

*the 2007*  
**Vermont Youth**  
**Risk Behavior Survey**



Produced in partnership with the  
Department of Education

*the* 2007  
**Vermont Youth  
Risk Behavior Survey**

The Vermont Youth Risk Behavior Survey  
is a collaborative project.

**Vermont Department of Health**

SharonMoffatt RN, MSN, *Acting Commissioner*

**Vermont Department of Education**

Richard Cate, *Commissioner*

**Report prepared by:**

Vermont Department of Health  
Division of Health Surveillance

108 Cherry Street, PO Box 70  
Burlington, VT 05402

(802) 863-7300

[healthvermont.gov](http://healthvermont.gov)

This report is available in other accessible formats.



108 Cherry Street, PO Box 70, Burlington, VT 05402

(800) 464-4343

# The 2007 Vermont Youth Risk Behavior Survey

## Statewide Report

How many Vermont teens drink alcohol or smoke cigarettes? Where do they get alcohol and cigarettes? How many use marijuana or cocaine? How many are sexually active, and of those, how many are using condoms? How many have been threatened at school? How many have contemplated suicide? Finding answers to these questions is vitally important. This information can put reassure when the answers suggest positive behaviors; it can mobilize prevention and intervention efforts when the answers are negative; and it may influence the behavior of students by establishing peer-based norms.

Every two years since 1993, the Department of Health Division of Alcohol and Drug Abuse Programs and the Department of Education Coordinated School Health Programs have sponsored the Vermont Youth Risk Behavior Survey (YRBS). The YRBS measures the prevalence of behaviors that contribute to the leading causes of death, disease, and injury among youth. The YRBS is part of a larger effort to help communities increase the “resiliency” of young people by reducing high risk behaviors and promoting healthy behaviors. The YRBS provides accurate information about Vermont students which enables us to:

- **monitor trends** in their health and risk behaviors
- **compare Vermont** students with a national sample of students
- **plan, evaluate, and improve** community and school programs that prevent health problems and promote healthy behaviors

In 2007, school staff administered the YRBS to 28,918 eighth to twelfth grade Vermont students in 144 schools representing 60 supervisory unions. **For the purposes of this report, data are based on a representative sample of 8,453 Vermont high school and middle school students.** Participation by both schools and individual students was completely voluntary. To protect student privacy, the questionnaire was anonymous. Therefore, it is impossible to identify an individual student’s responses.

## How to use the YRBS

The YRBS provides one important piece of the evaluation puzzle. It can help detect changes in risk behaviors over time. It can help identify differences among ages, grades, and genders. With its help we can focus primary prevention efforts on specific groups of teens, and can indicate whether or not school policies and community programs are having the intended effect on student behaviors.

Think of the YRBS as a tool for starting discussions, for educating the community, for planning and evaluating programs, and for comparing Vermont students with other students nationwide.

- **Starting the Conversation:** Use the YRBS to begin a conversation with teens about the personal choices they make or about the health of their community. Ask them if the results accurately reflect what they see happening around them. How do they explain the results? What ideas do they have about ways to promote healthy behaviors? From their perspective, what seems to be working and what isn't working?
- **Increasing Awareness:** The YRBS provides an opportunity to break through "denial" and to make community members aware of the risks that their young people face. It can also dispel myths and correct misinformation about the "average teenager". The YRBS can be used to accentuate the positive, and to celebrate the fact that many students are abstaining from behaviors that endanger their health and their ability to succeed.
- **Planning and Evaluating Programs:** The YRBS can serve as the basis of a community needs assessment. It can help identify strengths and weaknesses in your community, and can inform communities about strategies to address those weaknesses.
- **Vermont Trends and National Comparisons:** We have been able to track some information for 14 years, because Vermont students have been participating in the YRBS since 1993. Also, the Centers for Disease Control and Prevention conducts a biennial YRBS of a national sample of high school students. These combined results permit us to draw comparisons between Vermont and the nation.

## A Word of Caution

The YRBS represents the most complete and most recent information available about risk behaviors among Vermont students. However, the YRBS has some limitations that you should keep in mind when interpreting the results.

- **Data Quality:** Several precautions were taken to ensure the reliability and validity of the results. First, the questionnaire has been carefully designed and thoroughly tested by Centers for Disease Control and Prevention. Second, the survey was anonymous to encourage students to be honest and forthright. Third, over 100 consistency checks were run on the data to exclude careless, invalid, or logically inconsistent answers. Fourth, the results are statistically adjusted or “weighted” so that the sample accurately represents all Vermont 8<sup>th</sup> to 12<sup>th</sup> graders. These precautions can reduce some sources of error, but not all. For example, some high risk students such as those who have dropped out of school are not represented in the results. Also, it is likely that some behaviors (e.g., substance use) are under-reported by youths, so these estimates represent the lower bound of the actual behavior.
  
- **Comparing Supervisory Unions to Each Other and to the State:** Participating supervisory unions will receive individual reports summarizing their own results. It is natural to want to know how individual supervisory unions compare to the state overall or to other supervisory unions. We urge caution in making such comparisons because the statewide results are “weighted”, whereas the supervisory union results are not. As a result, it is possible that apparent differences, especially small differences, are due to demographic characteristics, rather than to true differences in prevalence. Furthermore, small differences may not be statistically different and may simply be a function of normal sampling error.
  
- **What, not Why:** The YRBS can indicate what students are doing. It can also suggest the groups of students (e.g., male vs female, 8<sup>th</sup> graders vs 12<sup>th</sup> graders) who are more likely to engage in these behaviors. However, the survey does not answer the most important question: Why are they doing it?

## **A Special Thanks!**

We are grateful to the principals and superintendents who chose to participate in the YRBS and to the teachers and school staff who administered the survey or in other ways supported this effort. We also wish to thank the Centers for Disease Control and Prevention, Division of Adolescent and School Health for sponsoring the statewide survey through a cooperative agreement with the Vermont Department of Education (Program Announcement #309) and Westat Survey Technical Assistance Project for processing and analyzing the data. Finally, we are grateful to the students who took the time to share with us a piece of their lives. This report is our way of thanking all of you. We hope that you find the survey report informative and useful.

The next YRBS is scheduled for 2009. We encourage schools' participation again, because we will be able to continue to monitor trends in students' health and risk behaviors, compare Vermont students with a national sample of students, and plan, evaluate, and improve communities' programs designed to prevent health problems and promote healthy behaviors. The YRBS is our best opportunity to look at a "snapshot" of risk-related behaviors of Vermont youths. If you have any questions or comments about the YRBS, please contact Kelly Hale LaMonda at the Division of Health Surveillance, Vermont Department of Health (802-863-7246).

---

# Table of Contents

---

INTRODUCTION.....	i
BASIC INFORMATION.....	1
Understanding the Report .....	1
Description of the Sample .....	2
INJURIES, VIOLENCE, AND SAFETY .....	3
Physical Fighting.....	5
Weapons and Fear .....	9
Bullying .....	10
Vehicle Safety.....	13
Safety Belts.....	13
Bicycle Helmets.....	15
Crashes.....	16
Driving Under the Influence .....	17
Suicide .....	22
ALCOHOL, TOBACCO, AND OTHER DRUGS (ATOD).....	23
Alcohol Use .....	25
Tobacco Use.....	32
Marijuana Use.....	38
Inhalant Use.....	42
Other Drug Use.....	44
ATTITUDES AND PERCEPTIONS ABOUT ATOD.....	47
Disapproval of ATOD Use.....	48
Perceived Harmfulness of ATOD Use.....	49
Perceived Availability of ATOD.....	50

## Table of Contents (cont'd)

---

<b>SEXUAL BEHAVIOR .....</b>	<b>53</b>
<b>Sexual Behavior.....</b>	<b>55</b>
<b>Sexual Orientation.....</b>	<b>62</b>
<b>BODY WEIGHT AND NUTRITION.....</b>	<b>63</b>
<b>Body Weight.....</b>	<b>65</b>
<b>Nutrition.....</b>	<b>69</b>
<b>PHYSICAL ACTIVITY .....</b>	<b>73</b>
<b>MEASURES OF YOUTH ASSETS .....</b>	<b>79</b>
<b>REFERENCES.....</b>	<b>87</b>

---

## Basic Information

---

### Understanding This Report:

- **Format:** The results are presented as data tables, pie charts, bar graphs, and line graphs. In most cases, the data are organized by gender and grade. All results are expressed as percentages of students who responded affirmatively. The percentages in some pie charts may not total 100 percent due to rounding.
- **Healthy Vermonters 2010:** Vermont has established goals for promoting health and reducing risk behaviors in *Healthy Vermonters 2010*. Goals relevant to the behaviors surveyed by the YRBS are included in the report for your reference. For more information, see *The Health Status of Vermonters, Healthy Vermonters 2010*, and *Vermont's Blueprint for Improving Public Health*, available from the Vermont Department of Health.

**Remember to look at the positive side.** In most cases the majority of adolescents are NOT engaging in risky behaviors. Although most of the charts examine the prevalence of risk behaviors, please do not forget about the percentage of adolescents who are NOT engaging in these behaviors.

## Basic Information

---

### Description of the Sample

- **Sampling:** Twenty Vermont high schools of varying sizes, along with their twenty-one associated middle schools, were randomly selected for the state sample (1:3 systematic sample after sorting by enrollments). A survey of this size was required in order to have an error rate of +/- 5% at each of the five grade levels.
  - **Response Rates:** The school response rate was 100 percent, and the student response rate was 74 percent. Therefore, the overall response rate was 74 percent ( $1.00 \times .74 = .74$ ). Statistically, this is a remarkably high number and adds to the confidence we have in the results.
  - **Weighting:** The results were “weighted” in order to compensate for differences between the sample and the population of all 8<sup>th</sup> to 12<sup>th</sup> grade students in Vermont. The weighting procedure ensures that the sample is representative of the population. This permits us to draw inferences about the entire student population based on the results of the sample.
- 

### Vermont Students Who Participated in the YRBS

	GRADE					GENDER		
	8	9	10	11	12	F	M	ALL*
<b>Number of students</b>	1,676	1,694	1,606	1,455	1,192	4,183	4,152	8,453

\*NOTE: Some students did not indicate their grade or gender. Therefore, totals by grade and by gender do not equal the overall total.

## ✓ Injuries, Violence, and Safety

This section deals with personal safety and violence, and includes questions about physical fights, bullying, dating violence, weapons, vehicle safety, and suicide.

- **Physical Fighting:** Physical fighting is a marker for problem behaviors<sup>1</sup> and is associated with serious injury.<sup>2,3</sup> Abuse by an intimate partner is common among adolescents and is associated with risk behaviors among both males and females.<sup>4</sup> Forced sex is associated with negative psychosocial and mental health among adolescents.<sup>5,6</sup>
- **Weapons and Fear:** During adolescence, homicide rates in the US increase substantially from 1.3 per 100,000 in youth aged 10 to 14 to 10.6 per 100,000 in youth aged 15 to 19.<sup>7</sup> Homicide is the second leading cause of death among all youth aged 15 to 19.<sup>8</sup> Firearms intensify violence and increase the likelihood of fatality in a conflict.<sup>9</sup> In 2003, 82 percent of homicide victims 15 to 19 were killed with firearms.<sup>9</sup>

**Bullying** and being victimized by bullies have been increasingly recognized as health problems for children, because of their association with a range of adjustment problems, including poor psychological adjustment,<sup>10,11</sup> poor academic achievement,<sup>11</sup> and violent behavior.<sup>12</sup>
- **Vehicle Safety - Safety Belts and Bicycle Helmets:** Motor vehicle crash injuries are the leading cause of death among youth aged 15 to 19 in the US.<sup>8</sup> For instance, 50 percent (11 out of 22) of deaths among 15 to 19 year olds in Vermont in 2004 were due to motor vehicle crashes.<sup>8</sup> Proper use of safety belts reduces the risk of fatal injury to front seat passengers by 45 percent and risk of moderate to critical injury by 50 percent.<sup>13</sup> Head injury is the leading cause of death in bicycle crashes.<sup>14,15</sup> Bicycle helmets may prevent approximately 56 percent of bicycle-related deaths,<sup>16</sup> 65-88 percent of bicycle-related brain injuries and 65 percent of serious injuries to the upper and middle regions of the face.<sup>17-19</sup>
- **Vehicle Safety - Driving Under the Influence:** In 2003, alcohol use was associated with 39 percent of motor vehicle-related fatalities nationwide and 32 percent in Vermont.<sup>20</sup> Alcohol-related crashes also cause serious injury and permanent disability and ranks as the leading cause of spinal cord injury among adolescents and young adults.<sup>21</sup>

## ✓ Injuries, Violence, and Safety (cont'd)

---

- **Vehicle Safety - Driving Under the Influence (continued):** Research examining drugs *other than alcohol* indicates cannabis (marijuana) is by far the most prevalent drug detected in impaired drivers, fatally injured drivers, and motor vehicle crash victims.<sup>22</sup> In 2005, 21 percent of Vermont high school seniors reported driving after using marijuana.<sup>23</sup>
  
  - **Suicide:** Suicide is the third leading cause of death among US youth aged 15 to 19 and is the second leading cause of death among VT youth.<sup>8</sup> The US suicide rate for people aged 15 to 19 was 8.2 per 100,000 in 2004 down from a high of 10.9 per 100,000 in 1994.<sup>8</sup> From 2002 to 2004, Vermont's suicide rate among 15 to 24 year olds was similar to the national average with a rate of 9.6 deaths per 100,000, compared to 10.0 deaths per 100,000 nationwide.<sup>8</sup>
- 

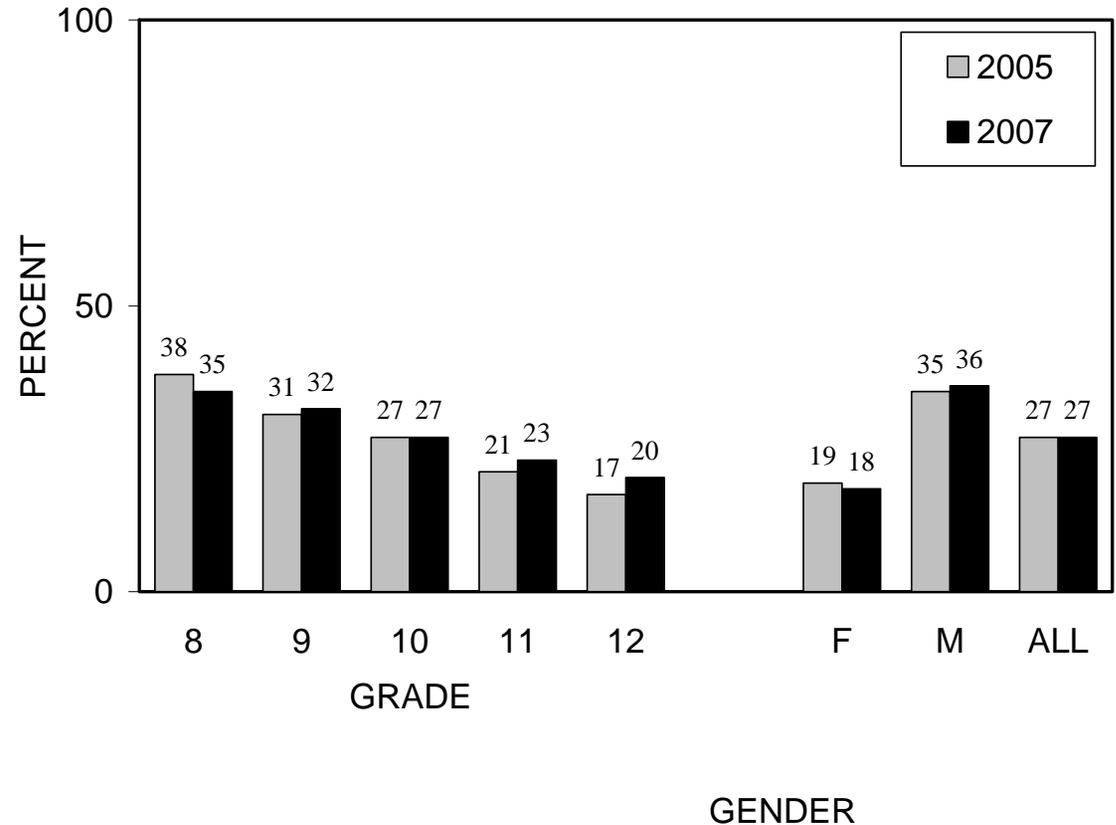
### **Related *Healthy Vermonters 2010* Goals:**

- Increase the percentage of people who always use safety belts to at least 92 percent.
  
- Further reduce physical assaults by intimate partners to less than 3.6 per 1,000 people age 12 and older.
  
- Reduce alcohol-related motor vehicle deaths to fewer than 4 per 100,000.
  
- Reduce suicide attempts by adolescents to less than 1 percent.
  
- Reduce suicide deaths to fewer than 6 per 100,000 people.

## ■ Physical Fighting

- Fighting is more common among young students.** In 2007, 8<sup>th</sup> graders were one and a half times more likely than 12<sup>th</sup> graders to have been in a physical fight during the past year (35% vs 20%). This 8<sup>th</sup> and 12<sup>th</sup> grade difference was even more notable in 2005 (38% vs 17%).
- Females fight less than males.** Male students were twice as likely as female students to have been in a physical fight (36% vs 18%). This male and female difference was similar in 2005 (35% vs 19%).

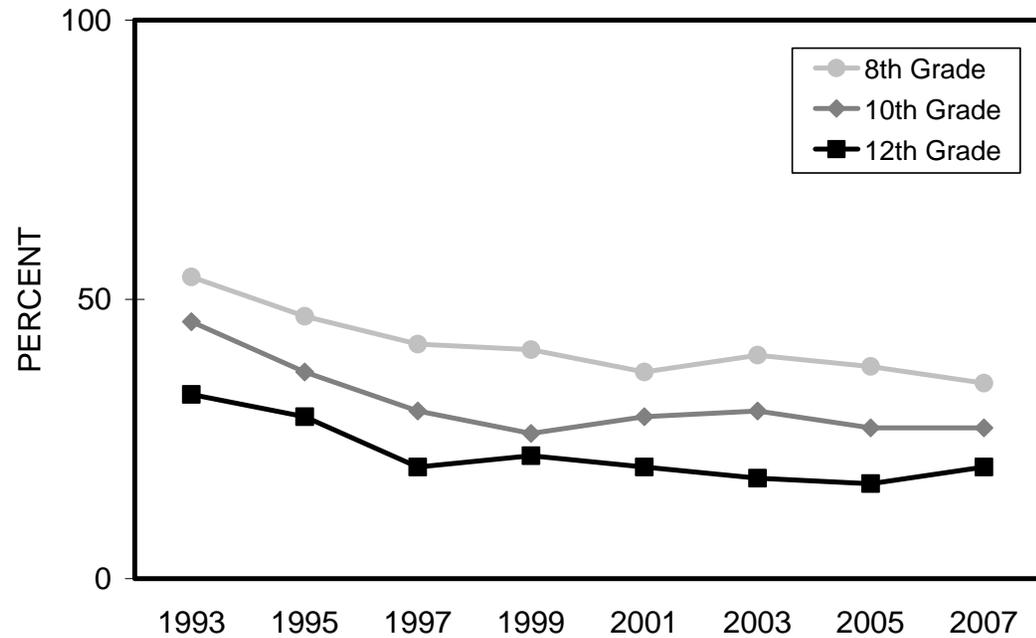
Percent of students who were in a physical fight during the past 12 months



## Physical Fighting

- Less fighting.** Physical fighting has decreased across all grades in Vermont since 1993. For example, fighting dropped from 54 to 35 percent among 8<sup>th</sup> graders, 46 to 27 percent among 10<sup>th</sup> graders, and 33 to 20 percent among 12<sup>th</sup> graders.

**Physical Fighting in Vermont 1993 to 2007**  
 Percent of students who were in a physical fight during the past 12 months



## ■ Physical Fighting

- Fewer females are in serious fights.** Female students were less likely than male students to be in a fight that resulted in an injury (3% vs 4%) and in a fight on school property (7% vs 17%). These figures are similar to the 2005 results.
- Fighting on school property is more common among younger students.** Eighth graders were twice as likely as 12<sup>th</sup> graders to fight on school property (17% vs 8%). Overall, 12 percent of Vermont students fought on school property, similar to the 2005 overall rate (14%).

PHYSICAL FIGHTING	GRADE					GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005
<b>Percent of students who, during the past 12 months :</b>									
<b>Were in a physical fight and had to be treated by a doctor or nurse</b>	5	3	2	3	3	3	4	3	3
<b>Were in a physical fight <u>on school property</u></b>	17	15	12	9	8	7	17	12	14

## ■ Physical Fighting

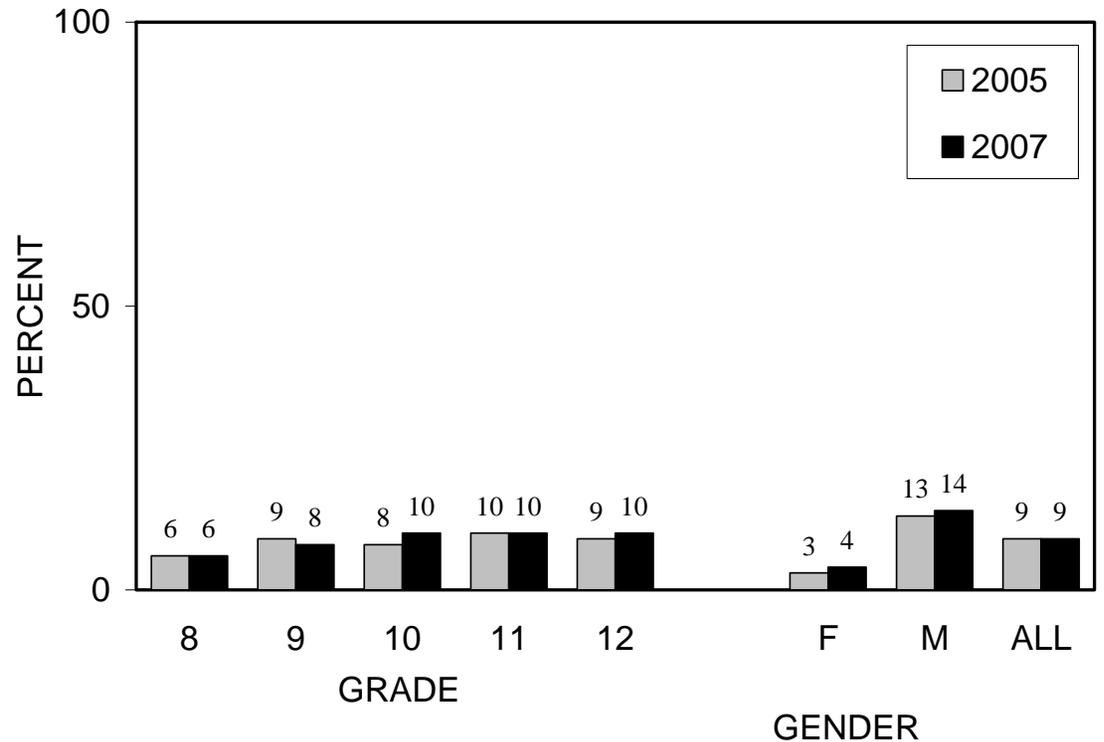
- **Overall, 7 percent of students have been hit, slapped, or physically hurt by their boy/girlfriend during the past year.** No significant difference was seen between female students and male students.
- **One out of ten students (11%) have been touched against their wishes sexually or forced to touch someone else sexually.** Female students were over three times more likely than male students to report being touched or forced to touch someone else (17% vs 5%).
- **Overall, 5 percent of students have been forced to have sexual intercourse.**
- **Self-harm is more common among females than males.** Twice as many females as males reported hurting themselves during the past 12 months (21% vs 10%).

ABUSIVE BEHAVIOR AND SELF-HARM	GRADE					GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005
Percent of students who's boy/girlfriend hit, slapped or physically hurt them during the past 12 months	6	5	6	9	9	7	8	7	6
Percent of students who have ever been:									
Touched against their wishes or forced to touch someone else	9	10	12	12	11	17	5	11	10
Forced to have sexual intercourse	4	4	4	5	7	7	3	5	5
Percent of students who, during the past 12 months, purposely hurt themselves (e.g., cut or burned) without wanting to die	16	17	16	14	13	21	10	15	NA

## ■ Weapons and Fear

- Males carry weapons to school more than females.**  
 Male students were more than three times as likely to carry a weapon on school property than female students (14% vs 4%). This pattern is similar to the 2005 results (13% vs 3%).

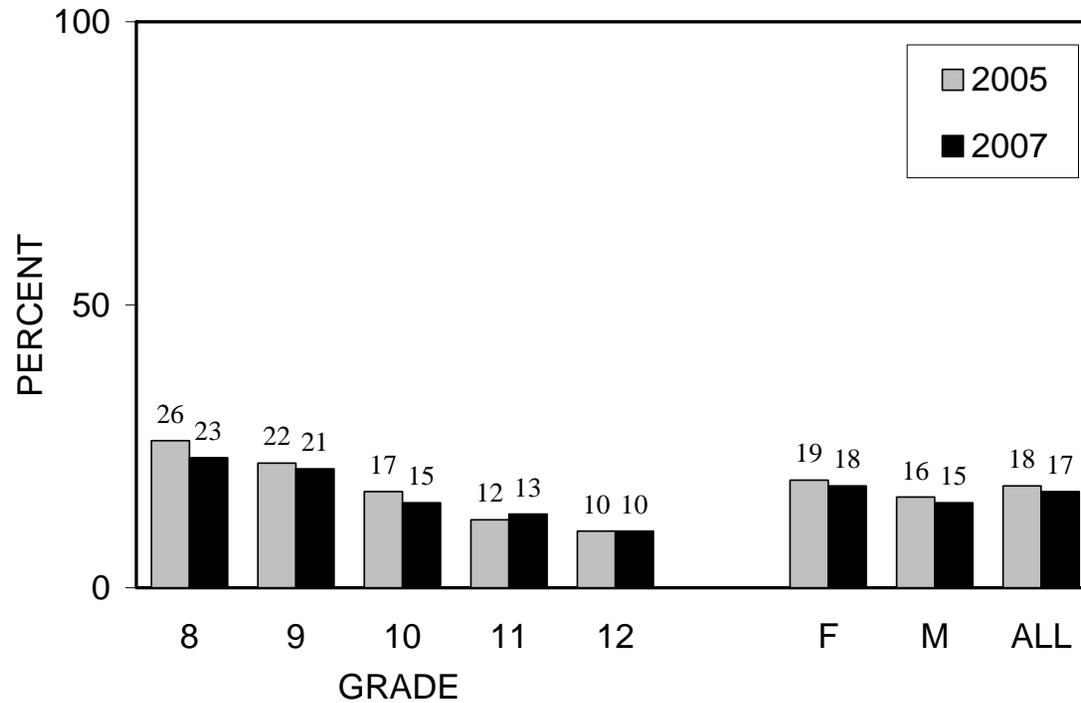
**Percent of students who carried a weapon such as a gun, knife, or club on school property during the past 30 days**



## ■ Weapons and Fear

- **Younger students were more likely to have been bullied than older students.** Eighth graders were over two times more likely than 12<sup>th</sup> graders to have been victims of bullying (23% vs 10%). Overall, 17 percent of students reported being bullied during the past 30 days.

**Percent of students who were bullied\* during the past 30 days**

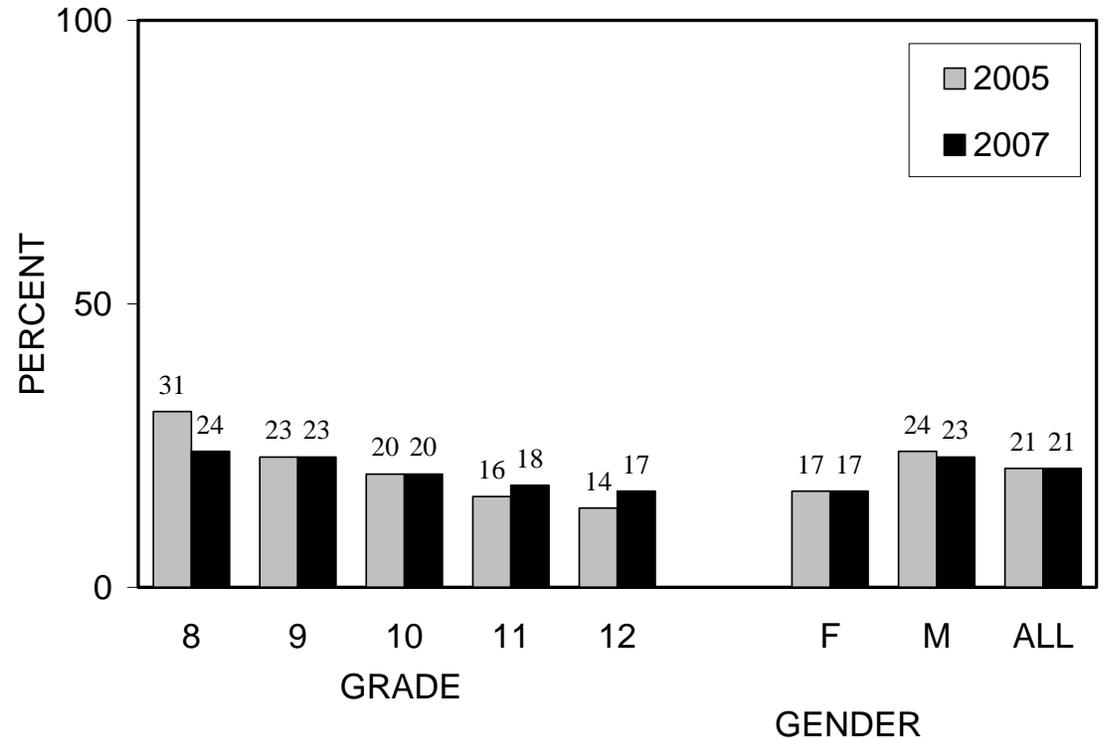


\*For the purposes of the Vermont Youth Risk Behavior Survey, bullying was described as occurring when, on many occasions, a student or group of students say or do unpleasant things to another student to make fun of, tease, embarrass, or scare him/her; or purposefully exclude him/her. Bullying can occur before, during, or after the school day; on school property, a school bus or at a school-sponsored activity. It is not bullying when two students of about the same strength and power argue or fight or when teasing is done in a friendly way.

## ■ Weapons and Fear

- **One out of five (21%) students have bullied someone.** Younger students were more likely to bully someone than older students (24% vs 17%).

**Percent of students who bullied\* someone during the past 30 days**



\*For the purposes of the Vermont Youth Risk Behavior Survey, bullying was described as occurring when, on many occasions, a student or group of students say or do unpleasant things to another student to make fun of, tease, embarrass, or scare him/her; or purposefully exclude him/her. Bullying can occur before, during, or after the school day; on school property, a school bus or at a school-sponsored activity. It is not bullying when two students of about the same strength and power argue or fight or when teasing is done in a friendly way.

## ■ Weapons and Fear

- Overall, 4 percent of students did not go to school because they felt unsafe. No difference was seen between female and male students.
- Males are threatened with weapons at school more than females. Male students were more likely than female students to have been threatened with a weapon on school property (8% vs 5%).
- Overall, 23 percent of students reported that someone had stolen or damaged their property at school. No significant differences were seen across age or gender.

SAFETY, WEAPONS, AND DAMAGE TO PROPERTY									
	GRADE					GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005
Percent of students who:									
Did not go to school because they felt unsafe during the past 30 days	4	4	3	3	4	4	3	4	5
Were threatened or injured with a weapon <u>on school property</u> during the past 12 months	7	8	7	5	4	5	8	6	6
Said that someone had stolen or deliberately damaged their property <u>on school property</u> during the past 12 months	23	24	23	22	20	20	25	23	24

## ■ Vehicle Safety - Safety Belts

- Safety belt use is up since 1993.** Overall, 83 percent (similar to 2005) of students reported always or almost always wearing their safety belt when riding in a car, compared to 84 percent in 2003, 79 percent in 2001, 77 percent in 1999, 75 percent in 1997, 72 percent in 1995, and 63 percent in 1993.
- Females wear safety belts more often than males.** Eighty-six percent of female students wore their safety belts when riding in a car, compared to 80 percent of male students. The difference between females and males was similar in 2005 (86% vs 80%).

SAFETY BELT USE	GRADE					GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005
<b>Percent of students who wear a safety belt when riding in a car driven by someone else</b>									
<b>Always or almost always</b>	86	83	83	85	82	86	80	83	83
<b>Sometimes</b>	8	9	10	8	9	7	11	9	9
<b>Never or rarely</b>	7	8	8	8	10	6	10	8	8

## ■ Vehicle Safety - Safety Belts

- **Almost nine out of ten of students buckle up when driving.** Overall, 87 percent of students reported always or almost always wearing their safety belt when driving a car.
- **Females buckle up more often than males.** Nine out of ten (92%) female students always or almost always wore their safety belt when driving a car, compared to 83 percent of male students. This difference was similar in 2005 (92% vs 82%).

SAFETY BELT USE	GRADE					GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005
<b>Percent of students who wear a safety belt when driving a car</b>									
<b>Always or almost always</b>	73	83	92	89	85	92	83	87	86
<b>Sometimes</b>	6	6	3	4	5	3	6	4	5
<b>Never or rarely</b>	22	11	5	7	10	5	12	9	9

## ■ Vehicle Safety - Bicycle Helmets

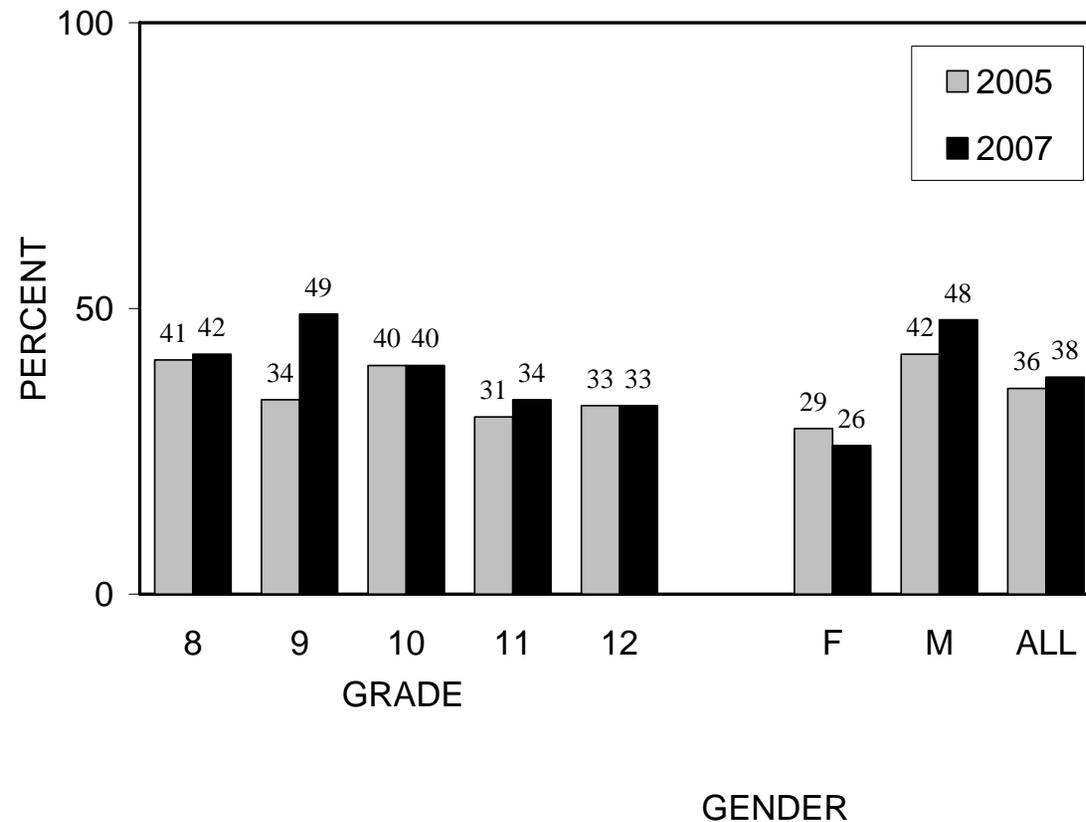
- **Bicycle helmet use is up since 1993.** Overall, 34 percent of students always or almost always wore helmets when riding bicycles, compared to 11 percent in 1993.

BICYCLE HELMET USE	GRADE					GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005
<b>Frequency of helmet use (in percents) among students who rode a bicycle in the past 12 months</b>									
<b>Always or almost always</b>	40	34	30	32	34	39	29	34	33
<b>Sometimes</b>	13	12	11	10	8	12	11	11	13
<b>Never or rarely</b>	47	54	59	58	58	49	60	55	54

## ■ Vehicle Safety - Crashes

- **Over a third of those injured in a crash were not wearing their safety belts.** Thirty-eight percent of students who reported being injured in a crash were not wearing their safety belt.
- **Males were more likely than females to report being injured in a crash and not wearing a safety belt.** Almost half (48%) of males, compared to 26 percent of females reported being injured in a crash and not wearing their safety belts.

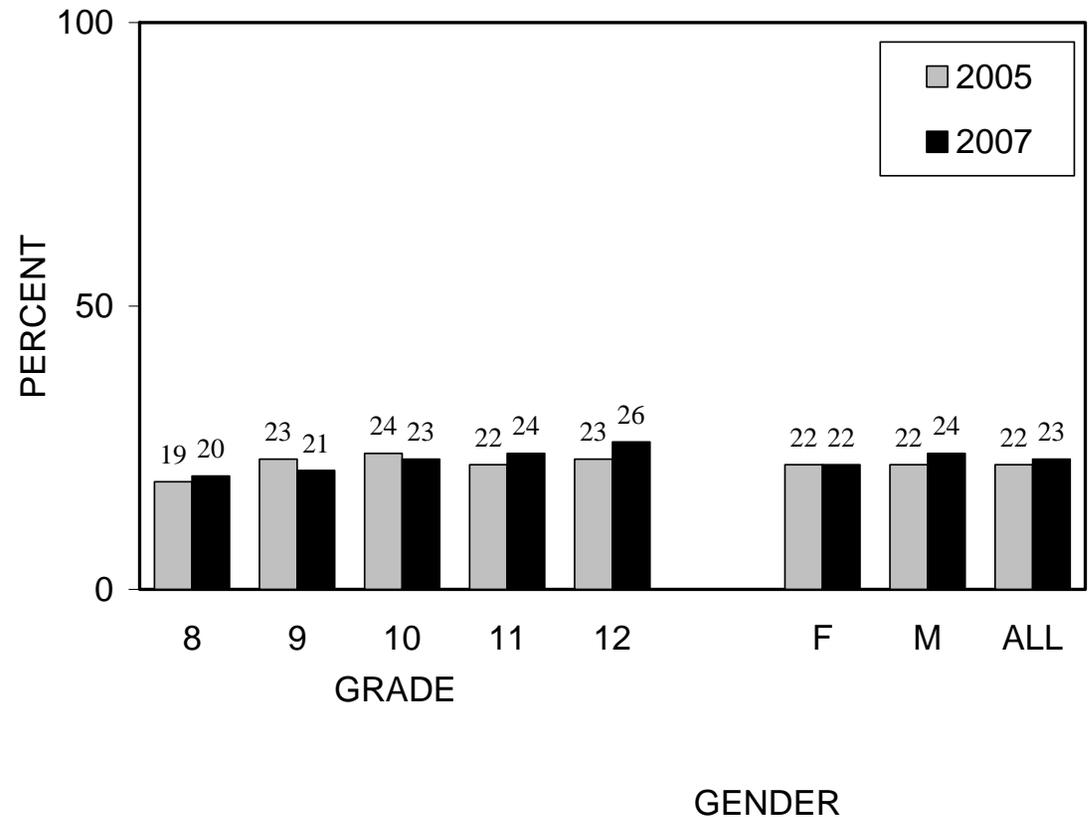
**Percent of students who were injured in a car or other vehicle crash during the past 12 months and were not wearing their safety belt**



## ■ Vehicle Safety - Driving Under the Influence

- **Almost a quarter (23%) of students report riding with drinking drivers.** While riding with a drinking driver has decreased since 1995, it has remained basically unchanged since 1999.

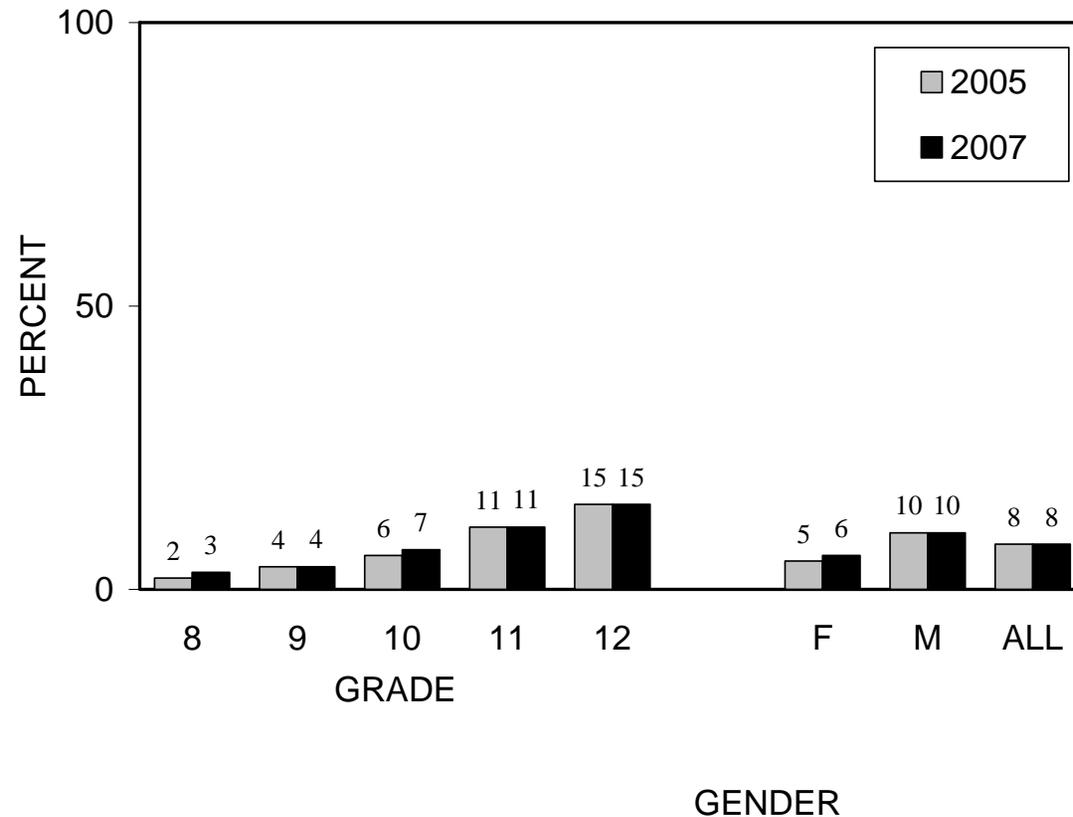
**Percent of students who during the past 30 days rode in a car or other vehicle driven by someone who had been drinking alcohol**



## ■ Vehicle Safety - Driving Under the Influence

- Fewer females drink and drive than males.** Male students were almost twice as likely as female students to drive a car after drinking alcohol (10% vs 6%). This difference is similar to results in 2005 (10% vs 5%).
- Older students drink and drive more than younger students.** Twelfth graders were two times more likely than 10<sup>th</sup> graders to drive when they had been drinking alcohol (15% vs 7%). This difference is similar to results in 2005 (15% vs 6%).

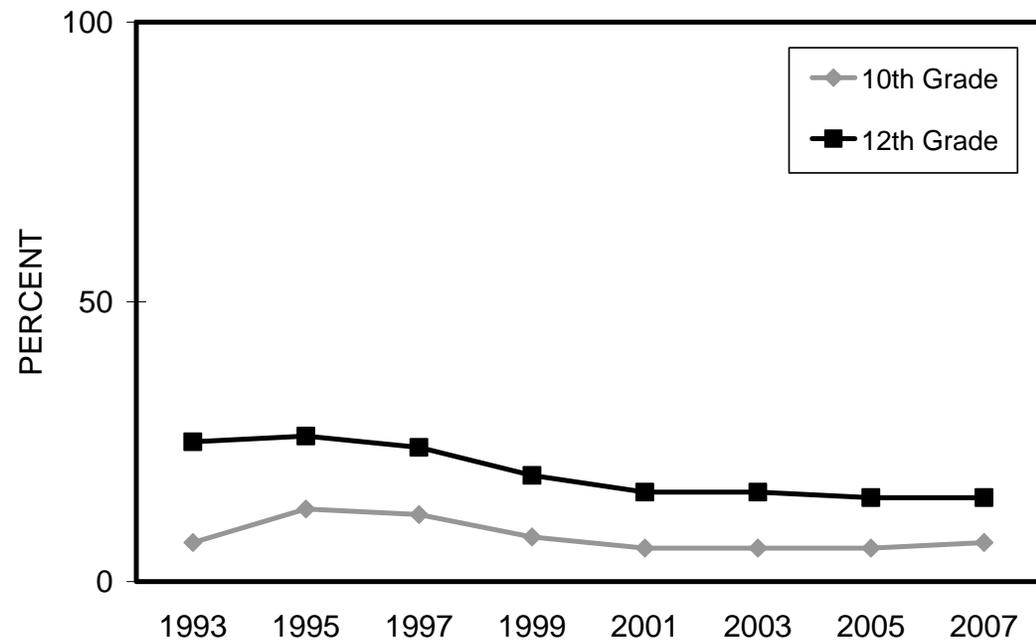
**Percent of students who during the past 30 days drove a car or other vehicle when they had been drinking alcohol**



## ■ Vehicle Safety - Driving Under the Influence

- **Drinking and driving has decreased since 1995.**  
Among 12<sup>th</sup> graders, drinking and driving decreased from 26 percent in 1995 to 15 percent in 2007. This pattern was similar among 10<sup>th</sup> grade drivers (13% vs 7%). While drinking and driving has decreased since 1995, it has remained basically unchanged since 2001.

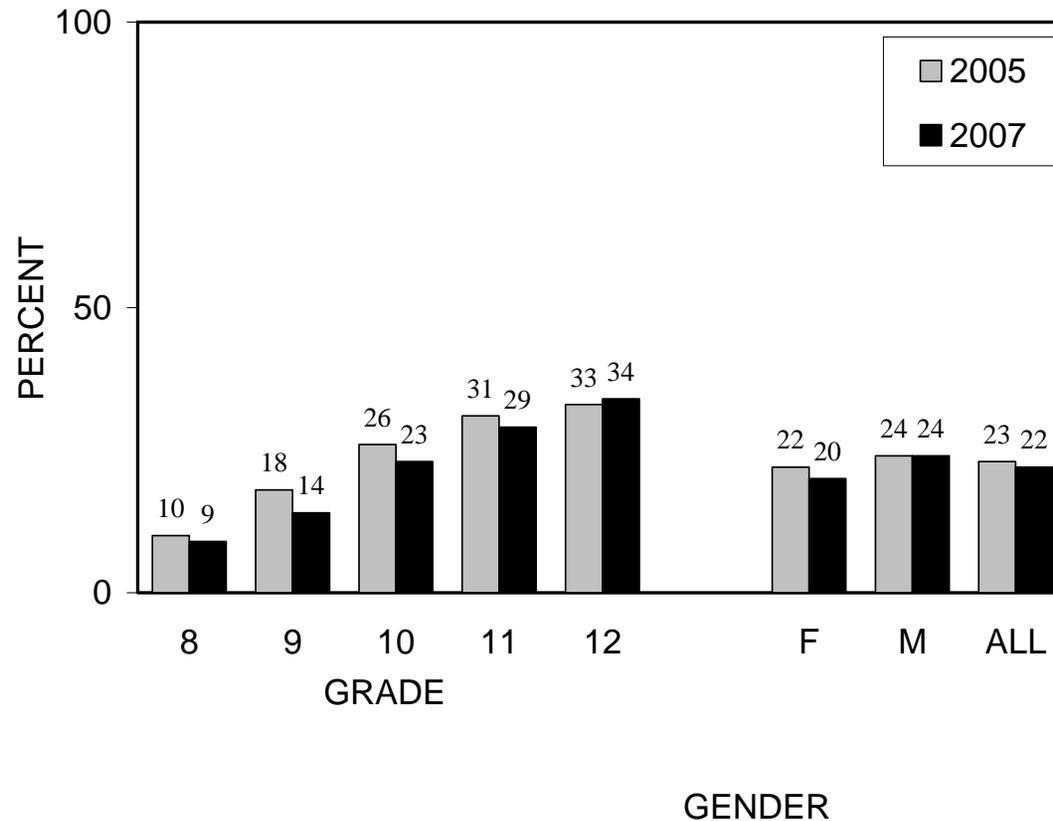
**Drinking and Driving 1993 to 2007**  
Percent of students who during the past 30 days drove a car or other vehicle when they had been drinking alcohol



## ■ Vehicle Safety - Driving Under the Influence

- Overall, 22 percent of students have ridden with someone who was using marijuana.
- Older students ride with someone who has been using marijuana more than younger students. Twelfth graders were over three and a half times more likely than 8<sup>th</sup> graders to have ridden in a car driven by someone smoking marijuana (34% vs 9%).

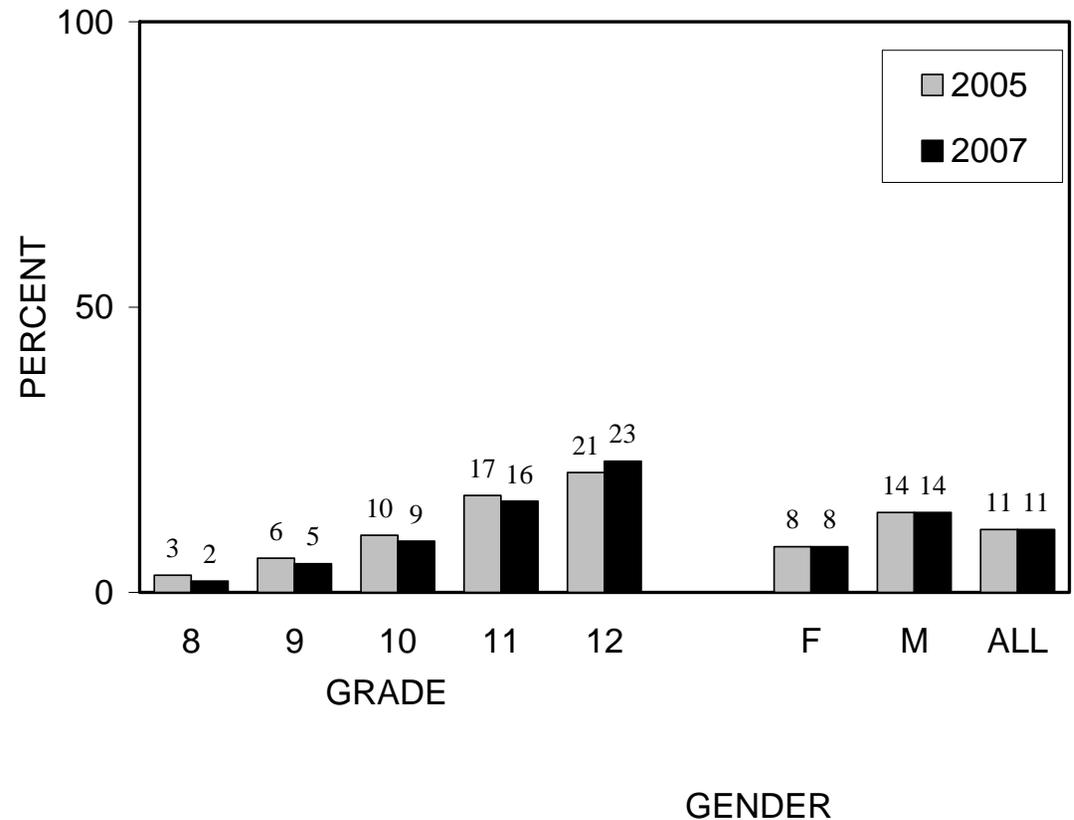
Percent of students who during the past 30 days rode in a car or other vehicle driven by someone who had been smoking marijuana



## ■ Vehicle Safety - Driving Under the Influence

- **Fewer female students drive when they have been using marijuana than male students.** Females were less likely than males to report driving when they had been smoking marijuana (8% vs 14%). This difference was identical in 2005.
- **Older students drive when they have been smoking marijuana more than younger students.** Twelfth graders were over two and a half times more likely than 10<sup>th</sup> graders to drive when they had been smoking marijuana (23% vs 9%).

Percent of students who during the past 30 days drove a car or other vehicle when they had been smoking marijuana



## ■ Suicide

- More females than males feel sad or hopeless.** Females were almost twice as likely as males to report feeling sad or hopeless almost every day for at least two weeks (27% vs 14%).
- Suicide plans are down since 1995.** Overall, 9 percent of students made a suicide plan during the past 12 months, compared to 11 percent in 2005, 13 percent in 2003 and 2001, 16 percent in 1999, 18 percent in 1997, and 22 percent in 1995.

SUICIDE	GRADE					GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005
<b>Percent of students who during the past 12 months:</b>									
<b>Felt so sad or hopeless almost every day for at least two weeks that they stopped doing some usual activities</b>	18	22	20	21	20	27	14	20	22
<b>Made a plan about how to attempt suicide</b>	7	10	9	8	8	10	7	9	11
<b>Actually attempted suicide</b>	5	5	5	4	4	6	4	5	6
<b>Attempted suicide and required medical treatment</b>	2	2	2	1	1	2	1	2	2

---

## ✓ Alcohol, Tobacco, and Other Drugs

The questions in this section ask students about their use of alcohol, tobacco products, marijuana, inhalants, cocaine, steroids, heroin, hallucinogens, methamphetamines, and prescription drugs. The questions ask the age at which students first used alcohol, cigarettes, marijuana, and inhalants and how often they use them now.

---

- **Alcohol Use** is a major contributing factor in one half to two-thirds of all homicides and serious assaults,<sup>24</sup> and over one-third of all motor vehicle crash fatalities.<sup>20</sup> Approximately 100,000 American deaths per year are attributable to misuse of alcohol.<sup>24</sup> Heavy drinking among youth has been linked to physical fights, property destruction, academic and job problems, trouble with law enforcement authorities,<sup>25</sup> risky sexual behavior,<sup>26</sup> and use of cigarettes,<sup>27,28</sup> marijuana, cocaine, and other illegal drugs.<sup>27</sup>
- **Tobacco Use** is the single most preventable cause of death in the United States,<sup>29</sup> contributing to more than one of every five deaths.<sup>30</sup> Cigarette smoking increases the risk of heart disease; chronic obstructive pulmonary disease; acute respiratory illness; stroke; and cancers of the lung, larynx, oral cavity, pharynx, pancreas, and cervix.<sup>29</sup> In addition, cigarette smokers are more likely than nonsmokers to drink alcohol, use marijuana and cocaine, engage in a physical fight, carry a weapon, and attempt suicide.<sup>31</sup> Smokeless tobacco use primarily begins in adolescence, with an average age of initiation of 16.7 years.<sup>32</sup> Approximately 75 percent of oral cavity and pharyngeal cancers are attributed to the use of smoked and smokeless tobacco.<sup>33</sup>
- **Marijuana Use** is associated with smoking-related respiratory damage, temporary short-term memory loss, decreased motivation, and psychological dependence. Other reactions include feelings of unease, anxiety, or restlessness.<sup>34</sup> More teens enter treatment with a primary diagnosis for marijuana dependence than for all other illicit drugs combined.<sup>35</sup>
- **Inhalant Use** is the deliberate inhalation or sniffing of common products found in homes and schools, like glue and cleaners, and some gases intended for medical or dental purposes to obtain a “high”. Short-term effects of inhalant use include headache, ringing in ears, coughing, vomiting, pain in the chest, muscles or joints, or even sudden death. Long-term risks vary, but they include, brain and nervous system damage, and toxic effects to the lungs, liver, and kidneys.<sup>36</sup> Inhalants are easy to get, inexpensive and difficult to detect, and experimentation typically begins in the preteen years.

## ✓ Alcohol, Tobacco, and Other Drugs (cont'd)

---

- **Other Drug Use** is related to suicide, early unwanted pregnancy, school failure, delinquency, and transmission of sexually transmitted diseases (STD), including HIV infection.<sup>37</sup> In spite of improvements in recent years, illicit drug use is greater among high school students and other young adults in the United States than in any other industrialized nation in the world.<sup>38</sup>

---

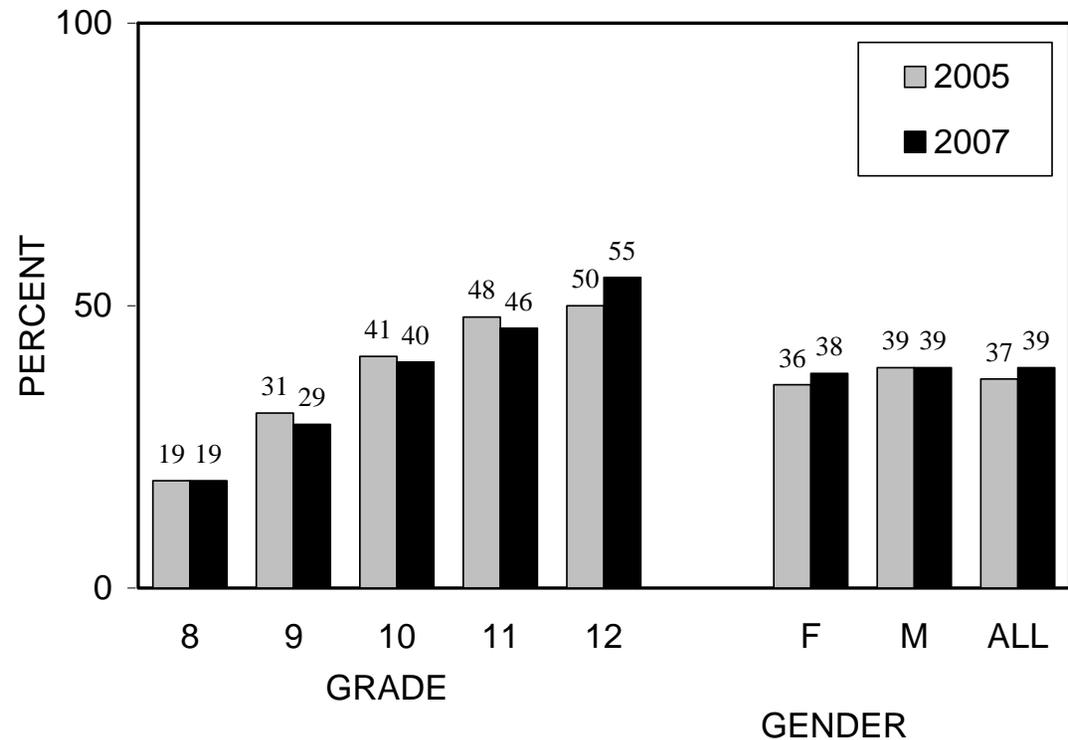
### **Related *Healthy Vermonters 2010* Goals:**

- Reduce the percentage of youth who use alcohol prior to age 13 to 0 percent.
- Reduce the percentage of youth who engage in binge drinking in the past month to 3 percent or less.
- Reduce the percentage of youth who smoked cigarettes in the past month to 16 percent or less.
- Reduce the percentage of youth who used spit tobacco in the past month to 1 percent or less.
- Reduce the percentage of youth who smoked cigars, cigarillos, or little cigars in the past month to 8 percent or less.
- Reduce the percentage of youth who used marijuana in the past month to 0.7 percent or less.

## ■ Alcohol Use

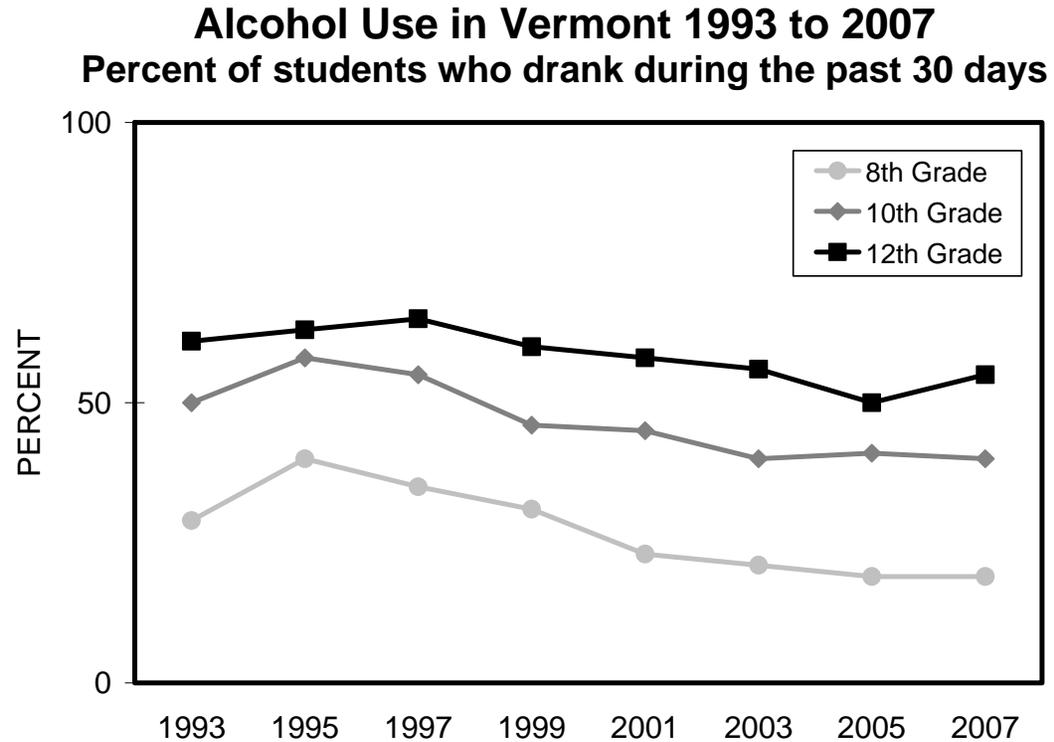
- **The majority of students do not drink.** Overall, 39 percent of students drank alcohol during the past 30 days, down from a high of 53 percent in 1995.
- **Alcohol use increases across grades.** More 12<sup>th</sup> graders than 8<sup>th</sup> graders drank alcohol (55% vs 19%).

Percent of students who consumed at least one alcoholic drink during the past 30 days



## ■ Alcohol Use

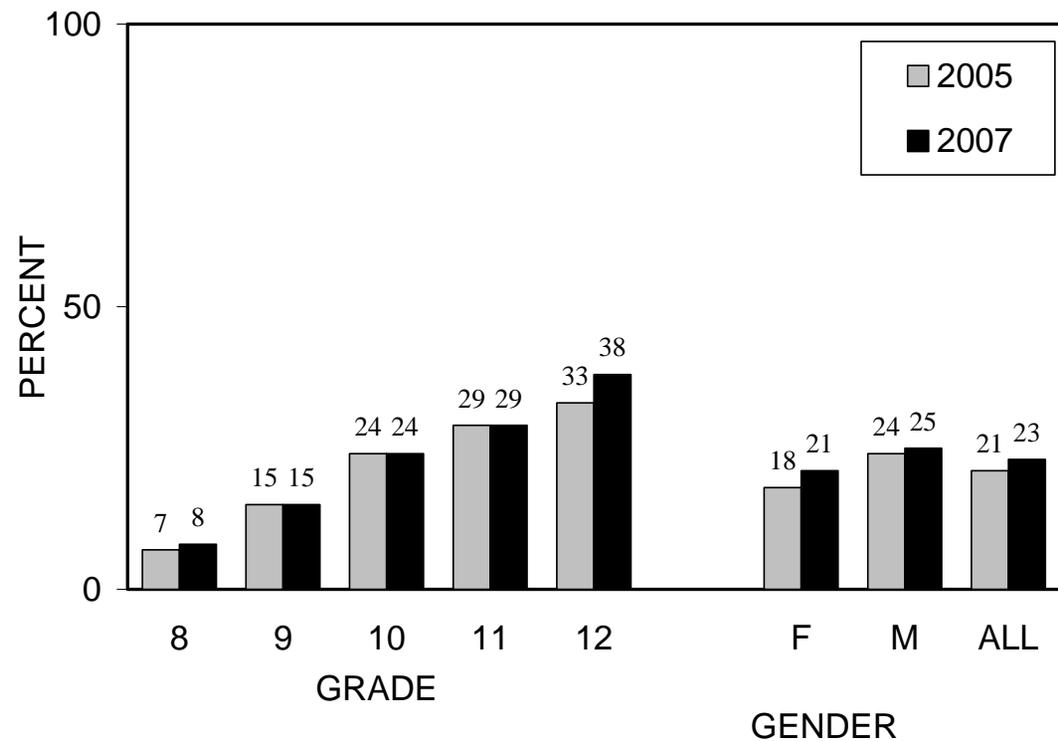
- Less drinking.** Alcohol use among 12<sup>th</sup> graders dropped from 65 percent in 1997 to 55 percent in 2007 (all time low of 50 percent in 2005). Alcohol use among 10<sup>th</sup> graders dropped from 50 percent in 1993 to 40 percent in 2007. Alcohol use among 8<sup>th</sup> graders dropped from 40 percent in 1995 to 19 percent in 2007.



## ■ Alcohol Use

- Almost one out of four students binge drink.** Binge drinking is defined as having five or more drinks of alcohol within a couple of hours. Overall, 23 percent of students reported binge drinking during the past 30 days.
- Older students binge drink more than younger students.** Twelfth graders were over four and a half times more likely than 8<sup>th</sup> graders to binge drink (38% vs 8%).

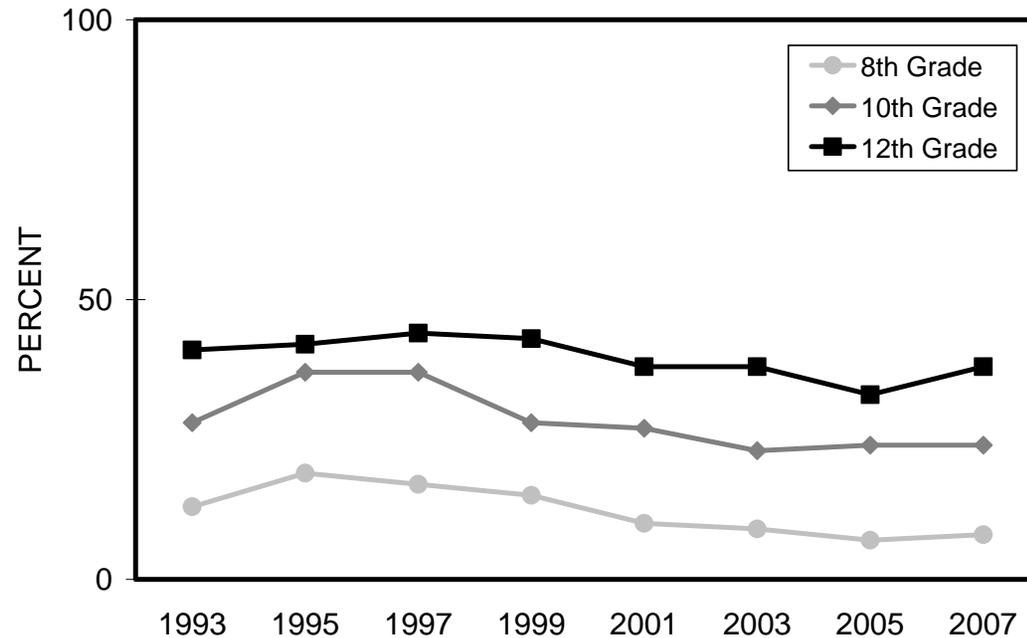
**Percent of students who binged on alcohol  
(had five or more drinks within a couple of hours)  
during the past 30 days**



## Alcohol Use

- Binge drinking is decreasing.**  
 Among 8<sup>th</sup> graders binge drinking decreased from 19 percent in 1995 to 8 percent in 2007. Among 10<sup>th</sup> graders, binge drinking decreased from 37 percent in 1995 to 24 percent in 2007. Among 12<sup>th</sup> graders, binge drinking decreased from 44 percent in 1997 to 38 percent in 2007 (up slightly from 33 percent in 2005).

**Alcohol Use in Vermont 1993 to 2007**  
 Percent of students who binged on alcohol  
 (had five or more drinks within a couple of hours)  
 during the past 30 days



## ■ Alcohol Use

- **Over six out of ten students have had a drink of alcohol.** In 2007, 62 percent of students had consumed alcohol, other than a few sips.
- **One out of five students start drinking before the age of 13.** Twenty percent of students reported drinking alcohol, other than a few sips, prior to age 13.
- **Males drink more frequently than females.** Male students were twice as likely as male students to have consumed alcohol on ten or more days during the past month (8% vs 4%). The difference between males and females was similar in 2005 (6% vs 3%).

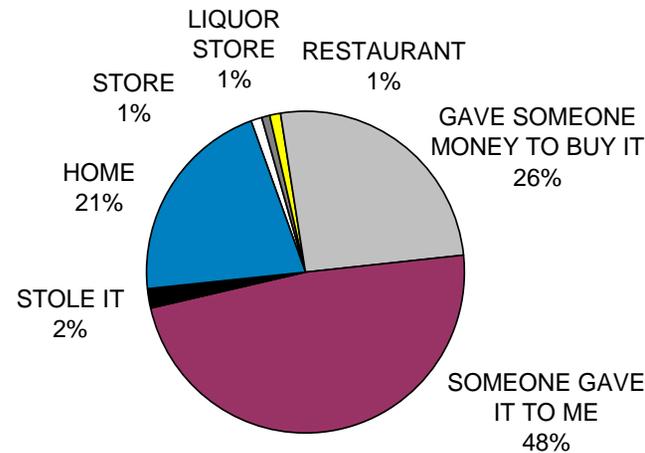
ALCOHOL USE						GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005
Percent of students who:									
Have ever had a drink of alcohol, other than a few sips <b>GRADE</b>	39	51	65	71	80	61	63	62	64
First consumed alcohol, other than a few sips, before 13 years of age	23	23	20	16	16	17	23	20	22
Drank alcohol on 3-9 days during the past 30 days	4	10	12	19	23	14	14	14	14
Drank alcohol on ten or more days during the past 30 days	3	3	6	7	10	4	8	6	5
“Binged” on alcohol three or more days during the past 30 days	3	5	10	12	19	8	12	10	9
Drank alcohol <u>on school property</u> during the past 30 days	2	3	4	4	6	3	5	4	4

## Alcohol Use

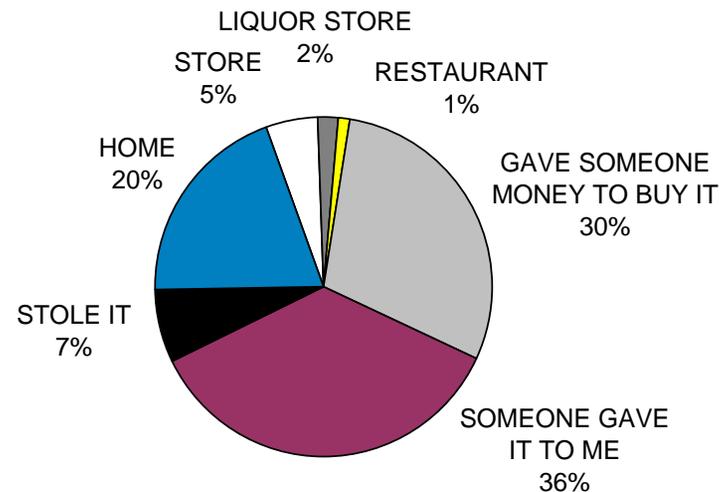
- Most students obtain alcohol by someone giving it to them or by giving someone money to buy it for them.** Overall, 42 percent of the students who drank during the past 30 days reported someone gave them alcohol and 28 percent reported giving someone money to buy alcohol for them.
- Some students obtain alcohol from home.** Among students who drank alcohol during the past 30 days, 21 percent got it from home.

**Where students get their alcohol**  
(only among students who drank during the past 30 days)

### FEMALES



### MALES



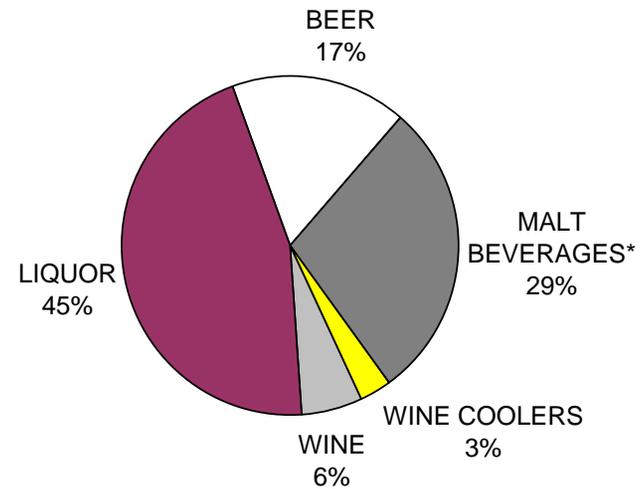
## Alcohol Use

- Liquor is the most prevalent alcoholic beverage.** Overall, 45 percent of the students who drank during the past 30 days reported drinking liquor.
- More females than males drink malt beverages\*.** Among students who drank alcohol during the past 30 days, 29 percent of females compared to 11 percent of males drank malt beverages (20% overall).

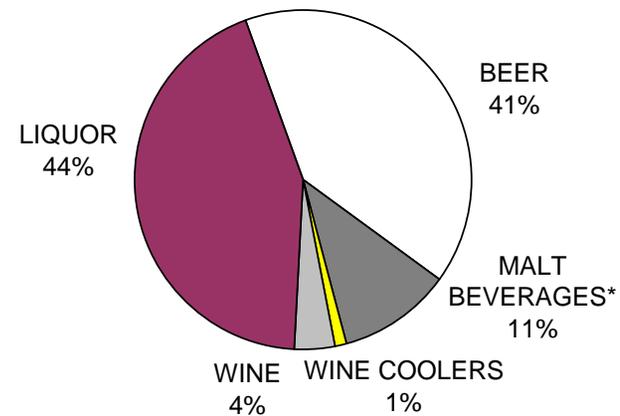
\*Malt beverages, also known as AlcoPops, include Smirnoff Ice, Bacardi Silver, and Hard Lemonade.

**Type of beverage**  
(only among students who drank during the past 30 days)

### FEMALES



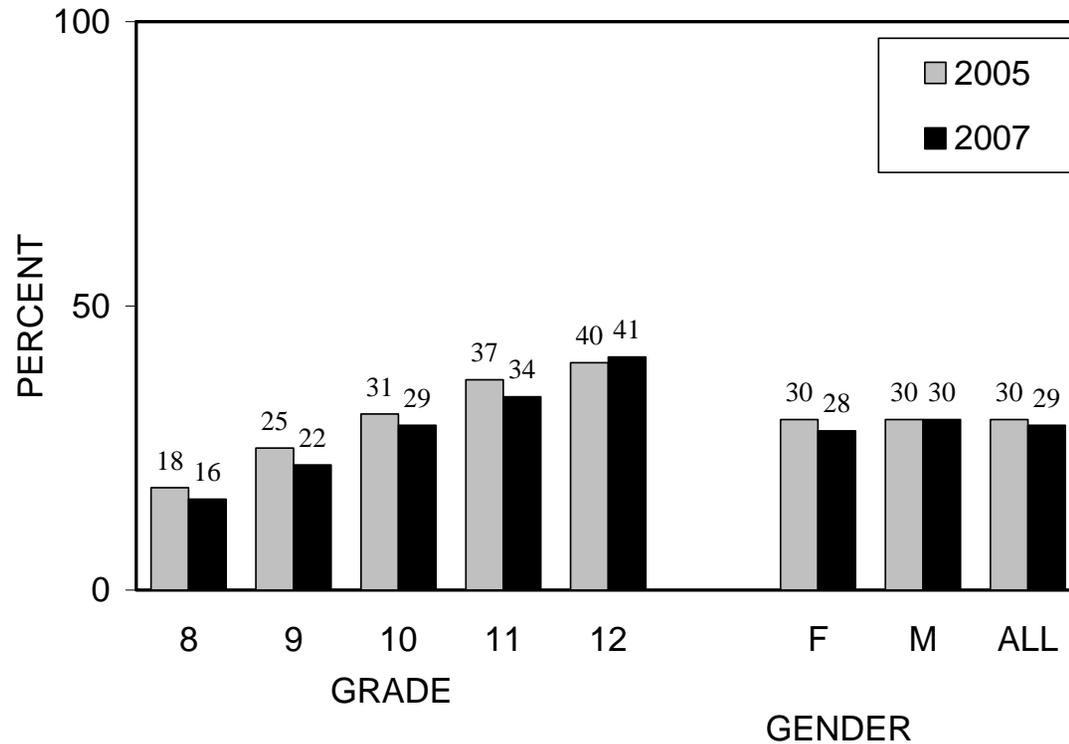
### MALES



## ■ Tobacco Use

- **The majority of students have never smoked a whole cigarette.** In 2007, 29 percent of students reported having smoked a whole cigarette, down from 59 percent in 1997.
- **More older students than younger students have smoked.** Over twice as many 12<sup>th</sup> graders have ever smoked a whole cigarette as 8<sup>th</sup> graders (41% vs 16%). This difference was similar in 2005 (40% vs 18%).

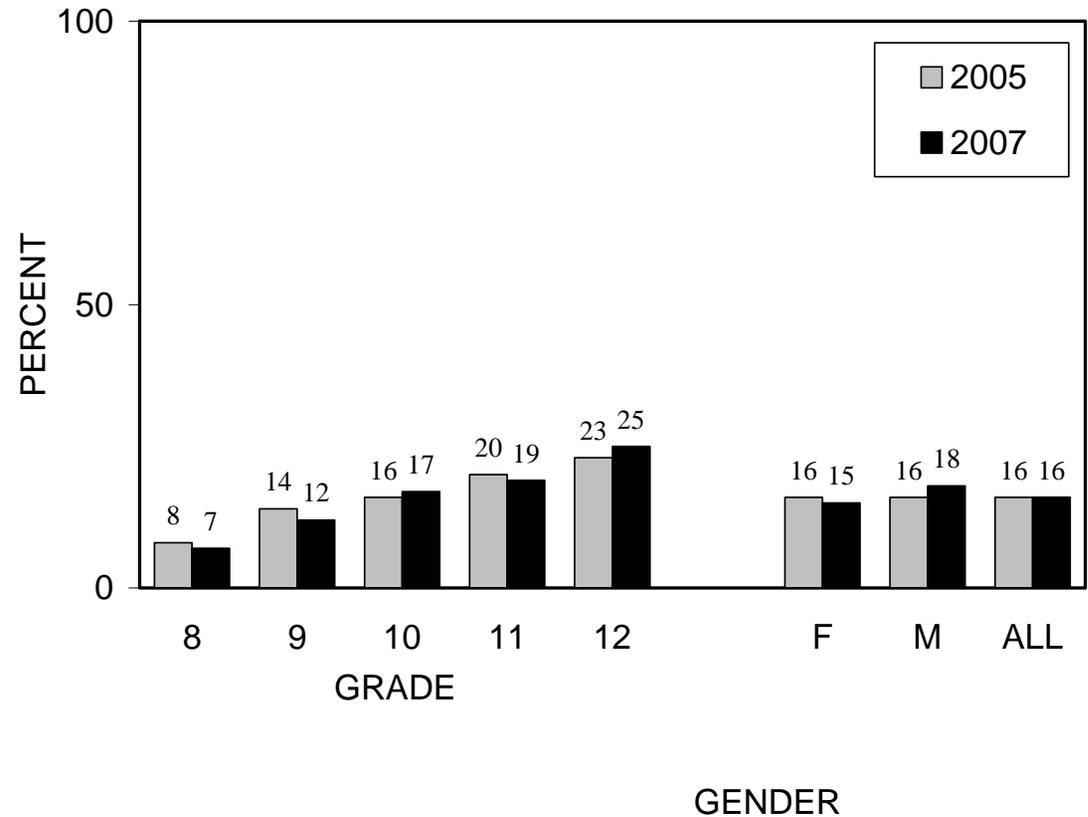
Percent of students who have ever smoked a whole cigarette



## ■ Tobacco Use

- Smoking is down since 1995.** Overall, 16 percent of students reported smoking at least once during the past 30 days, down from 20 percent in 2003, 22 percent in 2001, 31 percent in 1999, 36 percent in 1997 and 38 percent in 1995.
- More older students than younger students smoke.** In 2007, 25 percent of 12<sup>th</sup> graders smoked cigarettes during the past 30 days, compared to 7 percent of 8<sup>th</sup> graders. This difference was similar in 2005 (23% vs 8%).

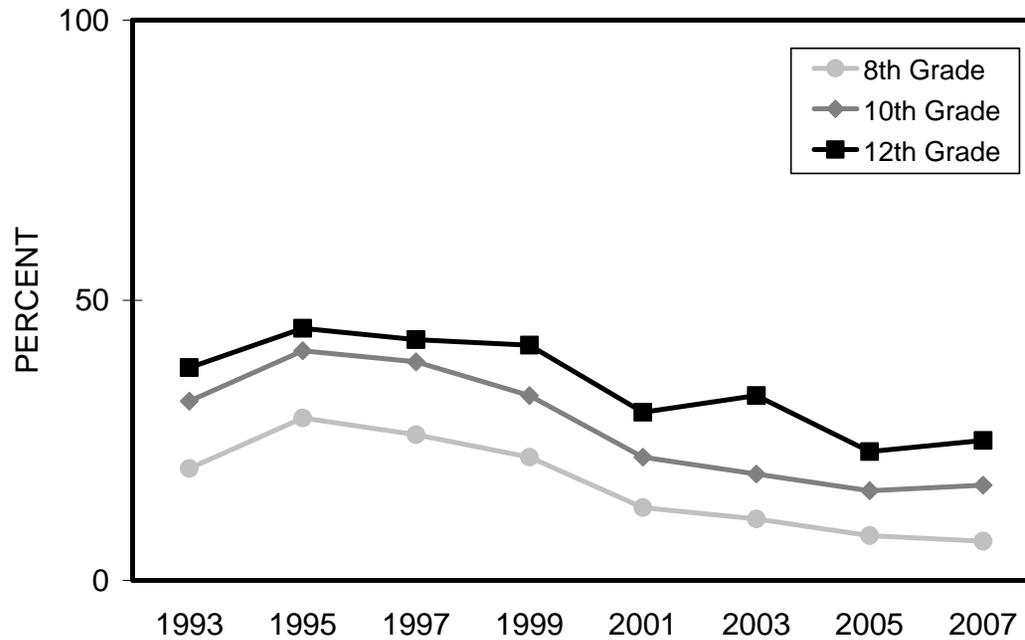
Percent of students who smoked cigarettes on one or more days during the past 30 days



## ■ Tobacco Use

- **Cigarette smoking is decreasing.** Smoking during the past 30 days increased from 1993 to 1995 and has since declined. From 1995 to 2007, cigarette use decreased from 45 to 25 percent among 12<sup>th</sup> graders (all time low was 23% in 2005), 41 to 17 percent among 10<sup>th</sup> graders and 29 to 7 percent among 8<sup>th</sup> graders.

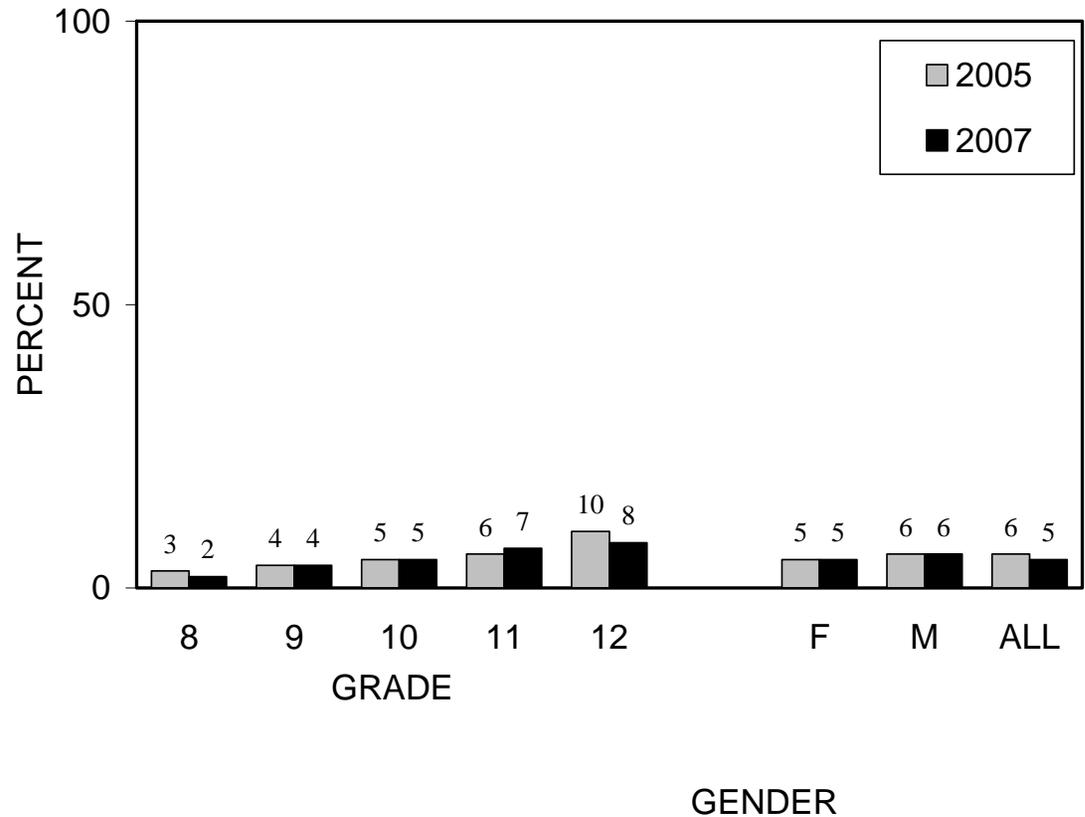
**Cigarette Smoking in Vermont 1993 to 2007**  
 Percent of students who smoked cigarettes during the last 30 days



## ■ Tobacco Use

- **Overall, 5 percent of Vermont students smoke daily.** Daily smoking among students has decreased from 13 percent in 1999 to 5 percent in 2007.
- **More older students than younger students are regular smokers.** Twelfth graders were four times more likely than eighth graders to smoke every day (8% vs 2%).

Percent of students who smoked cigarettes every day during the past 30 days



## ■ Tobacco Use

- Fewer Vermont students start smoking prior to age 13.** In 2007, 12 percent of students reported smoking a cigarette prior to age 13, down from 14 percent in 2005, 18 percent in 2003, 21 percent in 2001, and 28 percent in 1993-1999.
- More males than females chew tobacco.** Male students were four times more likely than female students to chew tobacco (13% vs 3%).

TOBACCO USE	GRADE					GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005
<b>Percent of students who:</b>									
<b>Smoked a whole cigarette prior to age 13</b>	11	12	14	12	11	11	13	12	14
<b>Smoked more than ten cigarettes on days smoked during the past 30 days</b>	1	1	3	3	4	2	3	3	2
<b>Smoked more than a pack on days smoked during the past 30 days</b>	1	1	1	1	1	1	1	1	1
<b>Used chewing tobacco or snuff during the past 30 days</b>	4	6	9	9	9	3	13	8	7

## ■ Tobacco Use

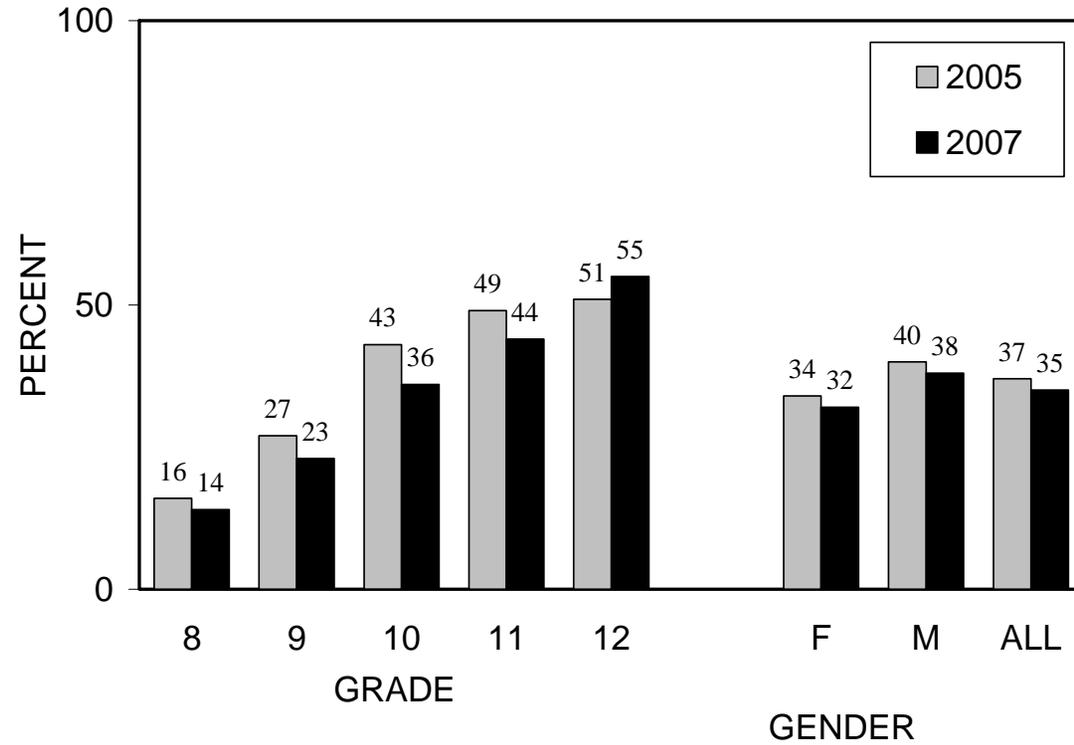
- **Half (51%) of Vermont students were in the same room with someone who was smoking cigarettes during the past seven days.** No significant age or gender differences were seen.
- **Overall, 39 percent of students were in a car with someone who was smoking cigarettes during the past seven days.** No significant age or gender differences were seen.

TOBACCO USE	GRADE					GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005
<b>Percent of students who, during the past seven days:</b>									
<b>Were in the same room with someone who was smoking cigarettes</b>	45	48	52	53	55	50	51	51	52
<b>Were in a car with someone who was smoking cigarettes</b>	36	36	40	40	40	39	38	39	39

## ■ Marijuana Use

- **The majority of students have never tried marijuana.**  
Overall, 35 percent of students tried marijuana, down from 47 percent in 1999.

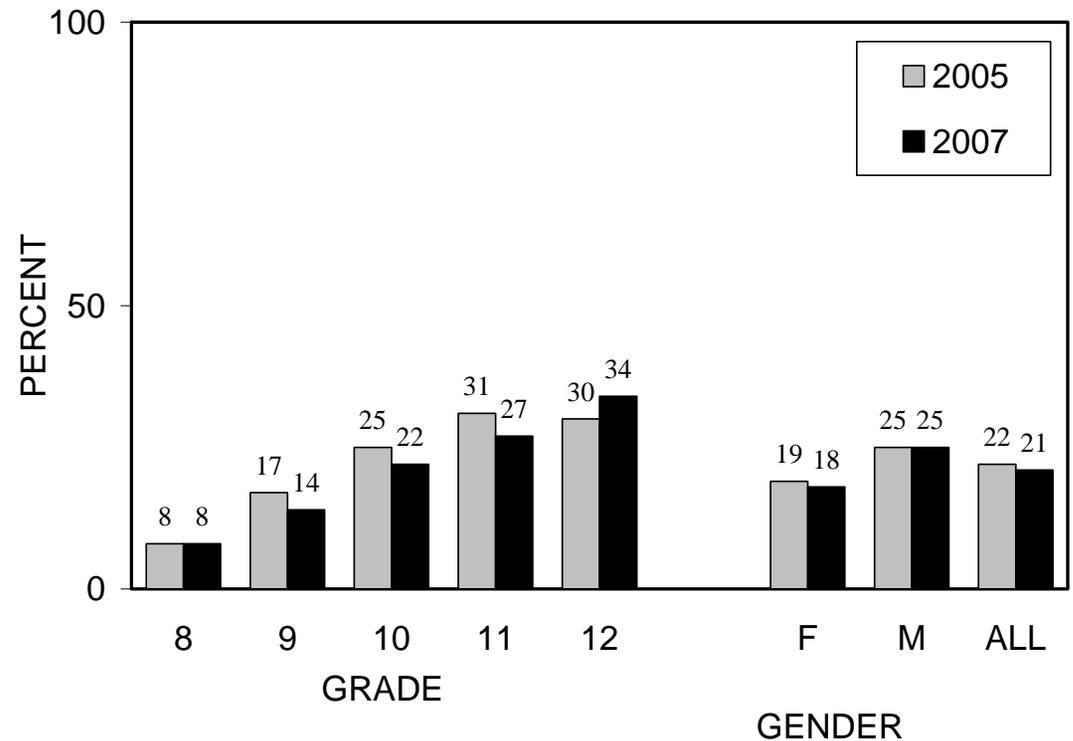
Percent of students who have ever tried marijuana



## ■ Marijuana Use

- **Approximately one-fifth of Vermont students use marijuana.** Overall, 21 percent of students used marijuana during the past 30 days, down from 32 percent in 1997.
- **More older students use marijuana than younger students.** Thirty-four percent of 12<sup>th</sup> grade students used marijuana, compared to eight percent of 8<sup>th</sup> grade students. The difference between 12<sup>th</sup> and 8<sup>th</sup> graders is similar to results in 2003 (30% vs 8%).

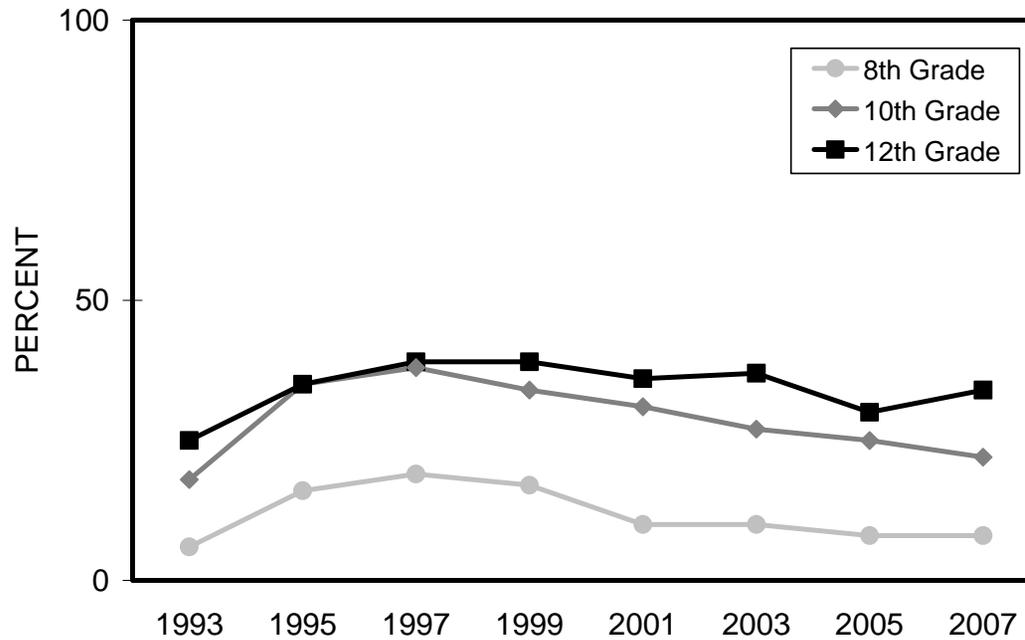
Percent of students who used marijuana one or more times during the past 30 days



## ■ Marijuana Use

- **Marijuana use increased from 1993 to 1997 but has begun to decline.** The percentage of students who used marijuana during the past 30 days increased from 1993 to 1997 and is now starting to decline.
- **Marijuana use is starting to decrease especially among younger students.** Among 8<sup>th</sup> graders, use decreased from 19 percent in 1997 to 8 percent in 2007. Among 10<sup>th</sup> graders, use decreased from 38 percent in 1997 to 22 percent in 2007. Among 12<sup>th</sup> graders, use decreased from 39 percent in 1997 to 34 percent in 2007 (30 percent in 2005).

**Marijuana Use 1993 to 2007**  
 Percent of students who smoked marijuana one or more times during the past 30 days



## ■ Marijuana Use

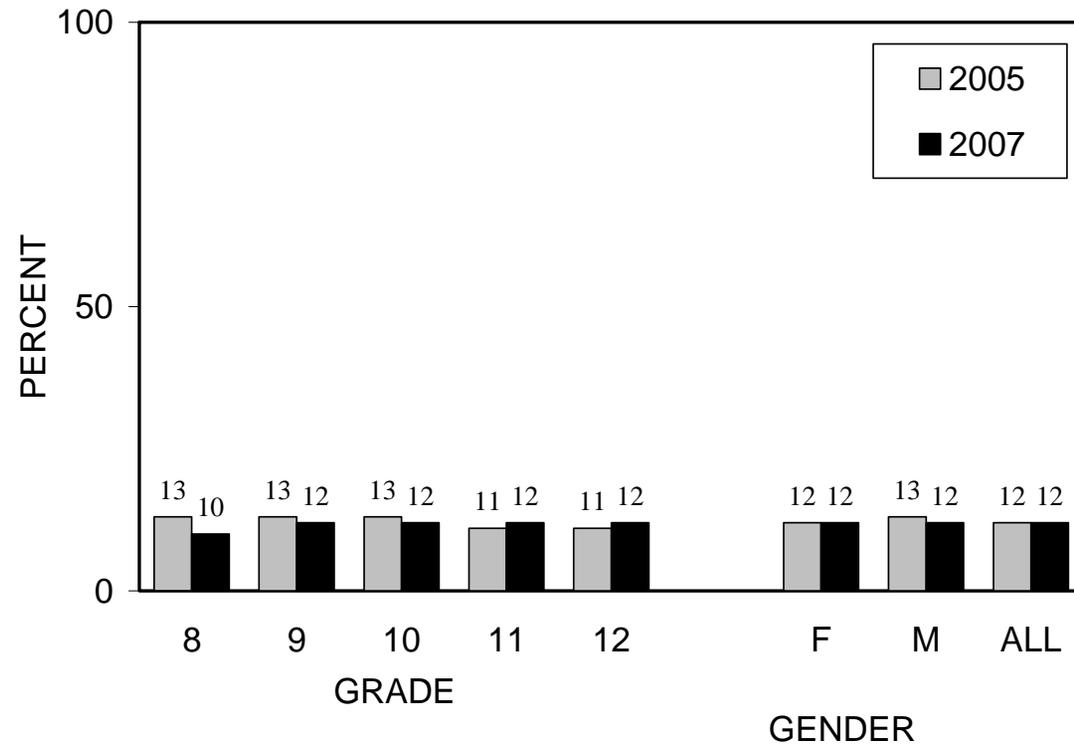
- Overall, 9 percent of students have smoked marijuana by age 13.
- Overall, 6 percent of students have used marijuana on school property.

MARIJUANA USE	GRADE					GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005
Percent of students who:									
Tried marijuana before age 13	7	8	10	9	8	7	10	9	9
Used marijuana 3 to 9 times during the past 30 days	2	4	5	6	8	5	5	5	6
Used marijuana 10 or more times during the past 30 days	2	5	11	13	15	6	12	9	9
Used marijuana one or more times <u>on school property</u>	2	4	6	7	8	4	7	6	6

## ■ Inhalant Use

- **Inhalant use is down since 1995.** Overall, 12 percent of students tried inhalants in 2007 and 2005, compared to 13 percent in 2003, 14 percent in 2001, 17 percent in 1999, 22 percent in 1997 and 27 percent in 1995.

**Percent of students who have ever used inhalants (e.g., sniffed glue, breathed the contents of aerosol spray cans, inhaled any paints or sprays to get high)**

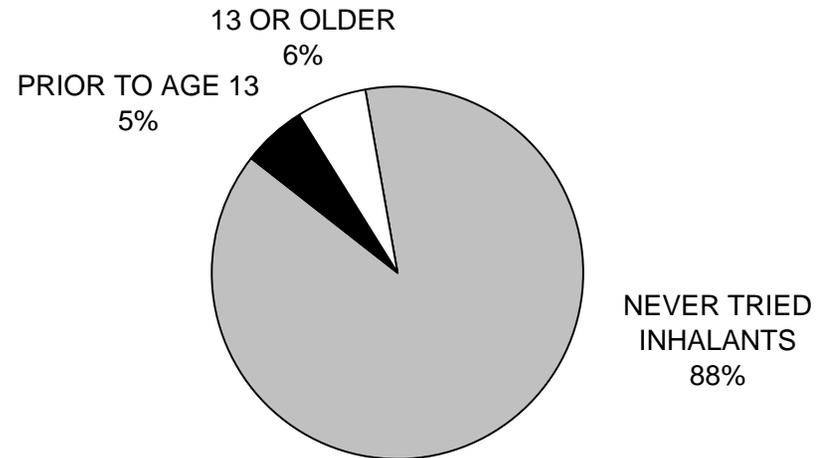


## ■ Inhalant Use

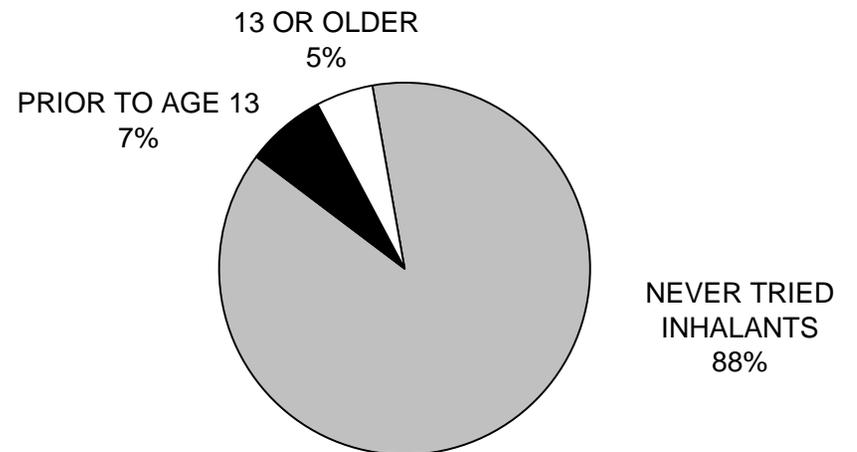
- Overall, 6 percent of students used inhalants prior to age 13. No significant difference was seen between female and male students.

Age at which students first tried inhalants

### FEMALES



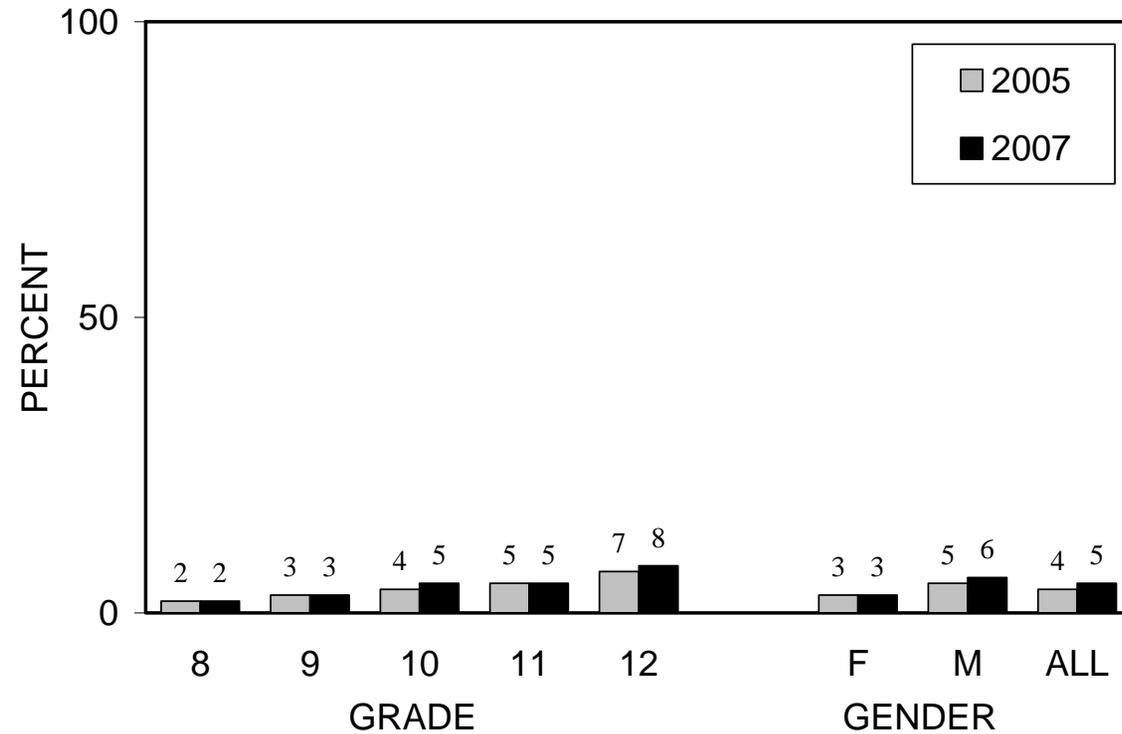
### MALES



## Other Drug Use

- Overall, 5 percent of Vermont students use cocaine. Males were twice as likely as females to have used cocaine during the past 30 days (6% vs 3%).

Percent of students who used cocaine one or more times during the past 30 days



## Other Drug Use

- Overall, 3 percent of Vermont students have used heroin.
- One out of ten (10%) students have used hallucinogens. Males were more likely than females to have ever used a hallucinogen (13% vs 7%).
- Overall, 16 percent of students have used a prescription drug without a prescription. No difference was seen between males and females.
- One out of five (20%) students have been offered, sold, or given an illegal drug at school. Males were more likely than females to have been offered drugs at school (23% vs 16%).

OTHER DRUG USE	GRADE					GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005
Percent of students who during their lifetime have:									
Taken steroids without a prescription	2	2	2	3	3	2	4	3	4
Used heroin	2	2	3	2	4	2	4	3	3
Used methamphetamines	3	3	5	4	6	3	5	4	5
Used hallucinogens, such as LSD, mushrooms, or ecstasy	3	6	11	13	16	7	13	10	10
Used a prescription drug, such as Ritalin, Oxycontin, Vicodin without a prescription	9	10	17	20	22	15	17	16	NA
Used a needle to inject any illegal drug into their body	1	1	3	2	3	2	3	2	2
Percent of students who were offered, sold, or given an illegal drug <u>on school property</u> during the past 12 months	8	18	23	22	25	16	23	20	20

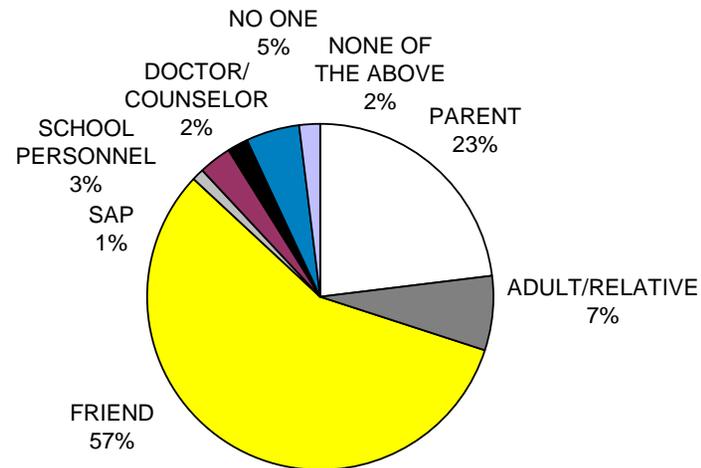
## Other Drug Use

- Students are more likely to talk with friends than adults about a drug problem.

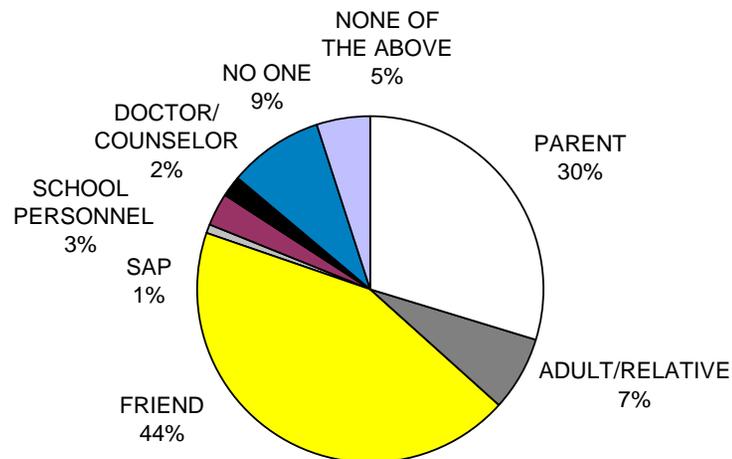
Overall, 50 percent of students would most likely talk to a friend about a drug problem. Students would more likely talk to a parent than another adult about a drug problem.

**If you had a problem with tobacco, alcohol, or other drugs, who would you be most likely to talk to about it?**

### FEMALES



### MALES



## ✓ Attitudes and Perceptions about Alcohol, Tobacco, and Marijuana Use

The questions in this section ask students how easy it is to get alcohol, tobacco, and marijuana, whether they think it is wrong for someone their age to use alcohol, tobacco, and marijuana, their perception of how wrong their parents and other adults in their community think it is for someone their age to use alcohol, tobacco, and marijuana, how harmful they think it is to use alcohol, tobacco, and marijuana.

---

- **Disapproval of alcohol, tobacco, and marijuana:** Peer disapproval of substance abuse is inversely related to adolescents' reports of use. For example, multi-year tracking of the results of the Monitoring the Future Survey indicates that the prevalence of marijuana use among youth declines as the percentage of youth expressing disapproval of marijuana increases; similarly, an increase in the prevalence of marijuana use among youth during the early 1990s coincided with an apparent decline in the percentage of parents and peer expressing strong disapproval.<sup>39</sup>
- **Perceived harmfulness of alcohol, tobacco, and marijuana:** The perception of risk in using alcohol and other drugs is an important factor in decreasing use. Previous data have shown that as perception of harmfulness decreases, there is a tendency for use to increase.<sup>39</sup> Therefore, it is very important for youth to be informed of the medical and psychological risks and hazards of using alcohol, tobacco, and other drugs.
- **Perceived availability of alcohol, tobacco, and marijuana:** The more available alcohol, tobacco, and other drugs are in a community, the higher the risk that young people will use them. Increased use is also associated with the perception that substances are readily available, regardless if the perception is accurate.<sup>40</sup>

## ■ Disapproval of Alcohol, Tobacco, and Other Drug Use

- **Younger students are more likely than older students to report parental disapproval of alcohol, cigarettes, or marijuana use.** For example, 96 percent of 8<sup>th</sup> graders report that their parents think it is wrong for them to smoke cigarettes, compared to only 87 percent of 12<sup>th</sup> graders.
- **Parental and student disapproval of smoking cigarettes is increasing.** In 2007, 92 percent of students reported that their parents think it was wrong for them to smoke cigarettes, compared to 83 percent in 1999. In addition, 75 percent of students thought it was wrong for kids their age to smoke cigarettes, compared to 57 percent in 1999.

DISAPPROVAL OF ATOD USE	GRADE					GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005
<b>Percent of students who think their parents think it is <i>wrong or very wrong</i> for them to:</b>									
<b>Smoke cigarettes</b>	96	94	93	90	87	93	91	92	90
<b>Drink alcohol</b>	88	88	81	75	65	82	77	79	75
<b>Use marijuana</b>	96	93	89	87	83	92	88	89	89
<b>Percent of students who think it is <i>wrong or very wrong</i> for kids their age to:</b>									
<b>Smoke cigarettes</b>	88	82	77	72	60	78	73	75	78
<b>Drink alcohol</b>	73	60	46	40	32	52	47	50	50
<b>Use marijuana</b>	87	75	65	61	51	70	65	67	66

## ■ Perceived Harmfulness of Alcohol, Tobacco, and Other Drug Use

- More students think there is great risk in smoking cigarettes than in using marijuana.** Overall, 72 percent of students think that there is great risk in people harming themselves from smoking one or two packs per day compared to only 51 percent of students who think that there is great risk in using marijuana regularly and 26 percent for alcohol.
- Perception of risk from smoking cigarettes and marijuana has increased since 1999.** In 2007, 72 percent of students reported great risk of harm from people smoking cigarettes, compared to only 61 percent in 1999. Similarly, the percentage of students who reported great risk of harm from people using marijuana regularly increased from 44 percent in 1999 to 51 percent in 2007.

PERCEIVED HARMFULNESS	GRADE					GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005
Percent of students who think that there is <i>great risk</i> in people harming themselves from:									
Smoking one or more packs of cigarettes/day	69	69	73	74	76	78	66	72	70
Drinking one or two alcoholic beverages nearly every day	32	27	26	23	24	32	21	26	25
Using marijuana regularly	68	56	47	44	40	58	44	51	47

## ■ Perceived Availability of Alcohol, Tobacco, and Other Drugs

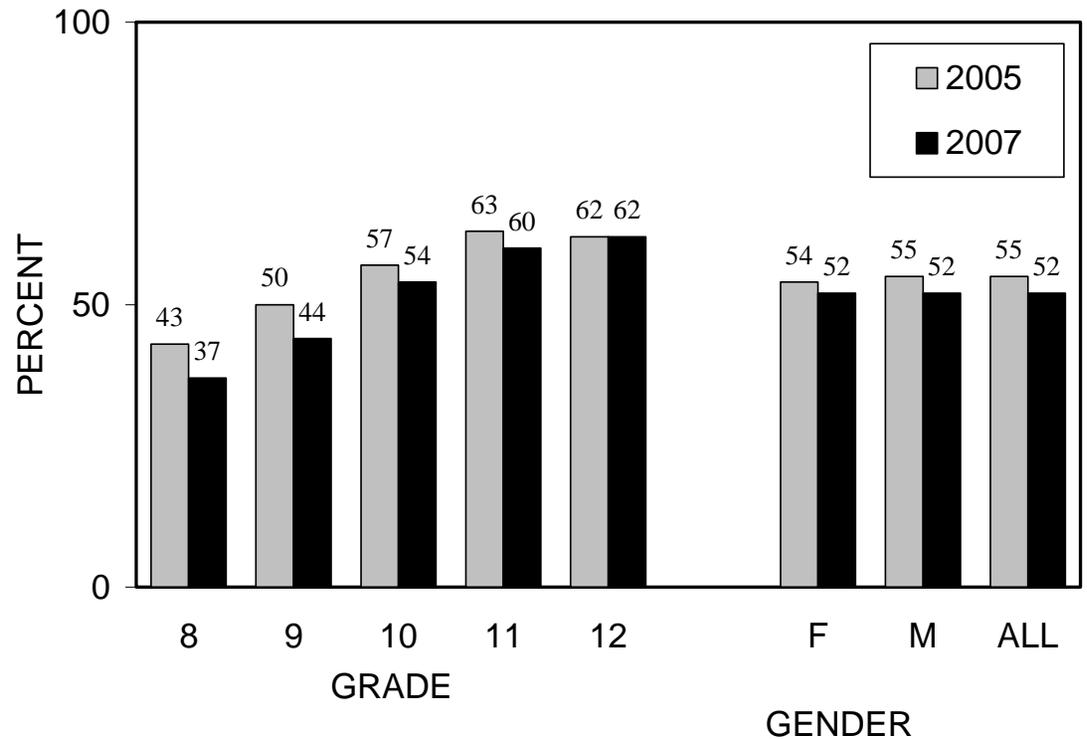
- **Alcohol and cigarettes are easy to get.** Approximately two-thirds of students report that alcohol (69%) and cigarettes (66%) are easy to get, compared to marijuana (55%).

PERCEIVED AVAILABILITY OF ATOD	GRADE					GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005
Percent of students who report that it is easy or very easy to get:									
<b>Cigarettes</b>	39	55	68	77	90	64	68	66	68
<b>Alcohol</b>	51	62	68	79	81	68	69	69	71
<b>Marijuana</b>	24	43	60	69	69	53	57	55	58

## ■ Perceived Availability of Alcohol, Tobacco, and Other Drugs

- **Half of students know an adult who uses illegal drugs.** Overall, 52 percent of students reported knowing an adult who has used an illegal drug during the past year.
- **More older students than younger students know an adult who uses illegal drugs.** In 2007, 62 percent of 12<sup>th</sup> graders reported knowing an adult who has used an illegal drug during the past year, compared to 37 percent of 8<sup>th</sup> graders.

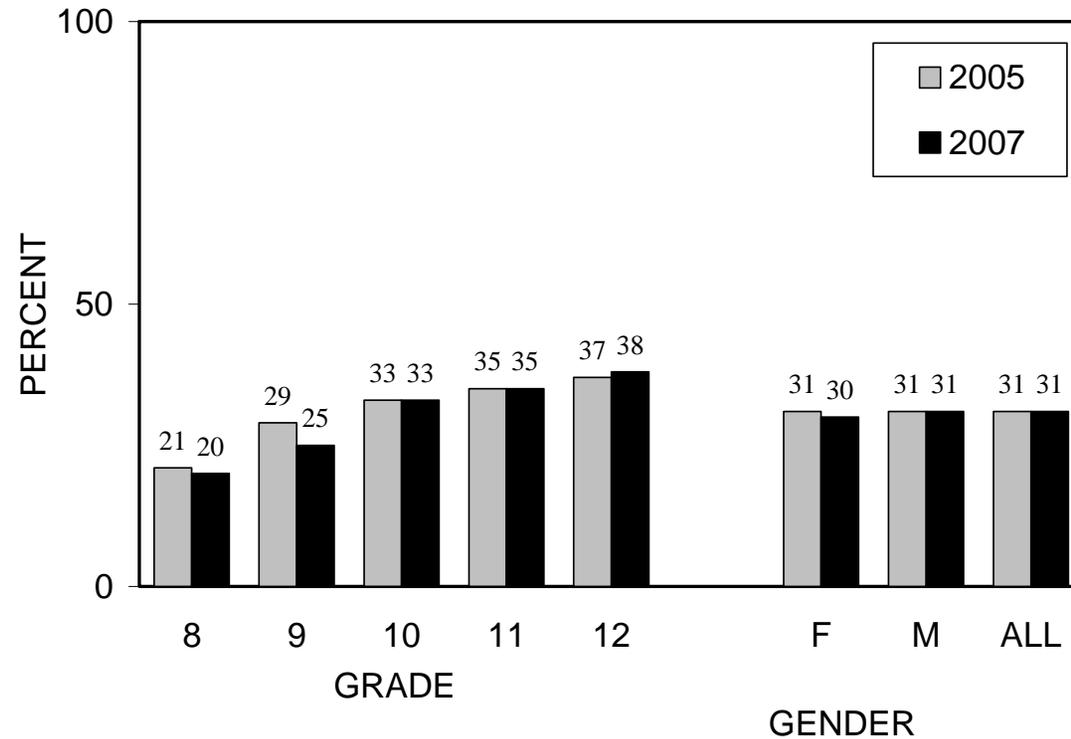
Percent of students who know an adult who has used marijuana, cocaine, or another illegal drug during the past year.



## ■ Perceived Availability of Alcohol, Tobacco, and Other Drugs

- **Almost one-third of students know an adult who sells drugs.** Overall, 31 percent of students reported knowing an adult who has sold drugs during the past year.

**Percent of students who know an adult who has sold drugs during the past year.**



---

## ✓ Sexual Behavior

The questions in this section ask students about sexual behaviors that contribute to HIV infection, and other sexually transmitted diseases. More specifically, the questions measure whether they have had sexual intercourse, the age at which they first had sex, the frequency with which they have sex, with whom they have sex, alcohol and drug use related to sexual intercourse and whether they use contraception.

---

- **Early sexual activity** and multiple sexual partners are associated with an increased risk of unwanted pregnancy and sexually transmitted diseases (STD), including HIV infection,<sup>41</sup> and negative effects on social and psychological development.<sup>42</sup> Alcohol and drug use may serve as predisposing factors for initiation of sexual activity and unprotected sexual intercourse.<sup>43</sup> Of the 12 million new cases of STDs per year in the United States, 25 percent are among teens.<sup>44</sup> STDs may result in infertility and facilitation of HIV transmission and may have an adverse effect on pregnancy outcomes and maternal and child health.<sup>42</sup>
- **AIDS** is the eighth leading cause of death for youth aged 15 to 24 in the US.<sup>8</sup> It is estimated that 25 percent of all new cases of HIV each year occur in people aged 13 to 21.<sup>44</sup> While heterosexual transmission was once uncommon, recent trends indicate that growing numbers of individuals are at risk of contracting HIV in this way. Many people, especially adolescents, do not have the knowledge, awareness, and skills necessary to prevent their becoming infected. Besides abstinence, condom use is currently the most effective means of preventing sexual transmission of HIV.

In Vermont, 456 residents were diagnosed as having AIDS as of March 31, 2007.<sup>45</sup> Many more Vermonters are at risk of acquiring HIV infection through unprotected sex with multiple partners or intravenous drug use. No area of the state remains unaffected.

- **Gay and Lesbian Youth:** Although many lesbian, gay, and bisexual adolescents lead happy and healthy lives, others face tremendous challenges to growing up physically and mentally healthy. Compared to heterosexual youth, lesbian, gay, and bisexual young people are at higher risk for depression, alcohol and other drug use, suicide, HIV infection, and other sexually transmitted diseases.<sup>46</sup>

## ✓ Sexual Behavior (cont'd)

---

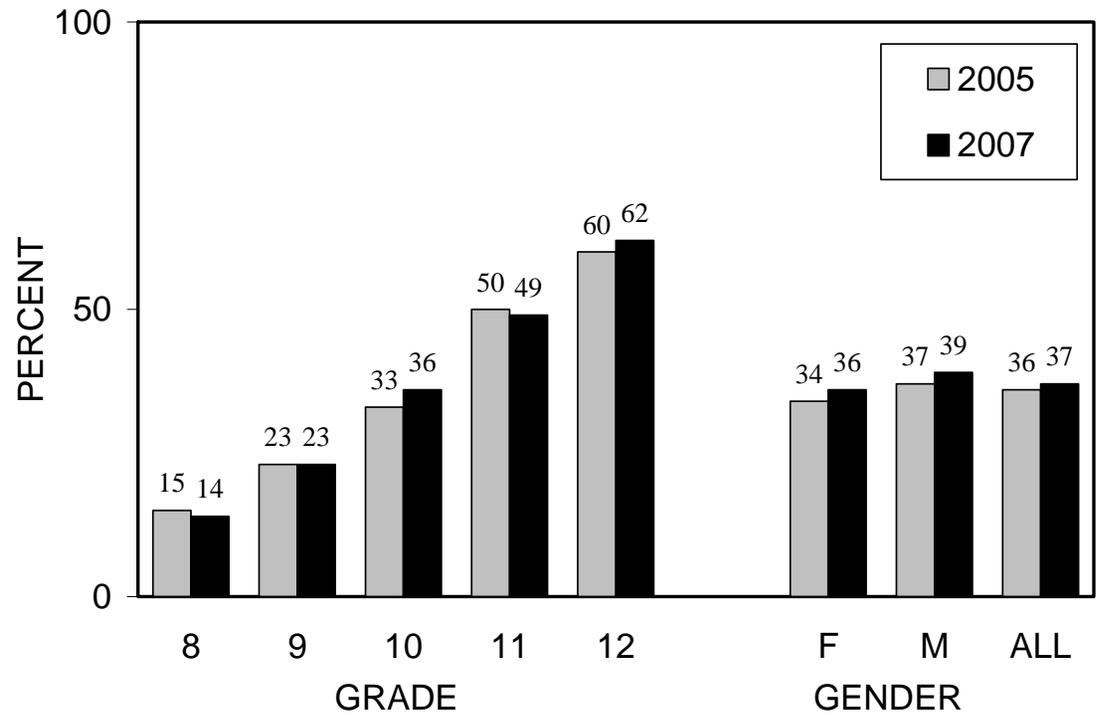
### **Related *Healthy Vermonters 2010* Goals:**

- Increase the percentage of adolescents who abstain from sexual intercourse or use condoms if currently sexually active.
- Reduce HIV infection among adolescents and adults.
- Further reduce the percentage of people ages 15-24 with Chlamydia trachomatis infection.

## ■ Sexual Behavior

- **Over one-third of students have had sex.** In 2007, 37 percent of students reported having had sexual intercourse.

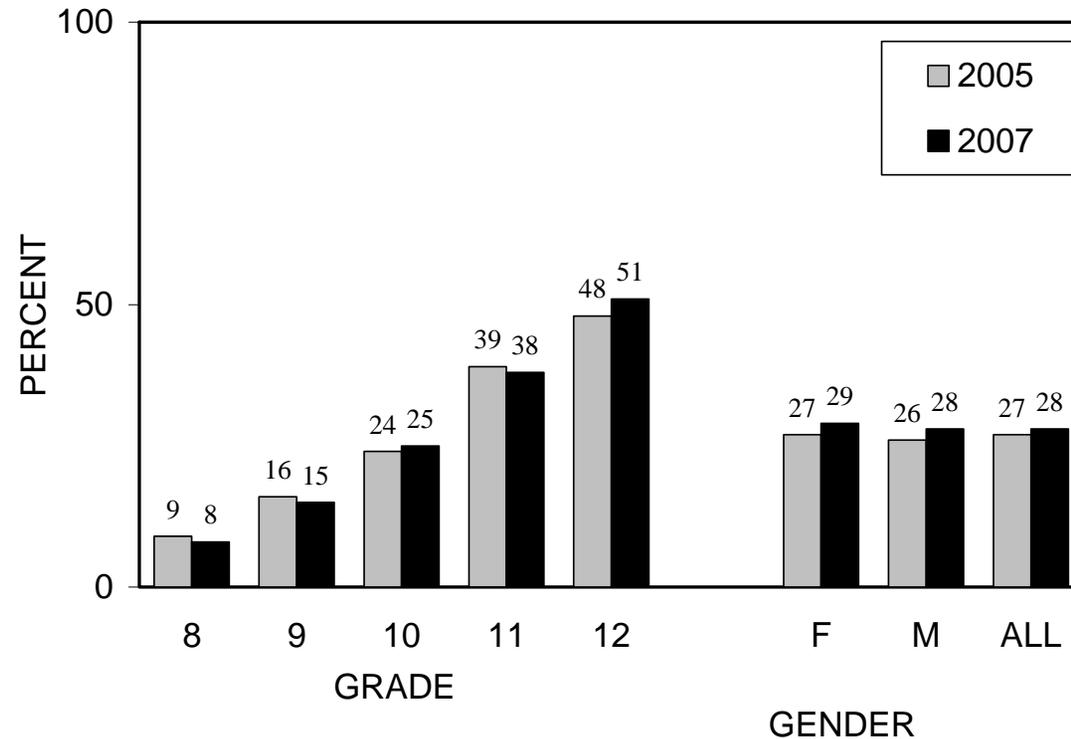
Percent of students who have ever had sexual intercourse



## ■ Sexual Behavior

- **More than one-quarter of Vermont students are sexually active.** Overall, 28 percent of students reported having had sex during the past three months.
- **More older students than younger students are sexually active.** In 2007, 51 percent of 12<sup>th</sup> graders had sex during the past three months, compared to 8 percent of 8<sup>th</sup> graders.

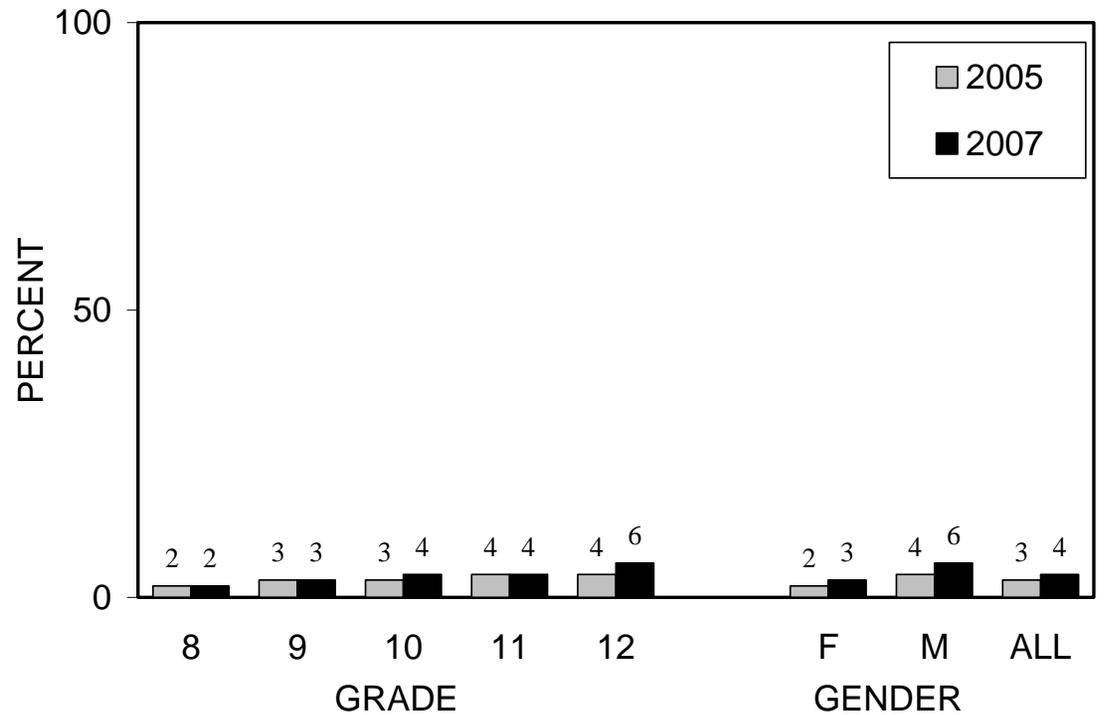
Percent of students who have had sexual intercourse during the past three months



## ■ Sexual Behavior

- Overall, 4 percent of Vermont students have had sexual intercourse with three or more people during the past three months.

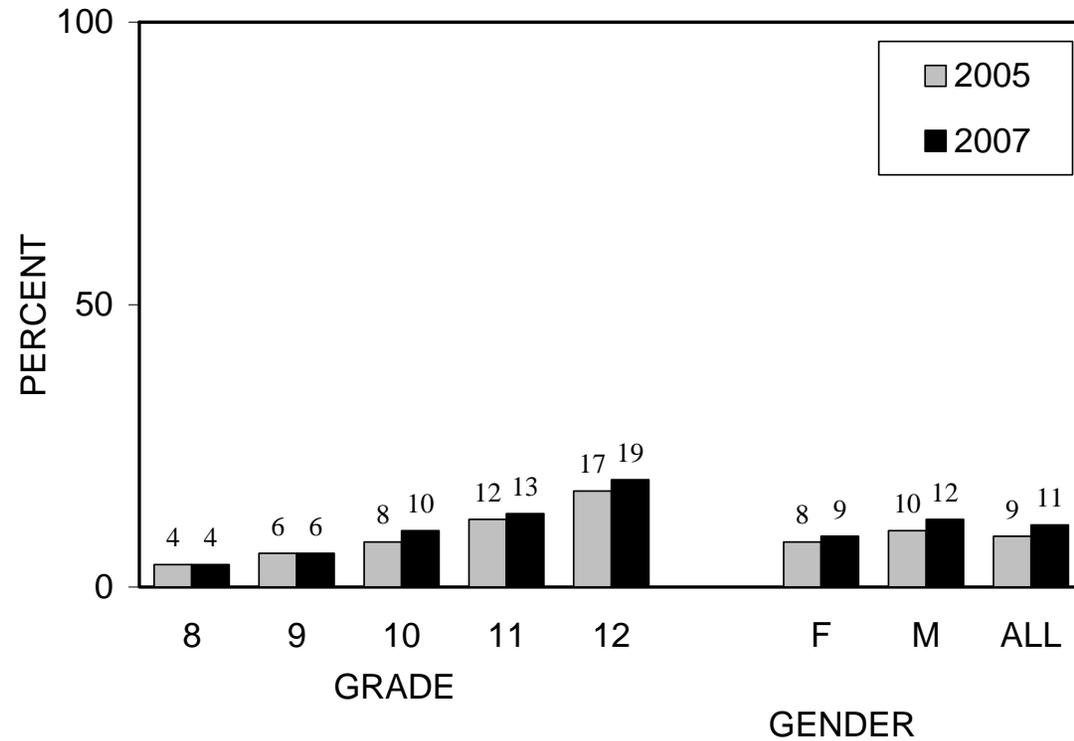
**Percent of students who have had sexual intercourse with three or more people during the past three months**



## ■ Sexual Behavior

- Approximately one in ten (11%) students have had sexual intercourse with four or more people in their lifetime.

**Percent of students who have had sexual intercourse with four or more people during their lifetime**



## ■ Sexual Behavior

- **Males have sex earlier than females.** Males are twice as likely as females to have had sex prior to age 13 (8% vs 4%).
- **More than one-quarter (24%) of sexually active students used alcohol or drugs prior to sex.**
- **Almost two-thirds of sexually active students use condoms.** Overall, 63 percent of sexually active students used a condom during their most recent sexual experience.

SEXUAL BEHAVIOR	GRADE					GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005
Percent of students who:									
First had sexual intercourse before age 13	6	6	6	4	5	4	8	6	6
Used drugs or alcohol before their most recent sexual experience*	37	26	29	25	27	23	33	28	24
Used a condom during their most recent sexual experience*	66	64	67	65	59	59	67	63	65

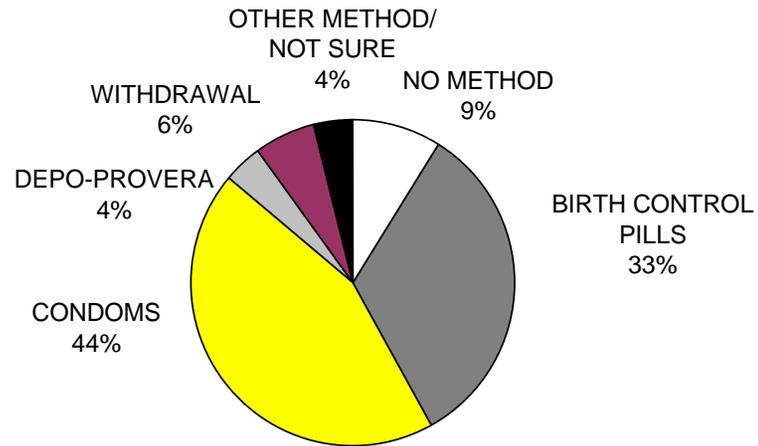
\*Includes only students who said that they have had sexual intercourse during past three months.

## ■ Sexual Behavior

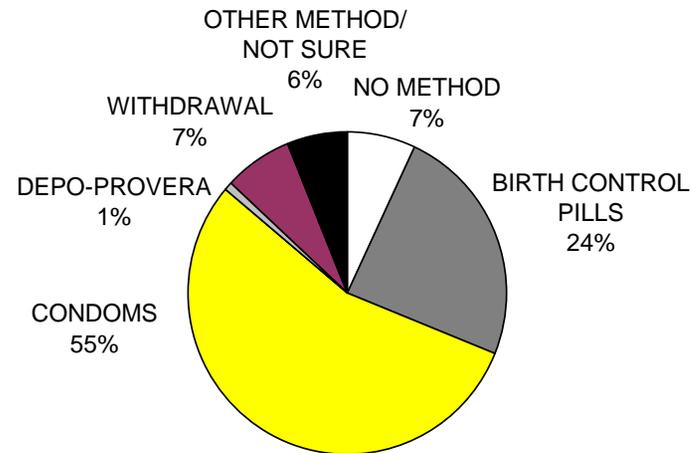
- **Condoms are the most commonly used contraceptive.** Overall, 50 percent of students used condoms to prevent pregnancy the last time they had sex.
- **Many students do not use any method to prevent pregnancy.** Overall, 8 percent of students did not use any method to prevent pregnancy the last time they had sex, and 3 percent were not sure what method was used.

**What method did you or your partner use to prevent pregnancy the last time you had sexual intercourse?  
(only among those students who have ever had sex)**

### FEMALES



### MALES

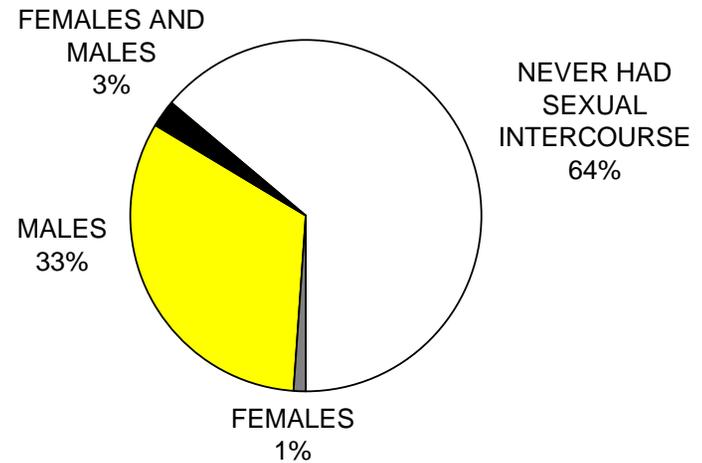


## ■ Sexual Behavior

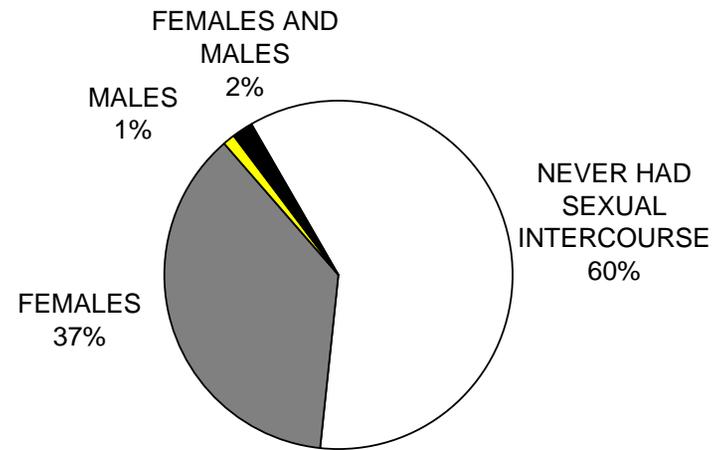
- Overall, 3 percent of students have engaged in same sex sexual intercourse.

The persons with whom you have had sexual intercourse are:

### FEMALES



### MALES



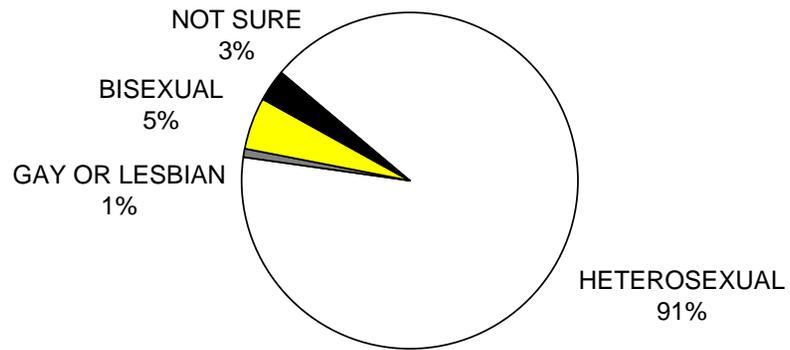
## ■ Sexual Orientation

---

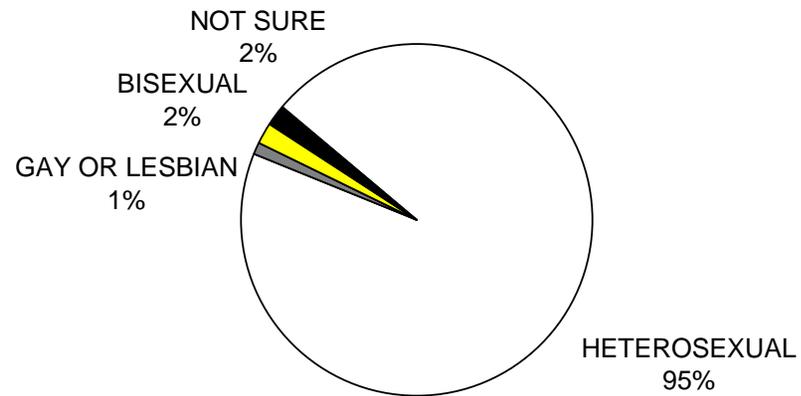
- Overall, 1 percent of students describe themselves as gay or lesbian. In addition, 3 percent describe themselves as bisexual and 3 percent are not sure.

Self-reported sexual orientation:

### FEMALES



### MALES



---

## ✓ Body Weight and Nutrition

This section asks students their height and weight, how they feel about their weight and what, if anything, they are doing to control their weight. The questions also inquire about how often students eat breakfast, eat fruits and vegetables, drink milk, and drink soda.

---

- In the United States, there are more than twice as many **overweight** children and more than three times as many overweight adolescents than there were in 1980.<sup>47</sup> Overweight and obesity acquired during childhood or adolescence may persist into adulthood.<sup>48</sup> Approximately 400,000 deaths a year in the US are currently associated with overweight and obesity and, left untreated, overweight and obesity may soon overtake tobacco as the leading cause of death.<sup>30</sup> Obesity in childhood and adolescence is associated with negative psychological and social consequences and adverse health outcomes, including type 2 diabetes, obstructive sleep apnea, hypertension, dyslipidemia, and metabolic syndrome.<sup>49</sup>

Overemphasis on slenderness during adolescence may contribute to eating disorders such as anorexia nervosa and bulimia.<sup>50,51</sup> Studies have shown high rates of body dissatisfaction and dieting among adolescent females, with many engaging in unhealthy weight control behaviors, such as fasting and self-induced vomiting which can lead to abnormal physical and psychological development.<sup>52,53</sup> It is estimated that as many as seven to eight percent of females in the US suffer from anorexia nervosa and/or bulimia nervosa during their lifetime.<sup>54</sup>

- **Nutrition:** Fruits and vegetables are good sources of complex carbohydrates, vitamins, minerals, and other substances that are important for good health. Dietary patterns with higher intakes of fruits and vegetables are associated with a variety of health benefits, including a decreased risk for some types of cancer.<sup>55-60</sup> Milk is by far the largest single source of calcium for adolescents,<sup>61</sup> but it is estimated that about half of adolescent males and more than 80 percent of adolescent females do not meet dietary recommendations for calcium intake.<sup>62</sup> Calcium is essential for the formation and maintenance of bones and teeth; low calcium intake during the first two to three decades of life is an important risk factor in the development of osteoporosis.<sup>59,63</sup> In recent years, soft drink consumption has significantly increased among children and adolescents. Consumption of sugar-sweetened drinks, including soft drinks, appears to be associated with an increased risk for being overweight in children.<sup>64</sup>
-

## ✓ **Body Weight and Nutrition (cont'd)**

---

### **Related *Healthy Vermonters 2010* Goals:**

- Reduce the percentage of youth who are obese or overweight.
- Increase the percentage of people who eat at least two daily servings of fruits.
- Increase the percentage of people who eat at least three daily servings of vegetables.

## ■ Body Weight

- **Overall, 15 percent of students are at risk for being overweight.** No difference was seen between males and females.
- **Overall, 12 percent of students are overweight.** Male students were more likely to be overweight than females (15% vs 8%).

BODY WEIGHT	GRADE					GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005
<b>Percent of students who are at risk for being overweight (85<sup>th</sup> Body Mass Index Percentile*)</b>	16	17	14	13	13	14	15	15	14
<b>Percent of students who are overweight (95<sup>th</sup> Body Mass Index Percentile*)</b>	12	12	12	10	11	8	15	12	10

\*Body mass index is calculated as weight in kilograms divided by the square of the height in meters.

## ■ Body Weight

- More females than males think they are overweight and are trying to lose weight.** In 2007, 34 percent of female students described themselves as overweight, compared to 25 percent of male students. The difference between females and males was similar in 2005 (34% vs 24%). In addition, 58 percent of female students are trying to lose weight, compared to 29 percent of male students. This difference was similar in 2005 (58% vs 27%).

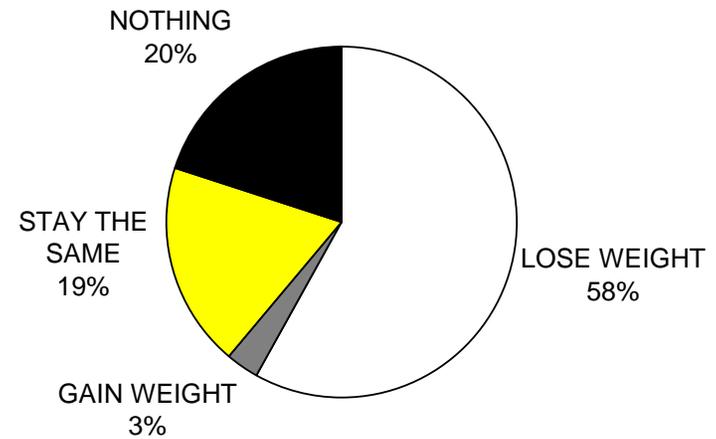
BODY WEIGHT PERCEPTION	GRADE					GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005
<b>Percent of students who describe themselves as:</b>									
<b>Underweight</b>	14	14	12	13	10	9	15	12	13
<b>About the right weight</b>	59	57	59	59	59	56	60	58	58
<b>Overweight</b>	28	29	30	28	31	34	25	30	29
<b>Percent of students who are:</b>									
<b>Trying to lose weight</b>	43	43	43	42	42	58	29	43	42
<b>Trying to gain weight</b>	9	13	12	17	13	3	22	13	12
<b>Trying to stay the same</b>	21	19	20	17	20	19	20	19	20
<b>Doing nothing about their weight</b>	27	25	26	24	24	20	30	25	27

## ■ Body Weight

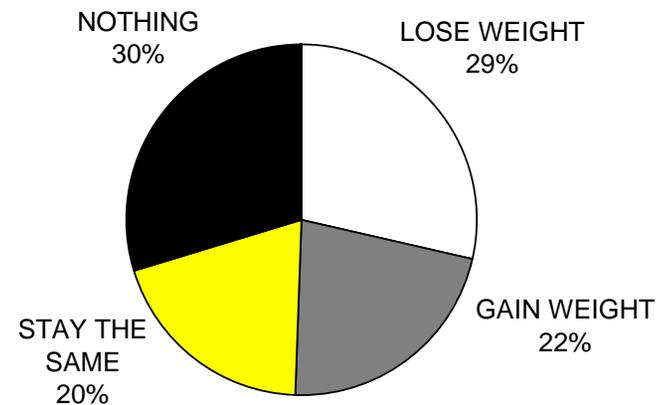
- **More males than females are trying to gain weight.** Male students were almost seven times more likely than female students to be trying to gain weight (22% vs 3%). Similarly, 19 percent of male students in 2005 were trying to gain weight, compared to 4 percent of female students.

### What are students trying to do about their weight?

#### FEMALES



#### MALES



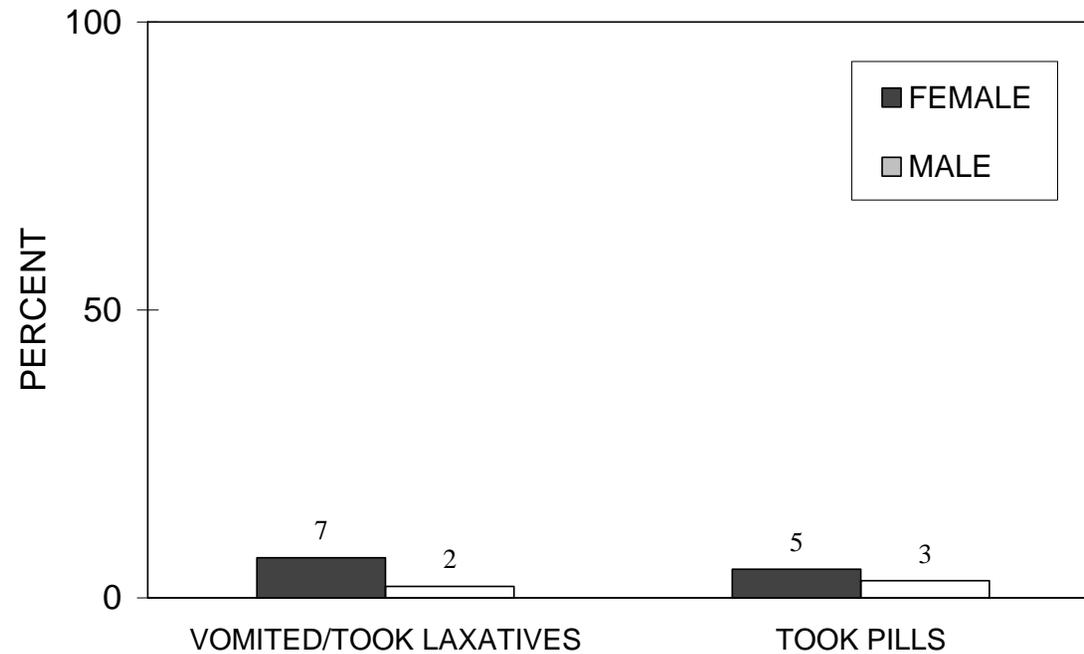
## ■ Body Weight

---

- **More females than males used unhealthy methods to try to control their weight.**

Female students were more likely than male students to have vomited or taken laxatives (7% vs 2%) and taken diet pills (5% vs 3%) to try and control their weight.

**What females and males did during the past 30 days to control their weight**



## ■ Nutrition

- **Three-quarter of students (74%) eat breakfast three or more days per week.** While younger students were slightly more likely than older students to report eating breakfast, no significant differences were observed by grade or gender.
- **Overall, 42 percent of students eat breakfast every day.** No significant differences were seen by grade or gender.

BREAKFAST	GRADE					GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005
<b>Percent of students who:</b>									
<b>Ate breakfast three or more days a week</b>	77	76	74	73	70	73	74	74	NA
<b>Ate breakfast every day</b>	46	44	42	40	39	39	44	42	NA

## ■ Nutrition

- **Overall, 35 percent of students eat two or more servings of fruit or fruit juice daily.** The percent of students who eat two or more fruits per day has decreased since 1999 (35% vs 45%).
- **Overall, 16 percent of students eat three or more servings of vegetables daily.**
- **Overall, 24 percent of students eat five or more servings of fruits and vegetables daily.** The percent of students who ate five or more servings of fruits and vegetables per day has decreased since 1999 (24% vs 33%).

FRUITS & VEGETABLES	GRADE					GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005
<b>Percent of students who:</b>									
<b>Eat two or more servings of fruit or fruit juice per day</b>	36	35	34	34	35	35	35	35	37
<b>Eat three or more servings of vegetables per day</b>	17	17	16	15	15	16	16	16	14
<b>Eat five or more servings of fruits and vegetables per day</b>	25	25	25	22	23	24	24	24	24

## ■ Nutrition

- Overall, 59 percent of students drink a glass of milk daily.
- More than one-fifth (23%) of students drink three or more glasses of milk daily. In 2007, 30 percent of male students drank three or more glasses of milk per day, compared to 17 percent of female students.
- About one-fourth (24%) of students drink soda daily.
- Males drink more soda than females. In 2007, 31 percent of male students drank one or more sodas daily, compared to 17 percent of female students. In addition, 13 percent of males drank three or more sodas per day compared to 6 percent of females.

MILK & SOFT DRINK CONSUMPTION	GRADE					GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005
Percent of students who:									
Drink one or more glasses of milk per day	61	59	60	59	57	52	65	59	59
Drink three or more glasses of milk per day	27	25	24	23	20	17	30	23	24
Drink one or more glasses of sodas per day	22	24	24	25	26	17	31	24	NA
Drink three or more glasses of sodas per day	9	10	11	9	11	6	13	10	NA



## ✓ Physical Activity

This section asks students how often they engage in physical activity and physical education classes. Students are also asked how often they watch television and play on the computer for fun or play video games.

---

- **Regular physical activity** helps build and maintain healthy bones and muscles, control weight, build lean muscle, and reduce fat; reduces feelings of depression and anxiety; and promotes psychological well-being.<sup>65</sup> In the long term, regular physical activity decreases the risk of dying prematurely, dying of heart disease, and developing diabetes, colon cancer, and high blood pressure.<sup>65</sup>
  - **School physical education classes:** Major decreases in vigorous physical activity occur during grades 9 through 12, particularly for girls; by 12<sup>th</sup> grade, more than half of female students in the US are not participating regularly in vigorous physical activity.<sup>66</sup> School physical education classes can increase adolescent participation in physical activity<sup>67-69</sup> and help adolescents develop the knowledge, attitudes, and skills they need to engage in lifelong physical activity.<sup>70</sup>
  - **Television viewing** is the principal sedentary leisure time behavior in the US. Studies have shown that television viewing in young people is related to obesity<sup>71,72</sup> and violent or aggressive behavior.<sup>73,74</sup> Using the computer for fun and playing video games have become increasingly common sedentary leisure time activities among young people as well.
- 

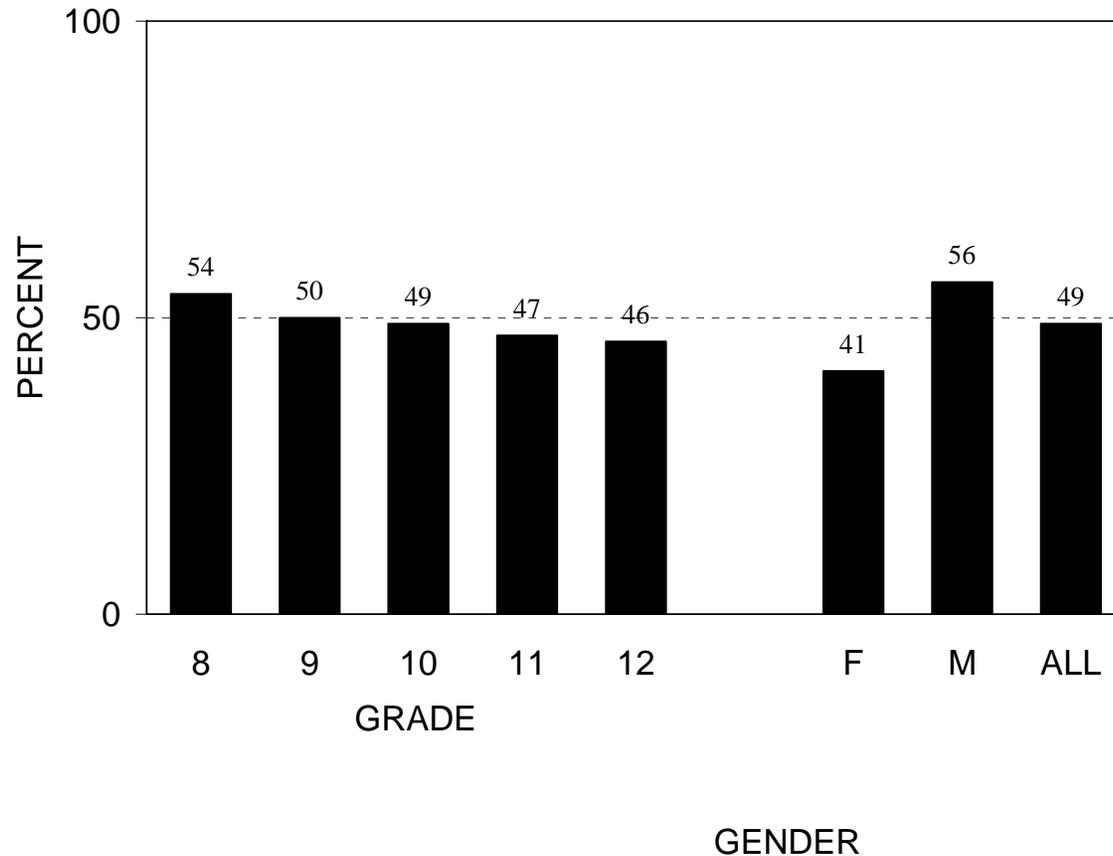
### **Related *Healthy Vermonters 2010* Goals:**

- Increase the percentage of middle and junior high schools that require daily physical education for all students.
-

## ■ Physical Activity

- **Almost half (49%) of students participate in 60 minutes of physical activity per day five or more days per week.**
- **Fewer females participate in daily physical activity than males.** In 2007, 41 percent of female students got 60 minutes of physical activity per day on five or more days per week, compared to 56 percent of male students.

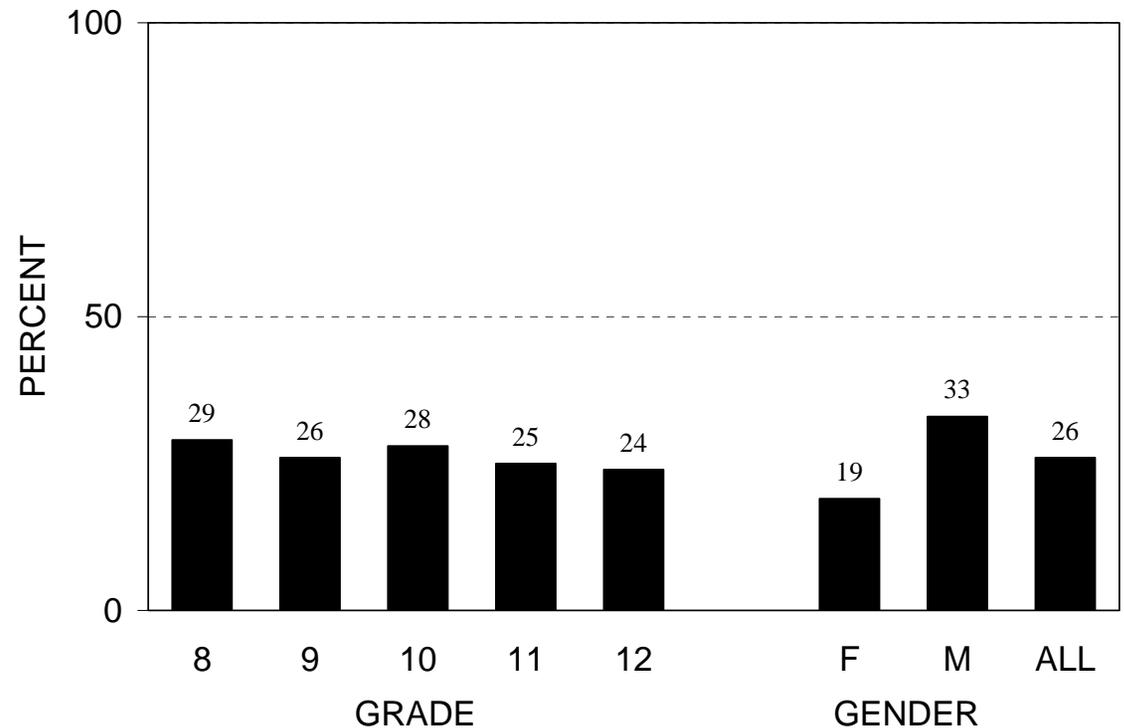
**Percent of students who participated in at least 60 minutes of physical activity five or more days during the past seven days**



## ■ Physical Activity

- Overall, 26 percent of students participated in 60 minutes of physical activity per day every day.
- Fewer females participate in daily physical activity than males. In 2007, 19 percent of female students got 60 minutes of physical activity per every day, compared to 33 percent of male students.

Percent of students who participated in at least 60 minutes of physical activity every day during the past seven days



## ■ Physical Activity

- **Approximately half (49%) of students participate in weekly physical education classes.** Eighty-seven percent of 8<sup>th</sup> graders, compared to only 25 percent of 12<sup>th</sup> graders, participated in at least one physical education class per week. The difference between 8<sup>th</sup> and 12<sup>th</sup> graders was similar in 2005 (92% vs 24%).
- **Overall, 18 percent of students participate in physical education class every day.**

	PHYSICAL EDUCATION					GENDER		ALL	
	8 <sup>th</sup>	9 <sup>th</sup>	10 <sup>th</sup>	11 <sup>th</sup>	12 <sup>th</sup>	F	M	2007	2005
<b>Percent of students who participated in:</b>									
<b>Physical education classes at least once during the past seven days</b>	87	63	47	26	25	45	53	49	56
<b>Physical education classes five days during the past seven days</b>	17	29	21	13	12	16	21	18	14

## ■ Physical Activity

- Over one-third (36%) of students spend three or more hours a school day watching TV, playing video games, or playing on the computer for fun.
- Overall, 10 percent of students spend five or more hours per school day watching TV or playing video games/computer.

TV AND COMPUTER GAMES	GRADE					GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005
Percent of students who:									
Spend three or more hours per school day watching TV or playing on the computer	36	37	37	35	37	31	41	36	36
Spend five or more hours per school day watching TV or playing on the computer	10	10	8	9	10	7	12	10	10



---

## ✓ Measures of Youth Assets

Healthy development depends not only on avoiding harmful behavior, but on strengthening the sources of positive influence in our lives. This section asks students about the grades they receive in school, how often their parents talk to them about school, how often they eat meals with their family, how often they are involved in clubs or organizations, how often they volunteer their time helping their community, their perception of students' role in deciding what happens in school, and their perception of how they are valued by their communities.

---

- **Grades in School:** Above-average school performance is viewed as one of many developmental assets (i.e., factors promoting positive development) for youth. Studies have shown that students who get higher grades in school are less likely to use cigarettes, alcohol, or marijuana, and are more likely to postpone sexual intercourse.<sup>75</sup> In 2005, 73 percent of 8-12<sup>th</sup> graders in Vermont reported that their school performance was above average.<sup>76</sup>
- **Parents Involvement in School:** One of the strongest predictors of students' success in school is the extent to which their parents stay involved with their schoolwork—asking about academic progress, attending teacher conferences, and so on. In addition, a national study of adolescent health found that youth who reported a “connectedness” to their parents/family and school were the least likely to engage in risky behaviors. Parental expectations regarding school achievement were also associated with lower levels of risk behaviors.<sup>75</sup> Only 27 percent of 6<sup>th</sup> to 12<sup>th</sup> grade students surveyed across the United States reported that their parents are involved in helping them succeed in school.<sup>77</sup>
- **Family meals:** Mealtimes can be important opportunities for family members to connect with one another and strengthen relationships.<sup>78</sup> Teens who regularly eat meals with their family are more likely to get better grades in school, and to initiate sexual activity later, than teens who do not. They are also less likely to get into fights, contemplate suicide, smoke cigarettes, drink, and use drugs.<sup>78,79</sup> Even after controlling for other kinds of family connectedness, more frequently sharing meals with family is associated with teens' lower substance use, fewer depression symptoms, and better grades.<sup>80</sup> Parents' presence at family meals is also associated with adolescents' higher consumption of fruits, vegetables, and dairy foods.<sup>81</sup>

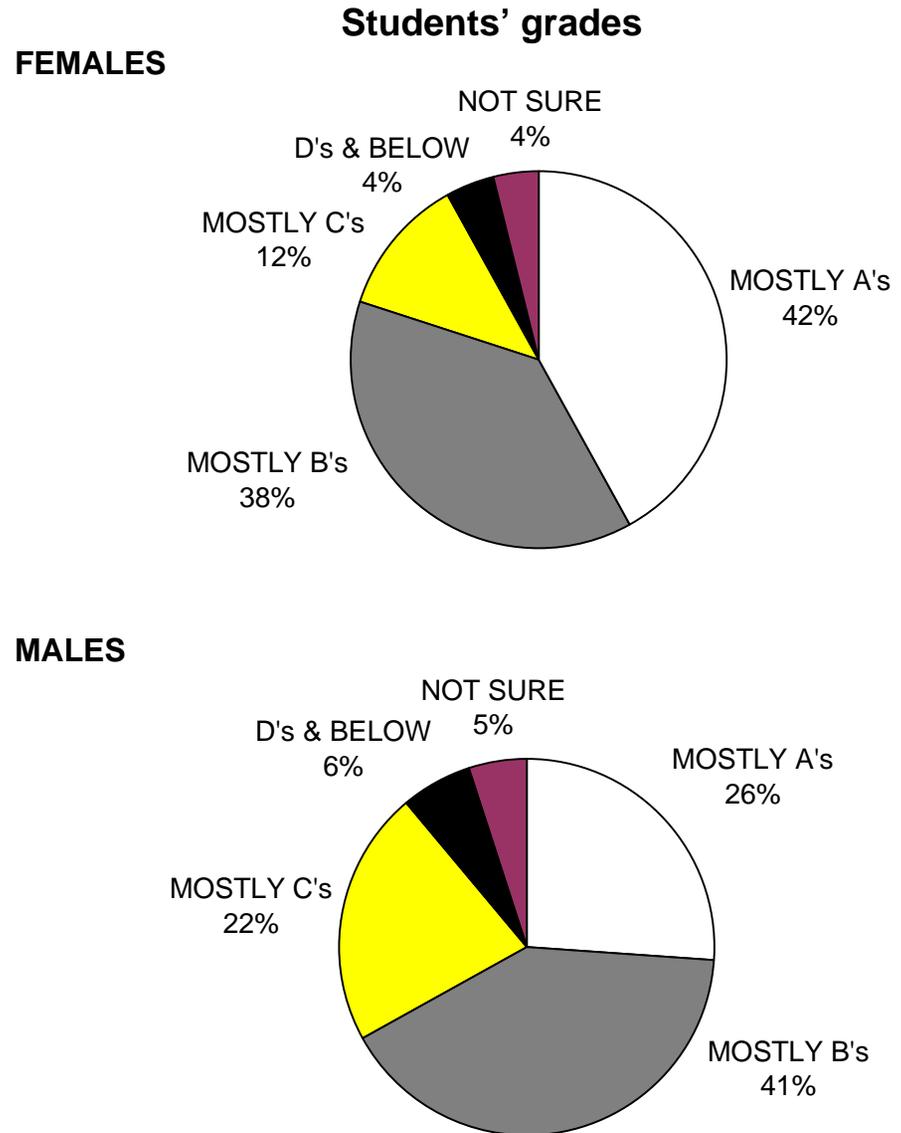
## ✓ Measures of Youth Assets (cont'd)

---

- **Participation in youth programs and service to community:** Research shows that involvement in constructive, supervised extra-curricular activities is associated with reduced likelihood of involvement in risky behaviors such as school failure, drug use, and crime.<sup>82</sup> In addition, evidence is emerging that students who participate in such activities are also more likely to engage in other “thriving” behaviors.<sup>83</sup>
- **Youth as resources:** Youth are not simply objects of adult efforts to modify their behaviors. Rather, if given the opportunities, they can make significant contributions to their families, schools, and communities. Adolescents, especially, need to exercise decision-making power in as many settings as is practical, so that they can develop into competent adults. Schools are a natural setting for youth to share in decisions that affect their lives.
- **Youth valued by their community:** It stands to reason that young people respond positively when they perceive they are valued by others in their community. In 2005, 45 percent of 8-12<sup>th</sup> graders in Vermont reported feeling valued in their community.<sup>76</sup>

## Measures of Youth Assets

- **The majority of students receive above average grades.** Overall, 73 percent of students reported receiving B's and above.
- **Females report higher grades than males.** Forty-two percent of female students reported receiving mostly A's, compared to 26 percent of male students.

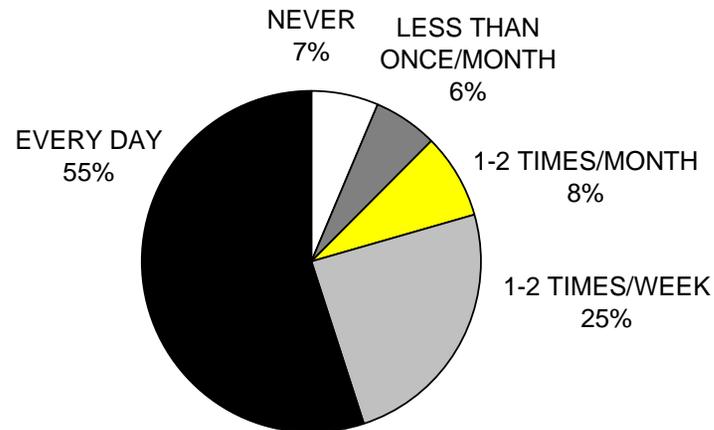


## Measures of Youth Assets

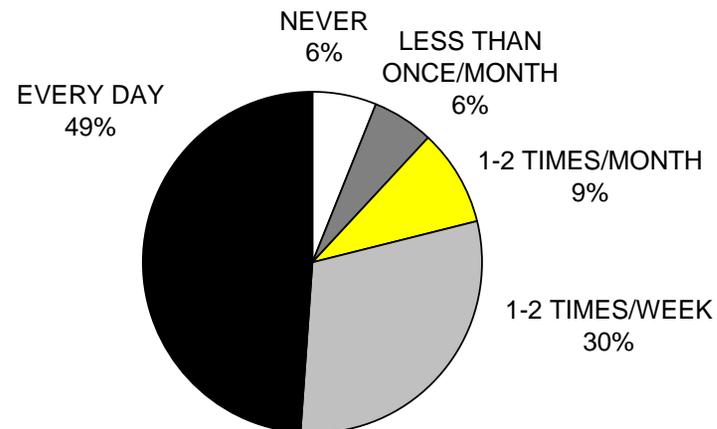
- **Over three-fourths (77%) of students' parents talk with them about school weekly or more often.** Overall, 52 percent of students reported that their parents talked with them daily about school and 27 percent talked with them once or twice a week.
- **Few parents rarely or never talk with their children about school.** Overall, 6 percent of students reported that their parents never talk with them about school and 6 percent reported that their parents talk with them about school less than once a month.

How often does one of your parents talk with you about what you are doing in school?

### FEMALES



### MALES



## ■ Measures of Youth Assets

- **Almost three-quarters (73%) of students eat meals with their family three or more times per week and one-quarter (26%) eat a meal every day with their family.**

- **Younger students were more likely than older students to eat a meal with their family.** For instance, 77 percent of eighth graders, compared to 68 percent of twelfth graders, ate a meal with their family at least three times during the past week. Similarly, 35 percent of eighth graders ate a meal with their family every day during the past week, compared to 18 percent of twelfth graders.

- **Overall, 13 percent of students did not eat a meal with their family during the past seven days.**

FAMILY MEALS	GRADE					GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005
Percent of students who:									
<b>Ate a meal with all or most of their family members three or more times during the past seven days.</b>	77	75	75	70	68	71	75	73	NA
<b>Ate a meal with all or most of their family members every day.</b>	35	30	27	20	18	24	27	26	NA
<b>Did not eat a meal with their family during the past seven days</b>	11	13	12	14	15	13	12	13	NA

## ■ Measures of Youth Assets

- **Three out of ten (30%) students participate in clubs outside of school.** No difference was seen between grades, but more females than males participated in clubs or organizations outside of school (35% vs 25%).

	PARTICIPATION IN YOUTH PROGRAMS					GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005
<b>Percent of students who:</b>	<b>GRADE</b>								
<b>Spend one or more hours per week in clubs/organizations outside of school (not including sports)</b>	28	30	31	30	31	35	25	30	31
<b>Spend three or more hours per week in clubs/organizations outside of school (not including sports)</b>	12	13	14	13	13	16	11	14	8

■ **Measures of Youth Assets**

- **Almost half (45%) of Vermont students volunteer their time.** No difference was seen across grades, but slightly more females than males participated in clubs or organizations outside of school (48% vs 41%).

<b>SERVICE TO COMMUNITY</b>						<b>GENDER</b>		<b>ALL</b>	
	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>F</b>	<b>M</b>	<b>2007</b>	<b>2005</b>
<b>Percent of students who:</b>									
<b>Spend one or more hours per week volunteering their time to make their community a better place to live</b>	44	43	43	43	50	48	41	45	46
<b>Spend three or more hours per week volunteering their time to help others make their community a better place to live</b>	11	13	13	13	15	14	12	13	9

## ■ Measures of Youth Assets

- **Almost half (46%) of students report that students help decide what goes on at their school.** No significant difference was seen across grades or gender.
- **Less than half (45%) of students feel valued by their community.** No significant difference was seen across grades or gender.
- **Almost nine out of ten (88%) students have an adult in their life they can turn to for help and advice.** No significant difference was seen across grades or gender.

YOUTH VALUED BY THEIR SCHOOL AND COMMUNITY	GRADE						GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005	
Percent of students who agree with the following statements:										
Students help decide what goes on in my school	52	51	49	50	51	52	49	51	46	
In my community, I feel like I matter to people	49	46	46	45	52	45	50	47	45	

MENTOR	GRADE						GENDER		ALL	
	8	9	10	11	12	F	M	2007	2005	
Percent of students who have an adult in their life they can usually turn to for help and advice	88	89	89	90	92	90	89	89	88	

GRADE

---

## References

---

1. Sosin, D.M., Koepsell, T.D., Rivara, F.P., Mercy, J.A. Fighting as a marker for multiple problem behaviors in adolescents. Journal of Adolescent Health 16:209-215, 1995.
2. Borowsky, I.W., Ireland, M. Predictors of future fight-related injury among adolescents. Pediatrics 113:530-536, 2005.
3. Picket, W., Craig, W., Harel, Y., et al. Cross-national study of fighting and weapon carrying as determinants of adolescent injury. Pediatrics 116:855-863, 2005.
4. Roberts, T.A., Klein, J., Fisher, S. Longitudinal effect of intimate partner abuse and high-risk behavior among adolescents. Archives of Pediatrics & Adolescent Medicine 157:875-881, 2003.
5. Ackard, D.M., Neumark-Sztainer, D. Date violence and date rape among adolescents: Association with disordered eating behaviors and psychological health. Child Abuse & Neglect 26(5):455-473, 2002.
6. Howard, D.E., Wang, M.Q. Psychosocial correlates of U.S. adolescents who report a history of forced sexual intercourse. Journal of Adolescent Health 36:372-379, 2005.
7. Anderson, R.N., Deaths: Leading Causes for 1999. National Vital Statistics Reports 49:1-88, 2001.
8. Centers for Disease Control and Prevention. Web-based Injury Statistics Query and Reporting System (WISQARS). National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. 2006. [On-line] Available: <http://www.cdc.gov/ncipc/wisqars/default.htm>
9. Cook, P.J., Ludwig, J. The costs of gun violence against children. Future of Children 12(2):87-99, 2002.
10. Juvonen, J., Graham, S., Schuster, M.A. Bullying among young adolescents: The strong, the weak, and the troubled. Pediatrics 112(6): 1231-1237, 2003.
11. Spivak, H., Prothrow-Stith, D. The need to address bullying-an important component of violence prevention. JAMA 285:2131-2132, 2001.
12. Nansel, T.R., Overpeck, M., Pilla, R.S., Ruan, J., Simons-Morton, B., Scheidt, P. Bullying behaviors among US youth: Prevalence and association with psychological adjustment. JAMA 285:2094-2100, 2001.
13. National Highway Traffic Safety Administration. Traffic Safety Facts 2004: Occupant Protection. Washington, D.C., U.S. Department of Transportation, 2005. [On-line] Available: <http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/TSF2004/809909.pdf>
14. Centers for Disease Control and Prevention. Injury-control recommendations: Bicycle helmets. Morbidity and Mortality Weekly Report 44:1-17, 1995.
15. Sosin, D.M., Sacks, J.J., and Webb, K.W. Pediatric head injuries and deaths from bicycling in the United States. Pediatrics 98:868-870, 1996.
16. Rivara, F.P. Traumatic deaths of children in the United States: currently available prevention strategies. Pediatrics 75: 456-62, 1985.
17. Thompson, D.C., Nunn, M.W., Thompson, R.S., Rivara, F.P. Effectiveness of bicycle safety helmets in preventing serious facial injury. Journal of the American Medical Association 276:1968-1973, 1989.

18. Thompson, D.C., Rivara, F.P., Thompson, R.S. Effectiveness of bicycle safety helmets in preventing head injuries: a case controlled study. Journal of the American Medical Association 276:1968-1973, 1996.
19. Thompson, R.S., Rivara, F.P., Thompson, D.C. A case control study of the effectiveness of bicycle safety helmets. New England Journal of Medicine 320:1361-1367, 1989.
20. National Highway Traffic Safety Administration. Traffic Safety Facts 2004: Alcohol. Washington, D.C., U.S. Department of Transportation, 2005.
21. National Highway Traffic Safety Administration. The Economic Cost to Society of Motor Vehicle Accidents. Technical Report DOT HS 809-195. Washington, DC: U.S. Department of Transportation, 1987.
22. Jones, R.K., Shinar, D., Walsh, J.M. State of knowledge of drug-impaired driving. National Highway Traffic Safety Administration Technical Report DOT HS 809 642. Washington, DC: U.S. Department of Transportation, 2003.
23. Vermont Department of Health and Vermont Department of Education. The 2005 Vermont youth risk behavior survey-Statewide report, 2005.
24. The Robert Wood Johnson Foundation. Substance Abuse: The Nation's Number One Health Problem. Institute for Health Policy, Brandeis University, 1993.
25. Public Health Service. Healthy People 2000: National Health Promotion and Disease Prevention Objectives--Full Report, With Commentary. DHHS Pub. No. (PHS)91-50212. Washington, DC: U.S. Department of Health and Human Services, 1991.
26. Dunn, M.S., Bartee, R.T., Perko, M.A. Self-reported alcohol use and sexual behaviors of adolescents. Psychological Reports 92(1):339-38, 2003.
27. Everett, S.A., Oeltmann, J., Wilson, T.W., Brener, N.D., Hill, C.V. Binge drinking among undergraduate college students in the United States: Implications for other substance use. Journal of American College Health 50(1):33-38, 2001.
28. Johnson, P., Boles, S.M., Vaughan, R., Herbert, D. The co-occurrence of smoking and binge drinking in adolescence. Addictive Behaviors 25(5):779-783, 2000.
29. U.S. Department of Health and Human Services. The Health Consequences of Smoking: A Report of the Surgeon General. U.S. Department of Health and Human Services; Centers for Disease Control and Prevention; National Center for Chronic Disease Prevention and Health Promotion: Office on Smoking and Health, 2004.
30. Mokdad, A.H., Marks, J.S., Stroup, D.F., Gerberding, J.L. Actual causes of death in the United States. Journal of the American Medical Association 291(10):1238-1245.
31. Everett, S.A., Malarcher, A.M., Sharp, D.J., Husten, C.G., Giovino, G.A. Relationship between cigarette, smokeless tobacco, and cigar use, and other health risk behaviors among U.S. high school students. Journal of School Health 70(6):234-240, 2000.
32. Kopstein, A. Tobacco Use in America: Findings from the 1999 National Household Survey on Drug Abuse. Rockville, M.D. Substance Abuse and Mental Health Services Administration Analytic Series A-15 (SMA 02-3622), 2001.
33. Centers for Disease Control and Prevention. Oral Cancer: Deadly to Ignore. Fact sheet on oral cancer, 2002; [online] Available: <http://www.cdc.gov/OralHealth/factsheets/oc-facts.html>

34. Do It Now Foundation. FastFacts-Marijuana, 2007.
35. Office of Applied Studies, Substance Abuse and Mental Health Services Administration, Treatment Episode Data Set (TEDS), April 2002.
36. Do It Now Foundation. FastFacts-Inhalants, 2007.
37. Substance Abuse and Mental Health Services Administration. Summary of findings from the 2000 National Household Survey on Drug Abuse (NHSDA) Series: H-13, DHHS Publication NO. SMA 01-3549). Rockville, MD, 2001.
38. Blanken, A.J. Measuring use of alcohol and other drugs among adolescents. Public Health Reports 108(1):25-30, 1993.
39. Johnston, L., O'Malley, P., and Bachman, J. National Survey Results on Drug Use From the Monitoring the Future Study, 1975-1995, Volume I: Secondary School Students. Rockville, MD: National Institute of Drug Abuse, 1996.
40. Developmental Research Programs. Communities That Care Planning Kit. Seattle, Washington, 1996.
41. Abma, J.C., Sonenstein, F.L. Sexual activity and contraceptive practices among teenagers in the United States, 1998 and 1995. National Center for Health Statistics. Vital Health Statistics Series 23:1-26, 2001.
42. Morris, L., Warren, C.W., and Aral, S.O. Measuring adolescent sexual behaviors and related health outcomes. Public Health Reports 108(1):31-36, 1993.
43. Hofferth, S.L. and Hayes, C.D. (eds.). Risking the Future: Adolescent Sexuality, Pregnancy, and Childbearing. Panel on Adolescent Pregnancy and Childbearing, Committee on Child Development Research and Public Policy, Commission on Behavioral and Social Sciences and Education, National Research Council. Washington, DC: National Academy Press, 1987.
44. The Annie E. Casey Foundation. When Teens Have Sex: Issues and Trends, 1998.
45. Vermont Department of Health. Vermont Quarterly HIV/AIDS Report, March 2007.
46. The Center for Population Options. Lesbian, Gay and Bisexual Youth: At Risk and Underserved, 1992.
47. Hedley, A.A., Ogden, C.L., Johnson, C.L., Carroll, M.D., Curtin, L.R. Flegal, K.M. Prevalence of overweight and obesity among US children, adolescents, and adults, 1999-2002. JAMA 291(23):2847-2850, 2004.
48. Wright, C.M., Parker, L., Lamont, D., Craft, A.W. Implications of childhood obesity for adult health: findings from thousand families cohort study. British Medical Journal 323:1280-1284, 2001.
49. Daniels, S.R., Arnett, D.K., Eckel, R.H., et al. Overweight in children and adolescents: Pathophysiology, consequences, prevention, and treatment. Circulation 111:1999-2012, 2005.
50. Herzog, D. and Copeland, P. Eating disorders. New England Journal of Medicine 313:295-303, 1985.
51. Mitchell, J. and Eckert, E. Scope and significance of eating disorders. Journal of Consulting Clinical Psychology 55:628-634, 1987.

52. Neumark-Sztainer, D., Hannan, P.J. Weight-related behaviors among adolescent girls and boys. Archives of Pediatric and Adolescent Medicine 154:569-577, 2000.
53. Neumark-Sztainer, D., Story, M., Hannan, P.J., Perry, C.L., Irving, L.M. Weight-related concerns and behaviors among overweight and nonoverweight adolescents: Implications for preventing weight-related disorders. Archives of Pediatric and Adolescent Medicine 156(2):1-21, 2002.
54. American Psychiatric Association. Practice guideline for the treatment of patients with eating disorders (revision). American Journal of Psychiatry 154(1): 1-39, 2004.
55. Key, T., Schatzkin, A., Willet, W.C., Allen, N.E., Spencer, E.A., Travis, R.C. Diet, nutrition, and the prevention of cancer. Public Health Nutrition 7(1A):187-200, 2004.
56. National Cancer Institute. 5 A Day for Better Health Program. NIH Publication 01-5019. 2001.
57. Ness, A.R., Powles, J.W. Fruits and vegetables and cardiovascular disease: A review. International Journal of Epidemiology 26(1):1-13, 1997.
58. Terry, P., Terry, J.B., Wolk, A. Fruit and vegetable consumption in the prevention of cancer: An update. Journal of Internal Medicine 250(4):280-290, 1998.
59. U.S. Department of Agriculture, Agriculture Research Service. Unpublished data from the 1994-1995 Continuing Survey of Food Intakes by Individuals. 1998.
60. Van Duyn, M.A., Pivonka, E. Overview of the health benefits of fruit and vegetable consumption for the dietetics professional: selected literature. Journal of the American Dieticians Association 100(2):1511-1521, 2000.
61. Weaver, C.M., Peacock, M., Johnston, C.C. Adolescent nutrition in the prevention of postmenopausal osteoporosis. Journal of Clinical Endocrinology and Metabolism 84(6): 1839-1843, 1999.
62. National Center for Health Statistics, Centers for Disease Control and Prevention. Unpublished data from the 1988-94 National Health and Nutrition Examination Survey. May 1998.
63. NIH Consensus Development on Optimal Calcium Intake. Optimal calcium intake. Journal of the American Medical Association 272: 1942-1948, 1994.
64. Ludwig, D.S., Peterson, K.E., Gortmaker, S.L. Relation between consumption of sugar-sweetened drinks and childhood obesity: A prospective, observational analysis. Lancet 357:505-508.
65. US Department of Health and Human Services. Physical Activity and Health: A Report of the Surgeon General. Atlanta: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 1996.
66. Centers for Disease Control and Prevention. Youth Risk Behavior Surveillance - United States, 2005. Morbidity and Mortality Weekly Report 55:SS-5, 1-112, 2006.
67. McKenzie, K.L. Nader, P.R., Strikmiller, P.K., Yang, M., Stone, E.J., Perry, C.L., Taylor, W.C., Epping, J.M., Feldman, H.A., Luepker, R.V., and Kelder, S.H. School physical education: Effect of the Child and Adolescent Trial for Cardiovascular Health. Preventive Medicine 25:423-431, 1996.

- 
68. McKenzie, K.L., Li, D.L., Derby, C.A., Webber, L.S., Luepker, R.V., Cribb, P. Maintenance of effects of the CATCH Physical Education Program: Results from the CATCH-ON Study. Health Education & Behavior 30(4):447-462, 2003.
  69. Sallis, J.F., McKenzie, T.L., Alcaraz, J.E., Kolody, B., Faucette, N., and Hovell, M.F. The effects of a 2 year physical education program (SPARK) on physical activity and fitness in elementary school students. American Journal of Public Health 87:1328-1334, 1997.
  70. Center for Disease Control and Prevention. Guidelines for school and community programs to promote lifelong physical activity among young people. Morbidity and Mortality Weekly Report 46 (No. RR-6):1-36, 1997.
  71. Sallis, J.F., McKenzie, T.L., Alcaraz, J.E., Kolody, B., Faucette, N., and Hovell, M.F. The effects of a 2 year physical education program (SPARK) on physical activity and fitness in elementary school students. American Journal of Public Health 87:1328-1334, 1997.
  72. Center for Disease Control and Prevention. Guidelines for school and community programs to promote lifelong physical activity among young people. Morbidity and Mortality Weekly Report 46 (No. RR-6):1-36, 1997.
  73. Crespo, C.J., Smith, E., Troian, R.P., Bartlett, S.J., Macera, C.A., Anderson, R.E. Television watching, energy intake, and obesity in US children. Archives of Pediatric and Adolescent Medicine 155:360-365, 2001.
  74. Kaur, H., Choi, W.S., Mayo, M.S., Harris, K.J. Duration of television watching is associated with increased body mass index. Journal of Pediatrics 143(4):506-511, 2003.
  75. Resnick, M.D., Bearman, P.S., Blum, R.W., et al. Protecting adolescents from harm. Findings from the national longitudinal study on adolescent health. JAMA 278(10):823-832, 1997.
  76. Vermont Department of Health and Vermont Department of Education. The 2003 Vermont youth risk behavior survey-Statewide report, 2003.
  77. Search Institute. Healthy Communities - Healthy Youth, 1996.
  78. U.S. Council of Economic Advisors. Teens and their parents in the 21<sup>st</sup> century: An examination of trends in teen behavior and the role of parental involvement. Council of Economic Advisors White Paper, 2000. Online: [http://clinton3.nara.gov/WH/EOP/CEA/html/Teens\\_Paper\\_Final.pdf](http://clinton3.nara.gov/WH/EOP/CEA/html/Teens_Paper_Final.pdf)
  79. National Center on Addiction and Substance Abuse at Columbia University. The importance of family dinners. CASA, 2003. Online: [http://www.casacolumbia.org/Absolutem/articlefiles/Family\\_Dinners\\_9\\_03\\_03.pdf](http://www.casacolumbia.org/Absolutem/articlefiles/Family_Dinners_9_03_03.pdf)
  80. Eisenberg, M.E., Neumark-Sztainer, D., Bearinger, L.H. Correlations between family meals and psychological well-being among adolescents. Archives of Pediatrics and Adolescent Medicine 158 (8), 2004.
  81. Videon, T.M., Manning, C.K. Influences on adolescent eating patterns: The importance of family meals. Journal of Adolescent Health 32: 365-373, 2003.
  82. Scales, P. C., & Leffert, N. Developmental assets: A synthesis of the scientific research on adolescent development. Minneapolis: 1999.
  83. Scales, P. C., Benson, P. L., Leffert, N, and Blyth, D.A. Contribution of developmental assets to prediction of thriving among adolescents. Applied Developmental Science 4(1):27-46, 2000.
-