substance Abuse and Mental Health Services Administration (2008). The National Household Survey on Drug Abuse Report: Team Sports Participation and Substance Abuse among Youths. http://www.samhsa.gov/data/2k2/athletes/athletes_DrugUse.htm

Resiliency and Protective Factors

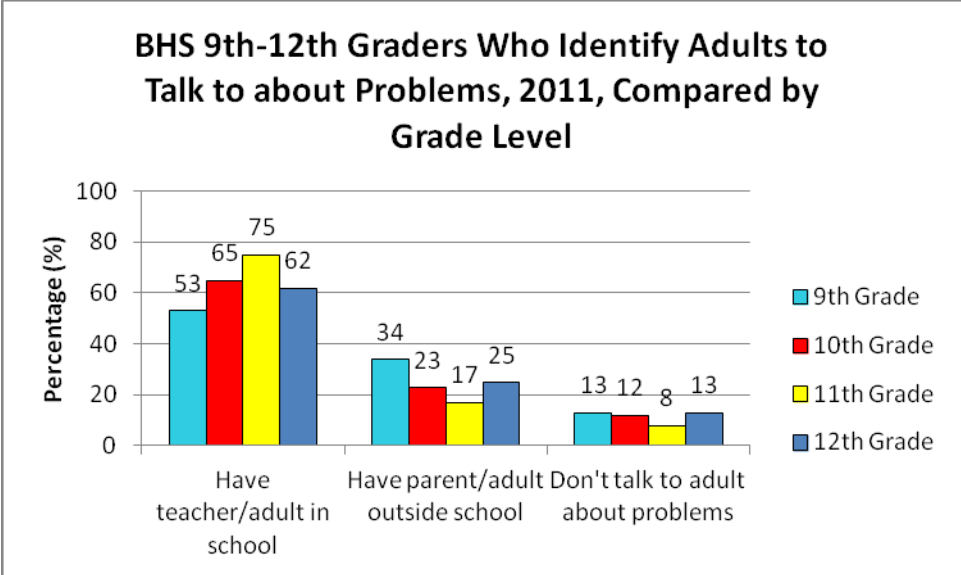
High School Data

- In 2011, 96% of Brookline 9th – 12th graders received mostly As, Bs and Cs in the year prior to the survey, a significant increase from 94% in 2009. There was little variation across genders or grade levels.

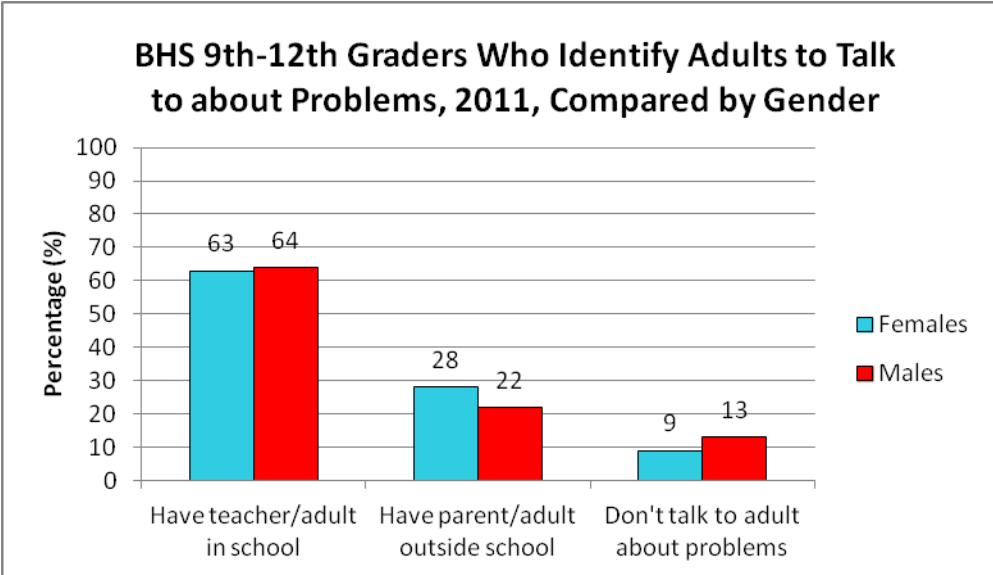


- Among BHS students, 64% reported that they have at least one teacher or other adult in the school that they can talk to if they have a problem, similar to 2009. Twenty-five percent said that they don't have an adult in the school, but said they have a parent or other adult outside of school to whom they can talk. Twelve percent of students said they do not talk with any adult if they have a problem.

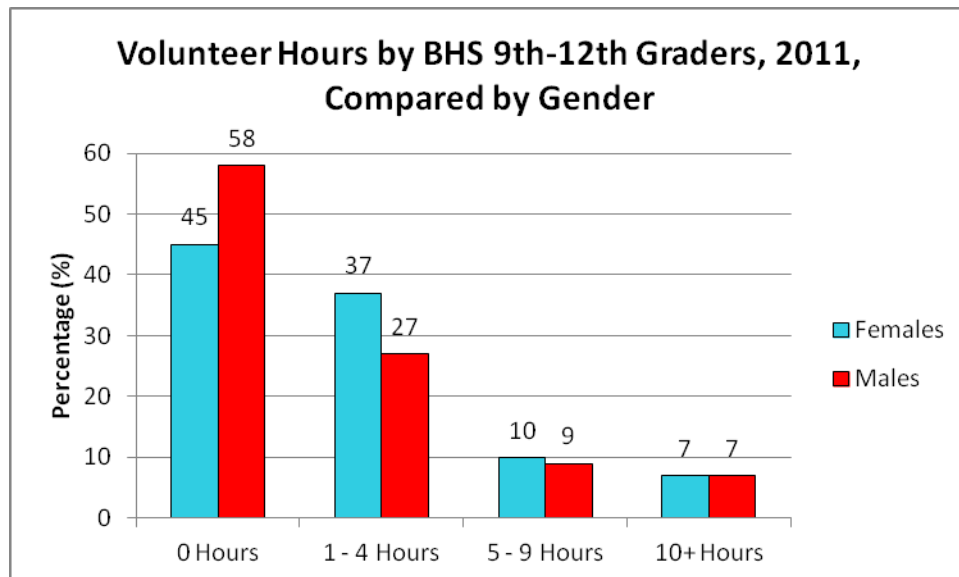
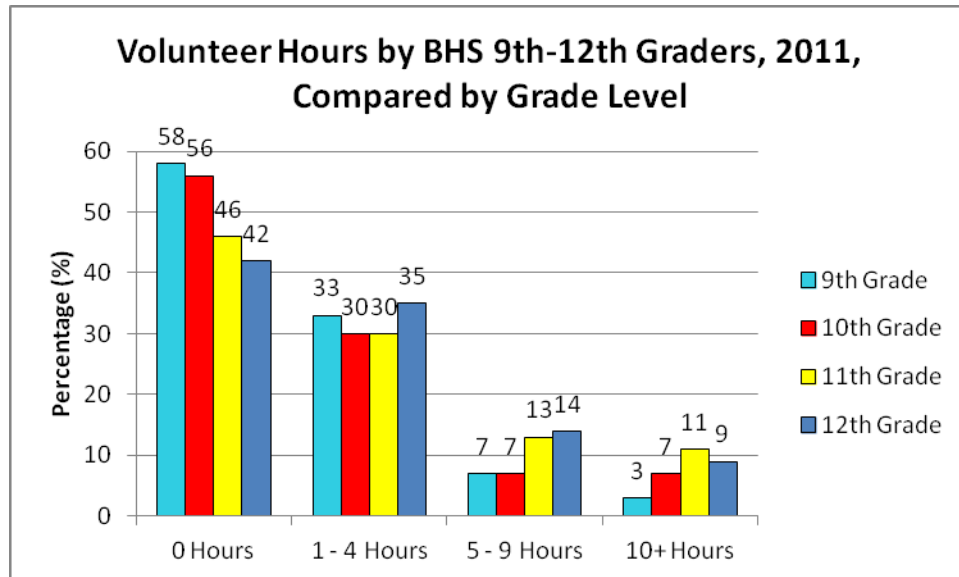
- There was a significant increase in the rates of students who reported having a teacher or other adult in the school to talk to, from 53% of 9th graders to 62% of 12th graders. Conversely, the rates of students who said they had a parent or other adult outside of school with whom to talk decreased significantly from 9th (34%) to 12th (25%) grades.



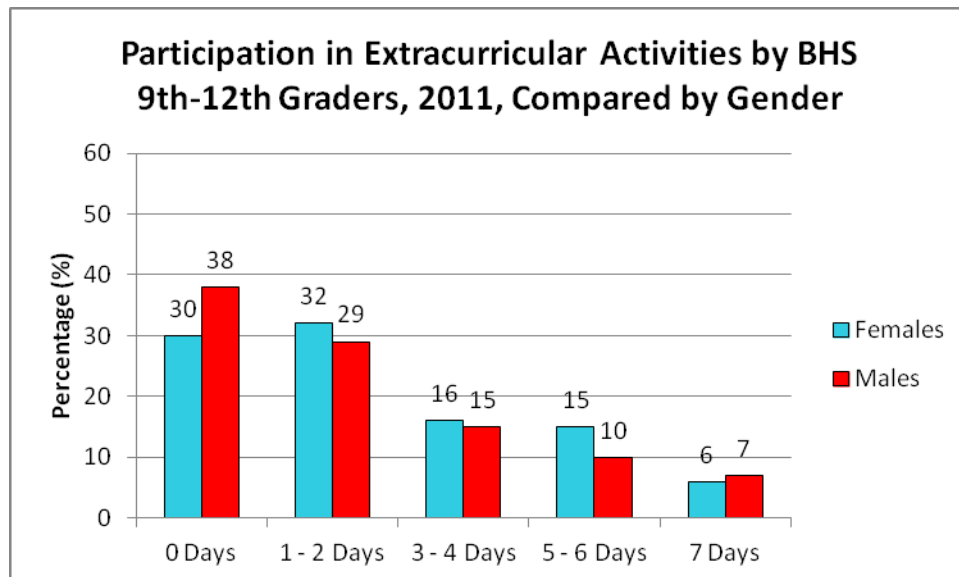
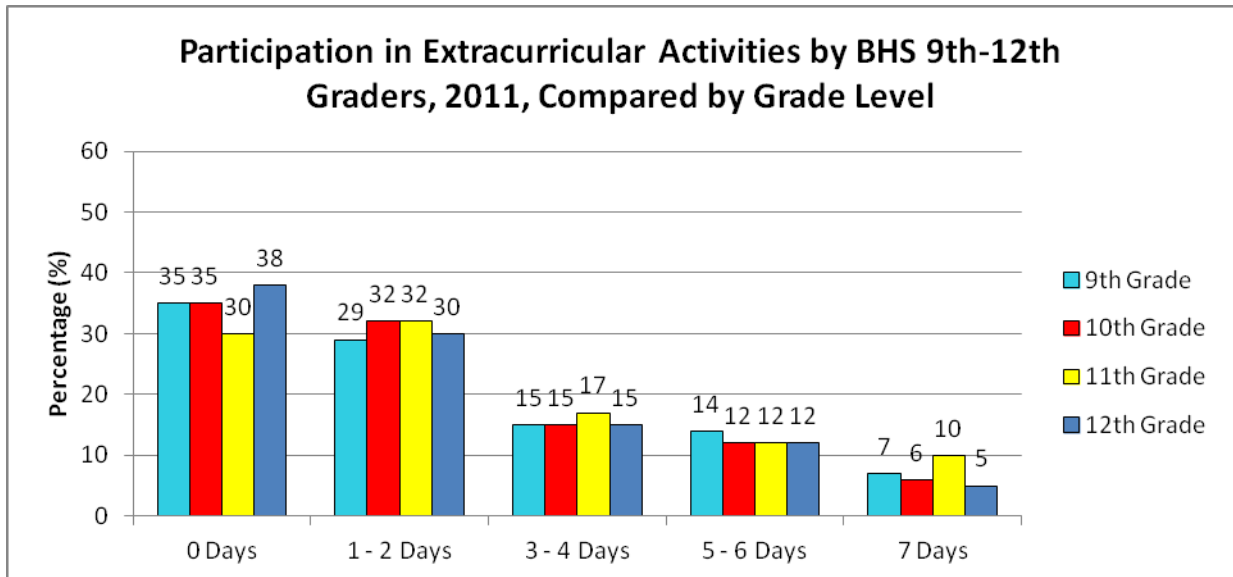
- A similar percentage of females (63%) and males (64) have a teacher or other adult in school to talk to. Significantly more females (28%) have a parent or other adult outside of school to talk with than males (22%), whereas significantly more males (13%) said that they do not talk with adults about problems than females (9%).



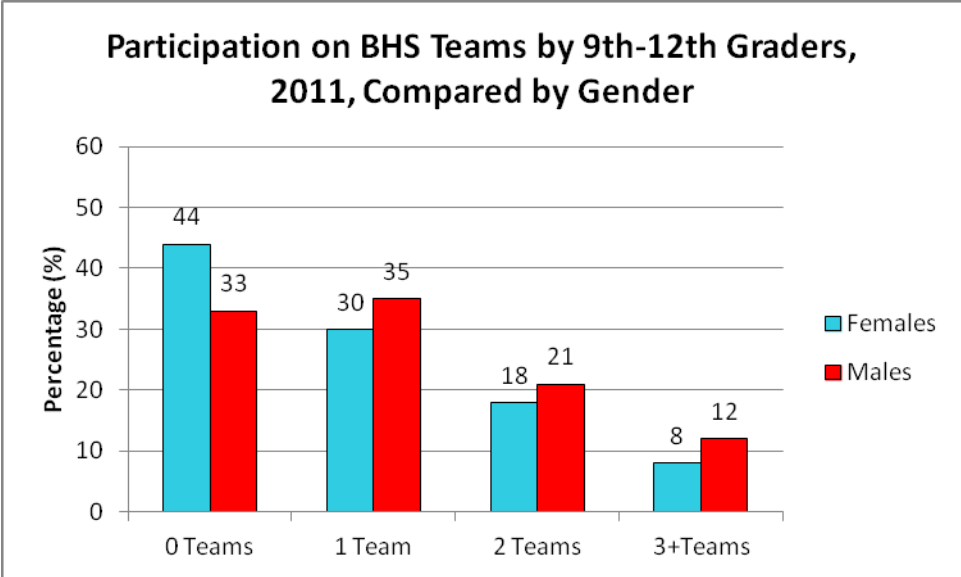
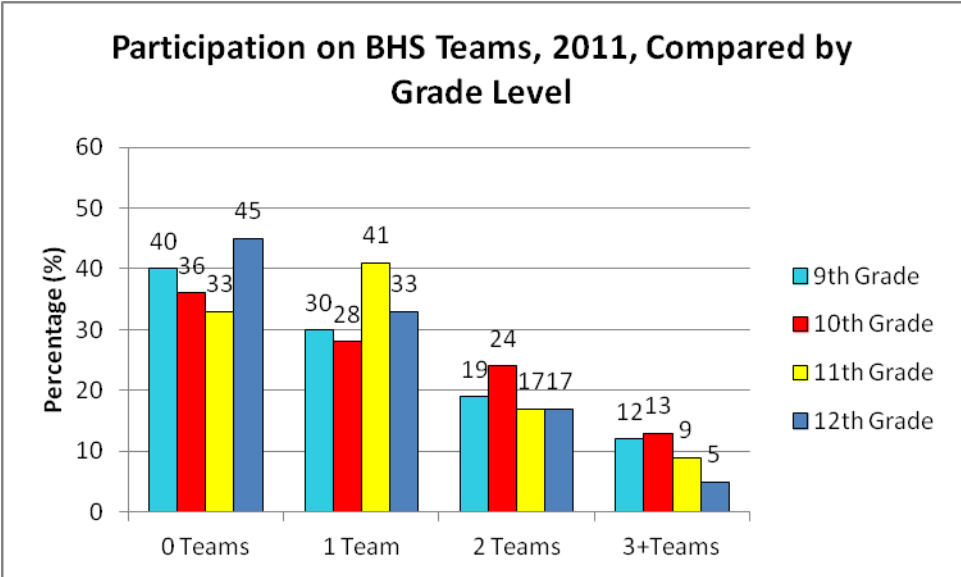
- Forty-nine percent of BHS students reported that they participate in volunteer work, community service, or helping people outside of the home without getting paid. Females were significantly more likely to do volunteer work (55%) than males (42%), and the rate increased significantly across grade levels, from 42% of freshmen to 58% of seniors. All of these figures are very similar to the rates in 2009.



- Sixty-six percent of students participated in organized extracurricular activities at least one day in week prior to the survey. The rate of participation was significantly higher among Brookline females (70%) than males (62%). Across grade levels, 65% of 9th graders, 65% of 10th graders, and 70% of 11th graders participated in activities, but in 12th grade, the rate dropped to 62%.

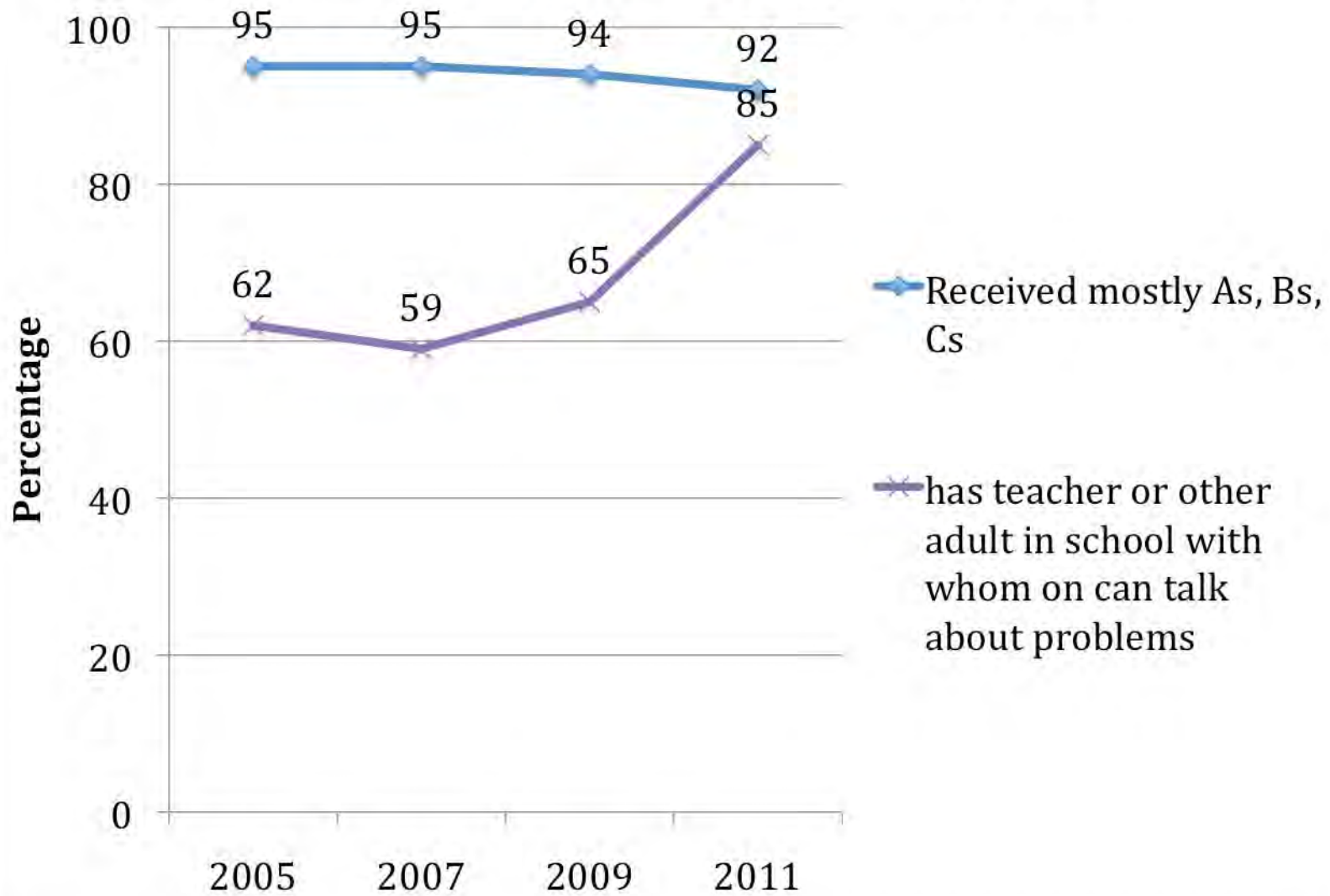


- Sixty-two percent of BHS students played on at least one school athletic team during the year prior to the survey, a significant increase from 57% in 2009. Significantly more males (67%) played on at least one BHS team than females (56%), and across grade levels, generally more students participated as the grade level increased, except for a drop in senior year: 60% in 9th grade, 64% in 10th grade, 67% in 11th grade, and 55% in 12th grade.

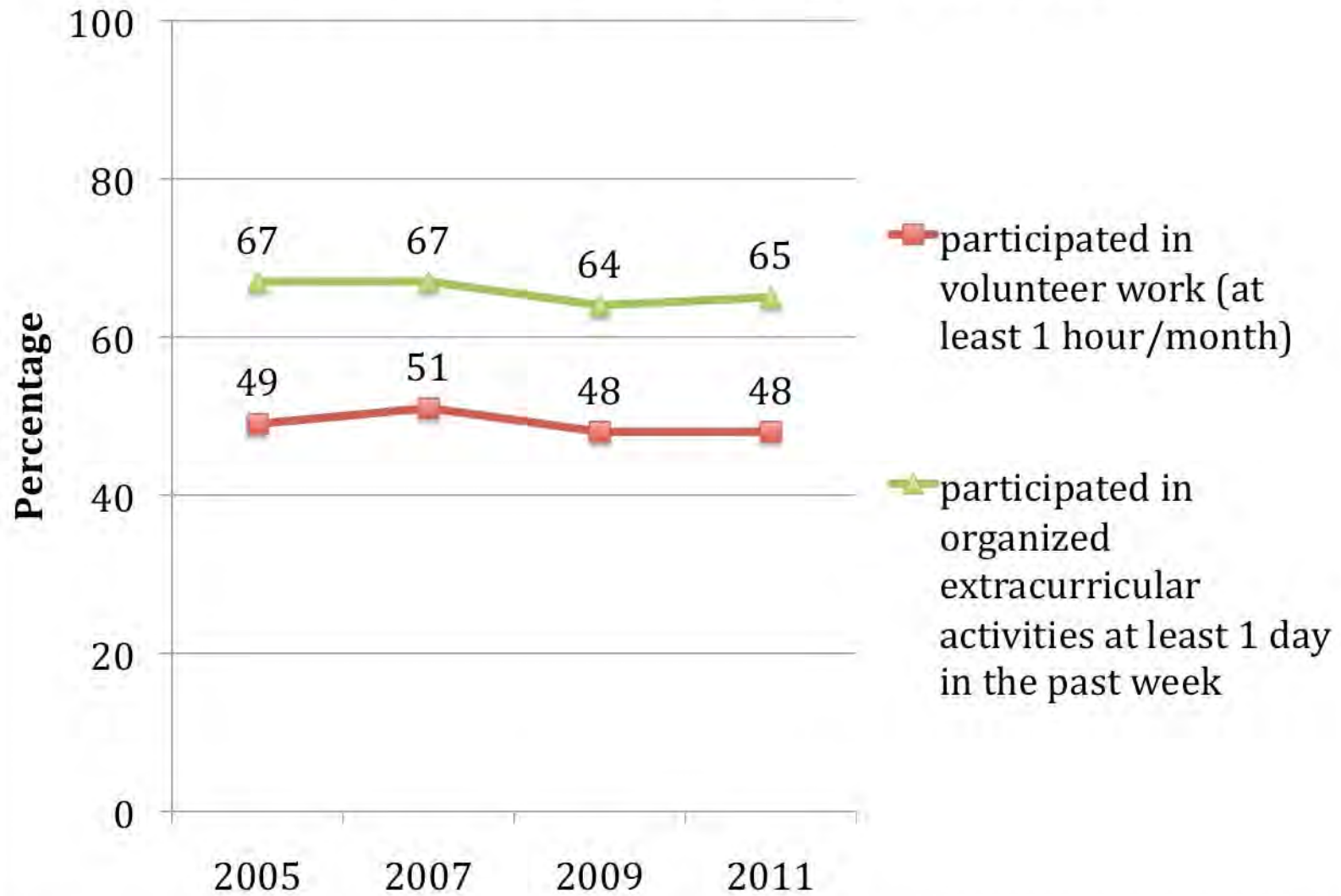


Trend line data indicate that rates of BHS students who received A’s, B’s or C’s in the past year and those involved in volunteer work have decreased significantly since 2005. The rate of students involved in at least one BHS athletic team has increased significantly since 2005, and the rate of students who reported having a teacher or other adult to talk to in school increased significantly since 2007. The other changes were not statistically significant. See graphs on the following pages.

BHS Protective factor trends, 2005-2011



BHS Protective factor trends, 2005-2011



Resiliency and Protective Factors Compared to Selected Risk Behaviors

Cross tabulation of the BHS YRBS data suggests that Brookline mirrors the research on the positive impact some protective factors have on adolescent risk behaviors, such as maintaining higher grades or having an adult in school or a parent or other adult outside of school to talk with. However, there were other protective factors recognized in the research that seemed to have little or no protective effect in Brookline, including participation in volunteer work, participation in organized extracurricular activities and participation on school athletic teams. Adolescents' binge drinking, lifetime marijuana use, recent cigarette smoking, and lifetime use of prescription painkillers to get high were cross-tabulated with the identified protective factors.

Binge Drinking (past month)

- A general trend was seen when correlating grades and the likelihood of binge drinking. Students who reported receiving mostly A's reported significantly less recent binge drinking (17%) than students who reported mostly B's (23%), mostly C's (29%), and mostly D's (41%).
- Nineteen percent of those who spoke with a teacher or other adult within school when they had a problem reported binge drinking in the month prior to the survey, similar to the 18% of students who had a parent or other adult to talk with outside of school. These rates were significantly less than the students who said they did not talk with an adult within school or outside of school about problems, 35% of whom reported recent binge drinking.
- Volunteering did not appear to have any protective effect. In fact, students who volunteered reported slightly more binge drinking than those who did not: zero hours, 20%; one to four hours, 22%; five to nine hours, 21%; and ten or more hours, 24%.
- The protective effect of taking part in organized extracurricular activities was also somewhat uncertain. Those who participated in activities five to six days per week reported the lowest rate of binge drinking (15%), which was significantly less than those who did not participate in any extracurricular activities (25%). Otherwise, there did not appear to be any other protective effects.
- Participation on BHS athletic teams did not appear to have a protective effect. In fact, there was a slight, though not significant, increase in binge drinking from those who didn't participate at all (18%) through increasing numbers of teams on which students participated: one team, 22%; two teams, 24%; and three or more teams, 26%. However, the rate of binge drinking among those who participated on three or more teams was significantly lower than in 2009, when it was 42%.

Marijuana use (lifetime use)

- A general trend was seen when correlating grades and the likelihood of lifetime marijuana use. Significantly fewer students who reported mostly A's stated they had used marijuana at some time in their lives (30%) than the other students: 46% who reported mostly B's, 57% who reported mostly C's, and 65% who reported mostly D's.

- A similar upward trend was observed among those who reported using marijuana 100 or more times, with significantly fewer of those who received mostly A's reporting heavy use (6%) than those receiving mostly B's (16%) or mostly C's (16%). Among those who received mostly D's, there was a slight drop to 12%, which was not statistically significant.
- Thirty-four percent of students who talk with a parent or other adult outside of school about problems reported lifetime marijuana use, which was significantly lower than those students who talk with an adult in school (39%). Both of these rates were significantly less than the 54% of students who do not talk with an adult if they have a problem and reported marijuana use.
- Similarly, significantly fewer students (6%) who talk with a parent or other adult outside of school used marijuana 100 or more times in their lives, compared to (10%) students who talk with an adult in school. Both of these rates were significantly lower than the heavy marijuana use of students who do not talk with an adult (18%).
- There was a slight, but not significant, decrease in lifetime marijuana use related to the number of hours students spent volunteering. Among those who did not volunteer at all, 41% reported using marijuana sometime in their lives. Among those who volunteered, 40% of those involved one to four hours per month, 36% of those volunteering five to nine hours per month, and 34% of those volunteering ten or more hours per month reported marijuana use.
- The results related to heavy marijuana use (100 or more times in one's lifetime) showed there was no significant protective effect from volunteering.
- There was no clear pattern of protective effect related to participation in extracurricular activities and lifetime marijuana use. Students participating one to two days per week and five to six days per week reported significantly lower rates of use than those who did not participate in any extracurricular activities.
- Participation in extracurricular activities between one and six days per week was related to significantly lower rates of heavy marijuana use than among students who did not participate at all. Participation in seven days per week did not appear to provide any protective effect.
- There were no significant differences regarding lifetime use of marijuana based on the number of BHS teams on which students participated in the past year: no teams, 38%; one team, 41%; two teams, 40%; and three or more teams, 43%. The same was true for heavy marijuana use (11%, 9%, 9%, and 9%, respectively).

Cigarette Smoking (past month)

- Seven percent of students receiving mostly A's reported recent cigarette smoking, which was significantly lower than students receiving mostly B's (13%), mostly C's (24%) or D's (24%).
- Students who reported that they don't talk with adults about problems reported significantly more recent cigarette smoking (22%) than students who have an adult to talk with in school (11%) or outside of school (9%).
- There was no significant difference in recent smoking between those who did not volunteer and those who did, regardless of the number of hours. The reported rates of smoking were

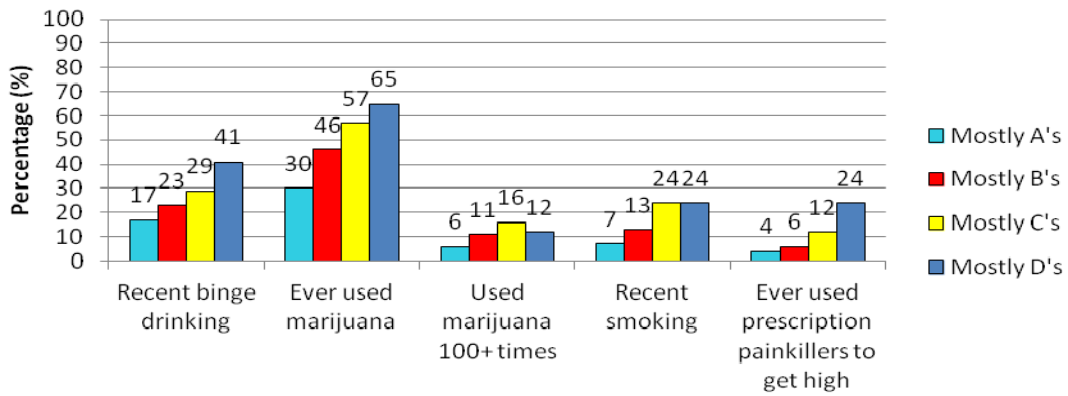
11% among those who did not volunteer, 14% among those who volunteered one to four hours, 12% among those who volunteered five to nine hours, and 9% among those who volunteered ten or more hours.

- Participation in extracurricular activities appears to be related to lower cigarette smoking in the month before the survey. Students who participated at any level (one through seven days) reported significantly lower rates of smoking than those who did not participate. In addition, smoking rates among those who participated between five and seven days were significantly lower than students who were involved between one and four days, so the number of days involved made a difference.
- Students who participated on BHS athletic teams reported somewhat less cigarette smoking during the month prior to the survey than those who did not participate (no teams, 14%; one team, 10%; two teams, 11%; and three or more, 7%). Only the rate for those on three or more teams was significantly lower than those who did not participate on any teams.

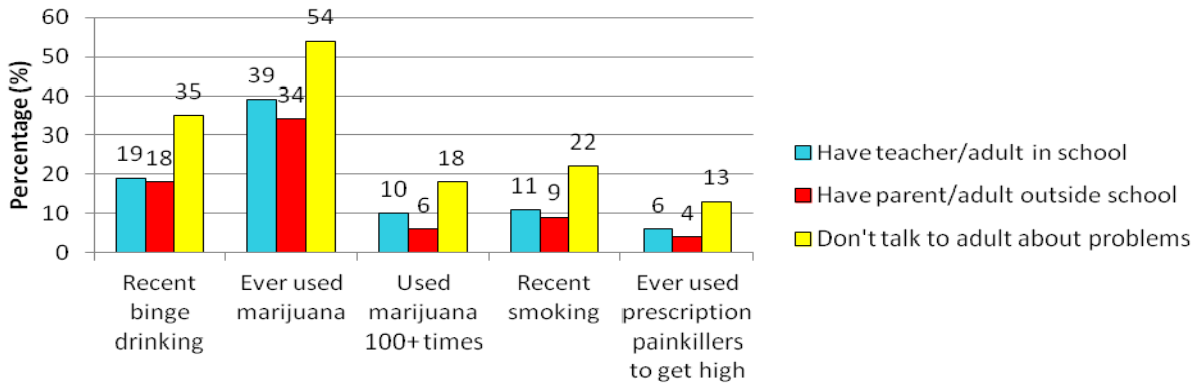
Use of Prescription Painkillers to Get High (lifetime use)

- As with the other drug use behaviors measured, there was a general increase in use of prescription painkillers to get high as academic achievement decreased. Students with mostly A's (4%) reported significantly less use than those with mostly C's (12%) or D's (24%).
- Students who have adults to talk to about problems (6%) in school or (4%) outside of school, reported significantly less use of prescription painkillers to get high than those students who don't talk with adults about problems (13%).
- Volunteering did not provide a significant protective effect against use of prescription painkillers to get high: zero hours per month, 6%; one to five hours, 6%; five to nine hours, 4%; and ten or more hours, 10%.
- Similar to heavy marijuana use, participation in extracurricular activities between one and six days per week was related to significantly lower rates of prescription painkiller use than rates among students who did not participate at all. Participation in seven days per week did not provide any protective effect.
- Students who participated on two BHS athletic teams reported significantly less illegal prescription drug use (2%) than those who did not participate on any teams (8%) and those who were on three or more teams (9%).

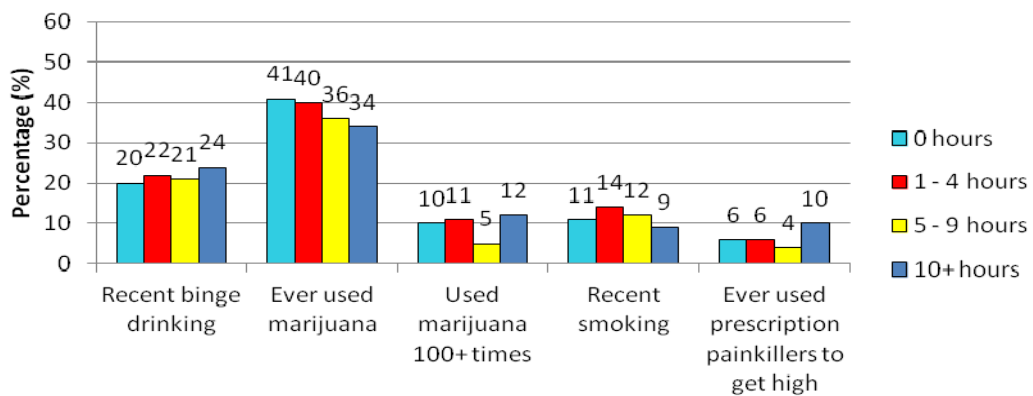
Selected Risk Behaviors among BHS 9th-12th Graders, 2011, Compared by Academic Performance



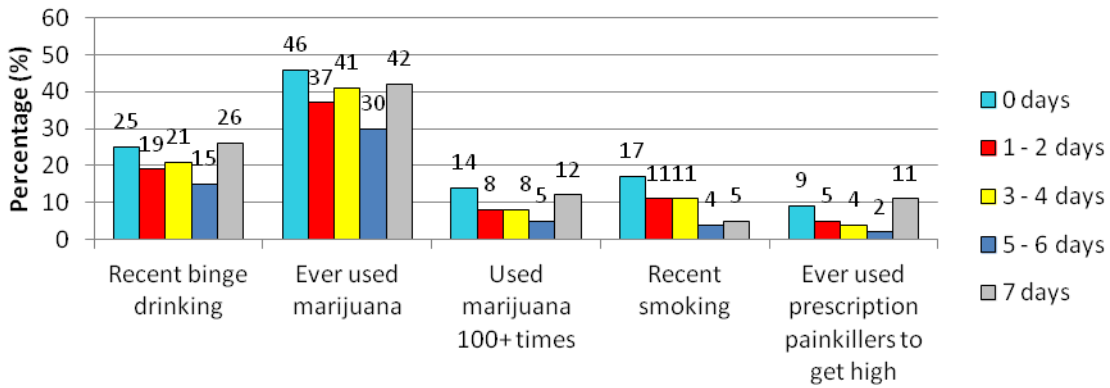
Selected Risk Behaviors among BHS 9th-12th Graders, 2011, Compared by Adults to Talk to about Problems



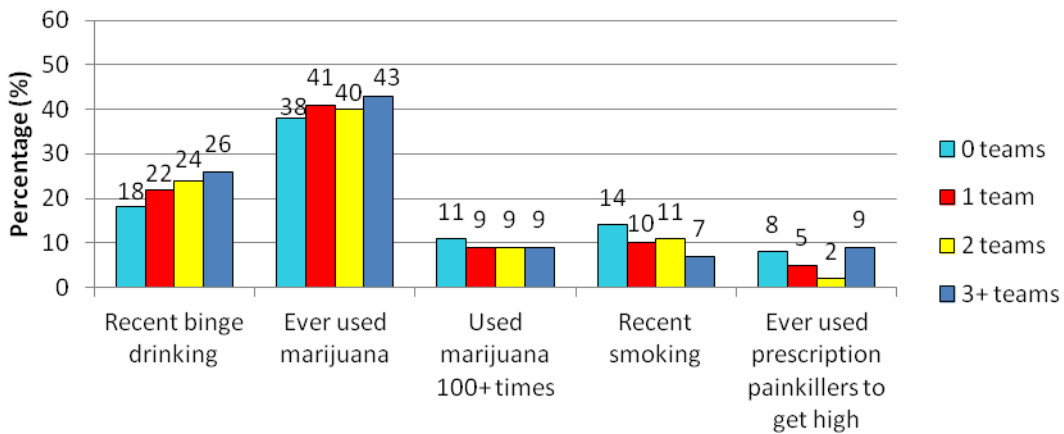
Selected Risk Behaviors among BHS 9th-12th Graders, 2011, Compared by Volunteer Hours



Selected Risk Behaviors among BHS 9th-12th Graders, 2011, Compared by Participation in Organized Extracurricular Activities



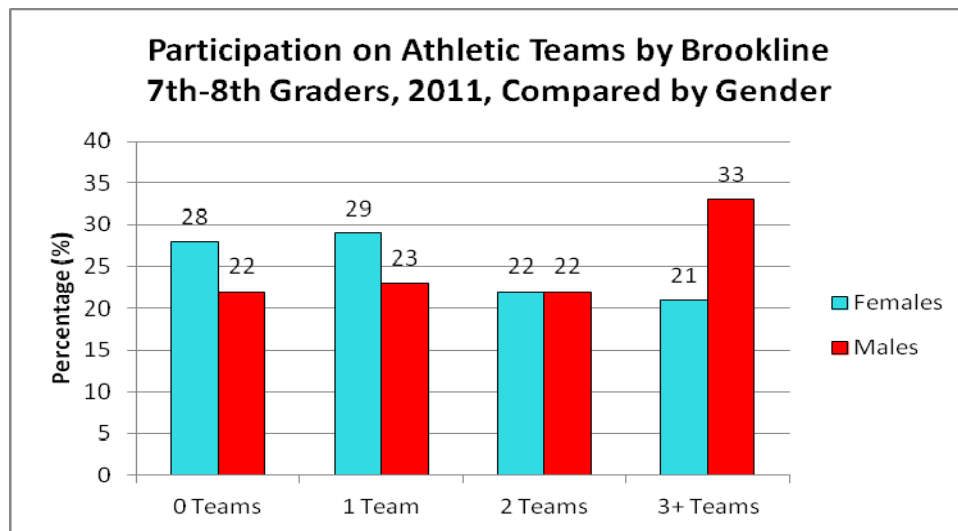
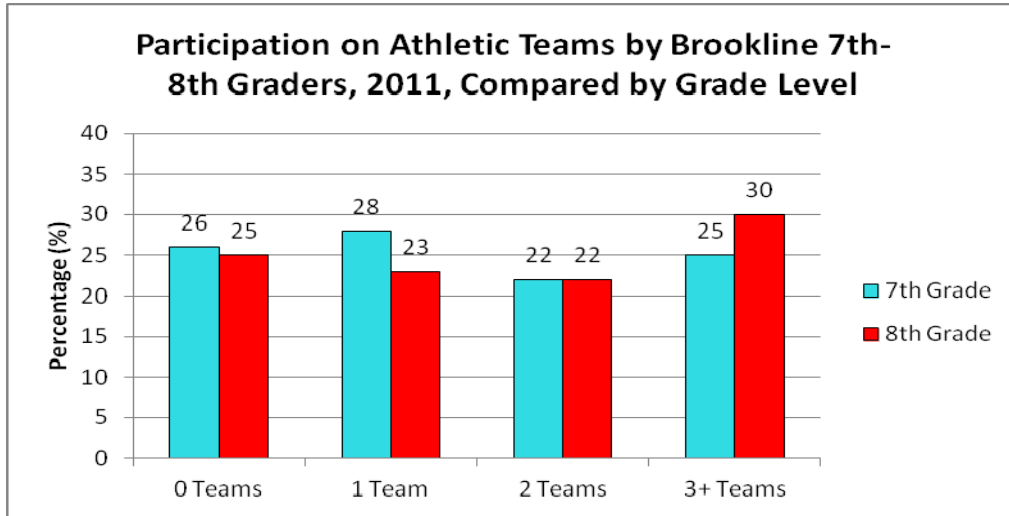
Selected Risk Behaviors among BHS 9th-12th Graders, 2011, Compared by Participation on BHS Athletic Teams



Middle School Data

The only question asked on the Middle School survey relating to protective factors was about the number of school or community sports teams on which students participate.

- Seventy-five percent of Brookline 7th and 8th graders reported participation on at least one sports team in the year prior to the survey, similar to 76% in 2009. There was little difference across grades or genders, except that significantly more males participated on three or more teams than did females.



Similar to the high school data, there was little or no protective effect provided for middle school students by participation on athletic teams. In fact, in some cases it was just the opposite.

Drinking Alcohol (past month)

- Rather than any protective effect, participation on one (8%), two (11%), or three or more (13%) athletic teams was related to significantly higher rates of past month alcohol rates than for students who did not play on any teams (3%).
- There was no discernible pattern when participation on athletic teams was compared to perceived pressure to use alcohol: zero teams, 6%; one team, 10%; two teams, 13%; and three or more teams, 9%. Students on two teams reported feeling significantly more pressure to drink than those who were not on any teams, but no other comparisons were significant.

Marijuana use (lifetime use)

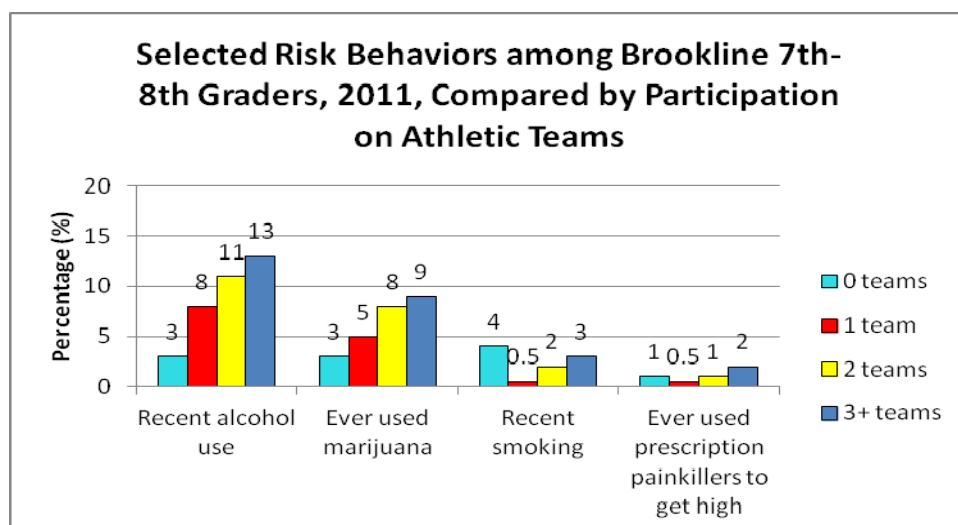
- Students who participated on two or more athletic teams reported significantly more marijuana use (two teams, 8%; three or more teams, 9%) than students who were not on any teams (3%). No other comparisons were significant.
- Though students who participated on teams reported more pressure to use marijuana, the differences were not significantly greater than those who were not on any teams.

Cigarette Smoking (past month)

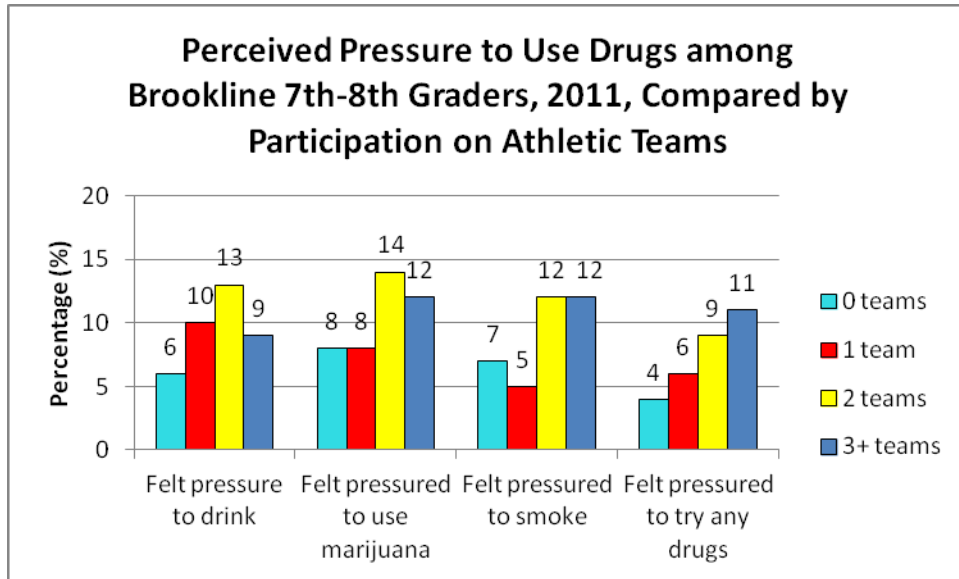
- There was no significant protective effect when participation on teams was compared to recent cigarette smoking. The percentages of smokers in all categories were quite small: zero teams, 4%; one team, less than 1%; two teams, 2%; and three teams, 3%.
- Students who participated on one team reported feeling significantly less pressure to smoke than those on two or more teams, but not significantly less than students who weren't on any teams.

Use of Prescription Painkillers to Get High (lifetime use)

- The rates of students who ever used prescription painkillers to get high were very low (2% or lower) among all categories related to participation on athletic teams and there were no significant differences.



- Students who participated on three or more teams reported feeling significantly more pressure to use drugs (not any specific drug) than those who weren't on any teams. No other comparisons were significant.



Appendix A: Report Limitations

The findings in this report are subject to limitations. First, these data apply only to youth who attend Brookline High School and Brookline Middle Schools and participated in the survey. Therefore, the data are not representative of all persons in this age group who live in Brookline. Second, all findings in this report are based on self-reported data. Interpretations of the results should be made with careful consideration of possible biases that may have resulted from the self-reported nature of the data. Despite assurances of confidentiality and requests for honesty, a small number of students may have been inclined to give misleading answers, either overestimating or underestimating their actual behaviors.