

# Minnesota Student Survey 1992-2010 Trends



**Behaviors, attitudes and perceptions of  
Minnesota's 6th, 9th and 12th graders**

**Minnesota Departments of Education,  
Health, Human Services, & Public Safety**



## In Appreciation

We are indebted to the teachers, Minnesota Student Survey coordinators and superintendents across the state who agreed to support the administration of the student survey in the spring of 2010. We especially thank the students who shared information on their attitudes, beliefs and behaviors with us through this survey.

We urge you to share these findings with your communities—with students and families, with your school team of educators and staff, administrators and school board members, public health and social services staff, law enforcement and others who work with youth to improve the school and community environments in which youth learn, grow and develop.

This information is available in alternative formats to individuals with disabilities by calling (651) 582-8452. TTY users can call through Minnesota Relay at (800) 627-3529. For Speech-to-Speech, call (877) 627-3848. For additional assistance with legal rights and protections for equal access to human services programs, contact your agency's ADA coordinator.

# Table of Contents

Executive Summary .....	1
Introduction.....	4
Demographics .....	7
Academics and School Connectedness.....	9
Percepts of School Safety .....	11
Violent and Anti-Social Behavior.....	14
Mental Health .....	16
Gambling .....	20
Alcohol, Tobacco and Other Drug Use .....	22
Comparing Minnesota and National Trends of Alcohol, Tobacco & Other Drug Use.....	33
Other Health Behaviors .....	37
Sexual Behavior.....	41
Families.....	44
Technical Notes.....	46
Acknowledgments.....	48

# Executive Summary

Continued administration of the Minnesota Student Survey for the past 21 years provides educators, prevention program staff, administrators, community members and young people with an opportunity to identify trends in the prevalence of behaviors and attitudes of young people. Examination of these trends further offers us a chance to begin to determine where prevention programming and messages appear to be working and where our efforts have yet to result in positive change.

The Minnesota Student Survey includes questions about a wide variety of youth behaviors, including risk behaviors such as alcohol, tobacco and other drug (ATOD) use, violence and sexual activity, as well as positive behaviors and connection to family, school and community. This report highlights some key indicators across many areas of interest, including: academics and school connectedness, school safety and violence, mental health, ATOD, sexual behavior and family structure.

The 2010 administration of the student survey had a more racially and ethnically diverse student response than ever before, reflecting the continued changes in Minnesota's student population. Participation in the 2010 survey by districts was again quite high, as was involvement by 6<sup>th</sup> and 9<sup>th</sup> grade students. We continue to strive for better participation by our 12<sup>th</sup> graders.

There is cause for commendation because many of the positive or

protective behaviors students engage in have continued to increase in prevalence since the last administration of the survey three years ago. In addition, many of the unhealthy or risky behaviors students engage in have continued to decrease in prevalence. In the area of academics and school connectedness, we find continued good news, with slowly improving trends in student plans to go to college and in perceptions of teacher respect for students. Students reported a high sense of safety at school and a decreased number of physical confrontations. Students reported continued decreases in carrying weapons to school, destroying property, stealing and physically abusing others.

Also continuing a downward trend were reports of gambling, such as betting on sports teams and buying lottery tickets or scratch-offs.

When we examine other health behaviors, we find that reported seatbelt use also continued to increase. Reported levels of physical activity and consumption of fruits and vegetables increased for 9<sup>th</sup> and 12<sup>th</sup> graders, while remaining stable for 6<sup>th</sup> graders. After years of a downward decline, the percentage of 12<sup>th</sup> graders who feel they are overweight increased. This is particularly true for 9<sup>th</sup> and 12<sup>th</sup> grade girls.

In the area of alcohol and tobacco, we witnessed overall positive results. Various measures of cigarette smoking and alcohol drinking showed a

continued downward trend, except on some measures where the prevalence among 6<sup>th</sup> graders was already very low at around 1%. Even with this overall improvement, in 2010, more than half of high school seniors (55.3%) still reported drinking alcoholic beverages during the past year, and just under a quarter of them (23.4%) reported binge drinking at least once in the past two weeks.

Past year marijuana use didn't show much decrease in 2010. About three in 10 high school seniors reported using marijuana in the past year, which is close to the highest level recorded in MSS in late 1990s. The use of methamphetamine and crack/cocaine among 9<sup>th</sup> and 12<sup>th</sup> graders has continued to decrease in 2010. However, after a slight increase in the use of MDMA/Ecstasy among 12<sup>th</sup> graders in 2007, it remained steady in 2010. Fewer students reported being offered, sold or given illegal drugs on school property than in previous surveys.

There has been little change in the percentage of students reporting that they feel sad all or most of the time or feel discouraged or hopeless. While there has been little change in the percentage of students reporting suicide attempts in the past year, the percentage of 12<sup>th</sup> grade girls reporting suicidal ideation decreased significantly.

Finally, there has been a decrease in the percentage of students in all three grades reporting that alcohol or drug use by family members has repeatedly caused problems. This decrease is particularly striking for 6<sup>th</sup> graders.

There is a slight increase this year in the percentage of 12<sup>th</sup> grade students reporting that they have ever had sex, and decreases in the percentage of both 9<sup>th</sup> and 12<sup>th</sup> graders reporting that they have talked with their partner(s) about STDs or HIV. However, sexually active students in both grades report increased use of condoms. Students reported continued high levels of caring by their parents, as well as slight increases in their ability to talk with their mother or father about problems.

### ***Reflections from the data***

**The positive health behavior changes that have been made and sustained over time are cause for commendation.**

Youth, families, school and community agency staff can take credit for significant improvements in everyday physical health and positive decisions demonstrated through this survey. The public needs to understand many voices speaking the same prevention messages in many venues over time made a significant difference for youth today and will in the future.

**Minnesota must continue to support intensive and comprehensive evidence-based prevention efforts that involve parents, communities, schools and public agencies working together to promote healthier behaviors by youth.**

Our state has made major investments in prevention programming that are now showing results. It is essential that current partnerships and coalitions be sustained and new ones created to

ensure that existing effective practices and programs in school and community settings be sustained. These groups must continue to promote the understanding and use of a common framework for prevention.

*The challenge before us is to use the information we have received from youth to explore, explain and expand what works to support youth in Minnesota families, schools and communities.*

**Efforts must continue to focus both on preventing younger students from initiating unhealthy behaviors and in helping older students change already adopted risky behaviors.**

Preventing problems early is the mantra for many working in health promotion. But the Minnesota Student Survey reveals still unacceptably high levels of high-risk behaviors by some youth, as well as unchanging or slightly increasing levels of behaviors of concern.

**The wealth of information provided by young people through the Minnesota Student Survey provides an opportunity for more research and analysis by state agencies, school districts, counties and others.**

The opportunity that lies before us is not only to use current resources for further investigation but also to find additional resources for more extensive analysis of data. Issues that beg consideration include analysis of the associations between various protective and risk factors (including how these factors interact with academics), examination of gender differences in the experiences and attitudes of youth, and understanding transitions made between elementary, middle and high schools.

# Introduction

## ***About the Minnesota Student Survey***

The Minnesota Student Survey provides students, parents and their communities a dynamic vehicle for on-going communication about issues vital to the health, safety and academic success of youth. It is a valuable tool for school districts, county agencies and state agencies in planning meaningful and effective ways of supporting students and families.

The survey asks students questions about their activities, opinions, behaviors and experiences. It includes questions on an array of issues - substance abuse (tobacco, alcohol and illegal drugs), school climate, violence and safety concerns, healthy eating, out-of-school activities, connections with school and family, and many other topics. At the senior high level, questions are also asked about gambling and sexual activity.

The survey is administered every three years to 6<sup>th</sup>, 9<sup>th</sup>, and 12<sup>th</sup> grade students in the regular public elementary and secondary schools, charter schools, and tribal schools. It is also offered to students from all grade levels in alternative learning centers and to youth in juvenile correctional facilities. The trends provided in this report focus on students in regular public schools, charter schools and tribal schools. Findings for the alternative learning centers and correctional facilities are reported separately.

The survey data set is used by many people for both planning and

evaluation. It has been used by state agencies to monitor trends in health and risk behaviors, design and adjust programming to meet the current and anticipated needs of youth, apply for funding for statewide initiatives and assist schools and communities in efficient planning and implementation of education programs. School district leaders and educators, local public health agencies, and community and social services agencies use the results in planning and evaluation for school and community initiatives and prevention programming.

## ***Survey Administration***

The 2010 Minnesota Student Survey is a collaboration between Minnesota schools and four state agencies – the Minnesota Departments of Education, Health, Human Services and Public Safety. The four state agencies implement, analyze, report and fund the initiative. Local schools, school districts and correctional facilities administer the survey.

Providing parents with the opportunity to view the survey and determine their child's participation has been the standard practice in administering the survey. Parents were informed about the survey in advance by each local school. The Minnesota Department of Education provided school district coordinators with sample parental consent letters in English, Spanish, Somali, Hmong, Cambodian, Laotian and Russian. Parents could choose not to have their children participate. Students themselves could decline to take the survey, or if they took the survey, they could skip any question or stop at any point. Surveys were



anonymous; no names or identifying code numbers were used on the survey booklets. Answers cannot be traced to an individual.

### **School District and Student Participation**

The survey is optional on the part of school districts, but the majority have chosen to participate. The school district participation rate was 99% in 1992, 92% in 1995, 92% in 1998, 91% in 2001, 88% in 2004, 91% in 2007, and 88% in 2010. Most districts had all three grades participate.

Aside from school decisions, student participation is also affected by illness, truancy, schedule conflicts, and parent or student refusal. Statewide, in 2010, 79% of all 6<sup>th</sup> grade students in regular public schools, 75% of 9<sup>th</sup> grade students and 59% of 12<sup>th</sup> grade students participated.

In 2010, approximately 2.4% of surveys were omitted from the final data set of 130,908 because gender was missing or response patterns were frequently inconsistent or highly improbable.

### **Standard Tables**

Standard tables showing the responses to each survey question have been prepared and are available on several state agency websites. There are separate statewide tables for regular public schools, alternative learning centers, and juvenile correctional facilities. Tables are also available for each county with two or more participating school districts. Each participating school district received a set of tables showing results for its district.

The county, region and state tables are available at the following websites:

[www.education.state.mn.us](http://www.education.state.mn.us)

[www.health.state.mn.us/divs/chs/mss/](http://www.health.state.mn.us/divs/chs/mss/)

[www.dhs.state.mn.us/mss](http://www.dhs.state.mn.us/mss)

[www.dps.state.mn.us/ojp](http://www.dps.state.mn.us/ojp)

### **Trends Report**

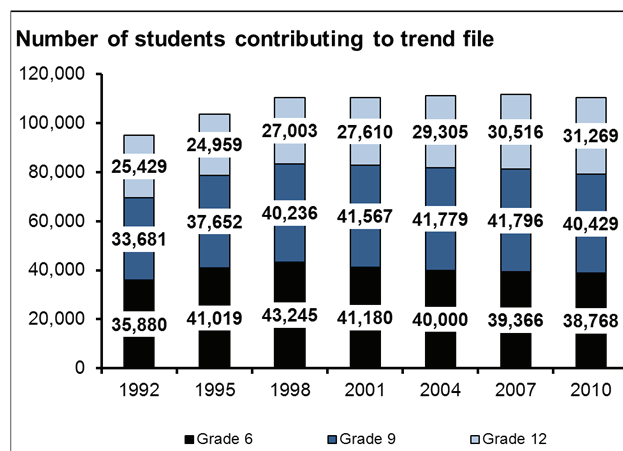
This report focuses on several protective and risk factors that impact youth today. Since many of the same questions have been asked at each survey administration, comparisons can be made across time to determine whether the behaviors have increased or decreased in the middle and high school populations.

To compare state results across years, this trends report includes only those school districts that participated in each of the last six administrations of the survey – from 1992 to 2010. Selecting regularly participating school districts ensures that changes in reported student behaviors or attitudes are not due to variance in the set of school districts participating in the survey. The school district sample for the 1992-2010 trend analysis represents 82% of all students surveyed during the last seven administrations of the survey. The table below shows the number of surveys included in the trend analysis from each survey year.

Note that this report reflects the needs and perspectives of students in regular public schools, charter schools and tribal schools. However, students who are enrolled in a wide range of alternative learning programs/centers designed to meet their unique learning, working and social needs and youth

living in juvenile justice facilities are not included in the trends report. A separate report on the findings of students in non-traditional learning environments is also available.

The technical aspects of preparing the trend report and the validity of student responses are discussed in more detail in the Technical Notes at the end of the report.



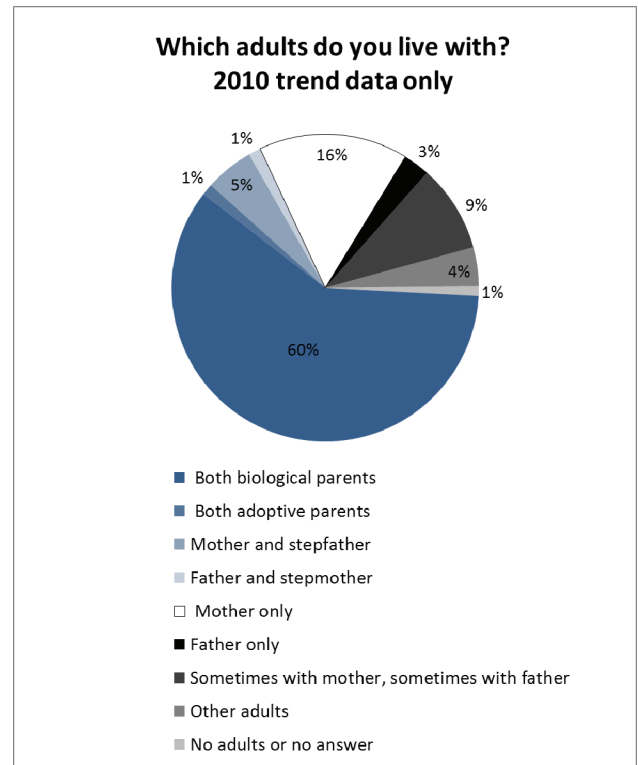
# Demographics

The analysis in this report is based on the great majority of public school students but excludes students from districts that have not consistently participated in the survey. This section describes the students included in the trend data.

## Family Structure

In 2010, more than two-thirds of participating students lived in two-parent households, including 61% living with both biological or both adoptive parents and 6% with a parent and a stepparent. Another 9% divided their time, sometimes living with their mother and sometimes living with their father. Slightly less than two in 10 students (19%) lived with only one parent.

Family living situations have changed little since 1992. The most noticeable change is that the percentage of students living sometimes with their mother and sometimes with their father has increased from 5.0% in 1992 to 9.2% in 2010.



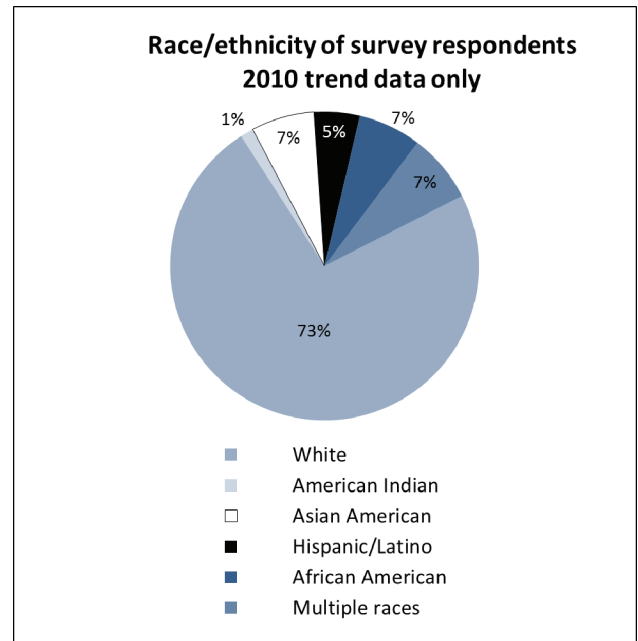
## Race and Ethnicity

Since 1995, the Minnesota Student Survey has asked a question regarding race and ethnicity allowing students to mark more than one racial or ethnic identity. In the trend data, not quite three-fourths of students taking the survey in 2010 (73%) marked White only, while 7% each marked Asian American only or Black or African American only. Five percent of respondents marked Hispanic only, and 1% marked American Indian only. Altogether, 7% of students marked two or more racial/ethnic groups.

Among the survey participants, the percentage of African American, Asian and Hispanic students as well as those with a multiple racial background has increased steadily since 1995, reflecting the growing numbers of students of color in Minnesota's student population. The percentage of American Indian students has been steady. The percentage of White students has declined from 85.0% in 1995 to 73.4% in 2010.

## Gender

In each year, the group of students responding to the survey has been evenly divided between males and females. In 2010, 49.6% of the students were male and 50.4% were female.

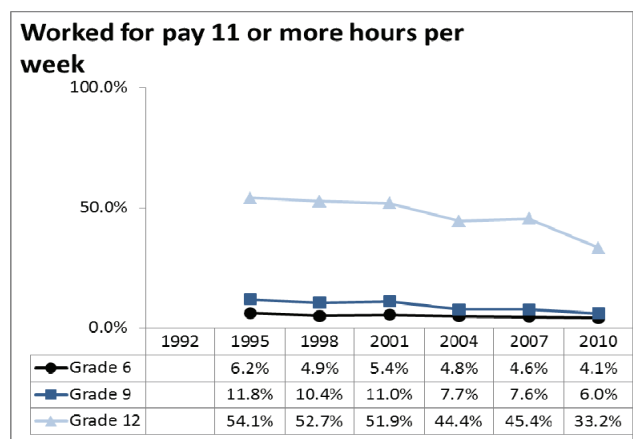
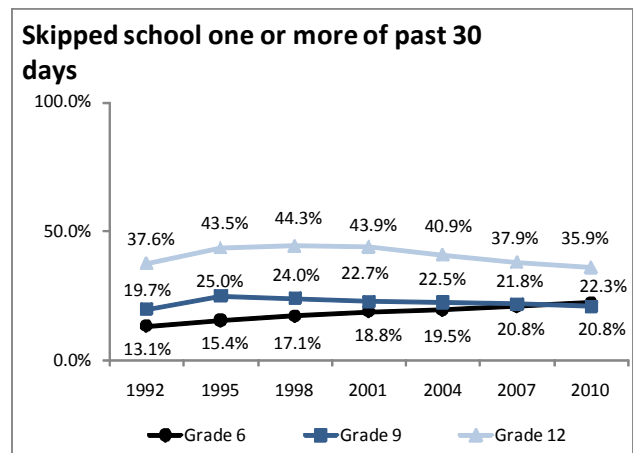
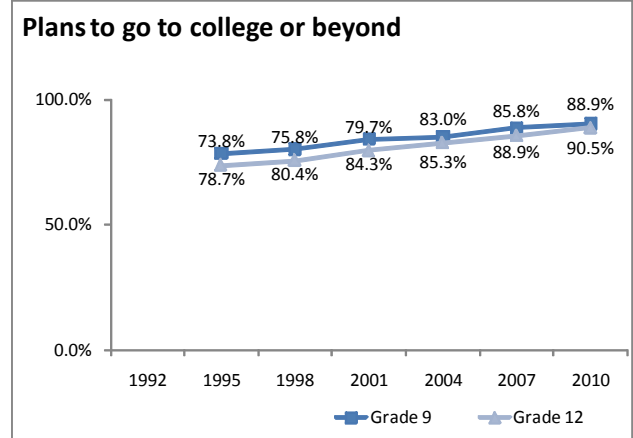


# Academics & School Connectedness

Over time, students' plans to go to college have been consistently high. Both 9<sup>th</sup> and 12<sup>th</sup> grade students have had a steady upward trend with approximately nine in 10 currently reporting intentions to continue their education after high school.

In 2010, slightly more than one-fifth of 6<sup>th</sup> graders (22.3%) and 9<sup>th</sup> graders (20.8%) as well as more than one-third of 12<sup>th</sup> graders (35.9%) reported skipping school one or more days in the past 30 days. While the proportion of older students who reported past-month delinquency has decreased over time, especially among high school seniors since 2001, it has gradually increased among 6<sup>th</sup> graders from 13.1% in 1992 to 22.3% in 2010.

While working has many positive rewards and is a necessity for many students, research has shown that working more than 10 hours per week may negatively impact school success. The percentage 12<sup>th</sup> grade students working (including babysitting) 11 or more hours per week fell sharply from 2001 to 2004 and stabilized in 2007. A decline for 12<sup>th</sup> grade students occurred again in 2010, dropping to 33.2% from 45.4% in 2007.

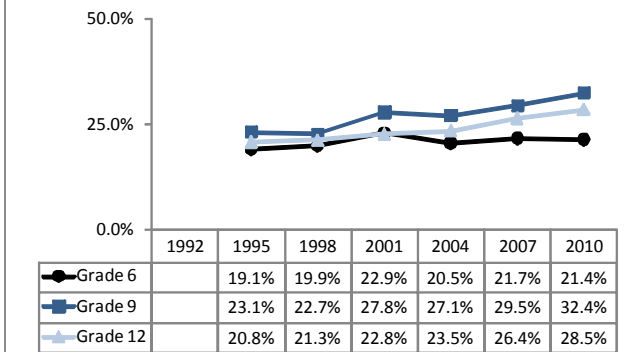


Involvement in school-related activities has a direct connection to academic achievement. Across grade levels, approximately 20 to 30 percent of students reported spending six or more hours on homework per week. This rate has been gradually increasing over time among 9<sup>th</sup> and 12<sup>th</sup> graders.

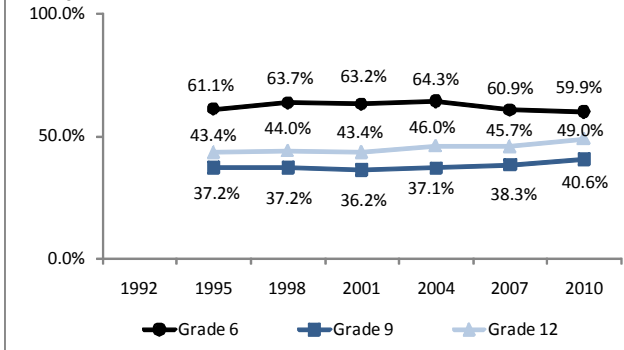
Feeling connected to educators is an important protective factor when it comes to school achievement. Student perceptions of whether teachers are interested in them as individuals have been relatively level over the years. In 2010, about six in ten 6<sup>th</sup> graders, four out of ten 9<sup>th</sup> graders and not quite one-half of 12<sup>th</sup> grade students feel that all or most teachers are interested in them as people.

While personal interest is felt by less than half of high school students, a great majority of students in all grade levels report that all or most teachers show respect for them. For 6<sup>th</sup> grade students, this has been consistently high at a rate over 80%. For 9<sup>th</sup> grade students, there has been a very gradual increase to 75.2% in 2010. Twelfth-graders, too, have had a gradual increase in their reported rate over time to 76.5%.

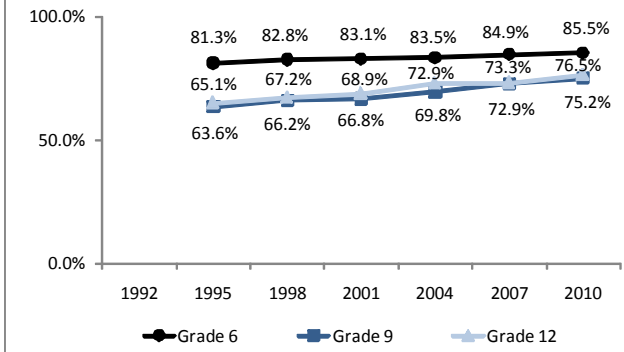
**Spend 6 or more hours per week on homework**



**All/most teachers interested in you as a person**



**All/most teachers show respect for students**

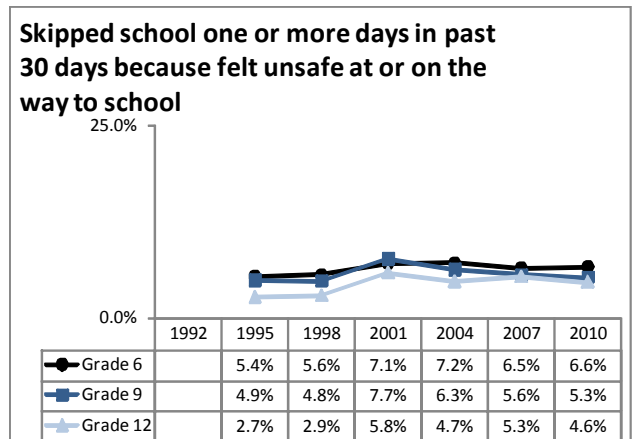
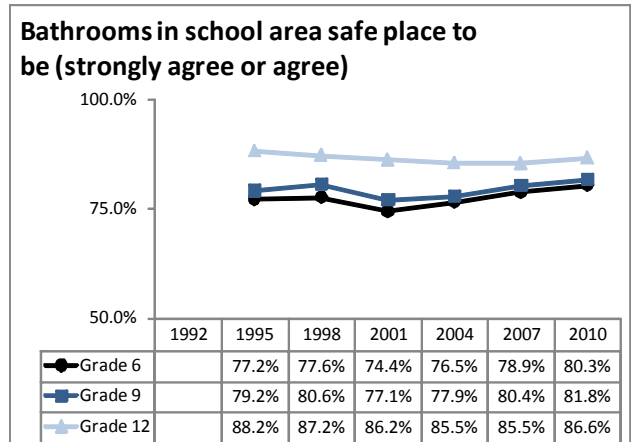
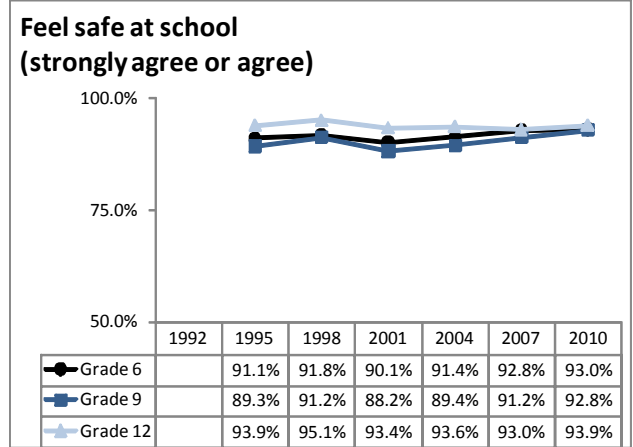


# Perceptions of School Safety

A high percentage of students in 6<sup>th</sup>, 9<sup>th</sup>, and 12<sup>th</sup> grades have consistently reported feeling safe at school. This trend has remained constant. In 2010, more than 90% of the students in each grade reported feeling safe at school.

Despite the overall feelings of safety, fewer students agreed that bathrooms are a safe place to be at school. Although the trends are somewhat consistent over time, the percentage of 6<sup>th</sup>, 9<sup>th</sup>, and 12<sup>th</sup> graders who think that bathrooms in their schools are safe has been increasing since 2001.

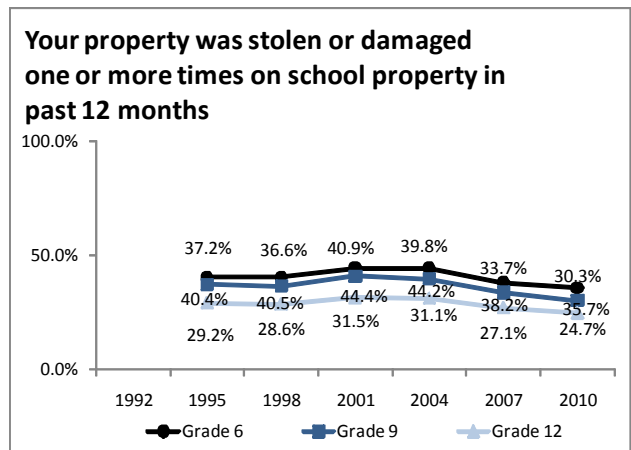
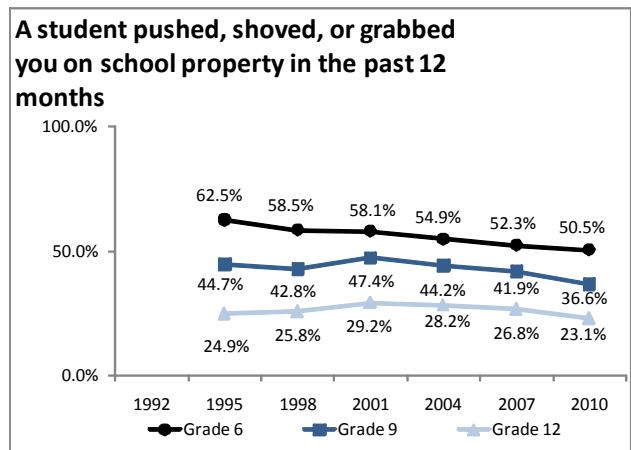
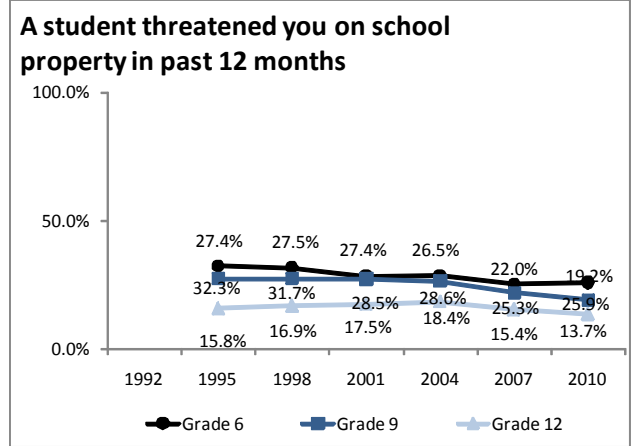
While more students do not report skipping school because of feeling unsafe, more 6<sup>th</sup> grade students reported skipping school because of feeling unsafe than 9<sup>th</sup> and 12<sup>th</sup> graders. Both 9<sup>th</sup> and 12<sup>th</sup> graders reported a slight decline to 5.3% and 4.6%, respectively in 2010.



In 2010 all students reported a decrease in reports that they had been threatened on school property. Sixth and 9<sup>th</sup> grade students have reported a continuous decrease in threats. While reports by 12<sup>th</sup> graders increased from 1995 to 2004, in 2010 the reports decreased to 13.7% -- the lowest rate to date.

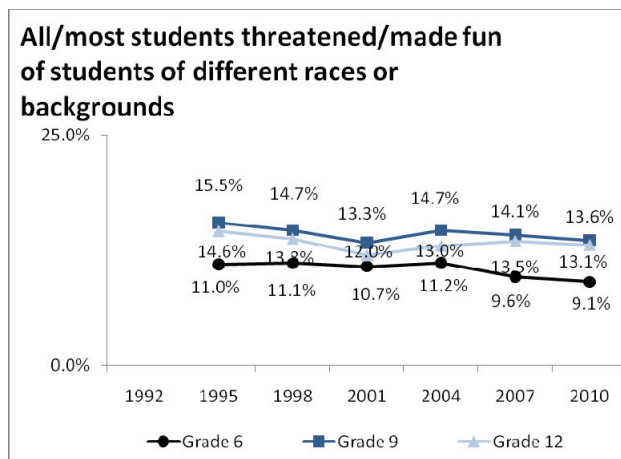
Since 1995, consistently decreasing percentages of students in 6<sup>th</sup> grade reported that a student pushed, shoved or grabbed them on school property in the past year. In addition, for both 9<sup>th</sup> and 12<sup>th</sup> graders, there has been a downward trend since 2001. The 2010 data show the lowest percentages to date across all three grades.

The percentage of students reporting that their property was stolen or damaged at least once on school property during the previous year has been decreasing since 2001. Between 2007 and 2010, all students reported an approximately three percentage point drop. In 2010, about three in ten 6<sup>th</sup> graders, slightly more than one-third of 9<sup>th</sup> graders and just under one-quarter of 12<sup>th</sup> graders reported having their property stolen or damaged on school property.





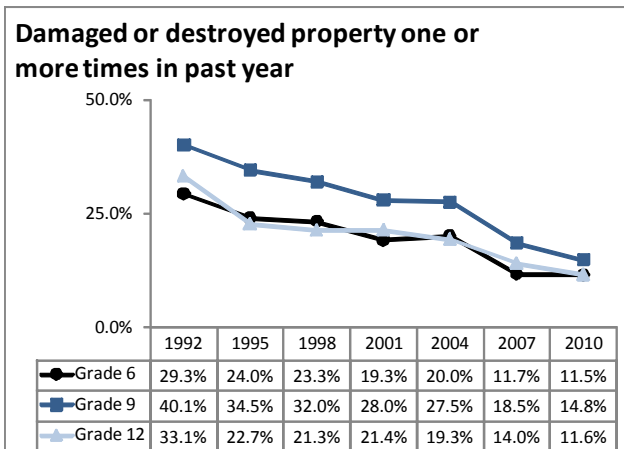
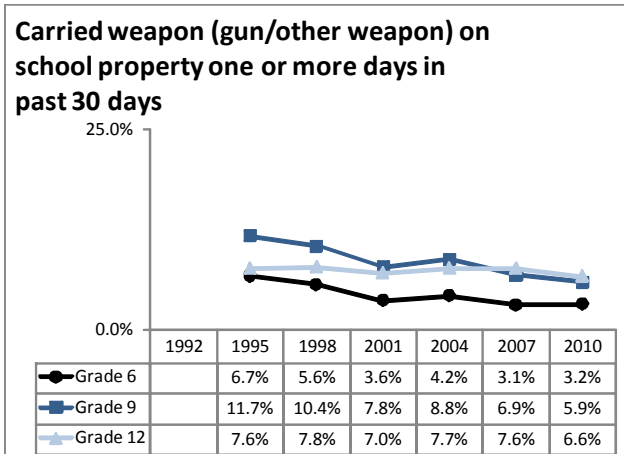
The perception that students in their school have threatened or made fun of students of different races or backgrounds has remained relatively unchanged. In 2010, 13.6% of 9<sup>th</sup> graders and 13.1% of 12<sup>th</sup> graders reported that all or most students in their school have threatened or made fun of students of different races or background. The percentage among 6<sup>th</sup> graders remained relatively constant at around 11% until 2004. In 2007 and 2010, 6<sup>th</sup> grade students began to report a slight decrease to 9.6% in 2007 and to 9.1% in 2010.



# Violent and Anti-Social Behavior

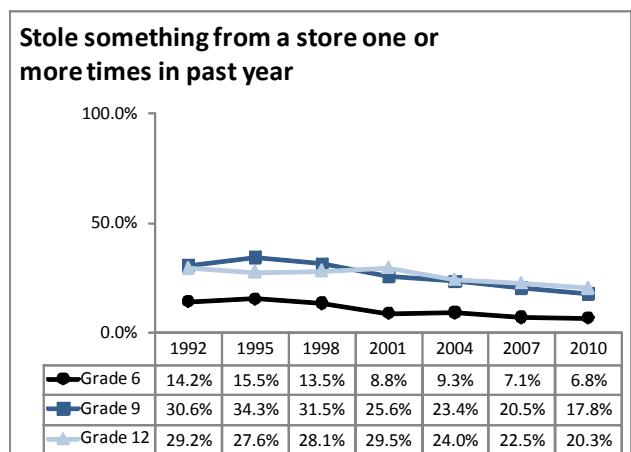
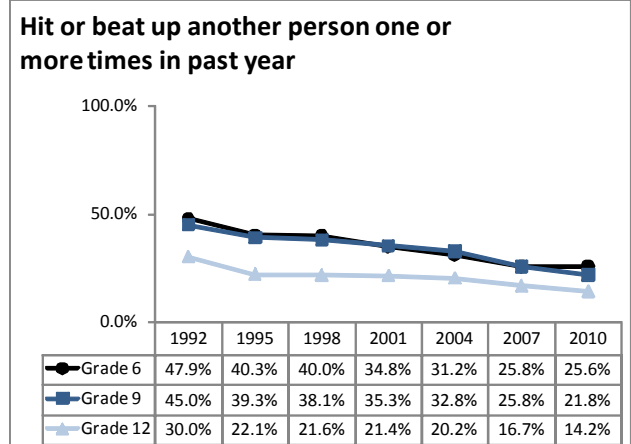
In 2010, 9<sup>th</sup> and 12<sup>th</sup> graders showed a notable decrease in the percentage of students carrying a weapon to school in the past 30 days. Overall, a higher percentage of 9<sup>th</sup> and 12<sup>th</sup> graders than 6<sup>th</sup> graders reported that they carried a weapon on school property in the past month.

The percentage of students reporting that they damaged or destroyed property one or more times in the past year has steadily decreased over time, with a more than 60% decrease across all three grades between 1992 and 2010. While 9<sup>th</sup> graders continue to report the highest percentage of this behavior, they also had the biggest decrease between 2007 and 2010.



The percentage of students reporting that they hit or beat up another person in the past year has also decreased consistently over time. Overall, 12<sup>th</sup> graders were the least likely to report this behavior (14.2%) in 2010, while about one-quarter of 6<sup>th</sup> graders reported engaging in this behavior.

Over time, the percentage of students in each grade who reported that they had stolen something from a store in the past year has decreased. In 2010, about two in ten 9<sup>th</sup> and 12<sup>th</sup> graders reported stealing something from a store in the previous year. Only 6.8% of 6<sup>th</sup> graders reported engaging in this behavior.

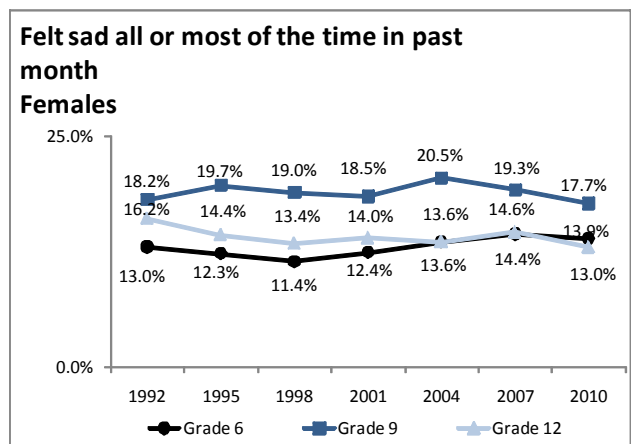
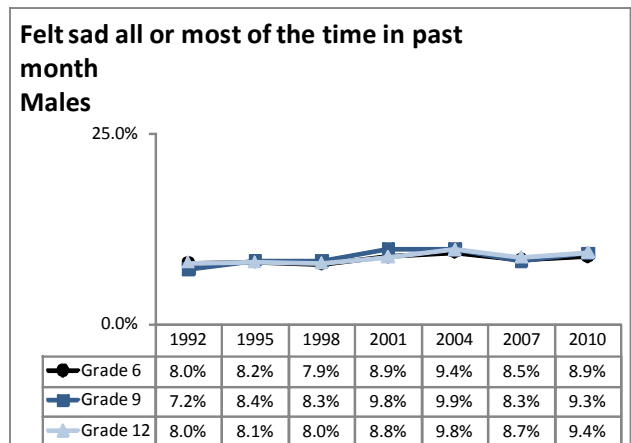
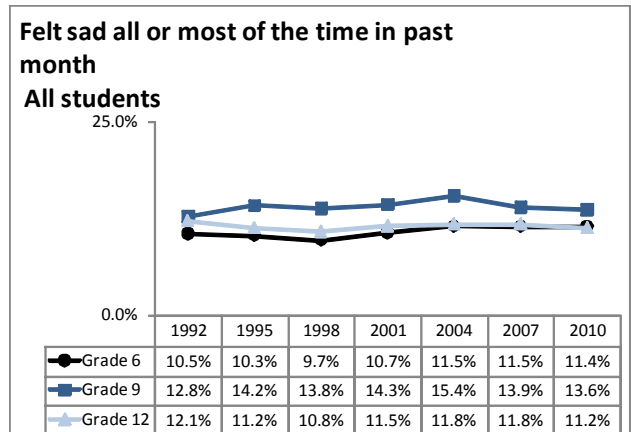


# Mental Health

Academic success requires students to be engaged in learning and have high expectations of making progress. A variety of emotional and social concerns can interrupt, distract or otherwise disturb learners, making the school experience frustrating and hindering academic achievement. In addition, negative experiences in school may also impact a student's mental health.

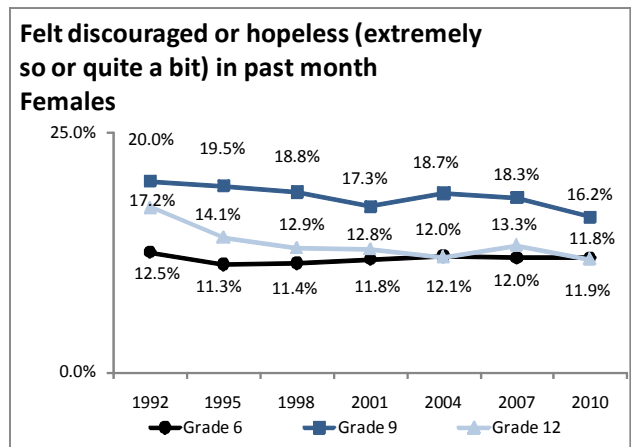
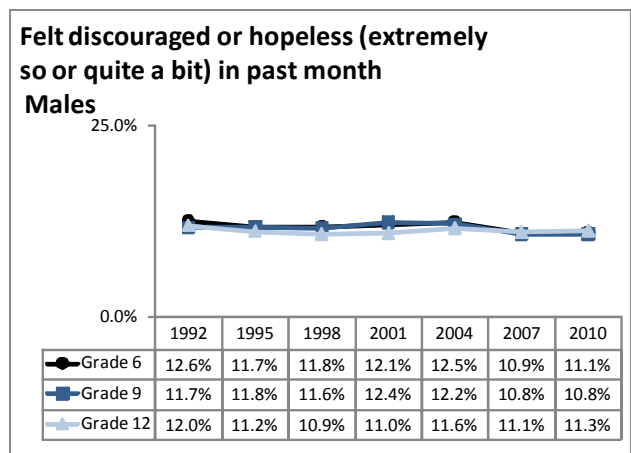
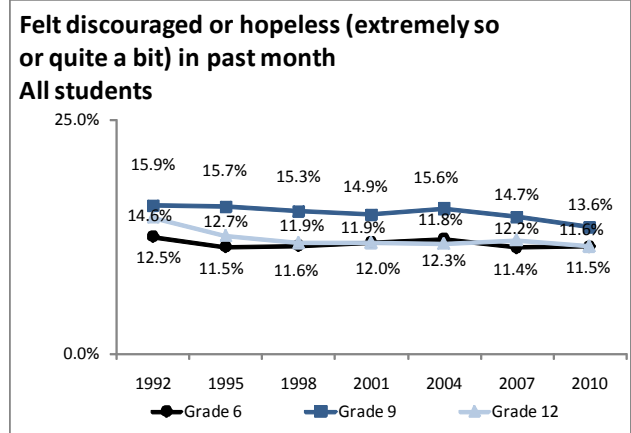
Feeling sad all or most of the time in the past month was reported by just over 10 percent of 6<sup>th</sup> and 12<sup>th</sup> grade students in 2010; 9<sup>th</sup> graders reported a rate of 13.6%. When genders are combined, the rates are steady within each age group, varying less than three percentage points between 1992 and 2010. For males alone, the rates for each age group are very similar at approximately nine percent in 2010.

Females, over time and at every grade level, report higher rates of frequent sadness than males. The 6<sup>th</sup> grade rate has been increasing since 1998, leveling off between 2007 and 2010 (13.9%). On this survey question and on subsequent measures of mental and emotional well-being, 9<sup>th</sup> grade females present a more vulnerable picture. Regarding persistent sadness, they have reported varying rates over time, the highest reported in 2004 at 20.5% and the lowest in 2010 at 17.7%. This rate is double that of 9<sup>th</sup> grade males.

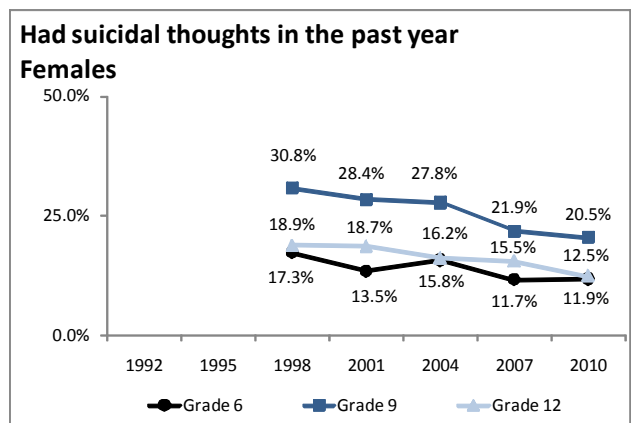
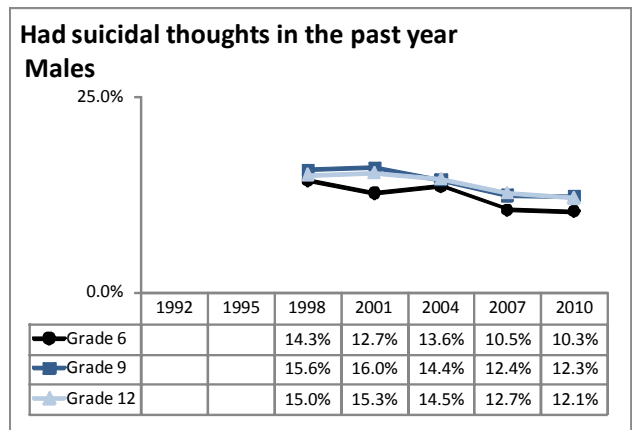
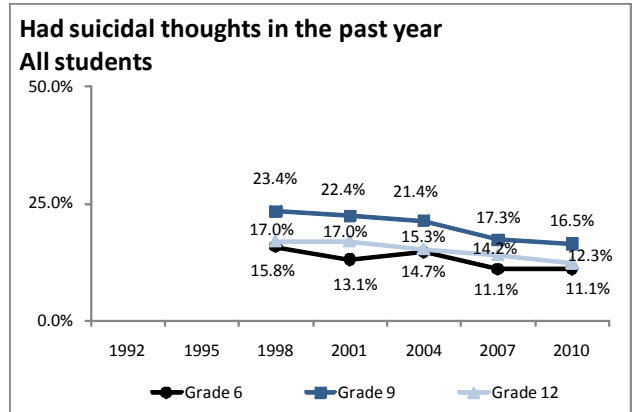


Ninth graders' responses to feeling discouraged or hopeless in the past month continue to be slightly higher than the other two grades in recent years. While the 9<sup>th</sup> grade rate decreased slightly between 2007 and 2010, the rates for 6<sup>th</sup> graders remained consistent.

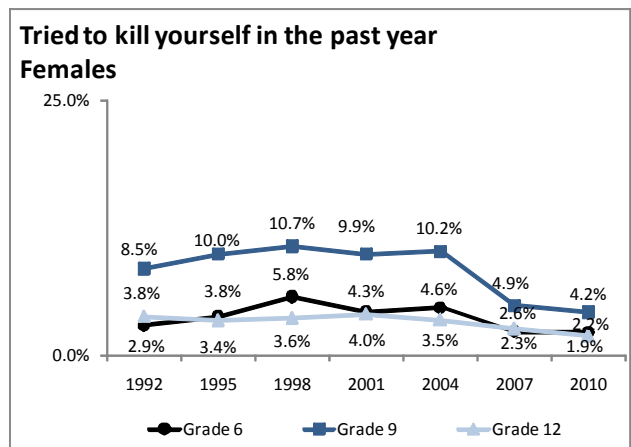
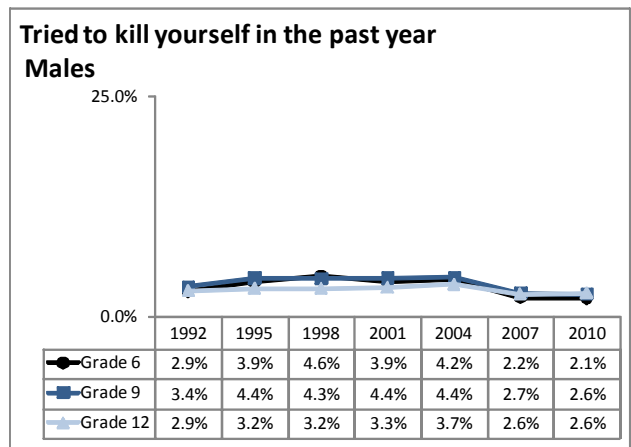
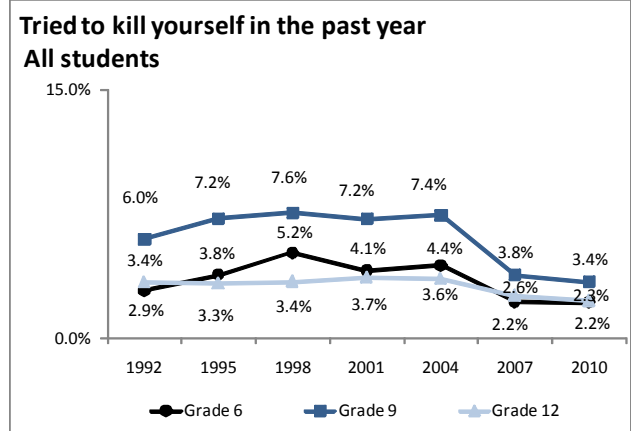
Males had rates very similar for all grade levels and across time, at just over 10 percent. Females showed dramatic differences, with rates for 6<sup>th</sup> grade females steady and at rates similar to 6<sup>th</sup> grade males. Between 1992 and 2010, 12<sup>th</sup> grade females have reported a decrease of 31% in feelings of discouragement or hopelessness, while 9<sup>th</sup> grade females reported a 19% decrease.



The percentage of youth reporting suicidal thoughts decreased for every grade level between 1998 and 2010. During this time period youth reporting suicidal thoughts decreased 19-28% for males and 31-34% for females. Ninth grade girls continued to report the highest rates of suicidal ideation (20.5%) followed by 12<sup>th</sup> grade girls (12.5%) and 9<sup>th</sup> grade boys (12.3%).



A smaller percentage of young people attempted suicide than experienced suicidal ideation. Suicide attempt rates between 2007 and 2010 remained consistent for all ages and genders. Ninth grade girls continue to have the highest rates of attempted suicide, but also had the most significant change, dropping from 10.2% in 2004 to 4.9% in 2007. This percentage remained relatively stable at 4.2% in 2010.

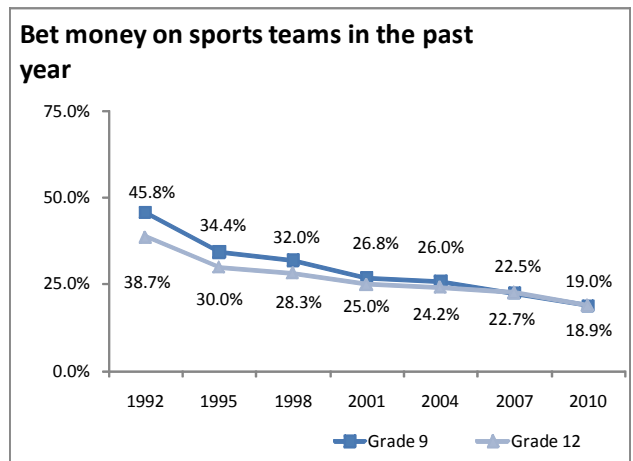
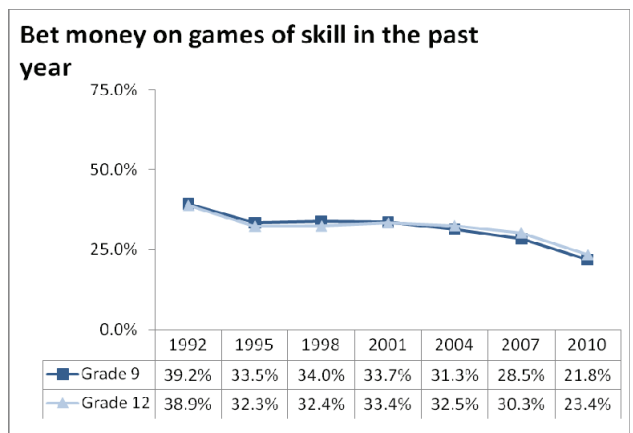
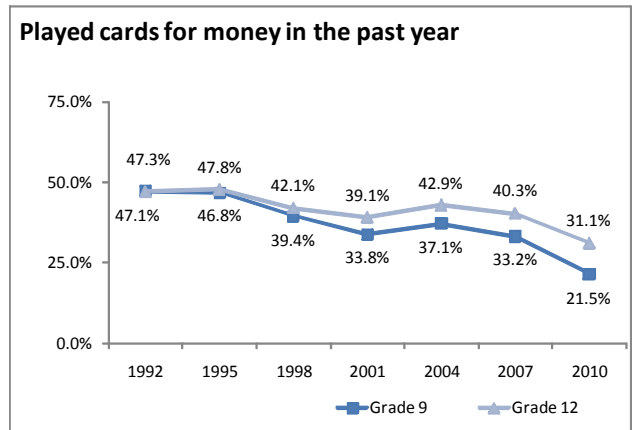


# Gambling

Gambling questions are asked of 9<sup>th</sup> and 12<sup>th</sup> graders only. Playing cards for money had rates of near 50% for 9<sup>th</sup> and 12<sup>th</sup> graders in 1992. These rates declined between 1995 and 2001, took an up-turn in 2004, then decreased again in 2007 and 2010.

The percentage of 9<sup>th</sup> and 12<sup>th</sup> graders betting money on games of skill has also declined since 2001.

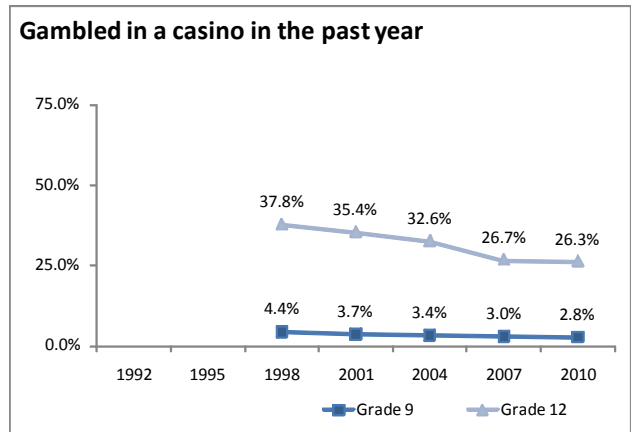
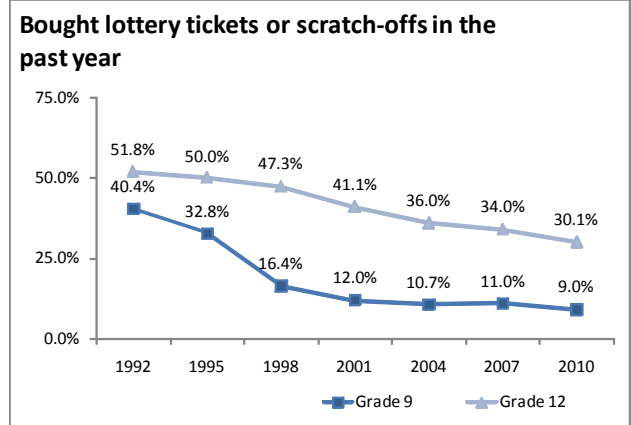
Until 2004, betting on sports games in the past year had been reported by more 9<sup>th</sup> graders than 12<sup>th</sup> graders. However, the rates are almost identical in both 2007 and 2010. Both grade levels show a dramatic decline over time, with 9<sup>th</sup> grade rates declining by over half – from 45.8% in 1992 to 18.9% in 2010. Twelfth grade rates dropped 51% from a high of 38.7% in 1992 to a low of 19% in 2010.





The percentage of students who reported buying lottery tickets and scratch-offs declined to a large extent from 1992 to 2010, particularly for 9<sup>th</sup> graders, who showed an overall decline of 78%. This behavior remains more prevalent among 12<sup>th</sup> graders than among 9<sup>th</sup> graders.

Beginning in 1998, 9<sup>th</sup> and 12<sup>th</sup> graders have been asked to report on gambling in a casino during the past year. Both 9<sup>th</sup> and 12<sup>th</sup> graders have shown steady declines since 1998 in this behavior, with 12<sup>th</sup> graders reporting a 30% decrease from a high of 37.8% in 1998 to a low of 26.3% in 2010. Students in 12<sup>th</sup> grade report higher rates of gambling in a casino than do 9<sup>th</sup> graders.



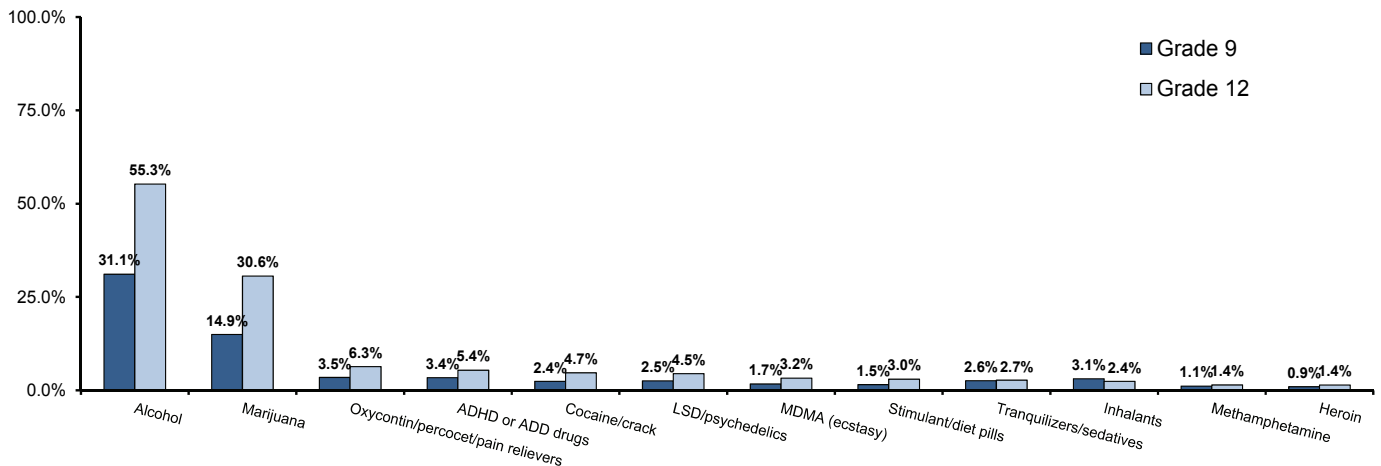
# Alcohol, Tobacco & Other Drugs

The prevalence of substance use in 2010 among 9<sup>th</sup> and 12<sup>th</sup> graders was compared across substances based on students' reports of use during the last 12 months. Sixth graders were asked only about a subset of the substances and were excluded from this comparison.

Alcohol was used by a larger percentage of youth (31.1% of 9<sup>th</sup> graders and 55.3% of 12<sup>th</sup> graders) than any other substances in 2010. Marijuana

was the second most used substance with 14.9% of 9<sup>th</sup> graders and 30.6% of 12<sup>th</sup> graders reporting its use. Various prescription drugs (pain relievers, such as OxyContin and Vicodin, and ADHD drugs, such as Ritalin) were reported as the next most used substances by both 9<sup>th</sup> and 12<sup>th</sup> graders. Across all the substances, a higher percentage of 12<sup>th</sup> graders than 9<sup>th</sup> graders reported using them except inhalants, which were more popular among 9<sup>th</sup> graders than 12<sup>th</sup> graders.

**Percent of students using chemical substances one or more times in the past year**  
2010 trend data only



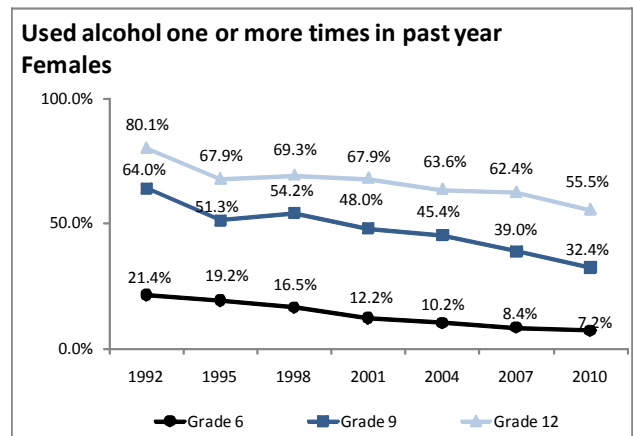
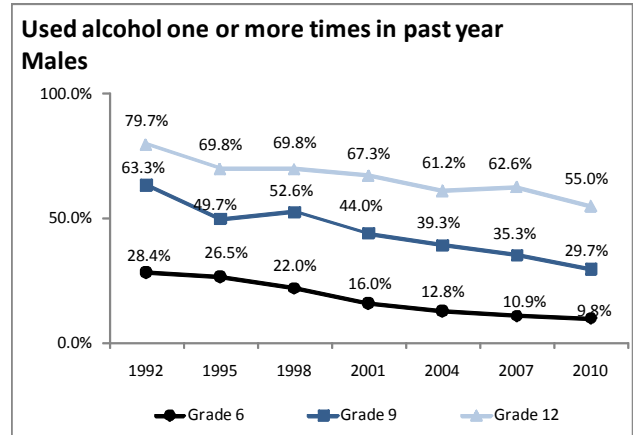
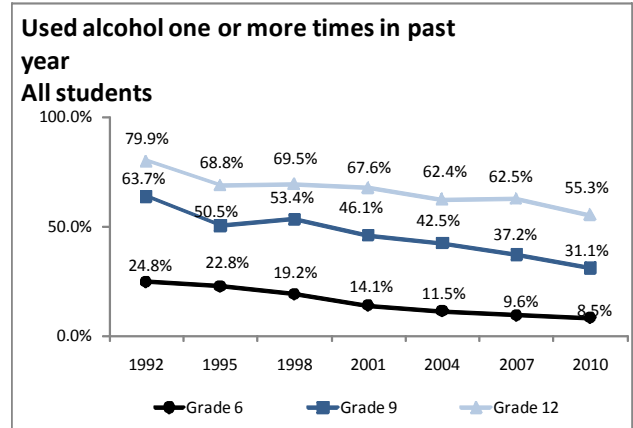
## Alcohol use

### Any drinking

The percentage of students who reported having alcoholic beverages at least once in the past year shows an overall downward trend across all three grades since 1992. While alcohol use among 12<sup>th</sup> graders decreased between 2007 and 2010, the majority of 12<sup>th</sup> graders (55.3%) still reported it in 2010.

Among 6<sup>th</sup> graders, consistently more male students than female students reported alcohol use across years. On the other hand, among 9<sup>th</sup> graders, female students are consistently more likely than male students to have an alcoholic beverage at least once in the past year.

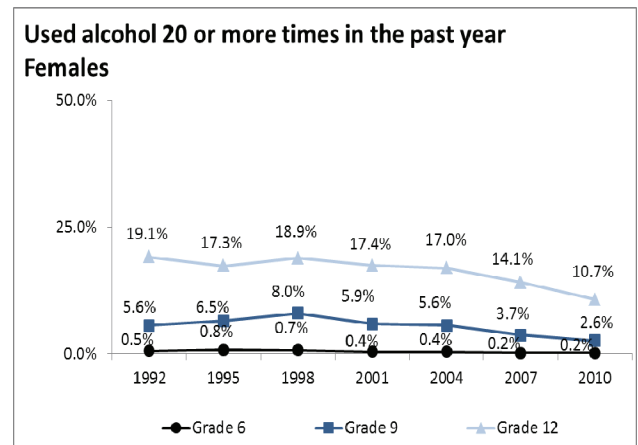
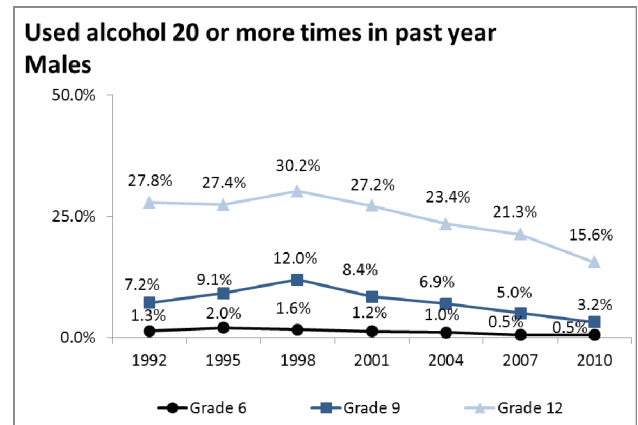
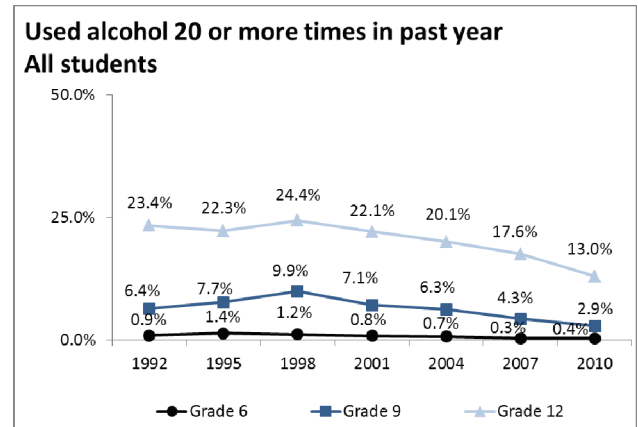
Alcohol use among 12<sup>th</sup> graders has fluctuated slightly over the years for both genders. However, since 1992 both genders have reported a 31% decrease in using alcohol one or more times in the past year.



## Frequent drinking

The prevalence of frequent drinking (drinking on 20 or more occasions during the past 12 months) among 9<sup>th</sup> and 12<sup>th</sup> graders peaked in 1998 with 9.9% of 9<sup>th</sup> graders and 24.4% of 12<sup>th</sup> graders reporting it, then the rates steadily decreased in both grades. Both 9<sup>th</sup> and 12<sup>th</sup> grade students had the lowest rates in 2010 (2.9% of 9<sup>th</sup> graders 13% of 12<sup>th</sup> graders). Less than half a percent of 6<sup>th</sup> graders reported frequent drinking in 2007 and 2010.

Frequent drinking was more prevalent among males than females across all grades and years. The overall trend, however, was similar across genders in each grade. Since 1998, frequent drinking among 12<sup>th</sup> grade males and females has steadily decreased with males showing a larger decrease than females. Similarly, both male and female 9<sup>th</sup> graders have shown a downward trend since 1998 with a bigger decrease reported by male students.

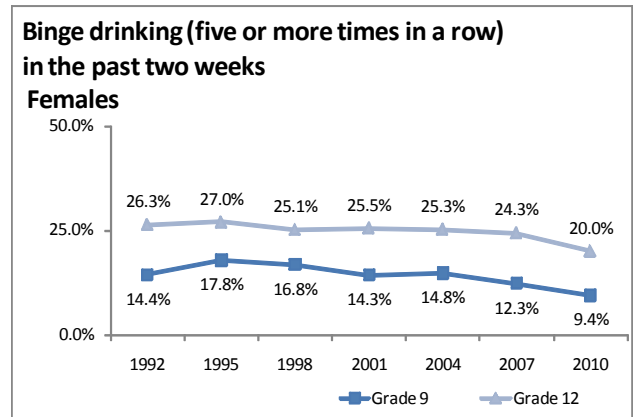
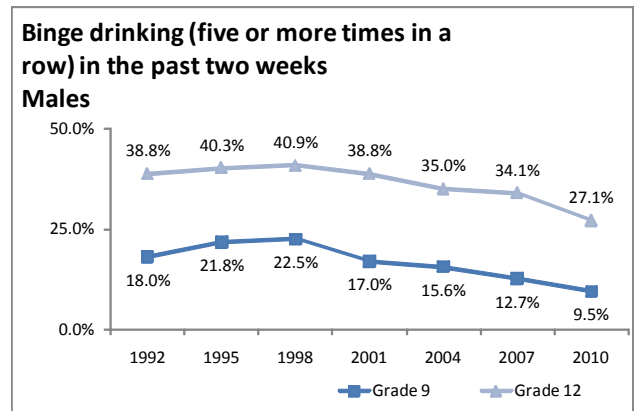
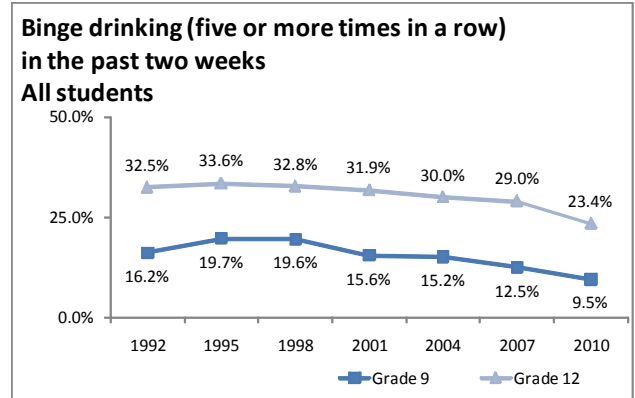


## Binge drinking

Binge drinking (five or more drinks in a row in the past two weeks) by students continues to decline. In 2010, both males and females in each grade reported the lowest levels of binge drinking since 1992.

For both 9<sup>th</sup> and 12<sup>th</sup> graders, the prevalence of binge drinking has been steadily decreasing since the late 1990s, and reached the lowest rate in 2010 with 9.5% of 9<sup>th</sup> graders and 23.4% of 12<sup>th</sup> graders reporting it. Binge drinking was more prevalent among males than females across the years. Between 2007 and 2010, males in 9<sup>th</sup> and 12<sup>th</sup> grades reported over a 20% decrease in binge drinking behavior.

While historically, there has been no steady downward trend seen for female students, there was a 24% decrease for 9<sup>th</sup> grade females and an 18% decrease for 12<sup>th</sup> grade females between 2007 and 2010.



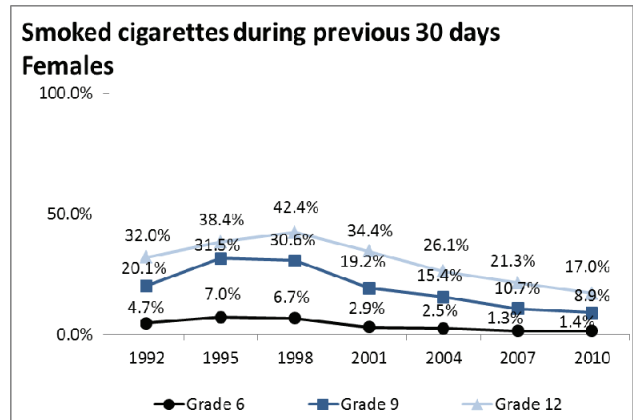
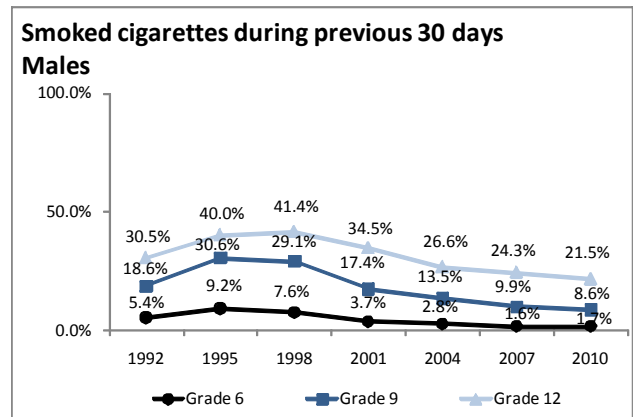
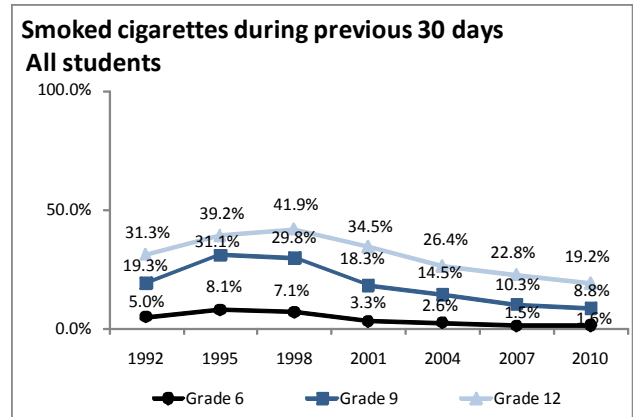
## Tobacco use

### Recent Use

Cigarette smoking during the past 30 days continued a downward trend among 9<sup>th</sup> and 12<sup>th</sup> graders. In 2010, less than one in five 12<sup>th</sup> graders (19.2%) and less than one in ten 9<sup>th</sup> graders (8.8%) reported smoking cigarettes in the past month; the lowest rates reported in the history of the Minnesota Student Survey.

After increasing in the 1990s, the smoking rate among 12<sup>th</sup> graders dropped from 41.9% in 1998 to 19.2% in 2010. The 6<sup>th</sup> and 9<sup>th</sup> grade smoking rates declined slightly between 1995 and 1998, and then the rates started declining precipitously. In 2010, while the rate remained steady among 6<sup>th</sup> graders, it further declined among 9<sup>th</sup> graders.

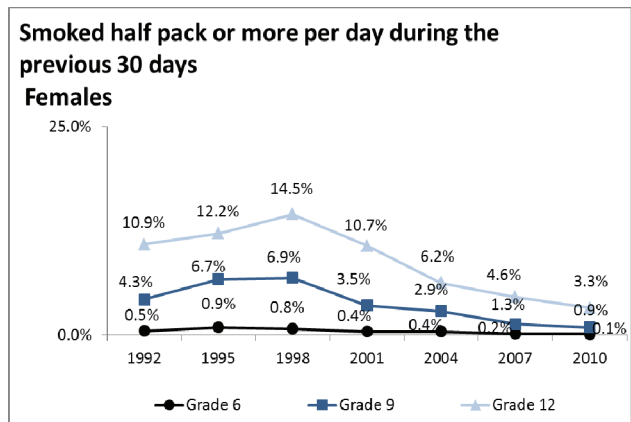
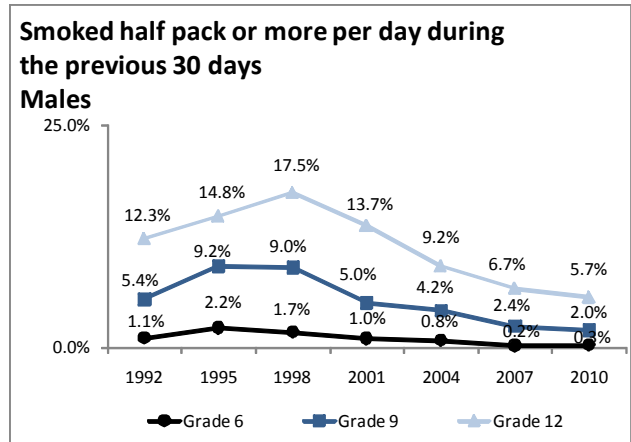
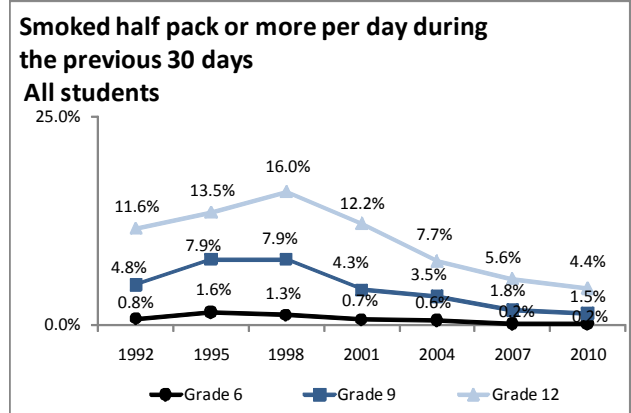
Overall, both males and females show similar declining trends of cigarette smoking across the years. Over the years, cigarette smoking rates have been similar across genders among 6<sup>th</sup> and 9<sup>th</sup> graders. Since 1998, 12<sup>th</sup> grade female students had a larger decrease (60%) than their male counterparts (48%), resulting in a lower smoking rate among females than males in 2007 and 2010.



## Heavy Use

Heavy cigarette smoking (half a pack or more per day) also declined among Minnesota students. After increasing in the early 1990s, heavy cigarette smoking decreased steadily and reached the lowest rates across all grades in 2007: 0.2% of 6<sup>th</sup> graders, 1.5% of 9<sup>th</sup> graders and 4.4% of 12<sup>th</sup> graders.

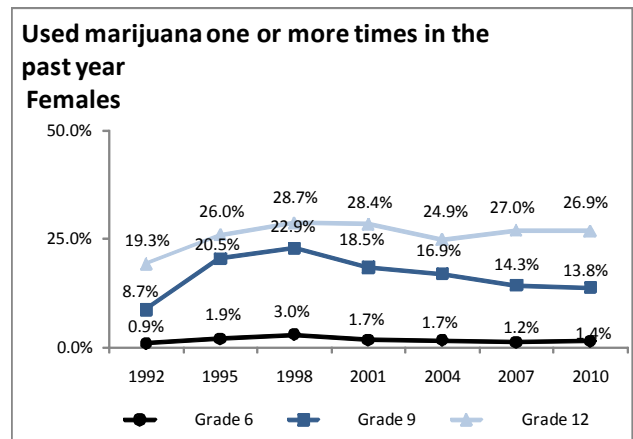
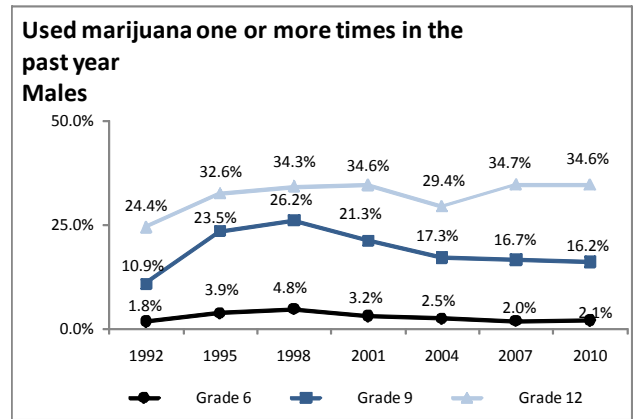
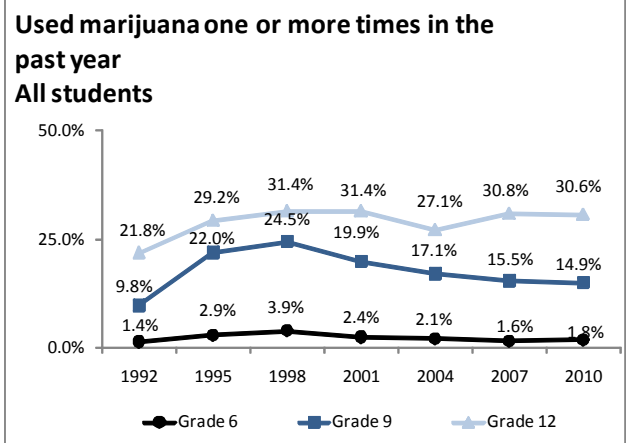
These decreasing patterns are quite similar for males and females. Overall, female students showed lower rates of heavy smoking than males across all grades and years. Among, male students, 5.7% of 12<sup>th</sup> graders, 2% of 9<sup>th</sup> graders, and 0.3% of 6<sup>th</sup> graders reported heavy smoking in 2010. Among females, the comparable rates were 3.3%, .9% and 0.1% respectively.



## Marijuana use

After a slight decrease in 2004, past year marijuana use among high school seniors increased in 2007 and remained steady in 2010 at around 31%. The current rate of marijuana use among 12<sup>th</sup> graders is close to the highest rate reported in the late 1990s. On the other hand, marijuana use among 9<sup>th</sup> graders has been slowly declining since 1998. It has remained relatively steady among 6<sup>th</sup> graders at around 2% since 2001.

Marijuana use is more prevalent among male students than female students in all grades and years. In 6<sup>th</sup> grade, the rates seem to have leveled for both males and females in 2010. In 9<sup>th</sup> grade, both male and female students showed a steady declining trend since 1998. While both genders in 12<sup>th</sup> grade showed similar trend over time, marijuana use among 12<sup>th</sup> grade males in 2007 had a larger increase than female counterparts.





## Other Drugs

### Inhalants

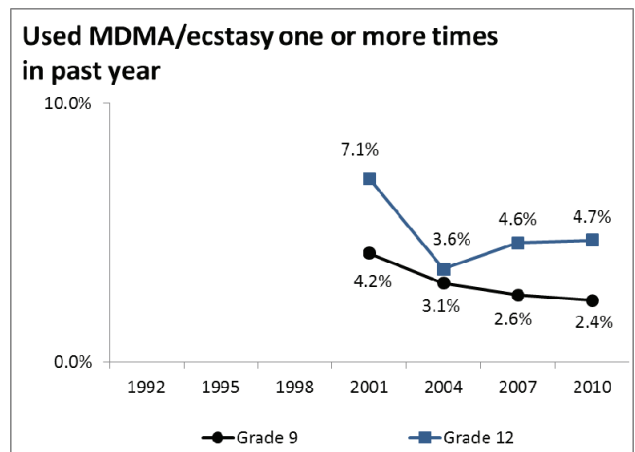
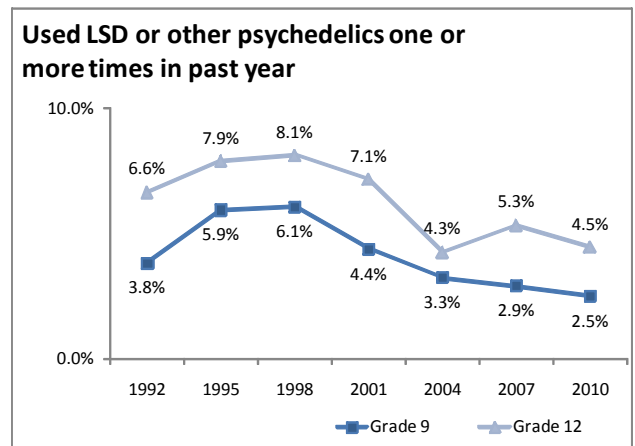
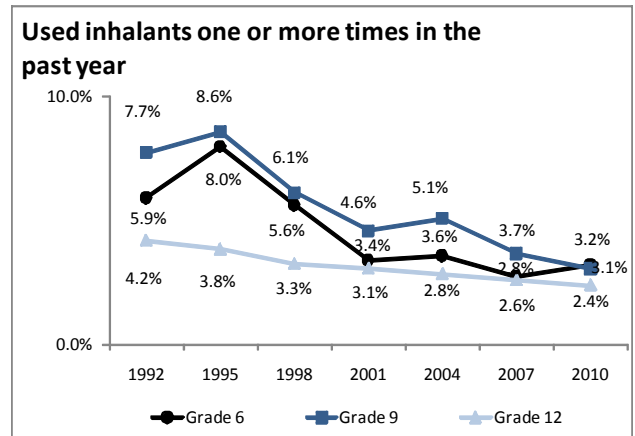
Unlike other substances, inhalants are used more by younger students than 12<sup>th</sup> graders. Among 6<sup>th</sup> graders, for example, inhalant use has been more prevalent than marijuana use. Despite the popularity of inhalants among younger students, 6<sup>th</sup> and 9<sup>th</sup> graders showed larger rate decreases over time, making the differences between the grades less significant in recent years. With an overall decline in use over the years, 9<sup>th</sup> and 12<sup>th</sup> graders showed the lowest rate in 2010 (3.1% of 9<sup>th</sup> graders and 2.4% of 12<sup>th</sup> graders). After a significant drop between 1995 and 2001, use by 6<sup>th</sup> graders has been fluctuating at around 3%.

### LSD/psychedelics

Use of LSD/other psychedelics had increased in the 1990s, and then decreased in 2001 and 2004 for both 9<sup>th</sup> and 12<sup>th</sup> graders. While it continued to level off among 9<sup>th</sup> graders, the use among 12<sup>th</sup> graders slightly increased in 2007, then it slightly decreased in 2010.

### MDMA/ecstasy

Use of MDMA/ecstasy by 9<sup>th</sup> graders has decreased since 2001, when MSS first asked about such use. Among 12<sup>th</sup> graders, however, the use increased slightly in 2007 and remained steady in 2010 after a big decline in 2004.

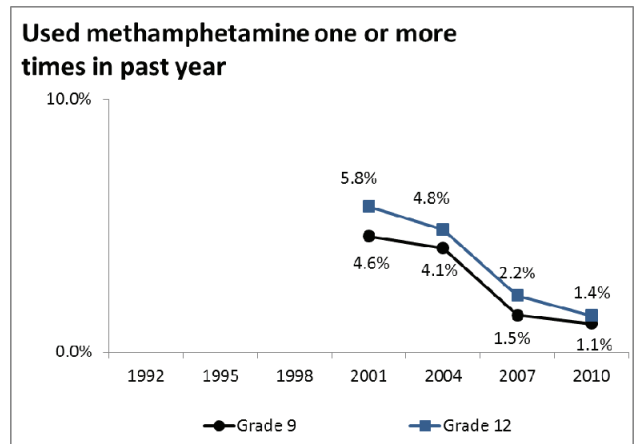
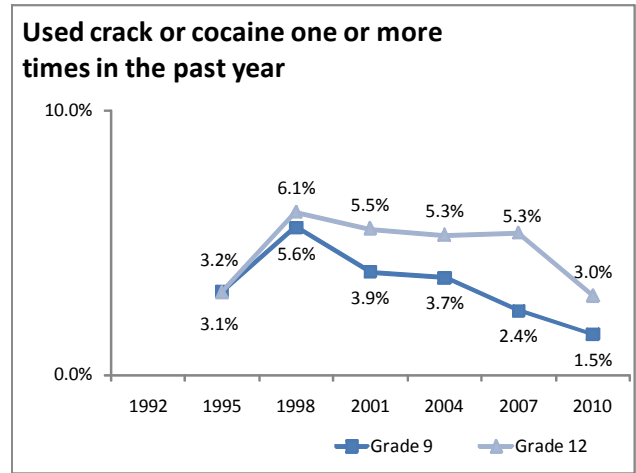


## Crack/cocaine

Crack/cocaine use was first surveyed in 1995. After its peak in use reported by both 9<sup>th</sup> and 12<sup>th</sup> graders in 1998, the rates have decreased to the lowest levels ever reported in 2010 (3.0% for 12<sup>th</sup> graders and 1.5% for 9<sup>th</sup> graders).

## Methamphetamines

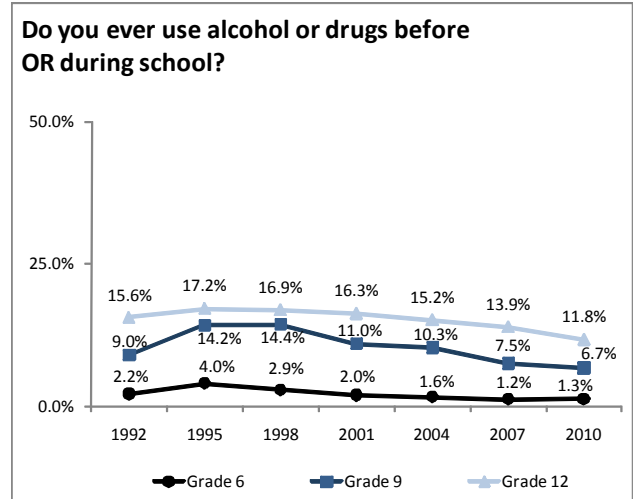
Methamphetamine use has been declining since it was first asked about in 2001. In 2010, 1.1% of 9<sup>th</sup> graders and 1.4% of 12<sup>th</sup> graders reported using methamphetamines. These rates represent a 76% percent decrease for both grades since 2001.



## Substance Use and School

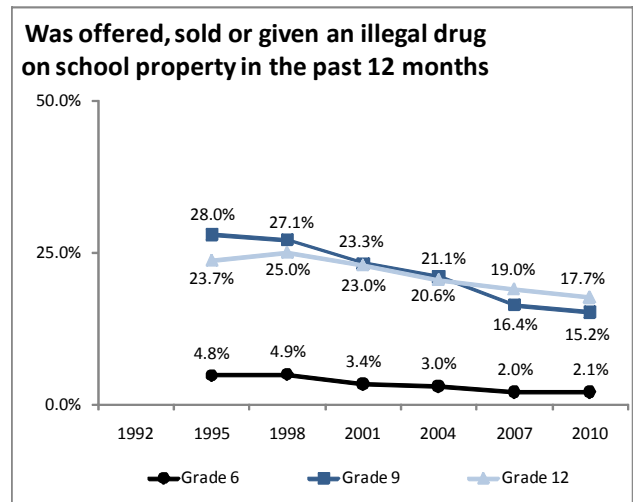
### *Before and/or during school*

Substance use is a serious health risk issue among adolescents. Using substances before and/or during school can have an even more serious effect on students by obstructing their ability to learn at school. After increasing in the early 1990s, the proportion of students reporting substance use before or during school started a downward trend with 9<sup>th</sup> and 12<sup>th</sup> graders having the lowest rates ever reported in 2010 (6.7% of 9<sup>th</sup> graders and 11.8% of 12<sup>th</sup> graders).



### *Opportunities to obtain drugs at school*

In 2010, 17.7% of 12<sup>th</sup> graders, 15.2% of 9<sup>th</sup> graders, and 2.1% of 6<sup>th</sup> graders reported being offered, sold or given an illegal drug on school property during the last 12 months. Over the years, a lot more 9<sup>th</sup> and 12<sup>th</sup> graders than 6<sup>th</sup> graders reported this. All grades have had a downward trend over time. In both 2007 and 2010, a higher percentage of 9<sup>th</sup> graders than 12<sup>th</sup> graders reported that they were offered, sold or given illegal drugs on school property. The rate for 6<sup>th</sup> graders remained relatively stable between 2007 and 2010.

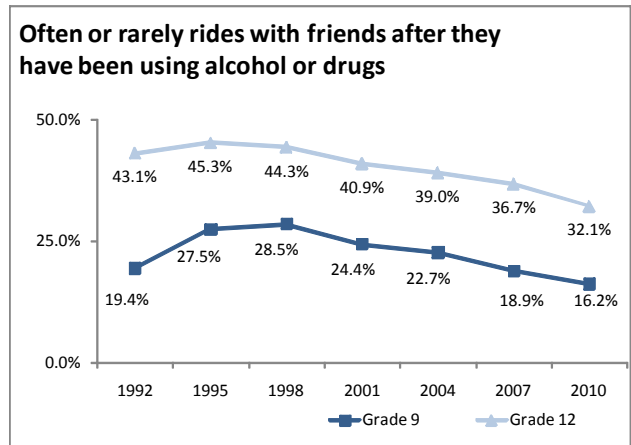
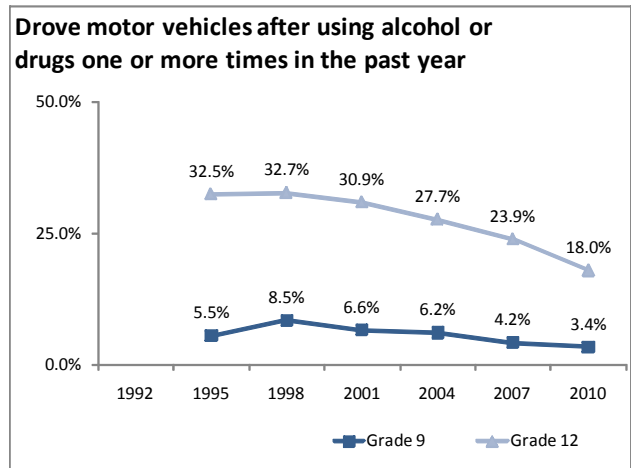


## Substance Use and Motor Vehicles

Driving motor vehicles after using alcohol or drugs, or riding with a friend who has been using alcohol or other drugs, is a serious safety issue, and Minnesota students have shown some improvement over the years. The percentage of students who reported such risky behaviors decreased gradually since the mid to late 1990s, showing the lowest rates in 2010.

In 2010, 12<sup>th</sup> graders reported a 25% decrease in the percentage of students who drove motor vehicles after using alcohol. Fewer 12<sup>th</sup> graders also reported riding with friends who had been using substances, with a 13% decrease between 2007 and 2010.

Although only a small proportion of 9<sup>th</sup> graders (3.4%) reported driving after using alcohol or other drugs (probably due to lack of a driver's license), 16.2% of 9<sup>th</sup> graders reported riding with others who had been using alcohol or other drugs in 2010.



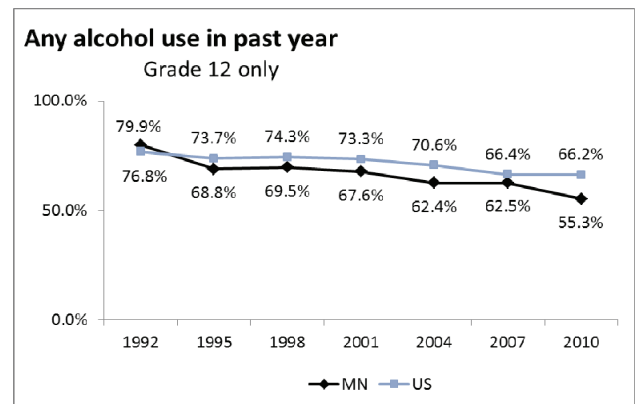
## Comparing Minnesota and National Trends of Alcohol, Tobacco & Other Drug Use

Certain trends related to substance use among Minnesota students can be compared with national trends using national data from Monitoring the Future (MTF) Study. MTF is supported by the National Institute on Drug Abuse and National Institutes of Health and is administered annually to approximately 50,000 students in grades 8, 10, and 12 in approximately 420 public and private schools. Participating schools are selected randomly from throughout the country to yield a nationally representative sample. Comparisons between MSS and MTF are done for students in grade 12, which is the only grade surveyed by both MSS and MTF.

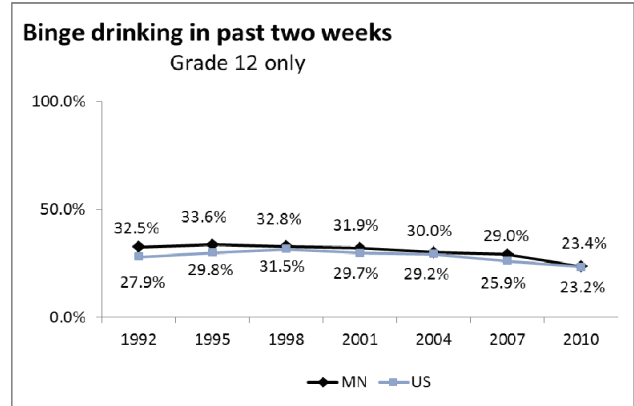
Question wording discrepancies between the MSS and MTF questionnaires restricted the comparisons for some of the substances. Certain differences between MSS and MTF in their sampling and field procedures call for caution in interpreting these comparisons: MTF includes both public and private schools and employs sampling strategies whereas MSS invites all public schools targeting the whole student population in each participating grade; MTF surveys for 12<sup>th</sup> graders were confidential but not anonymous to allow a longitudinal follow-up study whereas MSS is completely anonymous.

### Alcohol

Alcohol use shows an overall declining pattern among 12<sup>th</sup> graders, both nationwide and in Minnesota. In 1992, more than three quarters of high school seniors nationwide reported use of alcohol during the past year, compared to about two thirds in 2010. Alcohol use by Minnesota students was higher than the national level in 1992, but it declined below the national level in 1995 and remained that way ever since. In 2010, alcohol use among Minnesota 12<sup>th</sup> graders significantly dropped while it remained steady nationwide, widening the gap to more than 10 percentage points.

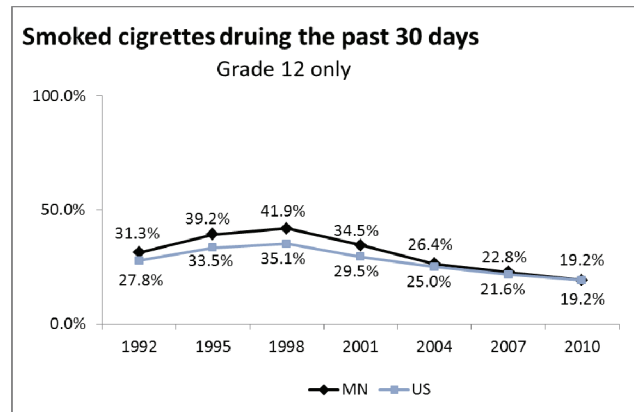


The rates of binge drinking have been slightly but consistently higher in Minnesota than in the U.S. until 2010 when the rate dropped by more than five percentage points among Minnesota 12<sup>th</sup> graders, virtually erasing the gap. There are still about 23% of high school seniors both nationwide and in Minnesota reporting binge drinking in 2010.

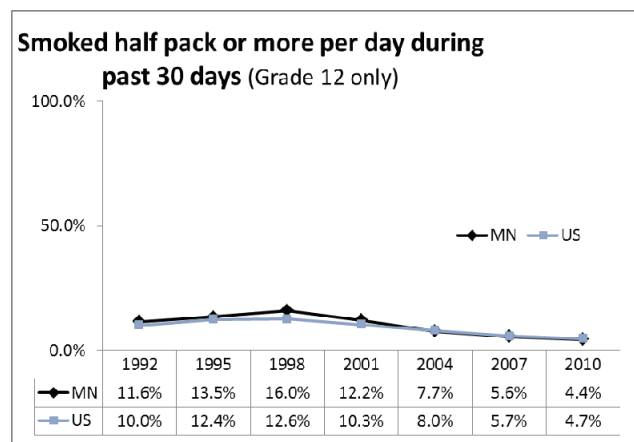


## Tobacco

Smoking rates among 12<sup>th</sup> graders, both nationwide and in Minnesota, started to decline after its peak in 1998. In 2010, less than one in five high school seniors nationwide and in Minnesota reported smoking cigarettes in the past 30 days. Smoking rates have been higher among Minnesota students than their U.S. counterparts over the years. However, the downward trend since 1998 is more pronounced among Minnesota students than their U.S. counterparts, making the difference less than 2% in 2004, and it disappeared in 2010.

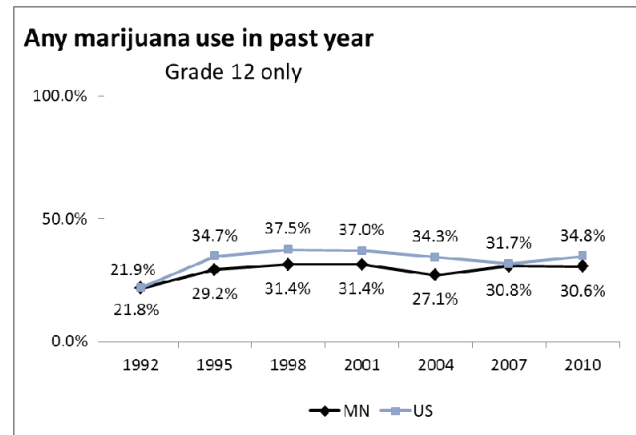


There has been a similar trend in heavy smoking rates (defined as smoking half a pack or more per day). After peaking in 1998, the prevalence of heavy smoking started to decline among high school seniors both nationwide and in Minnesota. Although the rate was higher in Minnesota in 1998 (16.0% vs. 12.6%), it declined faster among Minnesota students compared to their national counterparts. In 2010, 4.4% of Minnesota 12<sup>th</sup> graders, compared to 4.7% nationwide, reported heavy smoking.



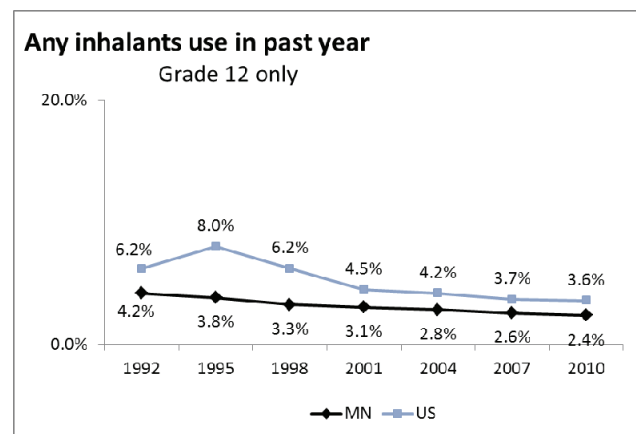
## Marijuana

After an upward trend in use throughout the 1990s, past year marijuana use among 12<sup>th</sup> graders finally showed some decline in 2004 both nationwide and in Minnesota. However, marijuana use among Minnesota students climbed back in 2007 to 30.8% from 27.1% in 2004, while the downward trend continued among the U.S. counterparts during the same time. In 2010, marijuana use among 12<sup>th</sup> graders nationwide increased to 34.8% from 31.7% in 2007, while it remained steady at just over 30% in Minnesota.



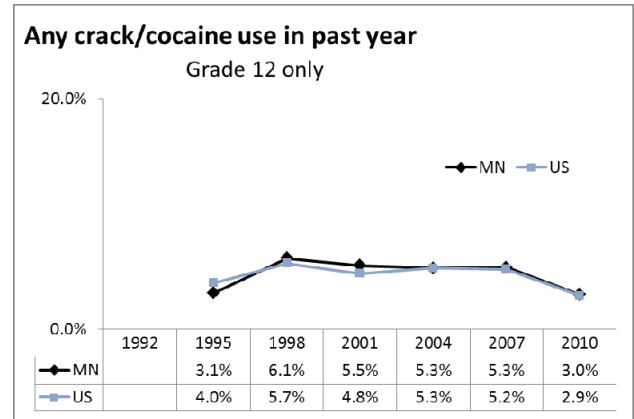
## Inhalants

A relatively small percentage of 12<sup>th</sup> graders reported inhalant use during the past year. Inhalant use among Minnesota students has been consistently below the national level. The prevalence of inhalant use has gradually declined in Minnesota since 1992; its use nationwide peaked in 1995 at 8.0%, and then declined over the years. Both in Minnesota and the U.S., high school seniors showed the lowest rates of inhalant use in 2010 at 2.4% and 3.6% respectively.



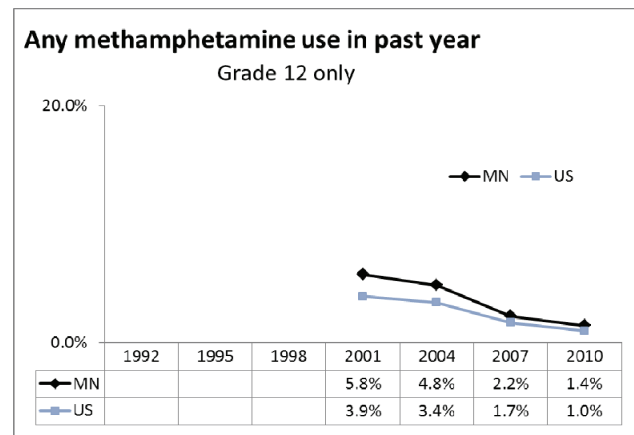
## Cocaine/Crack

Use of cocaine and crack among high school seniors peaked in 1998 both nationwide (5.7%) and in Minnesota (6.1%). Since then, it remained pretty steady over the years until 2010 when it declined significantly in both groups. In 2010, about 3% of high school seniors both nationwide and in Minnesota reported using Crack/cocaine in the past year.



## Methamphetamine

When MSS first asked about methamphetamine in 2001, 5.8% of high school seniors reported its use, compared to 3.9% of their counterparts in the U.S. Methamphetamine use among high school seniors has been declining ever since both nationwide and in Minnesota, showing the lowest rates in 2010 at 1.0% and 1.4% respectively. Although the prevalence has been higher among high school seniors in Minnesota than in the U.S., the decline was more precipitous in Minnesota almost erasing the gap since 2007.

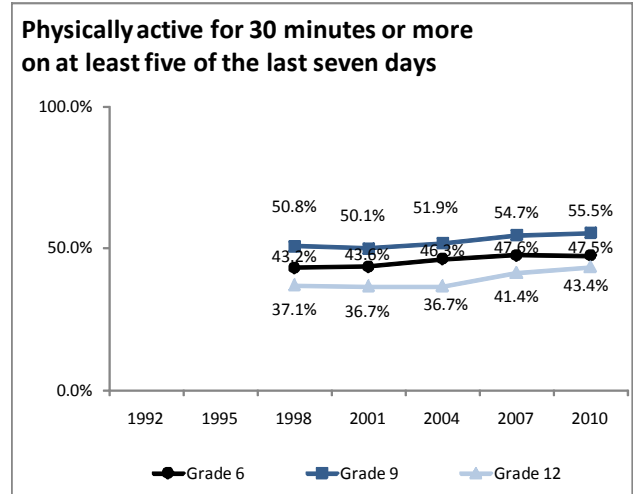




# Other Health Behaviors

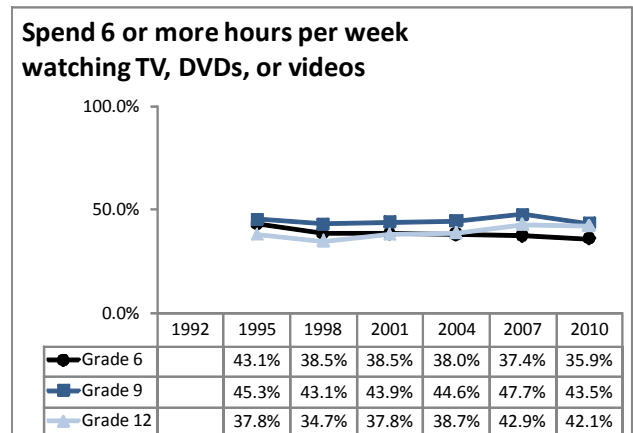
## Physical Fitness

Physically fit youth and adults have better concentration, motivation and stamina. Measured since 1998, physical activity for 30 minutes a day at least five days per week stayed fairly level for students of all grades in 2010. Sixth graders reported physical activity at a rate close to 50%. Ninth graders reported a rate just above 55%. Twelfth grade students reported the biggest increase in this level of exercise, jumping from 36.7% in 2004 to 43.4% in 2010.

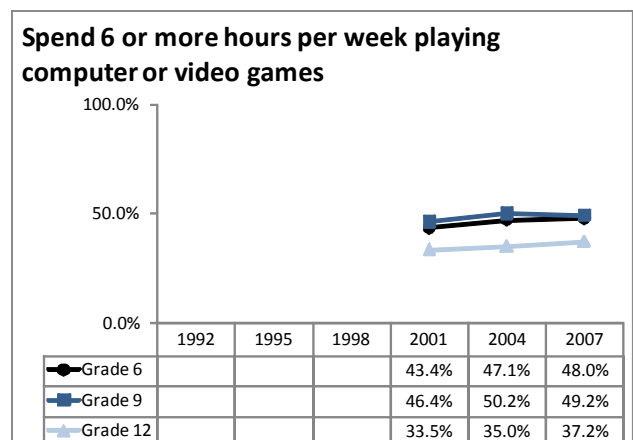


## Screen Time

Over time, the reported rates of students spending six or more hours per week in front of a screen – watching TV, DVDs or videos – have not changed much. Since 1995, the percentage of 6<sup>th</sup> grade students who report spending six or more hours per week watching TV, DVDs or videos has declined very gradually, while the percentage of 9<sup>th</sup> graders has remained about the same. Twelfth grade students are the only grade level that has reported a gradual increase from 37.8% in to 42.1% in 2010.



Since 2004, the Minnesota Student Survey has asked students about the time they spend playing computer or video games. About half of 6<sup>th</sup> and 9<sup>th</sup> graders (48% and 49.2%, respectively) play computer or videogames for six more hours a week. More than one-third (37.2%) of 12<sup>th</sup> graders report spending this much time each week playing computer or video games.



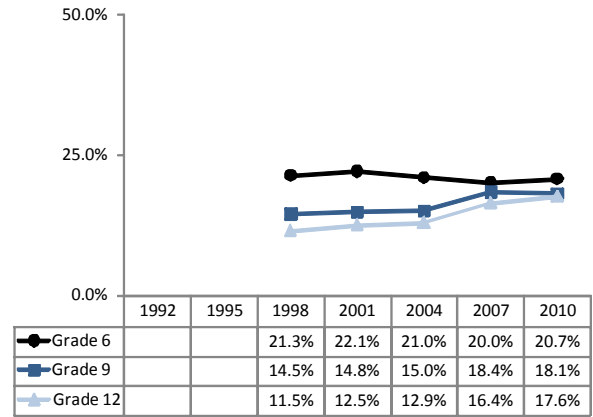
## Nutrition

Another health standard is eating five or more servings of fruits and vegetables per day. The trend has remained stable with only about one in five 6<sup>th</sup> graders reporting consuming the recommended amounts of fruits and vegetables in the day prior to the survey administration. Yet this was the best of the rates reported, with 9<sup>th</sup> graders reporting only a rate of 18.1% and 12<sup>th</sup> graders reporting a rate of 17.6% meeting this nutrition standard.

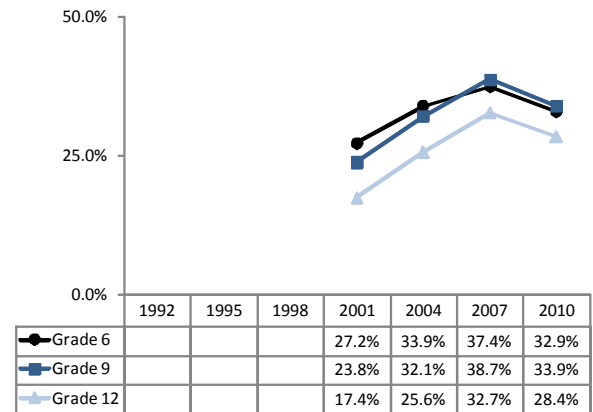
In 2001, the Minnesota Student Survey began to ask students about their consumption of pop or soda, sports drinks and other beverages. After increasing sharply between 2001 and 2007, consumption of sports drinks dropped at all grade levels between 2007 and 2010. While about one third of 6<sup>th</sup> and 9<sup>th</sup> graders report drinking one or more sports drinks a day, slightly less than three in ten 12<sup>th</sup> graders report doing so.

The number of students reporting one or more drinks of pop or soda on the previous day has continued to decline. About two-thirds of students reported drinking pop or soda in 2001, while in 2010 about half or less of all students reported drinking pop/soda.

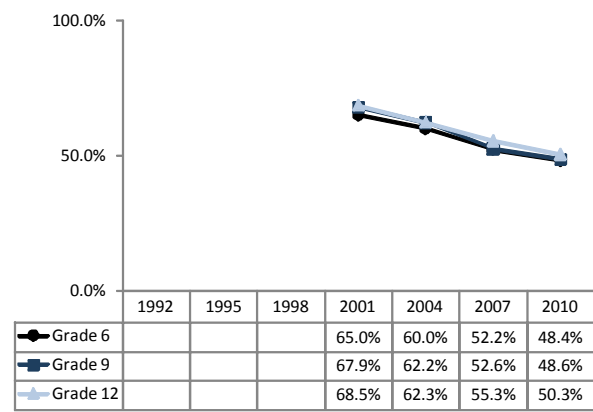
**Five or more servings of fruits and vegetables yesterday**



**One or more drinks of sports drinks yesterday**

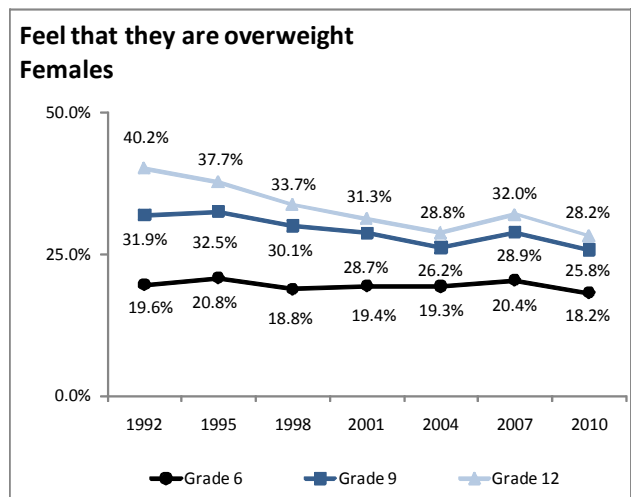
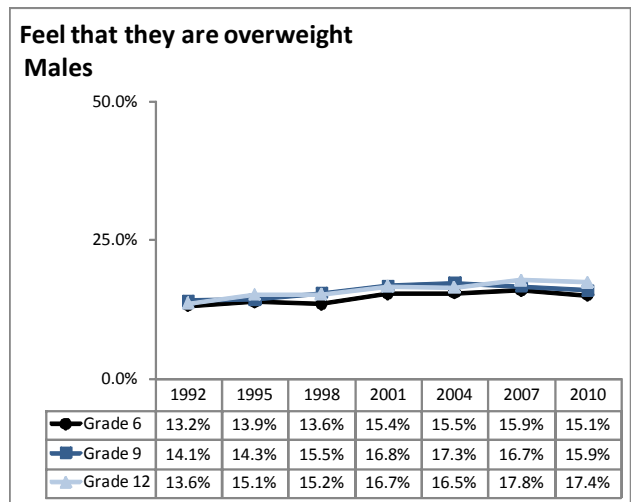
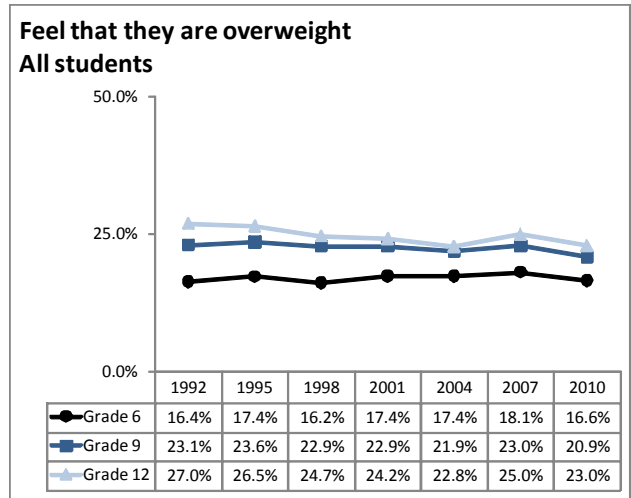


**One or more drinks of pop or soda yesterday**



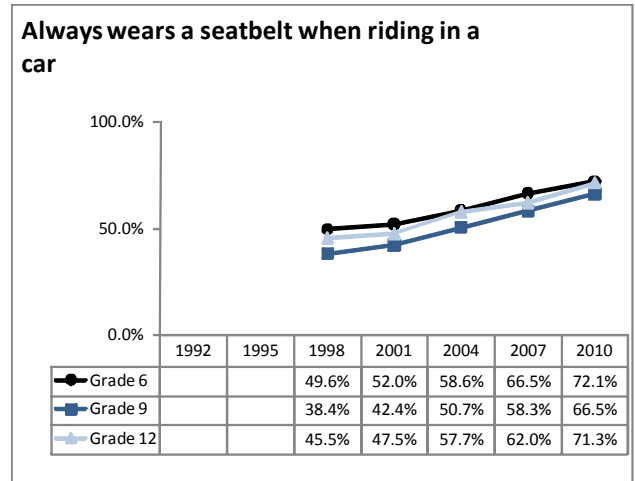
## Weight Perceptions

More 12<sup>th</sup> graders consistently report feeling overweight than do 6<sup>th</sup> or 9<sup>th</sup> graders. The percentage of males who feel they are overweight has been remarkably stable over time. Males at all grade levels – 6<sup>th</sup>, 9<sup>th</sup> and 12<sup>th</sup> – showed a rate in the mid-teens across all years. Females at all grade levels reported having a higher rate than males of feeling that they are overweight. Sixth grade females reported a trend line that is flat over time at about 20% feeling overweight. Except for a small increase in 2007, the percentage of 9<sup>th</sup> grade girls who felt overweight has decreased slightly since 1992. The most dramatic shift has been in the 12<sup>th</sup> grade females; the percentage who felt they were overweight declined from just over 40% in 1992 to less than 30% in 2010.



## Seatbelt Use

One measure of behavior that reduces injury is consistently wearing a seatbelt when riding in a car. Students in all three grades increased their reported rate of always using a seatbelt while riding in a car. Ninth graders reported the most dramatic increase, with almost three-quarters more students in 2010 reporting they always wear a seatbelt compared to 1998. Twelfth graders have reported a 57% increase between 1998 and 2010, while 6<sup>th</sup> graders reported a 45% increase.

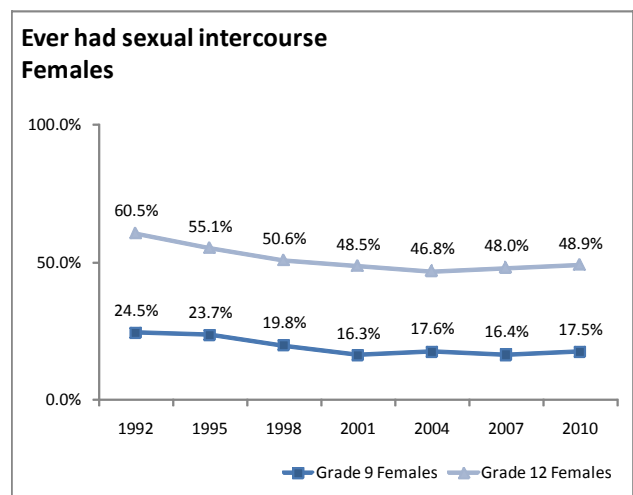
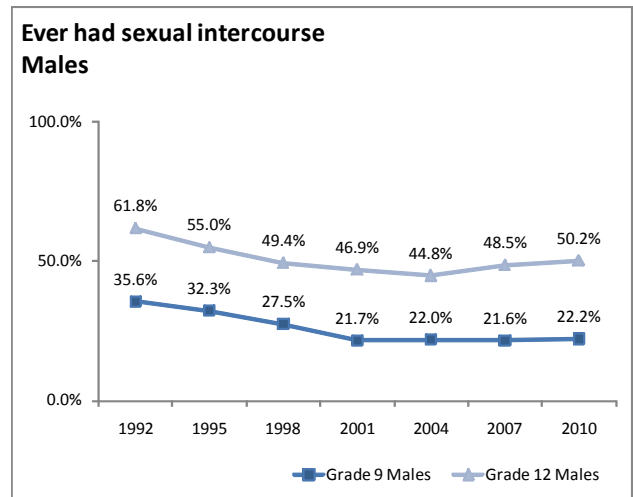
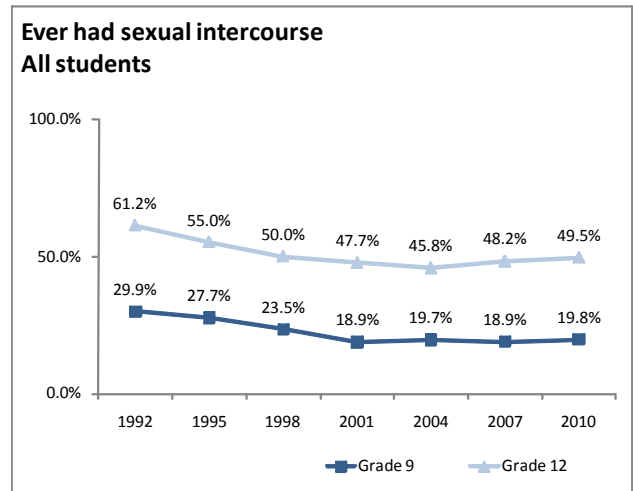


# Sexual Behavior

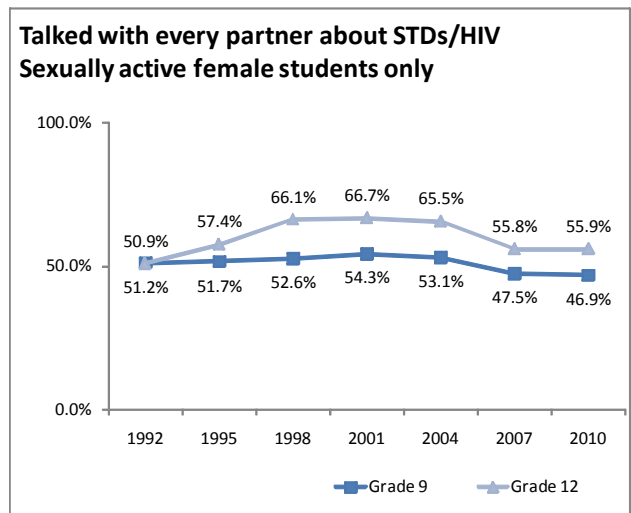
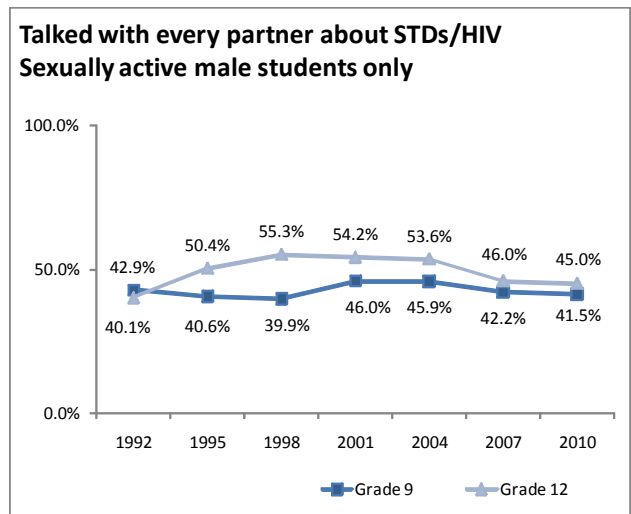
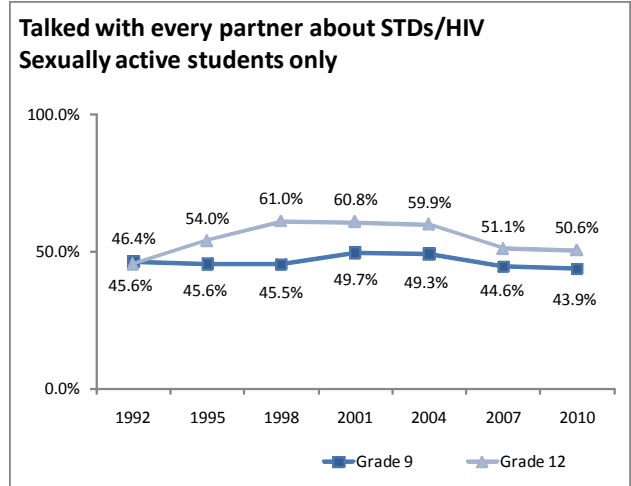
The percentage of students who report having engaged in sexual intercourse fell steadily between 1992 and 2001. However, this downward trend lost strength starting in 2001 and has remained relatively consistent ever since.

For 9<sup>th</sup> grade males, the percentage who reported having engaged in sexual intercourse fell from 35.6% in 1992 to 21.7% in 2001 and then remained about the same between 2001 and 2010. Among 9<sup>th</sup> grade girls, the percentage engaging in sexual intercourse also decreased steadily from 24.5% in 1992 to 16.3% in 2001 and fluctuated slightly ever since.

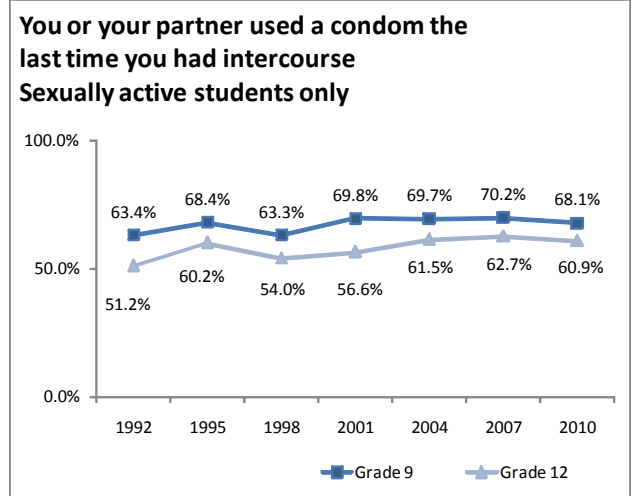
Reported sexual activity among 12<sup>th</sup> grade males and females declined substantially and steadily between 1992 and 2004. Both 12<sup>th</sup> grade males and female students reported slight increases in 2007 and 2010. About one-half of both 12<sup>th</sup> grade males and females report having engaged in sexual activity in 2010.



During the late 1990s and early 2000s, a greater percentage of sexually active students reported having talked with their sexual partner about protection from sexually transmitted diseases (STDs) and HIV/AIDS. However, this percentage decreased for both 9<sup>th</sup> and 12<sup>th</sup> graders in both 2007 and 2010. Slightly less than half of 12<sup>th</sup> grade males and slightly more than half of 12<sup>th</sup> grade females report talking to every sexual partner about STDs and HIV. Less than half of sexually active 9<sup>th</sup> grade males (41.5%) and females (46.9%) reported talking with every partner about STDs and HIV/AIDS in 2010. For both 9<sup>th</sup> and 12<sup>th</sup> graders, more females than males reported talking about STDs and HIV/AIDS with their partners.



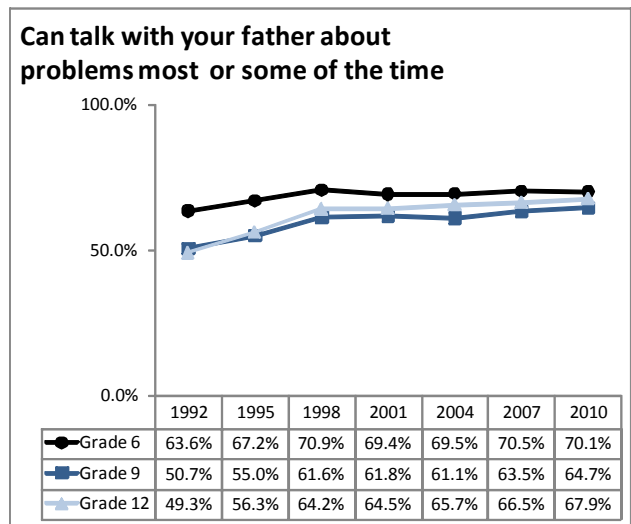
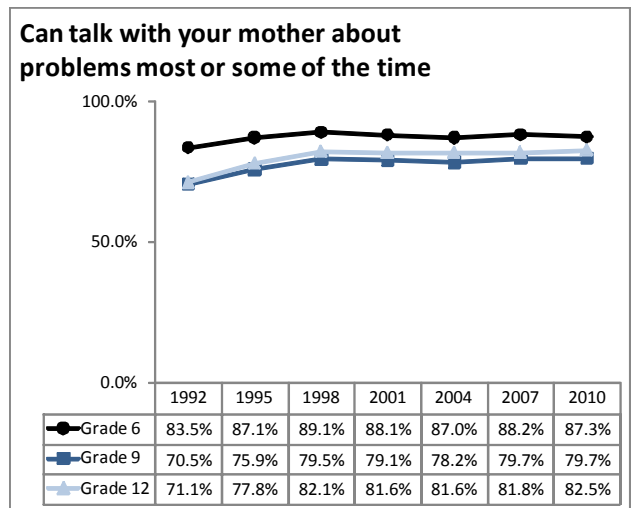
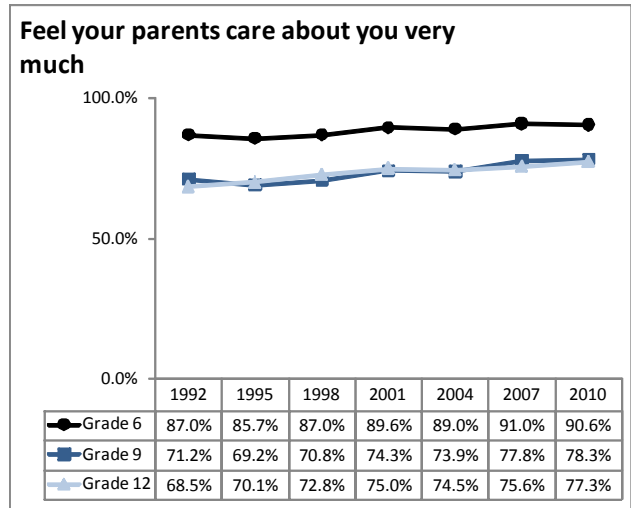
Over the long term, more sexually active students reported the use of condoms in 2010 than in 1992. Between 2007 and 2010, however, the percentage of sexually active students who reported that a condom was used the last time they had sexual intercourse declined very slightly for both 9<sup>th</sup> and 12<sup>th</sup> grade students.



# Families

Reports of positive relationships between youth and their parents have been consistently high over time, especially for younger students – nine out of 10 students in 6<sup>th</sup> grade say that their parents care about them very much and almost eight out of ten 9<sup>th</sup> and 12<sup>th</sup> graders give their parents the same high mark.

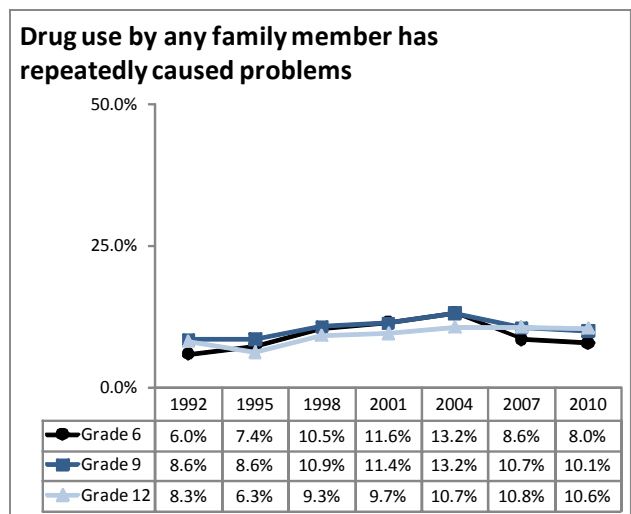
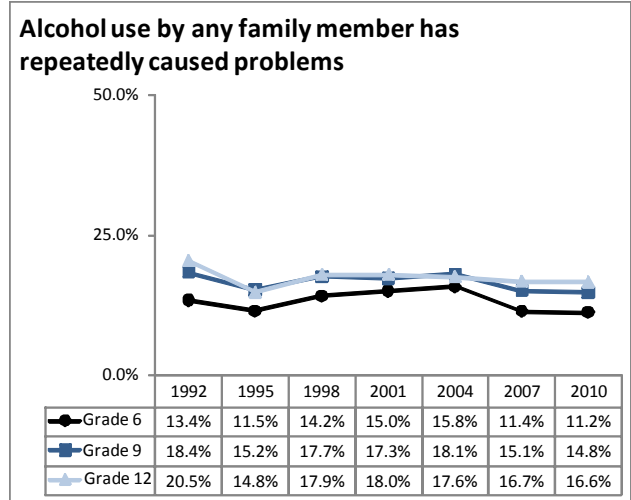
Regarding communication with parents, students in all grades are more likely to report their mothers being approachable than their fathers. These reports increased during the early 1990s and the results have been quite steady since then. Nearly nine out of ten 6<sup>th</sup> graders report that they can talk to their mothers most or some of the time, and seven out of 10 report that they can talk to their fathers most or some of the time. Fewer 9<sup>th</sup> and 12<sup>th</sup> graders state that they can talk with their parents than do 6<sup>th</sup> graders. About eight in 10 students in both 9<sup>th</sup> and 12<sup>th</sup> grade report that they can talk to their mothers most or some of the time, while about two-thirds report that they can talk to their fathers most or some of the time.





Students are in no way immune to trouble in their families. One question on the survey asks if alcohol use by any family member has “repeatedly caused problems such as family, health, job or legal problems.” At all grade levels, less than one-fifth of students reported such problems in 2010. The rates for all grades dipped in 1995 and rose gradually for 6<sup>th</sup> graders and 9<sup>th</sup> graders until 2004. However, all three grades reported a significant decrease between 2004 and 2007, only to level out again in 2010.

The same question was asked about repeated consequences of drug use by anyone in the family. After a steady increase in all three grades between 1995 and 2004, rates dropped for both 6<sup>th</sup> and 9<sup>th</sup> grade students, while staying stable for 12<sup>th</sup> graders in 2007. Rates have stayed relatively stable for students in all three grades in 2010.



# Technical Notes

## **Defining the Sample of School Districts for Trend Analysis**

Not all school districts participate in the Minnesota Student Survey each time it is offered. In order to accurately compare results across years, this report analyzed data only from school districts that participated in each of the last seven years the survey was conducted -- 1992, 1995, 1998, 2001, 2004, 2007 and 2010. If a school district did not participate in one of these years, none of its survey data between 1992 and 2010 was included in this analysis. If just one grade level in a school district (such as 6<sup>th</sup> grade) did not participate in one of these years, the survey data for that grade level in that district was excluded for all years from the analysis.

Selecting only school districts that consistently participate over the years helps to ensure that differences seen from year to year are not merely the result of which school districts happened to participate in a given year. Fortunately, most school districts have participated in each year of the survey. Between 1992 and 2010, about 915,000 students from regular public schools completed surveys; about 753,000 of these students (82%) attended school in districts that participated all seven times between 1992 and 2010 and are thus included in the analysis for this trend report.

## **Questionnaire Design and Year-to-Year Comparisons**

Most questions used in this trend report have maintained the exact same wording each time the survey is

administered. At various times, a small number of questions have been changed slightly to bring them up-to-date or improve the wording. We believe these occasional wording changes are minor and will not affect the trend results. Questions that have changed in a significant way are not included in the trend report. For more information about any changes in question wording over the years, please contact any member of the writing team listed in the acknowledgments.

## **Weighting the Data to Adjust for Student Participation Rates**

For various reasons, ranging from illness and truancy to schedule conflicts and choosing not to participate, some students do not take the survey. Student participation rates vary from one school district to another and from one survey year to another. A school district with a very high participation rate would contribute more surveys to the data set than one would expect from its share of the statewide student population.

A weighting procedure was used to adjust for differences in student participation rates among school districts in a given year. The weighting procedure was conducted independently for each grade of each school district and within each survey year.

Each school district's weight was created by first dividing the school district's enrollment [*E*] (for a given grade and year) by the total enrollment of all school districts participating in the

survey (for that grade and year). This ratio was then multiplied by the ratio of total statewide surveys [S] (for a given grade and year) to the number of surveys completed in the individual school district (for a given grade and year).

$$\text{Weighting factor} = \frac{E(\text{dist})}{E(\text{state})} \times \frac{S(\text{state})}{S(\text{dist})}$$

Where, for each grade level:

*E(dist)* = enrollment in district,

*E(state)* = enrollment in all districts participating in MSS,

*S(state)* = total surveys completed statewide, and

*S(dist)* = total surveys completed in district.

This formula weights each survey so that the school district contributes to the Minnesota Student Survey trend data set in the same proportion as the school district enrollment contributes to the total enrollment of all participating districts.

### **Trend Report and Statewide Tables**

Because of the exclusion of certain districts and the weighting procedure described above, figures published in the trend report may differ slightly from figures in the statewide tables for the same question. (The statewide tables are based on all regular school districts and are unweighted counts.) Usually these differences are very small. Each set of figures was prepared for a specific purpose. When focusing on one particular year, it is best to use the statewide tables. When focusing on change over time, it is best to use the weighted trend results such as those published in this report.

### **Do Students Tell the Truth?**

One question sometimes raised about student surveys is whether students' responses are honest and accurate. Researchers use a variety of data analysis techniques to examine the likely accuracy of surveys and these were applied to the student survey as well. Surveys with numerous inconsistencies or improbable answers were excluded from data analysis. In 2010, for example, 1.2 percent of all surveys were removed because of a pattern of inconsistent and/or improbable answers. Another 1.6 percent of surveys were not used because the question on gender was not answered.

The majority of students exhibit patterns of responses that are reasonable and consistent across similar questions. In addition, as results have demonstrated, percentages for many answers are consistent over time across the seven Minnesota Student Survey administrations studied for this report. Such similarities are likely to occur only if the survey responses reflect the actual perceptions of Minnesota's youth; it is extremely unlikely that these patterns could be replicated by chance over time. Furthermore, the survey findings are often consistent with findings in similar states and with national trend lines of increasing or decreasing behaviors.

This combination of individual response patterns, plausible relationships among answers, consistency over time within the state, and consistency with other research and with national studies all attest to the overall credibility of student responses.

# Acknowledgments

We are indebted to all of the students who responded to the survey, as well as parents, the school boards, administrators, Minnesota Student Survey coordinators and Safe and Drug Free Schools coordinators, and teachers.

The Safe and Healthy Learners Team of the Minnesota Department of Education coordinated implementation of the 2010 Minnesota Student Survey. Also, the Performance Measurement and Quality Improvement staff of the Minnesota Department of Human Services, the Center for Health Statistics staff of the Minnesota Department of Health, and the Office of Justice Programs staff of the Minnesota Department of Public Safety were integral to the full implementation, analysis and dissemination of the results of the Minnesota Student Survey. Survey dissemination, collection and scanning services were provided by Data Recognition Corporation.

## Project Team

### Minnesota Department of Education

Kathy Brothen  
Allison Anfinson\*  
Carol Thomas

### Minnesota Department of Health

Ann Kinney\*  
Peter Rode\*

### Minnesota Department of Human Services

Phyllis Bengtson\*  
Bill Wyss  
Efren Leon  
Vicki Kunerth  
Eunkyung Park\*

### Minnesota Department of Public Safety

Jeri Boisvert  
Danette Buskovick\*

*\*Trend report writing team*