2003 Youth Risk Behavior Survey Results

July 2004

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The Commonwealth of Massachusetts
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The Massachusetts Department of Education wishes to extend its thanks to the 3,624 public high school students who participated in the 2003 MYRBS, and to the teachers, principals, and superintendents of the 50 high school these students represented. We would also like to thank the Division of Adolescent and School Health (DASH) at the U.S. Centers for Disease Control and Prevention (CDC), which provided funding for this important research; the staff of Westat, Inc., who provided valuable technical assistance throughout all phases of this project; and the Massachusetts Department of Public Health for its support of the Massachusetts Youth Risk Behavior Survey.

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EXECUTIVE SUMMARY

INTRODUCTION AND SURVEY METHODS

The Massachusetts Youth Risk Behavior Survey (MYRBS) is conducted every two years by the Massachusetts Department of Education with funding from the United States Centers for Disease Control and Prevention (CDC). The survey monitors adolescent risk behaviors related to the leading causes of morbidity and mortality among youth and adults. These behaviors include tobacco, alcohol, and other drug use; behaviors related to intentional and unintentional injuries; high-risk sexual behaviors; poor dietary patterns; and lack of physical activity.

The 2003 MYRBS was conducted in the spring of 2003 in 50 randomly selected public high schools across the Commonwealth. In total, 3,624 students in grades 9 through 12 participated in this voluntary and anonymous survey. 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.

RESULTS

TOBACCO USE

Every measure of tobacco use among Massachusetts public high school students has decreased significantly over the past ten years (see Figure A):

- Lifetime cigarette smoking decreased from 62% in 2001 to 53% in 2003.
- Early initiation of cigarette smoking (i.e., smoking before age 13) decreased from 23% in 1999 to 15% in 2003.
- Current cigarette smoking (i.e., any smoking in the 30 days before the survey) decreased from 30% in 1999 to 21% in 2003.
- Daily cigarette smoking (i.e., smoked everyday for the 30 days before the survey) decreased from 13% in 1999 to 7% in 2003.
- Smokeless tobacco use was cut in half from 8% in 1995 to 4% in 2003.
- Cigar smoking decreased from 16% in 1999 to 12% in 2003.
- Smoking on school property decreased from 12% in 2001 to 9% in 2003.

ALCOHOL USE

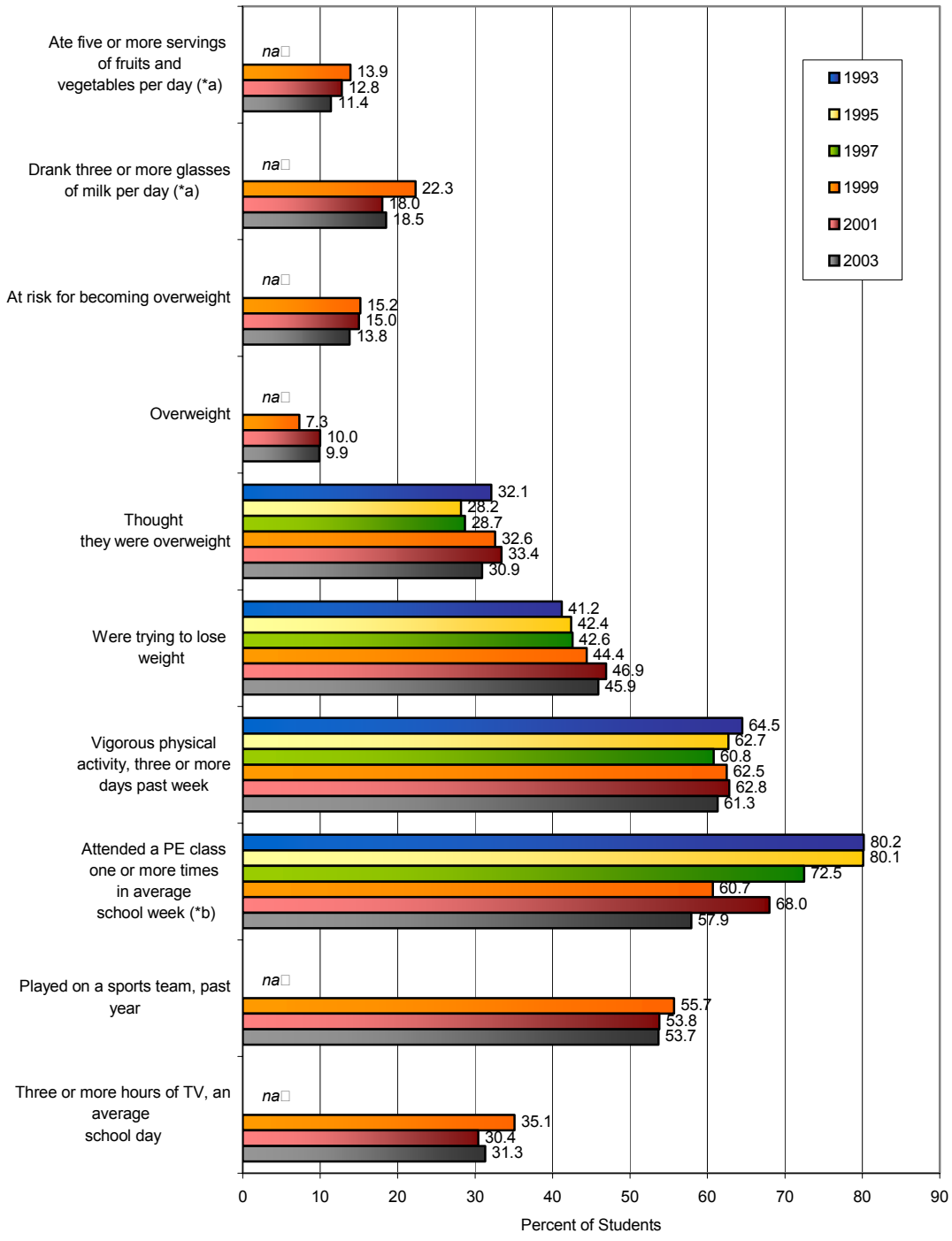
For the first time significant decreases were observed in almost all measures of alcohol use (see Figure B):

- Lifetime alcohol use decreased from 81% in 2001 to 75% in 2003.
- Early initiation of alcohol use (i.e., before age 13) decreased from 30% in 1999 to 25% in 2003.
- Current alcohol use (i.e., in the 30 days before the survey) decreased from 53% in 2001 to 46% in 2003.
- Binge drinking (i.e., consuming five or more drinks in a row within a couple of hours) decreased from 33% in 2001 to 27% in 2003.

ILLEGAL DRUG USE

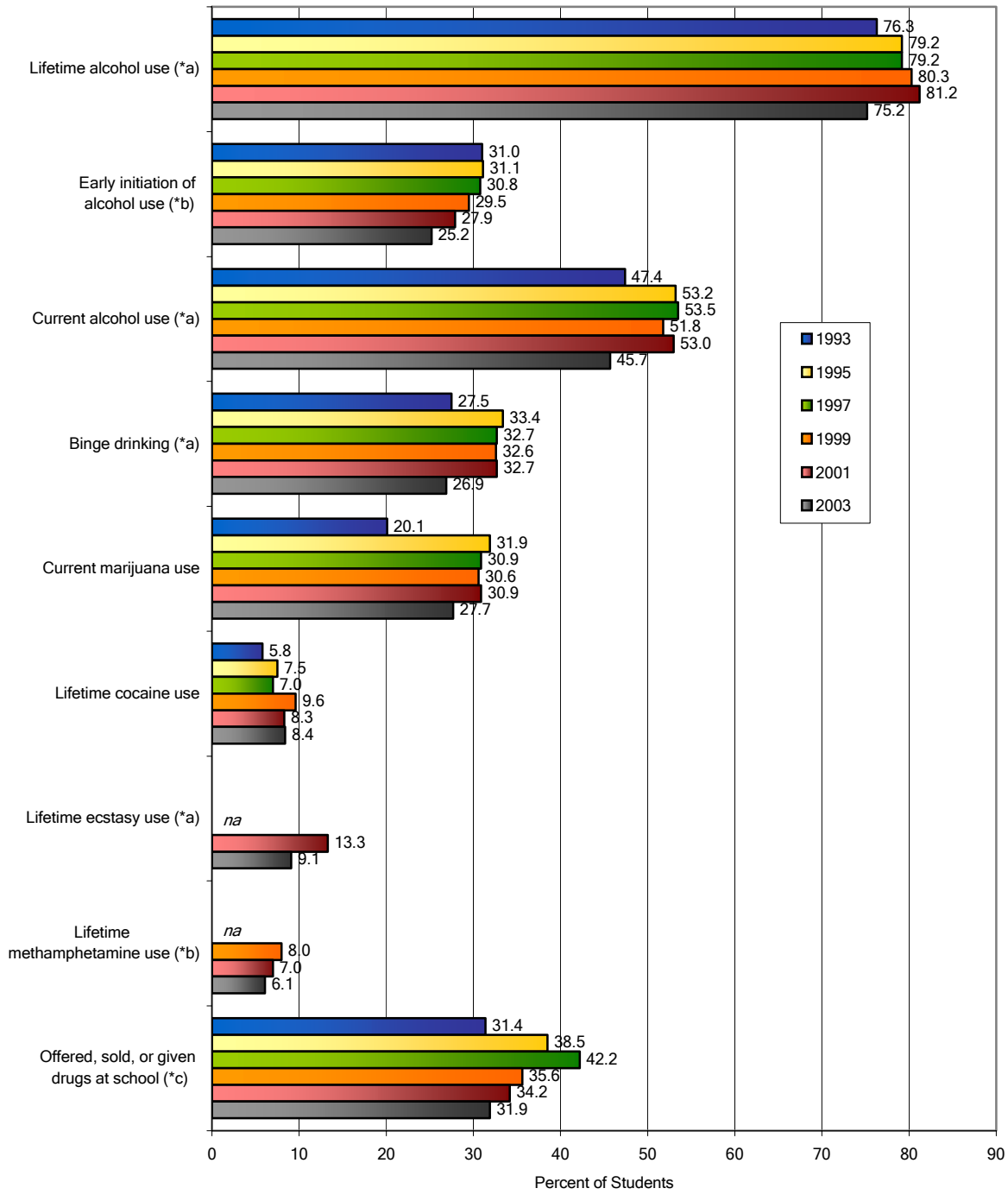
Less than half (47%) of all Massachusetts high school students in 2003 reported having ever used an illegal drug in their lifetimes.

Figure F. Changes in Nutrition, Weight Control, and Physical Activity Behaviors Among Massachusetts High School Students, 1993 to 2003



*(*a) Statistically significant decrease from 2001, p<.05; (*b) Statistically significant decrease from 1999, p<.05; (*c) Statistically significant decrease from 1995, p<.05; Note: (na) Measure not available in all years.*

Figure B. Changes in Alcohol and Illegal Drug Use Behaviors Among Massachusetts High School Students, 1993 to 2003



*(*a) Statistically significant decrease from 2001, p<.05; (*b) Statistically significant decrease from 1999, p<.05; (*c) Statistically significant decrease from 1997, p<.05; Note: (na) Measure not available in all years*

- Marijuana remains the most commonly used illegal drug; 47% used marijuana in their lifetimes, 11% used marijuana before age 13, and 28% used marijuana in the 30 days before the survey.
- Lifetime ecstasy use decreased significantly from 13% in 2001 to 9% in 2003.
- Lifetime methamphetamine use decreased significantly from 8% in 1999 to 6% in 2003.
- Lifetime rates of other drugs did not change significantly: 8% used cocaine, 5% used steroids illegally, 3% used heroin, and 2% reported injected drug use.
- Being offered, sold, or given a drug on school property decreased significantly from 42% in 1997 to 32% in 2003.

VIOLENCE-RELATED BEHAVIORS AND EXPERIENCES

Weapon-carrying, physical fighting, and violence-related experiences have decreased significantly since 1993 (see Figure C):

- Weapon-carrying in the 30 days before the survey decreased from 19% in 1997 to 14% in 2003.
- Gun-carrying in the 30 days before the survey was cut in half from 6% in 1993 to 3% in 2003.
- Physical fighting decreased from 37% in 1999 to 31% in 2003.
- Weapon-carrying and physical fighting on school property both decreased from 1999 (7% to 5% and 14% to 10% respectively).
- Fewer students in 2003 skipped school because they felt unsafe either at school or on their way to or from school (5%, down from 8% in 2001).
- Fewer students in 2003 were threatened or injured with a weapon on school property (6%, down from 9% in 1999)(see Figure D).
- Fewer students in 2003 reported experiencing dating violence (11%, down from 14% in 1997).

There were no observed changes in other measures of violence-related behaviors and experiences:

- 10% of students were involved in a gang in the year before the survey;
- 10% had ever experienced sexual contact against their will; and
- 23% were bullied at school in the year before the survey.

SUICIDAL BEHAVIOR

Significant decreases were observed in suicidal thinking:

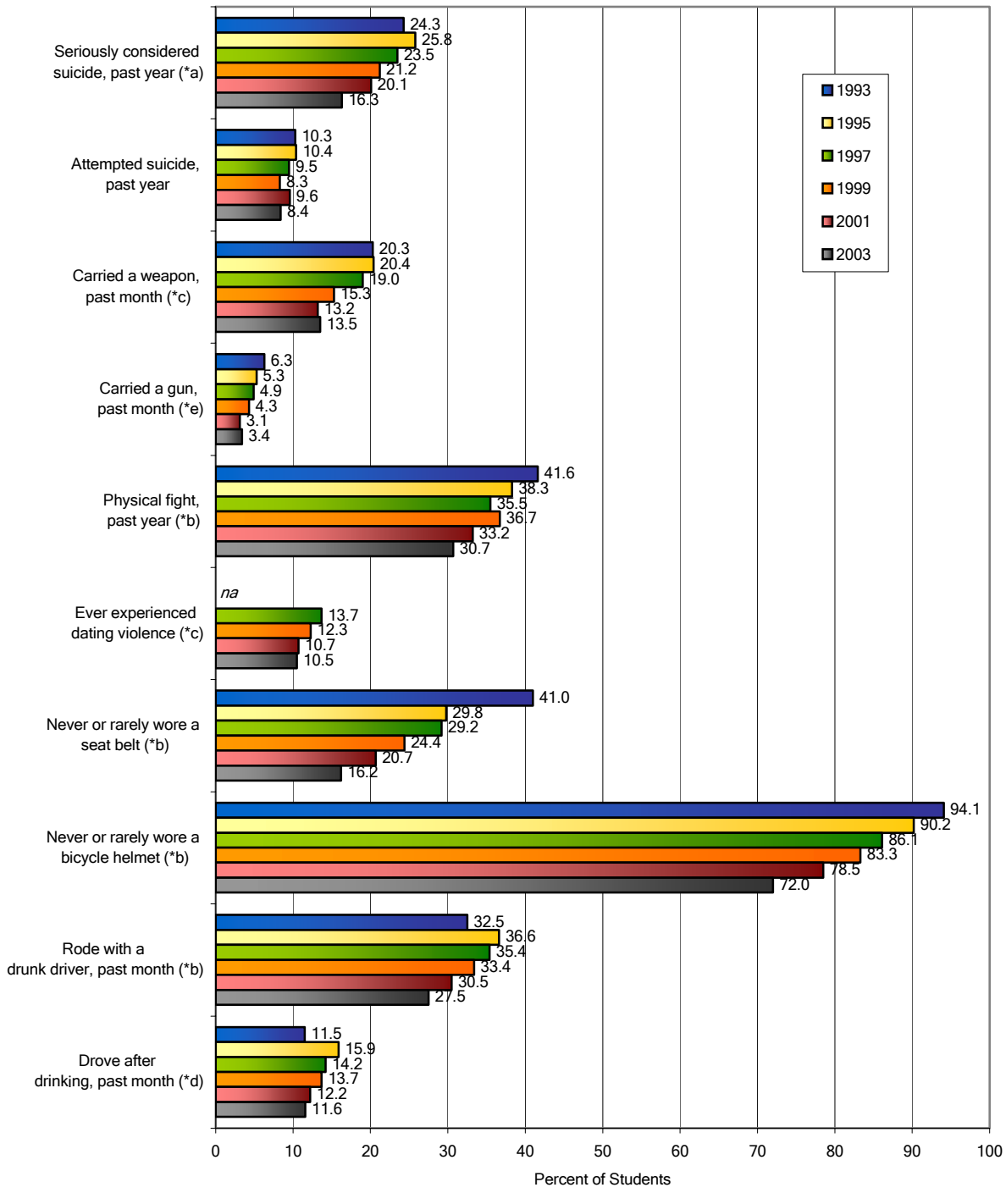
- Having seriously considered suicide decreased from 20% in 2001 to 16% in 2003.
- Having made a suicide plan decreased from 17% in 1999 to 13% in 2003.

Small but not yet significant decreases were observed in:

- Having felt sad or hopeless for two weeks or more (30% in 1999 to 28% in 2003); and
- Having attempted suicide (10% in 2001 to 8% in 2003).

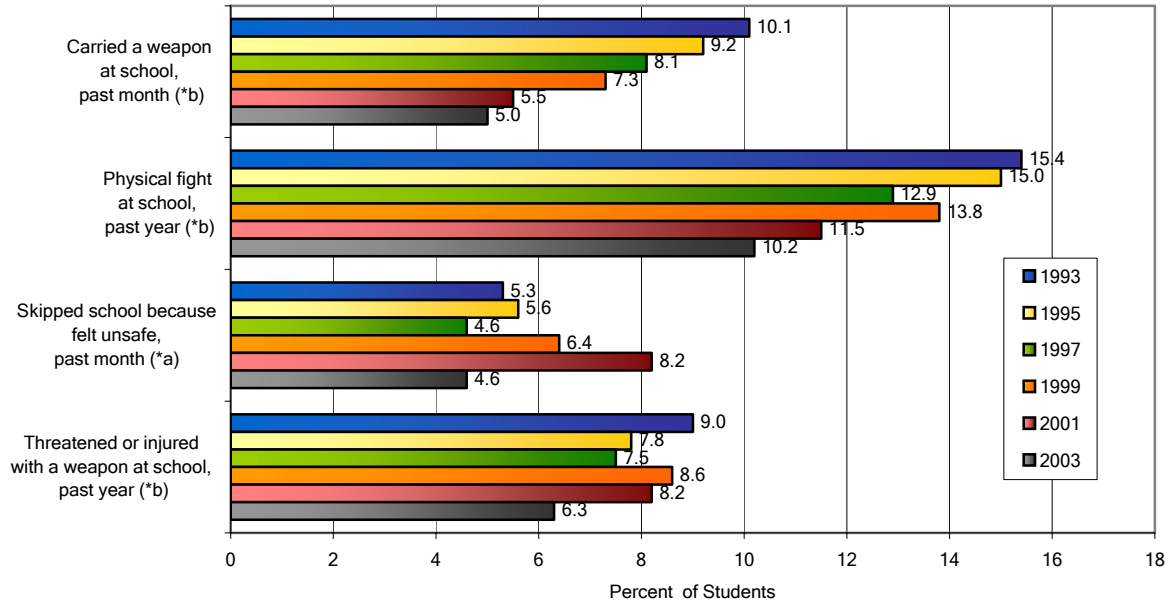
In addition, 3% of students received medical treatment for a suicide attempt that resulted in an injury, poisoning, or overdose. Eighteen percent (18%) of students reported cutting, burning, or bruising themselves on purpose.

Figure C. Changes in Violence and Safety-Related Behaviors Among Massachusetts High School Students, 1993 to 2003



*(*a) Statistically significant decrease from 2001, p<.05; (*b) Statistically significant decrease from 1999, p<.05; (*c) Statistically significant decrease from 1997, p<.05; (*d) Statistically significant decrease from 1995, p<.05; Note: (na) Measure not available in all years*

Figure D. Changes in Violence-related Behaviors and Experiences on School Property, 1993 to 2003



*(*a) Statistically significant decrease from 2001, p<.05; (*b) Statistically significant decrease from 1999, p<.05*

BEHAVIORS RELATED TO UNINTENTIONAL INJURIES

All behaviors related to unintentional injuries decreased significantly:

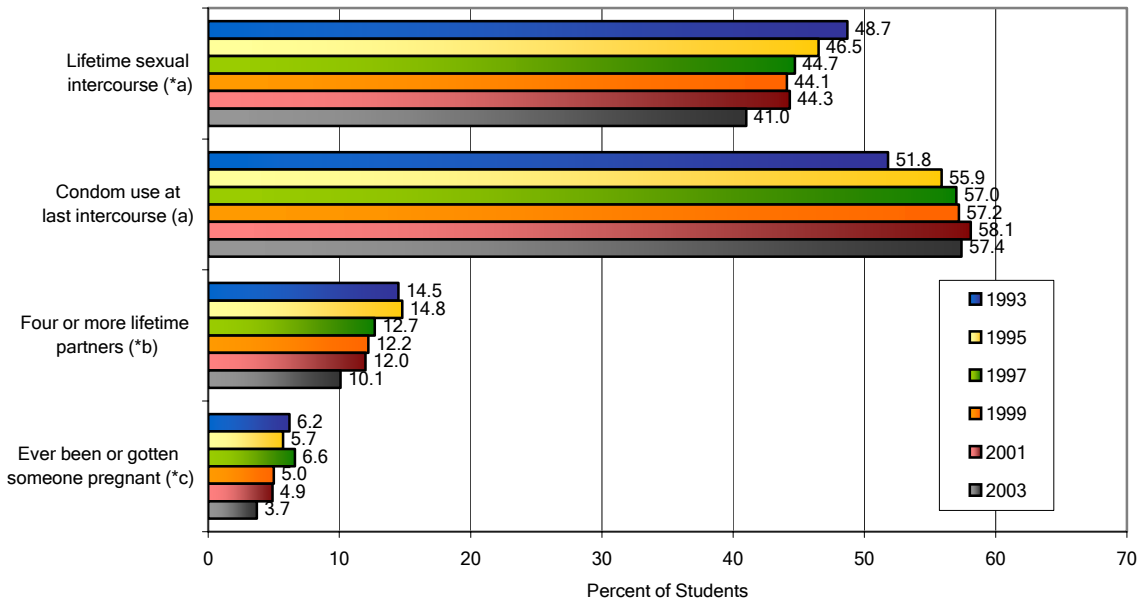
- Sixteen percent (16%) of all students reported never or rarely wearing a seat belt when riding in a vehicle (down from 24% in 1999).
- Seventy-two percent (72%) of students who rode a bike in the year before the survey reported never or rarely wearing a bicycle helmet (down from 83% in 1999).
- Twenty-eight percent (28%) of students rode with a driver who had been drinking in the 30 days before the survey (down from 33% in 1999).
- Twelve percent (12%) drove after drinking in the 30 days before the survey (down from 16% in 1995).

SEXUAL BEHAVIORS AND SEXUALITY EDUCATION

Many measures of sexual behavior among Massachusetts high school students have decreased significantly over the past ten years (see Figure E):

- The percent of students who ever had sexual intercourse in their lifetimes decreased from 49% in 1993 to 41% in 2003.
- The percent of students who had sexual intercourse before age 13 decreased from 8% in 1995 to 6% in 2003.
- The percent of students who had sexual intercourse with four or more people in their lifetimes decreased from 15% in 1995 to 10% in 2003.

Figure E. Changes in Sexual Behaviors and Consequences Among Massachusetts High School Students, 1993 to 2003



*(*a) Statistically significant decrease from 1993, p<.05; (*b) Statistically significant decrease from 1995, p<.05; (*c) Statistically significant decrease from 1997, p<.05; Note: (a) Among students who had sexual intercourse in the three months before the survey*

– The percent of students who had ever been or gotten someone pregnant decreased from 7% in 1997 to 4% in 2003.

In addition, small but not yet significant changes occurred in:

– Recent sexual intercourse (i.e., sexual intercourse in the three months before the survey) (down from 33% in 2001 to 30% in 2003); and

– Condom use among sexually active students (i.e., students who had sexual intercourse in three months before the survey) (up from 52% in 1993 to 57% in 2003).

Unfortunately, the percent of students who have ever been diagnosed with HIV or another STD increased significantly from 3% in 2001 to 6% in 2003.

AIDS PREVENTION EDUCATION

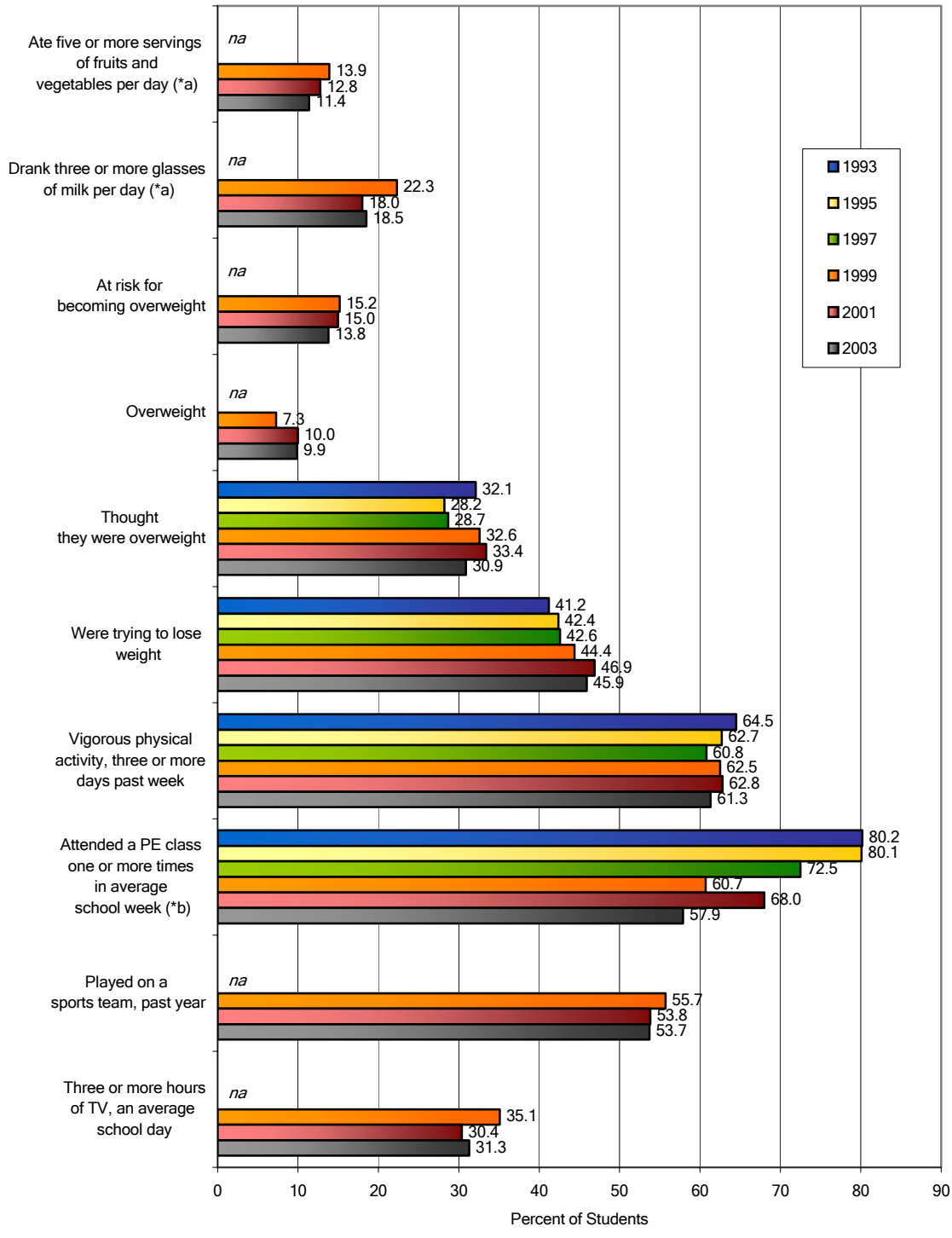
Student who received HIV/AIDS education in school were significantly less likely than students who did not receive HIV/AIDS education in school to report sexual risk behaviors.

– The vast majority (92%) of students were taught about AIDS or HIV infection in school.

– Half of all students (48%) were taught in school how to use condoms.

– Half of all students (49%) had a conversation with a parent or other adult family member about sexuality or how to prevent HIV, STDs, or pregnancy.

Figure F. Changes in Nutrition, Weight Control, and Physical Activity Behaviors Among Massachusetts High School Students, 1993 to 2003



*(*a) Statistically significant decrease from 1999, p<.05; (*b) Statistically significant decrease from 1997, p<.05; Note: (na) Measure not available in all years*

DIETARY AND WEIGHT CONTROL BEHAVIORS

Measures of good nutrition have decreased significantly since 1999 (see Figure F):

- The percent of students who ate five or more servings of fruits or vegetables per day decreased from 14% in 1999 to 11% in 2003.
- The percent of students who drank three or more glasses of milk per day – the amount needed to provide recommended daily levels calcium – decreased from 22% in 1999 to 19% in 2003.

Other measures of nutrition and weight control remained unchanged:

- One-third of all students (32%) ate breakfast every day in the week before the survey. (This was a new question in 2003.)
- According to their Body Mass Index, 14% of students were at risk of becoming overweight and 10% were overweight.
- One-third (31%) of all students thought they were overweight and roughly one-half (46%) were trying to lose weight.
- Three-quarters (77%) of students tried to lose weight or control their weight through dieting and exercise – a significant increase over 71% reported in 2001.
- Seventeen percent (17%) of students used an unhealthy method of weight control including fasting for 24 hours or more (12%), using diet pills, powders, or liquids without a doctor's advice (7%), or using laxatives or vomiting (6%).

PHYSICAL ACTIVITY

The percent of students who report attending a physical education class at least once in an average school week dropped significantly from 73% in 1997 to 58% in 2003. Other measures of physical activity have not changed significantly since 1993:

- Sixty-one percent (61%) of students participated in aerobic activities that caused them to sweat or breathe hard (i.e., vigorous physical activity) for at least 20 minutes on at least three of the seven days before the survey.
- Twenty-four percent (24%) of students participated in activities that did not make them sweat or breathe hard (i.e., moderate physical activity) for at least 30 minutes on at least five of the seven days before the survey.
- Forty-eight percent (48%) of all students did exercises to strengthen or tone their muscles (such as push-ups, sit-ups, or weight lifting) on at least three of the seven days before the survey.
- More than half of all students (54%) played on a sports team in the year before the survey.
- Thirty-one percent (31%) watched three or more hours of television on an average school day.

SUMMARY OF OTHER KEY FINDINGS

Almost all risk behaviors were significantly associated with lower rates of academic achievement. Compared to students who did not participate in risk behaviors, students who did participate in risk behaviors were generally less likely to report receiving mostly A's, B's, or C's in school in the year before the survey.

Some groups of students have significantly higher rates than their peers of certain risk behaviors. Male students, urban students, sexual minority students, and recent immigrants generally had

higher rates than their peers of substance use, violence, and sexual behaviors.

Risk behaviors cluster together. Students who engage in one high-risk or health-compromising behavior are often likely to engage in other risk behaviors as well.

Certain factors in a student's life have a protective effect on behavior, including perceived adult support in and out of school and participation in volunteer work or other extra-curricular activities.

CONCLUSION

The 2003 MYRBS results highlight continued and significant progress in reducing adolescent risk behaviors in the Commonwealth. This strong pattern of improvement in nearly all risk categories represents a decade of effective health education and school health programs. It is important that the positive momentum be sustained through further support of comprehensive school health programs and continued emphasis on the relationship between health and academic achievement.

1 CHAPTER 1
INTRODUCTION & SURVEY METHODS

BACKGROUND

This report presents the results of the eighth administration of the Massachusetts Youth Risk Behavior Survey (MYRBS), and the sixth consecutive administration that can be considered fully representative of public high school students across the Commonwealth.[1] The MYRBS is a student health survey that has been conducted every two years since 1990[2] by the Massachusetts Department of Education with funding and technical assistance provided by the Division of Adolescent and School Health (DASH) of the U.S. Centers for Disease Control and Prevention (CDC). The Massachusetts Department of Education was one of 43 state educational agencies that administered a youth risk behavior survey in 2003 to monitor the prevalence of adolescent risk behaviors that can have a negative impact on student learning and may ultimately lead to life-threatening illness and injury.

Data generated by the MYRBS are used to determine statewide changes in the prevalence of adolescent risk behaviors over time. Additionally, the results of the MYRBS contribute to a national database on adolescent risk behaviors. Through careful examination of the MYRBS results, state and local agencies can use the data to set priorities for improving the health of students across the Commonwealth.

This chapter describes the development of the 2003 survey instrument; the methods used to select the student sample, administer the survey, and analyze the data; and the characteristics of the student sample.

SURVEY DEVELOPMENT

The standardized youth risk behavior survey instrument was designed by the CDC in collaboration with other national and local health and education agencies.[3] Specifically, the survey was developed to monitor the prevalence of health risk behaviors among high school students (grades 9 through 12) associated with the major causes of morbidity and mortality among youth and adults in the United States. These behaviors include tobacco, alcohol, and other drug use; sexual behaviors that may result in HIV infection, other sexually transmitted diseases, and unintended pregnancies; behaviors related to injuries and violence; poor dietary behaviors (including behaviors associated with eating disorders); and lack of physical activity.

In addition, the survey included supplementary items on other topics relevant to student health such as gang involvement, long-term disabilities, bullying victimization, self-injury, dating violence, and forced sexual contact. The 2003 MYRBS also included several items measuring factors that may positively impact a student's well-being, such as volunteer community work, extracurricular activities, and perceived adult support both in and out of school. These additional items were developed and refined by staff at the Massachusetts Department of Education, with review by the CDC.[4] The final 2003 MYRBS instrument consisted of 99 multiple choice

questions with an additional page for student comments. The survey was written at the seventh grade reading level, and was designed to be completed in a forty-minute class period. The survey instrument is included in Appendix A of this report; Spanish and Portuguese translations are available upon request.

SURVEY METHODS AND ADMINISTRATION

The 2003 MYRBS was administered from January to June 2003 in randomly selected public high schools across the state. In total, 50 of 57 randomly selected high schools across the state participated in the survey, resulting in a school response rate of 88%. In each participating school, three to five classes were randomly selected to participate. All students in grades 9 through 12, including Special Education (SPED) students and students with limited English proficiency, were given an equal probability of being selected.

A trained survey administrator from the Department of Education traveled to each participating school and administered the survey in selected classrooms using a standardized administration protocol. Survey administrators read instructions aloud to participating students, emphasizing that the survey was both anonymous and voluntary. Completion of the survey in some Special Education classes was facilitated by reading the questions and responses aloud.

On average, approximately 72 students participated per school, yielding a statewide sample of 3,624 students. This sample represented 82% of the students enrolled in the classes originally selected. The main factor that determined the 82% student response rate was school attendance on the day of survey administration. The combined school and student response rates yielded an overall response rate of 72% (88% x 82%). Due to this high response rate, the information in this report provides accurate estimates of the prevalence of the health risk behaviors among Massachusetts high school students.

Table 1. Demographic Characteristics of the 2003 Massachusetts Youth Risk Behavior Survey Student Sample (N=3,624)

	Number	Percent[a]
Gender		
Female	1,792	49.4
Male	1,823	50.3
Missing	9	---
Grade		
9	1,105	28.9
10	967	25.4
11	759	23.6
12	753	21.6
Ungraded or Other	18	0.5
Missing	22	---
Race/Ethnicity[b]		
White	2,611	76.5
Black or African American	199	8.7
Hispanic or Latino	389	10.3
Asian or Pacific Islander	179	2.1
Other or Multiple Ethnicity	200	2.3
Missing	46	---

[a] Percent of all students with a valid answer for the question, as weighted by the CDC

[b] Students were allowed to indicate multiple ethnic categories. If Hispanic/Latino was indicated as an ethnic identification, whether alone or in combination with other ethnic categories, the student was categorized as Hispanic/Latino. The Other or Multiple Ethnicity category includes 53 American Indians or Alaskan Natives and 147 students who indicated several ethnicities that did not include Hispanic/Latino.

CHARACTERISTICS OF THE STUDENT SAMPLE

The demographic characteristics of the student sample are shown in Table 1 (above). To correct

for slight variations between the Massachusetts high school population and the MYRBS student sample, cases in the sample were statistically weighted by the CDC. The weighted results presented in this report accurately reflect the gender, grade, and race/ethnicity characteristics of all Massachusetts public high school students in the spring of 2003. Because data were not weighted by other demographic factors, we cannot have the same level of confidence that results concerning other subgroups represent those groups with complete accuracy. Further information about the sampling and weighting procedures can be found in Appendix B.

ANALYSIS OF THE 2003 MYRBS RESULTS

The CDC conducted initial frequency analyses of the 2003 MYRBS data. Subsequent statistical analyses were conducted by the Massachusetts Department of Education (see Appendix B for a detailed explanation of the data analysis procedures).

Analyses of the 2003 MYRBS data were done to:

- Examine differences in risk behaviors by demographic variables such as grade, gender, race/ethnicity, kind of community (urban, suburban or rural), sexual orientation, and years lived in the United States;
- Determine changes in risk behaviors which have occurred since 1993; and
- Explore interrelationships among various risk behaviors and risk factors.

Since 1993, each administration of the MYRBS has achieved a response rate high enough to ensure that the results were representative of adolescents in public high schools across the Commonwealth at the time of survey administration. Therefore, results from the past six MYRBS administrations are used to examine changes in rates of adolescent risk behaviors that have occurred in Massachusetts over time. In general, the 2003 MYRBS estimates of health behaviors are accurate to within plus or minus three percentage points.

THE 2003 MYRBS REPORT

The 2003 MYRBS report is separated into chapters by category of risk behavior. The introduction to each chapter provides background information on specific risk behaviors and their health outcomes, as well as relevant statistics from other sources.

The key findings and additional results are subsequently presented with illustrative figures and tables. Each chapter concludes with a section that reflects upon the implications of the findings and how they can be used to improve the health and safety of students. The report also includes Appendices containing (A) the actual 2003 MYRBS survey instrument used, (B) an explanation of sampling, administration, weighting, and data analysis procedures, (C) additional summary tables for several of the chapters, and (D) a comparison of risk behavior prevalence rates for Massachusetts and the United States as a whole.

2 CHAPTER 2 TOBACCO USE

INTRODUCTION

Tobacco use is the leading *preventable* cause of death in the United States, yet in 2000 an estimated 66 million Americans (age 12 and older) reported current use of tobacco, including cigarettes, cigars, smokeless tobacco, and pipe tobacco.[5] Tobacco use is responsible for one in every five deaths in the United States.[6] Tobacco-related health problems such as heart disease, cancer, stroke, and chronic respiratory illness are the leading causes of death each year. In 1999, these four causes accounted for 65% of all deaths.[7] Additionally, smokeless tobacco use (chewing tobacco or snuff) causes oral cancer and other health problems.[8]

Tobacco use among young people poses especially serious risks. 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.[9] The prevalence of cigarette smoking among U.S. high school students increased throughout the early 1990's,[10] but has gradually declined since a peak in 1997.[11] Still, more than one-third of U.S. high school students use some form of tobacco and more than 80% of tobacco users initiate use before the age of 18.[12] According to the Centers for Disease Control and Prevention (CDC), if the trend in early initiation of cigarette smoking continues, approximately 5 million children will die prematurely as adults because they began smoking during adolescence.[6] Adolescent tobacco use not only threatens health, but it is also associated with drinking and illegal drug use, and with poor school performance.[13]

From 1993 to 2002, the Massachusetts Department of Education allocated Health Protection Fund monies, derived from a state tax on tobacco products, to school districts across the Commonwealth to support comprehensive school health education, with a focus on tobacco use prevention. In that time, Massachusetts middle and high schools significantly increased attention to tobacco prevention education and other health education topics,[14] and all measures of tobacco use among high school students decreased.[15]

Additionally, the Massachusetts Education Reform Law of 1993 made it illegal for students, school staff, and visitors to smoke on school property at any time. School districts are required to submit their local tobacco policies, including consequences for tobacco use on school property, to the Massachusetts Department of Education. Since 1993, all Massachusetts public school districts have implemented tobacco use prevention policies[16], and tobacco use on school property has decreased significantly.[15]

The 2003 MYRBS asked students to report their history and current use of cigarettes and smokeless tobacco both on and off school property. The survey also asked questions about recent cigar smoking, and about students' attempts to quit smoking.

KEY FINDINGS FROM THE 2003 MASSACHUSETTS YRBS

- **Lifetime** and **current cigarette smoking** have decreased significantly since 1999, with only half (53%) of all students reporting lifetime smoking and one-fifth (21%) reporting current smoking in 2003.
- The rate of **daily smoking** has been cut in half since 1997. Only 7% of all students smoked daily in 2003.
- **Smokeless tobacco use** continued a downward trend started in 1995, with only 4% of students reporting the use of chewing tobacco or snuff in 2003.
- **Cigar smoking** has decreased significantly since 1999 when the question was first added to the survey. Roughly 12% of students reported smoking cigars, cigarillos, or little cigars in 2003.
- Male and female students were equally as likely to report any cigarette smoking, but males were significantly more likely than females to report smokeless tobacco use or cigar smoking.
- Lifetime, current, and daily cigarette smoking, as well as cigar smoking, increased significantly with grade level in school such that 12th graders were significantly more likely than 9th graders to report these behaviors.
- Black or African American students were the least likely of all racial/ethnic groups to report current cigarette smoking or cigar smoking. No other significant racial/ethnic differences were found.

Specifically, the 2003 survey asked about six tobacco-use behaviors defined in the following ways:

Lifetime cigarette smoking: ever tried cigarette smoking, even just one or two puffs;

Early initiation of cigarette smoking: smoked a whole cigarette before age 13 years;

Current cigarette smoking: smoked cigarettes at least once in the 30 days before the survey;

Daily cigarette smoking: smoked cigarettes each day in the 30 days before the survey;

Cigar smoking: smoked a cigar at least once in the 30 days before the survey; and

Smokeless tobacco use: used smokeless tobacco at least once in the 30 days before the survey.

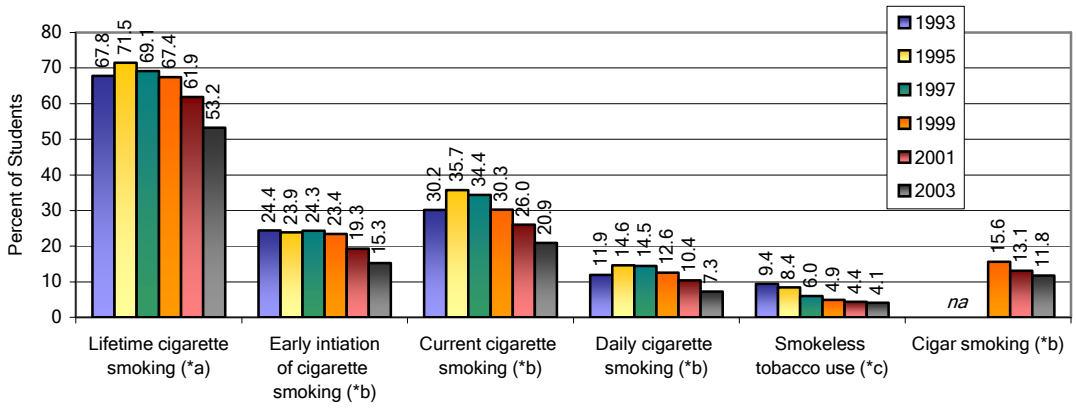
RESULTS

CIGARETTE SMOKING

Lifetime smoking

- A little over half (53%) of all students reported having ever tried smoking cigarettes in their lifetimes. This represents a significant decrease from 62% in 2001. Lifetime cigarette smoking has been decreasing among Massachusetts high school students since 1995, when 72% reported having ever smoked cigarettes (see Figure 2a).
- In 2003, male and female students were equally as likely to have smoked cigarettes in their lifetimes.
- The rate of lifetime cigarette smoking increased with grade in school: 45% of freshmen, 51% of

Figure 2a. Tobacco Use Among Massachusetts High School Students, 1993 - 2003



*(*a) Statistically significant decrease from 2001, p<.05; (*b) Statistically significant decrease from 1999, p<.05; (*c) Statistically significant decrease from 1995, p<.05*

sophomores, 57% of juniors, and 63% of seniors reported having ever tried cigarette smoking.

- The highest rates of lifetime cigarette smoking were found among students of Other or Multiple Ethnicity (63%) and Hispanic students (60%). Fifty-two percent (52%) of White students and 50% of Black and Asian students reported lifetime cigarette smoking.

Early initiation

- Fifteen percent (15%) of all students (29% of lifetime smokers) smoked their first cigarette before age 13, down from 19% in 2001. Early initiation of tobacco use has been steadily declining since 1999, when 24% of students reported having smoked their first cigarette before age 13.

- Male and female students were equally as likely to have smoked a cigarette before age 13 (16% and 15% respectively). Students in the 9th grade were slightly more like than their peers in older grades to report smoking a cigarette before age 13 (18% of freshmen vs. 14% of sophomores, juniors, and seniors).

- Students of Other or Multiple Ethnicity were most likely to report having smoked a cigarette before age 13 (29%) as compared to their peers in other racial/ethnic groups; 15% of White students, 16% of Black students, 17% of Hispanic students, and 15% of Asian students reported smoking before age 13.

- Of all students who had ever tried smoking, those who first did so before age 13 were significantly more likely than their peers - who started smoking later - to report current smoking (i.e., smoking once in the 30 days before the survey) (61% vs. 33% respectively), daily smoking (32% vs. 7%), smokeless tobacco use (11% vs. 4%), and cigar smoking (27% vs. 16%). However, they were also significantly more likely to have tried to quit smoking at least once (77% vs. 47%).

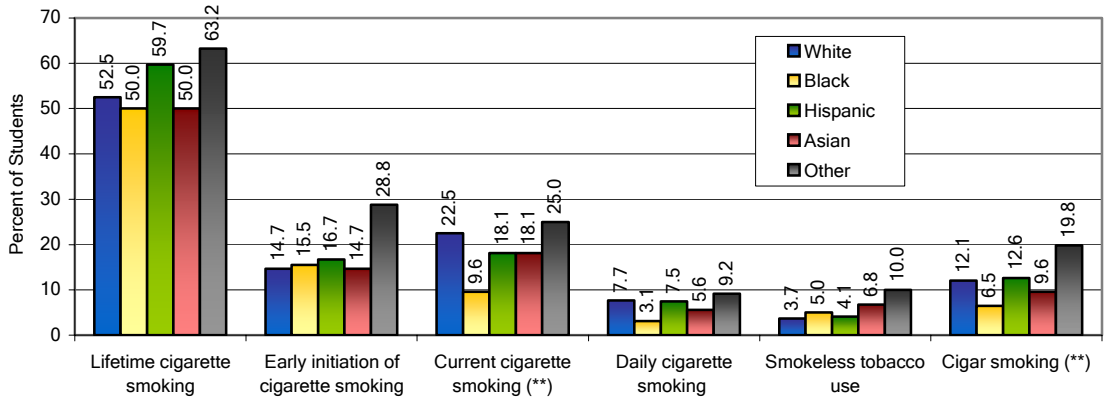
Current smoking

- One-fifth (21%) of all students smoked a cigarette in the 30 days before the survey (i.e., current smoking), down from 26% in 2001.
- Twenty-five percent (25%) of male students and 22% of female students were current smokers in 2003.
- Students in 12th grade were significantly more likely than their peers in younger grades to report current smoking: 30% of seniors, 20% of juniors, and 17% of sophomores and freshmen reported smoking a cigarette in the 30 days before the survey.
- White students were significantly more likely than Black students to report current smoking (23% vs. 10%, respectively). The highest rate of current smoking was observed among students of Other or Multiple Ethnicity (25%). Eighteen percent (18%) of Hispanic and Asian students were also current smokers (see Figure 2b).
- Among current smokers, the number of cigarettes smoked per day varied. Twenty-one percent (21%) of current smokers smoked less than one cigarette on the days that they smoked. The single largest group of current smokers (34%) smoked two to five cigarettes per day. Eleven percent (11%) of current smokers smoked more than half a pack (11 or more cigarettes) per day.

Daily smoking

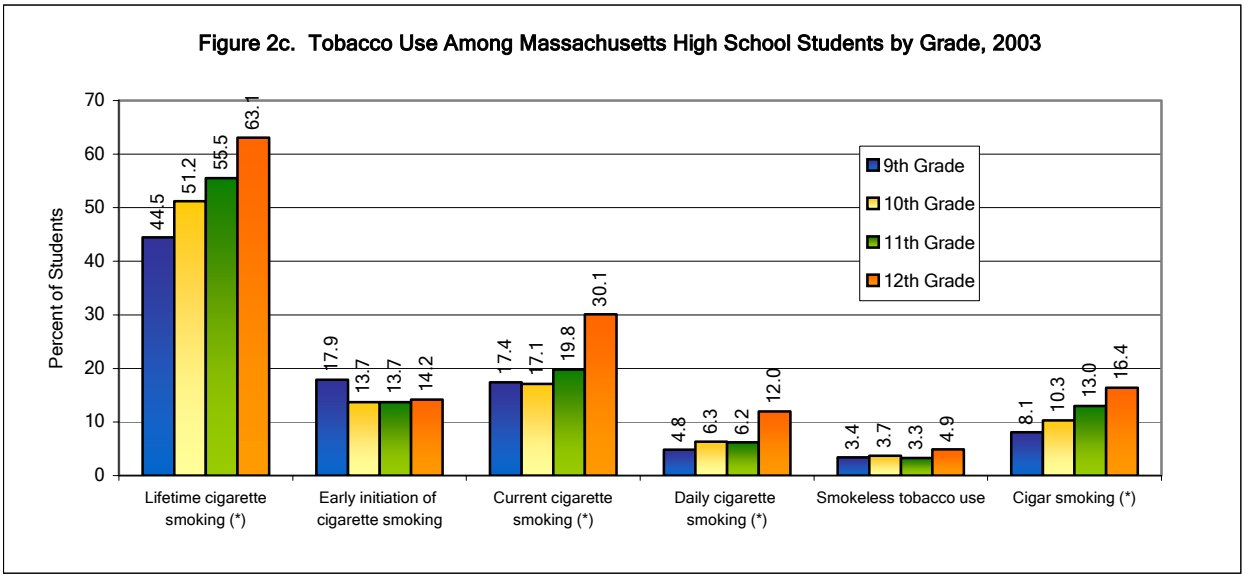
- Seven percent (7%) of all students smoked every day in the 30 days before the survey. This is down just slightly from the 10% of students who reported daily smoking in 2001, and it represents a significant decrease from 13% in 1999.
- In 2003, there were no significant gender differences in daily smoking; 7% of male and female students reported daily smoking.

Figure 2b. Tobacco Use Among Massachusetts High School Students by Race/Ethnicity(a), 2003



(**) Statistically significant difference between racial/ethnic groups, p<.01; Note: (a) See Table 1, page 2, for a detailed explanation of racial/ethnic categories.

Figure 2c. Tobacco Use Among Massachusetts High School Students by Grade, 2003



(*) Statistically significant difference between grades, p<.05

- Students in 12th grade were significantly more likely than their peers in younger grades (6% of juniors and sophomores and 5% of freshmen) to report daily smoking (see Figure 2c).

- Fewer Black students were daily smokers (3%) than were Asian students (6%), Hispanic students and White students (8%), and students of Other of Multiple Ethnicity (9%).

- Among daily smokers, 97% smoked more than one cigarette per day. Twenty-eight percent (28%) of daily smokers smoked at least half a pack of cigarettes (11 or more cigarettes) per day.

Smoking cessation

- Whether or not they were still daily smokers, 15% of all students had ever smoked daily for any period of 30 days during their lifetimes. These students are called "ever-regular" smokers. Ever-regular smoking is used to measure smoking cessation.

- Almost all ever-regular smokers (93%) had tried to quit smoking at least once. Among those ever-regular smokers who did try to quit at least once, 84% were still smoking at the time of the survey (i.e., current smoking), and half (49%) were daily smokers at the time of the survey.

- Almost two thirds of ever-regular smokers (65%) had tried to quit three or more times in their lives. Eighty-one percent (81%) of these students were still smoking at the time of the survey, and 47% were daily smokers.

- Among *current smokers* in 2003, 93% had tried to quit smoking at least once, and half (47%) had tried to quit smoking tried to quit three or more times.

OTHER TOBACCO USE

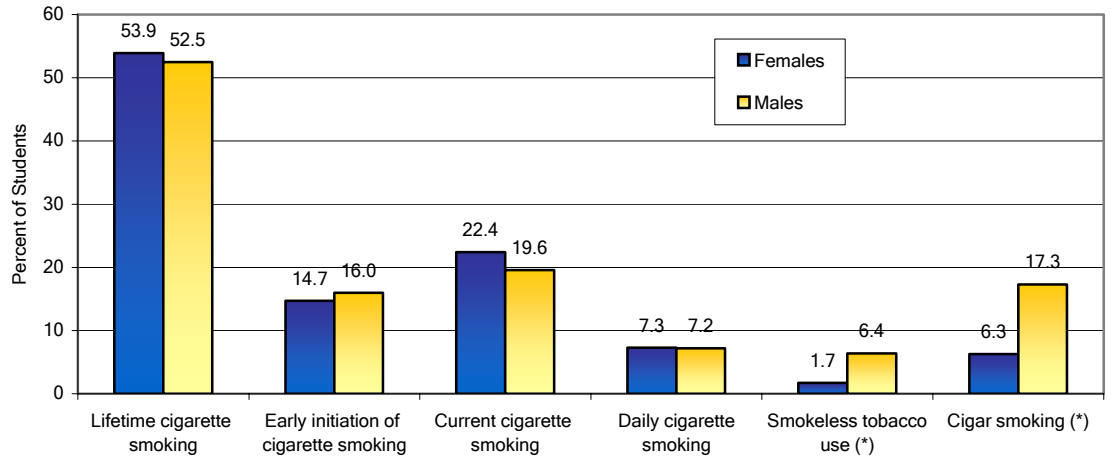
Smokeless tobacco use

- Four percent (4%) of all students used smokeless tobacco (i.e., chewing tobacco, snuff, or dip) in the 30 days before the survey.
- As in previous years, male students were significantly more likely than female students to report smokeless tobacco use (6% vs. 2%, respectively; see Figure 2d).
- Smokeless tobacco use did not differ significantly by grade: 3% of 9th grade students, 4% of 10th grade students, 3% of 11th grade students, and 5% of 12th grade students used smokeless tobacco in the 30 days before the survey.
- Students of Other or Multiple Ethnicity were slightly more likely than their peers in other racial/ethnic groups to report smokeless tobacco use: 10% vs. 7% of Asian students, 5% of Black students, and 4% of Hispanic and White students.
- Most smokeless tobacco users (71%) were also current cigarette smokers.

Cigar smoking

- Twelve percent (12%) of students reported smoking a cigar in the 30 days before the survey. This represents no real change from 2001, when 13% of students reported cigar smoking, but a significant decrease from 16% in 1999.
- Male students were significantly more likely than female students to report cigar smoking (17% vs. 6%, respectively).
- The rate of cigar smoking increased with grade in school: 8% of 9th grade students, 10% of 10th grade students, 13% of 11th grade students, and 16% of 12th grade students smoked a cigar in the 30 days before the survey.

Figure 2d. Tobacco Use Among Massachusetts High School Students by Gender, 2003



(*) Statistically significant difference between male and female students, p<.05

- The highest rate of cigar smoking was observed among students of Other or Multiple Ethnicity (20%), followed by 13% of Hispanic students, 12% of White students, 10% of Asian students, and 7% of Black students.

- Most cigar smokers (63%) were also current cigarette smokers.

TOBACCO USE ON SCHOOL PROPERTY

- Nine percent (9%) of all students smoked cigarettes on school property in the 30 days before the survey, a significant decrease from the 12% reported in 2001. The percent of *current smokers* who smoked on school property decreased from 49% in 2001 to 42% in 2003. Eight percent (8%) of current smokers smoked every day on school property in the 30 days before the survey, down from 14% of current smokers in 2001.

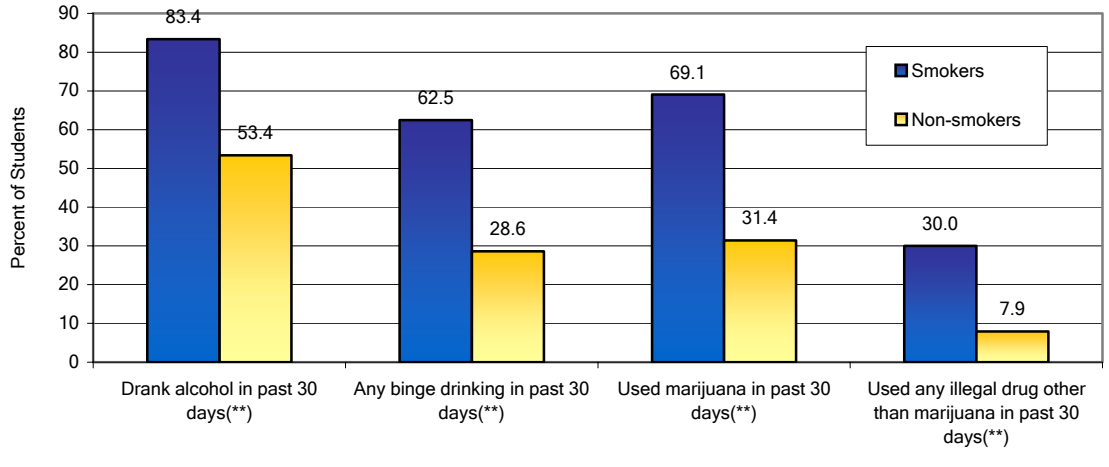
- Just 2% of all students used smokeless tobacco on school property in the 30 days before the survey. Among students who reported any smokeless tobacco use, half (48%) used smokeless tobacco on school property.

TOBACCO USE AND OTHER SUBSTANCE USE

- Compared to students who had never tried cigarette smoking, those who had tried smoking in their lifetimes were significantly more likely to have ever had a drink of alcohol (95% vs. 54% respectively), and to have used marijuana (74% vs. 16%) or another illegal drug (31% vs. 3%) in their lifetimes.

- Among all students who had ever tried cigarette smoking, current smokers were more likely than those who had not smoked recently (i.e., non-smokers) to report drinking, binge drinking, marijuana use, and other illegal drug use in the 30 days before the survey (see Figure 2e).

Figure 2e. Other Substance-Related Risk Behaviors of Massachusetts High School Cigarette Smokers and Non-Smokers, 2003



(**) Statistically significant difference between smokers and non-smokers, p<.05

Table 2. Significant Associations Between Tobacco Use Behaviors and Academic Achievement Among Massachusetts High School Students, 2003

		Mostly A's, B's, or C's	p-value
Ever tried cigarette smoking	Yes	83.0	.000**
	No	92.9	
Smoked before age 13	Yes	72.9	.000**
	No	90.1	
Current cigarette smoking	Yes	77.9	.000**
	No	90.5	
Daily smoking	Yes	69.5	.000**
	No	89.3	
Smokeless tobacco use	Yes	73.4	.000**
	No	88.3	
Cigar smoking	Yes	76.8	.000**
	No	88.9	

(**) Statistically significant difference between groups, p<.01

TOBACCO USE AND ACADEMIC ACHIEVEMENT

- Compared to their peers who did not use tobacco, students who used tobacco were significantly less likely to have received mostly A's, B's, or C's in the 12 months before the survey (see Table 2). For example, only 78% of current smokers received mostly A's, B's, or C's in the previous year, compared to 91% of non-smokers.

PROTECTIVE FACTORS FOR TOBACCO USE

- Students who were involved in volunteer work or community service were significantly less likely than their peers who were not involved in these activities to be current smokers (18% vs. 23% respectively).

- Similarly, current smoking was significantly less common among students who participated in extra-curricular activities compared to students who did not participate in extra-curricular activities (16% vs. 25% respectively).

- Students who believed they had a parent or other adult family member they could talk to about things that were important to them had a lower rate of current smoking than students who did not perceive this family support (18% vs. 30% respectively).

ADDITIONAL FINDINGS

- Certain groups of students were significantly more likely than their peers to report current tobacco use:

  - Students in urban and rural school districts were more likely than students in suburban districts to be daily smokers (8% and 12% vs. 5%, in order).

  - Recent immigrants (students who lived in the U.S. less than 6 years at the time of the survey) were twice as likely as U.S.-born students to report smokeless tobacco use (9% vs. 4%, respectively).

- Sexual minority youth (i.e., students who either identified as gay, lesbian, or bisexual or had any same-sex sexual contact) were more likely than other students to be current smokers (48% vs. 19%) and daily smokers (23% vs. 6%).

- Students with physical disabilities or long-term health problems were more likely than their peers without disabilities to report smokeless tobacco use (6% vs. 4%).

SUMMARY OF RESULTS

(Also see Appendix C, Table 2)

Every measure of tobacco use among high school students in Massachusetts has decreased steadily since 1995. Cigarette smoking, which had risen in the early 90's, decreased significantly in the past six years. Smokeless tobacco use among adolescents has continued to drop steadily and significantly since 1993. Smoking cigarettes and using smokeless tobacco on school property have also declined.

Male and female students had similar levels of cigarette smoking, but males are much more likely to have reported smoking cigars or using smokeless tobacco. Lifetime, current, and daily smoking were significantly higher among 12th grade students than among students of other grades. Black students were significant less likely than their peers to be current smokers or to smoke cigars. All measures of tobacco use were highest among students of Other or Multiple Ethnicity. Other groups of students appear to be at greater risk for developing tobacco use habits, including students in urban and rural districts, recent immigrants, sexual minority youth, and students with disabilities.

Almost all high school smokers have made one or more attempts to quit smoking. Most of these attempts, however, have been unsuccessful as many ever-regular smokers were still smoking at the time of the survey.

All measures of tobacco use were significantly associated with lower rates of academic achievement.

IMPLICATIONS AND RECOMMENDATIONS

The 2003 MYRBS results highlight continued progress in reducing tobacco use among Massachusetts youth. National reports suggest that the rates of current smoking nationwide are also decreasing;[17] however, Massachusetts' rates have been consistently below the national average since 1997.[18, 19, 20] The significant decreases in lifetime, current, and daily cigarette smoking, as well as smokeless tobacco use and cigar smoking are very encouraging. It is also especially notable that fewer Massachusetts students are smoking on school property than in previous years. Unfortunately, however, it remains that half of all high school students have smoked cigarettes in their lifetimes and one in five is a current smoker.

Changing widespread patterns of tobacco use among adolescents is a difficult and complex task, but the 2003 MYRBS results support the view that such changes are taking place. Research evidence suggests that providing information about the harmful effects of tobacco use is rarely enough, by itself, to curb adolescent smoking. Rather, effective tobacco prevention education programs are those that focus on helping students recognize peer and media pressure and on helping them develop the skills to resist such pressure.[21] Additionally, because tobacco use is associated with other risk behaviors, tobacco prevention education should be integrated into comprehensive school health programs. The *Massachusetts Comprehensive*

Health Curriculum Framework [22] and the CDC's *Guidelines for School Health Programs to Prevent Tobacco Use and Addiction* [23] are useful starting places to help districts develop school health education programs that encourage young people to make healthy choices.

The vast majority of students who do smoke have tried to quit at least once. Unfortunately, most of these attempts have not been successful, especially among those who have developed a regular smoking habit. School- and/or community-based cessation programs aimed at adolescents would offer these students more support and guidance. Many school districts currently offer cessation programs and adolescent tobacco users should be encouraged to take advantage of these opportunities. The findings reported here emphasize the importance of early and repeated tobacco prevention education, beginning well before high school and reinforced at every grade level. Until recently, tobacco tax revenues approved by Massachusetts voters in 1992 supported stronger youth tobacco prevention and comprehensive school health programs across the state. With the elimination of these funds in 2002, many districts have had to scale back their health education programming by reducing staff and/or the number of health classes offered. While it is encouraging that the 2003 MYRBS results show the continued decline of tobacco use among Massachusetts high school students, further reductions in school health staff, programs, or services could potentially reverse the downward trend in tobacco use and impact the prevalence of other risk behaviors.

3 CHAPTER 3 ALCOHOL USE

INTRODUCTION

Each year in the United States, approximately 100,000 deaths result from the misuse of alcohol.[24] Alcohol is a major contributing factor in motor vehicle crashes, the leading cause of death and disability among young people in the U.S. aged 15-20 years.[7] In 1999, 49% of youth crash fatalities in Massachusetts were alcohol-related.[25] In 2001, 31% of Massachusetts youth reported riding with a driver who had been drinking and 12% drove after they had been drinking.[15]

Additionally, alcohol abuse has been linked with anxiety and depression, as well as suicidal thinking and behavior.[26] According to the 2001 Massachusetts Youth Risk Behavior Survey, high school students who reported recent alcohol use were twice as likely as their peers who had not consumed alcohol to have attempted suicide in the 12 months before the survey.[15] Heavy drinking among youth has also been linked to injury-related deaths, including drowning; violent crime, including assault and forced sexual contact; physical fights; weapons carrying; low academic achievement; early initiation of sexual intercourse; unprotected sexual intercourse; and illegal drug use.[27,28,29,30,31,32,33]

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.[34] Alcohol dependence or alcoholism is estimated to affect one in 13 Americans,[35] and is a major cause of diseases such as cirrhosis of the liver, pancreatitis, hemorrhagic stroke, and certain forms of cancer.[36]

According to youth reports, high school and college students drink alcohol with the goal of getting drunk,[37] and often binge on alcohol, consuming five or more drinks in a row within a couple of hours. Alcohol poisoning is the most serious immediate consequence of binge drinking, and is potentially fatal. Yet, according to the Substance Abuse and Mental Health Services Administration (SAMHSA), 2.6 million young people do not know that a person can die from alcohol poisoning.[38]

In fact, in the past decade, there has been a decline in adolescents' estimates of the risks involved in frequent or heavy alcohol consumption.[39] Almost 40% of high school seniors perceive no great risk in consuming four to five drinks nearly every day.[40] 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).[41]

National Health Promotion and Disease Prevention Objectives for the Year 2010 include reducing recent and heavy alcohol use among adolescents, and increasing the average age at which adolescents first use alcohol by at least one year.[27]

KEY FINDINGS FROM THE 2003 MYRBS

- Rates of lifetime alcohol use, current alcohol use, and binge drinking decreased significantly from 2001 to 2003.
- Early initiation of alcohol use decreased significantly from 1999 to 2003.
- Male and female students were equally as likely in 2003 to report all alcohol use behaviors.
- Lifetime alcohol use, current alcohol use, and binge drinking increased with grade in school, while early initiation of alcohol use was more common among students in younger grades.
- The highest rates of most alcohol use behaviors were found among students of Other or Multiple Ethinicity, White students, and Hispanic students.

The 2001 MYRBS asked students to report their history and recent use of alcohol, the age of their first alcoholic drink, and their frequency of binge drinking. Using these measures, five alcohol-use behaviors were defined in the following ways:

Lifetime alcohol use: any consumption of alcohol during one's life, except one or two sips for religious purposes;

Early initiation of alcohol use: consumption of an alcoholic drink before age 13;

Current alcohol use: one or more alcoholic drinks on at least one of the 30 days before the survey;

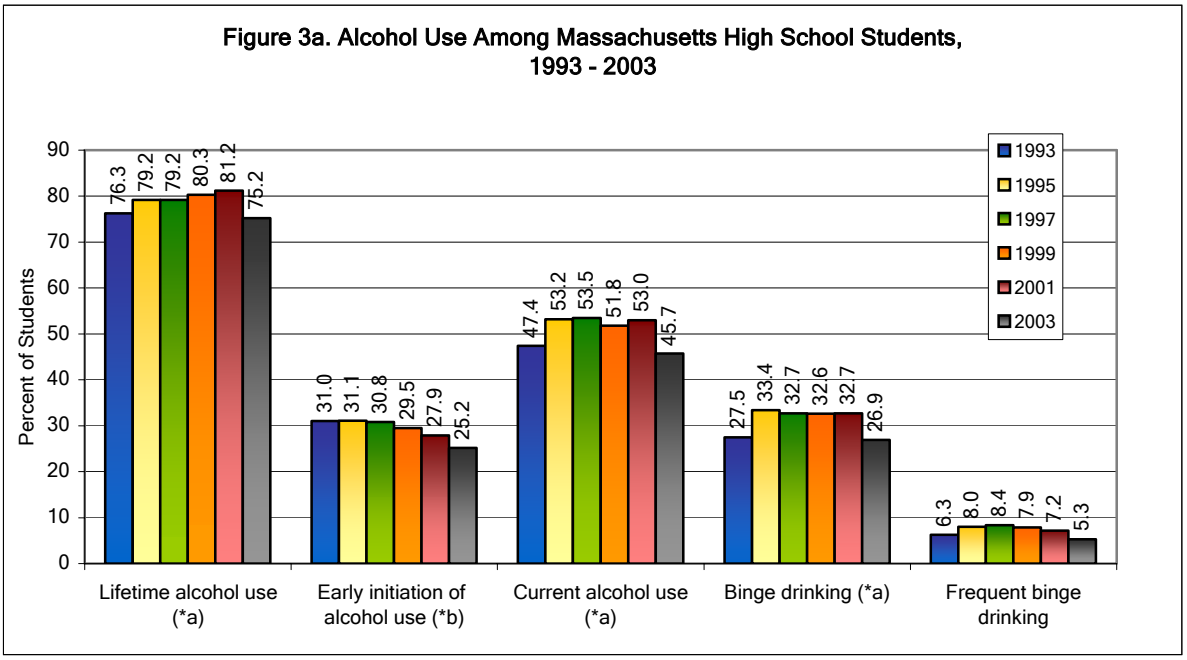
Binge drinking: five or more alcoholic drinks in a row, within a couple of hours, in the 30 days before the survey; and

Frequent binge drinking: six or more episodes of binge drinking in the month prior to the survey. On average, this represents more than one heavy drinking episode per week.

RESULTS

LIFETIME ALCOHOL USE

- In 2003, three-quarters (75%) of all high school students had consumed alcohol in their lifetimes (i.e., lifetime alcohol use). After significantly increasing between 1993 and 2001, the percent of students who reported lifetime use significantly decreased from 2001 to 2003 (see Figure 3a).
- Male and female students were equally as likely to have had a drink in their lifetimes: 76% of males and 75% of females reported lifetime alcohol use.
- Significantly fewer freshmen (65%) reported lifetime alcohol use than did sophomores (76%), juniors (78%), and seniors (83%).
- There were significant racial/ethnic differences in the percent of students who reported lifetime alcohol use. Students of Other or Multiple Ethnicity were most likely to report lifetime use (78%) followed by Hispanic students (77%), White students (76%), Black students (66%), and Asian students (60%).



*(*a) Statistically significant decrease from 2001, p<.05; (*b) Statistically significant decrease from 1999, p<.05*

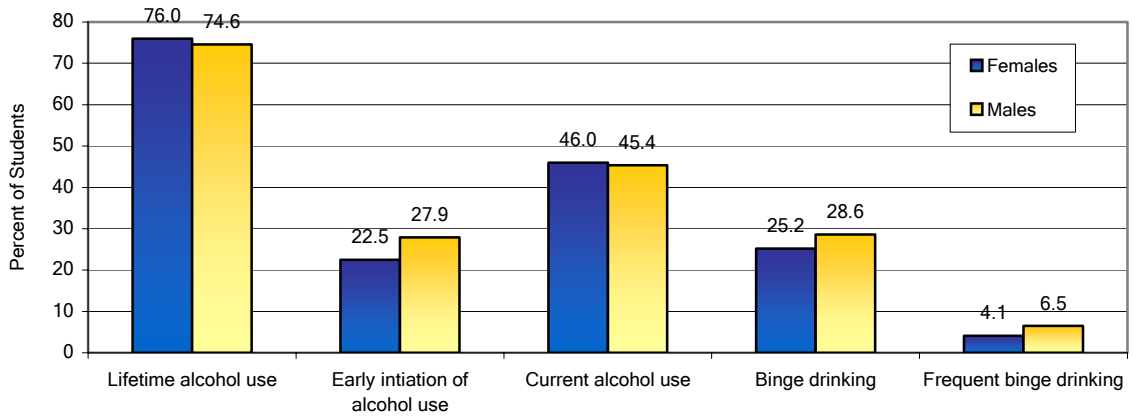
EARLY INITIATION OF ALCOHOL USE

- One-quarter of all students (25%) had their first drink of alcohol before age 13. This represents a significant decrease since 1999, when 30% of students reported early initiation of alcohol use.
- Male were slightly more likely than females to report having their first drink of alcohol before age 13 (28% of male students and 23% of female students)(see Figure 3b).
- Students in older grades (juniors and seniors) were less likely than students in younger grades (freshman and sophomores) to report early initiation of alcohol use.[42] Thirty-two percent (32%) of freshmen, 28% of sophomores, 19% of juniors, and 20% of seniors reported having a drink of alcohol before age 13.
- Drinking before age 13 was significantly more common among Black and Hispanic students (32% and 33% respectively) than among White students (23%). The highest percentage of early drinking was found among students of Other or Multiple Ethnicity (34%). One-quarter (25%) of Asian students reported drinking before age 13.
- Of all students who had ever had a drink of alcohol, those who had their first drink before age 13 were significantly more likely than students who started drinking later in life to be current drinkers (73% vs. 61%), binge drinkers (46% vs. 34%), and frequent binge drinkers (14% vs. 4%).

CURRENT ALCOHOL USE

- Less than half (46%) of all students in 2003 had consumed an alcoholic drink in the 30 days before the survey (i.e., current alcohol use). After remaining virtually unchanged

Figure 3b. Alcohol Use Among Massachusetts High School Students by Gender, 2003



since 1995, the rate of current drinking decreased significantly in 2003 (down from 53% in 2001).

- Current drinking decreased slightly among both males and females: 45% of male students reported having a drink in the month before the survey (down from 54% in 2001) and 46% of female students reported current drinking (down from 52% in 2001).

- Freshmen were significantly less likely than students in all other grades to report drinking in the month before the survey; 37% of freshmen, 44% of sophomores, 48% of juniors, and 57% of seniors reported current drinking.

- Current drinking was most common among students of Other or Multiple Ethnicity (50%) and White students (47%). Forty-two percent (42%) of Hispanic students, 37% of Black students, and 28% of Asian students reported current drinking (see Figure 3c).

- The single largest group of current drinkers (45%) drank alcohol on one or two of the 30 days before the survey. Roughly 30% of current drinkers, however, drank on six or more days during the 30-day period, amounting to more than once per week.

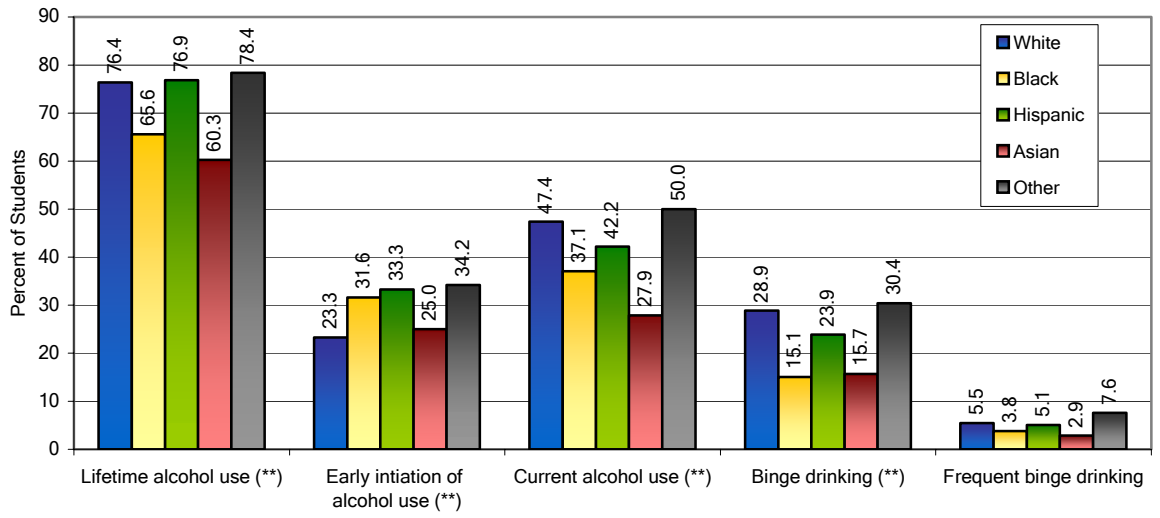
- Roughly 5% of all students consumed alcohol on school property at least once in the 30 days before the survey. The majority of students who drank on school property (70%) did so on only one or two occasions in the 30-day period.

BINGE DRINKING

- Binge drinking is defined as consuming five or more drinks in a row within a couple of hours. Twenty-seven percent (27%) of all students reported at least one episode of binge drinking during the 30 days before the survey, and 5% reported six or more episodes, i.e. frequent binge drinking.

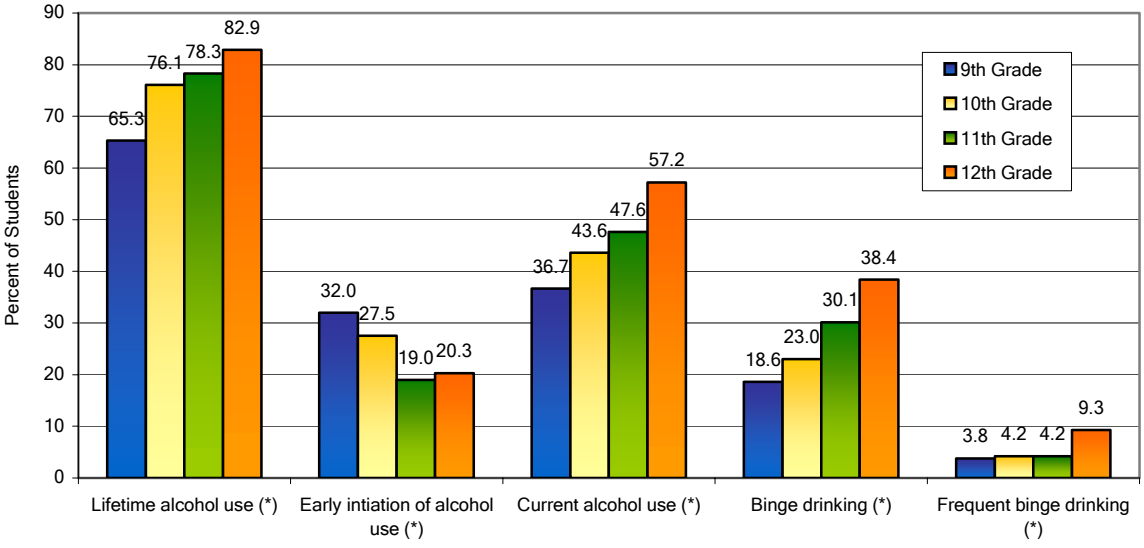
- Binge drinking and frequent binge drinking were equally as common among males and females: 29% of males and 25% of females reported binge drinking, and 7% of males and 4% of females reported frequent binge drinking.

Figure 3c. Alcohol Use Among Massachusetts High School Students by Race/Ethnicity(a), 2003



(**) Statistically significant difference between groups, p<.01; Note: (a) See Table 1 on page 2 for a detailed explanation of racial/ethnic categories.

Figure 3d. Alcohol Use Among Massachusetts High School Students by Grade, 2003



(*) Statistically significant difference between grades, p<.05

- Students in older grades were more likely than students in younger grades to report binge drinking and frequent binge drinking (see Figure 3d).

- Similar to current drinking, binge drinking was most common among students of Other or Multiple Ethnicity (30%) and White students (29%). Each of these groups reported significantly more binge drinking than Black students (15%). Twenty-four percent (24%) of Hispanic students and 16% of Asian students also reported binge drinking.

- There were no significant racial/ethnic differences in the rate of frequent binge drinking: 8% of students of Other or Multiple Ethnicity, 6% of White students, 5% of Hispanic students, 4% of Black students, and 3% of Asian students reported frequent binge drinking.

- The majority (59%) of students who reported any current drinking also reported engaging in binge drinking at least once in 30 days before the survey. Twelve percent (12%) of current drinkers engaged in frequent binge drinking (i.e., six or more times in the month before the survey).

ALCOHOL USE AND OTHER RISK BEHAVIORS

- Among students who ever had a drink in their lives, students who reported current alcohol use were significantly more likely than students who did not drink the month before the survey to report:
  - Lifetime drug use (74% vs. 43%),
  - current drug use (53% vs. 18%),
  - Lifetime sexual intercourse (58% vs. 38%),
  - Recent sexual intercourse (44% vs. 28%),
  - Attempting suicide (11% vs. 6%),
  - Carrying a weapon (20% vs. 9%),
  - Being in a physical fight (40% vs. 28%),
  - Experiencing dating violence (14% vs. 9%), and
  - Experiencing sexual contact against their will (13% vs. 9%).

ALCOHOL USE AND ACADEMIC ACHIEVEMENT

- All measures of alcohol use were associated with significantly lower rates of academic achievement. In particular:
  - Eighty-five percent (85%) of current drinkers reported receiving mostly A's, B's, or C's in the previous year compared to 91% of non-drinkers.
  - Seventy-nine percent (79%) of frequent binge drinkers reported receiving mostly A's, B's, or C's in the previous year compared to 88% of their peers (who were not frequent binge drinkers).

PROTECTIVE FACTORS FOR ALCOHOL USE

- Current drinking was significantly less common among students who were involved in volunteer work and/or community service (42% vs. 48% of students who were not involved in volunteer work and/or community service), and among students who participated in extracurricular activities (40% vs. 51% of students who did not participate in extracurricular activities).

ADDITIONAL FINDINGS

- Certain groups of students were significantly more likely than their peers to report current alcohol use:
  - Students in rural school districts had the highest rate of binge drinking (31% vs. 28% in suburban districts and 24% in urban districts).
  - Current alcohol use increased – though not significantly - with length of time lived in the U.S., such that 46% of U.S.-born students were current drinkers compared to only 34% of recent immigrants.
  - Sexual minority youth were significantly more likely than other students to report current alcohol use (60% vs. 45%) and binge drinking (44% vs. 26%).

SUMMARY OF RESULTS

(Also see Appendix C, Table 3)

For the first time in the history of the Massachusetts YRBS, significant decreases were observed in lifetime alcohol use, early initiation of alcohol use, current drinking, and binge drinking. Still it remains that the vast majority of public high school students in Massachusetts have tried alcohol at some point in their lives. Slightly less than half drank alcohol in the 30 days before the survey and one-quarter engaged in at least one episode of binge drinking during that time. Unlike previous years, male and female students were equally as likely to report binge drinking and frequent binge drinking in 2003. The prevalence of alcohol use increased with grade in school, and was highest among White students, Hispanic students, and students of Other or Multiple Ethnicity.

IMPLICATIONS AND RECOMMENDATIONS

The significant decreases in alcohol use behaviors seen in the 2003 MYRBS results are particularly encouraging. Prior to 2003, the rates of lifetime alcohol use, early initiation of alcohol use, current alcohol use, binge drinking, and frequent binge drinking had remained virtually unchanged since 1995. However, the 2003 results also show that alcohol continues to be the popular substance of choice among Massachusetts high school students; it is more commonly used than tobacco, marijuana, or any illegal drug. In 2003, nearly half of all public high school students in Massachusetts drank alcohol at least once in the month before the survey, and most of those current drinkers engaged in binge drinking at least once in the same time period. Alcohol consumption among youth – especially at the levels reported here – poses serious threats to health and safety, with immediate consequences such as alcohol poisoning and motor vehicle accidents, and long-term morbidity from alcohol dependence. In addition, alcohol use has been shown to be associated with violence, suicide, substance use, and unsafe sexual activity.

These findings suggest the need for programs aimed to prevent the misuse of alcohol and that these programs be integrated in comprehensive school health education. Further, school-based programs to prevent underage drinking and to educate students about the health consequences of alcohol may be most effective when combined with other community efforts aimed at prevention and treatment of alcohol and other substance abuse. Finally, schools, parents, and communities should work together to limit adolescents' access to alcohol.

4 CHAPTER 4
ILLEGAL DRUG USE

INTRODUCTION

Drug use costs taxpayers about $98 billion annually in preventable health care costs, extra law enforcement, auto crashes, crime, and lost productivity.[43] More importantly, the use of illegal drugs can have a devastating impact on a person's health and safety, leading to death and long-term disability. Illegal drug use has also been associated with injury, violence, unwanted sexual contact, teen pregnancy, school failure, and delinquency.[5]

An estimated 14 million Americans used an illegal drug in 2000.[5] Overall, the use of drugs in the U.S. has declined over the past two decades;[44] however in the past few years, prevalence rates of certain drugs in the *adolescent* population have shown no decline. Nationwide, rates of lifetime and current use of marijuana have remained relatively unchanged since 1997.[44] A similar trend has occurred in Massachusetts; in 1997, 1999, and 2001 about 50% of youth reported having ever smoked marijuana, about 31% in each year reported current use of marijuana.[15,45,46]

Nationwide and in Massachusetts, marijuana is the most commonly used drug among adolescents.[15,20] This chapter will present the most recent prevalence rates of marijuana use – both lifetime and current – as well as lifetime rates for a variety of other illegal drugs including ecstasy, cocaine, methamphetamines, steroids, and heroin.[15] Many of the drug questions on the MYRBS questionnaire have changed between administrations making it difficult to report trends in the use of specific drugs. However, prevalence trends are shown of those drugs for which there are multiple years of data.

In addition, students were asked to report their use of needles to inject drugs, their use of marijuana on school property, and if they were offered or sold drugs on school property in the 12 months before the survey.

RESULTS

LIFETIME USE OF ILLEGAL DRUGS

- In 2003, 47% of high school students reported lifetime use of illegal drugs, that is they reported having ever used at least one of the following: marijuana, cocaine, MDMA (i.e., ecstasy), heroin, methamphetamines, steroids, or some other illegal drug (such as inhalants, LSD, PCP, mushrooms, Ketamine, Rohypnol, or GHB).
- Male and female students were equally as likely to report any lifetime illegal drug use (49% and 45% respectively).
- About one-third (34%) of 9th grade students had used an illegal drug in their lifetimes. By the end of senior year, 61% of students had used an illegal drug in their lifetimes.
- Lifetime use of any illegal drug did not vary significantly by race/ethnicity.
- Among students who reported using any illegal drug use in their lifetimes, over half (63%) used

KEY FINDINGS FROM THE 2003 MYRBS:

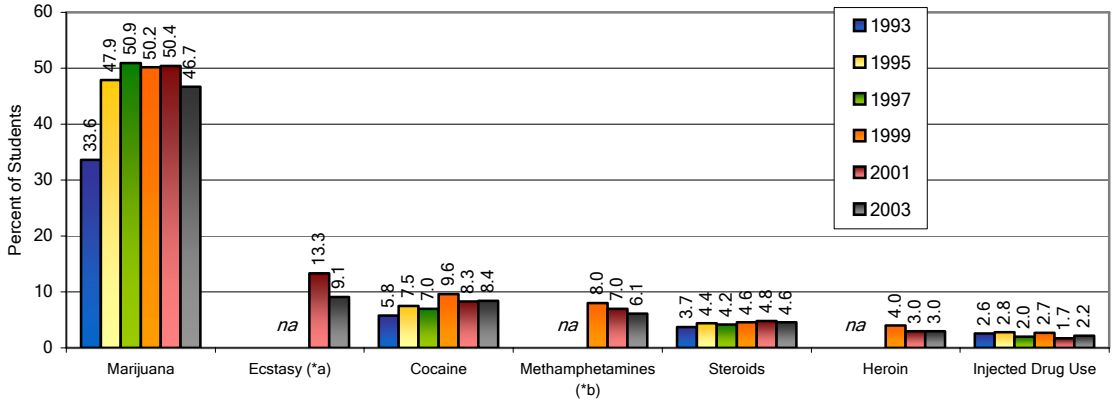
- Significant decreases were observed in:
  - Lifetime ecstasy use: down from 13% in 2001 to 9% in 2003
  - Lifetime methamphetamine use: down from 8% in 1999 to 6% in 2003
  - Marijuana use on school property: down from 9% in 1999 to 6% in 2003
  - Being offered, sold, or given drugs on school property: down from 42% in 1997 to 32% in 2003
- Male students were significantly more likely than female students to have used marijuana before age 13, to have used marijuana on school property, to have used illegal steroids in their lifetimes, and to have been offered, sold, or given drugs on school property.
- Measures of drug use were consistently higher among students of Other or Multiple Ethnicity.
- Lifetime use of ecstasy and cocaine increased with grade in school, while current use of inhalants was more common among students in younger grades than among students in older grades.

marijuana exclusively. Among all students, marijuana was the most commonly used drug, followed by the category of other drugs (13%) and ecstasy (9%).

Marijuana

- Slightly less than half (47%) of all high school students reported ever using marijuana in their lifetimes. The rate of lifetime marijuana use increased significantly from 1993 (34%) to 1997 (51%), but has not changed significantly since then (see Figure 4a).
- Unlike in 2001 when male students were significantly more likely than female students to report lifetime use, in 2003 male and female students were equally as likely to have used marijuana in their lifetimes.
- Lifetime marijuana use increased significantly with grade in school: 33% of freshman, 46% of sophomores, 51% of juniors, and 61% of seniors reported using marijuana in their lifetimes.
- There were no significant racial/ethnic differences in the rate of lifetime marijuana use: 48% of White students, 41% of Black students, 45% of Hispanic students, 32% of Asian students, and 50% of students of Other or Multiple Ethnicity reported lifetime use.
- Twenty-three percent (23%) of lifetime marijuana users (11% of all students) used marijuana for the first time before age 13 years. Among students who ever used marijuana, those who did so for the first time before age 13 were significantly more likely than their peers (who used marijuana for the first time after age 13) to report:
  - Current marijuana use (80% vs. 54%),
  - Current inhalant use (20% vs. 6%),
  - Ecstasy use in lifetime (37% vs. 13%),
  - Cocaine use in lifetime (37% vs. 11%),
  - Methamphetamine use in lifetime (30% vs. 7%),
  - Steroid use in lifetime (21% vs. 5%),
  - Heroin use in lifetime (16% vs. 2%), and
  - Other drug use in lifetime (51% vs. 21%).

Figure 4a. Lifetime Use of Illegal Drugs Among Massachusetts High School Students, 1993 to 2003



*(*a) Statistically significant decrease from 2001, p<.05 (*b) Statistically significant decrease from 1999, p<.05; Note: (na) measure not available in all years*

Ecstasy

- Nine percent (9%) of all students reported using ecstasy in their lifetimes. This represents a significant decrease from 13% reported in 2001, the first year that ecstasy use was measured. Ecstasy was the third most widely used drug, behind marijuana and the category of "other drugs" which may include inhalants, LSD, PCP, mushrooms, Ketamine, Rohypnol, and GHB.

- One-quarter (25%) of all lifetime ecstasy users used the drug ten or more times. However, nearly half (47%) used ecstasy only one or two times.

- Male and female students were equally as likely to have ever used ecstasy (9% each).

- Significantly more seniors reported lifetime ecstasy use than did freshmen (13% vs. 6% respectively). Eight percent (8%) of sophomores and 9% of juniors also reported using ecstasy in their lifetimes.

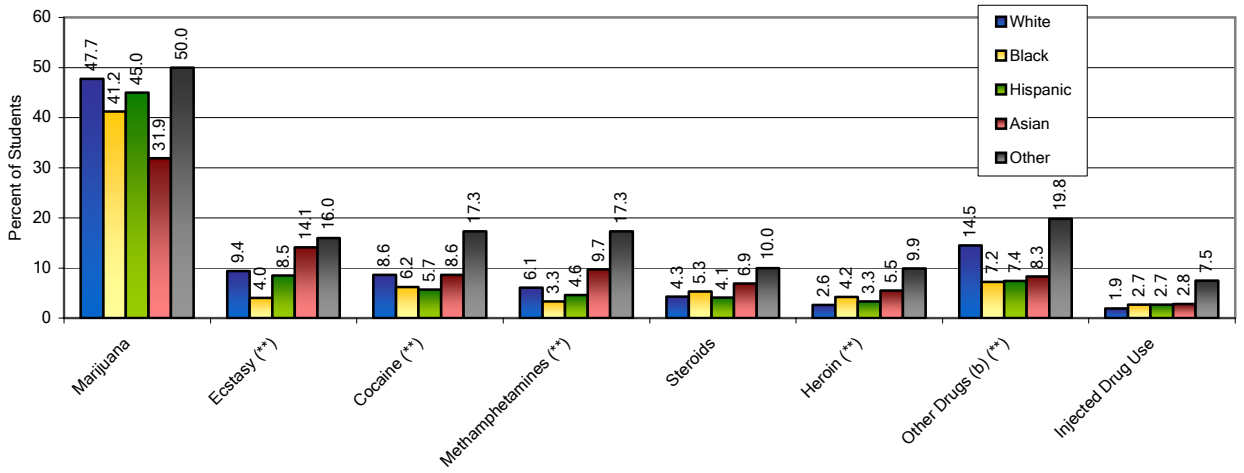
- Black students were significantly less likely than White students or students of Other or Multiple Ethnicity to have used ecstasy in their lifetimes. Only 4% of Black students reported ever using ecstasy, compared to 9% of Hispanic students, 9% of White, 14% of Asian students, and 16% of students of Other or Multiple Ethnicity (see Figure 4b).

Cocaine

- About 8% of all high school students used cocaine in their lifetimes. The rate of lifetime cocaine use has not changed significantly since 1995.

- Forty-two percent (42%) of students who had ever used cocaine used the drug only once or twice. Twenty percent (20%) used the drug twenty or more times.

Figure 4b. Lifetime Use of Illegal Drugs Among Massachusetts High School Students by Race/Ethnicity(a), 2003



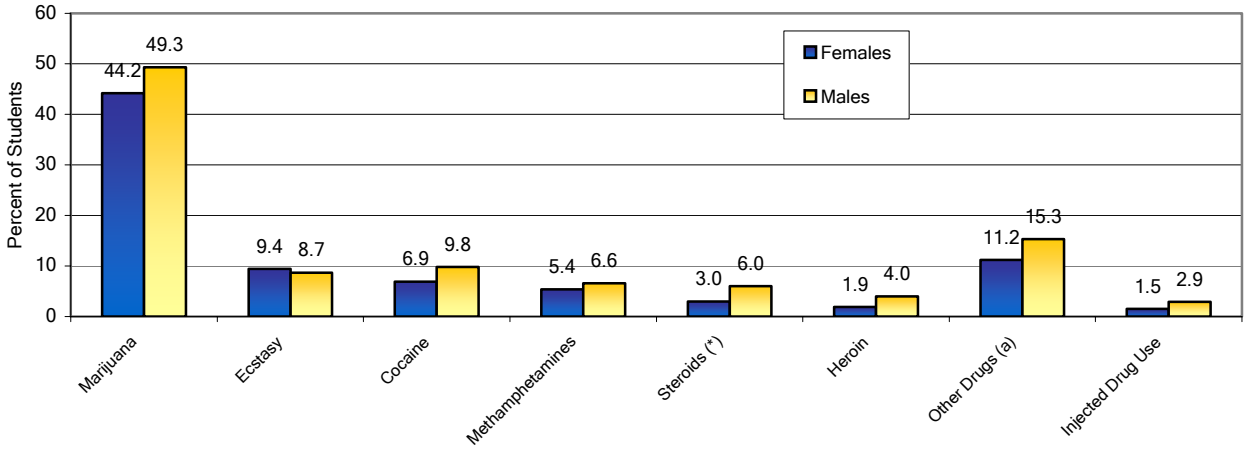
(**) Statistically significant difference between groups, p<.01; Notes: (a) See Table 1, page 2, for a detailed explanation of racial/ethnic categories; (b) Other drugs such as inhalants, LSD, PCP, mushrooms, Ketamine, Rohypnol, or GHB

- Ten percent (10%) of male students and 7% of female students used cocaine in their lifetimes.
- Seniors were twice as likely as freshmen to have ever used cocaine (12% vs. 6% respectively). Eight percent (8%) of sophomores and 7% of juniors also reported lifetime cocaine use.
- Students of Other or Multiple Ethnicity were the most likely to report lifetime cocaine use: 17% of students in this category had ever used cocaine. Nine percent (9%) of White students, 9% of Asian students, 6% of Black students, and 6% of Hispanic students reported lifetime cocaine use.

Methamphetamines

- Six percent (6%) of high school students used methamphetamines (also called crank, speed, crystal, or ice) at least once in their lifetimes. Lifetime use of methamphetamines decreased significantly from 8% in 1999.
- More than half (54%) of all students who had ever used methamphetamines did so only one or two times. Nearly one-third (31%) used the drug ten or more times.
- Seven percent (7%) of male students and 5% of female students report ever using methamphetamines.
- There were no significant grade differences in lifetime methamphetamine use: 6% of freshmen, 5% of sophomores, 5% of juniors, and 7% of seniors had used methamphetamines.
- Students of Other or Multiple Ethnicity were significantly more likely than White, Black, and Hispanic students to report lifetime methamphetamine use (17% and 6%, 3%, and 5% respectively). Ten percent (10%) of Asian students used methamphetamines.

Figure 4c. Lifetime Use of Illegal Drugs Among Massachusetts High School Students by Gender, 2003



(*) Statistically significant difference between male and female students, p<.05; Note: (a) Other drugs such as inhalants, LSD, PCP, mushrooms, Ketamine, Rohypnol, or GHB

Steroids

- Five percent (5%) of all students used steroids without a doctor's prescription. The rate of lifetime illegal steroid use has not changed significantly since 1993.
- Among students who had ever used steroids, 38% did so only one or two times; 40% used steroids ten or more times.
- Male students were twice as likely as female students (6% vs. 3% respectively) to have reported illegal steroid use (see Figure 4c).
- Students in all grades were equally as likely to report illegal steroid use: 4% of freshmen, 5% of sophomores, 4% of juniors, and 5% of seniors had used steroids in their lifetimes.
- Four percent (4%) of White students, 5% of Black students, 4% of Hispanic students, 7% of Asian students, and 10% of students of Other or Multiple Ethnicity had used steroids in their lifetimes.

Heroin

- Only 3% of all students reported ever using heroin. The rate of lifetime heroin use has not changed significantly since 1999.
- Thirty-percent (30%) of students who had used heroin in their lifetimes used the drug only one or two times. However, nearly half (47%) of students who had ever used heroin used the drug ten or more times.
- Males were slightly more likely than females to report lifetime heroin use (4% vs. 2% respectively).
- Lifetime heroin use rates did not differ significantly by grade. All four grades had rates between 2% and 3% (see Figure 4d).
- Students of Other or Multiple Ethnicity were significantly more likely than White students to report heroin use (10% vs. 3% respectively). Four percent (4%) of Black students, 3% of

Hispanic students, and 6% of Asian students also reported lifetime heroin use.

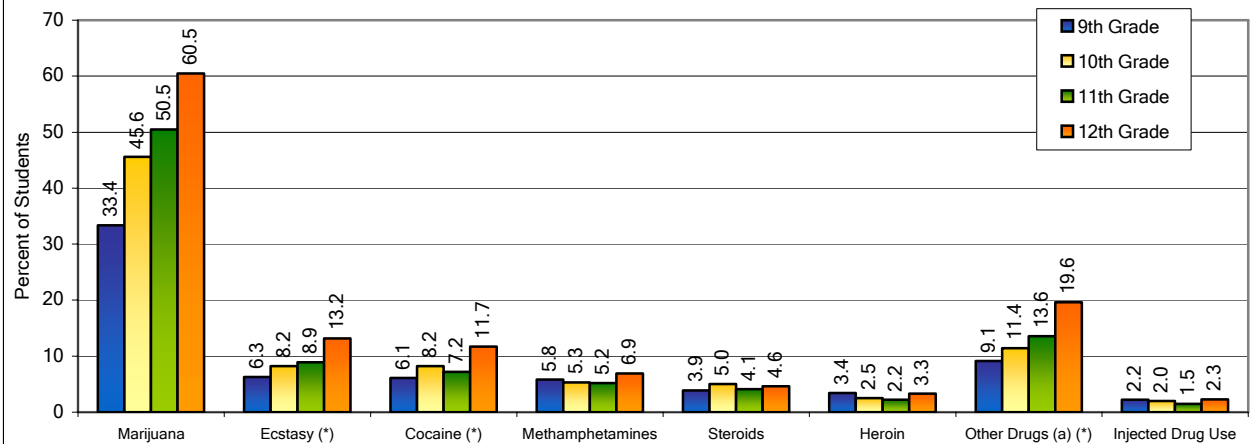
Other Drugs

- Roughly 13% of high school students reported ever using other drugs such as inhalants, LSD, PCP, mushrooms, Ketamine, Rohypnol, or GHB in their lifetimes. Changes in question wording over time prohibit comparisons between years.
- Male students had a slightly higher rate of other drug use than females (15% vs. 11% respectively).
- Seniors were significantly more likely than freshmen and sophomores to report other drug use in their lifetimes (20% vs. 9% and 11% respectively). Fourteen percent (14%) of juniors reported other drug use.
- Students of Other or Multiple Ethnicity (20%) and White students (15%) were significantly more likely than Black students (7%) or Hispanic students (7%) to report other drug use in their lifetimes. Eight percent (8%) of Asian students reported other drug use.

Injected Drug Use

- Two percent (2%) of high school students reported ever using a needle to inject illegal drugs.
- Male and female students were equally as likely to report injected drug use (3% vs. 2% respectively).
- Injected drug use did not vary significantly by grade. Two percent (2%) of each grade reported injected drug use.
- The highest rate of injected drug use was observed among students of Other or Multiple Ethnicity (8%); however, this rate was not significantly higher than the rates observed in other groups. Two percent (2%) of White students and 3% of Black, Hispanic, and Asian students reported injected drug use.

Figure 4d. Lifetime Use of Illegal Drugs Among Massachusetts High School Students by Grade, 2003



(*) Statistically significant difference between grades, p<.05; Note: (a) Other drugs such as inhalants, LSD, PCP, mushrooms, Ketamine, Rohypnol, or GHB

CURRENT DRUG USE

- Three out of five (61%) students who had ever used an illegal drug in their lifetimes, used a drug in the 30 days before the survey (i.e. current drug use). In all, about 30% of Massachusetts high school students were current drug users in 2003; that is, they reported using marijuana, inhalants, or any other illegal drug in the 30 days before the survey.

- Among current drug users, 67% used marijuana exclusively, 7% used a drug other than marijuana only, and 26% used both marijuana and some other drug.

- Any current drug use was significantly more common among male students (32%) than among female students (28%).

- One-quarter (24%) of freshmen used a drug in the thirty days before the survey. Thirty percent (30%) of sophomores, 29% of juniors, and 38% of seniors were current drug users in 2003.

- The highest rate of any current drug use was found among students of Other or Multiple Ethnicity (36%). Additionally, 30% of White students, 26% of Black students, 29% of Hispanic students, and 18% of Asian students reported current illegal drug use.

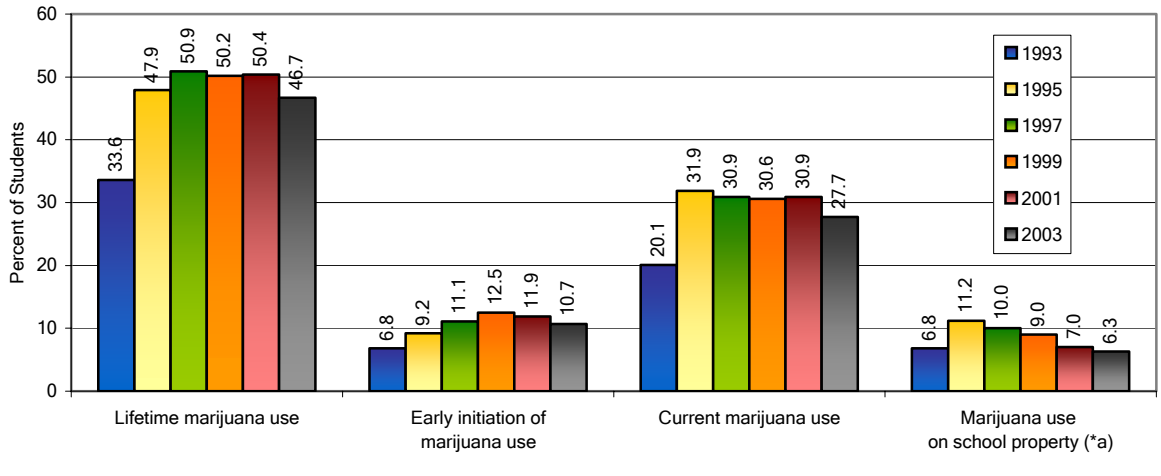
Marijuana

- Approximately 28% of high school students used marijuana in the 30 days before the survey. The rate of current marijuana use, which increased significantly from 1993 to 1995, has not changed significantly since 1995.

- Thirty-one percent (31%) of male students and 25% of female students used marijuana in the 30 days before the survey.

- Significantly more seniors (37%) than freshmen (21%) reported current marijuana use. Twenty-eight percent (28%) of sophomores and 27% of juniors reported current marijuana use.

Figure 4e. Marijuana Use Among Massachusetts High School Students, 1993 - 2003



*(*a) Statistically significant decrease from 1999, p<.05*

- Thirty-three percent (33%) of students of Other or Multiple Ethnicity, 28% of White students, 25% of Black students, 25% of Hispanic students, and 13% of Asian students reported current marijuana use.

- Among students who reported current marijuana use, 33% used the drug one or two times in the 30 days before the survey. Forty-three percent (43%) used marijuana ten or more times during the 30-day period, an average of more than twice per week. One in five current marijuana users (20%) used the drug more than once a day (i.e., 40 or more times in the 30-day period).

- Most (60%) students who had ever used marijuana also reported current marijuana use, suggesting that one-time experimentation with marijuana was rare.

Inhalants

- Six percent (6%) of all high school students used inhalants in the month before the survey.

- Male and female students were equally as likely to have used inhalants in the month before the survey (6% each).

- Freshmen were the most likely to use inhalants in the month before the survey (8% of freshmen vs. 5% of sophomores, 4% of juniors, and 3% of seniors).

- The highest rate of current inhalant use was found among students of Other or Multiple Ethnicity (13%). Five percent (5%) of White students, 8% of Black students, 8% of Hispanic students, and 6% of Asian students reported current inhalant use.

Other Drugs

- Students were asked to report their use of any illegal drug other than marijuana or inhalants in the 30 days before the survey. This includes any drug such as cocaine, heroin, methamphetamines, ecstasy, or other illegal drugs. Seven percent (7%) of students reported current use of other drugs.

- Eight percent (8%) of males and 7% of females reported current use of other drugs.

- Students in all grades were equally as likely to report other current drug use. Six percent (6%) of freshmen, 7% of sophomores, 7% of juniors, and 9% of seniors reported current use of other drugs.

- There were no significant race/ethnicity differences in the prevalence of other current drug use. Eight percent (8%) of White students, 5% of Black students, 6% of Hispanic students, 7% of Asian students, and 14% of students of Other or Multiple Ethnicity reported current use of other drugs.

ILLEGAL DRUGS ON SCHOOL PROPERTY

- Six percent (6%) of high school students used marijuana on school property in the thirty days before the survey. This is a significant decrease from 9% in 1999. This continues a slow downward trend begun in 1995 when 11% of students used marijuana on school property.

- Thirty-two percent (32%) of all students were offered, sold, or given illegal drugs on school property in the year before the survey. This represents a significant decrease from 42% reported in 1997.

- Students in all four grades were equally as likely to be offered, sold, or given drugs on school property, and rates also did not vary across racial/ethnic groups. Males were significantly more likely than females to be offered, sold, or given drugs on school property (37% vs. 27%).

ILLEGAL DRUG USE AND OTHER RISK BEHAVIORS

- We have already seen that illegal drug use is significantly associated with current smoking and alcohol use. In 2003, students who were current drug users were also significantly more likely their peers who do not use drugs to report most other risk behaviors including:
  - Drinking and driving (28% vs. 4%);
  - Lifetime sexual intercourse (68% vs. 30%);
  - Sexual intercourse before age 13 (10% vs. 3%);
  - Recent sexual intercourse (52% vs. 20%),
  - Having ever been or gotten someone pregnant (8% vs. 2%),
  - Having attempted suicide (15% vs. 5%),
  - Carrying a weapon (26% vs. 7%),
  - Carrying a gun (8% vs. 1%),
  - Being involved in a gang (16% vs. 6%),
  - Being in a physical fight (49% vs. 22%),
  - Having experienced unwanted sexual contact (16% vs.7%), and
  - Having experienced dating violence (17% vs. 7%).

ILLEGAL DRUG USE AND ACADEMIC ACHIEVEMENT

- Lifetime and current drug use were each associated with lower rates of academic achievement:
  - 84% of lifetime drug users reported receiving mostly A's, B's, or C's in the past year compared to 91% of students who never used illegal drugs.
  - 80% of current drug users received mostly A's, B's, or C's in the past year compared to 91% of students who were not currently using illegal drugs.

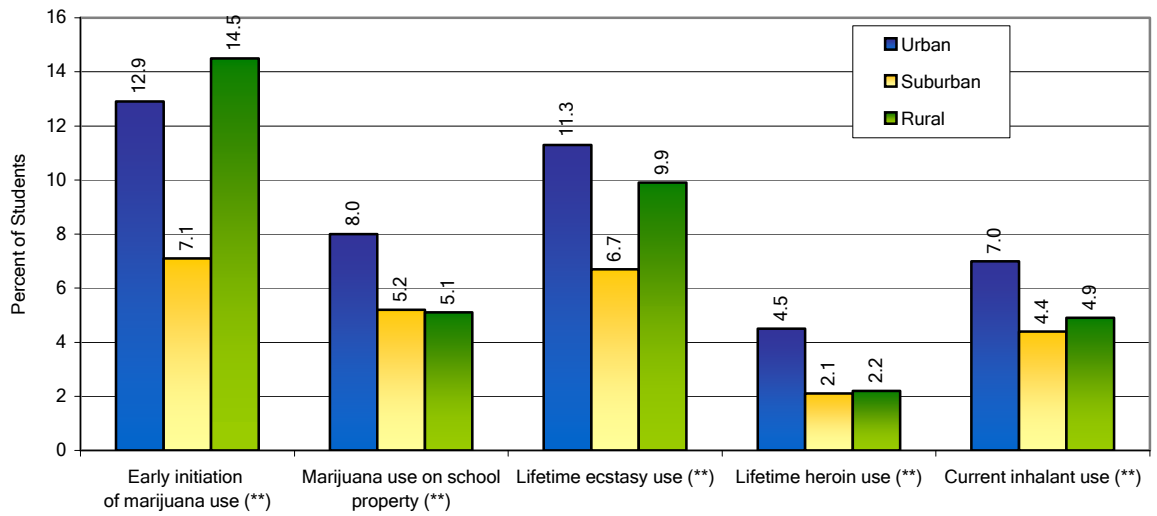
PROTECTIVE FACTORS FOR ILLEGAL DRUG USE

- Having an adult family member to talk to about important things was significantly associated with a lower rate of current drug use. Twenty-seven percent (27%) of students who perceived family support in this way were current drug users, compared to 39% of students who did not perceive family support.
- Students who believed there was a teacher or other adult in their school they could talk to about a problem were less likely than their peers who did not perceive teacher support to report current drug use (27% vs. 34%).
- Students who participated in the following activities reported significantly lower rates of current drug use than students who did not participate in the activity: Volunteer work or community service (24% vs. 34%); extracurricular activities (23% vs. 37%); and sports (27% vs. 33%).

ADDITIONAL FINDINGS

- Sexual minority youth were significantly more likely than other students to report lifetime drug use (73% vs. 46%) and current drug use (49% vs. 29%).

Figure 4f. Significant Differences in Illegal Drug Use Among Massachusetts High School Students in Urban, Surburban, and Rural Communities, 2003



(**) Statistically significant difference between groups, p<.01

- Students in urban communities were significantly more likely than students in suburban communities to report early initiation of marijuana use, lifetime use of any drug, lifetime use of ecstasy, lifetime use of heroin, current use of inhalants, and marijuana use on school property. However, rural students had the highest rate of early marijuana use and were just as likely as urban students to report ecstasy use (see Figure 4f).

- Lifetime and current drug use were significantly less common among recent immigrants than among students who lived in the U.S. longer than 6 years. Nearly half (48%) of U.S.-born students used illegal drugs in their lifetimes, and 30% used an illegal drug in the month before the survey. Only about one-quarter (27%) of recent immigrants used a drug in their lifetimes and 17% were current drug users.

SUMMARY OF RESULTS

(Also see Appendix C, Table 4)

The 2003 MYRBS results document significant decreases in the lifetime use of ecstasy and methamphetamines. Additionally, significantly fewer students in 2003 reported being using marijuana on school property or being offered, sold, or given drugs on school property. Still, nearly half of all Massachusetts high school students have used an illegal drug in their lifetimes, and three in ten students can be considered current illegal drug users (having used an illegal drug in the 30 days before the survey). Lifetime and current rates of marijuana use have not shown any significant decline since 1995, and many current marijuana users in 2001 were using the drug as often as twice per week. Finally, male and female students were equally as likely to use most drugs, and lifetime use of all drugs was more common among students of

Other or Multiple Ethnicity than among students of other racial/ethnic groups.

Urban students, U.S.-born students, and sexual minority youth were more likely to use drugs than were their peers. Many factors were associated with lower rates of drug use including perceived family and teacher support and participation in volunteer work, extracurricular activities, and sports. Finally, lifetime and current drug users were significantly less likely than their peers to report academic achievement.

IMPLICATIONS AND RECOMMENDATIONS

Massachusetts can be encouraged by the significant decreases in ecstasy use and methamphetamine use, and the significant declines in drug trafficking and marijuana use on school property. In addition, the rate of lifetime marijuana use has finally dipped below fifty percent, and for the first time it can be said that fewer than half of all Massachusetts high school students have tried an illegal drug in their lifetimes. However, the use and availability of illegal drugs remain serious problems in Massachusetts. Lifetime and current rates of marijuana use in Massachusetts have been consistently above the national average since 1993,[18,19,20,47,48] and the rate of lifetime cocaine use increased slightly from 1993 to 1999 and has not changed since.

National data indicate that adolescents perceive less harm in illegal drug use than they did a decade ago and greater availability of drugs than in previous years.[49] Previous surveys of Massachusetts youth have found that marijuana is easy to obtain[50] – it is as easy to get as alcohol.[51] Even though there has been a significant decline in the percent of students who are offered, sold, or given drugs on school property, the 2003 MYRBS data indicate the ease with which illegal drugs can still be obtained at school. Also, earlier YRBS data have shown that a higher percentage of Massachusetts youth, as compared to youth across the county, report having been offered, sold, or given an illegal drug on school property.[19,20] Because both perceived risk and perceived availability are key correlates of drug use,[52] this information suggests that schools and communities should work together to educate young people about the negative physical, cognitive, emotional, and social consequences of drug use, while ensuring stronger and more vigilant enforcement of drug policies and laws.

Nearly every public school district in Massachusetts receives funds to promote safe and drug-free school environments. The *Safe and Drug Free Schools* grant program sets clear guidelines for implementing curricula and programs to prevent drug use among students. It is important that schools use curricula and programs that have been carefully evaluated and found to be effective.[53] Previous research has shown the association between illegal drug use and other risk behaviors.[15,45,46] For this reason it is important that schools address the issue of drug abuse in a comprehensive way, showing the relationships among risk behaviors and teaching skills-based approaches to help students avoid risky situations and decisions. Also, schools should work to create an environment in which all students believe there is a teacher or other school staff member that they can talk to about a problem, as having this teacher support is associated with a lower rate of drug use.

Although drug use is prevalent across all kinds of communities and is seen in every racial/ethnic group, certain groups appear to be at greater risk. The 2003 MYRBS results show consistently higher rates of illegal drug use among students of Other or Multiple Ethnicity and students in urban communities. These findings suggest a need for targeted prevention education programs designed to reduce illegal drug use among those students who

are most at risk and most likely to be using drugs. Also, because the prevalence of drug use increased with grade in school, substance abuse education needs to cross all grade levels, especially reaching students in early grades in order to prevent illegal drug use before it begins.

5 CHAPTER 5
VIOLENCE-RELATED BEHAVIORS & EXPERIENCES

INTRODUCTION

Violence poses many risks to the health and safety of our youth. In Massachusetts, homicide is the third leading cause of death of young people aged 15 to 24.[54] In the United States in 1997, there were, on average, 17 youth homicide victims per day; nearly 90% of these young people were killed by a firearm.[55] Nationally, over half of teen deaths by suicide involve the use of a gun,[56,57] and more teens die each year from gunshot wounds than from disease.[58] In addition, physical fighting can cause immediate injuries, and often precedes fatal violence among youth.[59] As many as 33% of Massachusetts high school students were involved in a physical fight in 2001.[15]

Further, according to the American Academy of Pediatrics, adolescents are more likely to experience sexually violent crimes than any other age group.[60] Sexual violence, including sexual coercion and assault, can have a devastating impact on healthy psychological development.[61] Teen dating violence has serious long-term consequences, both in itself and as a possible precursor to adult domestic violence.

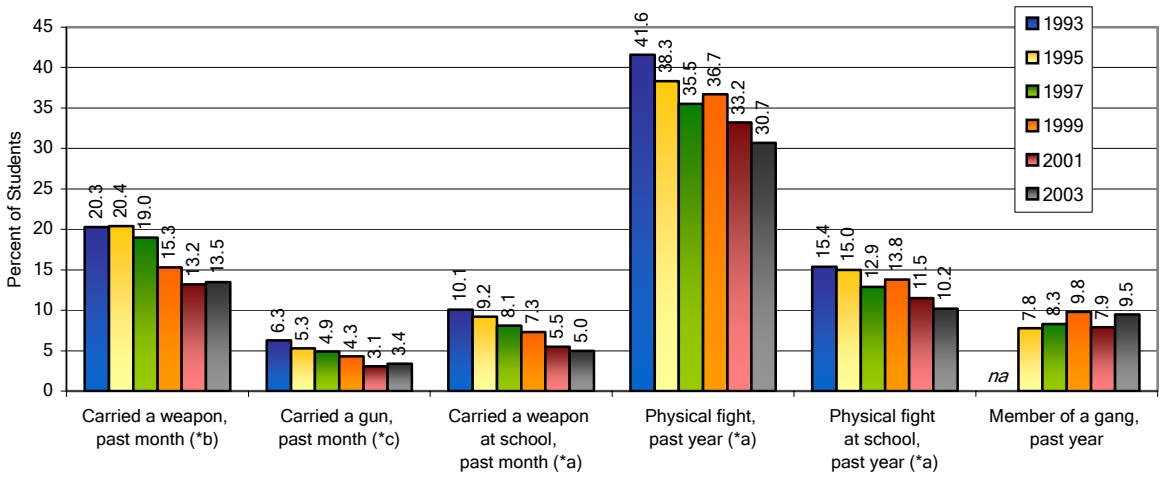
In recent years, issues of school safety have been moved to the forefront of public attention because of high-profile incidents of fatal school violence. Even among young people who are not directly involved or physically hurt by school violence, the threat or possibility of violence can make academic learning and achievement difficult, if not impossible. Past risk behavior surveys have found that many high school students report being threatened at school; a minority of these students sometimes avoid attending school because of fears for their own safety.[15,45,46]

The 2003 MYRBS included questions about weapon-carrying and physical fighting both on and off school property, threats and perceived safety at school, bullying victimization, gang-involvement, dating violence, and sexual abuse.

KEY FINDINGS FROM THE 2003 MYRBS

- **Weapon-carrying** and **physical fighting,** both on and off school property, have decreased significantly from previous years. Fourteen percent (14%) of students carried a weapon, 5% carried a weapon on school property, 31% were in a physical fight, and 10% were in a fight on school property in 2003.
- Significantly fewer students than in previous years **skipped school because they felt unsafe** or were **threatened or injured with a weapon at school** in 2003.
- Certain groups of students reported higher rates than their peers of violence-related behaviors. These groups included male students, students in younger grades, Black students, students of Other or Multiple Ethnicity, students in urban districts, recent immigrants, sexual minority students, and students with disabilities.

Figure 5a. Violence-Related Behaviors Among Massachusetts High School Students, 1993 to 2003



*(*a) Statistically significant decrease from 1999, p<.05; (*b) Statistically significant decrease from 1997, p<.05; (*c) Statistically significant decrease from 1993, p<.05; Note: (na) Measure not available in all years*

RESULTS

WEAPON-CARRYING AND PHYSICAL FIGHTING

Weapon-carrying

- Fourteen percent (14%) of all students carried a weapon in the 30 days before the survey. The rate of weapon-carrying has decreased steadily and significantly since 1995, when 20% of students reported carrying a weapon in the 30 days before the survey (see Figure 5a).

- Among students who reported carrying a weapon in the 30 days before the survey, 47% carried a weapon on 6 or more of the 30 days.

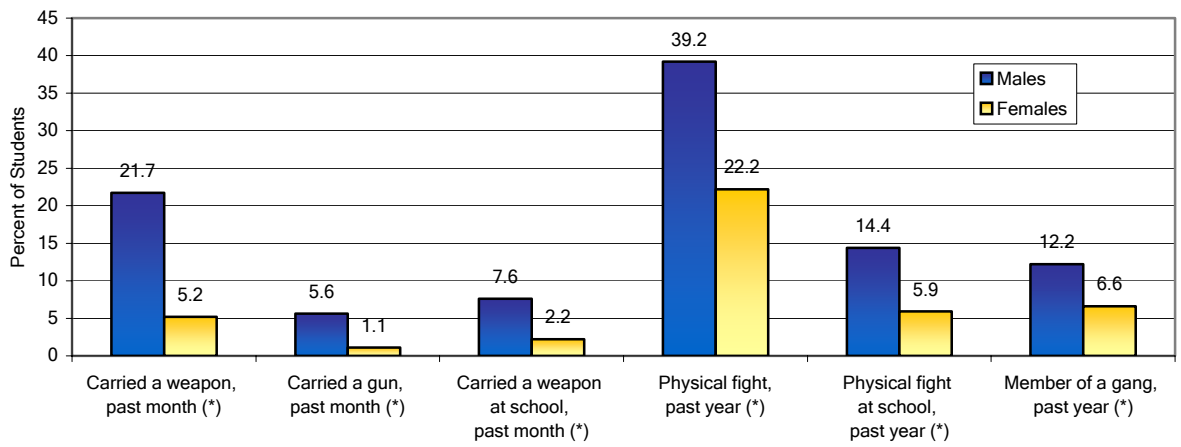
- As in the past, significantly more male students than female students reported carrying a weapon in the 30 days before the survey (22% vs. 5%, respectively).

- Ninth grade students and 12th grade students were equally as likely to have carried a weapon in the past month (15% and 16% respectively). Both grades were significantly more likely than 11th grade students (9%) to have carried a weapon. Thirteen percent (13%) of 10th grade students carried a weapon.

- The highest rate of weapon-carrying was found among Black students (24%), followed by students of Other or Multiple Ethnicity (21%), Hispanic students (16%), Asian students (15%), and White students (12%).

- Three percent (3%) of all students (25% of students who carried a weapon) reported carrying a **gun** in the 30 days before the survey. The percent of students who reported carrying a gun decreased significantly from 6% in 1993 to 3% in 2003.

Figure 5b. Violence-Related Behaviors Among Massachusetts High School Students by Gender, 2003



(*) Statistically significant difference between male and female students, p<.05

- Male students were more likely than female students to have carried a gun in the 30 days before the survey (6% vs. 1%, respectively).

- Gun-carrying did not vary significantly across grades: 4% of 9th graders, 3% of 10th graders, 2% of 11th graders, and 4% of 12th graders reported carrying a gun in the 30 days before the survey.

- Students of Other or Multiple Ethnicity and Hispanic students were significantly more likely than White students to report carrying a gun in the 30 days before the survey (11%, 7%, and 2% respectively). Seven percent (7%) of Asian students and 5% of Black students carried a gun.

Weapon-carrying on school property

- Five percent (5%) of all students carried a weapon on school property in the 30 days before the survey. This represents a significant decrease from 8% in 1997. More than one-third (37%) of students who reported carrying a weapon in the 30 days before the survey did so on school property.

- Among students who carried a weapon on school property, more than half (57%) did so on 6 or more of the 30 days before the survey.

- Male students were significantly more likely than female students to report carrying a weapon on school property (8% vs. 2% respectively; see Figure 5b).

- There were no significant grade differences in the percent of students who carried a weapon on school property: 5% of 9th grade students, 5% of 10th grade students, 3% of 11th grade students, and 7% of 12th grade students carried a weapon at school.

- Students of Other or Multiple Ethnicity and Black students were significantly more likely than White students to report carrying a weapon on school property (12%, 9%, and 4%

respectively). Eight percent (8%) of Asian students and 7% of Hispanic students carried a weapon at school.

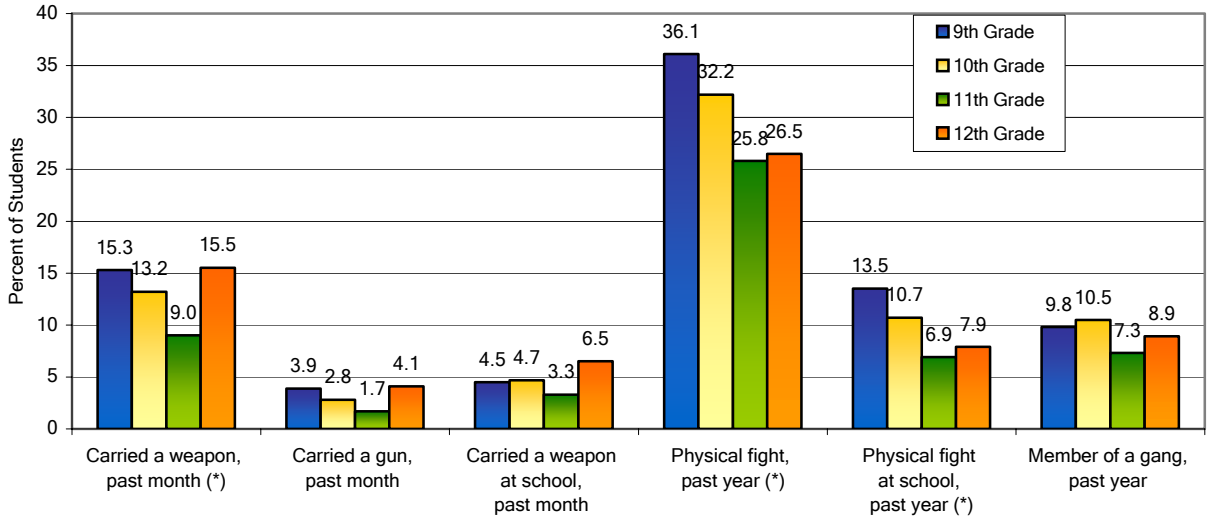
Physical Fighting

- Slightly less than one-third (31%) of all students were in a physical fight in the 12 months before the survey. The rate of physical fighting decreased significantly from 36% in 1997 to the 31% in 2003.
- Among students who were in a physical fight, 45% were in only one fight in the 12 months before the survey; 10% fought ten or more times. Roughly 12% of students who fought (4% of all students) were injured in a physical fight in the 12 months before the survey.
- Fighting was significantly more common among male students (39%) than among female students (22%).
- Ninth grade students were significantly more likely than students 11th or 12th grade to report physical fighting in the 12 months before the survey (36% vs. 26% and 27% respectively). One third (32%) of 10th grade students were in a physical fight in the year before the survey.
- Physical fighting was more common among students of Other or Multiple Ethnicity (44%) and Black students (42%) than among White students (28%). Thirty-five percent (35%) of Hispanic students and 25% of Asian students were in a physical fight in the year before the survey.

Physical fighting on school property

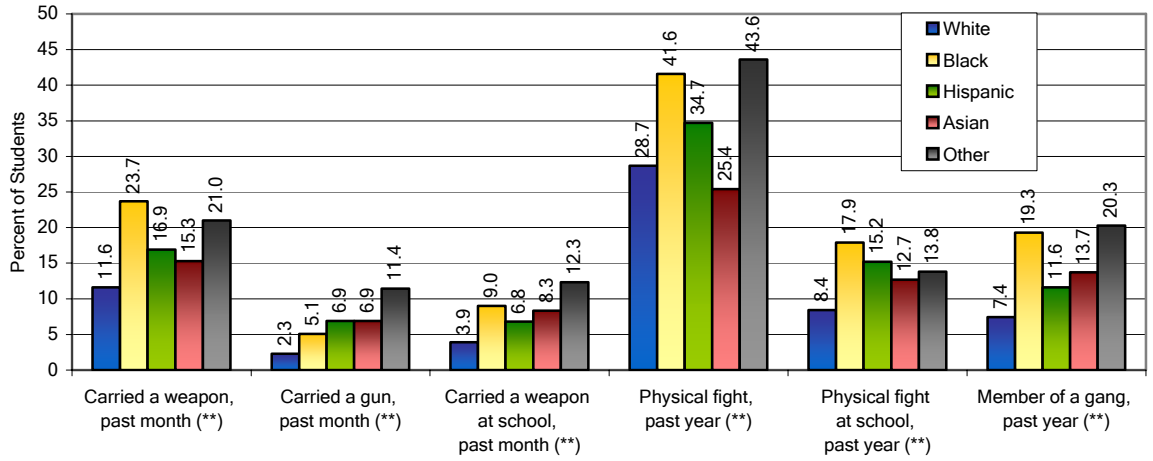
- One in ten students (10%) was in a fight on school property in the 12 months before the survey, a significant decrease from 15% in 1995.

Figure 5c. Violence-Related Behaviors Among Massachusetts High School Students by Grade, 2003



(*) Statistically significant difference between grades, p<.05

Figure 5d. Violence-Related Behaviors Among Massachusetts High School Students by Race/Ethnicity(a), 2003



(**) Statistically significant difference between groups, p<.01; Note: (a) See Table 1, page 2, for a detailed explanation of racial/ethnic categories

- Fighting on school property was more common among male students (14%, compared to 6% of females) and among 9th and 10th grade students (14% and 11% respectively, compared to 7% of 11th grade and 8% of 12th grade).

- The lowest rate of fighting on school property was found among White students: 8% reported fighting on school property in the year before the survey. Thirteen percent (13%) of Asian students, 14% of students of Other or Multiple Ethnicity, 15% of Hispanic students, and 18% of Black students reported fighting on school property.

GANG INVOLVEMENT

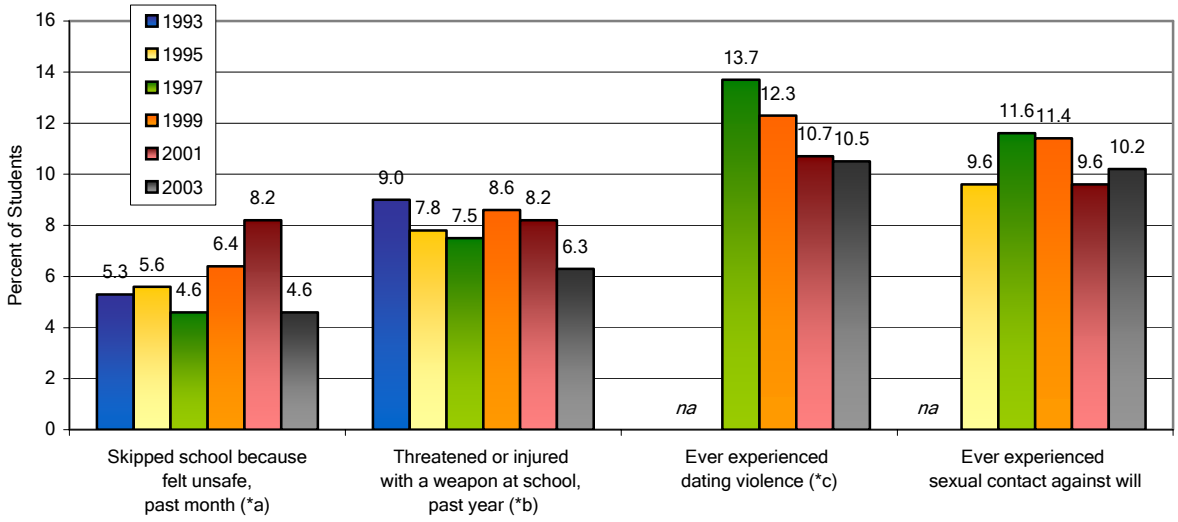
- Ten percent (10%) of all students reported being involved in a gang in the 12 months before the survey. There has been no significant change since 1995 in the percent of students reporting gang-involvement.

- Male students were significantly more likely than female students to report being a member of a gang (12% vs. 7% respectively).

- There were no significant grade differences in gang involvement: 10% of 9th grade students, 11% of 10th grade students, 7% of 11th grade students, and 9% of 12th grade students reported being a member of a gang (see Figure 5c).

- Students of Other or Multiple Ethnicity and Black students were significantly more likely than White students to have been a member of a gang in the year before the survey (20%, 19%, and 7% respectively). Fourteen percent (14%) of Asian students and 12% of Hispanic students were members of a gang in the year before the survey (see Figure 5d).

Figure 5e. Violence-Related Experiences Reported by Massachusetts High School Students, 1993 to 2003



*(*a) Statistically significant decrease from 2001, p<.05; (*b) Statistically significant decrease from 1999, p<.05; (*c) Statistically significant decrease from 1997, p<.05; Note: (na) Measure not available in all years*

SCHOOL SAFETY

- In 2003, 5% of students skipped school at least once in the 30 days before the survey because they felt unsafe either at school or on their way to or from school. This represents a significant decrease from 8% in 2001 (see Figure 5e).

- Male and female students were equally as likely to report skipping school because they felt unsafe (5% of males and 4% of females).

- Students of all grades were equally as likely to skip school because they felt unsafe; 5% of 9th grade students, 5% of 10th grade students, 4% of 11th grade students, and 5% of 12th grade students reported skipping school in the month before the survey because they felt unsafe.

- Three percent (3%) of White students reported skipping school because they felt unsafe; this was significantly less than Black students (9%), Hispanic students (9%), or students of Other or Multiple Ethnicity (6%). Four percent (4%) of Asian students reported skipping school because they felt unsafe.

- Roughly one in four students (23%) reported being bullied at school in the past year. Being bullied included being repeatedly teased, threatened, hit, kicked, shunned or excluded by another student or group of students.

- Twenty-one percent (21%) of male students and 24% of female students reported being bullied at school in the 12 months before the survey.

- Ninth and 10th grade students were significantly more likely than 11th and 12th grade students to have been bullied in the year before the survey: 29% of freshmen, 25% of sophomores, 18% of

juniors, and 15% of seniors reported being bullied.

- White students were significantly more likely than Black or Asian youth to report being bullied at school (23% vs. 17% and 13% respectively). Students of Other or Multiple Ethnicity were the most likely to report being bullied (28%). About one in five (19%) Hispanic students were bullied.

- Six percent (6%) of students were threatened or injured with a weapon on school property in the 12 months before the survey. Among these students, 19% reported being threatened or injured with a weapon on school property ten or more times in the one-year period.

- Male students were two times more likely than female students (8% vs. 4%, respectively) to have been threatened or injured with a weapon on school property in the 12 months before the survey.

- Students in the 9th grade were slightly more likely than students in older grades to report being threatened or injured with a weapon on school property, though the differences were not significant (8% of 9th grade students vs. 7% of 10th grade students, 5% of 11th grade students, and 4% of 12th grade students).

- There were significant racial/ethnic differences in the percent of students who reported having been threatened or injured with a weapon at school: 14% of students of Other or Multiple Ethnicity, 13% of Black students, 9% of Hispanic students, 6% of Asian students, and 5% of White students reported being threatened or injured at school (see Figure 5f).

VIOLENCE-RELATED EXPERIENCES

- In 2003, eleven percent (11%) of all high school students (15% of females and 7% of males) had experienced violence in a dating relationship. Students were asked to report if they had ever been hurt physically or sexually by a date or someone they were going out with. Five percent (5%) of all students reported being hurt physically, 3% were hurt sexually, and another 3% were hurt both physically and sexually.

- Ten percent (10%) of students reported ever experiencing sexual contact against their will. Higher rates of unwanted sexual contact occurred among females (14%) than among males (6%).

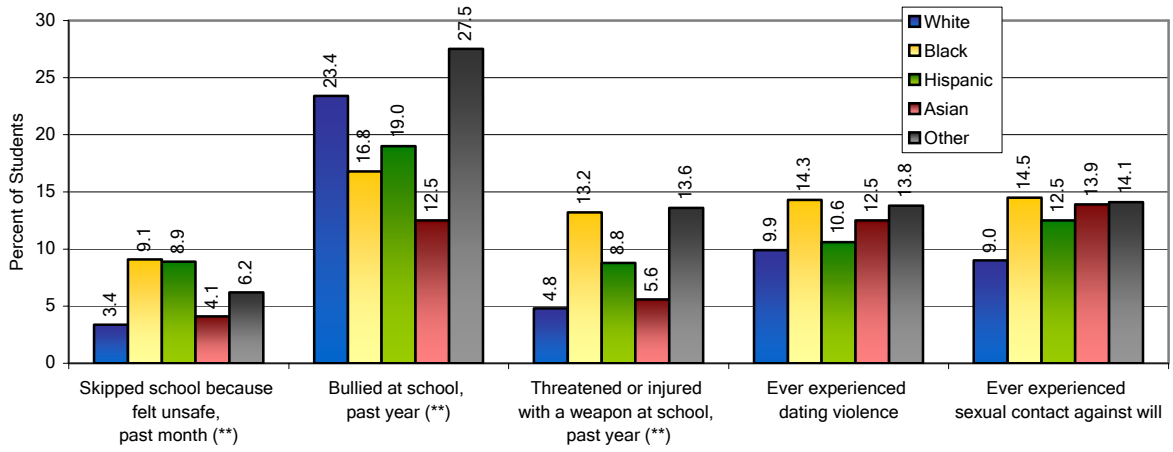
- There were no significant grade or racial/ethnic differences in the percent of students who reported experiencing dating violence or sexual contact against their will.

VIOLENCE AND OTHER RISK BEHAVIORS

- We have already seen that violence-related behaviors and experiences are significantly associated with substance use (see Chapters 2 – 4). Further, violence is significantly associated with other risk behaviors in the following ways:

  – Students who carried a weapon or engaged in physical fighting were more likely than students who did not carry a weapon or engage in physical fighting to report having considered suicide (24% vs. 12%), having attempted suicide (14% vs. 5%), sexual intercourse in their lifetimes (57% vs. 32%), sexual

Figure 5f. Violence-Related Experiences Among Massachusetts High School Students by Race/Ethnicity(a), 2003



(**) Statistically significant difference between groups, p<.01; Note: (a) See Table 1, page 2, for a detailed explanation of racial/ethnic categories

intercourse in the three months before the survey (43% vs. 23%), having ever been or gotten someone pregnant (7% vs. 2%), and driving after drinking (19% vs. 7%).

- Students involved in gangs were significantly more likely than students not involved in gangs to report a variety of other risk behaviors including: physical fighting (54% vs. 28%), carrying a weapon (38% vs. 11%); carrying a gun (19% vs. 2%), drinking and driving (26% vs. 10%), lifetime sexual intercourse (62% vs. 39%), recent sexual intercourse (47% vs. 28%), having ever been or gotten someone pregnant (10% vs. 3%), having considered suicide (28% vs. 15%), and attempting suicide (19% vs. 7%).

- Compared to their peers who had not experienced violence, students who had ever experienced any dating violence or any sexual contact against their will exhibited higher rates of many risk behaviors. They were significantly more likely than other youth to report considering suicide (38% vs. 13%), attempting suicide (27% vs. 5%), lifetime sexual intercourse (75% vs. 35%), recent sexual intercourse (60% vs. 25%), having ever been or gotten someone pregnant (12% vs. 2%), and driving after drinking (21% vs. 10%).

- Students who were bullied at school once or more in the past year were significantly more likely than their peers who were not bullied to have considered or attempted suicide (28% vs. 13% and 15% vs. 6% respectively).

VIOLENCE AND ACADEMIC ACHIEVEMENT

- Students who had either exhibited violent behavior or had experienced violence were significantly less likely than their peers who had not exhibited violent behavior or experienced

Table 3. Significant Associations Between Violence-Related Behaviors and Experiences and Academic Achievement Among Massachusetts High School Students, 2003

		Mostly A's, B's, or C's	p-value
Carried a weapon	Yes	73.6	.000**
	No	89.8	
Carried a gun	Yes	69.5	.000**
	No	88.2	
Carried a weapon at school	Yes	73.0	.000**
	No	88.5	
Physical fight	Yes	78.9	.000**
	No	91.3	
Physical fight at school	Yes	73.3	.000**
	No	89.1	
Involved in a gang	Yes	78.7	.000**
	No	88.6	
Skipped school because unsafe	Yes	73.0	.000**
	No	88.1	
Bullied at school, six or more times	Yes	75.2	.000**
	No	88.3	
Threatened or injured with a weapon at school	Yes	75.2	.000**
	No	88.3	
Experienced dating violence	Yes	82.3	.000**
	No	87.9	
Experienced sexual contact against their will	Yes	78.2	.000**
	No	88.8	

(**) Statistically significant difference between groups, p<.01

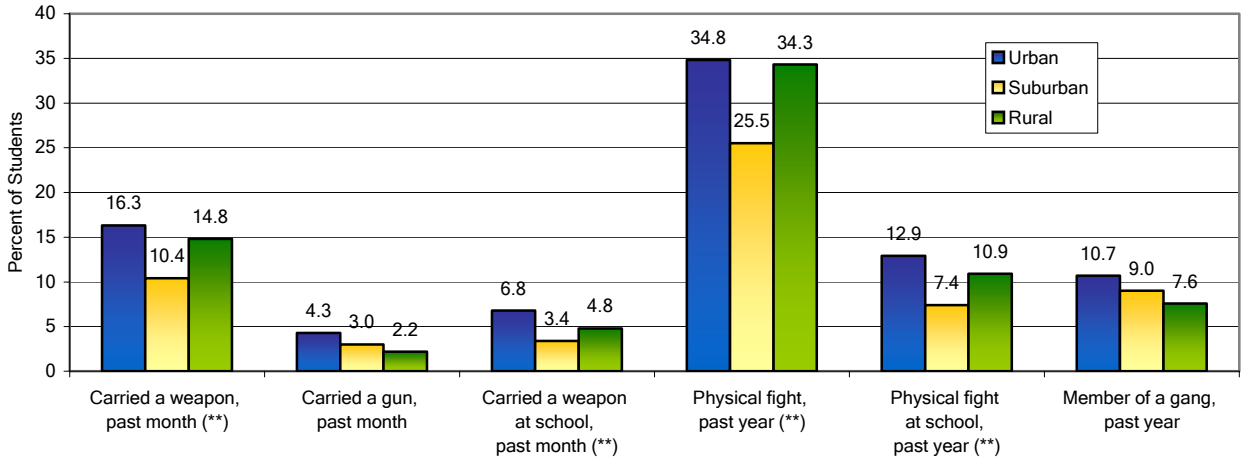
violence to have received mostly A's, B's, or C's over the past year (see Table 3).

- While having been bullied once or more was not significantly associated with academic achievement, being bullied six or more times was significantly associated with a lower rate of academic achievement (75% vs. 88%).

PROTECTIVE FACTORS FOR VIOLENCE

- Students who believed there was a teacher or other adult in school they could talk to about a problem were significantly less likely than students who did not perceive teacher support to report:
  - Weapon-carrying (11% vs. 18%),
  - Physical fighting (29% vs. 34%),
  - Gang involvement (8% vs. 12%), and
  - Being threatened or injured with a weapon at school (5% vs. 8%).
- Having an adult family member to talk to about things that are important was significantly associated with lower rates of:
  - Weapon-carrying (11% vs. 21%),
  - Physical fighting (28% vs. 41%),

Figure 5g. Violence-Related Behaviors Among Massachusetts High School Students in Urban, Surburban, and Rural Communities, 2003



(**) Statistically significant difference between groups, p<.01

- Having skipped school because of feeling unsafe (4% vs. 8%),
- Gang involvement (8% vs. 12%),
- Having been threatened or injured with a weapon at school (5% vs. 10%),
- Having experience dating violence (9% vs. 17%),
- Having experienced sexual contact against their will (9% vs. 16%), and
- Having been bullied at school (20% vs. 31%).

♦ Students who participated in extracurricular activities or volunteer work or community service were significantly less likely than their peers who did not participate in these activities to report carrying a weapon (11% vs. 17%) or having been in a physical fight (28% vs. 35%).

ADDITIONAL FINDINGS

♦ Students in urban communities were more likely than students in suburban communities to report carrying a weapon, carrying a weapon at school, being in a physical fight, and being in a physical fight at school. Students in rural districts were also more likely than students in suburban districts to report being in a physical fight (see figure 5g).

♦ Students in urban districts were also more likely than students in suburban and rural districts to report skipping school because of feeling unsafe and being threatened or injured with a weapon at school.

♦ Students who had lived the U.S. less than six years were significantly more likely than U.S.-born students to report carrying a gun (11% vs. 3%), carrying a weapon at school (10% vs. 5%), and gang involvement (17% vs. 9%).

♦ Recent immigrant students were also significantly more likely than U.S.-born students to have skipped school because of feeling unsafe (14% vs. 4%) or to have been

threatened or injured with a weapon at school (14% vs. 6%).

- Sexual minority youth (i.e., students who either identified as gay, lesbian, or bisexual or reported any same-sex sexual contact) were significantly more likely than other students to have carried a weapon (24% vs. 13%), been in a physical fight (44% vs. 30%), and to have been in a gang (23% vs. 9%). They were also significantly more likely to have skipped school because they felt unsafe (15% vs. 4%), been bullied (42% vs. 21%), been threatened or injured with a weapon at school (22% vs. 5%), and to have experienced dating violence (30% vs. 9%) or sexual contact against their will (41% vs. 8%).

- Students with physical disabilities were significantly more likely than students without disabilities to have carried a weapon (19% vs. 13%) or been involved in a gang (14% vs. 9%). They were also more likely to have skipped school because they felt unsafe (9% vs. 4%), been threatened or injured with a weapon at school (11% vs. 6%), and experienced dating violence (19% vs. 10%) or sexual contact against their will (18% vs. 9%).

SUMMARY OF RESULTS

(Also see Appendix C, Table 5)

Since 1993, measures of violent behaviors, such as weapon-carrying and physical fighting, have decreased significantly. The 2003 MYRBS results also indicate that less violence is occurring on school property as compared to previous years, and significantly fewer students have experienced dating violence. Particularly encouraging is the fact that, after increasing from 1997 to 2001, the percent of students who reported skipping school because they felt unsafe decreased significantly in 2003.

Male students, students in younger grades, gang-involved youth, students with physical disabilities sexual minority youth, recent immigrants, and students in urban districts were more likely than their peers to engage in certain violence-related risk behaviors. The MYRBS results also document the relationship between violent experiences and other risk behaviors.

IMPLICATIONS AND RECOMMENDATIONS

Adolescent violence has emerged in recent years as both a threat to school safety and order, and as a more general public health issue. Violence-related behavior poses widespread problems, both in and out of schools, across all demographic groups and in all kinds of communities. More positively, there are clear indications that levels of youth violence in general are decreasing. Rates of physical fighting and weapon-carrying have declined significantly among Massachusetts high school students. Physical fighting and weapon-carrying on school property were both significantly less common in 2003 than in 1999. Even so, fighting, weapons use, gang involvement, and threats continue to endanger the health and safety of young people both on and off school property.

Comprehensive approaches to violence prevention should begin early in a child's education. A number of violence-prevention educational programs have been developed and carefully evaluated for effectiveness;[62,63,64,65] many focus on teaching conflict resolution, mediation, and stress management skills to all students. Others focus on building the sense of school as a functional community, that is, "an environment characterized by supportive interpersonal relationships, opportunities to participate in school activities and decision-making, and shared norms, goals, and values."[66] Effective programs also work with

communities and families to prevent violence and promote pro-social development both inside and outside of schools. Environmental approaches such as ensuring that no weapons are brought to school are also important. In some instances, limiting access to school grounds or inspecting bags or lockers may be useful mechanisms for ensuring basic school safety.

School administrators and teachers need to also be aware of adolescents who are singled out for bullying or victimization, as well as students with a history of impulsiveness, disruptiveness, and violent behavior. These students should be identified, counseled, and channeled into appropriate intervention programs. For some students or groups of students, more specific interventions may be needed. Gay, lesbian, and bisexual students, for example, may be targets of harassment and threats; some evidence indicates that school support groups and school-wide awareness training can be helpful.[67,68] To address the problems of dating violence and unwanted sexual contact among youth, schools should collaborate with community agencies such as battered women's programs, rape crisis centers, and batterer intervention programs to conduct education and awareness programs for students, staff, and parents. Finally, schools should work with communities to address the issue of gang membership, and provide targeted programs developed for special subgroups who may be more likely to become involved in gang activity.

At present, nearly every Massachusetts school district receives funds through the Safe and Drug-Free Schools and Communities Act. These funds support programs to reduce school violence and to promote a safe school environment for all students. Local districts use a variety of methods based on proven effective strategies to address and prevent school violence, including broad-based prevention programs aimed at shaping a non-violent school culture and ensuring that students develop skills in peaceful conflict resolution.

6 CHAPTER 6
SUICIDAL THINKING & BEHAVIOR

INTRODUCTION

Nationally, youth suicide rates have tripled since 1950.[24] In 2001, suicide was the third leading cause of death among young people aged 15 to 24 in the United States[69]; in Massachusetts it was the fourth.[54] One risk factor for suicide is untreated depression, yet only a small percentage of Americans who suffer from depression are accurately diagnosed and treated.[70]

National Health Objectives for the Year 2010 include reducing the incidence of suicide attempts and completed suicides among adolescents.[27] The 2003 MYRBS asked students several questions about suicidal thoughts and behaviors during the previous year, including questions concerning (1) feeling sad or hopeless, (2) serious considerations of suicide, (3) plans to commit suicide, (4) actual suicide attempts, and (5) medical treatment required as the result of a suicide attempt. In addition, for the first time the MYRBS asked about intentional self-injury including cutting, burning, or bruising.

RESULTS

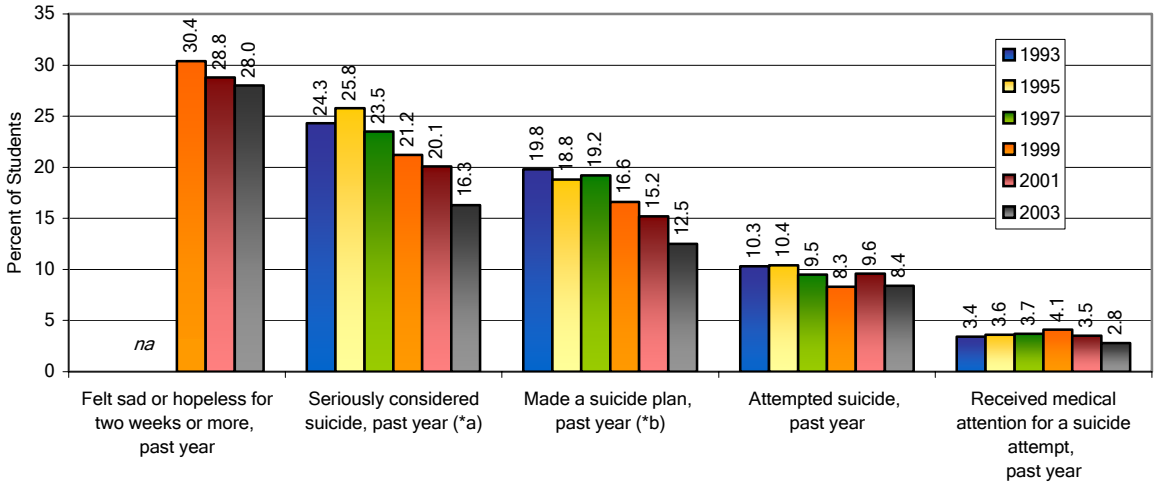
INTENTIONAL SELF-INFLICTED INJURY

- Eighteen percent (18%) of students in 2003 reported injuring themselves on purpose (for example, by cutting, burning, or bruising themselves) at least once in the twelve months before the survey.
- Significantly more females than males reported intentionally hurting themselves in the year before the survey (20% of females vs. 16% of males).
- The highest rate of self-inflicted injury was found among freshmen students: 21% reported hurting themselves on purpose, compared to 18% of sophomores, 15% of juniors, and 17% of seniors.

KEY FINDINGS FROM THE 2003 MYRBS

- Significantly fewer students in 2003 than in previous years **seriously considered suicide** (16%) or **made a suicide plan** (13%). The percent of students who actually attempted suicide did not change significantly. Three percent (3%) of all students received medical attention for a suicide attempt.
- Slightly less than one-fifth of all students (18%) reported hurting themselves on purpose.
- Female students were more likely than male students to report suicidal thinking, feeling sad or hopeless for two weeks or more, or to have injured themselves on purpose.
- Students in urban districts, recent immigrants, students with disabilities, sexual minority youth, and students who have experienced violence were more likely than their peers to report a suicide attempt.

Figure 6a. Suicidal Thinking and Behavior Among Massachusetts High School Students, 1993 to 2003



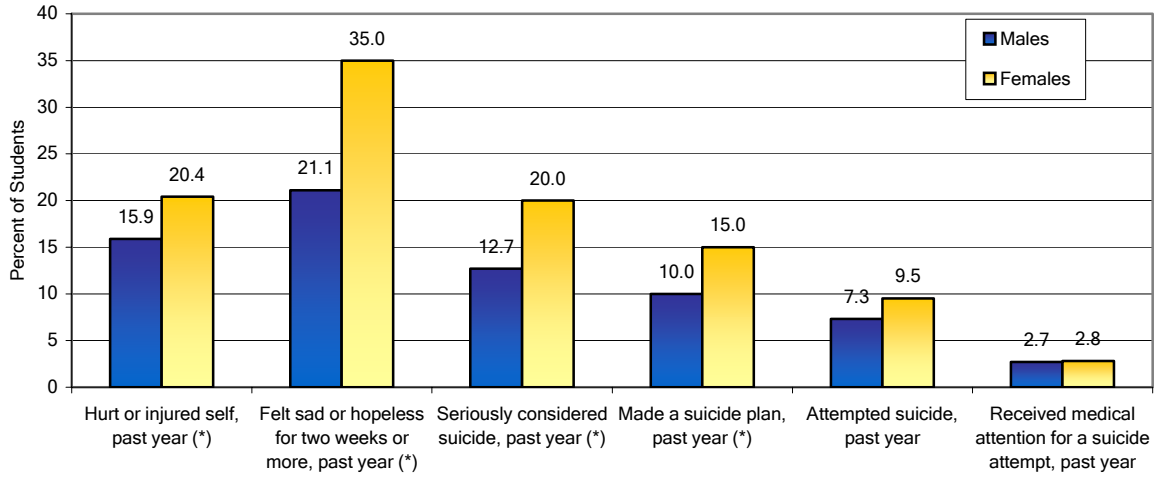
*(*a) Statistically significant decrease from 2001, p<.05; (*b) Statistically significant decrease from 1999, p<.05; Note: (na) Measure not available in all years*

- Black students and Asian students had the lowest rates of self-inflicted injury (13% and 16%, respectively) compared to 18% of White students, 21% of Hispanic students, and 24%of students of Other or Multiple Ethnicity.
- Among students who reported injuring themselves on purpose, half (51%) did so one or two times. Ten percent (10%) hurt themselves 20 or more times.

SUICIDAL THINKING

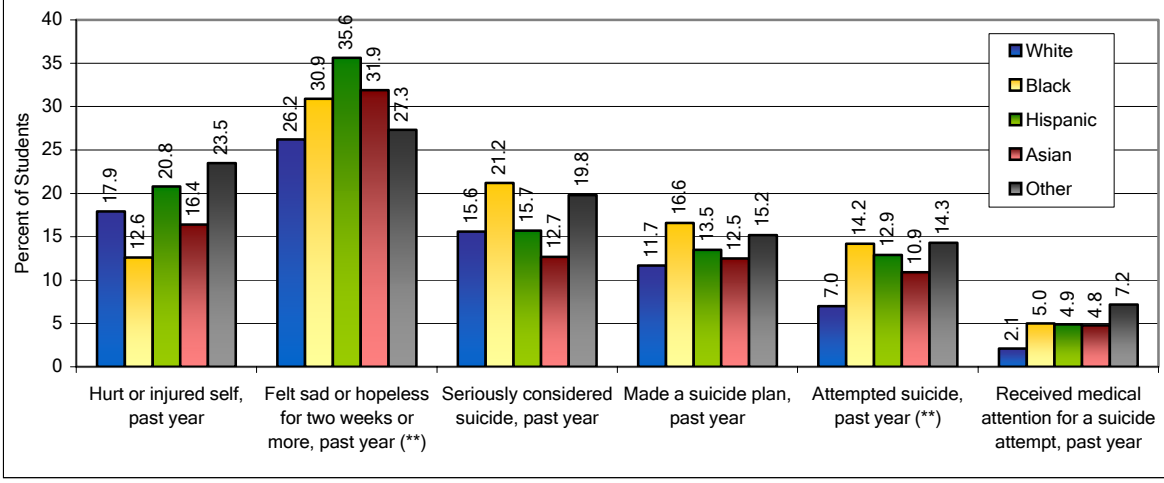
- In 2003, more than one-quarter (28%) of all students reported feeling so sad or hopeless that they stopped doing some usual activities for a period of two weeks or more in the 12 months before the survey. This question was first added to the survey in 1999; thirty percent (30%) of students reported feeling sad or hopeless for two weeks in 1999 (see Figure 6a).
- The percent of students who seriously considered suicide in the 12 months before the survey significantly decreased from 20% in 2001 to 16% in 2003.
- Thirteen percent (13%) of students made a plan about how they would attempt suicide in the 12 months before the survey. Suicidal planning decreased significantly from 17% in 1999.
- Suicidal thinking and planning were significantly more common among females than among males. More than one-third of females (35%) felt sad or hopeless, twenty percent (20%) seriously considered attempting suicide, and 15% made a plan about how they would attempt suicide (see Figure 6b).
- Students in all four grades were equally as likely to report feeling sad or hopeless, considering suicide, or making a suicide plan.

Figure 6b. Suicidal Thinking and Behavior Among Massachusetts High School Students by Gender, 2003



(*) Statistically significant difference between male and female students, p<.05

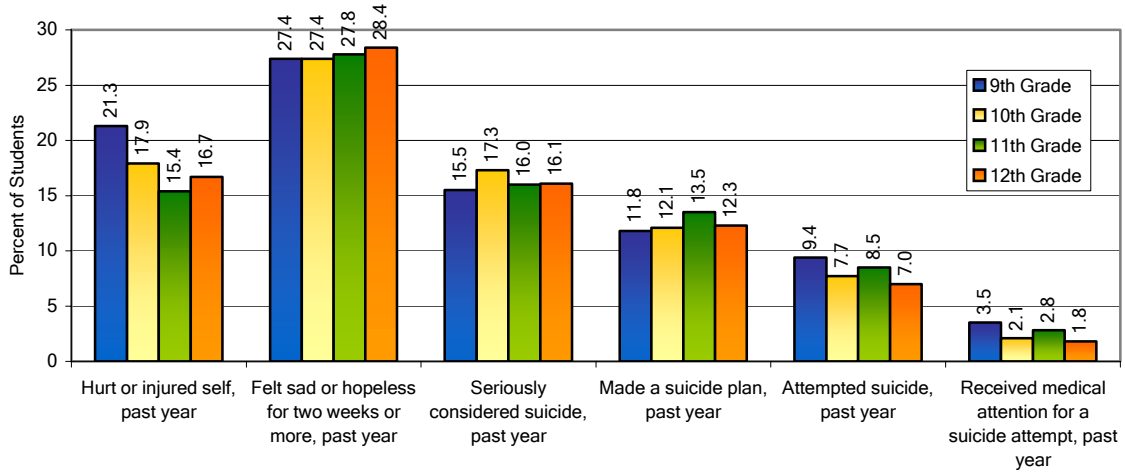
Figure 6c. Suicidal Thinking and Behavior Among Massachusetts High School Students by Race/Ethnicity(a), 2003



(**) Statistically significant difference between groups, p<.01; Note: (a) See Table 1, page 2, for a detailed explanation of racial/ethnic categories.

- Feeling sad or hopeless varied significantly by race/ethnicity, with the highest rate (36%) found among Hispanic students. Thirty-two percent (32%) of Asian students, 31% of Black students, 27% of students of Other or Multiple Ethnicity, and 26% of White students also reported feeling sad or hopeless. There were no significant racial ethnic differences in considering suicide or making a suicide plan (see Figure 6c).

Figure 6d. Suicidal Thinking and Behavior Among Massachusetts High School Students by Grade, 2003



SUICIDAL BEHAVIOR

- Eight percent (8%) of youth reported actually attempting suicide in the 12 months before the survey. The rate of attempting suicide has not changed significantly since 1993.

- Among students who attempted suicide, about 40% had attempted suicide more than once. Eleven percent (11%) attempted suicide six or more times.

- Approximately 35% of students who attempted suicide also reported receiving medical treatment for an injury, poisoning, or overdose resulting from a suicide attempt. This represents about 3% of the total student population. The percent of students who receive medical attention for a suicide attempt has not changed significantly since 1993.

- Female adolescents were significantly more likely than male adolescents to have attempted suicide (10% vs. 7% respectively); however, students of both genders were equally as likely to have received medical treatment for a suicide attempt (3% each).

- Students of all grades were equally as likely to have attempted suicide or to have received medical treatment for a suicide attempt (see Figure 6d).

- White students were least likely of all groups to have attempted suicide (7%). The highest rate (14%) was seen among Black students and students of Other or Multiple Ethnicity, while 13% of Hispanic student and 11% of Asian students also reported attempting suicide. There were no *significant* differences between any of the racial/ethnic groups for either measure of suicidal behavior.

SUICIDAL THINKING AND BEHAVIOR AND OTHER RISK BEHAVIORS

- Compared to their peers who did not report self-inflicted injury, students who hurt themselves on purpose were five times more likely to consider suicide (49% vs. 9%) and ten

times more likely to have attempted suicide (31% vs. 3%).

- Students who considered suicide were significantly more likely than their peers (who did not report considering suicide) to report most other risk behaviors, including current smoking (40% vs. 17%), current alcohol use (60% vs. 43%), binge drinking (38% vs. 25%), current drug use (51% vs. 26%) recent sexual intercourse (45% vs. 27%), and weapon-carrying (24% vs. 11%).

SUICIDAL THINKING AND BEHAVIOR AND ACADEMIC ACHIEVEMENT

- Academic achievement was significantly less common among students who hurt themselves on purpose (80% vs. 89% of those who did not hurt themselves) and students who felt sad and hopeless (82% vs. 90% who did not feel sad or hopeless).

- Students who considered suicide and students who attempted suicide were also significantly less likely than their peers who did not consider or attempt suicide to have received mostly A's, B's, or C's. Academic achievement was reported by 80% of students who considered suicide (vs. 89% of those who did not) and 73% of students who attempted suicide (vs. 90% of those who did not).

PROTECTIVE FACTORS FOR SUICIDAL THINKING AND BEHAVIOR

- Having a parent or other adult family member to talk to about things that were important was the only protective factor associated with a lower rate of attempted suicide: 6% of students who perceived family support reported a suicide attempt compared to 15% of students who did not perceive family support.

ADDITIONAL FINDINGS

- Certain groups of students were significantly more likely than their peers to report a suicide attempt:
  - Students in urban districts (12% vs. 8% of rural students and 5% of suburban students),
  - Recent immigrants (16% vs. 8% of U.S.-born students),
  - Students with physical disabilities (13% vs. 8% of students without disabilities),
  - Sexual minority youth (32% vs. 7% of other students),
  - Students who were bullied at school (15% vs. 6% of students who were not bullied),
  - Students who skipped school because they felt unsafe (33% vs. 7% of students who did not skip school for safety concerns), and
  - Students who had experienced dating violence or sexual contact against their will (27% vs. 5% of students who did not experience dating violence or sexual contact against their will).

SUMMARY OF RESULTS

(Also see Appendix C, Table 6)

Suicidal thinking among Massachusetts youth is declining. Significantly fewer students in 2003 than in previous years reported seriously considering suicide or making a suicide plan. Still, rates of actual suicide attempts have not changed significantly since 1993: about one in twelve students in 2003 reported attempting suicide in the 12 months before the survey. Suicidal thinking was significantly more common among female than male students, but rates of actual suicide attempts or being injured from an attempt were the same among

both groups. Adolescents who have experienced school victimization, dating violence, sexual contact against their will are especially vulnerable to suicidality, as are gay, lesbian, and bisexual adolescents, students in urban areas, and recent immigrants. Suicidal thinking and behavior were associated with lower rates of academic achievement and higher rates of other risk behaviors such as substance and sexual behavior. Having an adult outside of school to talk to about things that are important appears to have a protective effect against suicidal behavior.

IMPLICATIONS AND RECOMMENDATIONS

One in six Massachusetts high school students feels so much distress and despair that they seriously consider killing themselves; many actually make suicide attempts. All schools and communities need to address the seriousness of adolescent suicide. The *National Strategy for Suicide Prevention* includes an objective to increase the proportion of school districts and private school associations with evidence-based programs designed to address serious childhood distress and prevent suicide.[71] Across Massachusetts, the percent of health classes that dealt with suicide prevention increased sharply in recent years.[14] Unfortunately, it is also a topic on which the majority of health teachers feel inadequately trained.[14] Effective and carefully evaluated approaches to teaching about mental health, emotional well-being, and suicide prevention need to be developed and incorporated into educator preparation and professional development programs.

Researchers have begun to identify successful school-based approaches to youth suicide prevention.[72] Schools can address the problem of youth suicide directly using effective prevention programs that help students learn to recognize and manage the feelings of stress and depression that may lead to suicidal thinking and behavior. However, research has shown that suicidal adolescents are not likely to seek help on their own.[71] Therefore, it is important that school staff be trained to recognize early signs of depression and serious emotional disturbances among young people (particularly among high-risk subgroups such as sexual minority youth, and students who have been victims of violence), and be able to direct at-risk students to appropriate mental health services.

One early sign of depression and suicidality may be self-inflicted injury. Students who reported hurting themselves on purpose (for example, by cutting, burning, or bruising themselves) were far more likely than their peers to have felt sad or hopeless, or to have considered, planned, or attempted suicide.

Many influences may contribute to an adolescent's intention to commit suicide, but some promising protective factors have also been identified. Recent research from National Longitudinal Study on Adolescent Health found suicidality to be significantly lower among high school students who felt emotionally connected to their parents and/or family.[73] The 2003 MYRBS results support that view. Massachusetts students who felt there was a parent or other adult in their family they could talk to about things that were important were less likely than their peers to have attempted suicide. Conversely, adolescents who were threatened, bullied, or intimidated at school or who felt so unsafe that they sometimes skipped school altogether had far higher rates than their peers of suicidality. Schools should work to foster an environment in which all students feel safe, accepted, and supported, and where all have the opportunity for social recognition and for responsible involvement in school activities.

7 CHAPTER 7
BEHAVIORS RELATED TO UNINTENTIONAL INJURIES

INTRODUCTION

Motor vehicle accidents were the leading cause of death among young people aged 15 to 24 in 2001, both in Massachusetts[54] and across the country.[7] Seat belt use is estimated to reduce motor vehicle fatalities by 40 to 50 percent and serious injuries by 45 to 55 percent.[74] In Massachusetts all passengers aged 16 years and older are required by law to wear a seat belt when riding in a motor vehicle. Still in 2001, only one-third of all Massachusetts adolescents always wore a seatbelt when riding in a motor vehicle.[15] Research has shown that the risk of being involved in a motor vehicle crash is greater for young people than it is for older individuals,[75] and nearly half of those crashes involve alcohol.[76]

Each year, nearly 1,000 persons die from injuries, primarily head injuries, caused by bicycle accidents. Over half a million people are treated in emergency rooms for injuries related to bicycle riding.[77] Use of a bicycle helmet has been found to reduce the risk of bicycle-related head injury by up to 85%.[78]

The 2003 MYRBS asked students to report on the use of seatbelts and bicycle helmets. Additionally, students answered questions about riding with a driver who had been drinking alcohol and driving after they had consumed alcohol themselves.

RESULTS

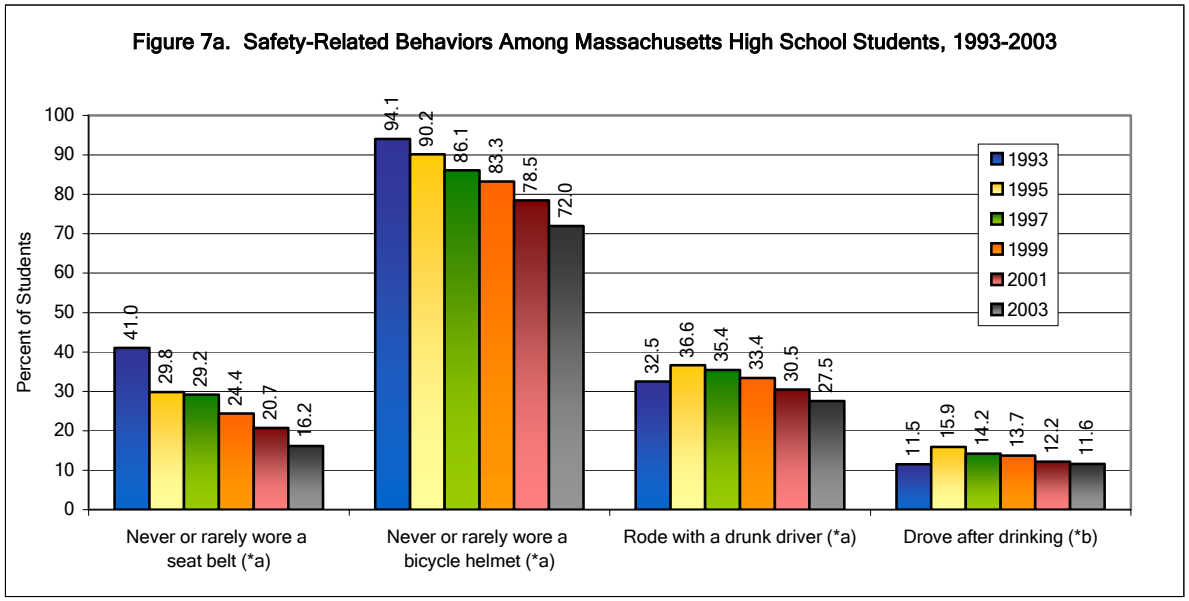
SEAT BELT USE

- The percentage of youth who reported that they never or rarely wore a seatbelt in a car driven by someone else decreased significantly from 1999 (24%) to 2003 (16%; see Figure 7a). Twenty-eight percent (28%) of students reported wearing a seatbelt most of the time and an additional 39% reported always wearing a seatbelt.

KEY FINDINGS FROM THE 2003 MYRBS

Since 1995, significant improvements have occurred in:

- Seat belt use: 30% of students in 1995 reported never or rarely wearing a seat belt; this decreased to 16% in 2003.
- Bicycle helmet use: 90% of students in 1995 reported never or rarely wearing a helmet when riding a bike; this decreased to 72% in 2003.
- Drinking and driving: Decreased from 16% of students in 1995 to 12% in 2003
- Riding with a driver who had been drinking: Decreased from 36% of students in 1995 to 28% in 2003



*(*a) Statistically significant decrease from 1999, p<.05; (*b) Statistically significant decrease from 1995, p<.05*

- Male students were significantly more likely than female students to never or rarely wear a seat belt (20% vs. 13%, respectively).

- There were no significant grade differences in the percent of students who never or rarely wore a seatbelt (18% of 9th and 12th grade, and 14% of 10th and 11th grade).

- White students were significantly less likely than their peers to report never or rarely wearing a seatbelt. Thirteen percent (13%) of White students, 29% of Black students, and 25% each of Hispanic students, Asian students, and students of Other or Multiple Ethnicity never or rarely wore a seatbelt.

BICYCLE HELMET USE

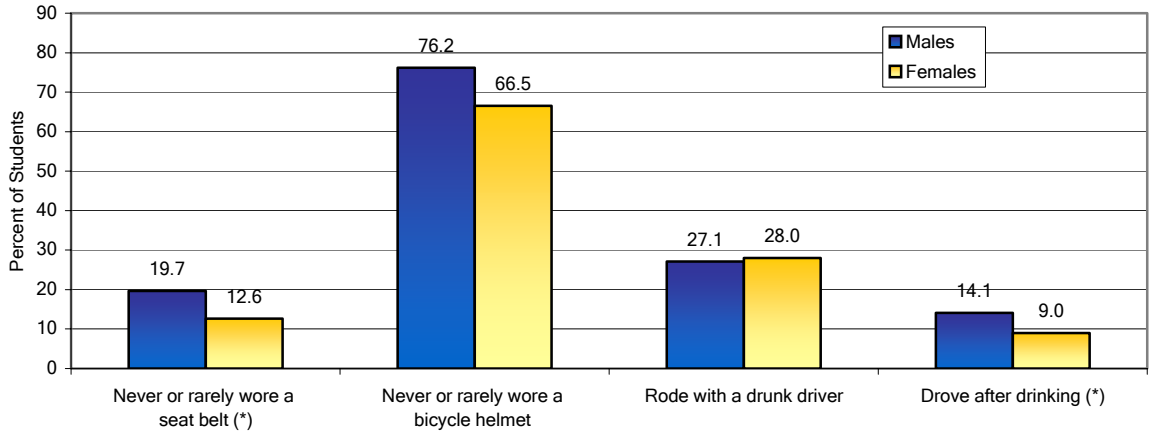
- Of students who rode a bicycle in the 12 months before the survey, 72% never or rarely wore a helmet when they rode a bike. The percent of students who don't wear bike helmets has been decreasing since 1993, when 94% of students reported never or rarely wearing a bike helmet.

- Approximately 76% of males and 67% of females never or rarely wore a bike helmet when they rode a bike in the 12 months before the survey (see Figure 7b).

- Bike helmet use did not vary significantly across grades; between 69% and 74% of each grade never or rarely wore a bike helmet.

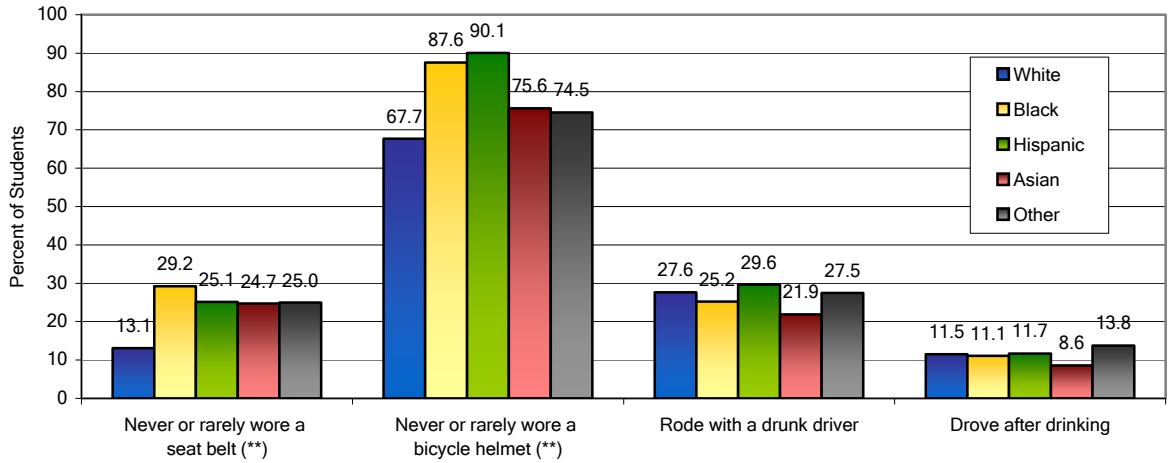
- White students were significantly less likely to report never or rarely wearing a bike helmet (68%) than were Black students (88%) and Hispanic students (90%). Seventy-six percent (76%) of Asian students and 75% of students of Other or Multiple Ethnicity also reported never or rarely wearing a bike helmet (see Figure 7c).

Figure 7b. Safety-Related Behaviors Among Massachusetts High School Students by Gender, 2003



(*) Statistically significant difference between male and female students, p<.05

Figure 7c. Safety-Related Behaviors Among Massachusetts High School Students by Race/Ethnicity(a), 2003

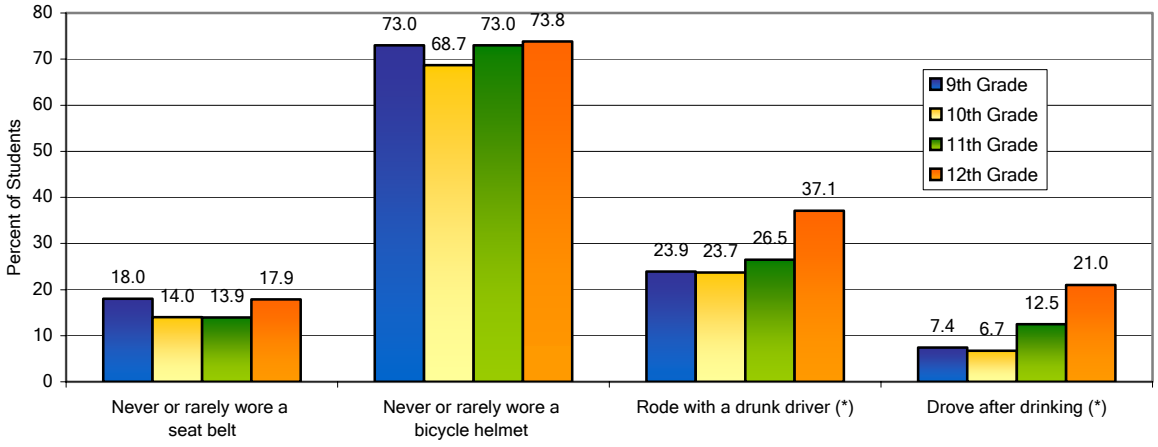


(**) Statistically significant difference between groups, p<.01; Note: (a) See Table 1, page 2, for a detailed explanation of racial/ethnic categories.

DRINKING AND DRIVING

- Twenty-eight percent (28%) of all students reported riding in a car in the 30 days before the survey with a driver who had been drinking alcohol; this rate is down significantly from 35% in 1997. Among students who reported riding with a driver who had been drinking, nearly 18% did so on six or more occasions.
- Male and female students were equally as likely to have ridden in a car with a driver who had been drinking (27% and 28% respectively).

Figure 7d. Safety-Related Behaviors Among Massachusetts High School Students by Grade, 2003



(*) Statistically significant difference between grades, p<.05

- Students in the 12th grade were significantly more likely than students in any other grade to report riding in a car with a driver who had been drinking (see Figure 7d).

- Racial/ethnic differences in the percent of students who rode in a car with a driver who had been drinking were not statistically significant. The highest rate was seen among Hispanic students (30%), followed by 28% of White students and students of Other or Multiple Ethnicity, 25% of Black students, and 22% of Asian students.

- Roughly 12% of students drove after they had been drinking in the month before the survey. This represents a significant decrease from 16% in 1995.

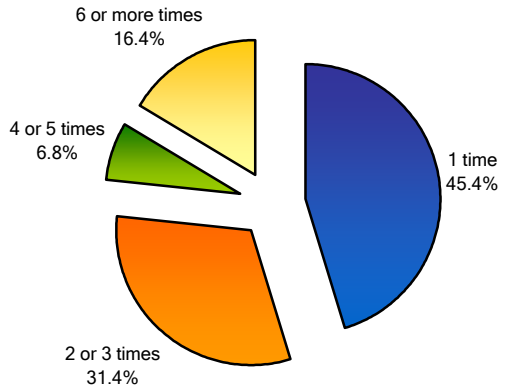
- Among students who reported drinking and driving in the 30 days before the survey, 45% reporting doing so on one occasion (see Figure 7e).

- Significantly more males than females reported driving after they had been drinking in the month before the survey (14% vs. 9% respectively).

- Drinking and driving was more common among 11th and 12th graders (13% and 21% respectively) than among 9th and 10th graders (7% each). This difference may likely be due to the increased number of licensed drivers in older grades.

- Drinking and driving did not vary significantly by race/ethnicity. Fourteen percent (14%) of students of Other or Multiple Ethnicity, 12% of Hispanic and White students, 11% of Black students, and 9% of Asian students reported the behavior.

Figure 7e. Frequency of Drinking and Driving Among Massachusetts High School Students who Reported the Behavior, 2003



DRINKING AND DRIVING AND OTHER RISK BEHAVIORS

- Students who drove after drinking in the month before the survey were significantly more likely that students who did not drink and drive to report:
  - Current smoking (59% vs. 16%),
  - Binge drinking (84% vs. 20%),
  - Current drug use (75% vs. 24%),
  - Recent sexual intercourse (63% vs. 26%), and
  - Carrying a weapon (35% vs. 10%).

DRINKING AND DRIVING AND ACADEMIC ACHIEVEMENT

- Drinking and driving in the month before the survey was significantly associated with a lower rate of academic achievement (79% vs. 89%).

PROTECTIVE FACTORS FOR DRINKING AND DRIVING

- Students who believed there was an adult in their family they could talk to about things that were important to them were significantly less likely than their peers who did not perceive this family support to report drinking and driving in the month before the survey (10% vs. 16%).
- Participation in organized extra-curricular activities was also significantly associated with a lower rate of drinking and driving (9% vs. 13%).

ADDITIONAL FINDINGS

- Students in urban districts were significantly more likely than their peers in rural or suburban districts to never or rarely wear a bike helmet when riding a bike (88% vs. 74% and 58% in order). The same pattern was observed for seat belt use: 24% of urban students, 16% of

rural students, and 9% of suburban students reported never or rarely wearing a seat belt.

- Students who primarily spoke a language other than English at home were significantly more likely than other students to report never or rarely wearing a seat belt (24% vs. 15%) and never or rarely wearing a bike helmet (86% vs. 70%).

- Sexual minority youth were significantly more likely than other students to report never or rarely wearing a seat belt (29% vs. 15%), riding with a drunk driver (45% vs. 26%), and driving after drinking (24% vs. 11%).

- Seat belt use was less common among students who lived in the U.S. more than six years but not their whole lives (28% never or rarely wore a seat belt) than among recent immigrants (19%) or U.S.-born students (15%). U.S.-born students were the most likely of the three groups to wear a bike helmet when riding a bike: 71% never or rarely wore a bike helmet compared to 79% of students who lived in the U.S. more than six years and 83% of recent immigrants.

SUMMARY OF RESULTS

(Also see Appendix C, Table 7)

Since 1995, steady and significant improvements have occurred in seat belt use, bicycle helmet use, and drinking and driving among Massachusetts high school students. Additionally, fewer students in 2003 than in previous years reported riding in a car with a driver who had been drinking. Compared to female students, male students were less likely to wear a seat belt and more likely to report drinking and driving. Safety-related behaviors varied significantly by grade, race/ethnicity, kind of community, immigrant status, and sexual orientation. Drinking and driving was significantly associated with higher rates of most other risk behaviors and a lower rate of academic achievement. Students who perceived family support or participated in organized extra-curricular activities were less likely to report drinking and driving.

IMPLICATIONS AND RECOMMENDATIONS

Traffic accidents are the major cause of premature death for adolescents; even when not fatal, they can lead to serious injury or permanent disability. The significant improvements that have occurred in seat belt use and in bicycle helmet use indicate that some safety messages are being heeded. Even so, one in six adolescents never or rarely wears a seat belt, and nearly three-quarters do not wear a helmet when riding a bike. The importance of safety measures aimed at reducing injuries and fatalities should be included in comprehensive school health education programs.

Despite significant improvements over time, driving under the influence of alcohol continues to be a serious problem. In 2003, one in eight adolescents drove after drinking alcohol and more than a quarter of all students rode with a driver who had been drinking. Schools and communities need to reduce adolescent access to alcohol, and provide students with prevention education that both stresses the dangers of driving while intoxicated and builds skills needed to avoid riding with an impaired driver.

8 CHAPTER 8
SEXUAL BEHAVIORS AND SEXUALITY EDUCATION

INTRODUCTION

Many adolescents engage in sexual activity that may pose a serious threat both to their health and to 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 with sexually transmitted diseases (STDs), including Human Immunodeficiency Virus (HIV), the virus that causes AIDS.

Each year in the United States, over one million adolescent females become pregnant, nearly 470,000 give birth, and 400,000 terminate pregnancies.[79] One-third of all unintended pregnancies occur among teenagers, and three-quarters of teenage pregnancies occur among adolescents who are not using any form of contraception.[80] The United States has one of the highest rates of adolescent pregnancy, abortion, and childbearing in the Western industrialized world.[81] Even though Massachusetts has one of the lowest teen birth rates in the country, in 2002, more than 4,000 infants were born to teenage mothers in the Commonwealth.[82]

Sexually transmitted diseases contribute to illness and death among adolescents, young adults, and newborns. Two-thirds of the twelve million new STD infections each year occur among young persons under age 25, and every year approximately 3 million American teenagers acquire a sexually transmitted disease.[83] For physiological reasons, adolescent females are more susceptible than are older women to STDs[84] and may suffer severe consequences from STDs, including pelvic inflammatory disease, ectopic pregnancy, infertility, and cervical cancer. 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.

In the United States, over 850,000 cases of AIDS have been diagnosed and more than 500,000 Americans have lost their lives to the disease.[85] Roughly 17,000 HIV/AIDS cases have been diagnosed in Massachusetts alone; most were infected through unsafe sexual activity.[86]

Since 1989, the Massachusetts Board of Education has recommended that all schools provide HIV/AIDS prevention education to all students in all grades within the context of comprehensive school health education. Curriculum and instruction should be presented in a developmentally, linguistically, and culturally sensitive manner, and special efforts should be made to reach students at increased risk for HIV/AIDS infection, such as drug-involved youth, sexual minority youth, or members of communities disproportionately affected by the HIV/AIDS epidemic. The Board also recommends that schools address the value of both sexual abstinence and the use of condoms to prevent HIV/STD infection and pregnancy, and that schools consider making condoms available to secondary school students.

KEY FINDINGS FROM THE 2003 MYRBS

- From 1993 to 2003, significant decreases occurred in the percent of students who report:
  - Lifetime sexual intercourse (49% in 1993 to 41% in 2003)
  - Sexual intercourse before age 13 (8% in 1995 to 6% in 2003)
  - Four or more lifetime sexual partners (15% in 1995 to 10% in 2003)
  - Having ever been or gotten someone pregnant (7% in 1997 to 4% 2003)
- A slight decrease was observed in the percent of students who report having had sexual intercourse in the three months before the survey (from 33% in 1993 to 30% in 2003).
- The percent of students who have been diagnosed with HIV or another STD significantly increased from 3% in 2001 to 6% in 2003.
- Male and female students were equally as likely to report lifetime and recent sexual intercourse, but male students were more likely to report sexual intercourse before age 13 and the use of alcohol or drugs before their last sexual intercourse.
- Older students were more likely than younger students to report lifetime and recent sexual intercourse, but less likely to report condom use at last intercourse.
- Higher rates of lifetime sexual intercourse, intercourse before age 13, four or more lifetime partners, and recent sexual intercourse were observed among Hispanic students, Black students, and students of Other or Multiple Ethnicity than among White or Asian students.
- Sexual minority youth and students in urban communities had higher rates than their peers of most sexual risk behaviors.
- Nearly all (92%) students were taught in school about AIDS or HIV infection; half (48%) were taught in school how to use condoms.
- Half (49%) of all students had a conversation with their parents in the last year about sexuality or ways to prevent HIV, STDs, or pregnancy; female students were more likely than male students to have talked with their parents about sexuality.
- Students who received AIDS education in school were significantly less likely to have had sex before age 13 or to have had four or more lifetime sexual partners.

Research has shown that comprehensive sexuality education programs that instruct students both on the value of postponing sexual activity and on the correct use of condoms are successful in delaying the onset of sexual activity and in increasing condom use among youth who choose to become sexually active.[87, 88, 89, 90, 91, 92] The Massachusetts Department of Education HIV/STD Prevention Program supports the Board's recommendations for school-based AIDS prevention education that includes instruction on how to prevent HIV infection and instruction on the correct use of condoms.

Clear parent-adolescent communication can also 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.[93, 94, 95]

The 2003 MYRBS asked students to report lifetime and recent sexual intercourse, including number and gender of sexual partners. It also asked about age at first intercourse, use of condoms for pregnancy and STD prevention, use of other forms of contraception, and use of alcohol or other drugs before sexual intercourse. Students were also asked whether they had ever been or gotten someone pregnant, been tested for HIV or other STDs, or been diagnosed with any sexually transmitted disease. Additionally, the 2003 MYRBS asked students whether they had ever been taught in school about AIDS or HIV infection, been taught how to use condoms, and whether they had a conversation with their parents or other family adults about sexuality and the prevention of HIV, other STDs, and pregnancy.

RESULTS

LIFETIME SEXUAL INTERCOURSE

- Approximately 41% of all high school students had ever had sexual intercourse in their lifetimes, representing a significant decrease from 49% in 1993 (see Figure 8a).
- Male and female students were equally likely to report having had sexual intercourse in their lifetimes (41% of each group).
- The rate of lifetime sexual activity increased significantly with grade in school. By the end of 9th grade, 26% of students had become sexually active. By the end of 12th grade, the rate more than doubled to 63%.
- Black students (56%) and Hispanic students (59%) had significantly higher rates of lifetime sexual intercourse than White students (37%) and Asian students (32%). Half (49%) of all students of Other or Multiple Ethnicity also reported lifetime sexual intercourse.

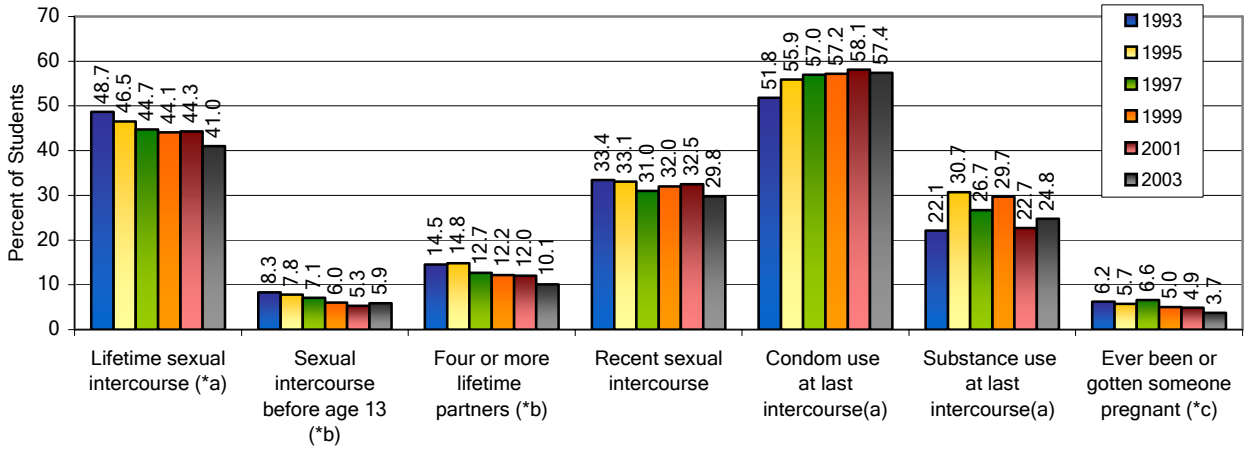
Early Initiation of Sexual Intercourse

- Six percent (6%) of all students in 2003 reported having had sexual intercourse before age 13. This is a significant decrease from 8% reported in 1995.
- Male students were significantly more likely than female students to have had sexual intercourse before age 13 (7% vs. 2%, respectively; see Figure 8b).
- Sexual intercourse before age 13 was slightly more common among students in the 9th grade (7%) than among students in older grades (5% of 10th grade, 3% of 11th grade, and 4% of 12th grade).
- Hispanic students and Black students were four times as likely as White students to report having had sexual intercourse before age 13 (13%, 12%, and 3% in order). Roughly 9% of students of Other or Multiple Ethnicity and 3% of Asian students had sexual intercourse before age 13.

Number of Sexual Partners

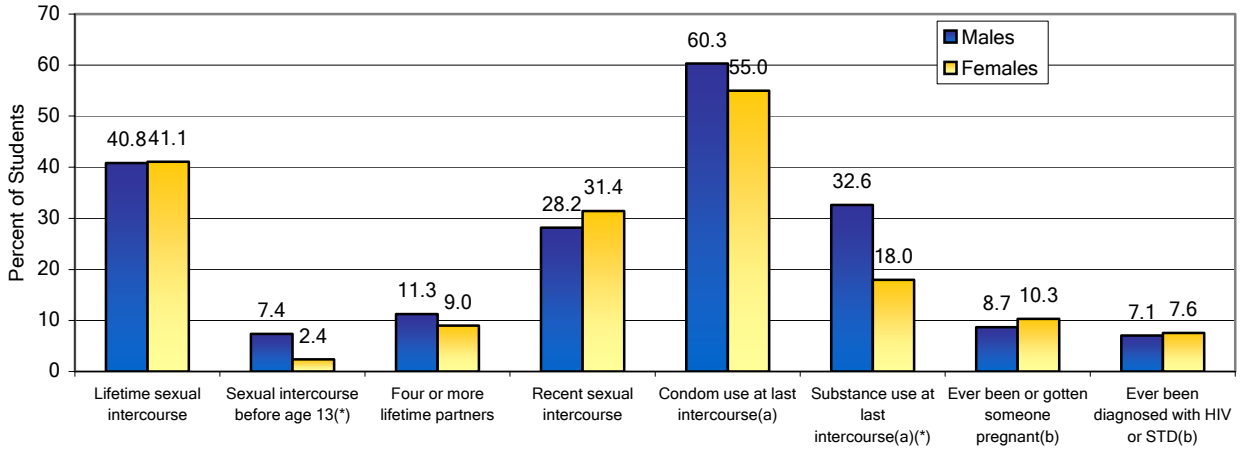
- Among all students, one in ten (10%) had sexual intercourse with four or more partners in their lifetimes. This rate has decreased significantly from 15% in 1993.
- Male and female students were almost equally as likely to have had four or more lifetime sexual partners (11% and 9% respectively).

Figure 8a. Lifetime and Recent Sexual Behaviors Among Massachusetts High School Students, 1993 - 2003



*(*a) Statistically significant decrease from 1993, p,.05; (*b) Statistically significant decrease from 1995, p<.05; (*c) Statistically significant decrease from 1997, p<.05; Note: (a) Among students who had sexual intercourse in the three months before the survey*

Figure 8b. Sexual Behaviors and Consequences Among Massachusetts High School Student by Gender, 2003



(*) Statistically significant difference between male and female students, p<.05; Notes: (a) Among students who had sexual intercourse in three months before the survey; (b) Among students who had sexual intercourse in their lifetimes

- Students in the 12th grade were significantly more likely than all other students to report having had four or more sexual partners in their lifetimes (18% vs. 8% of 11th grade and 10th grade and 7% of 9th grade).

- Hispanic students (20%) and Black students (18%) were significantly more likely than White students (8%) to report having had sexual intercourse with four or more partners in their lifetimes. Nine percent (9%) of Asian students and 15% of students of Other or Multiple Ethnicity also reported having four or more lifetime sexual partners.

- Among students who had ever had sexual intercourse, those who had sexual intercourse for the first time before age 13 were significantly more likely to have had four or more lifetime partners than were those students whose first sexual intercourse was later in life (69% vs. 19%).

RECENT SEXUAL INTERCOURSE

- Three in ten students (30%) had sexual intercourse in the three months before the survey (i.e., recent sexual intercourse). This is a small decrease from 33% reported in 2001.

- The majority of students who had ever had sexual intercourse (73%) also reported recent sexual intercourse.

- Female students were slightly more likely than male students to report recent sexual intercourse (31% vs. 28%), but the difference was not statistically significant.

- The percent of students who reported recent sexual intercourse increased with grade in school: 9th and 10th grade students (17% and 23% respectively) were significantly less likely than 11th and 12th grade students (33% and 51% respectively) to have had sex in the three months before the survey.

- Hispanic students (45%) were significantly more likely White students (28%), Black students (31%), and Asian students (24%) to report recent sexual intercourse. Thirty-nine percent (39%) of students of Other or Multiple Ethnicity also reported recent sexual intercourse (see Figure 8c).

- Among students who had sexual intercourse in the three months before the survey, the vast majority (77%) had sexual intercourse with only one partner. Seven percent (7%) had sexual intercourse with four or more partners.

SEXUAL CONTACT

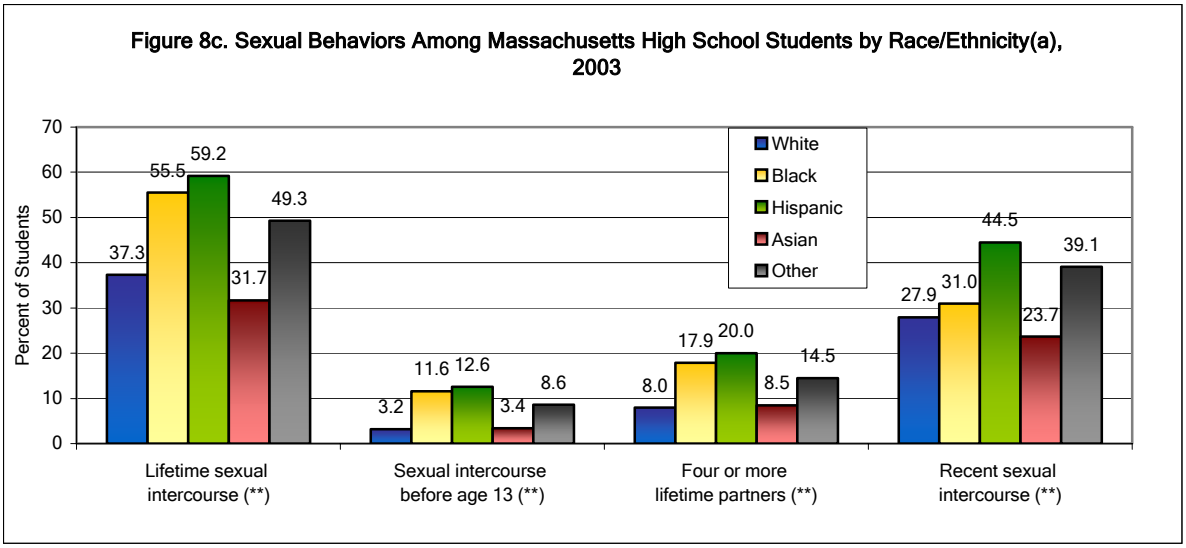
- Fifty-six percent (56%) of students (54% of males and 57% of females) reported ever having sexual contact with another person. "Sexual contact" was not defined on the survey.

- Fourteen percent (14%) of all students reported having had sexual contact in their lifetimes but not sexual intercourse.

CONDOM USE, PREGNANCY PREVENTION METHODS, AND SUBSTANCE USE ASSOCIATED WITH SEXUAL INTERCOURSE [96]

- More than half (57%) of students who had recent sexual intercourse used a condom during their last sexual intercourse. This continues a slight, but steady, increase in the rate of condom use among sexually active Massachusetts students (i.e., students who had sexual intercourse in the three months before the survey).

Figure 8c. Sexual Behaviors Among Massachusetts High School Students by Race/Ethnicity(a), 2003



(**) Statistically significant difference between groups, p<.01; Note: (a) See Table 1, page 2, for a detailed explanation of racial/ethnic categories

- Males were slightly more likely than females to report condom use at last intercourse (60% vs. 55%), but the difference was not statistically significant.

- Students in the 12th grade were significantly *less* likely than all other students to report condom use at last intercourse (48% vs. 59% of 11th grade, 66% of 10th grade, and 65% of 9th grade).

- The vast majority (85%) of students who had recent sexual intercourse used a method of pregnancy prevention the last time they had sex.

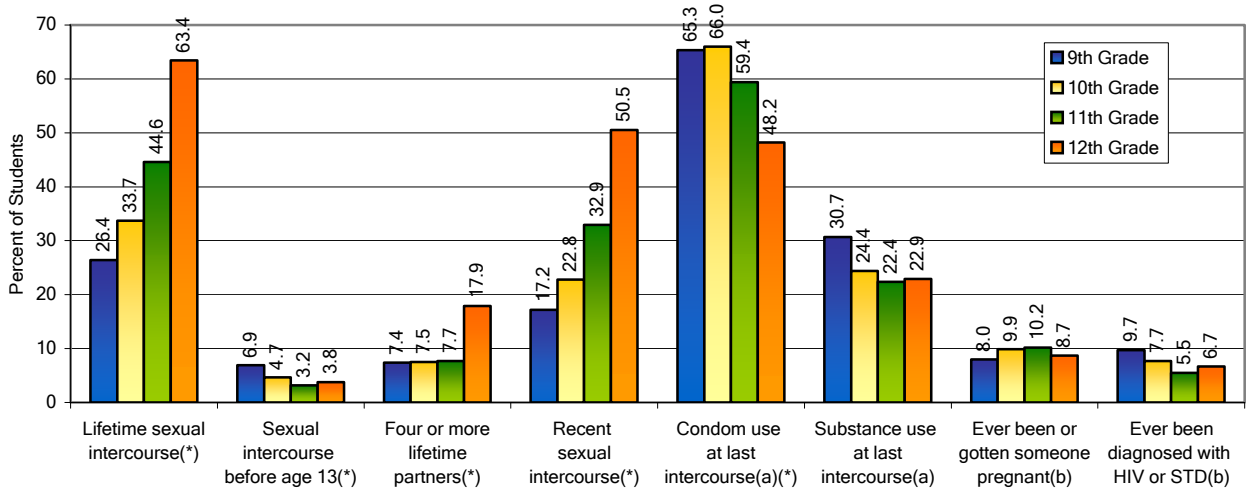
- Male and female students were equally as likely to report using a method of pregnancy prevention the last time they had sex (85% of each group).

- Students in the 11th and 12th grades (89% and 87% respectively) were significantly more likely than students in the 9th grade (75%) to report using a method of pregnancy prevention. Eighty-six percent (86%) of 10th graders used a method of pregnancy prevention. While students in younger grades were more likely than students in older grades to have used a condom at last intercourse, the use of birth control pills or Depo-Provera was more common among seniors than among freshman.

- Among all sexually active students (i.e., students who had sexual intercourse in the three months before the survey) condoms were the most commonly used form of birth control (45%), followed by birth control pills (22%). Approximately 13% did not use any method of birth control.

- After decreasing significantly from 2001 to 2003, the percent of sexually active students who used alcohol or drugs the last time they had sex increased slightly from 23% to 25%.

Figure 8d. Sexual Behaviors and Consequences Among Massachusetts High School Students by Grade, 2003



(*) Statistically significant difference between grades, p<.05; Notes: (a) Among students who had sexual intercourse in the three months before the survey; (b) Among students who had sexual intercourse in their lifetimes

- Male students were significantly more likely than female students to report using alcohol or drugs the last time they had sexual intercourse (33% vs. 18%).

- There were no significant differences by grade in the percent of sexually active students who used alcohol or drugs before the last time they had sex, though 9th grade students reported a slightly higher rate (31%) than other students (24% of 10th grade, 22% of 11th grade, and 23% of 12th grade).

- Sexually active students who used alcohol or drugs before their last intercourse were slightly less likely than sexually active students who did not use alcohol or drugs before their last intercourse to have used any method of pregnancy prevention at last intercourse (82% vs. 87%).

PREGNANCY AND SEXUALLY TRANSMITTED DISEASES [97]

- The percent of all students who reported having ever been or gotten someone pregnant decreased significantly from 7% in 1997 to 4% in 2003.

- Among students who had ever had sexual intercourse in their lifetimes (i.e., sexually experienced youth), 10% of females had been pregnant and 9% of males reported having gotten someone pregnant.

- Sexually experienced students in all four grades were equally as likely to have been or gotten someone pregnant (8% of 9th grade, 10% of 10th grade, 10% of 11th grade, and 9% of 12th grade)(see Figure 8d).

- Approximately 12% of all students (25% of sexually experienced students) had ever been tested for HIV infection or other sexually transmitted diseases (STDs).

- Among sexually experienced youth, HIV or STD testing was more common among female students than males (34% vs. 16%).

- Sexually experienced students in all four grades were equally as likely to have ever been tested for HIV or another STD (22% of 9th and 10th grade, 24% of 11th grade, and 28% of 12th grade).

- Six percent (6%) of all students (7% of sexually experienced students) had been told by a doctor or other health care professional that they had a sexually transmitted disease or were HIV positive. This represents a significant increase from 3% reported in 2001.

- Sexually experienced male and female students were equally as likely to have been diagnosed with HIV or another STD (7% and 8% respectively).

- Slightly more sexually experienced students in the 9th grade reported having been diagnosed with HIV or another STD (10%) than did sexually experienced students in the 10th grade (8%), 11th grade (6%) or 12th grade (7%).

SEXUAL BEHAVIOR AND OTHER RISK BEHAVIORS

- As we have seen in other chapters of this report, sexual behavior was significantly associated with other risk behaviors. Specifically, sexually active students (i.e., students who had sexual intercourse in the three months before the survey) were significantly more likely than students who were not sexually active to report:
  - Current alcohol use (67% vs. 36%),
  - Binge drinking (46% vs. 18%),
  - Current drug use (51% vs. 20%),
  - Drinking and driving (24% vs. 6%),
  - Attempted suicide (14% vs. 5%),
  - Intentional self-injury (24% vs. 15%),
  - Current smoking (38% vs. 13%),
  - Daily smoking (16% vs. 3%),
  - Weapon-carrying (22% vs. 9%),
  - Experiencing sexual contact against their will (18% vs. 5%), and
  - Experiencing dating violence (21% vs. 5%).

SEXUAL BEHAVIOR AND ACADEMIC ACHIEVEMENT

- Sexually active students were significantly less likely than students who were not sexually active to report receiving mostly A's, B's, or C's in school (84% vs. 90%).

PROTECTIVE FACTORS FOR SEXUAL BEHAVIOR

- Sexual intercourse in three months before the survey was significantly less common among students who believed there was a parent or other adult family member they could talk to about things that were important (29% vs. 34%), students who participated in volunteer work or community service (25% vs. 33%), and students who participated in organized extra-curricular activities (24% vs. 36%).

ADDITIONAL FINDINGS ABOUT SEXUAL BEHAVIOR

- Four percent (4%) of all students described themselves as gay, lesbian, or bisexual and

5% had same-sex sexual contact[98] in their lifetimes. In all, 6% of students could be considered sexual minority youth; that is they either identified as gay, lesbian, or bisexual or had any same-sex sexual contact in their lifetimes.

- Sexual minority youth were significantly more likely than other students to report lifetime sexual intercourse (77% vs. 39%), sexual intercourse before age 13 (21% vs. 4%), sexual intercourse with four or more partners in their lifetimes (32% vs. 9%), and recent sexual intercourse (54% vs. 29%). Among students who ever had sexual intercourse in their lifetimes, sexual minority youth were significantly more likely than other students to report having ever been or gotten someone pregnant (17% vs. 9%)[99] and having been diagnosed with HIV or another STD (16% vs. 7%).

- Compared to rural and suburban youth, students in urban communities had higher rates of
  - Lifetime sexual intercourse (49% vs. 44% of rural students and 33% of suburban students),
  - Sexual intercourse before age 13 (8% vs. 4% of rural students and 3% of suburban students),
  - Sexual intercourse with four or more partners in their lifetimes (14% vs. 11% of rural students and 6% of suburban students), and
  - Recent sexual intercourse (35% vs. 31% of rural students and 25% of suburban students).

HIV/AIDS AND PREGNANCY PREVENTION EDUCATION IN SCHOOL

- After significantly increasing between 1993 and 2001, the percent of students who reported having ever been taught about AIDS or HIV infection in school dropped slightly from 94% in 2001 to 92% in 2003 (see Figure 8e).

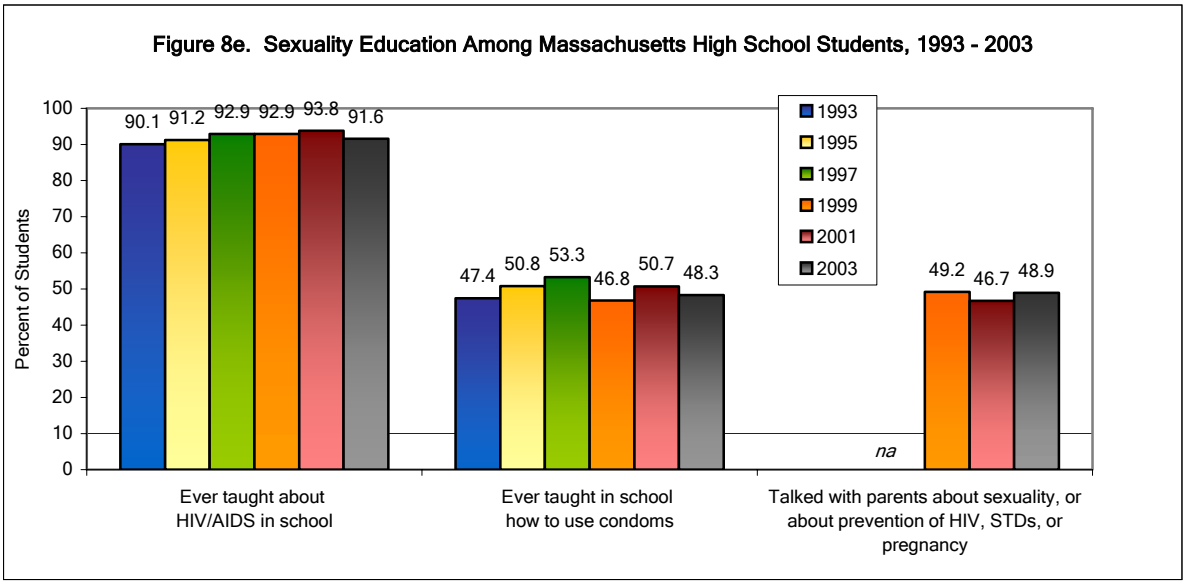
- Ninety percent (90%) of males and 93% of females were taught in school about AIDS or HIV infection (see Figure 8f).

- Students in the 11th and 12th grades (94% of each grade) were slightly more likely than students in the 9th and 10th grades (88% and 92% respectively) to report having been taught in school about AIDS or HIV infection. However, the difference was not statistically significant.

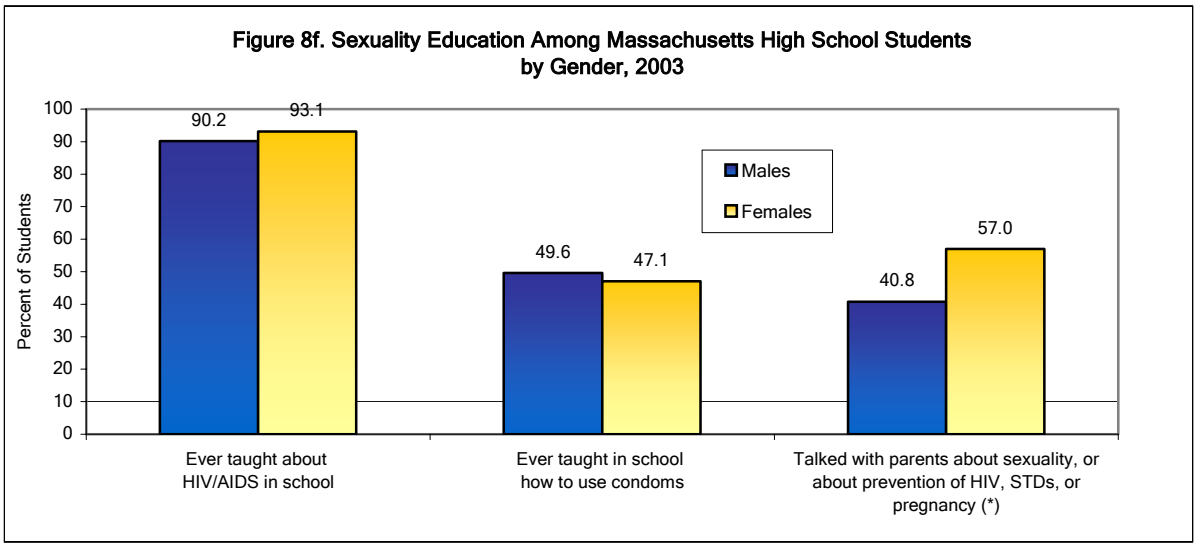
- White students (93%) were slightly more likely than Black, Hispanic, and Asian students (86%, 86%, and 83% respectively) to have been taught in school about AIDS or HIV infection. Ninety-one percent (91%) of students of Other or Multiple Ethnicity reported having been taught in school about AIDS or HIV infection. None of the differences between racial/ethnic groups were statistically significant.

- The percent of students who reported ever being taught in school how to use condoms decreased slightly from 51% in 2001 to 48% in 2003. Fifty percent (50%) of male students and 47% of female students reported ever being taught in school how to use condoms.

- More 12th grade students than 9th grade students reported ever being taught in school how to use a condom (56% vs. 41%). Forty-nine percent (49%) of 10th and 11th grade



Note: (na) Measure not available in all years.



(*) Statistically significant difference between male and female students, p<.05

Figure 8g. Sexuality Education Among Massachusetts High School Students by Grade, 2003

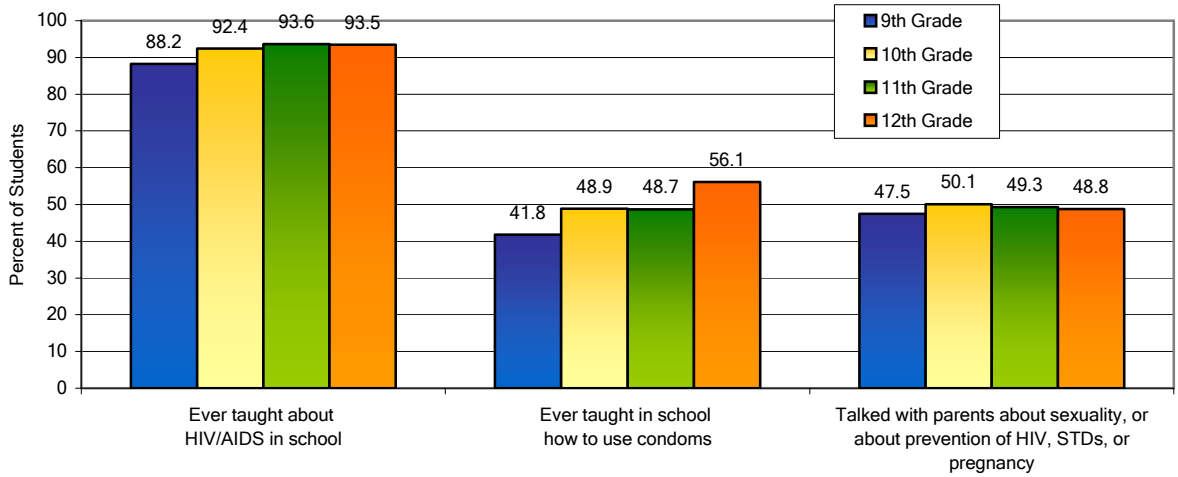
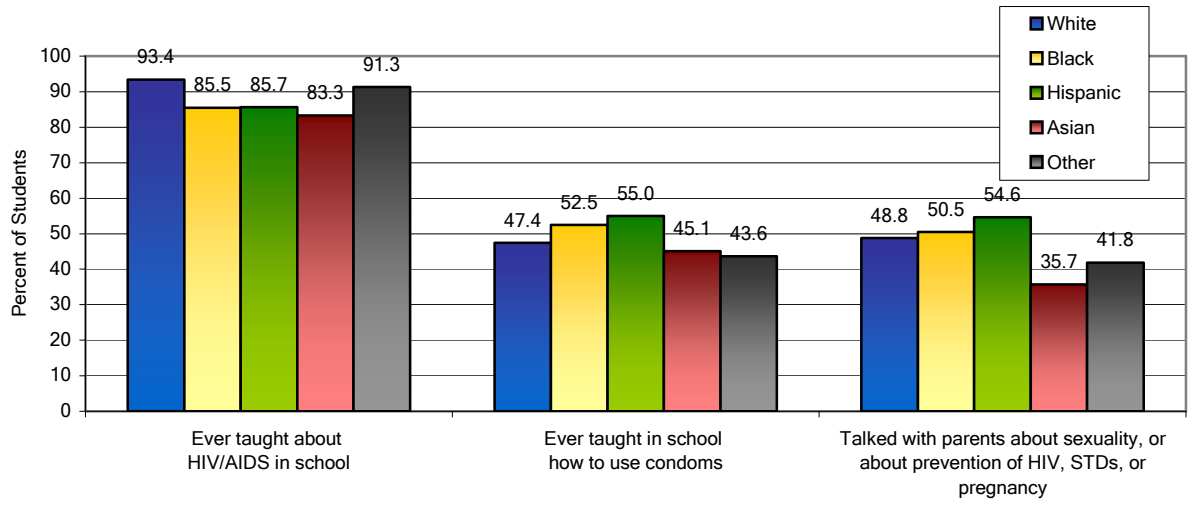


Figure 8h. Sexuality Education Among Massachusetts High School Students by Race/Ethnicity(a), 2003



Note: (a) See Table 1, page 2, for a detailed description of racial/ethnic categories

students also reported being taught how to use a condom.

- Racial/ethnic differences in the percent of students who were taught how to use a condom were not statistically significant. Forty-seven percent (47%) of White students, 53% of Black students, 55% of Hispanic students, 45% of Asian students, and 44% of students of Other or Multiple Ethnicity reported being taught in school how to use a condom.

PARENTAL COMMUNICATION ABOUT SEXUALITY AND PREVENTING HIV/AIDS & PREGNANCY

- Half (49%) of all high school students reported having at least one conversation in the 12 months before the survey with their parents or other adult family members about sexuality or ways to prevent HIV infection, other sexually transmitted diseases (STDs) or pregnancy. This rate has not changed significantly since the question was first added in 1999.

- Among students who talked with their parents at least once in the 12 months before the survey, half (50%) talked with their parents just once during the year, 33% talked with their parents every few months, and 17% talked with their parents once a month or more.

- Female students were significantly more likely than male students (57% vs. 41% respectively) to have reported talking with their parents about sexuality or ways to prevent HIV infection, other STDs, or pregnancy.

- Students in all four grades were equally as likely to have talked with their parents about sexuality or ways to prevent HIV infection, other STDs, or pregnancy. The percent in each grade fell between 48 - 50% (see Figure 8g).

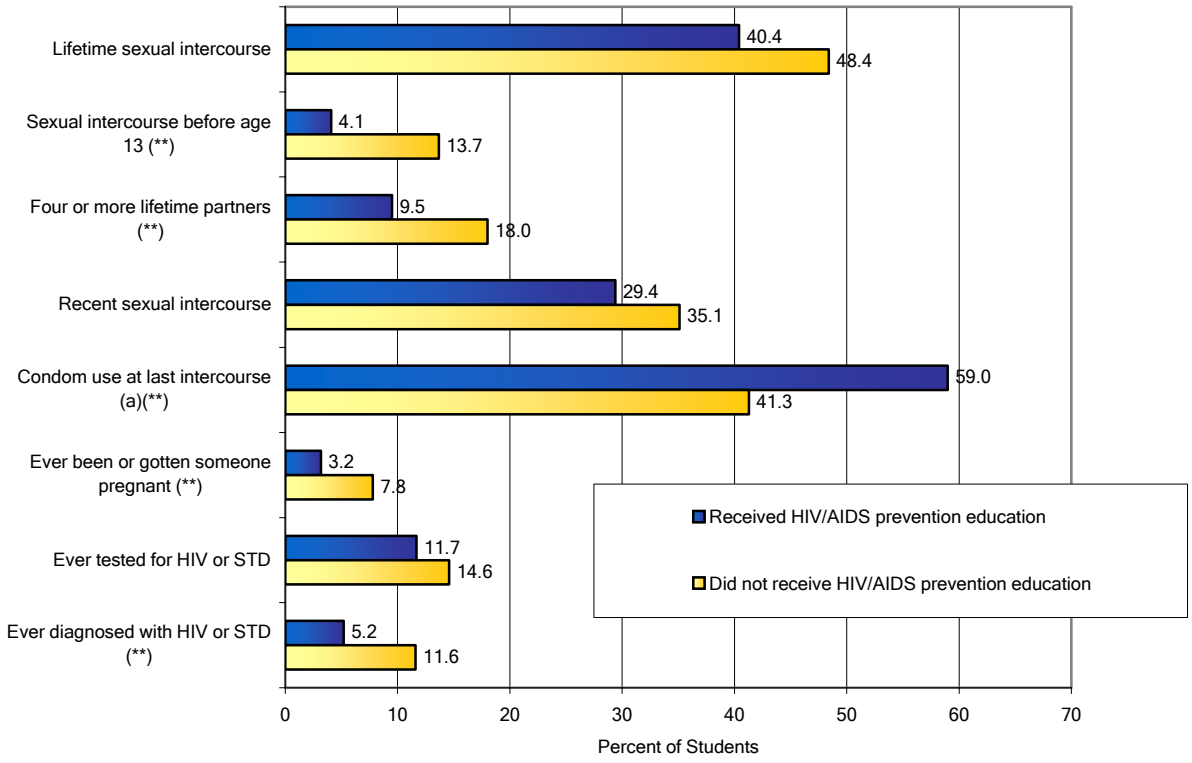
- Asian students were the least likely of all racial/ethnic groups to have talked with their parents at least once in the 12 months before the survey about sexuality or ways to prevent HIV infection, other STDs, or pregnancy (36% compared to 55% of Hispanic students, 51% of Black students, 49% of White students, and 42% of students of Other or Multiple Ethnicity (see Figure 8h).

HIV/AIDS EDUCATION AND SEXUAL BEHAVIORS

- Compared to their peers who were not taught in school about AIDS or HIV, students who received AIDS/HIV education in school were significantly less likely to have reported sexual intercourse before age 13 (4% vs. 14%) or four or more sexual partners (10% vs. 18%). Among sexually experienced youth, those who had received HIV or AIDS education in school were significantly less likely to have ever been or gotten someone pregnant (9% vs. 19%) or to have been diagnosed with HIV or another STD (7% vs. 14%) (see Figure 8i).

- Among sexually active students, those who talked with their parents in the 12 months before the survey about sexuality or ways to prevent HIV infection, other STDs, or pregnancy were less likely than sexually active students who did not talk with their parents about these issues to have used alcohol or drugs before the last time they had sex (10% vs. 20%).

Figure 8i. Assocation Between School HIV/AIDS Prevention Education and Sexual Risk Behaviors and Experiences, 2003



(**) Statistically significant difference between groups, p<.01; Note: (a) Among students who had sexual intercourse in the three months before the survey

ADDITIONAL FINDINGS ABOUT HIV/AIDS PREVENTION EDUCATION

- Certain groups of students were significantly more likely than their peers to report receiving sexuality education:
  - U.S.-born students were more likely than their peers to report being taught in school about AIDS or HIV infection (93% vs. 73% of recent immigrants).
  - Students who primarily spoke a language other than English at home were significantly less likely than other students to report being taught in school about AIDS or HIV infection (86% vs. 93%).
  - Sexual minority youth were significantly less likely than other students to have been taught about AIDS or HIV infection in school (85% vs. 92%).
  - Students in suburban and rural communities (94% of each group) were significantly more likely than urban students (88%) to report being taught in school about AIDS or HIV infection. However, urban students were more likely than rural students to be taught how to use a condom (52% vs. 42%).

SUMMARY OF RESULTS

(Also see Appendix C, Table 8)

Significantly fewer students in 2003 than in previous years reported having ever had sexual intercourse in their lifetimes, having had sexual intercourse before age 13, having had sexual intercourse with four or more partners in their lifetimes, and having had sexual intercourse in the three months before the survey. Additionally, fewer students reported having ever been or gotten someone pregnant. Still many students are sexually active and nearly half didn't use a condom the last time they had sexual intercourse. Condom use was significantly less common among students in older grades who were more likely to be sexually active. One-quarter of all sexually active students used alcohol or drugs before the last time they had sexual intercourse, and there has been a significant increase in the percent of students who have been diagnosed with HIV or another STD.

At the same time, a small decrease was observed in the percent of students who were taught in school about AIDS or HIV infection. While the decrease is not significant, it does halt a steady and consistent increase that occurred between 1993 and 2001. Still, the vast majority of Massachusetts high school students have received AIDS or HIV education in school, and half have been taught how to use a condom. Having received AIDS education in school was significantly associated with lower rates of sexual intercourse before age 13, sexual intercourse with four or more partners, pregnancy, and HIV/STD diagnoses. Additionally half of all students had discussed sexuality or ways to prevent HIV, STDs, or pregnancy with their parents or another adult family member. These students were significantly less likely than their peers to report using alcohol or drugs before the last time they had sexual intercourse.

Male students, Black and Hispanic students, students in urban districts, and sexual minority youth were more likely than their peers to report some sexual behaviors. Recent immigrants, sexual minority students and students in urban districts were significantly less likely to have received AIDS or HIV education in school.

IMPLICATIONS AND RECOMMENDATIONS

It is encouraging that fewer Massachusetts high school students are engaging in sexual risk behaviors than in the past; however, a significant number of students enter high school already sexually experienced and half are sexually active by the end of their senior year. The results suggest that age-appropriate sexuality education should start well before high school to address responsible decision-making and improve communication and refusal skills before young people become sexually active. Also, comprehensive and experience-appropriate sexuality education should continue throughout high school both to encourage the delay of sexual initiation among students who are not sexually active and to stress the importance of condom use and contraception among sexually active youth.

Although more than half of all sexually active students in 2003 used a condom the last time they had sexual intercourse, an unacceptably high percentage of sexually active high school students are still leaving themselves vulnerable to sexually transmitted diseases (STDs), including HIV infection, by not using condoms. In addition, MYRBS results show a sharp drop-off in condom use among 12th grade students, who are more likely than younger students to use hormonal contraception (such as birth control pills or Depo-Provera). Hormonal contraceptive methods are highly effective at preventing pregnancy but offer no

protection against HIV or other sexually transmitted diseases. Therefore the concurrent decrease in condom use among these students is particularly troubling.

Notably, one-quarter of sexually experienced youth have been tested for sexually transmitted diseases, and one in fourteen has been diagnosed with an STD. The significant increase in the percent of all students who have been diagnosed with HIV or another STD is problematic. This indicates the need to provide continuing education about STD and HIV prevention throughout the high school years, and to encourage the continued use of condoms to prevent STDs and HIV infection, even if other methods of contraception are used as well. It also suggests the need to provide youth with information about STD testing and treatment resources.

The increase in HIV/STD diagnoses despite decreased in reported sexual intercourse may also suggest that students are engaging in other sexual behaviors that are placing them at risk of infection. Indeed, 14% of students reported having had sexual contact in their lifetimes but not sexual intercourse. Thus comprehensive sexuality education should include instruction about the health risks associated with all sexual behaviors and ways students can reduce or prevent their risk of disease infection.

Different patterns of sexual risk-taking among different groups indicate that "targeted" prevention efforts may be important. For example, the significantly higher rates of early initiation of sexual activity among male students, Hispanic and Black students, and students in urban districts, suggest that it is critical to ensure that these young people in particular receive prevention education before they reach high school.

Similarly, sexual minority youth have significantly higher rates than their peers of sexual risk behaviors and may be at particularly high risk of STDs and HIV infection.[100] Though these students may constitute a "hidden" and unacknowledged population in many schools, it is important that comprehensive school health education programs develop ways of addressing the particular health education and sexuality education needs of these young people.

Comprehensive school health programs that emphasize responsibility and healthy life choices can help young people move toward becoming sexually healthy adults. Schools and communities should work together to ensure that all students receive appropriate and effective sexuality education encouraging them to engage in healthier, more responsible sexual decision-making.

The large number of students who have received AIDS or HIV education in school points to the success of multiple efforts by health teachers, schools, state and community agencies, and others to expand instruction about AIDS/HIV. Education remains the strongest weapon available to fight against HIV/AIDS. The Massachusetts Board of Education Policy regarding HIV/AIDS education recommends that students in every grade should receive such instruction, particularly students at increased risk. Indeed more than 88% of students in each of grades 9 through 12 reported receiving education about AIDS or HIV infection. Unfortunately students who might be considered to be at high risk due to their sexual behaviors – including students in urban communities, sexual minority students, and non-White students – were somewhat less likely to have received HIV/AIDS education in school. These results indicate that increased efforts should be made to reach *all* students and to do so in a culturally- and age-appropriate manner.

It is also important to ensure that students get *effective* AIDS education, using approaches and programs that have been found to reduce adolescent sexual activity that might result in pregnancy or sexually transmitted disease. A number of AIDS prevention programs have been carefully evaluated and found to result in lower rates of risky sexual behavior.[101] Common to all of these effective programs is their emphasis on reinforcing clear and appropriate values and avoiding sexual risk-taking, discussing media and social influences on sexual behavior, helping students personalize information about risks, and providing practice in communication, interpersonal negotiation, and refusal skills.[87] The Massachusetts Department of Education HIV/STD Prevention Program provides technical assistance to districts in developing and updating their HIV/AIDS prevention curricula.

Fortunately, the majority of young people are abstaining from sexual intercourse, and education programs should foster and encourage the attitudes and skills needed to maintain this behavior; however, young people also need varied and experience-appropriate approaches to AIDS prevention. For students who have already chosen to be sexually active, programs should promote responsible sexual decision-making and behavior. In this context, science-based education about condoms and their correct use ought to be included in HIV prevention programs. Notably, less than three-fifths of seniors had received any instruction about condom use, despite the fact that less than half of sexually active seniors reported any condom use.

9 CHAPTER 9
NUTRITION, WEIGHT CONTROL, & PHYSICAL ACTIVITY

INTRODUCTION

Physical fitness and healthy weight should be priorities for Americans of all ages. Each year, roughly 300,000 people die from diseases and health conditions related to overweight and obesity.[102] Nationally, 11% of adolescents are overweight.[103] Obesity in adolescence may persist into adulthood, increasing later risk for chronic conditions such as diabetes, heart disease, high blood pressure, stroke, and certain cancers.[104] Obesity during adolescence is also related to psychological stress, depression, problems with family relations, and poor school performance.[105,106]

Conversely, an overemphasis on thinness during adolescence may contribute to eating disorders such as anorexia nervosa, a disease in which people severely limit their food intake, or bulimia nervosa, which involves compulsive overeating followed by "purging" through vomiting, taking laxatives, or excessive exercising.[107] About one in ten cases of eating disorders leads to death from cardiac arrest, starvation, or suicide.[107]

Because lifetime dietary patterns are established in youth, it is important for adolescents to choose nutritious foods and to develop healthy eating habits, such as eating five or more servings of fruits and vegetables per day and consuming adequate amounts of calcium. Calcium is essential to building strong bones and preventing late-life osteoporosis; it may also be important in the prevention of certain cancers and other chronic health problems.

Adolescents should consume at least 1200mg of calcium per day, the amount found in about three glasses of milk.[108] Also, there is evidence that eating breakfast every day can significantly improve students' attention in the classroom, attendance, and test scores.[109,110,111]

In addition to proper nutrition and healthy eating habits, regular physical activity can help maintain a healthy body weight, muscle strength, and bone health.[112] Millions of Americans suffer from chronic illnesses that can be prevented or improved through regular physical activity, including coronary heart disease, diabetes, osteoporosis, certain cancers, and high blood pressure.[113, 114, 115, 116, 117, 118] Regular physical activity increases life expectancy,[119] and is associated with good mental health and self-esteem.[112, 120] Yet almost one-third of adolescents do not engage in sufficient amounts of physical activity.[103]

School physical education programs promote higher levels of physical activity and have been found to have a positive effect on the health and fitness of young people.[121] In addition, there is evidence that participation in a health-related physical education program can have a positive effect on student achievement.[121] Further, students who participate on sports teams are less likely than their peers to smoke tobacco or use drugs,[122] and more likely to stay in school and have high academic achievement.[123]

The Healthy People 2010 National Health Objectives include many objectives for improving

the nutritional health and physical fitness of adolescents.[27] These include:

(a) reducing the prevalence of overweight among adolescents;

(b) increasing the proportion of overweight adolescents who have adopted sound dietary practices and regular physical activity to reach appropriate body weight;

(c) increasing to five or more the average daily servings of fruits and vegetables;

(d) increasing the proportion of adolescents who attend a daily physical education class; and

(e) increasing the proportion of adolescents who engage in vigorous physical activity at least three times a week and moderate physical activity at least five times per week.

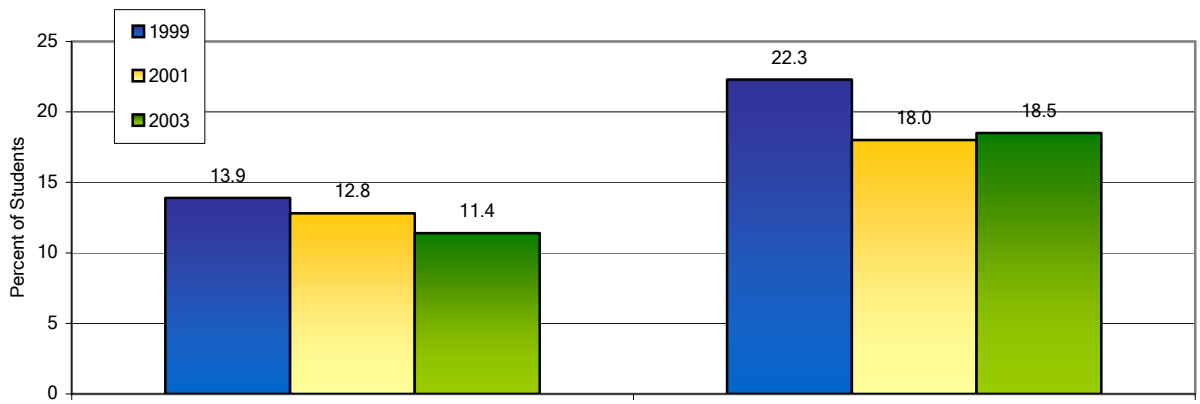
The 2003 MYRBS asked students about their perception of their body weight, their efforts to change or maintain body weight, behaviors that might indicate eating disorders, and some of their food choices. Also, the MYRBS asked students to report their height and weight, thus permitting the calculation of Body Mass Index (BMI), a measure used to assess overweight.

The MYRBS also asked students about their participation in vigorous and moderate physical activity, in physical education classes, and in team sports. Finally, because television viewing is considered a sign of a sedentary lifestyle, the survey asked about the number of hours students watched television on an average school day.

KEY FINDINGS FROM THE MYRBS

- Since 1999, there has been a significant decrease in the percent of students who eat five or more servings of fruits or vegetables per day (14% to 11% in 2003) and in the percent of students who drink three or more glasses of milk per day (22% to 19% in 2003).
- One-third (32%) of all students ate breakfast every day in the week before the survey.
- Fourteen percent (14%) of students were at risk of becoming overweight and 10% were overweight at the time of the survey. While only 10% of students were overweight, 31% thought they were overweight, and 46% were trying to lose weight.
- Male students were more likely to be overweight, but female students were more likely to think they were overweight or to have been trying to lose weight.
- Seventeen percent (17%) of all students used an unhealthy method of weight loss including fasting (12%), taking diet pills, powders, or liquids without a doctor's advice (7%), or vomiting or laxative use (6%).
- Most students (61%) participated in regular vigorous physical activity (i.e., aerobic activities that made them sweat or breathe hard) and 24% participated in regular moderate physical activity (i.e., activities that did not make them sweat or breathe hard).
- More than half (58%) of students attended a physical education class at least once in an average school week – a significant decrease from 73% in 1997 – and 14% attended physical education class daily in an average school week.
- Proper nutrition, healthy weight, and participation in physical activity were all associated with higher rates of academic achievement. Eating breakfast every day and participation in physical activity were associated with lower rates of almost all risk behaviors – including substance use, suicidal thinking and behavior, and sexual behavior.
- Nutrition, overweight, and physical activity behaviors varied significantly by gender, grade, race/ethnicity, kind of community, immigrant status, and sexual orientation.

Figure 9a. Nutrition-Related Behaviors Among Massachusetts High School Students, 1999 to 2003



(*) Statistically significant decrease from 1999, p<.05.

RESULTS

NUTRITION

- On average, Massachusetts high school students ate 2.5 servings of fruits and vegetables per day in the seven days before the survey. This includes servings of fruit, fruit juice, potatoes, green salad, and other cooked or raw vegetables.

- Only 11% of students ate five or more servings of fruits or vegetables per day as recommended by nutritional guidelines. This represents a significant decrease from 14% in 1999 (see Figure 9a).

- The percent of students who consumed five or more servings of fruits and vegetables per day did not vary significantly by gender (12% of males and 11% of females).

- The percent of students who ate five or more servings of fruits and vegetables did not vary significantly by grade; 11% of 9th grade students, 10% of 10th grade students, 13% of 11th grade students, and 11% of 12th grade students consumed the recommended daily amounts.

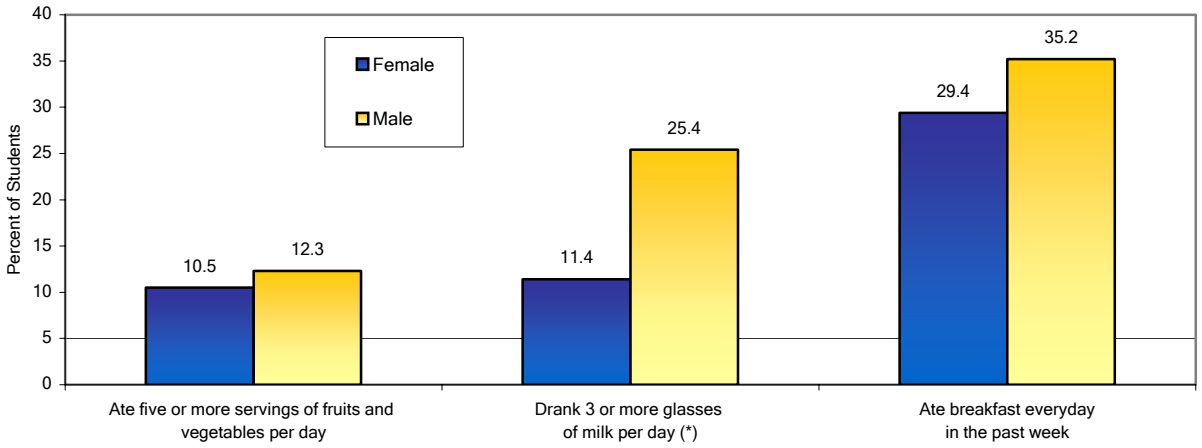
- Eighteen percent (18%) of Asian students, 17% of students of Other or Multiple Ethnicity, 11% of White and Black students, and 13% of Hispanic students reported eating five or more servings of fruits and vegetables per day.

- On average, students drank 1.3 glasses of milk per day in the seven days before the survey.

- Nineteen percent (19%) of students drank three or more glasses of milk, the amount of milk that would supply the recommended levels of calcium. This represents a significant decrease from 22% in 1999.

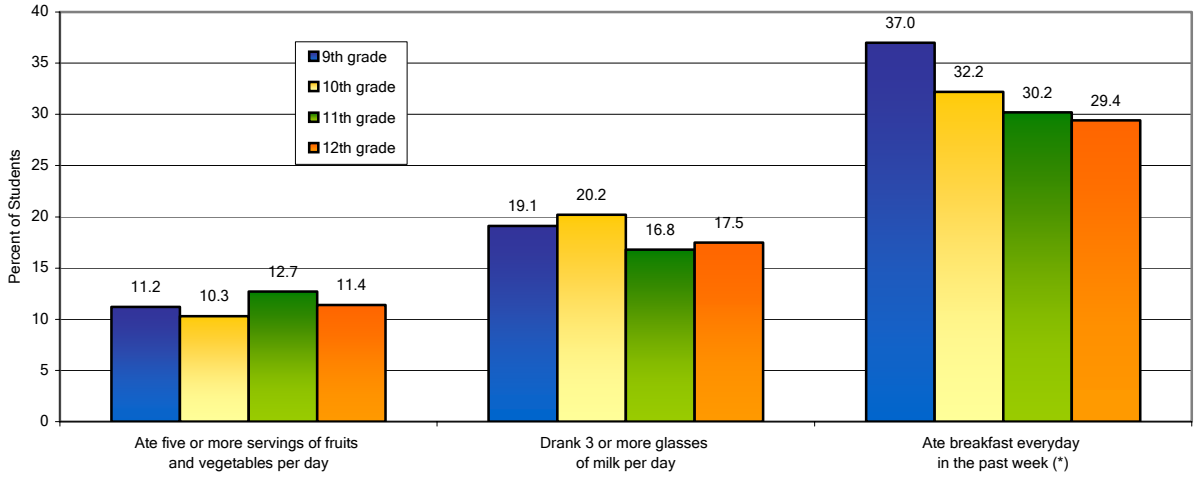
- Significantly more male students than female students drank three or more glasses of milk per day (25% vs. 11%, respectively; see Figure 9b).

Figure 9b. Nutrition-Related Behaviors Among Massachusetts High School Students by Gender, 2003



(*) Statistically significant difference between male and female students, p<.05

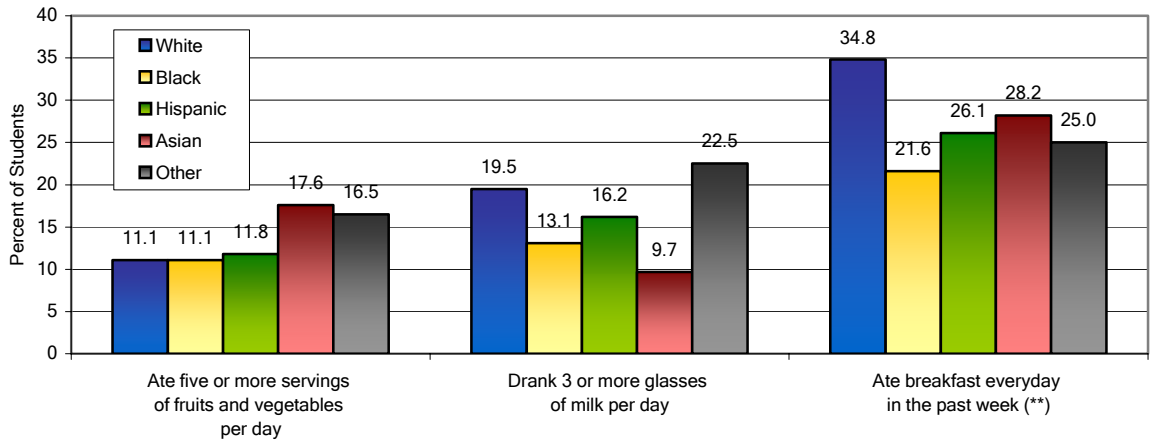
Figure 9c. Nutrition-Related Behaviors Among Massachusetts High School Students by Grade, 2003



(*) Statistically significant difference between grades, p<.05

- Milk consumption did not vary significantly by grade: 19% of 9th grade students, 20% of 10th grade students, 17% of 11th grade students, and 18% of 12th grade students drank 3 or more glasses of milk per day (see Figure 9c).
- There were small, but not significant, differences in milk consumption by race/ethnicity. Twenty-three percent (23%) of students of Other or Multiple Ethnicity, 20% of White students, 16% of Hispanic students, 13% of Black students, and 10% of Asian students

Figure 9d. Nutrition-Related Behaviors Among Massachusetts High School Students by Race/Ethnicity(a), 2003



(**) Statistically significant difference between groups, p<.01; Note: (a) See Table 1, page 2, for a detailed explanation of racial/ethnic categories.

reported drinking three or more glasses of milk per day.[124]

- One-third (32%) of all students ate breakfast every day in the week before the survey. One in six students (17%) did not eat breakfast on any of the seven days before the survey.

- Male students were slightly more likely than female students (35% vs. 29%) to report eating breakfast every day in the week before the survey.

- Eating breakfast every day decreased significantly with grade in school such that 12th grade students were less likely than 9th grade students to report eating breakfast every day (29% vs. 37%). Thirty-two percent (32%) of 10th grade students and 30% of 11th grade students ate breakfast every day.

- There were also significant racial/ethnic differences in the percent of students who ate breakfast every day. White students (35%) were significantly more likely than Black and Hispanic students (22% and 26% respectively) to eat breakfast every day. Twenty-eight percent (28%) of Asian students and 25% of students of Other or Multiple Ethnicity ate breakfast every day (see Figure 9d).

WEIGHT CONTROL

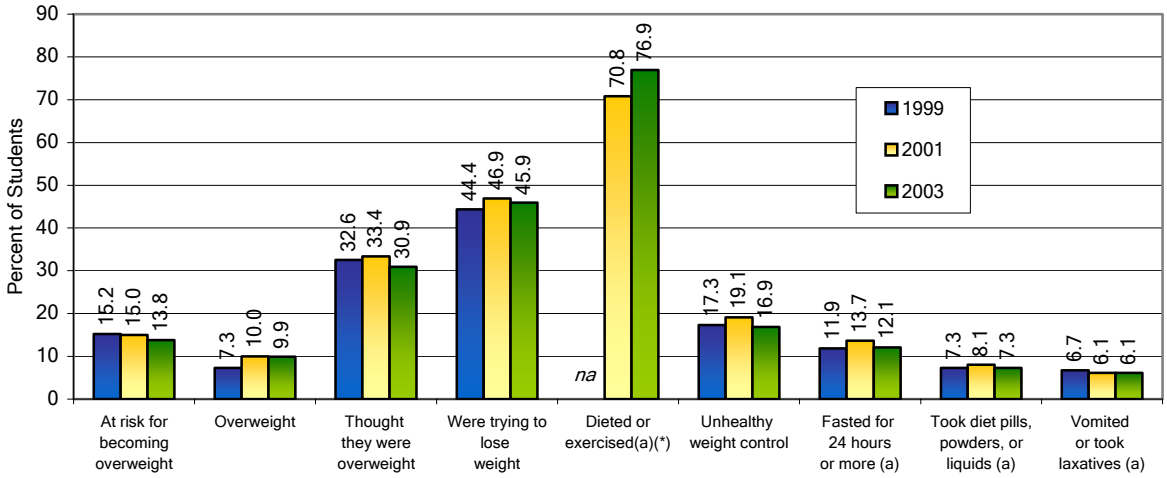
Overweight and Weight Perception

- According to their Body Mass Index,[125] 14% of Massachusetts high school students were at risk for becoming overweight and 10% were overweight at the time of the survey (see Figure 9e).

- Male students were slightly more likely than female students to be at risk of becoming overweight (15% vs. 12%) and significantly more likely to be overweight (13% vs. 7%).

- The percent of students who were at risk of becoming overweight decreased slightly with

Figure 9e. Overweight and Weight Control Behaviors Among Massachusetts High School Students, 1999 to 2003



(*) Statistically significant decrease from 1999, p<.05; Note: (na) Measure not available in all years, (a) In order to lose weight or to keep from gaining weight

grade in school: 16% of 9th grade students, 15% of 10th grade students, 12% of 11th grade students, and 11% of 12th grade students were at risk. However, there were no differences by grade in the percent of students who were overweight. Between 8 – 11% of each grade was overweight.

- Black students, Hispanic students, and students of Other or Multiple Ethnicity were most at risk of becoming overweight: 20% of Black students, 18% of Hispanic students, 18% of students of Other or Multiple Ethnicity, 13% of White students, and 8% of Asian students were at risk of becoming overweight.

- Similarly, Black students (13%), Hispanic students (12%), and students of Other or Multiple Ethnicity (14%) were slightly more likely to be overweight than their peers in other racial/ethnic groups (9% of White students and 5% of Asian students).

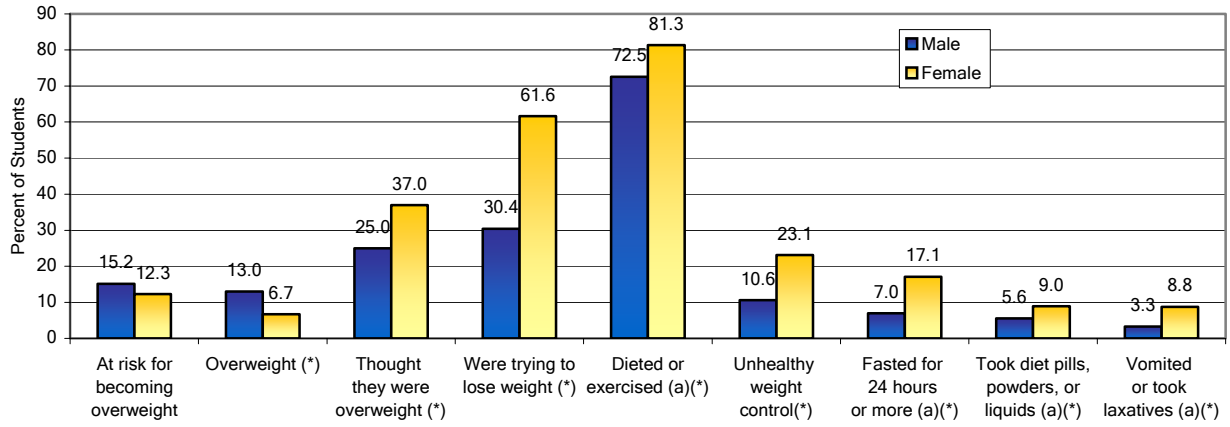
- Half (52%) of all students believed they were about the right weight, and 15% considered themselves to be slightly or very underweight.

- As noted, only 10% of all students were overweight at the time of the survey. However, one-third (31%) of all students believed that they were slightly or very overweight.

- While male students were more likely than female students to be overweight, females were more likely than males to consider themselves slightly or very overweight (40% vs. 27%, respectively).

- The percent of students who considered themselves to be slightly or very overweight increased slightly by grade: 28% of 9th grade students, 31% of 10th grade students, 33% of 11th grade students, and 32% of 12th grade students considered themselves to be overweight.

Figure 9f. Overweight and Weight Control Behaviors Among Massachusetts High School Students by Gender, 2003



(*) Statistically significant difference between male and female students, p<.05; Note: (a) In order to lose weight or to keep from gaining weight

- One in three Hispanic students and students of Other or Multiple Ethnicity (33%) and 31% White students considered themselves to be overweight. Slightly fewer Black (25%) and Asian students (24%) thought they were overweight.

- Among students who perceived themselves to be slightly or very overweight, almost half (46%) had healthy body weights (that is, they were not overweight nor at risk of becoming overweight). Females were more likely than males to view themselves as overweight when they actually had healthy body weights (58% vs. 29%, respectively).

Attempts to Control Weight

- Almost half (46%) of all students were trying to lose weight at the time of the survey.

- Significantly more female students (62%) than male students (30%) were trying to lose weight (see Figure 9f).

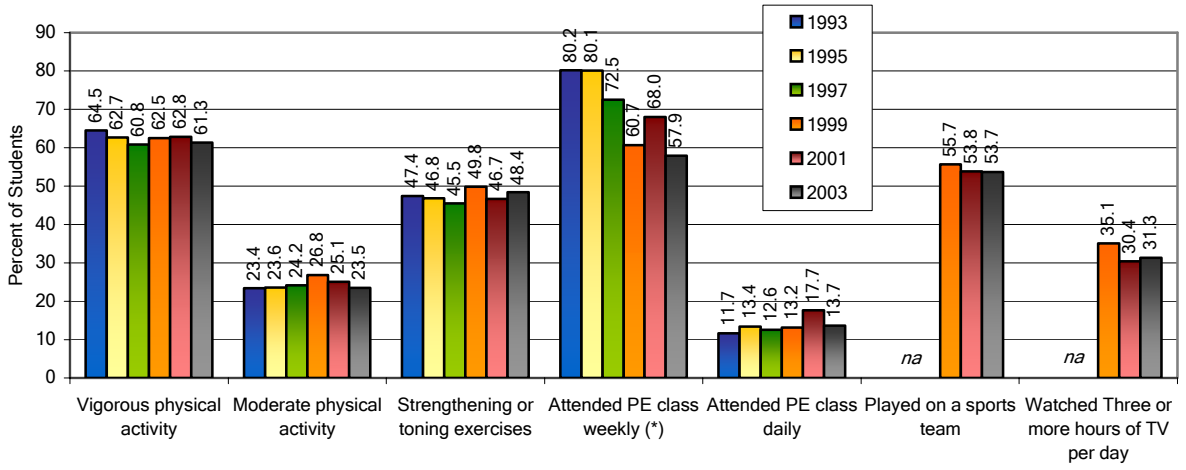
- Students of all grades were equally as likely to report trying to lose weight (45% of 9th grade, 46% of 10th grade, 48% of 11th grade, and 44% of 12th grade).

- Hispanic students (50%) and White students (46%) were the most likely to be trying to lose weight. Forty-two percent (42%) of Black students and students of Other or Multiple Ethnicity and 32% of Asian students were also trying to lose weight.

- Almost half (45%) of all students who were trying to lose weight were not overweight or at risk of becoming overweight.

- Most (77%) students tried to lose weight through exercise and dieting. In the 30 days before the survey, one-third (37%) of all students exercised, 11% dieted, and 28% both exercised and dieted in order to lose weight or to keep from gaining weight.

Figure 9g. Physical Activity Behaviors Among Massachusetts High School Students, 1993 to 2003



(*) Statistically significant decrease from 1997, p<.05; Note: (na) Measure not available in all years

- Seventeen percent of all students (17%) reported using at least one unhealthy method of weight loss, such as:
  - Taking diet pills, powders, or liquids without a doctor's advice (7%);
  - Fasting (or going without food for 24 hours or more) (12%); and
  - Vomiting or taking laxatives (6%).

- All strategies of weight loss – both healthy and unhealthy – were more common among females than among males, and using diet pills, powders, or liquids was significantly more common among 12th grade students than among younger students. There were no significant racial/ethnic differences for any method of weight loss.

PHYSICAL ACTIVITY

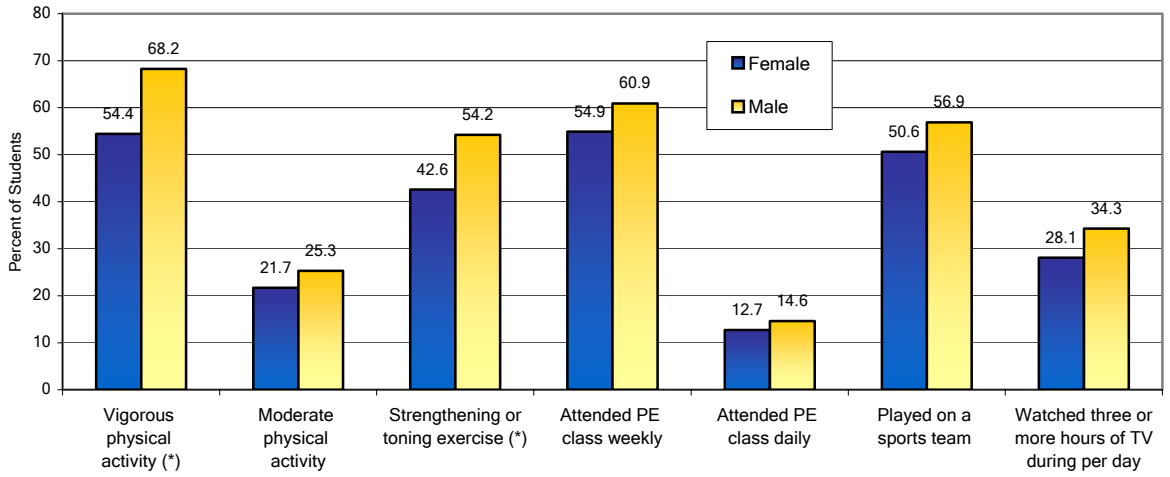
Vigorous and Moderate Physical Activity

- *Vigorous physical activity* was defined as participating in physical activities that make you sweat or breathe hard for at least twenty minutes. These activities can include basketball, soccer, running, swimming laps, fast bicycling, fast dancing, or other similar aerobic activities.

- Most (61%) students participated in vigorous physical activity three or more times in the week before the survey. The percent of students who participate in regular vigorous physical activity has not changed significantly since 1993 (see Figure 9g).

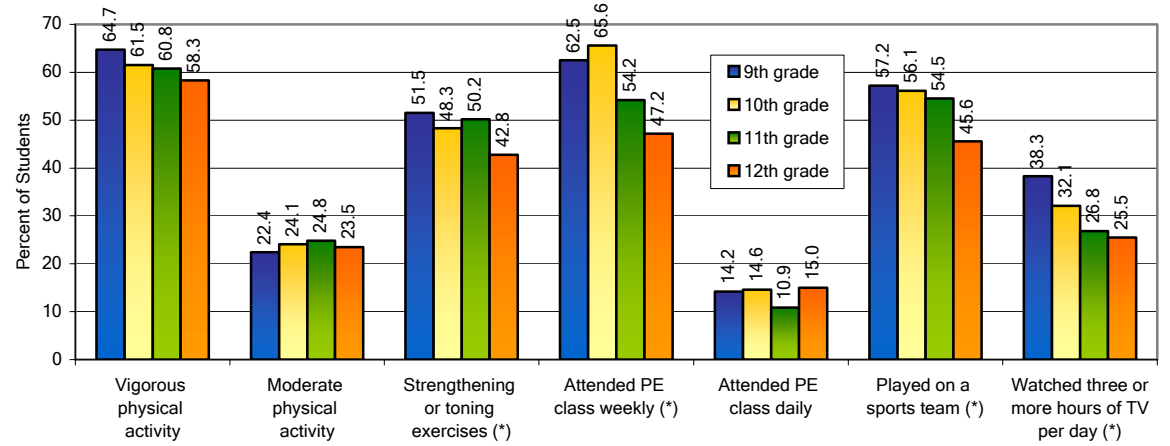
- Significantly more males (68%) than females (54%) participated in regular vigorous physical activity in the week before the survey (see Figure 9h).

Figure 9h. Physical Activity Behaviors Among Massachusetts High School Students by Gender, 2003



(*) Statistically significant difference between male and female students, p<.05

Figure 9i. Physical Activity Behaviors Among Massachusetts High School Students by Grade, 2003



(*) Statistically significant difference between grades, p<.05

- Participation in regular vigorous physical activity decreased slightly with grade in school: 65% of freshman, 62% of sophomores, 61% of juniors, and 58% of seniors reported participating in regular vigorous physical activity in the week before the survey (see Figure 9i).

- Significantly more White students (65%) participated in regular vigorous physical activity than did Black or Hispanic (46% and 50% respectively). Fifty-seven percent (57%) of Asian students and 63% of students of Other or Multiple Ethnicity reported regular vigorous physical activity.

- *Moderate physical activity* was defined as participating in physical activities that do not make you sweat or breathe hard for at least thirty minutes. These activities can include fast walking, slow bicycling, skating, pushing a lawn mower, or mopping floors.

- One-quarter (24%) of students participated in moderate physical activity five or more times in the week before the survey.

- Male students and female students were equally as likely to have participated in regular moderate physical activity in the week before the survey (25% vs. 22% respectively).

- Between 22% and 25% of students in each of grades 9 – 12 reported participating in moderate physical activity in the week before the survey.

- White students (26%) were significantly more likely than Black or Hispanic students (14% and 17% respectively) to report moderate physical activity. Eighteen percent (18%) of Asian students and 23% of students of Other or Multiple Ethnicity also reported moderate physical activity in the week before the survey.

Muscle Strengthening and Toning Exercise

- Slightly fewer than half of all students (48%) did exercises to strengthen or tone their muscles (such as push-ups, sit-ups, or weightlifting) on at least three of the seven days before the survey.

- Strengthening and toning exercise was significantly more common among male students than among females (54% vs. 43%, respectively).

- There were significant grade differences such that strengthening and toning exercise was most common among freshman (52%) and least common among seniors (43%).

- Fifty percent (50%) of White students, 49% of students of Other or Multiple Ethnicity, 47% of Hispanic and Asian students, and 39% of Black students did strengthening or toning exercises on three or more days in the week before the survey (see Figure 9j).

Physical Education

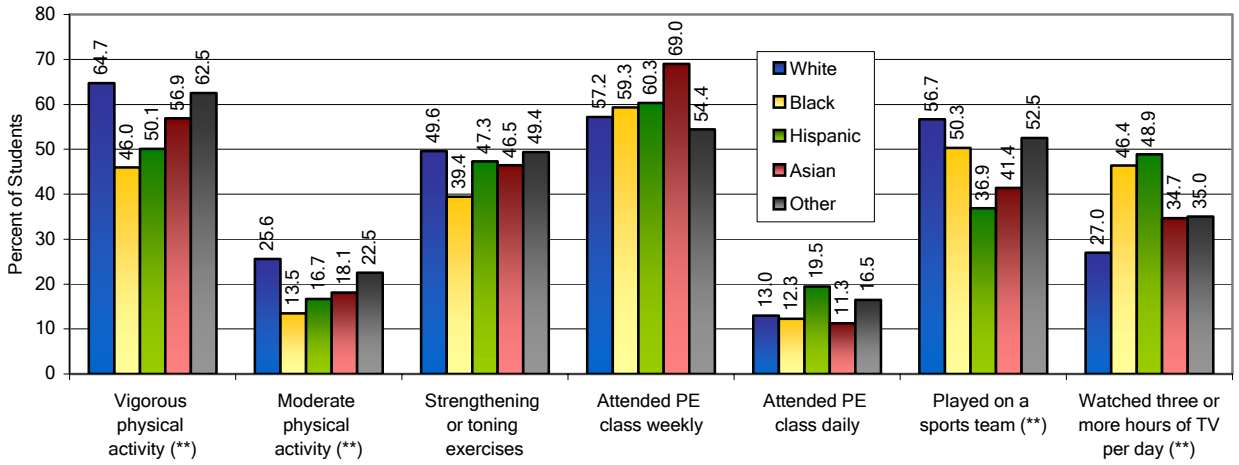
- Fifty-eight percent (58%) of all high school students reported attending a physical education (PE) class at least once in an average school week. This represents a significant decrease from 73% in 1997.

- Fourteen percent (14%) of students attended a PE class daily in an average school week.

- Male students were slightly more likely than female students to report attending a PE class at least once in an average school week (61% vs. 55%), and somewhat more likely to report attending a PE class every day in an average school week (15% vs. 13%). However, the differences were not significant.

- Students in older grades were less likely than students in younger grades to have attended a PE class at least once in an average school week (47% of seniors and 54% of juniors, vs. 63% of freshmen and 66% of sophomores). There were no significant grade differences in the percent of students who reported attending a PE class daily in an average school week (14% of 9th grade, 15% of 10th and 12th grade, and 11% of 11th grade).

Figure 9j. Physical Activity Behaviors Among Massachusetts High School Students by Race/Ethnicity(a), 2003



(**) Statistically significant difference between groups, p<.01; Note: (a) See Table 1, page 2, for a detailed explanation of racial/ethnic categories

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- There were no significant racial/ethnic differences in the percent of students who attended PE class weekly or daily. However, slightly more Asian students (69%) reported attending PE class at least once in an average school week than did students of Other or Multiple Ethnicity (54%), White students (57%), Black students (59%), and Hispanic students (60%).

- Hispanic students were the most likely to report attending PE class daily in an average school week (20% vs. 17% of students of Other or Multiple Ethnicity, 13% of White students, 12% of Black students, and 11% of Asian students).

- Students who attended a PE class at least once in an average school week were significantly more likely than their peer who did not attend PE to have participated in regular vigorous physical activity (68% vs. 52%), regular moderate physical activity (26% vs. 21%), or muscle strengthening exercise (53% vs. 42%).

Team Sports

- More than half (54%) of all students had played on at least one sports team in the year before the survey.

- Male students were slightly more likely than female students to have played on a sports team (57% vs. 51%, respectively). However, the difference was not significant.

- Participation on a sports team decreased with grade in school: 57% of 9th grade students played on at least one team compared to 46% of 12th grade students.

- Participation on a sports team was significantly less common among Hispanic and Asian students (37% and 41% respectively) than among White students (57%), students of Other or Multiple Ethnicity (53%), and Black students (50%).

- Students who played on a sports team were significantly more likely than their peers who did not participate in team sports to report vigorous physical activity (75% vs. 46%), moderate physical activity (29% vs. 17%), and muscle strengthening exercise (60% vs. 35%), and less likely to be overweight (7% vs. 13%).

Television watching

- Thirty-one percent (31%) of all students watched three or more hours of television on an average school day.

- Male students were somewhat more likely than female students to watch three or more hours of television on an average school day (34% vs. 28%) respectively.

- Heavy television watching (three or more hours per day) was more common among freshman (38%) and sophomores (32%) than among juniors (27%) and seniors (26%).

- Heavy television watching varied significantly with race/ethnicity. Hispanic students (49%) and Black students (46%) were significantly more likely than White students (27%), Asian students (35%) and students of Other or Multiple Ethnicity (35%) to report watching three or more hours of television on an average school day.

- Students who watched three or more hours of television on an average school day were significantly less likely than students who watched less television to have participated in vigorous physical activity (58% vs. 63%) or moderate physical activity (21% vs. 25%), and significantly more likely to be at risk of becoming overweight (17% vs. 12%) or overweight (15% vs. 8%).

NUTRITION AND PHYSICAL ACTIVITY AND OTHER RISK BEHAVIORS

- Students who ate five or more servings of fruits or vegetables per day were significantly more likely than students who ate less than five servings to report having participated in moderate physical activity (37% vs. 22%), team sports (64% vs. 53%), and vigorous physical activity (78% vs. 59%).

- Students who ate breakfast every day were significantly *more* likely than their peers who did not eat breakfast every day to report moderate physical activity (30% vs. 20%), sports team participation (63% vs. 49%), and vigorous physical activity (73% vs. 56%), and *less* likely to report unhealthy weight control practices (7% vs. 21%) or heavy television watching (27% vs. 33%).

- Participation in regular vigorous or moderate physical activity was significantly associated with lower rates of:
  - Unhealthy weight control practices (15% vs. 20%),
  - Heavy television watching (29% vs. 36%),
  - Participation on sports team (64% vs. 34%),
  - Current smoking (19% vs. 24%),
  - Daily smoking (6% vs. 10%),
  - Lifetime drug use (45% vs. 51%),
  - Lifetime sexual intercourse (39% vs. 45%),
  - Having ever been or gotten someone pregnant (3% vs. 6%),
  - Feeling sad or hopeless (25% vs. 34%),
  - Intentional self-injury (16% vs. 22%),
  - Considered suicide (14% vs. 21%), and
  - Attempted suicide (6% vs. 12%).

- However, binge drinking was significantly more common among students who participated in

regular vigorous or moderate physical activity than among students who did not participate in regular vigorous or moderate physical activity to report binge drinking (29% vs. 24%).

NUTRITION, OVERWEIGHT, AND PHYSICAL ACTIVITY AND ACADEMIC ACHIEVEMENT

- Good nutrition, healthy weight, and physical activity were associated with academic achievement, such that the following students were significantly more likely than their peers to report receiving mostly A's, B's, or C's in school:
  - Students who ate breakfast every day (92% vs. 86% of students who did not eat breakfast every day),
  - Students who participated in regular vigorous physical activity (89% vs. 85% of students who did not participate in regular vigorous physical activity),
  - Students who participated in regular moderate physical activity (91% vs. 87% of students who did not participate in regular moderate physical activity),
  - Students who played on a sports team (91% vs. 84 of students who did not participate in team sports), and
  - Students who were *not* overweight (89% vs. 81% of students who were overweight).

PROTECTIVE FACTORS FOR NUTRITION, OVERWEIGHT, AND PHYSICAL ACTIVITY

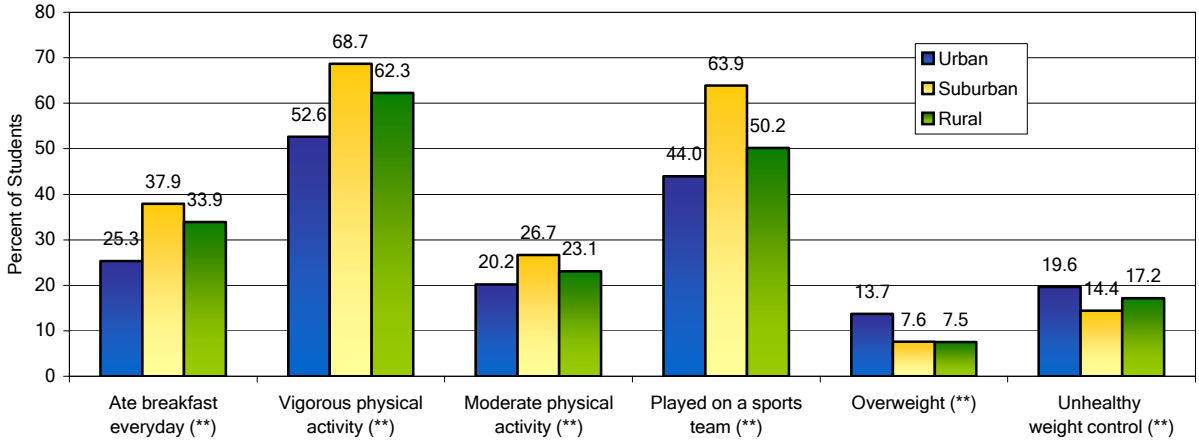
- Students who had a parent or other adult family member they could talk to about things that were important to them were significantly *less* likely than their peers who did not perceive parent or family support to report unhealthy weight control practices (14% vs. 26%) and playing on a sports team (56% vs. 44%), and were *more* likely to report having breakfast every day (34% vs. 26%).

- Students who believed there was a teacher or other adult in their school they could talk to about a problem were significantly *more* likely than students who did not perceive teacher support to have participated in vigorous physical activity (64% vs. 58%) and played on a sports team (57% vs. 47%), and *less* likely to have watched three or more hours of television on an average school day (29% vs. 36%).

- Students who participated in volunteer work or community service were significantly *more* likely than their peers who did not participate in volunteer work to report eating five or more servings of fruits and vegetables per day (16% vs. 8%), having breakfast every day (36% vs. 30%), participating in regular vigorous physical activity (70% vs. 55%), participating in regular moderate physical activity (29% vs. 20%), and playing on a sports team (65% vs. 46%). They were significantly *less* likely to report watching three or more hours of television on an average school day (24% vs. 36%).

- Students who participated in organized extra-curricular activities were significantly *more* likely than their peers who did not participate in extracurricular activities to report eating five or more servings of fruits and vegetables per day (15% vs. 8%), having breakfast every day (36% vs. 29%), participating in regular vigorous physical activity (68% vs. 55%), participating in regular moderate physical activity (29% vs. 18%), playing on a sports teams (65% vs. 43%), and having attended a physical education class at least once in an average school week (60% vs. 55%). They were also *less* likely to watch three or more hours of

Figure 9k. Nutrition, Weight Control, and Physical Activity Behaviors Among Massachusetts High School Students in Urban, Suburban, and Rural Communities, 2003



(**) Statistically significant difference between groups, p<.01

television on an average school day (27% vs. 36%).

ADDITIONAL FINDINGS

- Urban students were significantly *less* likely than their peers in suburban and sometimes rural communities to report having breakfast every day, participating in moderate or vigorous physical activity, or playing on a sports team. They were significantly *more* likely to report using unhealthy weight loss methods and being overweight (see Figure 9k).

- Recent immigrants were significantly less likely than U.S.-born students to have participated in regular vigorous physical activity (42% vs. 63%) or to have played on a sports team (45% vs. 55%).

- Students with physical disabilities were significantly more likely than students without disabilities to have consumed five or more fruits and vegetables per day (17% vs. 11%) and to have used any unhealthy weight control practices (22% vs. 16%).

- Students who predominantly spoke a language other than English at home were significantly less likely than other students to report having breakfast every day (25% vs. 34%), having three or more glasses of milk per day (14% vs. 19%), having participated in regular moderate physical activity (17% vs. 25%) or regular vigorous physical activity (50% vs. 64%), and having played on a sports team (40% vs. 56%).

- Sexual minority youth (i.e., students who either identified as gay, lesbian, or bisexual, or had any same-sex sexual contact) were significantly *less* likely than other students to report having breakfast every day (22% vs. 33%), participating in regular vigorous physical activity (44% vs. 62%), playing on a sports team (40% vs. 55%), and were significantly *more* likely to be at risk of becoming overweight (22% vs. 13%) and to have used an unhealthy weight control method (38% vs. 16%).

SUMMARY OF RESULTS

Significantly fewer students in 2003 than in previous years reported eating five or more servings of fruits or vegetables per day or drinking three or more glasses of milk per day as recommended by dietary guidelines, and only one-third ate breakfast every day. One in ten students in 2003 was overweight, and an even larger proportion was at risk of becoming overweight. Nearly one half of students were trying to lose weight, most often through diet and exercise, though a minority of students used fasting, diet pills, laxatives, and/or vomiting to control their weight. Female students were more likely than male students to consider themselves overweight, be trying to lose weight, and to be doing so in unhealthy ways, despite the fact that they were significantly less likely than males to be overweight.

Three-fifths of Massachusetts students engaged in regular aerobic exercise, and half also regularly did exercises to strengthen and tone their muscles. More than half played on a sports team in the past year or attended physical education class once in an average school week – though this percentage has significantly decreased over the past few years. Physical activity rates were higher among males, 9th graders, and non-urban students than among females, older students, and youth in urban areas. Participation in regular exercise was associated with higher rates of academic achievement and lower rates of several risk behaviors, including smoking, illegal drug use, and sexual risk behaviors.

IMPLICATIONS AND RECOMMENDATIONS

Many Massachusetts adolescents are either currently overweight or at risk of becoming overweight as adults. Obesity in adolescence is likely to continue into adulthood and poses serious threats to one's health, including increased risk for high blood pressure, cardiovascular disease, diabetes, and other chronic health conditions. These findings suggest the importance of including obesity prevention topics, such as the importance of proper nutrition, physical activity, and healthy weight control in comprehensive school health education programs.

Most students appear to be attempting to control their weight in appropriate ways, through diet and exercise. However, some youth use weight-loss strategies that endanger health and may indicate signs of eating disorders such as anorexia or bulimia. Students should be informed of the dangers of eating disorders. Education about weight control should emphasize the physical risks of overweight, but actively discourage dangerous weight control techniques.

More education about the importance of proper nutrition is needed. It is disturbing that so few of our adolescents consume the recommended daily levels of five fruits and vegetables; they may instead be consuming less nutritious fast foods and soft drinks. Additionally, the low levels of milk consumption reported on this survey indicate that most adolescents may not be getting needed amounts of calcium in their diets. This is especially a problem among girls, as they were significantly less likely than males to drink enough milk, and are more likely to suffer from osteoporosis later in life. Healthy eating habits, good nutrition, and responsible weight control can be fostered not only by comprehensive school health education, but also by school counseling programs and school nurses and through healthy food choices in school cafeterias.

Although most students in 2003 reported participating in regular exercise, one-third of all students participated in an insufficient amount of physical activity and about one in ten students reported no physical exercise at all. It is also troubling that participation in a physical education

class even once in an average school week has decreased significantly, and two-fifths of all students did not attend a physical education class at all in an average school week. In addition, some measures of physical activity decreased with grade level, suggesting that many students are not maintaining the exercise patterns that will lead to good health as adults. School should support the development of healthy patterns of physical activity by ensuring that time is allotted in the school schedule for physical education, and that all students have the opportunity and are encouraged to participate in those classes and in other athletic activities. Families and communities can help as well by promoting physically active recreation activities for adolescents and restricting the amount of time children watch television.

Significant gender differences in diet, weight control, and physical activity behaviors were observed in the 2003 MYRBS. Young male students were significantly more likely than female students to be overweight, but less likely to realize they were overweight or to be attempting weight loss. In fact, just the opposite occurred: male students were more likely than female students to view themselves as *underweight* and to be trying to *gain* weight.

Conversely, female students were less likely than males to be overweight, but far more likely to consider themselves overweight, to be attempting weight loss, and to be using unhealthy methods of weight loss. Most females who were trying to lose weight had a healthy body weight. These findings suggest that education programs should recognize and incorporate the opposite views of male and female students regarding desirable body weight in an effort emphasize the importance of maintaining a *healthy* body weight. Also, significant racial/ethnic differences in overweight, weight control, and physical activity suggest that education programs should promote maintaining a healthy body weight and active lifestyle within a cultural context, incorporating varying cultural views on diet and body weight.

Finally, targeted interventions for students in urban communities may also be needed. Students in urban communities were more likely than non-urban students to be overweight and appeared to be particularly vulnerable to developing sedentary rather than active lifestyles.

10 CHAPTER 10 CONCLUSIONS

INTRODUCTION

The findings of the 2003 Massachusetts Youth Risk Behavior Survey document significant improvements that have occurred in many areas of adolescent risk behavior. These findings suggest that the influences of comprehensive school health programs, community efforts, and public health initiatives are having a strong positive impact on the behavior of Massachusetts adolescents.

SUMMARY OF KEY FINDINGS

- **Many adolescent risk behaviors have decreased in the past ten years.** Compared to previous years, significantly fewer students in 2003 were smoking cigarettes or using other forms of tobacco. Also, for the first time, significant decreases were observed in most measures of alcohol use, including binge drinking. Fewer students were using illegal drugs, carrying weapons, engaging in physical fights, considering or planning suicide, drinking and driving, having sexual intercourse in their lifetimes, or having sexual intercourse at a young age. In addition, fewer students reported having ever been or gotten someone pregnant. The 2003 MYRBS findings also show *increases* in seat belt and bicycle helmet use.

- **Substance use and violence on school property have significantly decreased.** Compared to previous years, significantly fewer students in 2003 smoked cigarettes, used marijuana, or were offered, sold, or given drugs on school property. Fewer students reported carrying a weapon or fighting at school, or skipping school because of feeling unsafe. These findings highlight the continued success of efforts by school personnel to provide a safe and drug-free learning environment for Massachusetts students. However, certain groups of students continue to be at greater risk for victimization on school property: urban students, recent immigrants, sexual minority youth, and students with physical disabilities were all more likely than their peers to have skipped school because of feeling unsafe, or to have been threatened or injured with a weapon at school.

- **A few areas, notably those related to nutrition and physical activity, have not improved in recent years.** In fact, in 2003 fewer students than in previous years participated in physical education classes or ate the recommended five servings of fruits or vegetables. This is of special concern because of the current national epidemic of obesity.

- **Risk behaviors tend to cluster together.** As we have seen in each chapter, students who engage in one high-risk or health-compromising behavior are often likely to engage in other risk behaviors as well. This suggests that a comprehensive approach to health education, rather than programs targeting specific risk behaviors in isolation, is most appropriate.

- **Risk behaviors are associated with lower academic achievement.** A student who is pregnant or feels unsafe at school or is depressed is not likely to perform well in school. Indeed, the 2003 MYRBS results document an association between all categories of risk behaviors and lower academic achievement.

- **Certain factors in a student's life have been identified as having a protective effect on behavior.** Students who feel they can talk to a parent or other adult family member, or a teacher or other adult in school, were less likely than their peers to be participating in some health-risk behaviors. Volunteer or community service work and participation in extracurricular activities were also associated with lower levels of many risk behaviors.

- **For some students, risk behaviors began well before high school.** Although the MYRBS surveyed only high school students, it is clear that a minority began substance use and sexual activity before they reached the 9th grade. It is important that comprehensive health education and prevention programs begin in elementary school and continue throughout the middle and high school years.

- **Patterns of risk are different for different students**. Certain groups of students appear to be at greater risk for health and academic problems because of higher rates of risk behaviors. Gender, race/ethnicity, grade level, sexual orientation, kind of community, and many other factors were all related to variations in risk behavior. Although all students need the knowledge, encouragement, and skills to develop healthy lifestyles, it may also be appropriate to develop "targeted" programs aimed specifically at the risks faced by certain segments of the adolescent population.

- **AIDS education is working.** Students who were taught in school about HIV/AIDS prevention had lower levels of some sexual risk behaviors than those who were not. These students were also less likely to have ever been pregnant or to have ever been diagnosed with a sexually transmitted disease.

CONCLUSIONS

The 2003 MYRBS results highlight continued and significant progress in reducing adolescent risk behaviors in the Commonwealth. For the most part, this pattern of improvement in nearly all risk categories began in 1995, two years after the beginning of the distribution of Health Protection Funds, which provided financial support for comprehensive health education in schools. The significant improvements evident in the 2003 MYRBS represent nearly a decade of effective health education and school health programs. However, the funds to support these programs were eliminated in 2002, and the full impact of the cuts still remains to be seen. Many school districts have had to scale back or eliminate health programs, classes, or staff positions due to budget constraints. Increases in risk behaviors might be expected over time as students are exposed to less health education and programming.

Continued emphasis on the importance of health and the role it plays in a student's academic performance is imperative to sustain the positive momentum of the past ten years. Comprehensive school health education and human services programs, especially those that help students develop the skills and attitudes needed for making sound decisions about health and safety, can have a positive effect on adolescent behavior and prevent those risk behaviors that can act as barriers to student learning.

Further, schools should strive to foster a healthy school environment in which all students feel safe and

connected to the school. The 2003 MYRBS findings suggest that if students have the opportunity to develop strong relationships with teachers, administrators, and other school staff, and to get involved in community service work or organized extra-curricular activities, they may be less likely to participate in health-risk or health-compromising behaviors.

The 2003 MYRBS results highlight continued progress in reducing adolescent risk behaviors in the Commonwealth. Nevertheless, existing levels of some risk behaviors among Massachusetts high school youth still warrant concern. Comprehensive school health education programs, within the context of a safe and healthy school environment, can reinforce positive decision-making and behavior change, and thus help youth resist or limit their participation in high-risk activities.

APPENDIX A

2003 Massachusetts Youth Risk Behavior Survey Questionnaire

(English Version)

2003 Massachusetts
Youth Risk Behavior Survey

This survey is about health behavior. It has been developed so you can tell us what you do that may affect your health. The information you give will be used to develop better health education for young people like yourself.

DO NOT write your name on this survey. The answers you give will be kept private. No one will know what you write. Answer the questions based on what you really do.

Completing the survey is voluntary. Whether or not you answer the questions will not affect your grade in this class. If you are not comfortable answering a question, just leave it blank.

The questions that ask about your background will be used only to describe the types of students completing this survey. The information will not be used to find out your name. No names will ever be reported.

Make sure to read every question. Fill in the ovals completely. When you are finished, follow the instructions of the person giving you the survey.

Thank you very much for your help.

Directions
Use a #2 pencil only. Make dark marks.
Fill in a response like this: A B ● D.
To change your answer, erase completely.
Choose only one answer for each question (except question 4).

1. How old are you?

   a. 12 years old or younger
   b. 13 years old
   c. 14 years old
   d. 15 years old
   e. 16 years old
   f. 17 years old
   g. 18 years old or older

2. What is your sex?

   a. Female
   b. Male

3. In what grade are you?

   a. 9th grade
   b. 10th grade
   c. 11th grade
   d. 12th grade
   e. Ungraded or other grade

4. How do you describe yourself? **(Select one or more responses.)**

   a. American Indian or Alaska Native
   b. Southeast Asian American (such as Cambodian, Vietnamese, Laotian, Thai)
   c. Asian American (such as Chinese, Japanese, Korean, East Indian)
   d. Black or African American
   e. Hispanic or Latino
   f. Native Hawaiian or Other Pacific Islander
   g. White

5. During the past 12 months, how would you describe your grades in school?

   a. Mostly A's
   b. Mostly B's
   c. Mostly C's
   d. Mostly D's
   e. Mostly F's
   f. None of these grades
   g. Not sure

6. How tall are you without your shoes on?

Directions: Write your height in the shaded blank boxes. Fill in the matching oval below each number on your answer sheet.

Example:

HEIGHT	
Feet	Inches
5	*11*
③	⓪
④	①
●	②
⑥	③
⑦	④
	⑤
	⑥
	⑦
	⑧
	⑨
	⑩
	●

7. How much do you weigh without your shoes on?

Directions: Write your weight in the shaded blank boxes. Fill in the matching oval below each number on your answer sheet.

Example:

WEIGHT		
Pounds		
1	*5*	*2*
●	⓪	⓪
②	①	①
③	②	●
	③	③
	④	④
	●	⑤
	⑥	⑥
	⑦	⑦
	⑧	⑧
	⑨	⑨

8. How long have you lived in the United States?

   a. Less than one year
   b. 1 to 3 years
   c. 4 to 6 years
   d. More than 6 years, but not my whole life
   e. I have **always** lived in the United States

9. How often do the people in your home speak a language **other than** English?

   a. Never
   b. Rarely
   c. Sometimes
   d. Most of the time
   e. Always

10. Which of the following best describes you?

    a. Heterosexual (straight)
    b. Gay or lesbian
    c. Bisexual
    d. Not sure

11. Do you have any physical disabilities or long-term health problems? ("Long-term" refers to difficulties that have lasted or are expected to last 6 months or more.)

    a. Yes
    b. No
    c. Not sure

12. Is there at least one teacher or other adult in this school that you can talk to if you have a problem?

    a. Yes
    b. No
    c. Not sure

13. Outside of school, is there an adult (or adults) you can talk to about things that are important to you?

    a. Yes, parent or other adult family member
    b. Yes, non-family adult (such as religious leader, club advisor, neighbor, etc.)
    c. Yes, both family and non-family adults
    d. No
    e. Not sure

The next 4 questions ask about personal safety.

14. **When you rode a bicycle** during the past 12 months, how often did you wear a helmet?

    a. I did not ride a bicycle during the past 12 months
    b. Never wore a helmet
    c. Rarely wore a helmet
    d. Sometimes wore a helmet
    e. Most of the time wore a helmet
    f. Always wore a helmet

15. How often do you wear a seat belt when **riding in** a car driven by someone else?

    a. Never
    b. Rarely
    c. Sometimes
    d. Most of the time
    e. Always

16. During the past 30 days, how many times did you **ride** in a car or other vehicle **driven by someone who had been drinking alcohol**?

    a. 0 times
    b. 1 time
    c. 2 or 3 times
    d. 4 or 5 times
    e. 6 or more times

17. During the past 30 days, how many times did you **drive** a car or other vehicle **when you had been drinking alcohol**?

    a. 0 times
    b. 1 time
    c. 2 or 3 times
    d. 4 or 5 times
    e. 6 or more times

The next 11 questions ask about violence-related behaviors.

18. During the past 30 days, on how many days did you carry **a weapon** such as a gun, knife, or club?

    a. 0 days
    b. 1 day
    c. 2 or 3 days
    d. 4 or 5 days
    e. 6 or more days

19. During the past 30 days, on how many days did you carry **a gun?**

    a. 0 days
    b. 1 day
    c. 2 or 3 days
    d. 4 or 5 days
    e. 6 or more days

20. During the past 30 days, on how many days did you carry a weapon such as a gun, knife, or club **on school property?**

    a. 0 days
    b. 1 day
    c. 2 or 3 days
    d. 4 or 5 days
    e. 6 or more days

21. During the past 30 days, on how many days did you **not** go to school because you felt you would be unsafe at school or on your way to or from school?

    a. 0 days
    b. 1 day
    c. 2 or 3 days
    d. 4 or 5 days
    e. 6 or more days

22. During the past 12 months, how many times have you been bullied **at school?** (Being bullied includes being repeatedly teased, threatened, hit, kicked, or excluded by another student or group of students.)

    a. 0 times
    b. 1 time
    c. 2 or 3 times
    d. 4 or 5 times
    e. 6 or 7 times
    f. 8 or 9 times
    g. 10 or 11 times
    h. 12 or more times

23. During the past 12 months, how many times has someone threatened or injured you with a weapon such as a gun, knife, or club **on school property?**

    a. 0 times
    b. 1 time
    c. 2 or 3 times
    d. 4 or 5 times
    e. 6 or 7 times
    f. 8 or 9 times
    g. 10 or 11 times
    h. 12 or more times

24. During the past 12 months, how many times were you in a physical fight?

    a. 0 times
    b. 1 time
    c. 2 or 3 times
    d. 4 or 5 times
    e. 6 or 7 times
    f. 8 or 9 times
    g. 10 or 11 times
    h. 12 or more times

25. During the past 12 months, how many times were you in a physical fight in which you were injured and had to be treated by a doctor or nurse?

    a. 0 times
    b. 1 time
    c. 2 or 3 times
    d. 4 or 5 times
    e. 6 or more times

26. During the past 12 months, how many times were you in a physical fight **on school property**?

    a. 0 times
    b. 1 time
    c. 2 or 3 times
    d. 4 or 5 times
    e. 6 or 7 times
    f. 8 or 9 times
    g. 10 or 11 times
    h. 12 or more times

27. Have you ever been hurt physically or sexually by a date or someone you were going out with? This might include being hurt by being shoved, slapped, hit, or forced into any sexual activity.

    a. I have never been on a date or gone out with anyone.
    b. No, I have never been hurt by a date or someone I was going out with.
    c. Yes, I was hurt physically.
    d. Yes, I was hurt sexually.
    e. Yes, I was hurt both physically and sexually.

28. During the past 12 months, have you been a member of a gang?

    a. Yes
    b. No

The next 6 questions ask about deliberately hurting yourself, sad feelings, and attempted suicide. Sometimes people feel so depressed about the future that they may consider attempting suicide, that is, taking some action to end their own life.

29. During the past 12 months, how many times did you hurt or injure yourself **on purpose**? (For example, by cutting, burning, or bruising yourself on purpose.)

    a. 0 times
    b. 1 or 2 times
    c. 3 to 5 times
    d. 6 to 9 times
    e. 10 to 19 times
    f. 20 or more times

30. During the past 12 months, did you ever feel so sad or hopeless almost every day for **two weeks or more in a row** that you stopped doing some usual activities?

    a. Yes
    b. No

31. During the past 12 months, did you ever **seriously** consider attempting suicide?

    a. Yes
    b. No

32. During the past 12 months, did you make a plan about how you would attempt suicide?

    a. Yes
    b. No

33. During the past 12 months, how many times did you actually attempt suicide?

    a. 0 times
    b. 1 time
    c. 2 or 3 times
    d. 4 or 5 times
    e. 6 or more times

34. **If you attempted suicide** during the past 12 months, did any attempt result in an injury, poisoning, or overdose that had to be treated by a doctor or nurse?

    a. **I did not attempt suicide** during the past 12 months
    b. Yes
    c. No

The next 10 questions ask about tobacco use.

35. Have you ever tried cigarette smoking, even one or two puffs?

    a. Yes
    b. No

36. How old were you when you smoked a whole cigarette for the first time?

    a. I have never smoked a whole cigarette
    b. 8 years old or younger
    c. 9 or 10 years old
    d. 11 or 12 years old
    e. 13 or 14 years old
    f. 15 or 16 years old
    g. 17 years old or older

37. During the past 30 days, on how many days did you smoke cigarettes?

    a. 0 days
    b. 1 or 2 days
    c. 3 to 5 days
    d. 6 to 9 days
    e. 10 to 19 days
    f. 20 to 29 days
    g. All 30 days

38. During the past 30 days, on the days you smoked, how many cigarettes did you smoke **per day**?

    a. I did not smoke cigarettes during the past 30 days
    b. Less than 1 cigarette per day
    c. 1 cigarette per day
    d. 2 to 5 cigarettes per day
    e. 6 to 10 cigarettes per day
    f. 11 to 20 cigarettes per day
    g. More than 20 cigarettes per day

39. During the past 30 days, on how many days did you smoke cigarettes **on school property**?

    a. 0 days
    b. 1 or 2 days
    c. 3 to 5 days
    d. 6 to 9 days
    e. 10 to 19 days
    f. 20 to 29 days
    g. All 30 days

40. Have you ever smoked cigarettes daily, that is, at least one cigarette every day for 30 days?

    a. Yes
    b. No

41. How many times have you tried **to quit** smoking cigarettes?

    a. I have never smoked cigarettes.
    b. I have never tried to quit smoking cigarettes.
    c. 1 or 2 times
    d. 3 to 5 times
    e. 6 to 9 times
    f. 10 or more times

42. During the past 30 days, on how many days did you use **chewing tobacco, snuff, or dip,** such as Redman, Levi Garrett, Beechnut, Skoal, Skoal Bandits, or Copenhagen?

    a. 0 days
    b. 1 or 2 days
    c. 3 to 5 days
    d. 6 to 9 days
    e. 10 to 19 days
    f. 20 to 29 days
    g. All 30 days

43. During the past 30 days, on how many days did you use **chewing tobacco, snuff, or dip on school property**?

    a. 0 days
    b. 1 or 2 days
    c. 3 to 5 days
    d. 6 to 9 days
    e. 10 to 19 days
    f. 20 to 29 days
    g. All 30 days

44. During the past 30 days, on how many days did you smoke **cigars, cigarillos, or little cigars**?

    a. 0 days
    b. 1 or 2 days
    c. 3 to 5 days
    d. 6 to 9 days
    e. 10 to 19 days
    f. 20 to 29 days
    g. All 30 days

The next 5 questions ask about drinking alcohol. This includes drinking beer, wine, wine coolers, hard lemonade or hard cider, and liquor such as rum, gin, vodka, or whiskey. For these questions, drinking alcohol does not include drinking a few sips of wine for religious purposes.

45. During your life, on how many days have you had at least one drink of alcohol?

    a. 0 days
    b. 1 or 2 days
    c. 3 to 9 days
    d. 10 to 19 days
    e. 20 to 39 days
    f. 40 to 99 days
    g. 100 or more days

46. How old were you when you had your first drink of alcohol other than a few sips?

    a. I have never had a drink of alcohol other than a few sips
    b. 8 years old or younger
    c. 9 or 10 years old
    d. 11 or 12 years old
    e. 13 or 14 years old
    f. 15 or 16 years old
    g. 17 years old or older

47. During the past 30 days, on how many days did you have at least one drink of alcohol?

    a. 0 days
    b. 1 or 2 days
    c. 3 to 5 days
    d. 6 to 9 days
    e. 10 to 19 days
    f. 20 to 29 days
    g. All 30 days

48. During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?

    a. 0 days
    b. 1 day
    c. 2 days
    d. 3 to 5 days
    e. 6 to 9 days
    f. 10 to 19 days
    g. 20 or more days

49. During the past 30 days, on how many days did you have at least one drink of alcohol **on school property**?

    a. 0 days
    b. 1 or 2 days
    c. 3 to 5 days
    d. 6 to 9 days
    e. 10 to 19 days
    f. 20 to 29 days
    g. All 30 days

The next 4 questions ask about marijuana use. Marijuana also is called grass, pot, weed, or reefer.

50. During your life, how many times have you used marijuana?

    a. 0 times
    b. 1 or 2 times
    c. 3 to 9 times
    d. 10 to 19 times
    e. 20 to 39 times
    f. 40 to 99 times
    g. 100 or more times

51. How old were you when you tried marijuana for the first time?

    a. I have never tried marijuana
    b. 8 years old or younger
    c. 9 or 10 years old
    d. 11 or 12 years old
    e. 13 or 14 years old
    f. 15 or 16 years old
    g. 17 years old or older

52. During the past 30 days, how many times did you use marijuana?

    a. 0 times
    b. 1 or 2 times
    c. 3 to 9 times
    d. 10 to 19 times
    e. 20 to 39 times
    f. 40 or more times

53. During the past 30 days, how many times did you use marijuana **on school property**?

    a. 0 times
    b. 1 or 2 times
    c. 3 to 9 times
    d. 10 to 19 times
    e. 20 to 39 times
    f. 40 or more times

The next 10 questions ask about cocaine, ecstasy, and other drugs.

54. During your life, how many times have you used **any** form of cocaine, including powder, crack, or freebase?

    a. 0 times
    b. 1 or 2 times
    c. 3 to 9 times
    d. 10 to 19 times
    e. 20 to 39 times
    f. 40 or more times

55. During your life, how many times have you used **ecstasy** (also called MDMA)?

    a. 0 times
    b. 1 or 2 times
    c. 3 to 9 times
    d. 10 to 19 times
    e. 20 to 39 times
    f. 40 or more times

56. During your life, how many times have you used **heroin** (also called smack, junk, or China White)?

    a. 0 times
    b. 1 or 2 times
    c. 3 to 9 times
    d. 10 to 19 times
    e. 20 to 39 times
    f. 40 or more times

57. During your life, how many times have you used **methamphetamines** (also called speed, crystal, crank, or ice)?

    a. 0 times
    b. 1 or 2 times
    c. 3 to 9 times
    d. 10 to 19 times
    e. 20 to 39 times
    f. 40 or more times

58. During your life, how many times have you taken **steroid pills or shots** without a doctor's prescription?

    a. 0 times
    b. 1 or 2 times
    c. 3 to 9 times
    d. 10 to 19 times
    e. 20 to 39 times
    f. 40 or more times

59. During your life, how many times have you used any **other type of illegal drug** such as inhalants, LSD (acid), PCP, mushrooms, Ketamine (Special K), Rohypnol (Roofies), or GHB?

    a. 0 times
    b. 1 or 2 times
    c. 3 to 9 times
    d. 10 to 19 times
    e. 20 to 39 times
    f. 40 or more times

60. During your life, how many times have you used a needle to inject any **illegal** drug into your body?

    a. 0 times
    b. 1 time
    c. 2 or more times

61. **During the past 30 days**, how many times have you sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high?

    a. 0 times
    b. 1 or 2 times
    c. 3 to 9 times
    d. 10 to 19 times
    e. 20 to 39 times
    f. 40 or more times

62. **During the past 30 days,** how many times have you used any illegal drug **other than** marijuana or inhalants? This includes any drug such as cocaine, heroin, methamphetamines, ecstasy, or other illegal drugs.

    a. 0 times
    b. 1 or 2 times
    c. 3 to 9 times
    d. 10 to 19 times
    e. 20 to 39 times
    f. 40 or more times

63. During the past 12 months, has anyone offered, sold, or given you an illegal drug **on school property**?

    a. Yes
    b. No

The next 4 questions concern communication and education about sexuality and AIDS prevention.

64. During the past 12 months, about how often have you had a conversation with your parents or other adults in your family about sexuality or ways to prevent HIV infection, other sexually transmitted diseases (STDs) or pregnancy?

    a. Not at all in the past 12 months
    b. About once in the past 12 months
    c. About once every few months
    d. About once a month
    e. More than once a month

65. Have you ever been taught about AIDS or HIV infection in school?

    a. Yes
    b. No
    c. Not sure

66. In school, have you ever been taught how to use condoms?

    a. Yes
    b. No
    c. Not sure

The next 12 questions concern sexual behavior.

67. Have you ever had sexual intercourse?

    a. Yes
    b. No

68. How old were you when you had sexual intercourse for the first time?

    a. I have never had sexual intercourse
    b. 11 years old or younger
    c. 12 years old
    d. 13 years old
    e. 14 years old
    f. 15 years old
    g. 16 years old
    h. 17 years old or older

69. During your life, with how many people have you had sexual intercourse?

    a. I have never had sexual intercourse
    b. 1 person
    c. 2 people
    d. 3 people
    e. 4 people
    f. 5 people
    g. 6 or more people

70. During the past 3 months, with how many people did you have sexual intercourse?

    a. I have never had sexual intercourse
    b. I have had sexual intercourse, but not during the past 3 months
    c. 1 person
    d. 2 people
    e. 3 people
    f. 4 people
    g. 5 people
    h. 6 or more people

71. During your life, the person(s) with whom you have had **sexual contact** is (are)

    a. I have not had sexual contact with anyone
    b. Female(s)
    c. Male(s)
    d. Female(s) and male(s)

72. Did you drink alcohol or use drugs before you had sexual intercourse the **last time**?

    a. I have never had sexual intercourse
    b. Yes
    c. No

73. The **last time** you had sexual intercourse, did you or your partner use a condom?

    a. I have never had sexual intercourse
    b. Yes
    c. No

74. The **last time** you had sexual intercourse, what **one** method did you or your partner use to **prevent pregnancy?** (Select only **one** response.)

    a. I have never had sexual intercourse
    b. No method was used to prevent pregnancy
    c. Birth control pills
    d. Condoms
    e. Depo-Provera (injectable birth control)
    f. Withdrawal
    g. Some other method
    h. Not sure

75. How many times have you been pregnant or gotten someone pregnant?

    a. 0 times
    b. 1 time
    c. 2 or more times
    d. Not sure

76. Have you ever been tested for **HIV infection or other sexually transmitted diseases (STDs)** such as genital herpes, chlamydia, syphilis, or genital warts?

    a. No, I have never been tested for HIV or other STDs.
    b. Yes, I have been tested for HIV.
    c. Yes, I have been tested for other STDs.
    d. Yes, I have been tested for both HIV and for other STDs.

77. Have you ever been told by a doctor or other health care professional that you had HIV infection or any other sexually transmitted disease (STD)?

    a. No
    b. Yes

78. Has anyone ever had **sexual contact** with you against your will?

    a. No one has ever had sexual contact with me against my will
    b. Yes, within the past 12 months
    c. Yes, more than 12 months ago
    d. Yes, both "b" and "c"

The next 6 questions ask about body weight.

79. How do **you** describe your weight?

    a. Very underweight
    b. Slightly underweight
    c. About the right weight
    d. Slightly overweight
    e. Very overweight

80. Which of the following are you trying to do about your weight?

    a. **Lose** weight
    b. **Gain** weight
    c. **Stay** the same weight
    d. I am **not trying to do anything** about my weight

81. During the past 30 days, did you **exercise** or **eat less food, fewer calories, or foods low in fat** to lose weight or to keep from gaining weight?

    a. Yes, I exercised.
    b. Yes, I ate less food, fewer calories, or foods low in fat.
    c. Yes, I both exercised and ate less food, fewer calories, or foods low in fat.
    d. No, I did not exercise or eat less food, fewer calories, or foods low in fat.

82. During the past 30 days, did you **go without eating for 24 hours or more** (also called fasting) to lose weight or to keep from gaining weight?

    a. Yes
    b. No

83. During the past 30 days, did you **take any diet pills, powders, or liquids** without a doctor's advice to lose weight or to keep from gaining weight? (Do **not** include meal replacement products such as Slim Fast.)

    a. Yes
    b. No

84. During the past 30 days, did you **vomit or take laxatives** to lose weight or to keep from gaining weight?

    a. Yes
    b. No

The next 7 questions ask about food you ate or drank during the past 7 days. Think about all the meals and snacks you had from the time you got up until you went to bed. Be sure to include food you ate at home, at school, at restaurants, or anywhere else.

85. During the past 7 days, how many times did you eat fruit or drink **100% fruit juices**? (Do **not** count punch, Kool-Aid, sports drinks, or other fruit-flavored drinks.)

    a. I did not eat fruit or drink 100% fruit juice during the past 7 days
    b. 1 to 3 times during the past 7 days
    c. 4 to 6 times during the past 7 days
    d. 1 time per day
    e. 2 times per day
    f. 3 times per day
    g. 4 or more times per day

86. During the past 7 days, how many times did you eat **green salad**?

    a. I did not eat green salad during the past 7 days
    b. 1 to 3 times during the past 7 days
    c. 4 to 6 times during the past 7 days
    d. 1 time per day
    e. 2 times per day
    f. 3 times per day
    g. 4 or more times per day

87. During the past 7 days, how many times did you eat **potatoes**? (Do **not** count french fries, fried potatoes, or potato chips.)

    a. I did not eat potatoes during the past 7 days
    b. 1 to 3 times during the past 7 days
    c. 4 to 6 times during the past 7 days
    d. 1 time per day
    e. 2 times per day
    f. 3 times per day
    g. 4 or more times per day

88. During the past 7 days, how many times did you eat **other vegetables** such as carrots, peas, broccoli, etc.? (Do **not** count green salad or potatoes.)

    a. I did not eat other vegetables during the past 7 days
    b. 1 to 3 times during the past 7 days
    c. 4 to 6 times during the past 7 days
    d. 1 time per day
    e. 2 times per day
    f. 3 times per day
    g. 4 or more times per day

89. During the past 7 days, how many **glasses of milk** did you drink? (Include the milk you drank in a glass or cup, from a carton, or with cereal. Count the half pint of milk served at school as equal to one glass.)

    a. I did not drink milk during the past 7 days
    b. 1 to 3 glasses during the past 7 days
    c. 4 to 6 glasses during the past 7 days
    d. 1 glass per day
    e. 2 glasses per day
    f. 3 glasses per day
    g. 4 or more glasses per day

90. On how many of the past 7 days did you eat breakfast?
    a. 0 days
    b. 1 day
    c. 2 days
    d. 3 days
    e. 4 days
    f. 5 days
    g. 6 days
    h. 7 days

91. How often do you wash your hands before you eat?

    a. Never
    b. Rarely
    c. Sometimes
    d. Most of the time
    e. Always

The next 4 questions ask about physical activity.

92. On how many of the past 7 days did you exercise or participate in physical activity for **at least 20** minutes **that made you sweat and breathe hard**, such as basketball, soccer, running, swimming laps, fast bicycling, fast dancing, or similar aerobic activities?

    a. 0 days
    b. 1 day
    c. 2 days
    d. 3 days
    e. 4 days
    f. 5 days
    g. 6 days
    h. 7 days

93. On how many of the past 7 days did you participate in physical activity for **at least 30** minutes that did **not** make you sweat or breathe hard, such as fast walking, slow bicycling, skating, pushing a lawn mower, or mopping floors?

    a. 0 days
    b. 1 day
    c. 2 days
    d. 3 days
    e. 4 days
    f. 5 days
    g. 6 days
    h. 7 days

94. On how many of the past 7 days did you do exercises to **strengthen or tone your muscles**, such as push-ups, sit-ups, or weight lifting?
    a. 0 days
    b. 1 day
    c. 2 days
    d. 3 days
    e. 4 days
    f. 5 days
    g. 6 days
    h. 7 days

95. In an average week when you are in school, on how many days do you go to physical education (PE) classes?

    a. 0 days
    b. 1 day
    c. 2 days
    d. 3 days
    e. 4 days
    f. 5 days

The next 4 questions ask about how you spend your free time.

96. During the past 12 months, on how many sports teams did you play? (Include any teams run by your school or community groups.)

    a. 0 teams
    b. 1 team
    c. 2 teams
    d. 3 or more teams

97. On an average school day, how many hours do you **watch TV**?

    a. I do not watch TV on an average school day
    b. Less than 1 hour per day
    c. 1 hour per day
    d. 2 hours per day
    e. 3 hours per day
    f. 4 hours per day
    g. 5 or more hours per day

98. In an **average month**, how many hours do you spend on **volunteer work, community service**, or helping people outside of your home without getting paid? (Do not include community service work that you are required to do as a punishment.)

    a. 0 hours
    b. 1 to 4 hours
    c. 5 to 9 hours
    d. 10 or more hours

99. On how many of the past 7 days did you take part in **organized afterschool, evening, or weekend activities** (such as school clubs, community center groups, music/art/dance lessons, drama, church, or other **supervised** activities)?

    a. 0 days
    b. 1 day
    c. 2 days
    d. 3 days
    e. 4 days
    f. 5 days
    g. 6 days
    h. 7 days

This is the end of the survey.
Thank you very much for your help.

APPENDIX B

Sampling, survey administration, data weighting, data analysis procedures

Sampling, Survey Administration, Data Weighting, and Data Analysis Procedures

SAMPLING PROCEDURES

MYRBS schools and classrooms were randomly selected using a multi-stage clustering sampling design.

Stage 1: School-level Sampling – All public secondary schools in Massachusetts containing grades 9, 10, 11, or 12 were included in the sampling frame. Using a random start, schools were selected systematically with probability of being selected proportional to enrollment in grades 9 through 12. Each student in the eligible schools had an equal probability of being selected for the survey, although students were selected by classroom within school, not individually (see Classroom-level Sampling below).

Of the schools included in the sampling frame, 57 schools were selected to participate in the survey. School selection was done by a specialized computer program called *PCSample*. Superintendents and principals of selected school districts and schools were notified by mail of their school's selection and were contacted by phone for their permission to move forward in administering the survey. Fifty (50) schools agreed to participate; seven refused or were unable to participate, yielding a school response rate of 88% (50/57).

Stage 2: Classroom-Level Sampling – Within each school, an average of three to five classrooms (approximately 72 students per school), were randomly selected to participate in the MYRBS. Depending on the school, all classes within a required subject (for example, all English classes) or all classes meeting during a particular period (for example, second period) were included in the sampling frame. Systematic equal probability sampling with a random start was used to select classes from each school to participate in the survey.

Across the state, a total of 4,427 students were selected to participate in the survey, and 3,624 students actually completed the survey, yielding a student response rate of 82% (3,624/4,427). Student attendance on the day of the survey was the primary factor determining the response rate.

The overall response rate of the survey was 72%, calculated by multiplying the 88% school response rate by the 82% student response rate. Because of this high overall response rate, data from the survey can be considered representative of all public high school students in Massachusetts.

SURVEY ADMINISTRATION PROCEDURES

All survey administrators were members of the Department of Education's School, Nutrition, Safety, and Climate Unit, and all were trained in standardized survey administration procedures.

For each participating school, the survey administrator and contact person designated by the school's principal scheduled a convenient date on which to administer the survey. Teachers of selected classrooms were notified in advance in order to avoid scheduling conflicts on the day of the survey. Local district procedures were followed with regard to parent notification about the survey.

Because the MYRBS is both anonymous and voluntary, schools were not required by state or federal law to notify parents or to secure parental consent for student participation.

Survey administrators conducted the survey in a single class period in the selected classrooms of participating schools. In some schools, selected classes were pooled into a larger room and surveyed simultaneously. Classroom teachers were permitted to stay in the room if they wished, but were asked not to circulate through the room in order to ensure students' sense of privacy.

The survey administrators gave all students a verbal introduction to the survey. These remarks described (1) the purpose of the survey, (2) the anonymous and voluntary nature of the survey, and (3) instructions for completing the survey. Students were given a cover sheet to conceal their answers as they worked. Students then recorded their answers on a separate, scannable answer sheet. Students who chose not to take the survey were asked to remain in the room and read or sit quietly until all students finished the survey. No talking was permitted during the survey, although students were allowed to ask questions of they survey administrator. On average, students took between 30 and 45 minutes to complete the survey. Completed answer sheets were collected, facedown, by the survey administrator and were placed in an envelope, which was sealed by the survey administrator before leaving the room. Completed answer sheets were assembled at the Department of Education and were sent off-site for data scanning, cleaning, and preliminary frequency analyses.

DATA WEIGHTING PROCEDURES

Because of the high overall response rate for this survey, the data were weighted to reduce any possible bias in the sample. A weight was associated with each questionnaire to reflect the likelihood of sampling each student and to reduce bias by compensating for differing patterns of non-response. The weight used for estimation is given by:

$$W = W1 * W2 * f1 * f2 * f3$$

Where:

- W1 = the inverse of the probability of selecting the school
- W2 = the inverse of the probability of selecting the classroom within the school
- f1 = a school-level non-response adjustment factor calculated by school size category (small, medium, large). The factor was calculated in terms of school enrollment instead of number of schools.
- f2 = a student-level non-response adjustment factor calculated by class.
- f3 = a post-stratification adjustment factor calculated by gender within grade and by race/ethnicity.

The weighted results can be used to make important inferences concerning the priority health-risk behaviors of all regular public school students in grades 9 through 12.

DATA ANALYSIS PROCEDURES

Data scanning, cleaning, and preliminary analyses were performed by Westat, Inc., of Rockville, Maryland and by the Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia. SUDAAN, a statistical software program which accounts for complex sampling designs was used to generate point estimates of proportions, sampling

errors, and 95% confidence intervals for aggregate data and data broken down into demographic categories by age, gender, and grade.

Comparisons of major groups within the 2003 data (for example, comparisons by gender or grade) and comparisons of prevalence rates over time (for example, comparisons of 2003 rates to 2001 rates) were based on the SUDAAN-generated 95% confidence intervals supplied by the CDC. Differences between prevalence estimates were considered statistically significant if the confidence intervals did not overlap. This approach is statistically conservative; it may in some instances result in a finding of no difference when alternative procedures would indicate a statistically significant difference.

In cases where the CDC had not supplied confidence intervals (as in the case of subgroups based on race/ethnicity, immigrant status, sexual orientation, kind of community, or particular risk status), comparisons were based on analyses performed in SPSS 10.0, the statistical program used by the Department of Education. Because SPSS 10.0 assumes a simple random sample rather than the multi-stage sample actually employed for the MYRBS, analyses may result in a significant finding when indeed there is none. Therefore, a more stringent level of significance ($p<.01$) was used for group analyses performed in SPSS.

LIMITATIONS

All analyses and findings in this report are based on cross-sectional 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. Also, confounding variables were not controlled for in analyses of groups. For example, when a difference was reported between smokers and non-smokers, the analyses did not control for the confounding effects of gender, grade, race/ethnicity, or other variables that may have been associated with smoking.

APPENDIX C

Summary tables

Table 2. Tobacco Use Among Massachusetts High School Students, 1993 to 2003

	Total (%)						Males (%)						Females (%)					
	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003
Any cigarette smoking, lifetime	**67.8**	**71.5**	**69.1**	**67.4**	**61.9**	**53.2**	**68.8**	**73.3**	**68.1**	**68.1**	**61.5**	**52.5**	**66.8**	**69.7**	**70.1**	**66.6**	**62.4**	**53.9**
9th grade	64.4	68.9	62.3	62.6	52.7	44.5	66.6	72.7	61.9	64.2	54.4	44.0	62.3	65.1	62.6	60.9	50.9	45.2
10th grade	62.3	71.0	72.0	68.5	58.7	51.2	66.1	73.7	67.8	68.9	56.8	46.9	58.2	68.4	76.3	67.9	60.7	55.5
11th grade	72.8	72.0	69.3	68.1	66.5	55.5	71.3	71.6	71.3	69.6	65.3	58.0	74.2	72.3	67.3	66.4	67.6	53.3
12th grade	73.0	74.8	73.8	71.1	72.6	63.1	72.4	74.8	72.2	70.3	72.6	62.9	73.7	74.9	75.4	71.7	72.7	63.1
White	68.5	72.6	70.0	68.2	62.8	52.5	69.2	73.6	68.3	67.9	62.5	52.2	67.9	71.6	71.8	68.4	63.1	52.7
Black	73.0	70.9	73.0	62.8	60.4	50.0	77.7	73.4	69.6	65.8	57.5	45.7	67.7	67.8	76.5	58.4	63.9	--
Hispanic	67.4	69.2	66.3	67.2	57.5	59.7	--	73.0	67.3	70.0	57.9	56.5	76.3	65.4	65.7	64.0	57.1	62.8
Asian	48.4	51.6	49.8	61.3	52.3	50.0	--	--	48.3	65.0	60.0	--	--	41.9	51.8	56.8	45.2	--
Other	72.6	75.7	76.0	76.4	67.9	63.2	--	78.7	84.1	--	63.8	61.7	--	73.6	67.6	--	--	--
Recent cigarette smoking	**30.2**	**35.7**	**34.4**	**30.3**	**26.0**	**20.9**	**31.1**	**35.2**	**33.0**	**29.9**	**25.0**	**19.6**	**29.2**	**36.2**	**35.8**	**30.7**	**27.0**	**22.4**
9th grade	28.9	32.3	27.8	25.1	20.2	17.4	28.8	32.4	26.9	25.7	20.5	15.8	29.1	32.2	28.8	24.5	20.0	19.1
10th grade	25.2	34.8	35.8	29.2	22.1	17.1	26.0	34.2	32.7	27.3	18.8	15.3	24.3	35.3	39.0	31.0	25.4	19
11th grade	31.0	37.7	35.5	31.4	27.9	19.8	32.3	36.6	34.9	33.6	26.6	19.8	29.6	38.8	36.1	29.2	29.2	19.8
12th grade	35.9	39.1	40.2	36.9	35.4	30.1	37.8	38.5	39.9	34.0	36.4	27.7	34.0	39.6	40.7	39.4	34.5	32.5
White	32.3	39.9	38.0	32.9	28.0	22.5	32.6	38.8	35.5	31.8	26.8	21.0	31.9	41.1	40.7	33.8	29.2	24
Black	21.1	21.0	24.6	20.3	16.5	9.6	23.7	21.1	21.6	19.6	16.7	6.8	19.1	20.5	27.6	20.7	15.8	--
Hispanic	25.1	20.2	19.2	23.0	19.8	18.1	--	21.4	19.5	25.0	18.1	18.0	24.5	18.5	19.6	20.5	21.9	18.3
Asian	19.0	19.0	17.3	23.3	18.7	18.1	--	--	19.1	26.9	21.3	--	--	14.7	15.3	18.1	15.9	--
Other	25.2	31.1	36.8	39.1	29.3	25.0	--	26.6	48.5	--	26.1	25.5	--	34.4	25.7	--	--	--
Daily cigarette smoking	**11.9**	**14.6**	**14.5**	**12.6**	**10.4**	**7.3**	**12.3**	**15.1**	**14.6**	**12.2**	**10.2**	**7.2**	**11.5**	**14.2**	**14.3**	**12.8**	**10.6**	**7.3**
9th grade	8.1	11.8	10.4	8.2	6.6	4.8	7.1	13.9	11.2	8.5	7.9	3.8	9.0	9.8	9.5	7.9	5.2	5.9
10th grade	9.9	14.7	14.2	10.5	7.9	6.3	10.8	16.9	12.4	10.3	7.4	6.7	8.9	12.4	16.2	10.5	8.2	5.9
11th grade	14.1	14.6	15.8	15.8	11.4	6.2	14.5	12.9	16.4	16.1	9.2	5.8	13.3	16.2	15.2	15.6	13.4	6.5
12th grade	15.9	18.0	18.5	16.9	17.1	12.0	16.8	16.7	19.9	14.9	17.6	12.6	15.0	19.4	17.3	18.6	16.7	11.4
White	13.1	16.7	16.6	13.8	11.6	7.7	13.4	16.7	15.9	12.9	11.0	7.4	12.7	16.8	17.2	14.6	12.1	7.9
Black	5.4	5.8	7.1	7.2	4.8	3.1	3.1	6.5	8.2	7.5	6.9	3.4	8.0	4.3	5.2	7.1	2.5	--
Hispanic	6.4	8.1	5.3	7.4	6.8	7.5	--	10.1	8.4	7.7	6.9	8.4	7.4	6.2	3.0	6.8	6.6	6.7
Asian	7.0	5.2	8.0	10.2	5.5	5.6	--	--	9.6	12.3	6.4	--	--	2.9	6.3	6.3	4.5	--
Other	12.6	13.1	15.9	18.1	9.9	9.2	--	12.8	18.6	--	10.6	8.5	--	13.4	13.3	--	--	--

"–" = Percentage not available (fewer than 100 cases in denominator)

Table 2, continued

	Total (%)						Males (%)						Females (%)					
	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003
Smoked before age 13	**24.4**	**23.9**	**24.3**	**23.4**	**19.3**	**15.3**	**27.1**	**26.6**	**26.3**	**25.1**	**20.9**	**16.0**	**21.6**	**21.3**	**22.2**	**21.7**	**17.8**	**14.7**
9th Grade	27.1	28.6	26.5	27.2	19.2	17.9	28.8	30.7	28.0	29.3	22.1	18.1	25.3	26.3	24.9	25.0	16.3	17.9
10th Grade	22.4	24.9	26.5	24.5	19.4	13.7	27.0	28.8	27.4	26.4	18.9	13.3	17.5	21.0	25.5	22.6	20.0	14.1
11th Grade	22.4	20.6	20.8	22.3	20.0	13.7	23.1	24.1	24.4	22.9	21.9	14.8	21.8	17.1	17.7	22.0	18.0	12.7
12th Grade	25.1	21.0	21.9	18.2	17.9	14.2	28.6	22.0	24.1	20.3	19.8	16.3	21.6	19.9	20.0	16.0	16.4	12.1
White	25.6	25.2	25.4	24.2	19.2	14.7	28.4	28.0	27.3	26.0	21.2	15.6	22.7	22.3	23.4	22.5	17.2	13.8
Black	19.1	19.1	21.7	19.3	19.1	15.5	22.7	21.1	24.8	20.3	16.1	14.5	15.4	16.4	17.6	18.5	22.6	--
Hispanic	19.2	19.1	21.4	21.7	18.7	16.7	--	19.3	21.0	22.5	18.7	15.2	23.7	18.5	22.0	20.9	18.8	17.7
Asian	17.6	12.7	13.6	17.5	17.0	14.7	--	--	15.3	21.9	22.2	--	--	6.9	11.8	13.0	9.5	--
Other	24.5	28.5	29.0	35.1	26.3	28.8	--	27.6	34.3	--	28.9	28.9	--	29.0	22.4	--	--	--
Smoked on school property	**17.7**	**18.9**	**18.9**	**15.6**	**12.4**	**8.9**	**18.5**	**18.7**	**19.6**	**15.3**	**11.9**	**8.6**	**16.8**	**19.0**	**18.3**	**15.8**	**12.9**	**8.8**
9th Grade	15.1	18.1	15.0	11.5	10.0	6.7	15.1	18.7	13.9	11.7	9.9	5.7	18.5	17.5	16.0	11.2	10.3	7.8
10th Grade	16.1	19.9	20.5	16.5	10.8	7.5	16.7	20.7	20.6	15.8	9.3	6.3	12.0	19.1	20.4	17.2	12.3	8.6
11th Grade	17.8	18.2	18.3	17.6	12.6	7.6	19.3	17.2	19.9	17.9	11.3	9.2	10.7	19.1	16.8	17.3	13.6	6.3
12th Grade	21.8	19.3	23.0	17.3	16.7	12.4	22.7	17.8	25.9	16.6	18.3	12.6	9.5	20.7	20.5	18.1	15.1	12.3
White	18.8	21.0	21.2	16.5	13.1	8.9	19.0	20.7	21.4	15.9	12.5	8.6	18.5	21.4	21.0	17.0	13.7	9.2
Black	12.4	11.9	13.9	13.8	9.5	4.7	12.7	11.6	13.8	14.2	9.7	4.1	12.1	11.5	14.2	13.6	9.3	--
Hispanic	11.9	10.6	8.3	11.3	8.8	9.5	--	11.7	9.9	12.4	7.3	9.9	11.1	9.0	6.8	10.1	10.4	8.7
Asian	13.2	10.7	10.5	12.4	10.6	11.0	--	--	10.3	14.3	10.2	--	--	8.7	10.0	8.7	9.1	--
Other	18.3	17.3	18.6	23.8	15.9	10.3	--	12.9	23.1	--	14.9	12.2	--	19.8	14.5	--	--	--
Recent smokeless tobacco use	**9.4**	**8.4**	**6.0**	**4.9**	**4.4**	**4.1**	**17.0**	**15.1**	**10.3**	**8.1**	**7.4**	**6.4**	**1.5**	**1.5**	**1.4**	**1.4**	**1.3**	**1.7**
9th grade	10.3	8.8	5.7	4.5	3.6	3.4	18.5	15.9	9.6	7.3	5.8	4.6	1.8	1.5	1.4	1.5	1.0	2.2
10th grade	8.1	8.1	6.8	4.5	4.0	3.7	14.5	15.0	11.3	7.5	6.5	5.5	1.5	1.0.	1.7	1.3	1.3	1.6
11th grade	10.1	8.1	5.6	5.5	5.1	3.3	18.8	14.8	10.0	9.8	8.2	5.9	1.0	1.5	1.2	1.1	1.6	0.7
12th grade	8.8	8.1	5.3	4.5	5.0	4.9	15.9	14.6	9.5	7.6	9.7	8.8	1.5	1.5	1.4	1.3	0.4	1.3
White	10.6	9.7	6.7	5.2	4.5	3.7	19.7	17.5	11.9	9.0	7.7	6.2	1.2	1.3	1.4	1.3	1.2	1.3
Black	4.0	2.3	3.0	2.7	3.2	5.0	5.7	3.8	4.9	4.5	3.3	7.6	2.2	1.6	0.0	0.0	2.5	--
Hispanic	1.7	3.6	2.3	3.4	3.4	4.1	--	5.5	3.1	3.5	6.3	4.6	1.0	1.8	1.7	2.6	0.5	2.6
Asian	8.2	2.8	2.7	6.4	5.2	6.8	--	--	4.3	8.5	7.8	--	--	1.0	0.9	3.1	2.2	--
Other	7.5	8.6	8.8	7.4	8.3	10.0	--	13.3	13.7	--	10.4	12.2	--	5.2	3.6	--	--	--

"–" = Percentage not available (fewer than 100 cases in denominator)

Table 2, continued

	Total (%)						Males (%)						Females (%)					
	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003
Recent cigar/cigarrillo smoking				**15.6**	**13.1**	**11.8**				**23.0**	**19.6**	**17.3**				**7.9**	**6.4**	**6.3**
9th grade				13.6	10.9	8.1				19.7	14.9	10.7				7.1	6.8	5.5
10th grade				13.7	13.1	10.3				18.3	17.7	13.1				8.8	8.2	7.1
11th grade				16.8	13.6	13.0				25.6	21.3	22.5				7.4	5.3	3.3
12th grade				18.8	15.3	16.4				30.3	26.1	24.5				7.2	4.7	8.6
		na						**na**						**na**				
White				16.4	13.4	12.1				24.9	20.8	18.5				7.9	5.9	5.8
Black				15.1	12.2	6.5				23.8	16.2	7.0				5.0	8.5	--
Hispanic				10.4	11.1	12.6				13.4	14.2	16.2				6.4	7.9	8.9
Asian				10.8	10.3	9.6				14.0	15.4	--				6.2	4.5	--
Other				26.1	14.3	19.8				--	18.8	22.0				--	--	--

na = Question/measure not available that year; "–" = Percentage not available (fewer than 100 cases in denominator)

Table 3. Alcohol Use Among Massachusetts High School Students, 1993 to 2003

	Total (%)						Males (%)						Females (%)					
	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003
Any alcohol use, lifetime	**76.3**	**79.2**	**79.2**	**80.3**	**81.2**	**75.2**	**77.4**	**80.9**	**79.7**	**80.9**	**80.7**	**74.6**	**75.1**	**77.6**	**78.8**	**79.7**	**81.7**	**76.0**
9th Grade	70.4	71.6	70.3	72.9	71.8	65.3	71.4	73.6	70.5	74.2	73.0	63.1	69.3	69.6	70.0	71.5	70.7	67.7
10th Grade	71.7	79.6	81.5	81.1	80.5	76.1	73.1	81.7	81.2	82.1	79.1	73.2	70.5	77.3	81.9	80.3	81.9	79.0
11th Grade	80.7	81.2	82.2	82.2	87.1	78.3	83.8	82.2	82.7	81.7	86.4	81.1	77.6	80.4	81.7	82.5	87.8	75.6
12th Grade	83.9	86.2	84.5	86.9	87.9	82.9	83.1	87.5	84.5	87.7	87.1	82.6	84.8	85.0	82.6	86.1	88.7	83.2
White	78.1	81.6	81.9	83.0	83.2	76.4	78.6	81.9	81.1	83.0	83.2	76.5	77.6	81.2	82.7	83.0	83.3	76.3
Black	77.0	72.9	72.5	71.0	72.9	65.6	83.7	76.9	76.2	73.2	70.2	64.3	69.6	70.1	67.9	68.0	76.4	--
Hispanic	79.7	78.4	75.6	77.6	78.5	76.9	--	79.1	79.3	80.1	76.9	70.4	82.4	77.1	73.7	74.4	80.2	83.2
Asian	46.6	51.5	53.4	64.3	62.7	60.3	--	--	53.5	69.7	65.2	--	--	37.5	53.2	57.1	59.5	--
Other	73.9	74.3	80.0	86.7	79.5	78.4	--	77.5	91.9	--	79.1	80.0	--	71.9	69.0	--	--	--
Alcohol use, past month	**47.4**	**53.2**	**53.5**	**51.8**	**53.0**	**45.7**	**49.2**	**56.0**	**55.3**	**53.3**	**54.3**	**45.4**	**45.5**	**50.4**	**51.8**	**50.2**	**51.7**	**46.0**
9th Grade	41.5	46.1	43.1	44.3	44.1	36.7	41.0	47.3	42.9	44.3	45.8	33.2	42.2	45.0	43.4	44.0	42.5	40.3
10th Grade	43.3	52.6	55.1	52.0	49.4	43.6	44.2	55.6	55.3	54.5	49.0	40.7	42.6	49.5	54.7	49.7	49.9	46.5
11th Grade	49.0	55.3	56.3	52.4	56.8	47.6	53.1	59.1	58.9	55.0	60.0	50.7	44.8	51.6	53.9	49.7	53.4	44.7
12th Grade	57.1	60.2	61.9	60.7	64.8	57.6	60.5	63.6	68.4	62.8	66.1	60.4	53.6	56.8	56.2	58.6	63.6	54.3
White	49.3	56.1	57.6	56.0	55.9	47.4	50.4	57.4	58.3	56.9	57.2	46.9	48.2	54.8	56.9	54.9	54.6	48.0
Black	43.4	43.7	47.6	41.3	44.1	37.1	48.4	51.8	52.2	48.0	45.0	39.1	37.5	35.9	42.2	34.8	43.4	--
Hispanic	44.0	49.2	42.4	43.3	44.3	42.2	--	53.7	46.3	46.6	45.3	40.7	42.1	44.0	39.2	39.9	43.3	44.1
Asian	28.3	29.2	23.8	32.5	34.8	27.9	--	--	25.5	36.4	41.3	--	--	22.2	22.1	27.8	27.9	--
Other	44.8	47.7	53.0	58.6	51.3	50.0	--	54.5	62.1	--	52.3	53.2	--	42.9	44.6	--	--	--
Any binge drinking, past month	**27.5**	**33.4**	**32.7**	**32.6**	**32.7**	**26.9**	**31.8**	**38.7**	**35.8**	**36.6**	**36.4**	**28.6**	**23.1**	**28.0**	**29.4**	**28.5**	**28.9**	**25.2**
9th Grade	19.7	26.3	21.0	24.1	23.2	18.6	21.6	30.4	21.4	26.7	24.6	18.3	17.7	22.3	20.4	21.4	21.8	18.9
10th Grade	23.8	31.7	34.8	32.0	30.5	23.0	27.1	36.7	36.2	35.4	32.6	23.7	20.6	26.7	33.3	28.6	28.4	22.1
11th Grade	29.0	36.4	36.3	36.9	36.0	30.1	36.8	43.4	41.1	42.5	41.0	33.8	20.9	29.6	31.6	31.4	30.9	26.5
12th Grade	39.4	40.7	41.2	39.2	44.0	38.4	44.1	46.6	49.7	45.2	52.4	42.1	34.6	35.1	33.3	33.2	36.2	35.0
White	29.5	37.3	37.1	36.4	36.3	28.9	33.7	41.6	39.5	40.1	40.0	30.6	25.1	32.8	34.7	32.7	32.7	27.3
Black	19.1	19.8	20.5	21.0	15.9	15.1	22.9	23.6	23.1	29.1	17.6	19.2	15.2	16.5	17.5	12.1	14.1	--
Hispanic	22.0	24.8	21.0	24.1	22.4	23.9	--	34.7	29.9	28.5	27.2	23.7	18.2	15.0	13.5	19.2	17.4	23.3
Asian	18.2	14.3	9.2	17.6	17.2	15.7	--	--	12.7	22.3	22.4	--	--	6.7	4.7	12.3	11.4	--
Other	22.7	21.4	29.2	40.7	34.1	30.4	--	26.3	35.6	--	39.1	30.6	--	17.7	23.4	--	--	--

"–" = Percentage not available (fewer than 100 cases in denominator)

Table 3, continued

	Total (%)						Males (%)						Females (%)					
	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003
Frequent binge drinking	**6.3**	**8.1**	**8.5**	**7.9**	**7.2**	**5.3**	**31.8**	**11.0**	**9.9**	**10.5**	**9.5**	**6.5**	**4.7**	**5.0**	**7.0**	**5.1**	**4.9**	**4.1**
9th Grade	3.5	5.0	4.6	5.5	4.7	3.8	21.6	6.4	5.2	7.6	6.4	3.3	2.3	3.4	3.9	3.1	3.1	4.2
10th Grade	5.4	7.1	7.8	6.7	5.9	4.2	27.1	9.5	9.0	8.6	5.8	6.0	4.0	4.5	6.6	4.7	6.2	2.2
11th Grade	7.5	8.9	8.7	9.2	9.3	4.2	36.8	13.7	10.8	12.1	12.6	5.3	5.5	4.4	6.6	6.4	6.1	3.4
12th Grade	9.6	11.7	13.6	10.6	9.5	9.3	44.1	15.2	15.8	14.9	15.1	11.8	7.2	8.0	11.6	6.1	4.3	7.0
White	6.9	9.2	9.5	8.8	8.1	5.5	8.9	12.4	10.9	11.6	10.6	6.7	4.9	6.0	8.2	5.9	5.7	4.3
Black	4.8	4.0	3.8	5.4	3.9	3.8	5.2	6.5	2.1	9.9	5.8	4.6	4.3	1.7	5.0	0.0	1.9	--
Hispanic	2.8	4.5	4.5	5.5	3.5	5.1	--	6.0	7.1	6.7	4.5	5.2	3.1	2.5	2.2	3.9	3.0	3.9
Asian	2.5	2.3	4.6	4.9	3.2	2.9	--	--	8.2	5.7	6.1	--	--	1.0	0.9	3.8	0.0	--
Other	5.9	5.3	9.1	9.2	7.3	7.6	--	7.4	10.9	--	10.9	10.2	--	3.1	7.5	--	--	--
Drank before age 13	**31.0**	**31.1**	**30.8**	**29.5**	**27.9**	**25.2**	**36.8**	**36.3**	**35.3**	**33.7**	**32.1**	**27.9**	**24.9**	**25.7**	**26.3**	**25.0**	**23.5**	**22.5**
9th Grade	38.5	38.6	37.1	39.9	34.8	32.0	42.2	45.2	41.6	45.0	38.5	34.4	34.7	31.9	32.3	34.7	30.9	29.5
10th Grade	26.1	33.8	33.0	30.3	27.9	27.5	31.7	39.2	34.7	34.8	32.4	29.3	20.4	28.3	31.0	25.6	23.2	25.6
11th Grade	30.7	25.6	25.5	24.0	27.4	19.0	39.9	31.0	30.7	27.9	31.9	22.6	21.6	20.2	20.5	19.4	22.4	15.4
12th Grade	27.3	24.3	25.3	20.3	19.8	20.3	32.4	27.4	31.5	23.2	23.7	23.2	21.9	21.3	19.6	17.2	15.9	17.3
White	30.4	30.2	29.5	28.5	25.7	23.3	36.6	35.1	33.6	32.0	30.5	25.9	23.9	24.9	25.4	25.0	20.8	20.7
Black	39.4	38.2	39.1	33.6	37.4	31.6	47.8	44.8	44.4	38.4	34.8	33.1	29.1	32.1	32.7	27.4	40.7	--
Hispanic	34.4	35.9	34.1	33.3	36.6	33.3	--	40.3	40.3	40.0	40.4	38.0	34.9	31.5	29.0	24.7	32.2	28.5
Asian	25.5	19.5	24.5	23.1	27.4	25.0	--	--	25.7	31.0	32.6	--	--	9.6	23.2	13.0	21.6	--
Other	31.6	38.5	39.6	39.9	31.2	34.2	--	44.9	51.0	--	34.9	35.6	--	33.6	28.0	--	--	--
Drank on school property	**5.4**	**6.6**	**6.2**	**6.1**	**5.5**	**5.3**	**7.0**	**9.1**	**7.5**	**7.2**	**6.9**	**6.8**	**3.7**	**4.1**	**4.6**	**4.7**	**4.0**	**3.7**
9th Grade	4.8	6.9	6.3	6.6	5.4	4.7	5.2	9.3	7.6	7.8	6.7	5.7	4.4	4.6	5.1	5.3	4.1	3.7
10th Grade	5.7	7.2	7.3	6.0	5.5	5.7	8.0	9.0	8.3	6.0	6.4	6.5	3.3	5.5	6.0	6.0	4.7	4.5
11th Grade	5.2	6.6	5.0	5.6	5.5	4.1	7.3	9.7	6.4	6.9	6.6	5.9	3.1	3.5	3.7	4.4	4.3	2.3
12th Grade	5.7	5.0	5.3	5.1	5.1	6.2	7.1	7.9	7.4	7.9	7.9	8.6	4.3	2.1	3.4	2.1	2.4	3.8
White	5.1	5.9	5.9	5.5	5.1	4.3	6.7	7.3	7.3	6.2	6.5	5.6	3.4	4.4	4.4	4.6	3.6	3.0
Black	10.0	6.8	6.8	7.1	7.5	7.6	13.1	6.3	6.3	9.3	7.5	10.7	6.6	7.4	7.4	4.3	6.9	--
Hispanic	4.0	8.6	8.6	6.9	6.2	10.2	--	11.4	11.4	7.3	7.8	12.1	5.1	6.7	6.7	6.1	4.5	8.1
Asian	3.7	2.7	2.7	5.8	6.5	5.7	--	--	3.5	7.5	8.5	--	--	1.9	1.9	3.8	4.5	--
Other	8.5	7.2	7.2	11.1	9.8	6.5	--	8.5	10.1	--	10.9	8.5	--	3.7	3.7	--	--	--

"–" = Percentage not available (fewer than 100 cases in denominator)

Table 4. Illegal Drug Use Among Massachusetts High School Students, 1993 to 2003

	Total (%)						Males (%)						Females (%)					
	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003
Any marijuana use, lifetime	**33.6**	**47.9**	**50.9**	**50.2**	**50.4**	**46.7**	**37.9**	**54.0**	**52.2**	**53.0**	**53.7**	**49.3**	**29.1**	**41.7**	**49.6**	**47.1**	**47.1**	**44.2**
9th grade	24.3	40.8	38.9	40.1	37.1	33.4	27.4	49.9	40.2	43.3	41.3	36.0	21.1	31.7	37.6	36.9	32.7	31.0
10th grade	27.1	46.8	53.8	49.5	50.0	45.6	30.3	52.7	54.6	53.2	50.5	44.9	23.9	40.6	52.9	45.5	49.6	46.2
11th grade	37.8	51.0	54.6	54.8	55.8	50.5	42.6	55.4	57.2	57.1	58.7	56.7	32.8	46.6	52.1	52.2	52.7	44.3
12th grade	47.4	54.2	58.7	59.3	62.6	60.5	54.1	46.6	59.9	61.9	69.5	63.7	40.5	50.4	57.9	56.7	55.9	58.0
White	34.3	50.7	53.0	52.4	52.4	47.7	38.0	55.2	52.5	55.0	55.7	51.0	30.5	46.0	53.5	49.8	49.2	44.6
Black	41.8	51.4	64.9	50.3	49.1	41.2	48.0	58.5	69.3	53.6	50.9	42.1	35.2	44.2	59.2	45.7	47.5	--
Hispanic	29.9	34.9	43.3	45.6	39.1	45.0	--	50.6	49.4	50.0	43.8	44.3	24.2	19.9	38.9	40.1	34.5	45.9
Asian	17.7	20.0	20.8	31.3	33.0	31.9	--	--	27.0	36.4	40.8	--	--	12.7	15.1	24.0	25.6	--
Other	31.4	45.5	51.9	62.0	60.7	50.0	--	51.6	61.2	--	62.5	53.1	--	41.1	43.6	--	--	--
Marijuana use, past month	**20.1**	**31.9**	**30.9**	**30.6**	**30.9**	**27.7**	**23.5**	**37.3**	**34.2**	**33.8**	**34.5**	**30.6**	**16.4**	**26.4**	**27.5**	**27.4**	**27.3**	**24.9**
9th grade	14.9	27.8	24.2	25.1	23.3	20.8	18.0	34.6	25.2	28.0	26.5	21.3	11.7	20.8	23.1	22.3	20.0	20.4
10th grade	16.7	32.0	35.1	30.1	30.8	27.9	19.5	36.9	38.1	33.8	31.7	28.5	13.8	26.6	32.0	26.5	30.0	27.2
11th grade	21.1	33.7	30.8	31.7	34.4	26.9	25.4	39.3	35.8	34.7	38.4	33.5	16.6	28.1	25.9	28.6	30.2	20.2
12th grade	28.6	34.4	34.6	37.3	37.1	36.8	32.6	37.5	39.7	41.0	44.7	41.7	24.3	31.4	29.9	33.7	29.9	32.3
White	20.5	34.5	32.2	31.9	32.4	28.4	23.3	39.1	34.2	35.0	35.7	31.1	17.7	29.7	30.2	29.0	29.1	25.9
Black	25.1	32.5	41.3	32.1	30.1	24.7	31.4	39.5	47.1	34.9	36.2	29.3	18.0	25.0	34.5	28.8	23.8	--
Hispanic	15.3	20.8	23.5	27.2	20.8	24.8	--	30.2	29.9	32.4	24.9	27.6	10.1	11.3	18.2	20.8	16.7	22.2
Asian	10.1	11.3	12.8	16.2	18.9	13.4	--	--	15.5	21.3	23.4	--	--	4.8	10.3	10.1	14.0	--
Other	21.8	28.1	29.4	42.3	38.6	33.3	--	29.2	40.0	--	39.6	38.3	--	27.3	19.8	--	--	--
Any cocaine use, lifetime	**5.8**	**7.5**	**7.0**	**9.6**	**8.3**	**8.4**	**7.2**	**9.6**	**7.9**	**11.8**	**9.7**	**9.8**	**4.3**	**5.5**	**5.9**	**7.1**	**6.8**	**6.9**
9th grade	5.0	6.6	4.5	7.2	5.2	6.1	6.3	9.8	4.1	8.9	6.5	6.3	3.7	3.3	4.6	5.4	3.9	5.9
10th grade	4.5	7.5	6.6	8.8	6.5	8.1	5.7	8.8	7.4	10.8	7.2	10.0	3.2	6.2	5.5	6.6	5.8	6.2
11th grade	5.2	6.6	8.0	10.8	11.3	7.2	7.0	8.3	9.2	13.8	12.5	8.9	3.1	4.9	6.7	7.8	9.8	5.3
12th grade	8.4	9.2	9.5	11.8	11.0	11.8	9.7	11.2	11.9	14.8	14.1	13.2	7.0	7.3	7.2	8.6	7.9	10.2
White	5.9	7.8	7.7	9.9	8.6	8.6	7.2	9.6	8.6	11.7	9.7	9.9	4.6	5.9	6.7	8.0	7.5	7.3
Black	4.7	6.0	1.5	6.7	3.5	6.2	6.8	5.7	2.8	9.6	5.6	6.9	2.2	5.7	0.0	2.8	1.2	--
Hispanic	5.0	6.3	5.1	8.5	8.0	5.7	--	10.2	5.8	12.0	11.6	6.8	4.0	2.4	3.9	4.3	4.4	4.2
Asian	3.8	3.4	2.8	7.9	9.5	8.6	--	--	2.8	10.6	12.0	--	--	1.9	2.8	4.7	6.8	--
Other	8.4	11.2	10.9	17.8	12.9	17.3	--	14.7	14.6	--	14.3	18.0	--	7.9	6.6	--	--	--

"–" = Percentage not available (fewer than 100 cases in denominator)

Table 4, Continued

	Total (%)						Males (%)						Females (%)					
	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003
Any illicit steroid use, lifetime	**3.7**	**4.4**	**4.2**	**4.6**	**4.8**	**4.6**	**5.5**	**5.9**	**5.4**	**5.9**	**6.4**	**6.0**	**1.7**	**2.7**	**2.6**	**3.2**	**3.1**	**3.0**
9th grade	3.5	5.8	4.8	4.4	4.3	3.9	4.8	7.6	5.4	5.5	5.7	4.4	2.3	4.0	3.9	3.2	2.9	3.4
10th grade	2.6	4.5	4.5	4.4	5.3	5.0	3.7	6.2	6.0	5.2	6.3	6.3	1.6	2.8	2.8	3.4	4.3	3.3
11th grade	4.1	3.3	3.1	5.5	4.4	4.1	7.3	5.4	4.6	7.2	5.6	5.6	0.8	1.1	1.6	3.8	2.9	2.6
12th grade	4.3	2.8	3.3	3.8	5.1	4.5	6.3	3.9	4.8	5.8	8.3	6.9	2.3	1.8	1.9	1.6	1.9	2.3
White	4.1	4.3	3.8	4.1	4.9	4.3	6.3	6.0	5.0	4.8	6.4	5.7	1.7	2.5	2.6	3.3	3.4	2.9
Black	3.6	5.9	2.2	6.3	2.6	5.3	2.9	6.3	3.4	9.4	3.4	8.2	4.4	4.0	0.0	2.1	1.2	--
Hispanic	0.6	3.0	2.9	3.8	3.4	4.1	--	4.3	3.1	5.0	5.7	3.5	1.0	1.8	2.2	2.2	1.5	4.2
Asian	2.5	1.7	7.7	7.1	6.2	6.9	--	--	9.8	8.0	7.8	--	--	1.0	5.6	6.1	2.3	--
Other	4.2	7.3	8.6	9.9	10.6	10.0	--	11.0	13.0	--	12.2	14.3	--	5.2	3.6	--	--	--
Injected illegal drugs, lifetime	**2.6**	**2.8**	**2.0**	**2.7**	**1.7**	**2.2**	**3.8**	**4.5**	**2.9**	**3.6**	**2.4**	**2.9**	**1.2**	**1.0**	**1.1**	**1.6**	**0.9**	**1.5**
9th grade	2.7	4.3	2.2	2.9	1.7	2.1	4.4	7.3	3.0	4.4	2.7	2.9	1.0	1.1	1.3	1.2	0.7	1.6
10th grade	2.9	3.1	2.4	1.9	1.0	2.0	4.0	4.5	3.1	2.6	1.1	2.4	1.9	1.7	1.5	1.2	1.0	1.3
11th grade	1.8	1.3	1.6	3.3	2.3	1.5	1.3	2.3	2.6	3.9	3.0	1.7	0.0	0.2	0.6	2.6	1.4	1.4
12th grade	2.4	1.5	1.9	2.0	1.5	2.3	2.9	2.8	2.8	3.2	2.9	3.4	2.0	0.3	1.1	0.6	0.2	1.3
White	2.7	2.7	1.8	2.3	1.5	1.9	4.0	4.4	2.5	3.0	2.1	2.3	1.2	0.9	1.1	1.5	0.8	1.5
Black	2.6	3.2	1.1	2.4	2.3	2.7	2.9	4.8	2.1	4.5	2.8	5.2	2.2	1.6	0.0	0.0	1.2	--
Hispanic	0.0	1.5	2.0	2.8	2.0	2.7	--	2.5	3.1	3.5	3.0	3.4	0.0	0.0	1.1	1.3	1.0	2.1
Asian	3.7	3.4	2.8	5.0	4.2	2.8	--	--	3.6	6.6	5.9	--	--	1.0	0.9	3.8	2.2	--
Other	3.3	4.8	6.1	6.1	4.8	7.5	--	7.2	8.8	--	4.3	10.2	--	2.3	2.8	--	--	--
Offered/sold drugs at school	**31.4**	**38.5**	**42.2**	**35.6**	**34.2**	**31.9**	**37.4**	**45.4**	**46.8**	**40.2**	**38.6**	**36.5**	**25.0**	**31.6**	**37.5**	**30.7**	**29.5**	**27.2**
9th grade	31.0	39.8	38.9	33.2	35.7	30.0	36.4	44.2	40.5	37.5	40.8	30.4	25.5	35.4	37.3	28.8	30.4	29.6
10th grade	31.6	39.6	44.4	37.2	34.5	33.6	37.4	46.7	49.2	41.9	39.8	37.9	25.7	32.0	39.0	32.3	28.8	29.2
11th grade	29.9	35.8	43.7	36.2	34.1	31.6	36.3	44.4	49.6	41.0	37.7	39.7	39.7	46.4	47.1	31.0	30.3	23.6
12th grade	32.5	38.4	41.1	35.8	31.7	31.9	39.7	46.4	47.1	41.3	35.7	39.4	25.0	30.4	35.6	30.0	27.9	24.7
White	32.5	40.7	43.1	35.8	34.4	32.1	38.5	47.6	46.8	39.9	39.3	37.2	26.3	33.3	39.2	31.8	29.4	26.9
Black	32.8	32.8	45.1	39.6	36.3	30.7	41.0	37.9	50.0	47.8	42.6	33.8	23.6	26.2	39.2	30.5	29.6	--
Hispanic	24.2	28.3	37.9	30.2	30.4	29.1	--	35.4	47.5	37.1	31.6	31.8	20.4	20.7	29.8	22.3	29.1	26.7
Asian	24.1	27.5	30.6	31.8	30.9	32.4	--	--	36.3	34.3	38.0	--	--	25.0	24.5	27.7	22.7	--
Other	24.0	39.4	46.0	48.1	39.0	41.3	--	46.9	50.5	--	41.3	42.9	--	34.3	40.4	--	--	--

"–" = Percentage not available (fewer than 100 cases in denominator)

Table 5. Violence-Related Behaviors and Experiences Among Massachusetts High School Students, 1993 to 2003

	Total (%)						Males (%)						Females (%)					
	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003
Carried a weapon, past month	**20.3**	**20.4**	**19.0**	**15.3**	**13.2**	**13.5**	**32.3**	**31.9**	**29.6**	**24.2**	**22.0**	**21.7**	**8.0**	**8.6**	**8.2**	**6.0**	**4.2**	**5.2**
9th grade	25.1	26.4	21.2	18.0	14.5	15.3	38.3	41.8	31.4	28.5	24.3	24.1	11.3	10.6	10.6	7.1	4.3	6.2
10th grade	18.9	23.1	20.0	15.3	13.0	13.2	30.4	35.3	31.0	23.6	20.5	20.1	7.2	10.8	8.4	6.6	5.3	6.0
11th grade	17.9	15.5	17.0	15.1	12.6	9.0	29.2	24.8	28.1	23.3	22.1	14.7	6.5	6.0	5.9	6.4	2.9	3.3
12th grade	18.3	14.1	16.8	11.5	11.4	15.5	29.6	21.8	26.5	20.0	19.7	27.3	6.7	6.6	7.7	2.9	3.2	4.3
White	18.8	18.8	18.1	13.6	12.0	11.6	31.6	30.1	28.8	22.8	21.0	19.7	5.5	7.0	7.2	4.6	3.2	3.6
Black	33.3	30.5	28.7	16.2	16.6	23.7	46.1	43.8	38.0	25.3	23.6	34.2	18.9	15.7	17.8	5.8	8.6	--
Hispanic	29.1	26.3	19.8	20.2	15.8	16.9	--	41.8	34.0	26.7	24.4	24.4	21.4	10.8	7.3	11.7	7.0	9.7
Asian	14.5	11.8	12.8	16.3	14.9	15.3	--	--	18.1	22.2	22.0	--	--	7.7	8.1	7.7	6.8	--
Other	23.5	28.3	23.7	26.1	25.3	21.0	--	40.9	35.6	--	36.2	26.0	--	19.2	12.1	--	--	--
Carried a weapon at school, past month	**10.1**	**9.2**	**8.1**	**7.3**	**5.5**	**5.0**	**15.4**	**13.8**	**11.9**	**11.3**	**8.9**	**7.6**	**4.7**	**4.5**	**4.0**	**2.9**	**1.9**	**2.2**
9th grade	12.5	11.2	9.3	7.1	5.3	4.5	18.3	16.2	12.6	10.1	8.8	6.7	6.4	6.0	5.8	3.8	1.6	2.4
10th grade	9.6	10.6	9.4	7.3	6.0	4.7	15.2	14.5	14.0	12.5	8.5	6.2	3.8	6.6	4.4	2.1	3.3	3.3
11th grade	9.9	7.0	6.6	8.2	5.1	3.3	14.4	12.1	11.0	12.4	9.3	5.0	5.4	1.8	2.3	3.6	0.6	1.7
12th grade	7.8	7.2	5.5	6.1	5.1	6.5	12.6	11.1	8.3	10.5	8.7	12.3	2.9	3.3	2.9	1.7	1.5	1.0
White	9.3	8.0	7.3	5.6	4.3	3.9	15.1	12.6	11.1	9.4	7.6	6.3	3.3	3.0	3.3	1.9	1.1	1.5
Black	16.7	17.5	13.7	11.9	10.2	9.0	21.6	23.2	13.5	18.6	14.0	14.2	10.1	11.3	13.4	4.3	6.1	--
Hispanic	14.1	12.7	7.0	12.1	7.2	6.8	--	18.8	11.7	16.1	10.4	7.9	12.4	6.0	2.8	6.1	4.0	5.4
Asian	6.3	6.7	7.0	8.5	9.4	8.3	--	--	10.2	11.0	13.7	--	--	3.8	3.6	5.4	4.5	--
Other	13.6	15.5	12.7	13.5	15.9	12.3	--	16.8	20.0	--	21.7	16.0	--	14.6	4.7	--	--	--
Physical fight, past year	**41.6**	**38.3**	**35.5**	**36.7**	**33.2**	**30.7**	**51.2**	**48.3**	**44.0**	**47.3**	**42.7**	**39.2**	**31.7**	**28.3**	**26.5**	**25.8**	**23.6**	**22.2**
9th grade	47.6	45.0	40.4	43.2	40.8	36.1	56.2	54.7	48.1	54.3	52.8	45.5	38.9	35.4	32.2	31.6	27.9	26.5
10th grade	41.6	42.8	36.6	40.5	31.9	32.2	52.6	51.8	45.5	52.5	39.3	40.3	30.2	33.6	27.0	28.1	24.8	23.8
11th grade	37.3	31.3	30.7	31.3	29.0	25.8	47.7	42.0	39.8	40.2	37.8	34.2	26.6	20.7	21.7	21.7	20.0	17.5
12th grade	38.7	31.8	31.9	29.2	28.6	26.5	46.9	42.2	40.7	39.1	37.6	34.2	30.4	21.6	23.8	19.3	19.9	19.3
White	41.3	37.9	34.2	34.8	32.2	28.7	52.2	48.6	44.2	46.7	42.7	37.6	30.2	26.8	24.1	23.1	21.7	20.0
Black	42.4	43.0	51.9	41.1	35.4	41.6	43.4	47.1	57.7	49.4	42.0	52.9	41.3	38.8	44.4	32.1	28.0	--
Hispanic	40.2	44.2	35.2	41.3	41.5	34.7	--	54.5	36.0	46.9	46.2	37.5	36.5	33.3	34.7	34.2	36.6	32.3
Asian	35.7	24.0	22.2	33.4	30.9	25.4	--	--	28.4	42.0	40.0	--	--	18.3	15.5	21.3	20.5	--
Other	50.8	42.3	42.9	53.4	31.3	43.6	--	49.0	52.4	--	40.4	50.0	--	37.4	33.0	--	--	--

"–" = Percentage not available (fewer than 100 cases in denominator)

Table 5, continued

	Total (%)						Males (%)						Females (%)					
	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003
Physical fight at school, past year	**15.4**	**15.0**	**12.9**	**13.8**	**11.5**	**10.2**	**22.2**	**21.8**	**17.3**	**19.3**	**16.0**	**14.4**	**8.4**	**8.0**	**8.1**	**8.2**	**6.9**	**5.9**
9th grade	20.5	17.5	15.8	18.1	14.8	13.5	29.3	24.6	20.5	25.7	21.6	19.1	11.5	10.4	10.7	10.1	7.6	7.8
10th grade	13.8	17.7	13.2	14.4	11.2	10.7	20.7	25.2	17.0	19.8	15.7	14.7	6.6	10.1	9.0	8.8	6.9	6.6
11th grade	13.1	13.0	11.7	12.1	10.2	6.9	19.8	20.3	17.5	17.7	13.6	9.6	6.3	5.7	5.9	6.5	6.7	4.3
12th grade	13.0	10.2	9.3	9.0	8.5	7.9	17.0	15.7	12.8	11.7	11.3	11.9	9.0	4.8	6.1	6.2	5.8	4.1
White	14.6	14.3	11.9	12.4	10.8	8.4	22.0	21.8	17.3	18.1	15.9	12.7	7.0	6.4	6.3	6.8	5.8	4.1
Black	13.3	20.1	19.6	16.3	13.8	17.9	15.5	21.9	20.8	20.3	18.2	22.5	11.7	18.5	16.8	11.4	9.2	--
Hispanic	18.6	19.2	15.9	17.0	13.4	15.2	--	25.3	16.4	21.3	14.2	18.4	16.5	13.3	15.5	12.5	12.6	11.7
Asian	15.8	10.7	5.7	14.0	12.9	12.7	--	--	8.5	18.8	16.7	--	--	4.8	2.7	7.9	8.9	--
Other	26.1	16.7	18.2	23.5	18.1	13.8	--	21.0	22.6	--	21.7	18.4	--	13.5	13.0	--	--	--
Injured/threatened with weapon at school	**9.0**	**7.8**	**7.5**	**8.6**	**8.2**	**6.3**	**11.6**	**10.2**	**10.1**	**11.7**	**10.5**	**8.2**	**6.4**	**5.2**	**4.4**	**5.3**	**5.7**	**4.2**
9th grade	12.0	10.4	9.4	11.5	9.5	7.5	14.6	13.6	11.2	14.6	12.7	9.7	9.2	7.1	7.2	8.2	6.2	5.3
10th grade	9.2	8.4	8.9	7.9	9.6	6.6	12.2	11.8	12.1	10.3	11.7	7.8	6.1	4.9	5.2	5.4	7.4	5.3
11th grade	7.8	6.2	5.8	7.5	6.9	5.0	10.5	8.2	8.9	11.3	8.9	7.0	4.9	4.1	2.6	3.5	4.9	2.9
12th grade	6.7	4.6	4.2	6.1	5.5	4.3	8.4	5.5	6.7	9.6	7.5	6.3	4.9	3.7	1.8	2.5	3.6	2.3
White	8.3	7.3	6.5	7.4	7.4	4.8	11.0	9.4	9.3	9.9	9.6	5.9	5.4	5.0	3.5	4.8	5.3	3.7
Black	12.8	14.1	9.7	10.6	11.0	13.2	15.9	17.9	11.6	14.0	13.2	17.9	10.3	9.6	6.6	5.6	8.0	--
Hispanic	9.9	7.7	6.3	10.4	8.2	8.8	--	12.0	6.6	14.9	9.5	13.7	7.0	3.6	6.0	4.8	6.9	3.7
Asian	9.9	4.5	7.4	13.2	13.4	5.6	--	--	12.6	15.7	19.6	--	--	1.9	1.8	10.0	6.7	--
Other	10.7	10.2	16.3	12.1	15.3	13.6	--	12.7	19.3	--	20.4	16.0	--	8.3	12.7	--	--	--
Skipped school because unsafe, past month	**5.3**	**5.6**	**4.6**	**6.4**	**8.1**	**4.6**	**5.7**	**6.0**	**5.2**	**6.5**	**6.7**	**4.8**	**4.9**	**5.1**	**3.9**	**6.0**	**9.4**	**4.4**
9th grade	5.6	6.4	5.7	7.8	8.2	5.0	4.6	7.0	5.3	8.0	7.9	4.9	6.7	5.7	6.1	7.3	8.4	5.3
10th grade	5.9	6.1	4.8	6.8	9.0	4.6	6.9	6.0	5.6	7.2	8.5	3.5	4.6	6.1	3.6	6.4	9.6	5.7
11th grade	4.8	5.2	3.7	5.2	7.1	3.9	5.6	6.3	4.7	5.8	4.8	5.1	3.8	4.1	2.7	4.6	9.5	2.4
12th grade	4.5	3.9	3.2	4.4	7.6	4.5	5.0	4.0	4.0	--	5.1	5.2	4.0	3.8	2.4	4.4	10.0	3.8
White	3.8	3.7	3.9	4.5	6.5	3.4	3.8	3.7	4.1	4.3	5.6	3.5	3.8	3.6	3.5	4.7	7.5	3.3
Black	9.9	8.0	5.3	8.8	12.5	9.1	11.3	11.9	2.8	8.7	8.3	9.3	8.2	2.4	7.4	8.4	17.2	--
Hispanic	13.2	16.0	6.6	12.9	14.7	8.9	--	17.3	10.8	13.0	11.2	8.9	12.0	14.8	2.8	12.4	18.4	8.9
Asian	8.0	8.5	5.2	9.4	9.4	4.1	--	--	6.6	10.2	9.6	--	--	6.7	3.7	7.7	9.1	--
Other	12.3	11.0	8.7	12.7	15.3	6.2	--	10.7	11.1	--	16.3	6.0	--	11.2	5.5	--	--	--

"–" = Percentage not available (fewer than 100 cases in denominator)

Table 6. Suicidal Thinking and Behaviors Among Massachusetts High School Students, 1993 to 2003

	Total (%)						Males (%)						Females (%)				
	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001
Felt hopeless or sad for two weeks	na	na	na	30.4	28.8	28.0	na	na	na	25.1	22.7	21.1	na	na	na	35.9	35.0
9th Grade	na	na	na	30.7	28.8	27.4	na	na	na	26.4	23.0	19.8	na	na	na	35.1	34.9
10th Grade	na	na	na	30.2	27.7	27.4	na	na	na	21.6	20.0	18.8	na	na	na	38.8	35.7
11th Grade	na	na	na	28.2	30.5	27.8	na	na	na	24.9	23.8	21.6	na	na	na	31.8	37.6
12th Grade	na	na	na	32.2	28.0	28.4	na	na	na	27.3	24.4	23.9	na	na	na	37.1	31.4
White	na	na	na	29.2	27.0	26.2	na	na	na	23.8	21.5	18.7	na	na	na	34.3	32.6
Black	na	na	na	27.0	29.0	30.9	na	na	na	20.5	19.0	26.4	na	na	na	34.1	39.8
Hispanic	na	na	na	34.3	37.6	35.6	na	na	na	27.1	28.3	31.3	na	na	na	41.3	47.7
Asian	na	na	na	34.4	31.2	31.9	na	na	na	33.1	30.0	--	na	na	na	36.2	33.3
Other	na	na	na	41.5	38.1	27.3	na	na	na	--	32.7	21.3	na	na	na	--	--
Seriously considered suicide, past year	24.3	25.8	23.5	21.2	20.1	16.3	19.5	19.8	17.3	21.2	15.0	12.7	29.2	31.9	29.9	25.1	25.3
9th Grade	24.4	26.5	24.1	21.6	19.4	15.5	16.3	20.1	16.7	17.0	16.8	12.3	32.8	33.2	32.0	26.1	22.1
10th Grade	25.2	27.9	23.7	22.2	21.5	17.3	21.9	19.8	17.2	18.9	13.5	12.0	28.5	36.3	30.5	25.7	30.0
11th Grade	23.2	23.9	22.4	20.5	21.9	16.0	20.5	18.5	17.5	16.4	16.4	11.1	25.9	29.4	27.5	24.6	27.7
12th Grade	24.2	24.1	23.4	19.5	17.1	16.1	19.4	20.3	17.4	16.0	13.1	15.1	28.9	27.9	29.1	22.7	21.0
White	23.9	26.3	23.6	20.9	20.3	15.6	19.4	20.6	17.5	16.6	15.4	11.8	28.6	32.4	29.7	25.0	25.3
Black	19.5	19.8	22.8	17.6	16.3	21.2	18.3	16.5	16.2	14.3	12.0	18.5	21.5	22.4	30.8	20.9	21.2
Hispanic	23.5	25.7	16.8	19.2	19.8	15.7	--	18.3	9.3	13.4	12.2	11.0	31.3	33.1	23.9	24.8	27.9
Asian	25.6	20.8	22.0	26.2	18.8	12.7	--	--	14.5	25.2	16.0	--	--	23.0	29.7	26.8	20.5
Other	34.7	29.5	35.3	28.8	23.5	19.8	--	17.3	32.4	--	20.4	22.0	--	38.8	38.9	--	--
Made a suicide plan, past year	19.8	18.8	19.2	16.6	15.2	12.5	17.1	14.6	15.1	14.7	12.2	10.0	22.7	23.1	23.3	18.5	18.3
9th Grade	20.4	20.7	20.8	17.3	14.6	11.8	15.9	16.2	15.6	15.1	12.0	8.7	25.2	25.5	26.2	19.5	17.3
10th Grade	19.9	19.9	18.4	17.7	15.3	12.1	16.8	11.8	14.2	15.0	10.1	9.3	23.2	28.4	22.6	20.6	20.6
11th Grade	18.1	16.6	19.4	16.1	17.2	13.5	19.5	12.8	15.3	14.7	15.9	10.9	16.9	20.3	23.5	17.7	18.5
12th Grade	20.8	17.3	17.7	14.2	13.7	12.3	16.6	17.9	14.7	13.6	11.1	10.8	25.2	16.7	20.5	14.9	16.4
White	19.2	19.3	19.0	16.5	14.8	11.7	16.2	15.6	15.4	14.6	11.5	9.4	22.4	23.3	22.7	18.3	18.1
Black	16.5	11.2	19.1	14.0	13.6	16.6	16.2	7.5	13.9	13.0	12.6	17.0	16.8	14.6	24.8	14.8	14.6
Hispanic	20.4	15.7	17.2	14.7	17.1	13.5	--	10.2	9.6	10.3	13.5	6.2	--	21.3	24.3	19.4	21.0
Asian	25.3	16.2	17.6	18.9	15.6	12.5	--	--	12.0	19.9	14.0	--	--	17.2	23.4	17.7	17.8
Other	26.4	26.5	25.0	23.3	21.2	15.2	--	15.4	24.5	--	18.8	16.7	--	35.1	25.9	--	--

na = Question/measure not available that year; "–" = Percentage not available (fewer than 100 cases in denominator)

Table 6, continued

	Total (%)						Males (%)						Females (%)				
	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001
Attempted suicide, past year	10.3	10.4	9.5	8.3	9.6	8.4	8.6	7.6	6.3	6.2	6.9	7.3	11.9	13.3	12.7	10.2	12.2
9th Grade	11.7	13.8	10.6	10.0	9.6	9.4	6.2	9.9	5.9	7.2	6.8	8.8	17.2	17.8	15.5	12.6	12.4
10th Grade	10.2	11.9	10.9	8.4	10.7	7.7	8.4	8.5	7.2	6.7	5.9	5.9	11.9	15.3	14.5	10.3	15.2
11th Grade	9.5	7.9	8.3	7.4	10.1	8.5	9.8	6.3	6.5	4.0	7.8	6.0	9.3	9.5	10.0	10.8	12.3
12th Grade	9.3	7.0	7.4	5.9	7.3	7.0	9.8	4.3	4.6	6.4	7.1	7.2	8.7	9.7	10.1	5.5	7.4
White	9.2	9.3	8.8	7.4	9.0	7.0	7.5	6.8	5.7	5.6	6.2	5.6	10.9	12.1	11.8	9.2	11.8
Black	10.1	7.0	9.2	6.4	9.2	14.2	10.0	6.2	6.9	4.7	7.5	15.0	11.3	8.8	11.9	7.5	10.3
Hispanic	10.8	17.2	11.0	9.5	11.9	12.9	--	13.3	5.0	5.5	7.5	10.1	11.8	21.4	16.6	13.8	16.3
Asian	12.8	9.0	13.1	14.8	9.8	10.9	--	--	8.6	14.0	9.5	--	--	7.9	17.6	--	10.6
Other	24.5	18.8	13.3	14.7	16.2	14.3	--	11.3	14.1	--	16.7	16.7	--	24.8	12.5	--	--
Treated medically for a suicide attempt	3.4	3.6	3.7	4.1	3.5	2.8	3.1	3.2	2.9	3.7	3.0	2.8	3.7	4.0	4.5	4.5	3.8
9th Grade	3.7	4.4	4.1	5.2	3.5	3.5	3.0	3.3	2.8	4.6	3.3	3.7	4.4	5.7	5.6	5.7	3.7
10th Grade	3.5	4.2	4.3	4.6	3.4	2.1	3.6	4.4	3.9	3.9	2.6	2.3	3.1	4.0	4.4	5.3	4.2
11th Grade	3.4	2.6	3.2	3.5	3.8	2.8	3.6	2.3	2.5	3.3	2.8	1.7	3.3	2.9	3.9	3.7	4.3
12th Grade	2.8	2.7	2.8	2.5	2.8	1.8	2.1	2.4	1.8	2.4	3.4	2.6	3.4	2.9	3.8	2.3	2.2
White	2.8	3.1	3.3	3.3	3.1	2.1	2.3	2.9	2.8	2.8	2.4	2.1	3.4	3.3	3.9	3.8	3.6
Black	4.1	3.3	3.7	3.6	4.5	5.0	4.4	4.5	3.1	3.9	5.4	5.9	3.8	2.0	3.6	3.4	3.5
Hispanic	2.4	5.1	3.9	5.2	5.5	4.9	--	4.6	0.7	3.4	5.2	3.2	--	5.6	6.5	6.5	5.7
Asian	5.8	3.3	6.3	9.5	2.5	4.8	--	--	2.9	10.3	2.4	--	--	3.4	8.9	--	2.6
Other	10.5	7.8	6.2	8.8	6.8	7.2	--	4.1	8.2	--	7.0	9.8	--	10.7	5.2	--	--

"–" = Percentage not available (fewer than 100 cases in denominator)

Table 7. Safety-Related Behaviors Among Massachusetts High School Students, 1993 to 2003

	Total (%)						Males (%)						Females (%)					
	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003
Never or rarely used a seat belt(a)	**41.0**	**29.8**	**29.2**	**24.4**	**20.7**	**16.2**	**46.7**	**36.6**	**35.1**	**29.5**	**25.5**	**19.7**	**35.1**	**22.8**	**23.1**	**19.0**	**15.6**	**12.6**
9th Grade	43.6	31.5	28.0	25.1	21.8	18.0	47.1	38.3	32.3	29.7	25.7	20.9	40.2	24.3	23.5	20.1	17.6	15.0
10th Grade	39.8	32.1	29.5	26.2	18.8	14.0	43.7	40.2	33.1	30.0	22.3	16.2	35.7	23.6	25.4	22.0	15.3	11.4
11th Grade	40.6	25.0	27.4	22.7	18.2	13.9	49.2	29.7	37.8	28.8	22.1	18.3	31.7	20.1	16.8	16.7	13.7	9.4
12th Grade	39.7	29.2	32.1	22.6	23.5	17.9	47.0	36.5	38.1	28.7	32.5	23.1	32.1	22.1	26.1	16.3	14.6	13.0
White	38.4	28.0	26.3	21.1	18.7	13.1	45.5	35.3	32.6	27.1	24.0	16.3	31.0	20.2	19.7	15.2	13.4	9.9
Black	54.0	44.4	43.3	35.9	29.1	29.2	51.9	46.3	48.3	35.4	29.9	32.5	56.3	42.3	37.2	36.4	28.0	--
Hispanic	63.5	38.6	39.0	32.4	27.2	25.1	--	46.4	41.9	36.3	31.1	29.5	61.0	30.4	35.7	28.0	23.2	20.5
Asian	33.5	16.9	31.3	29.3	25.0	24.7	--	--	37.0	29.5	31.4	--	--	16.5	25.5	29.2	18.2	--
Other	44.2	35.0	35.3	31.1	24.1	25.0	--	42.0	40.0	--	30.6	27.1	--	29.9	29.1	--	--	--
Never or rarely wore a bike helmet(b)	**94.3**	**90.2**	**86.1**	**83.3**	**78.5**	**72.0**	**94.3**	**90.0**	**86.4**	**87.0**	**81.3**	**76.2**	**94.3**	**90.5**	**85.7**	**78.6**	**74.6**	**66.5**
9th Grade	93.9	89.7	80.3	79.1	74.8	72.9	93.9	89.3	80.7	84.0	77.1	75.8	93.9	90.2	79.8	73.0	71.8	69.3
10th Grade	94.5	91.4	90.1	82.6	78.0	68.7	94.5	91.0	89.5	86.1	83.1	72.7	94.5	91.9	91.0	78.1	70.2	63.4
11th Grade	96.0	88.9	87.4	85.7	82.8	73.1	96.0	88.6	88.1	88.8	84.1	79.3	96.0	89.2	86.6	81.9	81.0	63.6
12th Grade	92.7	91.2	88.3	88.9	80.7	73.9	92.7	91.6	89.1	91.9	82.4	78.6	92.7	90.7	87.4	84.9	78.3	67.4
White	95.1	89.8	84.0	81.4	75.8	67.7	94.1	89.5	84.4	85.7	79.1	72.6	96.1	90.2	83.7	76.3	71.4	61.2
Black	92.5	93.6	96.7	92.0	90.0	87.6	--	92.9	98.2	96.1	89.4	--	--	94.5	--	--	--	--
Hispanic	94.3	93.6	95.2	93.1	87.3	90.1	--	94.3	94.7	94.9	88.8	92.5	--	93.8	95.8	90.5	85.2	88.7
Asian	85.9	87.5	86.8	81.1	82.8	75.6	--	--	--	79.6	83.8	--	--	--	--	--	--	--
Other	--	90.2	92.5	81.8	82.8	74.5	--	--	--	--	88.1	--	--	87.6	--	--	--	--
Rode with a driver who drank	**32.5**	**36.6**	**35.4**	**33.4**	**30.5**	**27.5**	**33.3**	**39.6**	**35.8**	**35.0**	**32.3**	**27.1**	**31.6**	**33.4**	**35.0**	**31.7**	**28.7**	**28.0**
9th Grade	26.7	34.1	29.0	29.1	26.2	23.9	24.7	35.6	28.8	28.7	27.7	22.1	28.9	32.5	29.4	29.4	24.7	25.8
10th Grade	30.8	35.9	35.6	34.5	27.9	23.6	30.2	39.3	33.7	35.7	26.9	22.8	31.4	32.5	37.3	33.5	29.0	24.4
11th Grade	34.2	36.9	35.6	34.8	32.8	26.5	38.0	39.0	38.5	37.2	33.9	27.4	30.5	34.8	32.6	32.5	31.5	25.7
12th Grade	38.9	39.7	42.6	36.1	36.3	37.1	41.8	45.1	44.1	40.5	42.8	38.1	35.9	34.3	41.4	31.6	30.0	36.3
White	32.5	37.6	36.4	34.0	31.1	27.6	33.8	39.5	35.8	34.7	32.4	26.4	31.1	35.6	36.9	33.3	29.8	29.0
Black	33.5	37.7	27.2	29.2	25.4	25.2	38.1	41.0	26.0	31.4	29.3	25.6	28.1	33.6	28.1	26.6	21.3	--
Hispanic	36.8	40.1	39.0	32.9	31.1	29.6	--	46.2	46.7	37.8	33.8	33.9	40.0	33.7	32.0	27.7	28.0	25.5
Asian	29.6	18.6	23.3	28.1	24.0	21.9	--	--	21.7	32.5	27.5	--	--	13.6	25.2	22.7	18.2	--
Other	26.7	28.9	38.9	40.5	33.7	27.5	--	36.3	45.0	--	34.0	28.0	--	23.5	31.8	--	--	--

"–" = Percentage not available (fewer than 100 cases in denominator)

Table 7, continued

	Total (%)						Males (%)						Females (%)					
	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003
Drove after drinking	**11.5**	**15.9**	**14.2**	**13.7**	**12.2**	**11.6**	**15.0**	**19.8**	**17.5**	**17.4**	**16.6**	**14.1**	**8.0**	**12.0**	**10.9**	**9.8**	**7.8**	**9.0**
9th Grade	6.2	10.7	7.5	8.4	7.1	7.4	7.7	13.1	8.5	10.9	9.9	8.5	4.7	8.3	6.5	5.8	4.2	6.1
10th Grade	6.5	12.0	12.1	8.8	7.7	6.7	8.9	15.3	15.3	11.1	10.9	7.5	3.9	8.6	8.4	6.3	4.5	5.9
11th Grade	12.4	17.9	15.4	17.4	15.1	12.5	16.4	22.3	20.0	23.4	20.9	17.7	8.4	13.6	10.9	11.3	9.1	7.2
12th Grade	22.5	24.7	23.8	22.4	20.7	21.0	28.7	30.8	29.4	27.5	27.5	24.5	16.3	18.7	18.6	17.3	14.1	17.7
White	12.0	17.6	15.3	14.6	12.8	11.5	15.3	21.0	18.3	18.0	17.4	13.7	8.6	14.4	12.3	11.3	8.4	9.4
Black	10.8	9.6	9.7	10.0	8.8	11.1	15.8	12.5	13.8	14.0	11.7	16.1	5.3	0.0	5.0	5.0	5.5	--
Hispanic	10.9	11.2	13.8	10.9	10.6	11.7	--	17.0	20.0	15.4	14.6	13.5	8.3	5.5	8.4	5.6	6.5	9.7
Asian	6.3	9.1	6.1	10.7	9.6	8.6	--	--	8.3	15.5	12.5	--	--	3.9	3.6	4.7	4.5	--
Other	12.5	11.5	14.7	19.3	15.5	13.8	--	17.7	18.4	--	18.8	18.0	--	6.9	10.4	--	--	--

"–" = Percentage not available (fewer than 100 cases in denominator)

TABLE 8. Sexual Behaviors Among Massachusetts High School Students, 1993 to 2003

	Total (%)						Males (%)						Females (%)					
	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003
Ever had sexual intercourse	**48.7**	**46.5**	**44.7**	**44.1**	**44.3**	**41.0**	**51.4**	**50.3**	**46.8**	**46.4**	**46.3**	**40.8**	**46.0**	**42.8**	**42.4**	**41.8**	**42.3**	**41.1**
9th grade	31.0	33.4	28.7	30.7	28.0	26.4	36.5	40.7	31.6	34.8	32.7	28.3	25.5	26.3	25.8	26.4	23.3	24.6
10th grade	39.3	41.1	41.8	40.2	37.2	33.7	41.5	44.8	44.4	43.7	38.3	33.1	37.2	37.4	39.0	36.5	36.2	34.2
11th grade	55.9	51.5	49.7	49.2	51.5	44.6	56.8	54.2	52.1	52.6	51.9	42.9	55.1	48.8	47.4	46.0	51.2	46.1
12th grade	71.2	63.4	62.8	60.6	65.4	63.4	72.9	63.7	63.8	58.9	68.0	63.5	69.9	63.0	62.0	62.0	63.1	63.0
White	46.7	44.5	41.9	41.5	41.6	37.3	47.7	45.8	42.3	41.5	42.0	36.3	45.8	43.1	41.4	41.3	41.2	38.3
Black	75.3	68.5	67.7	61.4	58.1	55.5	82.4	79.0	71.5	66.9	68.0	55.6	67.9	58.2	63.3	56.2	47.5	--
Hispanic	56.6	57.5	59.5	53.8	56.7	59.2	--	76.2	72.1	66.2	62.8	65.1	43.0	38.2	48.2	39.5	50.6	53.9
Asian	34.6	27.7	24.4	32.8	34.5	31.7	--	--	24.5	35.0	39.5	--	--	24.5	24.3	30.5	26.8	--
Other	50.0	51.6	51.8	59.0	48.6	49.3	--	62.4	60.0	--	52.5	51.2	--	44.9	44.2	--	--	--
Sexual intercourse before age 13	**8.3**	**7.8**	**7.1**	**6.0**	**5.3**	**4.9**	**12.9**	**11.8**	**9.8**	**9.0**	**8.0**	**7.5**	**3.6**	**3.8**	**4.2**	**3.0**	**2.5**	**2.4**
9th grade	8.9	9.0	7.8	8.6	6.9	6.9	14.5	13.1	10.7	12.3	10.8	11.2	3.4	5.1	4.9	4.6	3.0	2.4
10th grade	6.1	8.8	8.1	5.1	5.5	4.7	9.6	13.9	11.4	7.4	8.7	7.3	2.6	3.8	4.4	2.7	2.4	2.2
11th grade	9.3	7.4	4.9	4.9	3.8	3.2	13.6	11.8	8.1	7.2	4.7	4.2	5.2	2.9	1.8	2.7	2.7	2.3
12th grade	8.6	5.0	6.7	4.9	4.2	3.8	13.7	7.4	7.9	8.5	6.9	5.4	3.5	2.6	5.5	1.4	1.7	1.9
White	6.1	5.5	5.0	4.2	3.3	3.2	9.3	7.8	6.9	6.3	5.2	4.6	3.0	3.1	3.1	2.1	1.6	1.9
Black	25.7	20.7	17.0	13.8	17.2	11.6	41.4	36.8	27.3	18.8	25.5	19.8	9.5	4.6	6.4	8.1	7.8	--
Hispanic	15.4	13.7	12.6	11.0	9.2	12.6	--	23.8	20.4	17.8	13.3	20.8	4.3	2.8	5.9	4.0	5.1	5.3
Asian	8.3	6.0	6.6	6.6	6.0	3.4	--	--	6.3	9.4	9.5	--	--	2.0	6.9	3.4	4.8	--
Other	12.4	19.2	12.8	11.5	9.7	8.6	--	27.9	15.6	--	12.8	9.8	--	14.0	9.6	--	--	--
Four or more sexual partners in life	**14.5**	**14.8**	**12.7**	**12.2**	**12.0**	**10.1**	**18.5**	**18.4**	**14.8**	**14.7**	**14.6**	**11.4**	**10.6**	**11.1**	**10.6**	**9.7**	**9.4**	**9.0**
9th grade	8.1	10.4	8.1	10.1	8.1	7.4	11.5	16.8	10.6	14.6	12.4	10.0	4.7	4.2	5.7	5.5	3.8	4.8
10th grade	9.7	13.9	11.3	11.1	9.5	7.5	12.6	18.4	12.1	14.1	11.7	9.3	6.9	9.5	10.1	7.7	7.5	5.7
11th grade	17.2	14.4	12.6	12.2	12.4	7.7	20.8	16.8	16.6	13.2	14.6	7.0	13.9	12.0	8.8	11.3	10.2	8.5
12th grade	24.0	21.0	20.3	16.2	18.9	17.9	29.8	21.9	21.9	17.5	20.9	18.7	18.0	20.2	18.9	15.0	17.1	17.2
White	12.9	12.2	10.4	9.5	9.3	8.0	15.5	13.5	10.4	9.9	10.5	8.0	10.3	10.9	10.4	9.0	8.2	7.9
Black	32.5	33.6	35.5	25.9	29.2	17.9	43.0	43.1	43.8	39.5	37.9	22.5	21.7	24.8	25.7	12.2	20.4	--
Hispanic	20.1	24.5	18.0	19.9	18.1	20.0	--	40.1	31.1	29.9	27.8	28.6	9.7	7.7	6.6	8.8	8.4	12.5
Asian	12.6	9.0	5.8	12.7	14.1	8.5	--	--	6.4	13.9	18.6	--	--	4.1	4.9	11.6	9.8	--
Other	12.6	21.9	15.5	15.6	15.5	14.5	--	36.8	20.5	--	17.9	15.0	--	11.7	10.6	--	--	--

"–" = Percentage not available (fewer than 100 cases in denominator)

Table 8, Continued

	Total (%)						Males (%)						Females (%)					
	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003
Sexual intercourse in past 3 months	**33.5**	**33.1**	**31.0**	**32.0**	**32.5**	**29.8**	**32.6**	**33.4**	**30.0**	**31.7**	**31.9**	**28.2**	**34.2**	**32.7**	**31.8**	**32.0**	**33.1**	**31.4**
9th grade	17.0	20.8	18.4	20.2	18.2	17.2	19.2	24.4	19.0	22.0	20.5	16.5	14.8	17.2	17.8	18.1	15.9	17.7
10th grade	26.9	28.0	27.7	28.1	25.8	22.8	24.8	27.5	27.2	29.8	23.5	20.2	28.9	28.3	28.2	26.1	27.9	25.1
11th grade	39.9	38.7	34.0	36.1	38.0	32.9	37.3	38.1	34.3	36.7	36.9	32.0	42.5	39.2	33.8	35.7	39.2	33.8
12th grade	52.4	48.2	47.3	47.1	52.3	50.5	50.7	46.2	42.8	41.8	51.3	48.1	54.0	50.1	51.3	52.0	53.1	52.9
White	32.6	32.1	29.3	30.7	31.2	27.9	30.3	30.8	27.2	28.5	29.9	26.1	34.9	33.4	31.3	32.5	32.5	29.6
Black	48.8	46.5	47.2	43.9	40.8	31.0	49.4	49.5	51.3	48.0	44.4	32.0	48.8	43.5	42.7	39.5	37.3	--
Hispanic	37.3	38.0	40.4	35.4	37.4	44.5	--	47.6	40.8	40.5	40.0	41.6	30.1	27.6	39.6	28.4	34.8	46.7
Asian	23.1	21.0	17.4	25.1	27.4	23.7	--	--	14.9	25.4	28.6	--	--	19.6	19.0	25.6	24.4	--
Other	32.0	36.0	34.2	39.7	36.6	39.1	--	41.9	42.2	--	35.9	39.0	--	32.6	27.9	--	--	--
Alcohol/drugs at last intercourse (a)	**22.1**	**30.7**	**26.7**	**29.7**	**22.7**	**24.8**	**28.6**	**38.0**	**32.3**	**37.1**	**28.8**	**24.8**	**16.0**	**23.4**	**21.5**	**22.5**	**16.9**	**24.8**
9th grade	26.2	39.2	33.3	37.0	26.5	30.7	--	49.1	31.9	46.6	28.6	--	--	---	--	25.1	23.8	--
10th grade	23.2	32.9	24.8	30.5	20.3	24.6	--	42.2	30.0	38.8	20.8	--	--	24.3	19.3	21.3	20.2	24.6
11th grade	21.5	25.6	25.7	28.3	22.8	22.3	32.1	30.9	34.7	35.0	29.0	--	12.0	20.3	17.1	22.0	17.1	22.3
12th grade	20.4	28.9	25.4	25.2	21.8	22.9	25.3	34.6	32.1	29.4	32.5	22.9	15.8	23.8	20.5	21.8	12.1	22.9
White	20.9	32.7	27.4	30.9	24.3	25.3	27.9	40.8	32.5	38.9	32.0	25.3	14.8	25.3	22.9	24.2	17.5	25.3
Black	--	23.4	21.3	24.5	11.1	--	--	--	--	--	--	--	--	--	--	--	--	--
Hispanic	--	21.7	25.4	23.6	17.4	21.7	--	--	--	--	--	--	--	--	--	--	--	--
Asian	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Other	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Condom use at last intercourse (a)	**51.8**	**55.9**	**57.0**	**57.2**	**58.1**	**57.4**	**57.4**	**59.9**	**64.2**	**62.6**	**61.6**	**57.4**	**46.7**	**52.0**	**50.4**	**52.0**	**54.9**	**57.4**
9th grade	60.4	63.7	61.4	65.4	65.2	65.5	--	64.5	--	70.1	60.5	--	--	--	--	60.2	--	--
10th grade	57.4	56.9	62.7	63.2	65.9	65.9	57.1	62.1	68.9	69.9	71.5	--	57.6	52.7	57.0	55.7	61.5	65.9
11th grade	49.8	55.9	61.2	57.2	60.0	59.4	53.1	59.2	72.2	58.0	63.7	--	47.2	52.6	50.8	56.1	36.6	59.4
12th grade	47.4	51.6	48.0	49.0	49.1	48.0	59.0	56.9	53.8	55.0	54.9	48.0	36.4	46.8	43.1	44.5	43.8	48.0
White	52.7	55.0	57.1	56.5	56.4	57.2	59.8	58.1	62.6	60.6	60.8	57.2	46.5	52.1	52.5	53.0	52.5	57.2
Black	--	64.5	61.8	67.9	70.2	--	--	--	--	--	--	--	--	--	--	--	--	--
Hispanic	--	58.3	52.1	56.2	60.5	52.2	--	--	--	--	--	--	--	--	--	--	--	--
Asian	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Other	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

"–" = Percentage not available (fewer than 100 cases in denominator)

Table 9. Nutrition, Weight Control, and Physical Activity Beahvior Among Massachusetts High School Students, 1993 to 2003

	Total (%)						Males (%)						Females (%)					
	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003
Ate 5+ servings of fruits or vegetables				**13.9**	**12.8**	**11.4**				**14.3**	**13.2**	**12.3**				**13.5**	**12.3**	**10.5**
9th grade				15.2	14.7	11.2				18.4	15.7	12.8				12.2	13.6	9.7
10th grade				14.6	14.0	10.3				14.1	16.0	11.0				14.9	12.0	9.5
11th grade				12.4	11.7	12.7				10.8	10.1	12.3				14.1	13.1	13.2
12th grade				12.9	10.0	11.4				12.6	10.0	13.1				13.2	10.2	10.0
		na						**na**						**na**				
White				14.0	12.6	11.1				14.1	12.7	11.5				13.9	12.5	10.6
Black				16.8	13.1	11.1				18.6	15.7	15.8				14.4	10.1	--
Hispanic				11.8	11.8	11.8				11.8	13.2	12.3				11.6	10.4	11.1
Asian				12.3	16.9	17.6				13.9	17.5	--				10.3	13.9	--
Other				14.6	13.6	16.5				--	14.9	10.2				--	--	--
Drank 3+ glasses of milk				**22.3**	**18.0**	**18.5**				**29.0**	**23.2**	**25.5**				**15.6**	**12.7**	**11.4**
9th grade				26.3	22.4	19.1				33.8	28.2	24.9				18.8	16.3	13.1
10th grade				24.0	17.1	20.2				31.9	21.1	27.0				15.9	12.7	13.5
11th grade				19.1	17.7	16.8				22.9	23.8	23.7				14.9	11.3	9.7
12th grade				18.7	14.0	17.5				25.8	18.4	26.3				11.8	9.7	9.2
		na						**na**						**na**				
White				24.3	19.6	19.5				31.6	25.2	26.8				17.0	13.9	12.2
Black				15.8	13.6	13.1				20.0	19.3	21.9				10.9	7.6	--
Hispanic				18.9	10.3	16.2				26.6	13.7	21.3				11.1	7.1	11.8
Asian				12.6	14.9	9.7				17.4	16.0	--				6.8	14.0	--
Other				25.6	18.5	22.5				--	26.1	30.6				--	--	--
At risk of becoming overweight				**14.9**	**15.0**	**13.8**				**18.0**	**16.6**	**15.2**				**11.5**	**13.2**	**12.3**
9th grade				16.0	15.5	16.3				19.7	19.5	16.7				11.8	11.0	15.9
10th grade				15.8	15.1	14.7				19.5	16.2	16.2				11.7	14.1	13.2
11th grade				14.9	15.1	11.9				17.5	16.9	14.6				12.0	13.3	9.1
12th grade				12.6	14.0	11.4				14.9	13.3	12.7				10.3	14.7	10.1
		na						**na**						**na**				
White				14.7	14.4	12.7				18.5	16.1	14.4				10.9	12.6	11
Black				19.6	16.5	19.9				22.4	17.6	18.7				16.5	15.2	--
Hispanic				17.6	19.9	17.8				20.9	21.6	19.9				13.5	18	15.8
Asian				10.5	11.6	8.2				10.5	14.6	--				11.2	10.3	--
Other				13.7	14.5	18.3				--	15.2	17.8				--	--	--

na = Question/measure not available that year; "–" = Percentage not available (fewer than 100 cases in denominator)

Table 9, Continued

	Total (%)						Males (%)						Females (%)					
	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003
Overweight				**7.3**	**10.0**	**9.9**				**9.2**	**13.5**	**13.0**				**5.3**	**6.3**	**6.7**
9th grade				8.2	10.4	9.8				8.2	14.2	12.8				8.2	6.0	6.6
10th grade				7.0	10.7	10.9				10.2	15.6	13.1				3.4	5.4	8.6
11th grade				7.5	9.0	10.7				10.6	10.6	14.1				4.1	7.2	7.0
12th grade				6.5	9.6	8.0				8.0	12.6	11.4				4.9	6.4	4.6
		na						na						na				
White				6.8	8.9	9.3				9.3	12.8	12.4				4.1	4.8	5.9
Black				9.8	17.0	13.3				7.5	16.9	15.9				12.4	17.1	--
Hispanic				11.2	13.7	12.3				11.1	17.5	14.3				11.3	9	11
Asian				4.7	8.1	4.9				5.6	10.4	--				2.6	5.3	--
Other				7.1	10.5	14.1				--	11.1	20.0				--	--	--
Thought they were overweight	**32.1**	**28.2**	**28.7**	**32.6**	**33.4**	**30.9**	**22.3**	**21.4**	**21.5**	**23.8**	**26.9**	**25.0**	**42.4**	**35.2**	**36.1**	**41.6**	**40.0**	**37.0**
9th grade	31.7	26.8	26.5	31.5	32.5	27.9	22.8	20.6	21.8	24.0	28.7	21.3	41.1	33.2	31.7	39.2	36.4	34.5
10th grade	32.4	29.8	30.2	32.5	34.1	31.4	20.2	21.4	22.9	23.9	26.1	24.9	45.1	38.3	38.1	41.5	41.9	37.5
11th grade	34.8	28.4	29.0	33.7	33.1	33.1	27.2	21.8	20.8	26.1	25.5	27.9	43.0	34.9	37.1	41.9	40.6	38.6
12th grade	29.7	28.2	29.7	32.8	34.1	31.9	19.1	20.9	20.0	20.9	26.5	26.5	40.4	35.5	39.1	44.6	41.5	37.0
White	34.0	29.4	29.9	34.1	34.0	31.3	23.2	21.6	22.6	25.4	27.4	25.2	45.2	37.6	37.6	42.7	40.6	37.3
Black	21.0	22.8	24.3	26.7	31.3	25.2	14.4	19.1	18.8	18.7	21.3	22.8	29.0	27.2	30.3	35.3	42	--
Hispanic	21.0	24.2	26.8	30.3	31.7	33.1	--	19.4	21.2	22.5	29.3	23.7	24.7	28.4	31.8	39.5	34.2	41.6
Asian	31.8	22.4	23.9	28.8	27.4	23.9	--	--	14.4	20.1	23.5	--	--	26.7	33.6	38.7	31.8	--
Other	31.7	29.6	26.2	31.9	28.6	33.3	--	27.8	20.0	--	22.9	29.8	--	30.8	32.7	--	--	--
Trying to lose weight	**41.2**	**42.4**	**42.6**	**44.4**	**46.9**	**45.9**	**21.5**	**23.0**	**23.2**	**26.9**	**31.3**	**30.4**	**61.6**	**62.0**	**62.5**	**62.4**	**62.8**	**61.6**
9th grade	40.3	44.1	44.5	41.8	46.6	45.1	19.5	22.6	27.2	25.3	33.2	31.4	61.7	65.8	62.7	58.8	60.6	59.3
10th grade	41.9	41.9	44.3	45.6	47.5	46.1	22.2	24.1	23.2	29.1	28.7	28.5	62.4	60.0	66.2	62.5	66.3	64.2
11th grade	43.7	41.9	41.1	45.2	48.1	48.0	24.9	22.8	20.4	28.3	32.7	33.1	63.1	60.6	61.6	62.8	63.9	63.3
12th grade	39.0	42.5	39.7	45.9	46.0	43.7	19.5	23.4	20.3	24.9	29.9	28.2	58.6	61.4	58.5	66.5	61.6	58.7
White	43.2	44.4	44.5	46.6	48.3	46.0	22.3	23.2	23.0	26.6	32.0	29.2	64.8	66.8	66.6	66.0	64.5	62.9
Black	27.8	29.6	37.3	38.6	38.9	41.6	15.7	14.2	25.5	25.3	25.4	31.4	41.1	45.6	52.1	53.2	53.8	--
Hispanic	34.9	41.1	38.8	43.3	46.4	49.7	--	27.4	29.5	33.7	33.7	38.5	49.0	53.7	47.2	54.3	59.8	60.1
Asian	41.2	33.0	33.0	35.4	35.1	31.9	--	--	16.1	23.3	28.0	--	--	39.2	50.5	50.8	41.9	--
Other	33.9	38.5	38.5	39.1	36.1	41.8	--	21.3	22.5	--	21.3	31.3	--	50.8	55.0	--	--	--
Unhealthy weight loss method				**17.3**	**19.1**	**16.9**				**10.3**	**11.8**	**10.6**				**24.1**	**26.4**	**23.1**
9th grade				16.6	17.9	15.9				10.2	12.7	9.6				23.0	23.1	22.3
10th grade				18.8	19.6	16.6				11.2	10.3	10.8				26.6	28.9	22.4
11th grade				15.8	18.2	16.6				10.4	10.3	10.1				21.5	26.2	23.1
12th grade				17.5	21.1	18.1				9.4	14.0	12.0				25.2	27.8	24.0
		na						na						na				
White				17.1	18.9	16.2				9.3	11.1	9.3				24.6	26.4	23.1
Black				17.0	17.5	21.9				10.6	16.2	17.0				23.5	19.0	--
Hispanic				17.8	21.9	17.0				13.7	10.3	14.2				22.2	33.8	19.1
Asian				14.6	13.6	13.8				10.0	13.0	--				19.1	14.6	--
Other				24.0	17.7	18.2				--	15.6	14.9				--	--	--

na = Question/measure not available that year; "–" = Percentage not available (fewer than 100 cases in denominator)

Table 9, Continued

	Total (%)						Males (%)						Females (%)					
	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003
Overweight				**7.3**	**10.0**	**9.9**				**9.2**	**13.5**	**13.0**				**5.3**	**6.3**	**6.7**
9th grade				8.2	10.4	9.8				8.2	14.2	12.8				8.2	6.0	6.6
10th grade				7.0	10.7	10.9				10.2	15.6	13.1				3.4	5.4	8.6
11th grade				7.5	9.0	10.7				10.6	10.6	14.1				4.1	7.2	7.0
12th grade				6.5	9.6	8.0				8.0	12.6	11.4				4.9	6.4	4.6
		na						na						na				
White				6.8	8.9	9.3				9.3	12.8	12.4				4.1	4.8	5.9
Black				9.8	17.0	13.3				7.5	16.9	15.9				12.4	17.1	--
Hispanic				11.2	13.7	12.3				11.1	17.5	14.3				11.3	9	11
Asian				4.7	8.1	4.9				5.6	10.4	--				2.6	5.3	--
Other				7.1	10.5	14.1				--	11.1	20.0				--	--	--
Thought they were overweight	**32.1**	**28.2**	**28.7**	**32.6**	**33.4**	**30.9**	**22.3**	**21.4**	**21.5**	**23.8**	**26.9**	**25.0**	**42.4**	**35.2**	**36.1**	**41.6**	**40.0**	**37.0**
9th grade	31.7	26.8	26.5	31.5	32.5	27.9	22.8	20.6	21.8	24.0	28.7	21.3	41.1	33.2	31.7	39.2	36.4	34.5
10th grade	32.4	29.8	30.2	32.5	34.1	31.4	20.2	21.4	22.9	23.9	26.1	24.9	45.1	38.3	38.1	41.5	41.9	37.5
11th grade	34.8	28.4	29.0	33.7	33.1	33.1	27.2	21.8	20.8	26.1	25.5	27.9	43.0	34.9	37.1	41.9	40.6	38.6
12th grade	29.7	28.2	29.7	32.8	34.1	31.9	19.1	20.9	20.0	20.9	26.5	26.5	40.4	35.5	39.1	44.6	41.5	37.0
White	34.0	29.4	29.9	34.1	34.0	31.3	23.2	21.6	22.6	25.4	27.4	25.2	45.2	37.6	37.6	42.7	40.6	37.3
Black	21.0	22.8	24.3	26.7	31.3	25.2	14.4	19.1	18.8	18.7	21.3	22.8	29.0	27.2	30.3	35.3	42	--
Hispanic	21.0	24.2	26.8	30.3	31.7	33.1	--	19.4	21.2	22.5	29.3	23.7	24.7	28.4	31.8	39.5	34.2	41.6
Asian	31.8	22.4	23.9	28.8	27.4	23.9	--	--	14.4	20.1	23.5	--	--	26.7	33.6	38.7	31.8	--
Other	31.7	29.6	26.2	31.9	28.6	33.3	--	27.8	20.0	--	22.9	29.8	--	30.8	32.7	--	--	--
Trying to lose weight	**41.2**	**42.4**	**42.6**	**44.4**	**46.9**	**45.9**	**21.5**	**23.0**	**23.2**	**26.9**	**31.3**	**30.4**	**61.6**	**62.0**	**62.5**	**62.4**	**62.8**	**61.6**
9th grade	40.3	44.1	44.5	41.8	46.6	45.1	19.5	22.6	27.2	25.3	33.2	31.4	61.7	65.8	62.7	58.8	60.6	59.3
10th grade	41.9	41.9	44.3	45.6	47.5	46.1	22.2	24.1	23.2	29.1	28.7	28.5	62.4	60.0	66.2	62.5	66.3	64.2
11th grade	43.7	41.9	41.1	45.2	48.1	48.0	24.9	22.8	20.4	28.3	32.7	33.1	63.1	60.6	61.6	62.8	63.9	63.3
12th grade	39.0	42.5	39.7	45.9	46.0	43.7	19.5	23.4	20.3	24.9	29.9	28.2	58.6	61.4	58.5	66.5	61.6	58.7
White	43.2	44.4	44.5	46.6	48.3	46.0	22.3	23.2	23.0	26.6	32.0	29.2	64.8	66.8	66.6	66.0	64.5	62.9
Black	27.8	29.6	37.3	38.6	38.9	41.6	15.7	14.2	25.5	25.3	25.4	31.4	41.1	45.6	52.1	53.2	53.8	--
Hispanic	34.9	41.1	38.8	43.3	46.4	49.7	--	27.4	29.5	33.7	33.7	38.5	49.0	53.7	47.2	54.3	59.8	60.1
Asian	41.2	33.0	33.0	35.4	35.1	31.9	--	--	16.1	23.3	28.0	--	--	39.2	50.5	50.8	41.9	--
Other	33.9	38.5	38.5	39.1	36.1	41.8	--	21.3	22.5	--	21.3	31.3	--	50.8	55.0	--	--	--
Unhealthy weight loss method				**17.3**	**19.1**	**16.9**				**10.3**	**11.8**	**10.6**				**24.1**	**26.4**	**23.1**
9th grade				16.6	17.9	15.9				10.2	12.7	9.6				23.0	23.1	22.3
10th grade				18.8	19.6	16.6				11.2	10.3	10.8				26.6	28.9	22.4
11th grade				15.8	18.2	16.6				10.4	10.3	10.1				21.5	26.2	23.1
12th grade				17.5	21.1	18.1				9.4	14.0	12.0				25.2	27.8	24.0
		na						na						na				
White				17.1	18.9	16.2				9.3	11.1	9.3				24.6	26.4	23.1
Black				17.0	17.5	21.9				10.6	16.2	17.0				23.5	19.0	--
Hispanic				17.8	21.9	17.0				13.7	10.3	14.2				22.2	33.8	19.1
Asian				14.6	13.6	13.8				10.0	13.0	--				19.1	14.6	--
Other				24.0	17.7	18.2				--	15.6	14.9				--	--	--

na = Question/measure not available that year; "–" = Percentage not available (fewer than 100 cases in denominator)

TABLE 9, Continued

	Total (%)						Males (%)						Females (%)					
	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003	1993	1995	1997	1999	2001	2003
Regular vigorous physical activity	**64.5**	**62.7**	**60.8**	**62.5**	**62.8**	**61.3**	**71.4**	**71.0**	**68.8**	**68.9**	**68.6**	**68.2**	**57.3**	**54.4**	**52.7**	**55.9**	**57.1**	**54.4**
9th grade	74.3	67.9	65.9	67.2	68.3	64.7	80.8	76.2	72.0	71.9	74.2	71.2	67.5	59.5	59.5	62.6	62.2	58.1
10th grade	66.1	65.7	63.1	65.4	63.8	61.5	71.5	72.1	72.0	70.0	67.5	70.2	60.6	59.0	53.9	60.5	59.8	52.7
11th grade	56.6	60.1	58.5	59.4	60.5	60.8	62.1	67.9	65.1	66.3	66.3	67.8	50.8	52.4	51.8	52.2	55.1	53.5
12th grade	59.1	55.4	53.1	56.2	57.0	58.3	69.8	66.2	63.8	66.3	64.4	63.7	48.2	44.8	42.8	46.1	50.1	53.2
White	67.1	65.8	65.1	65.4	65.2	64.7	73.7	72.4	71.1	71.2	69.6	70.1	60.2	58.9	58.7	59.7	60.8	59.3
Black	61.9	48.4	47.5	56.4	56.0	46.0	74.5	60.2	60.5	69.1	71.5	62.6	48.4	35.5	33.3	42.1	40.3	--
Hispanic	50.3	48.4	50.0	54.8	53.6	50.1	--	59.4	66.0	62.9	60.3	59.3	45.7	38.5	36.9	46.1	46.7	41.9
Asian	51.6	52.7	41.5	49.5	50.0	56.9	--	--	54.6	57.3	58.0	--	--	40.0	27.6	39.5	39.5	--
Other	56.3	60.7	54.9	65.0	62.7	62.5	--	78.9	68.6	--	68.8	69.4	--	47.3	41.7	--	--	--
Regular moderate physical activity	**23.4**	**23.6**	**24.2**	**26.8**	**25.1**	**23.5**	**24.4**	**24.0**	**25.6**	**30.4**	**27.8**	**25.3**	**22.5**	**23.2**	**22.8**	**23.2**	**22.4**	**21.7**
9th grade	27.5	28.5	29.2	27.2	27.5	22.4	26.8	28.9	29.0	31.3	29.8	25.0	28.4	27.8	29.2	23.2	25.2	19.5
10th grade	26.7	26.5	27.5	27.4	24.2	24.1	29.0	27.6	31.5	30.7	26.6	26.9	24.2	25.3	23.4	23.9	21.4	21.3
11th grade	20.7	21.4	20.6	27.5	24.3	24.8	22.8	19.9	22.9	28.6	27.4	24.0	18.6	22.6	18.4	26.4	21.3	25.5
12th grade	17.9	16.3	17.4	24.7	23.7	23.5	18.1	17.8	15.5	30.6	27.2	25.2	17.4	15.0	19.2	19.1	20.4	21.8
White	22.6	22.4	22.1	27.7	26.0	25.6	23.2	23.2	**23.5**	30.5	27.8	27.4	22.1	21.6	20.5	25.1	24.2	23.8
Black	29.0	26.6	32.1	23.0	24.8	13.5	32.0	23.8	31.9	30.9	34.1	14.9	24.7	29.5	33.0	15.2	15	--
Hispanic	23.2	29.2	34.2	22.1	17.7	16.7	--	26.0	39.3	27.0	20.6	21.1	24.2	32.2	29.6	16.7	14.7	13.3
Asian	24.0	28.4	22.0	20.7	19.4	18.1	--	--	20.2	24.8	22.0	--	--	24.2	23.8	15.3	18.2	--
Other	29.7	26.2	28.1	40.1	31.3	22.5	--	28.7	29.0	--	37.5	20.4	--	23.8	28.0	--	--	--
Attended a PE class once per week	**80.2**	**80.1**	**72.5**	**60.7**	**68.0**	**57.9**	**81.0**	**78.9**	**73.7**	**63.4**	**69.5**	**60.9**	**79.3**	**81.3**	**71.1**	**57.9**	**66.5**	**54.9**
9th grade	91.1	90.0	78.6	71.8	73.3	62.5	90.6	90.0	82.2	72.1	74.7	63.8	91.5	89.8	74.8	71.6	72.0	61.0
10th grade	89.4	85.7	83.2	73.3	73.3	65.6	88.8	85.2	82.3	73.5	70.9	64.6	90.2	86.2	84.4	73.4	75.7	66.7
11th grade	73.6	76.5	67.3	51.0	64.2	54.2	74.2	73.0	67.5	55.7	66.7	59.9	72.9	79.8	67.1	46.1	62.0	48.4
12th grade	63.9	65.2	57.0	41.4	59.7	47.2	67.8	63.7	58.9	48.2	65.0	54.3	60.0	66.5	54.9	34.8	54.8	40.3
White	82.5	80.6	74.6	59.2	68.7	57.2	83.5	78.6	76.1	62.1	71.2	60.4	81.4	82.8	72.9	56.6	66.2	54.0
Black	68.8	79.2	60.2	67.5	66.8	59.3	73.2	81.9	64.3	70.7	32.8	63.7	64.0	75.9	55.0	63.8	71.3	--
Hispanic	67.3	77.7	69.5	65.0	65.2	60.3	--	76.1	66.9	68.3	64.4	62.0	69.5	79.4	71.5	61.6	66.0	59.5
Asian	77.1	75.9	67.9	65.2	66.7	69.0	--	--	65.4	65.4	66.0	--	--	73.6	70.2	64.4	67.4	--
Other	75.4	80.0	67.9	56.3	67.9	54.4	--	86.0	68.3	--	67.4	54.2	--	75.6	67.9	--	--	--
Watched 3+ hours of TV				**35.1**	**30.4**	**31.3**				**39.1**	**35.4**	**34.3**				**31.0**	**25.4**	**28.1**
9th grade				38.3	37.8	38.3				41.9	42.6	41.1				34.4	32.9	35.1
10th grade				40.3	29.2	32.1				43.2	34.1	35.4				37.5	24.2	28.8
11th grade				29.2	25.2	26.8				35.7	30.3	30.5				22.6	19.8	23.2
12th grade				30.4	27.0	25.5				33.8	31.7	28.5				27.2	22.4	22.6
		na						na						na				
White				29.3	25.9	27.0				34.4	31.3	31.3				24.2	20.5	22.7
Black				60.0	53.9	46.4				59.7	56.0	47.2				60.7	52.2	--
Hispanic				53.3	44.0	48.9				51.2	47.3	45.5				55.3	40.1	51.6
Asian				41.5	34.0	34.7				46.8	38.0	--				35.3	29.5	--
Other				35.2	37.3	35.0				--	44.7	36.7				--	--	--

na = Question/measure not available that year; '–' = Percentage not available (fewer than 100 cases in denominator)

APPENDIX D

Risk Behaviors Among U.S. and Massachusetts High School Students

The Massachusetts Youth Risk Behavior Survey (MYRBS) is funded by the Centers for Disease Control and Prevention (CDC) as part of the larger Youth Risk Behavior Surveillance System (YRBSS). The YRBSS consists of: (a) a national survey conducted in randomly selected high schools across the U.S., (b) 32 state surveys, and (c) 18 local (city-level) surveys. All surveys are conducted in the spring of odd numbered years. The national Youth Risk Behavior Survey (YRBS) and the MYRBS questionnaires contain many of the same questions.

Rates of some risk behaviors in Massachusetts remain lower than the national rates. Compared to U.S. high school students, Massachusetts high school students had slightly lower rates of tobacco use (i.e., smokeless tobacco use and cigar smoking), weapon-carrying and fighting, and sexual risk behaviors including lifetime and recent sexual intercourse. However, Massachusetts rates of marijuana use, both lifetime and current, are higher than the national rates.

The following table shows the prevalence rates of many risk behaviors as measured in the U.S. by the 2003 national YRBS and in Massachusetts by the 2003 MYRBS.

Appendix D. Risk Behaviors Among U.S. and Massachusetts High School Students, 2003 YRBS

	Data from 2003 YRBS	
	U.S.	MA
Substance Use Behaviors		
Current smoking	21.9	20.9
Current smokeless tobacco use	6.7	4.1
Current cigar use	14.8	11.8
Current alcohol use	44.9	45.7
Current binge drinking	28.3	26.9
Lifetime marijuana use	40.2	46.7
Lifetime ecstasy use	11.1	9.6
Lifetime cocaine use	8.7	8.4
Lifetime methamphetamine use	7.6	6.1
Lifetime steroid use	6.1	4.6
Lifetime heroin use	3.3	3.0
Lifetime injected drug use	3.2	2.2
Current marijuana use	22.4	27.7
Violence & Injury-Related Behaviors		
Carried a weapon	17.1	13.5
Carried a gun	6.1	3.4
Was in a physical fight	33.0	30.7
Rarely or never wore a seat belt	18.2	16.2
Rode with a driver who had been drinking alcohol	30.2	27.5
Drove after drinking alcohol	12.1	11.6
Considered suicide, past year	16.9	16.3
Attempted suicide, past year	8.5	8.4
Substance Use and Violence on School Property		
Smoked cigarettes on school property	8.0	8.7
Used smokeless tobacco on school property	5.9	1.9
Drank alcohol on school property	5.2	5.3
Used marijuana on school property	5.8	6.3
Was offered, sold, or given drugs on school property	28.7	31.9
Carried a weapon at school	6.1	5.0
Was in a physical fight at school	12.8	10.2
Threatened or injured with a weapon at school	9.2	6.3
Skipped school because felt unsafe	5.4	4.6
Sexual Behaviors		
Had sexual intercourse in lifetime	46.7	41.0
Had four or more sexual partners in lifetime	14.4	10.1
Ever been or gotten someone pregnant	4.2	3.7
Had sexual intercourse in the three months before the survey	34.3	29.8
Used a condom at last intercourse(a)	63.0	57.4
Use alcohol or drugs at last intercourse(a)	25.4	24.8
Weight Control and Physical Activity		
At risk of becoming overweight	15.4	13.8
Overweight	13.5	9.9
Thought they were overweight	29.6	30.9
Were trying to lose weight	43.8	45.9
Fasted to lose/control weight	13.3	12.1
Took diet pills to lose/control weight	9.2	7.3
Took laxatives or vomited to lose/control weight	6.0	6.1
Participated in regular vigorous physical activity	62.6	61.3
Participated in regular moderate physical activity	24.7	23.5
Attended a physical education class at least once a week	55.7	57.9
Attend a physical education class daily	28.4	13.7
Watched three or more hours of television per day	38.2	31.3

Note: (a) Among students who had sexual intercourse in the three months before the survey

REFERENCES & NOTES

1. The MYRBS was conducted in 1993, 1995, 1997, 1999, 2001, and 2003. The next scheduled administration is spring 2005.

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97. Subgroup analyses of having ever been or gotten someone pregnant, as well as having ever been tested for or diagnosed with HIV or another STD, included only students who had ever had sexual intercourse in their lifetimes. Fewer than 100 students in some racial/ethnic groups reported lifetime sexual intercourse; therefore, racial/ethnic differences in having ever been or gotten someone pregnant or having ever been tested for or diagnosed with HIV or another STD are not reported.

98. "Sexual contact" was not defined on the survey.

99. Unusual as these pregnancy differences may seem, this result can be found in the 1995, 1997, 1999, and 2001 MYRBS data as well. The MYRBS does not collect data that would permit drawing clear conclusions about the causes of this finding, although one possible influence may be attempts on the part of the adolescents struggling with issues of sexual orientation to "prove" to themselves or other that they are not gay. See also Saewyc, E., Bearinger, L., Blum, R., & Resnick, M. (1999). Sexual intercourse, abuse, and pregnancy among adolescent women: Does sexual orientation make a difference? *Family Planning Perspectives, 31,* 127-131.

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