Washington State
Survey of Adolescent Health Behaviors 2000

Analytic Report

Prepared for

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September 2001

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September 2001

Division of Alcohol and Substance Abuse General State Funds and National Institutes of Health, National Institute on Drug Abuse Grant Number 42USC241-42-CFR-52 Research jointly funded this project.

Analytic Report

Washington State Survey of Adolescent Health Behaviors (2000)

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Acknowledgements

This report is part of a series of reports produced by RMC Research Corporation that summarize a major survey effort in the state of Washington. The planning and implementation of the 2000 administration of the Washington State Survey of Adolescent Health Behaviors (WSSAHB) were the products of an immense collaborative effort among the authors, the Washington State Survey Policy Committee, local educators and health professionals, and community members throughout the state of Washington. The summary reports are a collaborative product of the authors and the Survey Policy Committee.

RMC Research thanks the students, school administrators, parents, and local prevention and health professionals who encouraged and supported school participation in the survey. The survey would be of little use or consequence if these individuals had not shown interest in addressing the health behaviors and risk and protective factors at issue in the survey.

The survey planning and implementation involved many professionals from agencies and disciplines across the state. The following staff were, however, most consistently involved: Denise Fitch and Martin Mueller at the Office of Superintendent of Public Instruction, Steve Smothers and Linda Becker at the Department of Social and Health Services, Susan Roberts at the Office of Community Development, and Julia Dilley at the Department of Health. Thomas Taggart and Li Yang at the University of Washington's Office of Educational Assessment and Michael Arthur and John Briney of the University of Washington's Social Development Research Group also helped with the survey effort. Although all of these experts were active and influential in the survey methods and procedures, the authors bear responsibility for the content of this report and the companion reports.

This survey benefited from the experience and guidance of Roy Gabriel, and this report benefited from the editing of Karla Wadeson and the word processing of Michelle Hutchens, all three of RMC Research Corporation.

Executive Summary

The 2000 Washington State Survey of Adolescent Health Behaviors (WSSAHB) is the sixth statewide survey assessing the health-related attitudes and behaviors of Washington's public school students. A total of 17,870 students in 98 elementary, middle, and high schools across the state participated in the sample, which was designed to represent all Grade 6, 8, 10, and 12 students across the state. Of those schools asked to participate in the survey, 63 percent with Grade 6 students, 73 percent with Grade 8 students, and 62 percent with Grade 10 and Grade 12 students took part in the survey. As necessary to complete each cell of the sampling design, 13 nonsampled schools that participated on a volunteer basis were included with the sampled schools. The characteristics of the sample are sufficiently representative of Washington's students, which makes generalizing the survey results to the statewide population at the four grade levels reasonable.

Notably, another 84,662 students in 472 schools participated in the survey on a volunteer basis to obtain school-specific results to use in planning and evaluating prevention and intervention programs. The results of these surveys are not included in this report because they were not selected for the statewide scientific sample of students in public schools. More than twice as many students, and nearly twice as many schools, participated in the 2000 administration of the WSSAHB as compared to 1998, and that administration included more than twice as many students and schools as the 1995 administration. This continued increase in participation may reflect increasing interest in health-related information and is a tribute to the effective collaboration among the sponsoring agencies and local community members.

The survey was a cooperative effort of the Office of Superintendent of Public Instruction (OSPI); the Washington State Department of Social and Health Services' Division of Alcohol and Substance Abuse (DASA) and Research and Data Analysis (RDA); the Office of Community Development (OCD); the Department of Health (DOH); and the contractor, RMC Research Corporation.

Lifetime Prevalence of Alcohol, Tobacco, and Other Drug Use

As in all of the previous state surveys, alcohol was reportedly the substance of choice among Washington's students. Cigarettes and marijuana followed. The lifetime prevalence of alcohol, cigarettes, smokeless tobacco, and marijuana use appeared to drop considerably from 1998 to 2000. The lifetime prevalence for these substances was, however, assessed differently in 2000 than in previous survey administrations. Readers are therefore cautioned about interpreting changes over time for these substances.

The lifetime prevalence of psychedelic drug use appears to have decreased from 1998 to 2000, but the term *psychedelic* was used in 2000, whereas the term *hallucinogen* had been used in previous administrations. Thus this apparent decrease must be interpreted with caution. The lifetime prevalence of inhalant use declined from 1998 to 2000 to its lowest point since 1988 (2.5 percent of Grade 6 students, 9.6 percent of Grade 8 students, and 11.5 percent of Grade 10 students). The lifetime prevalence of amphetamine use declined for students in Grade 8 (4.3 percent), Grade 10 (8.4 percent), and Grade 12 (10.0 percent). The lifetime prevalence of methamphetamine use declined for students in Grade 10 (5.3 percent) and Grade 12 (7.5 percent).

The 2000 survey was the first administration that asked students about the use of party drugs (e.g., ecstasy). Almost none of the Grade 6 students (0.9 percent) had ever tried party drugs. This percentage increased among older students: 4.8 percent of Grade 8 students, 9.3 percent of Grade 10 students, and 13.5 percent of Grade 12 students had tried party drugs at some time in their lives.

The younger the age of drinking onset, the greater the chance that an individual will develop a clinically defined alcohol disorder at some point in life. The average ages of the first use of alcohol, tobacco, and marijuana were virtually identical to those reported in 1998, indicating that the average age of first use has not changed over the past two years. Among Grade 12 students who had ever used the substance, the average age of first use was 13.9 years for alcohol, 13.0 years for cigarettes, and 14.3 years for marijuana.

Current Use of Alcohol

Alcohol has been reported as the substance of choice (i.e., the most frequently used substance) among Washington's students in each of the six administrations of the WSSAHB. Alcohol use in the past 30 days was reported by 6.6 percent of Grade 6 students, 22.8 percent of Grade 8 students, 37.6 percent of Grade 10 students, and 46.8 percent of Grade 12 students. Because the survey question regarding current use of alcohol changed in 2000, the results are not comparable to those from previous survey administrations.

After an essentially steady increase from 1992 to 1998, binge drinking decreased among students in Grades 6, 8, and 10 and leveled off among Grade 12 students. The rates of binge drinking remained, however, alarmingly high: 4.7 percent of Grade 6 students, 14.9 percent of Grade 8 students, 23.2 percent of Grade 10 students, and 31.8 percent of Grade 12 students reported binge drinking in the past two weeks.

Tobacco

Cigarette use in the past 30 days among Grade 6 students remained essentially unchanged from 1990 to 2000 (4.0 percent in 2000). Among Grade 8 students cigarette use in the past 30 days increased from 12.1 percent in 1990 to 18.8 percent in 1995 and then decreased to 12.5 percent in 2000. Among Grade 10 students cigarette use climbed from 1990 (15.1 percent) to 1995 (20.9 percent) and has remained steady since then (19.8 percent in 2000). Among Grade 12 students cigarette use climbed from 1990 (20.7 percent) to 1998 (28.6 percent), and leveled in 2000 (27.6 percent).

Smokeless tobacco use in the past 30 days decreased from 1998 to 2000 among students in Grades 8, 10, and 12. Smokeless tobacco use decreased from 6.7 to 2.1 percent among Grade 8 students, from 9.6 to 4.6 percent among Grade 10 students, and from 12.4 to 8.8 percent among Grade 12 students.

Students were asked whether they think that smoke from other people's cigarettes (secondhand smoke) is harmful. More than 80 percent of students in all grades thought that secondhand was *probably* or *definitely* harmful. Students were also asked whether during the past year they had practiced in their classes ways to say *no* to tobacco—in

role plays, for example. About two-thirds (69.7 percent) of Grade 6 students indicated that they had practiced in class ways to say *no* to tobacco during the past year. This percentage, however, decreased at each grade level, and only about one in seven (14.8 percent) Grade 12 students had practiced tobacco refusal in class.

Students were asked how often during the past 30 days they had seen antismoking commercials on television or heard them on the radio. About two-thirds (67.8 percent) of Grade 6 students reported having seen or heard antismoking ads at least once a week during the past 30 days. About three fourths of the students in the higher grades indicated having seen or heard antismoking ads at least once a week during the past 30 days (77.1 percent of Grade 8 students, 77.7 percent of Grade 10 students, and 73.2 percent of Grade 12 students).

Marijuana

Marijuana use is of concern given its prevalence in adolescent treatment. Nationally, in 1998, 57 percent of youth aged 12 to 17 admitted to treatment reported marijuana as the primary substance of abuse. Thus it is critical to monitor current adolescent use of marijuana.

Marijuana use in the past 30 days decreased from 1998 to 2000 from 16.5 to 12.0 percent among Grade 8 students, from 26.6 to 21.9 percent among Grade 10 students, and from 28.7 to 24.4 percent among Grade 12 students. These declines represent a substantial decrease in the number of marijuana users. For example, given the October 2000 enrollment of 68,580 Grade 12 students, this decline represents a decrease of over 2,900 marijuana users in Grade 12.

Attitudes Toward Alcohol, Tobacco, and Other Drug Use

Among Grade 8 students, from 1988 to 1992 an increase in perceived risk was associated with decreased prevalence of binge drinking. From 1992 to 1995 decreased perception of risk was associated with increased prevalence of binge drinking. More recently, from 1995 to 2000, a continued increase in perceived risk was associated with a leveling and then decreasing prevalence of binge drinking. A similar pattern was observed for marijuana use.

Intentional Injury Behaviors: Fighting and Weapon Carrying

The WSSAHB contained a question that asked students how many times in the past 30 days they had carried a weapon, such as a gun, knife, or club, for self-protection or because they thought they might need it in a fight. Grade 6 students showed a steady decline in weapon carrying from 1992 to 1998, but were not asked this question in 2000. Grade 8 students showed a decrease in weapon carrying from 1992 to 1995 and then again from 1998 to 2000. Grade 10 and Grade 12 students reported decreased weapon carrying from 1992 to 1995, but the prevalence of weapon carrying among these students has been level since then (although the results for Grade 10 students suggest a small continued decline). In 2000 about one in ten Grade 8, 10, and 12 students reported weapon carrying in the past 30 days.

The survey asked students how many times in the past year they had attacked someone with the idea of seriously hurting that person. This behavior decreased from 1998 to 2000 among Grade 8, 10, and 12 students (Grade 6 students were not asked this question). One in eight (12.4 percent) Grade 8 students and about one in ten Grade 10 (10.8 percent) and Grade 12 (9.1 percent) students reported in 2000 that they had attacked someone with the idea of seriously hurting them during the past year.

The WSSAHB contained one question related to depression in 2000. Nearly one in four (23.1 percent) of the Grade 6 students reported having experienced depressive feelings during the past year. Among Grade 8, 10, and 12 students, about one in three reported having experienced depressive feelings during the past year.

School Climate

Students were asked how safe they feel in several areas in school, including the classroom, the halls or stairs, the bathroom, the locker rooms, the playground or school grounds, the lunchroom, on the bus, on the way to school, and on the way home from school. Most students reported feeling generally safe in school. In particular, students reported that the classroom is a safe area (Grade 8 students were most likely to report feeling a little or very unsafe in the classroom; 8.9 percent of Grade 8 students reported this feeling). Students were more likely to report feeling unsafe in the bathrooms and on the playground or school grounds. In general, younger students were less likely than

older students to feel safe at school. For example, one in four Grade 6 students (24.8 percent) reported feeling a little or very unsafe on the playground or school grounds, compared to 23.5 percent of Grade 8 students, 18.7 percent of Grade 10 students, and 12.8 percent of Grade 12 students.

Many students reported experiencing bullying at school, although most did not. Among Grade 6 students, one in five (20.9 percent) reported that other students at school put them down verbally *a lot* or *every day*. Younger students were more likely than older students to report experiencing bullying at school. Students were asked when they last carried a gun; knife or razor; or club, stick, pipe, or other weapon on school property for self-protection or because they thought they might need it in a fight. The percentage of students who reported this behavior in the past month was quite low, although the behavior does occur. One percent or less of the students at each grade level reported carrying a gun to school during the past month.

Risk and Protective Factors for Adolescent Health Behaviors

Decades of research have shown that *risk factors* are associated with increased likelihood of health risk behaviors, including alcohol, tobacco, and other drug abuse and violence and delinquent behaviors. Similarly, *protective factors* exert a positive influence or buffer against the negative influence of risk. This survey included items that assessed risk and protective factors as state agencies and officials have an interest in this model of prevention.

Within the community domain of risk and protective factors, as students get older they are at considerably increased risk on the perceived availability of drugs risk factor. Grade 6 students are more likely than older students to be resilient on the rewards for prosocial involvement risk factor. The strongest correlations between community risk factors and health risk behaviors involve the perceived availability of drugs, and laws and norms favorable toward drug use. The correlations themselves, and their relative strengths, were generally similar in 1998 and 2000.

In the school domain, the percentage of students who were at risk on the little commitment to school risk factor increased for older students, from 35.2 percent of Grade 6 students to 47.3 percent of Grade 12 students. In addition, the percentage of

students who were resilient on the rewards for conventional involvement factor dropped from 60.1 percent of Grade 6 students to 45.0 percent of Grade 12 students. In the school domain, there were moderate correlations between the risk factor of little commitment to school, and alcohol use.

In the peer-individual domain, students report being at risk on the early initiation of drug use, early initiation of problem behavior, favorable attitudes toward drug use, perceived risk of drug use, and friends' use of drugs risk factors. The strongest peer-individual correlates with health risk behaviors were early initiation of drug use, attitudes favorable toward drug use, and friends' use of drugs. Consistent with previous administrations of the WSSAHB, protective factors showed their strongest relationships with health risk behavior in the peer-individual domain. An internal belief in the moral order and positive social skills were associated with lower levels of alcohol use, drug use, delinquent behavior, and violent behavior.

A clear association between the number of risk factors present and the prevalence of lifetime and 30-day alcohol and other drug use was evident. In addition, levels of protection (i.e., the presence of several protective factors in students) were clearly associated with lower rates of alcohol and other drug use.

Chapter 1: Introduction

People across the nation are actively interested in their health and the healthy development of their children. They are concerned about the dangers of alcohol, tobacco, and other drug (ATOD) use and violence. In contrast to the general public's health-related concern, adolescence is often filled with experimentation, risk-taking, and influences not always in the interest of good health. Too often youth suffer the consequences of violence, substance abuse, and other related risk behaviors. Professionals, parents, and policymakers need to actively promote responsible behavior and lifestyles among adolescents, recognizing the interrelationships of the full range of health risk behaviors. Although focusing on any one behavior in isolation may lead to short-term success, such narrow efforts will almost inevitably fall short of promoting long-term improvements and healthy lifestyles.

The Washington State Survey of Adolescent Health Behaviors (WSSAHB) is an effort to recognize the interdependencies of alcohol and other drug use, violence, and related risk and protective factors. The survey estimates the prevalence of major adolescent health risk behaviors and provides crucial information to school officials, health professionals, human service agencies, policymakers, and parents as they work together to ensure the optimum health of young people across the state. The results presented in this report estimate the current status of these health risk behaviors, relate them to characteristics of the students engaging in them, and examine trends in the behaviors over the past 12 years.

The survey results also provide important needs assessment data for program planning and offer a global look at the effectiveness of statewide prevention and health promotion initiatives based on a range of education and health-related goals at the federal and state levels. One of the National Education Goals states that by the year 2000 every school in the United States will be free of drugs, violence, and the unauthorized presence of firearms and alcohol and will offer a disciplined environment conducive to learning. The current President's statement on education, *No Child Left Behind* (Bush, 2001), addresses the importance of school safety. Goal 1 of the 1999 National Drug Control Strategy (Office of National Drug Control Policy, 1999) is

"Educate and enable America's youth to reject illicit drugs as well as alcohol and tobacco;" Goal 2 is "Increase the safety of America's citizens by substantially reducing drug-related crime and violence;" and Goal 3 is "Reduce health and social costs to the public of illegal drug use by reducing the treatment gap." In 1998 the U.S. Department of Education, Safe and Drug-Free Schools and Communities Program, issued the Safe and Drug-Free Schools and Communities Act (SDFSCA) *Principles of Effectiveness* (U.S. Department of Education, 1998). The first principle states that each SDFSCA program shall "base its programs on a thorough assessment of objective data about the drug and violence problems in the schools and communities served."

The Washington Education Reform Act of 1993 established common learning goals intended to raise academic standards and student achievement for all students. The Washington Commission on Student Learning subsequently approved the essential academic learning requirements (EALRs) that define the specific academic skills and knowledge the state's students are required to meet. The EALRs in health and fitness (Washington State Commission on Student Learning, 1998) "establish the concepts and skills necessary for safe and healthy living and, in turn, for successful learning." One of the EALRs states that students will "identify physical, emotional, and legal consequences of using nicotine, alcohol, and other drugs and apply skills to resist any harmful use of substances." The Washington State Board of Health (1998) recommended eight Priority Health Goals for 1999–2001. Two of these priority goals relate to alcohol, tobacco, and other drug use and one relates to violence: reduce tobacco use and exposure to secondhand smoke, reduce misuse of alcohol and other drugs, and reduce the incidence and impact of violence and preventable injuries. The Washington State Governor's Council on Substance Abuse has developed long-term goals to reduce substance abuse in the state. The Council's goals in the area of prevention include "prevent and reduce the misuse of alcohol, tobacco, and other drugs," "focus on outcome-based prevention strategies to increase the effectiveness of prevention efforts," and "increase community ownership and responsibility for the prevention and misuse of alcohol, tobacco, and other drugs."

The results of the WSSAHB are intended to meet a wide variety of information needs by producing:

- Empirical needs assessment data necessary for planning prevention and early intervention programs.
- Data for describing trends of student substance use and abuse and associated risk and protective factors.
- Information on the progress of drug education programs funded under the federal Safe and Drug-Free Schools and Communities Act and the state Omnibus Controlled Substance and Alcohol Abuse Act.
- Data to measure progress towards attainment of the state's targeted benchmarks for substance abuse prevention established by the Governor's Substance Abuse Prevention Advisory Committee.
- Information on the progress of programs implemented pursuant to the state's Youth Violence Act, E2SHB 2319.
- Data for the state's comprehensive, cross-agency database on youth violence developed by the Departments of Health and Social and Health Services.
- Data that can contribute information to local community profiles.
- Data to describe risk and protective factors that can be used by local school and community members as they plan or refine school- and community-based prevention and intervention programs.

The 2000 WSSAHB represents a cooperative effort among the Office of Superintendent of Public Instruction (OSPI); the Washington State Department of Social and Health Services' Division of Alcohol and Substance Abuse (DASA) and Research and Data Analysis (RDA); the Office of Community Development (OCD); the Department of Health (DOH); and the contractor, RMC Research Corporation. These agencies composed the Washington State Survey Policy Committee, which advised every aspect of the survey's development and implementation. In addition, staff from the University of Washington's Social Development Research Group provided consultation on the risk and protective factors assessment portion of the survey.

This administration is the sixth biennial survey of Washington's students in Grades 6, 8, 10, and 12. The first two administrations (Deck and Nickel, 1989; Gabriel, 1991) included questions only about alcohol, tobacco, and other drug use and associated risk

and protective factors. The 1992 and 1995 surveys included coverage of a variety of other health risk behaviors (Einspruch and Pollard, 1993; Gabriel, Deck, Einspruch, and Nickel, 1995). The 1998 survey once again focused on alcohol, tobacco, and other drug use and related risk and protective factors (Einspruch, Gabriel, Deck, and Nickel, 1998).

Participation

A random sample of schools, stratified by geographic region, school size, and percentage minority enrollment, was selected at each grade level to constitute a representative sample of Washington's Grade 6, 8, 10, and 12 students (schools were also ordered by community type within sampling cells to ensure inclusion along that dimension). When a given school declined to participate, due to reasons such as conflicts with other student assessments or objections to the survey content or length, a randomly selected replacement school of the same geographic region, size, percent minority enrollment, and community type was added to take its place. Of those schools asked to participate in the survey, 63 percent with Grade 6 students, 73 percent with Grade 8 students, and 62 percent with Grade 10 and Grade 12 students took part in the survey. (As necessary to complete each cell of the sampling design, 13 nonsampled schools that participated on a volunteer basis were included with the sampled schools: 4 schools for Grade 6, 1 school for Grade 8, and a total of 8 schools for Grades 10 and 12). The data from the participating schools were adjusted using a statistical weighting procedure that realigned the proportionality of responses to reflect the actual statewide enrollment. The resultant weighted responses provide accurate statewide estimates of Washington students' health-related behaviors. Readers interested in a detailed account of the technical methodology of the survey are encouraged to review the forthcoming companion *Technical Report* prepared by RMC Research Corporation.

RMC Research's analysis of the survey information included a series of quality control steps to remove data that were incomplete, obviously inaccurate, or internally inconsistent. Table 1 shows the resultant sample sizes—that is, the number of participating schools and students—at each of the four grade levels. The precision of the estimates presented in this report is a direct result of the size and design of the sample. The results presented in this report are not perfect estimates—rather, there exists a certain margin of error for interpretation. When readers examine the results presented

here and make comparisons between 1998 and 2000 results; they must consider this notion of margin of error. The sample sizes in Table 1 provide sufficient statistical power such that the statewide prevalence rates in this report can be interpreted within plus or minus 3.0 percent at Grades 6 and 8, and within plus or minus 3.5 percent at Grades 10 and 12. These margins of error allow 95 percent confidence in the interpretation of the results.

Table 1:
Number of Schools and Students in Statewide Sample by Grade

Grade Level	Number of Schools	Number of Students
6	37	4,312
8	32	4,980
10	33	4,820
12	33	3,758
Total	98	17,870

Note: More than one grade may have been surveyed in a given school; thus the total number of schools is less than the sum across grades. Numbers represent percent of students responding.

In addition to the number of schools and students included in the statewide sample, 84,662 students in 472 schools participated in the survey on a volunteer basis. These schools received reports of their own results, but their results are not included in this statewide report because these schools were not part of the representative statewide sample. More than twice as many students, and nearly twice as many schools, participated in the 2000 administration of the WSSAHB as compared to 1998, and that administration included more than twice as many students and schools as the 1995 administration. This continued increase in participation may reflect increasing interest across the state in health-related information and is a tribute to the collaboration among the sponsoring agencies and local community members.

Within the sample on which the results presented in this report are based, some key student characteristics include these:

- Nearly equal percentages of males and females at each grade, closely matching the percentages in the population statewide.

- Close representation of students in urban, suburban, and rural schools for Grade 8 students compared to the state's population distribution, although suburban Grade 6 students were somewhat over represented and rural high school students were somewhat over represented.
- Close representation of students by ethnic group to the state's population distribution, although White, non-Hispanic students were a little underrepresented at Grade 6 and Grade 8.

Purpose of This Report

This report provides the results of the 2000 administration of the WSSAHB. Beyond this introduction, the *Analytic Report* contains 6 additional chapters that address the adolescent health behaviors of Washington's students. Chapter 2 presents the prevalence of alcohol, tobacco, and other drug use. These questions, many of which have been used in all previous statewide surveys dating back to 1988, are derived primarily from the National Institute on Drug Abuse (NIDA) *Monitoring the Future* (Johnston, O'Malley and Bachman, 1994; National Institute on Drug Abuse, 2001) survey, the Centers for Disease Control and Prevention's *Youth Risk Behavior Survey* (YRBS; Centers for Disease Control, 1999), and the *Youth Tobacco Survey* (YTS, Centers for Disease Control, 2000). Chapter 3 discusses violence, weapon carrying, and other delinquent behaviors. These questions are derived largely from the Centers for Disease Control and Prevention's *Youth Risk Behavior Survey*. Chapter 4 presents the results from questions regarding school climate. These questions were included for the first time on the 2000 survey. Chapter 5 presents the results of the assessment of risk and protective factors. These questions are derived from a risk and protective factors assessment instrument developed by the Social Development Research Group at the University of Washington (Arthur, Hawkins, Catalano, and Pollard, 1998). Chapter 6 presents background and school- and community-related characteristics of the sample of students to better describe the nature of this sample as it mirrors statewide enrollment at the grade levels surveyed. Chapter 7 concludes this report.

In reporting the results of this survey, the authors provide two comparative frames of reference. First, trends over time—comparisons with results of previous surveys—are presented. These comparisons allow readers to view the trends over past years' reports

of health risk behaviors among Washington's students at the same grade levels. Second, using Healthy People 2010 (U.S. Department of Health and Human Services, 2000a, 2000b) as a starting point, the state has established a specific set of objectives for substance abuse prevention, many of which are measured with student survey data. Where available, the targets for those objectives can be compared to the results of the current survey.

The results presented in this report are the major findings from the WSSAHB survey. Many more possibilities for comparative analysis of the data resulting from this large, statewide effort exist. Appendix A features response frequencies to each of the items contained in the survey. Appendix B features response frequencies by ethnic group to selected items contained in the survey. Readers are referred to the appendices for more detailed information. In addition, other reports of these results will be forthcoming from the state agencies and RMC Research Corporation.

Caution

Readers should bear in mind several cautions regarding the survey data contained in this report:

Representativeness

Every attempt was made to ensure the sample's representativeness of the students in Washington public schools. Although the response rate to the survey was good (62 to 73 percent of recruited schools participated by grade), the possibility exists that the results are not representative of the student population of the state as a whole. The replacement schools were selected to be similar to the refusing schools. Although the use of randomly selected replacement schools is common and accepted survey practice, this effort, the participating or refusing schools might differ on characteristics that might be related to responses to the survey. Participation was achieved from across the state and across sampling strata, including the Seattle and Tacoma School Districts. Thus generalizing the results to all students at these grade levels in Washington public schools may be reasonable.

Trends

In comparing the results of the 2000 survey and earlier surveys, readers should remember that certain factors may influence apparent trends. For example, information about the characteristics of the 1988 and 1990 samples is not readily available. Comparisons with the 1992 survey might be influenced by the inclusion of volunteer schools in the data, although comparisons between the sampled and volunteer schools that year revealed similar levels of substance use. Generally, the trends for substance use in Washington from 1988 to 2000 appear to be similar to national trends.

School Dropouts

In interpreting differences between grade levels, readers should remember that some reported behaviors and risk factors may appear more prevalent in Grade 8 and Grade 10 compared to Grade 12 because of increased school dropouts after age 16 (i.e., prior to Grade 12). It is generally accepted that the results for high school seniors in surveys such as this one underestimate risk behaviors among young people of that age group because many of the students most likely to engage in these kinds of behaviors may have dropped out of school (Johnston et al., 1994). Thus the authors recommend interpreting results for high school seniors with some caution, particularly when their prevalence rates differ markedly from those of students at earlier grades.

The school dropout issue is not new and has also existed in previous Washington State surveys. Unless the current high school population includes a larger or behaviorally different collection of dropouts than in previous years, the bias in Grade 12 estimates is likely similar to what it has been in the past. This fact means that although any given year's data on health risk behaviors among Grade 12 students may be an underestimate, the year-to-year comparisons are likely to be less affected by this bias (Johnston et al., 1994).

Developmental Changes

In interpreting differences between grade levels, readers should remember that developmental changes may influence students' perceptions and accuracy of reporting.

Self-Report Data

The survey measures self-reports, which may be influenced by factors including problems in remembering, social desirability, reading ability, and developmental changes.

Correlational Data

Interrelationships among the variables should not be interpreted as indicating that one variable caused the other. Although this causal relationship might be the case, the reverse might also be true or an apparent relationship might be due to some other measured or unmeasured cause.

Extrapolations

Estimates of the number of students who engage in a particular behavior should be regarded only as estimates because of the issues already described and other issues such as the noninclusion of students who are not attending public schools (including students in private schools, students receiving home schooling, students in correctional facilities, school dropouts, and others).

Chapter 2: Alcohol, Tobacco, and Other Drug Use

Introduction

Alcohol, tobacco, and other drug use among young people has both short- and long-term implications. In the short term, alcohol, tobacco, and other drug use interferes with positive, healthy physical, emotional, and social development. Relationships within families and among friends and satisfactory progress in school are all casualties of substance use. In the long term, alcohol, tobacco, or other drug use is associated with delinquency and criminal activity, unintended injuries, and a variety of severe health complications, including shorter life expectancy (Centers for Disease Control and Prevention, 1994). For example, of the 11.1 million victims of violent crime, almost one in four (2.7 million) report that the offender had been drinking alcohol prior to committing the crime (Greenfeld, 1998). Of the more than 2 million deaths each year in the United States, approximately one in four is attributable to alcohol, tobacco, and illicit drug use (tobacco causes about 430,700 deaths, alcohol causes about 100,000 deaths, and illicit drugs cause about 16,000 deaths)—thus substance abuse is the single largest preventable cause of death in this country (Brandeis University, 2001).

Schools experience the consequences of alcohol, tobacco, and other drug use in a variety of ways, some quite dramatic. The Center on Addiction and Substance Abuse (1997) reported that a national survey of teachers, principals, teens, and parents revealed that 29 percent of the high school students surveyed had indicated that a student in their school had died from an alcohol- or drug-related incident in the past year. The survey also illustrated dramatic differences between students' perceptions of drugs in schools compared to those of teachers and principals (the students thought that drugs were commonplace in their schools, whereas teachers and principals were often unaware of their prevalence).

The economic costs of alcohol, tobacco, and other drug abuse are enormous. Nationwide, the economic cost of alcohol and drug abuse was $276 billion in 1995, in terms of health care, motor vehicle crashes, crime, lost productivity, and other adverse outcomes of alcohol and other drug abuse (Harwood, Fountain, and Livermore, 1998).

Wickizer, Wagner, Atherly, and Beck (1993) studied the economic costs of alcohol and other drugs to Washington State in 1990. The authors estimated that the economic losses in Washington due to alcohol and other drugs was $1.81 billion, or $372 for every man, woman, and child living in the state. The authors also found that alcohol abuse—not other drug abuse—had the greatest economic impact and that for every dollar the state collected in tax revenue from alcohol sales, over seven dollars were spent as a result of alcohol abuse. In 1999 Wickizer updated this figure, estimating that the economic cost of alcohol, tobacco, and other drug use had been $2.54 billion in Washington State in 1996. This figure represents a 39 percent increase over the 1990 cost estimate.

Alcohol use, tobacco use, and other drug use are preventable behaviors. Current research on alcohol, including research into its effects on the brain, genetic and psychosocial influences, medical consequences, prevention, and treatment can be found in the *10th Special Report to the U.S. Congress on Alcohol and Health* (National Institute on Alcohol Abuse and Alcoholism, 2000). The national health objectives for the year 2010 include reductions in alcohol and other drug use as a high priority (U.S. Department of Health and Human Services, 2000a). Although schools can play an important role in substance abuse prevention, they cannot do so without the support and effort of the communities in which they exist. The Healthy People 2010 objective that supports this idea is "Increase the number of communities using partnerships or coalition models to conduct comprehensive substance abuse prevention efforts" (U.S. Department of Health and Human Services, 2000a, 2000b).

Lifetime Prevalence of Alcohol, Tobacco, and Other Drug Use

Lifetime prevalence for most substances was assessed differently in 2000 than in previous survey administrations. In 1998 and earlier administrations, students were asked "Have you ever, even once in your lifetime, used any of the following drugs?" In the 2000 administration students were asked this same question in reference to many substances, although for other substances lifetime prevalence was determined from the students' responses to the question "How old were you when you first . . . ?" followed by a list of drugs and behavioral descriptors (rather than the names of the drugs only—for example, "had more than a sip or two of beer, wine, or hard liquor" rather than "drank alcohol"). Although the new approach appears comparable to earlier

approaches, the changes in the results from 1998 to 2000 are significant enough that they may be due to measurement biases rather than behavioral changes. Readers are, therefore, cautioned against comparing changes over time for these substances.

As in all previous WSSAHB surveys (Deck and Nickel, 1989; Einspruch and Pollard, 1993, Einspruch et al., 1998, Gabriel et al., 1995; Gabriel, 1991), the respondents reported alcohol as the substance of choice. Cigarettes and marijuana followed. These three drugs are often termed *gateway substances,* which refers to initial experimentation with illegal drugs that often leads to more frequent use of these and other substances. Although the majority of people who use marijuana do not go on to use more addictive substances, studies on the influence of gateway drugs indicate that young people who use marijuana are 85 times more likely to use cocaine than those who have never used marijuana (Center on Addiction and Substance Abuse, 1994).

Tables 2 through 5 detail lifetime prevalence for students in Grades 6, 8, 10, and 12 from 1988 through 2000. Lifetime prevalence of inhalant use declined from 1998 to 2000 to its lowest point since 1988 (2.5 percent for Grade 6 students, 9.6 percent for Grade 8 students, and 11.5 percent for Grade 10 students). Lifetime prevalence of amphetamine use declined for students in Grade 8 (4.3 percent), Grade 10 (8.4 percent), and Grade 12 (10.0 percent). Lifetime prevalence of methamphetamine use declined for students in Grade 10 (5.3 percent) and Grade 12 (7.5 percent). Lifetime prevalence of psychedelic drug use appears to have decreased substantially from 1998 to 2000, but the term *psychedelic* was used in 2000, whereas *hallucinogen* had been used in previous administrations. Thus this apparent decrease must be interpreted with caution.

Table 2:

Grade 6 Lifetime Prevalence of Alcohol, Tobacco, and Other Drug Use: 1988–2000

Substance	Percent of Students Responding						Change 1998–2000
	1988	1990	1992	1995	1998	2000	
Alcohol	51.4	33.0	33.0	33.2	39.8	21.2[a]	[b]
Tobacco, cigarettes	12.4	11.3	11.7	20.6	25.7	15.1[a]	[b]
Tobacco, smokeless	9.5	5.4	5.5	7.1	7.8	1.8[a]	[b]
Marijuana	3.6	1.7	1.9	4.9	7.0	2.2[a]	[b]
Hallucinogens (Psychedelics)	1.5	.8	1.2	1.1	2.6	0.8	-1.8
Inhalants	13.0	7.5	7.7	3.9	7.0	2.5	**-4.5**
Over-the-counter drugs	–	7.0	7.8	2.0	–	–	[b]
Cocaine	0.8	0.9	1.1	1.3	2.3	–	[b]
Steroids	1.7	1.2	1.1	1.2	2.6	–	[b]
Other illegal drugs	–	–	1.4	1.6	–	2.4	0.8[c]
Heroin		–	–	–	1.7	–	[b]
Amphetamines	–	–	–	–	3.4	–	[b]
Methamphetamines	–	–	–	–	2.3	–	[b]
Party drugs	–	–	–	–	–	0.9	[b]

Note: Dashes indicate a substance was not represented on that particular year's survey. Statistically significant changes are highlighted in bold.

[a]The presentation of the question changed for the 2000 administration.

[b] No data were available to compare change between 1998 and 2000 administrations.

[c] Figure reflects a change from the 1995 administration year and the 2000 administration year. No data available for the 1998 administration.

Table 3:
Grade 8 Lifetime Prevalence of Alcohol, Tobacco, and Other Drug Use: 1988–2000

Substance	Percent of Students Responding						Change 1998–2000
	1988	1990	1992	1995	1998	2000	
Alcohol	68.9	60.2	55.3	58.1	62.7	45.7[a]	[b]
Tobacco, cigarettes	29.8	32.5	31.0	48.9	48.2	37.1[a]	[b]
Tobacco, smokeless	16.6	13.9	13.1	22.9	14.8	5.2[a]	[b]
Marijuana	14.4	11.2	9.0	27.2	28.2	19.7[a]	[b]
Hallucinogens (Psychedelics)	4.0	5.0	5.6	9.3	8.7	4.7	**-4.0**
Inhalants	17.3	17.1	17.4	14.5	14.3	9.6	**-4.7**
Over-the-counter drugs	–	13.8	11.1	11.6	–	–	[b]
Cocaine	2.0	3.0	2.0	5.5	5.2	–	-0.3[c]
Steroids	3.0	2.0	1.0	2.5	2.6	2.2	-0.4
Other illegal drugs	–	–	4.0	8.4	–	–	[b]
Heroin	–	–	–	–	2.6	1.4	-1.2
Amphetamines	–	–	–	–	8.4	4.3	-4.1
Methamphetamines	–	–	–	–	4.6	2.0	-2.6
Party drugs	–	–	–	–	–	4.8	[b]

Note: Dashes indicate a substance was not represented on that particular year's survey. Statistically significant changes are highlighted in bold.
[a]The presentation of the question changed for the 2000 administration.
[b]No data were available to compare change between 1998 and 2000 administrations.
[c]Figure reflects the change from the 1995 administration year and the 1998 administration year. No data available for the 2000 administration.

Table 4:
Grade 10 Lifetime Prevalence of Alcohol, Tobacco, and Other Drug Use: 1988–2000

Substance	Percent of Students Responding						Change 1998–2000
	1988	1990	1992	1995	1998	2000	
Alcohol	84.1	75.7	70.3	70.5	79.7	65.0[a]	[b]
Tobacco, cigarettes	43.1	43.4	43.7	55.7	63.4	52.2[a]	[b]
Tobacco, smokeless	21.5	22.1	23.2	30.7	25.8	14.3[a]	[b]
Marijuana	32.7	21.5	22.8	39.1	49.5	37.6[a]	[b]
Hallucinogens (Psychedelics)	12.1	9.1	11.1	15.4	18.8	10.7	**-8.1**
Inhalants	19.5	17.7	15.6	12.3	15.3	11.5	**-3.8**
Over-the-counter drugs	–	23.2	18.4	12.3	–	–	[b]
Cocaine	8.1	4.3	3.5	7.4	9.4	6.0	-3.4
Steroids	4.9	3.0	2.2	2.1	3.1	2.9	-0.2
Other illegal drugs	–	–	7.9	11.6	–	–	[b]
Heroin	–	–	–	–	3.9	1.9	-2.0
Amphetamines	–	–	–	–	14.6	8.4	**-6.2**
Methamphetamines	–	–	–	–	9.8	–	[b]
Party drugs	–	–	–	–	–	9.3	[b]

Note: Dashes indicate a substance was not represented on that particular year's survey. Statistically significant changes are highlighted in bold.
[a]The presentation of the question changed for the 2000 administration.
[b]No data were available to compare change between 1998 and 2000 administrations.

Table 5:
Grade 12 Lifetime Prevalence of Alcohol, Tobacco, and Other Drug Use: 1990–2000

Substance	Percent of Students Responding					Change 1998–2000
	1990	1992	1995	1998	2000	
Alcohol	83.0	79.8	82.1	84.2	76.0[a]	[b]
Tobacco, cigarettes	51.7	52.6	64.7	68.4	60.9[a]	[b]
Tobacco, smokeless	28.5	27.9	37.7	35.0	24.8[a]	[b]
Marijuana	34.0	32.9	43.5	55.1	50.5[a]	[b]
Hallucinogens (Psychedelics)	13.7	16.8	18.7	23.8	15.1	**-8.7**
Inhalants	16.4	13.1	11.0	13.3	13.1	-0.2
Over-the-counter drugs	27.2	22.3	11.6	–	–	[b]
Cocaine	7.8	4.6	7.6	9.7	9.2	-0.5
Steroids	3.2	2.4	2.4	3.0	2.9	-0.1
Other illegal drugs	–	9.5	11.1	–	–	[b]
Heroin	–	–	–	3.6	2.4	-1.2
Amphetamines	–	–	–	14.9	10.0	**-4.9**
Methamphetamines	–	–	–	11.0	7.5	**-3.5**
Party drugs	–	–	–	–	13.5	[b]

Note: Dashes indicate a substance was not represented on that particular year's survey. In 1988 Grade 12 was not surveyed. Statistically significant changes are highlighted in bold.
[a]The presentation of the question changed for the 2000 administration.
[b]No data were available to compare change between 1998 and 2000 administrations.

The 2000 survey was the first administration that asked students about their use of party drugs (e.g., ecstasy). Almost none of the Grade 6 students (0.9 percent) had ever tried party drugs. This percentage increased among the older students: 4.8 percent of Grade 8 students, 9.3 percent of Grade 10 students, and 13.5 percent of Grade 12 students had tried party drugs at some time in their lives.

Students begin experimenting with alcohol and other drugs at an early age. The younger the age of drinking onset, the greater the chance that an individual will develop a clinically defined alcohol disorder at some point in life. For example, Grant and Dawson (1997) found that young people who began drinking before age 15 were four times more likely to develop alcohol dependence than those who began drinking at

age 21. The state's substance abuse prevention target is "Increase the average age of first use of alcohol, tobacco, and marijuana to age 16."

Table 6 shows the average age of first use for those respondents who had ever tried a given substance (the row labeled $\bar{X}$ shows the average age of first use, the row labeled *n* shows the number on which this average was computed, and the row labeled *SD* shows the standard deviation). On average, Grade 6 students reported having more than a sip or two of beer, wine, or hard liquor at 10.5 years of age, whereas Grade 12 students reported being 13.9 years of age. Grade 6 students reported that they began drinking alcoholic beverages at least once or twice a month at 10.7 years of age, whereas Grade 12 students reported being 15.3 years of age. Grade 6 students were 10.3 years of age when they first smoked a cigarette (even just a puff), whereas Grade 12 students were 13.0 years of age. Grade 6 students were 10.8 years of age when they first smoked marijuana, whereas Grade 12 students were 14 years of age. These average ages are virtually identical to the averages reported in 1998, indicating that average age of first use has not changed over the past two years.

Table 6:
Average Age of First Use

Factor		Grade 6	Grade 8	Grade 10	Grade 12
More than a sip of beer, wine, or hard liquor	$\overline{X}$	10.5	11.5	12.8	13.9
	n	825	2,140	2,954	2,725
	SD	0.7	1.3	1.3	2.2
Began drinking at least once or twice a month	$\overline{X}$	10.7	12.1	13.9	15.3
	n	157	751	1,538	1,712
	SD	1.0	1.3	1.5	1.6
Smoked a cigarette, even just a puff	$\overline{X}$	10.3	11.1	12.0	13.0
	n	590	1,750	2,412	2,190
	SD	0.6	1.2	1.7	2.1
Smoked marijuana	$\overline{X}$	10.8	11.9	13.3	14.3
	n	88	932	1,740	1,819
	SD	1.1	1.2	1.6	1.8

Current Use of Alcohol, Tobacco, and Other Drugs

Although lifetime prevalence trends are of great concern, readers must remember that these trends reflect in part experimental use. Lifetime prevalence is the percentage of students who have ever tried a substance, even if only on one occasion. An indicator of more current use is represented by students' responses to questions about substance use in the past 30 days.

Tables 7 through 10 detail Grade 6, 8, 10, and 12 students' alcohol, tobacco, and other drug use in the past 30 days. Because the survey question regarding alcohol changed in 2000, the results are not comparable to those from previous survey administrations. The question regarding hallucinogens also changed: in 2000 the term *psychedelic* was used, whereas *hallucinogens* had been used in previous administrations.

Alcohol is clearly the substance of choice among students, followed by cigarettes and marijuana. In addition, students reported increased prevalence, as they got older. For example, alcohol use in the past 30 days was reported by 6.6 percent of Grade 6 students and by 46.8 percent of Grade 12 students. Cigarette use in the past 30 days was

reported by 4.0 percent of Grade 6 students and 27.6 percent of Grade 12 students. Marijuana use in the past 30 days was reported by 1.5 percent of Grade 6 students and 24.4 percent of Grade 12 students.

Smokeless tobacco and marijuana were the only substances that showed a change in 30-day prevalence. Smokeless tobacco use decreased from 6.7 to 2.1 percent among Grade 8 students, from 9.6 to 4.6 percent among Grade 10 students, and from 12.4 to 8.8 percent among Grade 12 students. Marijuana use decreased from 16.5 to 12.0 percent among Grade 8 students, from 26.6 to 21.9 percent among Grade 10 students, and from 28.7 to 24.4 percent among Grade 12 students.

The Governor's Substance Abuse Prevention Advisory Committee's objectives for current substance use include:

- Reduce the prevalence of alcohol use to 6 percent for Grade 6 students, 15 percent for Grade 8 students, 24 percent for Grade 10 students, and 34 percent for Grade 12 students.
- Reduce the prevalence of marijuana use to 1 percent for Grade 6 students, 8 percent for Grade 8 students, 10 percent for Grade 10 students, and 14 percent for Grade 12 students.
- Reduce the prevalence of cigarette use to 3 percent for Grade 6 students, 10 percent for Grade 8 students, 15 percent for Grade 10 students, and 34 percent for Grade 12 students.
- Reduce the prevalence of binge drinking in the past two weeks to 4 percent for Grade 6 students, 12 percent for Grade 8 students, 18 percent for Grade 10 students, and 20 percent for Grade 12 students.

Table 7:
Grade 6 Prevalence of Alcohol, Tobacco, and Other Drug Use in the Past 30 Days: 1990–2000

Substance	Percent of Students Responding					Change 1998–2000
	1990	1992	1995	1998	2000	
Alcohol	11.8	12.8	12.2	13.8	6.6[a]	[b]
Tobacco, cigarettes	2.4	2.8	4.3	4.7	4.0	-0.7
Tobacco, smokeless	–	–	3.6	3.5	0.8	-2.7
Marijuana	1.3	1.3	3.1	3.4	1.5	-1.9
Hallucinogens (Psychedelics)	–	–	–	1.3	0.6	-0.7
Inhalants	–	–	2.7	3.2	1.4	-1.8
Cocaine	–	–	1.0	1.1	–	[b]
Other illegal drugs	–	1.4	1.3	–	1.0	-0.3[c]
Heroin	–	–	–	0.6	–	[b]
Amphetamines	–	–	–	1.4	–	[b]
Methamphetamines	–	–	–	0.9	–	[b]
Party drugs	–	–	–	–	0.7	[b]

Note: Dashes indicate a substance was not represented on that particular year's survey. Statistically significant changes are highlighted in bold.
[a]The presentation of the question changed for the 2000 administration.
[b]No data were available to compare change between 1998 and 2000 administrations.
[c]Figure reflects a change from the 1995 administration year and the 2000 administration year. No data available for the 1998 administration.

Table 8:
Grade 8 Prevalence of Alcohol, Tobacco, and Other Drug Use in the Past 30 Days: 1990–2000

Substance	Percent of Students Responding					Change 1998–2000
	1990	1992	1995	1998	2000	
Alcohol	29.1	24.0	30.1	31.0	22.3[a]	[b]
Tobacco, cigarettes	12.1	10.3	18.8	15.2	12.5	-2.7
Tobacco, smokeless	–	–	11.5	6.7	2.1	**-4.6**
Marijuana	7.6	6.1	16.2	16.5	12.0	**-4.5**
Hallucinogens (Psychedelics)	–	–	–	3.8	3.1	-0.7
Inhalants	–	–	7.3	6.6	4.9	-1.7
Cocaine	3.1	2.0	3.6	2.5	1.5	-1.0
Other illegal drugs	5.4	5.0	6.9	–	–	[b]
Heroin	–	–	–	1.3	0.8	-0.5
Amphetamines	–	–	–	3.9	2.7	-1.2
Methamphetamines	–	–	–	2.3	1.2	-1.1
Party Drugs	–	–	–	–	3.4	[b]

Note: Dashes indicate a substance was not represented on that particular year's survey.
Statistically significant changes are highlighted in bold.
[a]The presentation of the question changed for the 2000 administration.
[b]No data were available to compare change between 1998 and 2000 administrations.

Table 9:
Grade 10 Prevalence of Alcohol, Tobacco, and Other Drug Use in the Past 30 Days: 1990–2000

Substance	Percent of Students Responding					Change 1998–2000
	1990	1992	1995	1998	2000	
Alcohol	44.0	40.0	37.0	44.9	37.6[a]	[b]
Tobacco, cigarettes	15.5	17.1	20.9	21.8	19.8	-2.0
Tobacco, smokeless	–	–	15.3	9.6	4.6	**-5.0**
Marijuana	10.6	13.2	23.0	26.6	21.9	**-4.7**
Hallucinogens (Psychedelics)	–	–	–	5.8	5.8	0
Inhalants	–	–	5.4	3.9	3.6	-0.3
Cocaine	2.1	2.1	3.2	3.2	2.6	-0.6
Other illegal drugs	7.2	7.3	6.1	–	–	[b]
Heroin	–	–	–	1.3	1.0	-0.3
Amphetamines	–	–	–	5.6	4.5	-1.1
Methamphetamines	–	–	–	3.8	2.6	-1.2
Party Drugs	–	–	–	–	6.2	[b]

Note: Dashes indicate a substance was not represented on that particular year's survey. Statistically significant changes are highlighted in bold.
[a]The presentation of the question changed for the 2000 administration.
[b]No data were available to compare change between 1998 and 2000 administrations.

Table 10:
Grade 12 Prevalence of Alcohol, Tobacco, and Other Drug Use in the Past 30 Days: 1990–2000

Substance	Percent of Students Responding					Change 1998–2000
	1990	1992	1995	1998	2000	
Alcohol	52.0	51.8	44.8	52.0	46.8[a]	[b]
Tobacco, cigarettes	20.7	22.3	24.0	28.6	27.6	-1.0
Tobacco, smokeless	–	–	18.2	12.4	8.8	**-3.6**
Marijuana	15.9	17.3	23.3	28.7	24.4	**-4.3**
Hallucinogens (Psychedelics)	–	–	–	6.0	6.5	0.5
Inhalants	–	–	2.7	2.3	2.4	0.1
Cocaine	2.6	2.0	1.9	2.7	2.8	0.1
Other illegal drugs	8.8	8.2	5.1	–	–	[b]
Heroin	–	–	–	0.7	0.8	0.1
Amphetamines	–	–	–	3.6	4.0	0.4
Methamphetamines	–	–	–	2.9	2.9	0.0
Party drugs	–	–	–	–	6.8	[b]

Note. Dashes indicate a substance was not represented on that particular year's survey. Statistically significant changes are highlighted in bold.
[a]The presentation of the question changed for the 2000 administration.
[b]No data were available to compare change between 1998 and 2000 administrations.

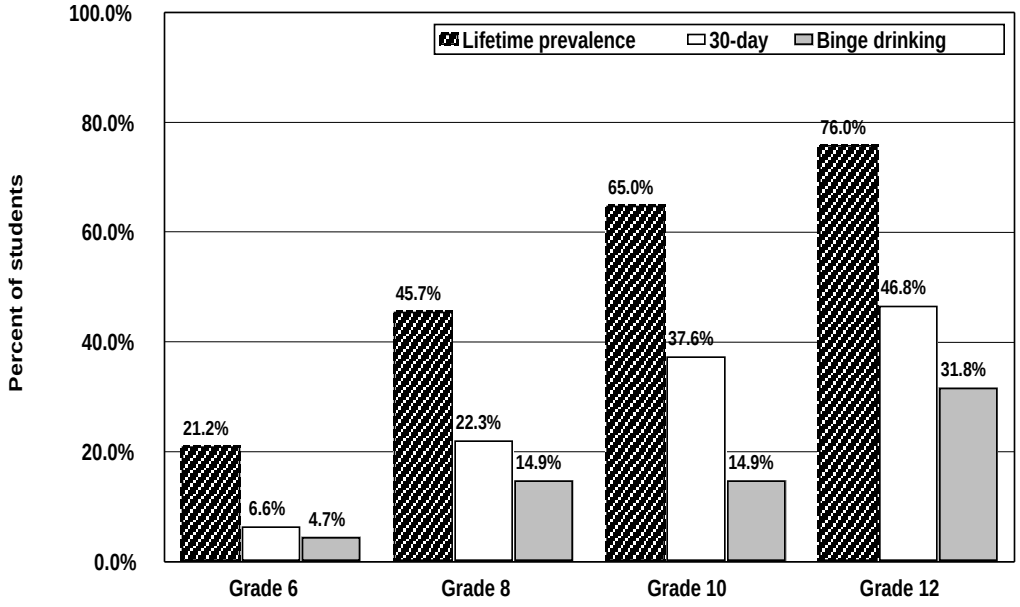
The 2000 survey was the first administration in which students were asked about use of party drugs (e.g., ecstasy). Almost no Grade 6 students (0.7 percent) had used party drugs in the past 30 days, but this percentage increased among older students: 3.4 percent of Grade 8 students, 6.2 percent of Grade 10 students, and 6.8 percent of Grade 12 students had used party drugs in the past 30 days.

Alcohol

Alcohol has been reported as the substance of choice (i.e., the substance most frequently used) among Washington's students in each of the six administrations of the WSSAHB. Figure 1 presents three standard indicators of alcohol use: lifetime prevalence, 30-day use, and binge drinking. This figure shows that rates of alcohol use increase by grade level. Among the Grade 6 students, 21.2 percent had tried alcohol at some time in their lives, 6.6 percent reported alcohol use in the past 30 days, and 4.7 percent reported

binge drinking (i.e., consuming five or more drinks in a row) during the past two weeks. These rates increase at each grade level. Seventy–six percent of the Grade 12 students had tried alcohol at some time in their lives, 46.8 percent reported alcohol use in the past 30 days, and 31.8 percent reported binge drinking during the past two weeks.

Figure 1:
Alcohol Use in Grades 6, 8, 10, and 12

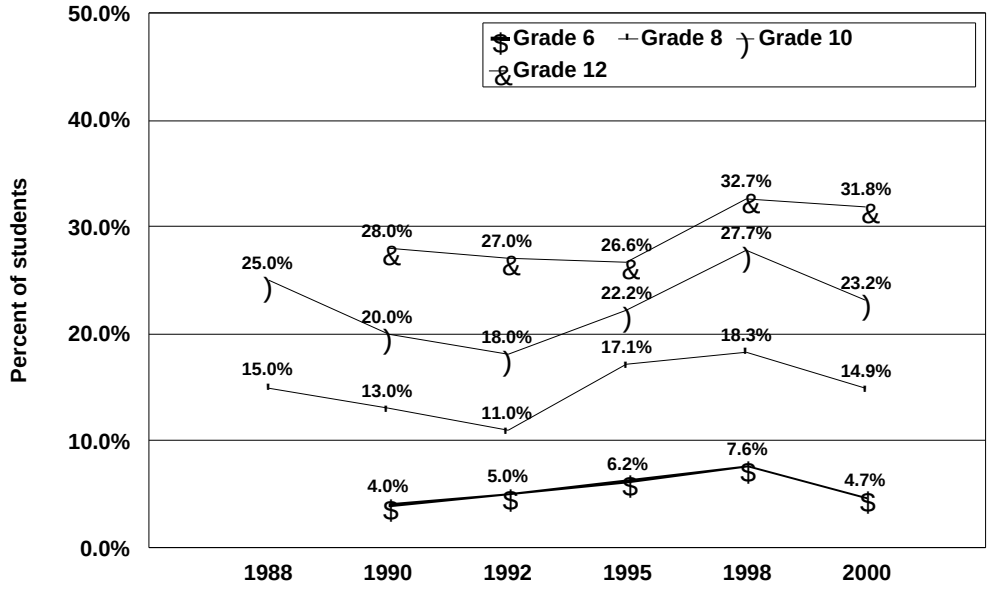


Changes in alcohol use over time can be traced from 1988 to 1998, but the year 2000 marks the beginning of a new trend line due to changes in the wording of the question regarding alcohol use in the past 30 days. Nationally, 22.4 percent of Grade 8 students, 41.0 percent of Grade 10 students, and 50.0 percent of Grade 12 students reported alcohol use in the past 30 days.

Figure 2 illustrates changes in binge drinking among Washington students over the past 12 years. After an essentially steady increase from 1992 to 1998, binge drinking decreased among students in Grades 6, 8, and 10 and leveled off among students in Grade 12. The rates of binge drinking remained, however, alarmingly high in 2000: 4.7 percent of Grade 6 students, 14.9 percent of Grade 8 students, 23.2 percent of Grade 10 students, and 31.8 percent of Grade 12 students reported binge drinking in the past two

weeks. Nationally, 14.1 percent of Grade 8 students, 26.2 percent of Grade 10 students, and 32.3 percent of Grade 12 students reported binge drinking in the past two weeks.

Figure 2:
Trends in Prevalence of Binge Drinking in Past Two Weeks in Grades 6, 8, 10, and 12



Patterns of alcohol use by gender varied by grade level. Among Grade 6 students, males were more likely than females to report alcohol use in the past 30 days (7.9 percent compared to 5.5 percent). Among Grade 8 students, females were more likely than males to report alcohol use in the past 30 days (24.2 percent compared to 20.0 percent). Among Grade 10 students, 30-day prevalence was similar for males (36.7 percent) and females (38.1 percent), but males were more likely than females to report having had 10 or more drinks during the past 30 days (7.8 percent compared to 4.7 percent). Among Grade 12 students, males were more likely than females to report alcohol use in the past 30 days (49.2 percent compared to 44.5 percent). Although statistically significant, these differences are not great enough to be of much practical significance.

Patterns of binge drinking by gender also varied by grade level. Among Grade 6 students, males were more likely than females to report binge drinking in the past two weeks (5.7 percent compared to 3.8 percent). Among Grade 8 students, males and females were equally likely to report binge drinking (14.2 percent compared to 15.4

percent). Among Grade 10 students, binge drinking rates were similar for males (23.4 percent) and females (22.7 percent), but males were more likely than females to report binge drinking 10 or more times during the past two weeks (3.0 percent compared to 1.5 percent). Among Grade 12 students, males were more likely than females to report binge drinking in the past two weeks (37.8 percent compared to 25.6 percent).

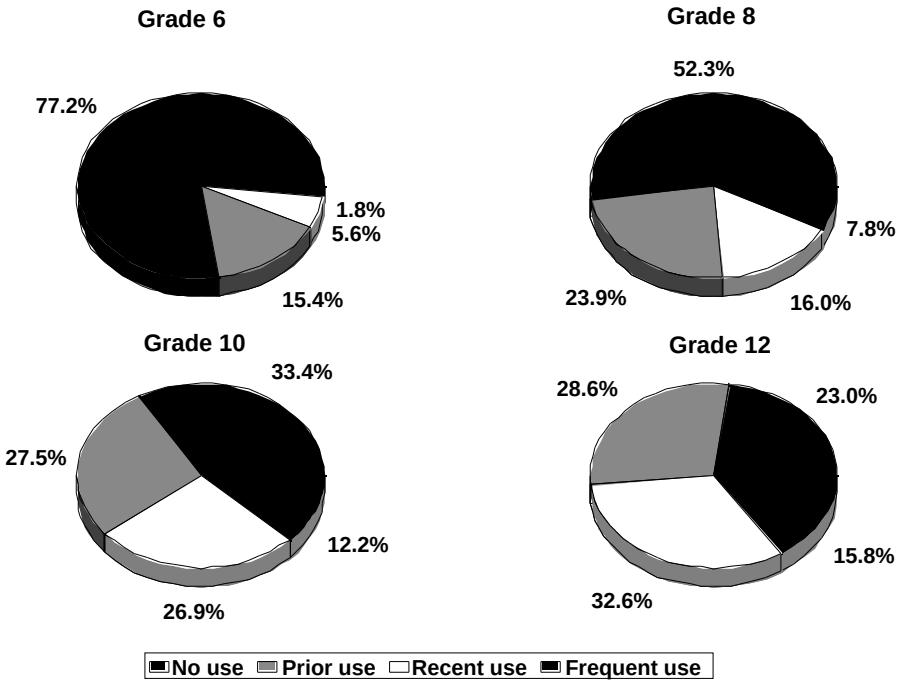
Patterns of alcohol use also varied by ethnic group. American Indian / Alaskan Natives reported the highest levels of alcohol use (59.1 percent of Grade 12 students), followed by Hispanics (52.9 percent of Grade 12 students), Black or African American non-Hispanics (47.3 percent of Grade 12 students), White non-Hispanics (47.0 percent of Grade 12 students), and Asian / Pacific Islanders (37.8 percent of Grade 12 students). Readers are, however, cautioned against overinterpreting these results due to the small numbers of survey respondents included in some ethnic groups. Detailed results by ethnic group are in Appendix B of this report.

The prevalence of the students' experimentation with alcohol and the quantity and frequency with which they consumed alcohol were combined to form a composite index of alcohol use for interpretive purposes. Combining the data from several items that ask about different aspects of alcohol use produces for school and health officials a more global assessment of the prevalence of varying levels of problematic alcohol use (specific details about the scaling of this composite index are available in the Technical Report). Because of the addition of new items or changes in wording of previously used items, this scale is different from the one used by the authors in reports from previous WSSAHB administrations. A consequence of this difference is that comparing the 2000 results on this composite scale of alcohol use with the results from previous years' composite scales of alcohol use is not possible.

The composite alcohol use scale consists of four levels: (a) *no use*—never having tried one full drink of any form of alcohol, (b) *prior use*—some experimentation with alcohol, but no use in the past 30 days, (c) *some recent use*—having had at least one full drink in the past 30 days, and (d) *frequent use*—having drunk alcohol ten or more times in the past 30 days or binge drinking three or more times in the past two weeks. Figure 3 shows the results from this composite scale, reiterating the finding that students use alcohol more as they get older. In particular, whereas only 5.6 percent of Grade 6

students reported recent use and 1.8 percent reported frequent use, among Grade 12 students 32.6 percent reported recent use and 15.8 percent reported frequent use.

Figure 3:
Composite Scale: Alcohol Use in Grades 6, 8, 10, and 12



Students were asked how they usually obtain alcohol. Table 11 shows that about half of the Grade 6 students who reported drinking alcohol obtained their alcohol at home and their parents knew about it. In contrast, one-half to two-thirds of Grades 8, 10, and 12 students who reported drinking obtained their alcohol from friends. In addition, as students got older the percentage who reported asking adults to buy alcohol for them or who purchased alcohol themselves increased. These patterns are similar to those found in the 1998 survey administration.

Table 11:
Methods of Obtaining Alcohol in Grades 6, 8, 10, and 12

Method of obtaining	Grade 6	Grade 8	Grade 10	Grade 12
I don't drink	93.0	74.9	55.3	43.8
From home, parents don't know	1.2	4.7	4.0	1.5
Ask adults to purchase or buy myself	0.3	1.5	5.9	11.0
From home, parents know	3.8	6.5	6.7	6.5
From friends	1.7	12.4	28.1	37.3

Note: Figures represent percentages of students responding.

Tobacco

Smoking is the leading cause of preventable disease and death in the United States and the health consequences of smoking impose a considerable toll on society. Smoking is a major risk factor for heart disease, stroke, lung cancer, and chronic lung diseases. Direct medical costs related to smoking total at least $50 billion per year (Centers for Disease Control and Prevention, 1994) and direct medical costs related to smoking during pregnancy are approximately $1.4 billion per year (Centers for Disease Control and Prevention, 1997). Targets adopted by the Governor's Substance Abuse Prevention Advisory Committee related to tobacco use include:

- Reduce the proportion of Grade 6 students reporting cigarette use during the past 30 days to 3 percent.
- Reduce the proportion of Grade 8 students reporting cigarette use during the past 30 days to 10 percent.
- Reduce the proportion of Grade 10 students reporting cigarette use during the past 30 days to 15 percent.
- Reduce the proportion of Grade 12 students reporting cigarette use during the past 30 days to 20 percent.

Figure 4 illustrates cigarette use across grades as reported in the 2000 WSSAHB administration. As the students got older they were more likely to report having ever tried cigarettes and having used cigarettes in the past 30 days. For example, 15.1 percent of Grade 6 students, but 60.9 percent of Grade 12 students, had tried cigarettes at some point in their lives. Similarly, 4.0 percent of Grade 6 students, but 27.6 percent of Grade 12 students had smoked cigarettes in the past 30 days.

Figure 4:
Cigarette Use in Grades 6, 8, 10, and 12

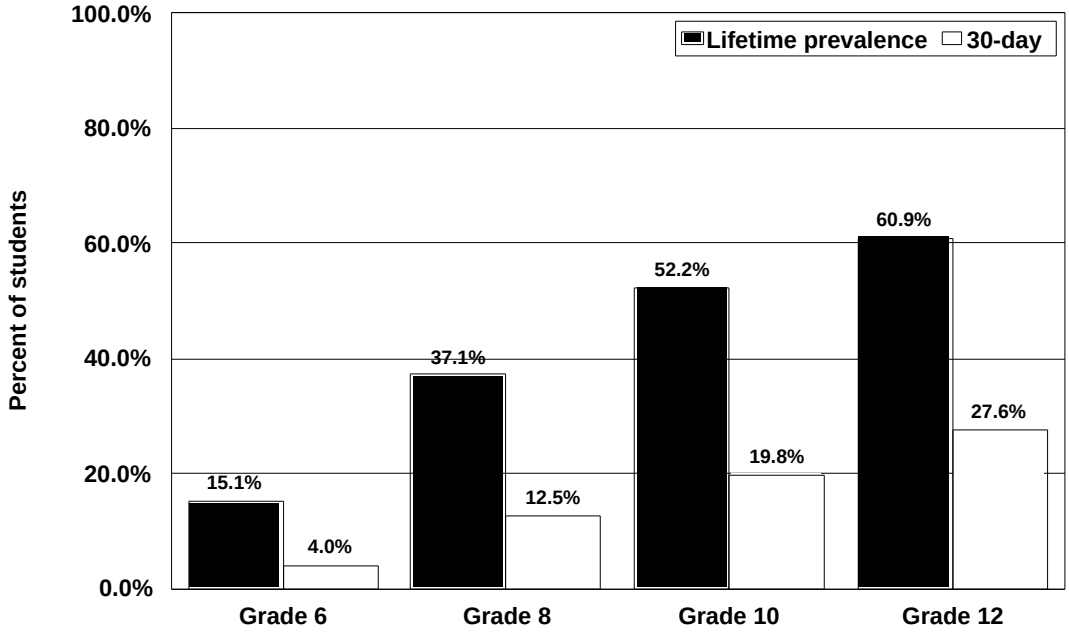
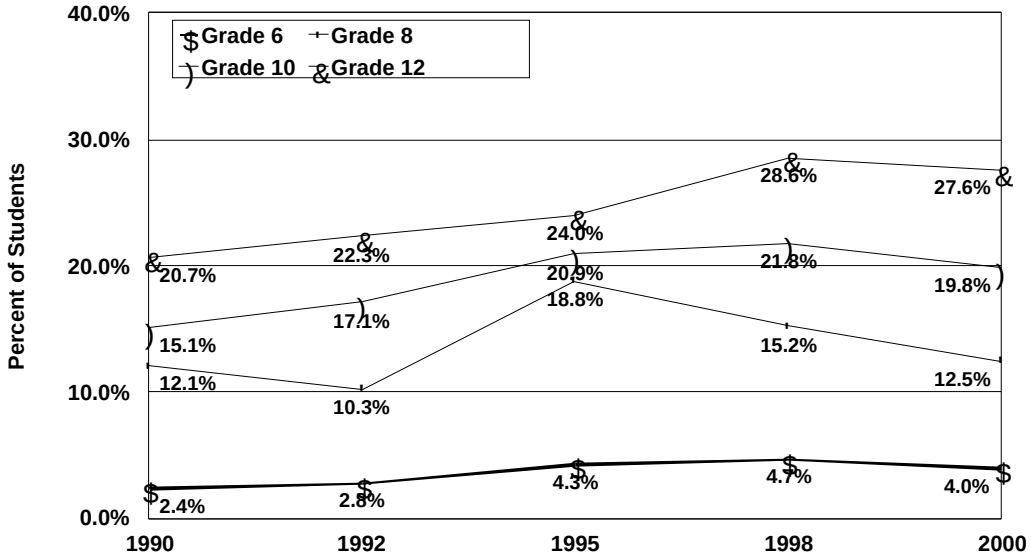


Figure 5 shows changes in student use of cigarettes in the past 30 days from 1990 through 2000. Cigarette use among Grade 6 students remained essentially unchanged (4.0 percent in 2000). Among Grade 8 students cigarette use in the past 30 days increased from 12.1 percent in 1990 to 18.8 percent in 1995 and then decreased to 12.5 percent in 2000. Among Grade 10 students cigarette use climbed from 1990 (15.1 percent) to 1995 (20.9 percent) and has remained steady since then (19.8 percent in 2000). Among Grade 12 students cigarette use climbed from 1990 (20.7 percent) to 1998 (28.6 percent) and leveled in 2000 (27.6 percent).

Figure 5:
Trends in 30-Day Prevalence of Cigarette Use in Grades 6, 8, 10, and 12



Among Grade 6 and Grade 12 students, males and females reported similar patterns of cigarette smoking in the past 30 days. Grade 8 and Grade 10 females were, however, more likely than males to report cigarette use in the past 30 days. Among Grade 8 students, 14.5 percent of females smoked cigarettes in the past 30 days, compared to 10.3 percent of males. Among Grade 10 students, 21.9 percent of females smoked cigarettes in the past 30 days, compared to 17.5 percent of males.

Patterns of cigarette use also varied by ethnic group. American Indian / Alaskan Natives generally reported the highest levels of cigarette use (for example, 44.9 percent of Grade 12 students) and Asian / Pacific Islanders generally reported the least use (for example, 17.1 percent of Grade 12 students). Cigarette use by members of other ethnic groups generally was within this range, although patterns varied by grade level. Readers are cautioned against overinterpreting these results due to the small numbers of survey respondents included in some ethnic groups.

Similar to patterns observed for cigarette use, lifetime and 30-day prevalence of smokeless tobacco use increased as students got older. Figure 6 shows that 1.8 percent of Grade 6 students had ever tried smokeless tobacco and 0.8 percent had used it in the

past month. Among Grade 12 students, however, 24.8 percent had ever tried smokeless tobacco and 8.8 percent had used it in the past month.

Figure 6:
Smokeless Tobacco Use in Grades 6, 8, 10, and 12

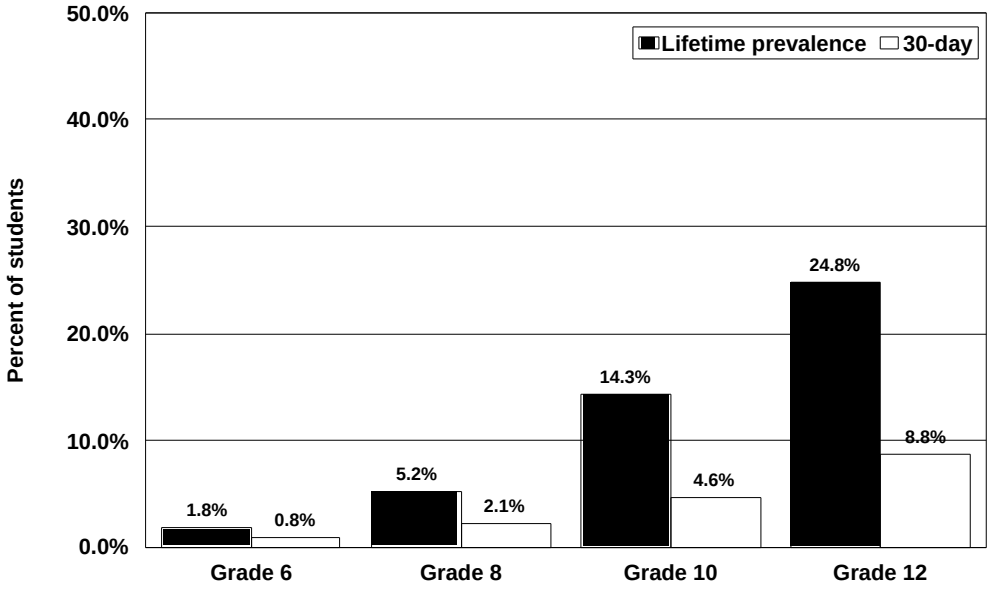
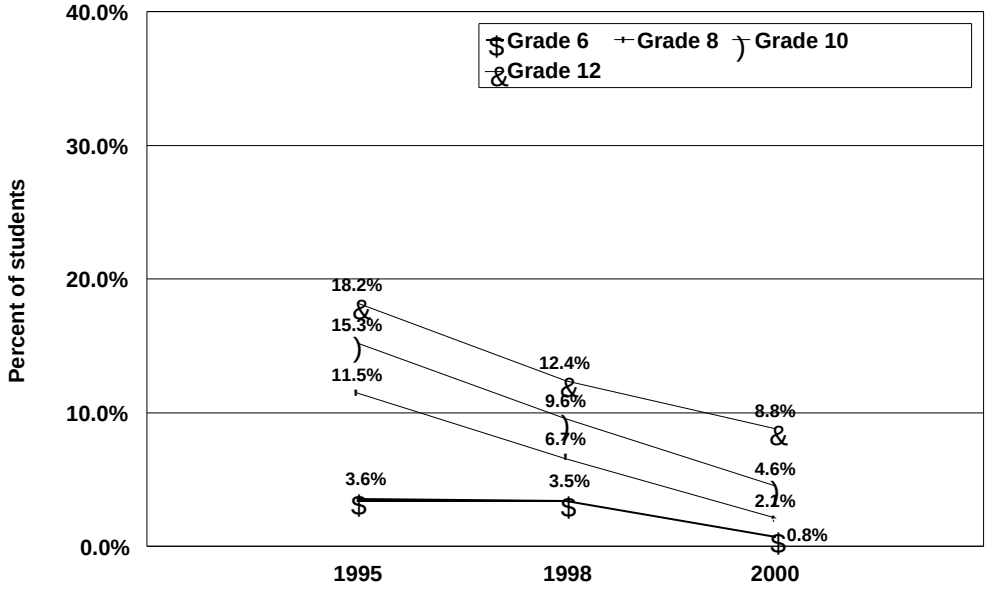


Figure 7 shows changes in prevalence of 30-day smokeless tobacco use from 1995 (the first year this substance was included in the survey) to 2000. Students in Grades 8, 10, and 12 showed marked declines in smokeless tobacco use over this period of time.

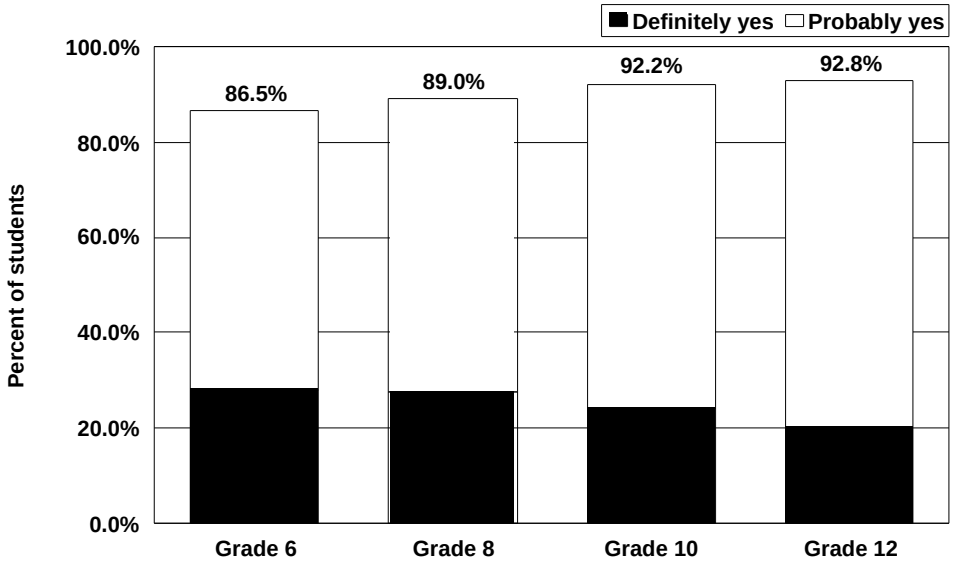
Figure 7:
Trends in 30-Day Smokeless Tobacco Use



Exposure to secondhand smoke has serious health effects (California Environmental Protection Agency, 1997; U.S. Department of Health and Human Services, 1986; U.S. Environmental Protection Agency, 1992). Each year, secondhand smoke causes an estimated 3,000 nonsmokers to die of lung cancer, and causes 150,000 to 300,000 infants and children under age 18 months to experience lower respiratory tract infections. Secondhand smoke exposure also causes heart disease among adults (Glantz and Parmely, 1995; Pirkle et al., 1996).

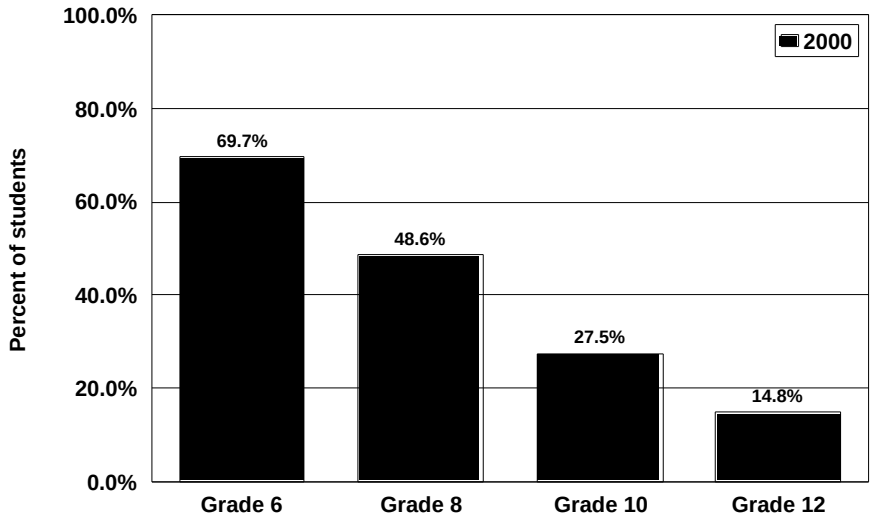
The surveyed students indicated whether they thought that smoke from other people's cigarettes (secondhand smoke) is harmful. More than 85 percent of students in all grades believed that secondhand smoke was *probably* or *definitely* harmful (see Figure 8).

Figure 8:
Perceived Risk of Secondhand Smoke



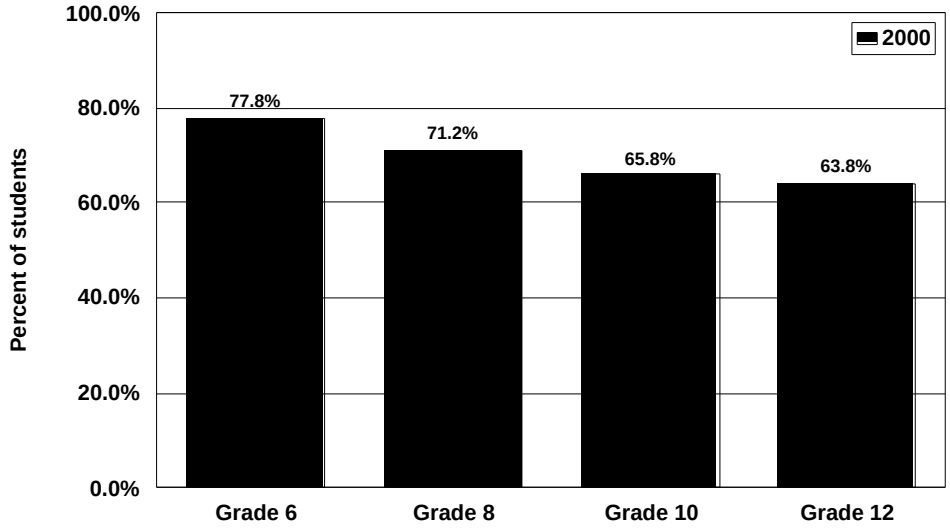
Students were also asked whether during the past year they had practiced in their classes ways to say *no* to tobacco—in role plays, for example. About two-thirds (69.7 percent) of the Grade 6 students indicated that they had practiced in class ways to say *no* to tobacco during the past year. This percentage decreased at each grade level, however, and only about one in seven (14.8 percent) Grade 12 students had practiced tobacco refusal. Figure 9 illustrates these findings.

Figure 9:
Students Who Practiced Tobacco Refusal Skills in Class



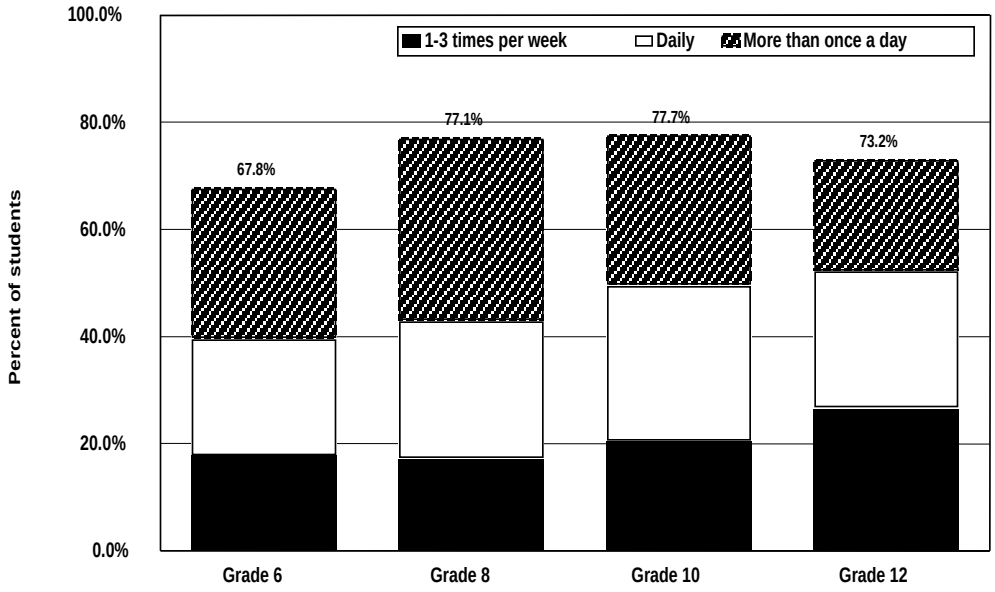
The survey asked students whether their parents or guardians had discussed the dangers of tobacco use with them. About three-fourths (77.8 percent) of Grade 6 students indicated that such a discussion had occurred. Students in each higher grade were somewhat less likely to answer that this had been the case; about two-thirds (63.8 percent) of Grade 12 students reported that they had discussed the dangers of tobacco use with their parents or guardians (see Figure 10).

Figure 10:
Students Who Had Discussed the Dangers of Tobacco Use With Parents or Guardians



Students reported how often during the past 30 days they had seen antismoking ads on television or heard them on the radio. About two-thirds (67.8 percent) of Grade 6 students reported having seen or heard antismoking ads at least once a week during the past 30 days. About three-fourths of the students in the higher grades indicated having seen or heard antismoking ads at least once a week during the past 30 days (77.1 percent of Grade 8 students, 77.7 percent of Grade 10 students, and 73.2 percent of Grade 12 students). Figure 11 shows these findings.

Figure 11:
Student Exposure to Antismoking Television and Radio Ads in the Past 30 Days



Marijuana

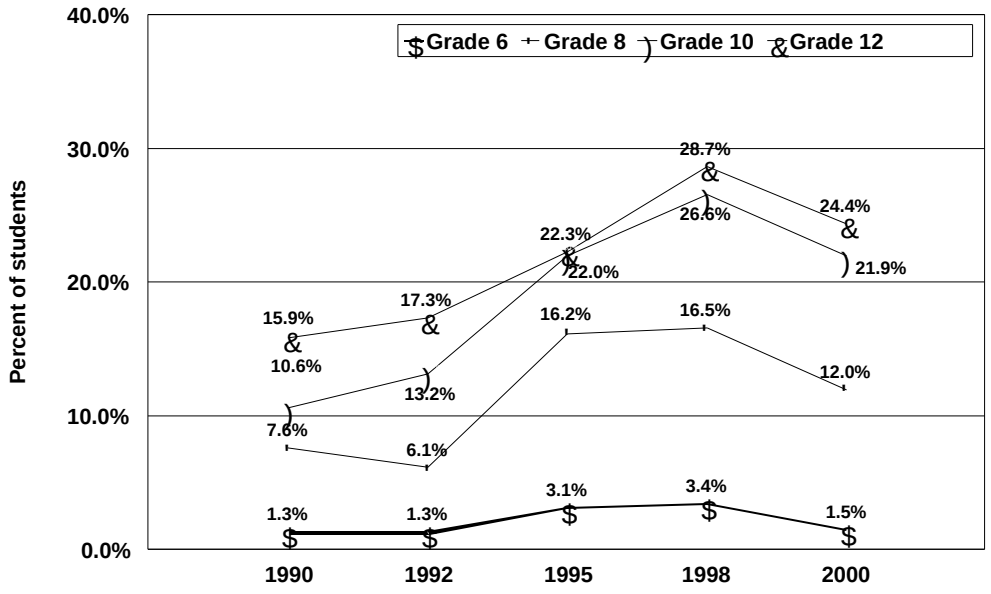
Along with alcohol and tobacco, marijuana is a gateway drug with important health consequences. Marijuana use is of concern given its prevalence in adolescent treatment. Nationally, in 1998, 57 percent of youth aged 12 to 17 admitted to treatment reported marijuana as the primary substance of abuse. National efforts have been mobilized to address this issue. For example, the federal Center for Substance Abuse Treatment conducted the Cannabis Youth Treatment Experiment to identify effective adolescent treatment for marijuana use (Center for Substance Abuse Treatment, 2000). Targets adopted by the Governor's Substance Abuse Prevention Advisory Committee related to marijuana use include:

- Reduce the proportion of Grade 6 students reporting marijuana use during the past 30 days to 1 percent.
- Reduce the proportion of Grade 8 students reporting marijuana use during the past 30 days to 8 percent.
- Reduce the proportion of Grade 10 students reporting marijuana use during the past 30 days to 10 percent.

- Reduce the proportion of Grade 12 students reporting marijuana use during the past 30 days to 14 percent.

Current use (i.e., use in the past 30 days) of marijuana decreased from 1998 to 2000. Among Grade 8 students, marijuana use in the past 30 days more than doubled from 1992 to 1995, remained stable in 1998 (16.5 percent), and then decreased in 2000 (12.0 percent). Among Grade 10 students, marijuana use in the past 30 days climbed steadily from 1990 to 1998 (26.6 percent) and then decreased in 2000 (21.9 percent). Among Grade 12 students, marijuana use in the past 30 days also climbed steadily from 1990 to 1998 (28.7 percent) and then decreased in 2000 (24.4 percent). Although the recent decreases in current use are encouraging, use levels remain quite high: about one in eight Grade 8 students, one in five Grade 10 students, and one in four Grade 12 students reported marijuana use in the past 30 days (see Figure 12). Still, these declines represent a substantial decrease in the number of marijuana users. For example, given the October 2000 enrollment of 68,580 Grade 12 students, this decline represents a decrease of over 2,900 marijuana users in Grade 12.

Figure 12:
Trends in 30-Day Prevalence of Marijuana Use in Grades 6, 8, 10 and 12



At all four grades levels, males were more likely than females to report any marijuana use and heavy marijuana use in the past 30 days (the differences are, however, very small among the Grade 6 students). Among Grade 8 students, 13.7 percent of males

reported any marijuana use in the past 30 days, compared to 10.3 percent of females, and 4.1 percent of males reported using marijuana 10 or more times in the past 30 days, compared to 2.5 percent of females. Among Grade 10 students, 23.8 percent of males reported any marijuana use in the past 30 days, compared to 20.1 percent of females, and 10.2 percent of males reported using marijuana 10 or more times in the past 30 days, compared to 6.2 percent of females. Among Grade 12 students, 28.0 percent of males reported any marijuana use in the past 30 days, compared to 20.6 percent of females, and 12.3 percent of males reported using marijuana 10 or more times in the past 30 days, compared to 5.9 percent of females.

Patterns of marijuana use also varied by ethnic group, although the patterns also varied by grade level; thus no clear pattern can be associated with any particular ethnic group (again, readers are cautioned against overinterpreting these results due to the small number of survey respondents included in some ethnic groups).

Attitudes Toward Alcohol, Tobacco, and Other Drug Use

The rise in illicit drug use that occurred in the 1990s was at least partially attributed to the erosion of antidrug attitudes and norms (Johnston et al., 1994). One of the key attitudes influencing alcohol, tobacco, and other drug use is the perception of harm that smoking, excessive drinking, or regular use of marijuana causes. Bachman, Johnston, and O'Malley (1998) analyzed trends in marijuana use from 1975 to 1996 and noted:

> The fundamental conclusion that was drawn from the present analyses, as well as earlier ones, is that attitudes about specific drugs—disapproval of use and perceptions of risk of harmfulness—are among the most important determinants of actual use . . . If we want to know why marijuana use is on the rise again . . . we need to ask why it is that [youth] have become less concerned in recent years about the risks of marijuana use, and why they do not disapprove of such use as strongly as students did just a few years earlier. The implication for prevention is that presenting such information [about risks and consequences of drug use] once does not finish the job; the messages must be repeated lest they be lost from one cohort to the next.

Fortunately, key attitudes and beliefs about drugs that have proven to be important determinants of use began to reverse in 1997 (Johnston, O'Malley and Bachman, 1997).

Figure 13 shows the association between the perceived risk of binge drinking and the prevalence of binge drinking in the past two weeks for Grade 8 students. From 1988 to 1992 an increase in the perceived risk was associated with a decreased prevalence of binge drinking. Then, from 1992 to 1995 a decreased perception of risk was associated with an increased prevalence of binge drinking. More recently, from 1995 to 2000, a continued increase in the perceived risk was associated with a leveling and then decreased prevalence of binge drinking.

Figure 13:
Trends in Perceived Risk and Binge Drinking in the Past Two Weeks Among Grade 8 Students

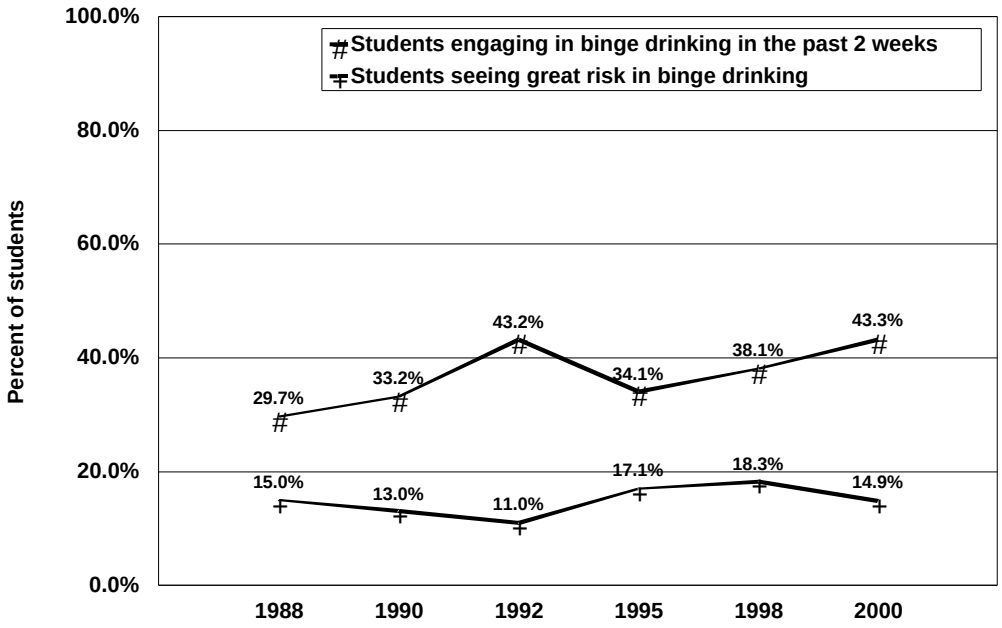
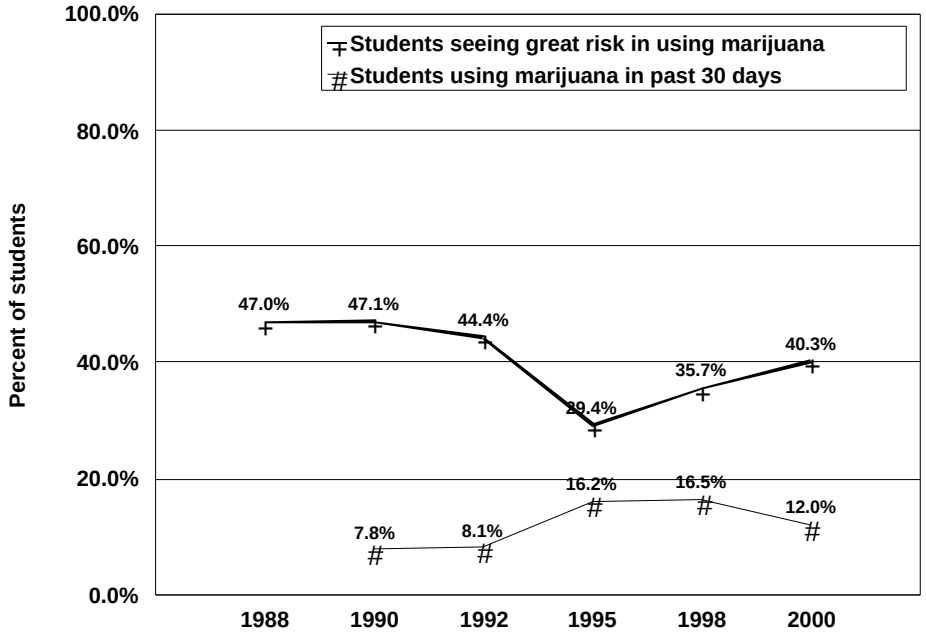


Figure 14 shows the association between the perceived risk of marijuana use and the prevalence of marijuana use in the past month for Grade 6, 8, 10, and 12 students. From 1988 to 1992 a steady level of perceived risk was associated with an unchanging prevalence of marijuana use. Then, from 1992 to 1995 a decreased perception of risk was associated with an increased prevalence of marijuana use. More recently, from 1995 to 2000, a continued increase in perceived risk was associated with a leveling and then decreased prevalence of marijuana use.

Figure 14:
Trends in Perceived Risk and 30–Day Use of Marijuana Among Grade 8 Students in Washington



The relationships between the perceived risk and actual binge drinking and marijuana use are not conclusive proof of the causal influence of attitudes on behavior. Indeed, some would argue that the behavior occurs first and attitudes are formed to support the behavior. The strong inverse association of these trends is, however, strongly suggestive of the close link between the perceived health risk and the actual behavior.

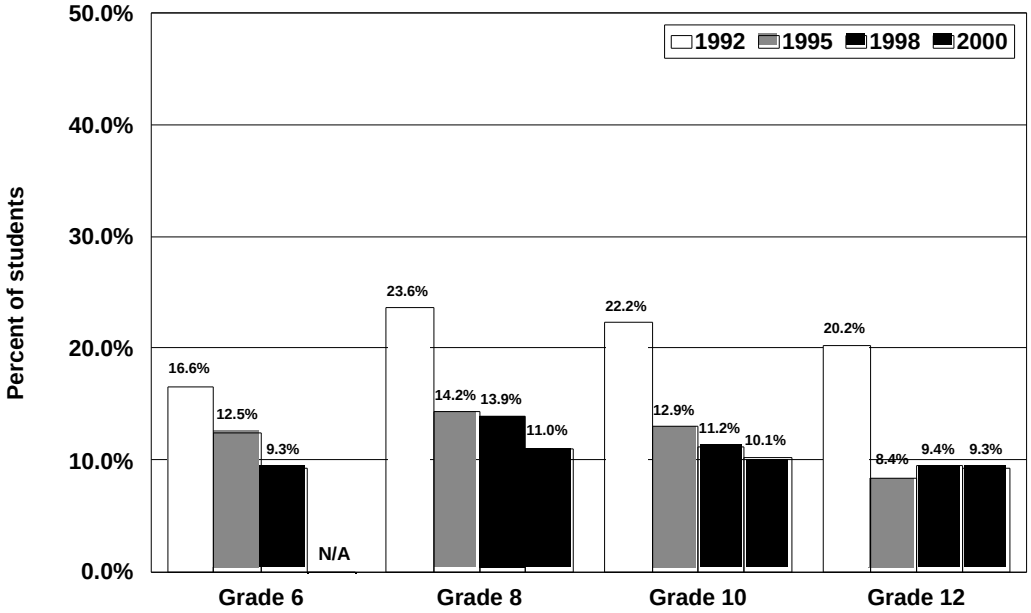
Chapter 3: Intentional Injury Behaviors

In 1984 the U.S. Surgeon General declared violence as much a current national public health issue as smallpox, tuberculosis, and syphilis had been decades earlier. Fundamental to the public health perspective on violence is a shift away from a reactive effort toward a proactive effort to change the social, behavioral, and environmental factors that cause violence (Mercy, 1993). Central to this approach is the objective measurement of the incidence and prevalence of violence and violence-related behaviors.

Injury is the leading cause of death for children aged 5 to 17 (National Center for Health Statistics, 1998), and violence claims the lives of many of the nation's youth each year. Fighting, weapon carrying, and attempted suicide are all health risk behaviors associated with threats to personal safety, future injury, and death. Healthy People 2010 objectives related to intentional injury and related risk behavior include "Reduce physical fighting in the past year among adolescents in Grades 9 through 12 to 32 percent" and "Reduce weapon carrying on school property during the past 30 days among adolescents in Grades 9 through 12 to 4.9 percent."

The WSSAHB contained a question that asked students how many times in the past 30 days they had carried a weapon, such as a gun, knife, or club, for self-protection or because they thought they might need it in a fight. Figure 15 illustrates changes in this behavior over time. Grade 6 students showed a steady decline from 1992 to 1998 in weapon carrying, but were not asked this question in 2000. Grade 8 students showed a decrease in weapon carrying from 1992 to 1995 and then again from 1998 to 2000. Grades 10 and 12 students reported decreased weapon carrying from 1992 to 1995, but a level prevalence since then (although results for Grade 10 students suggest a small continued decline). In 2000 about one in ten Grade 8, 10, and 12 students reported carrying a weapon in the past 30 days. Unlike substance abuse behaviors, the prevalence of weapon carrying is similar across age groups.

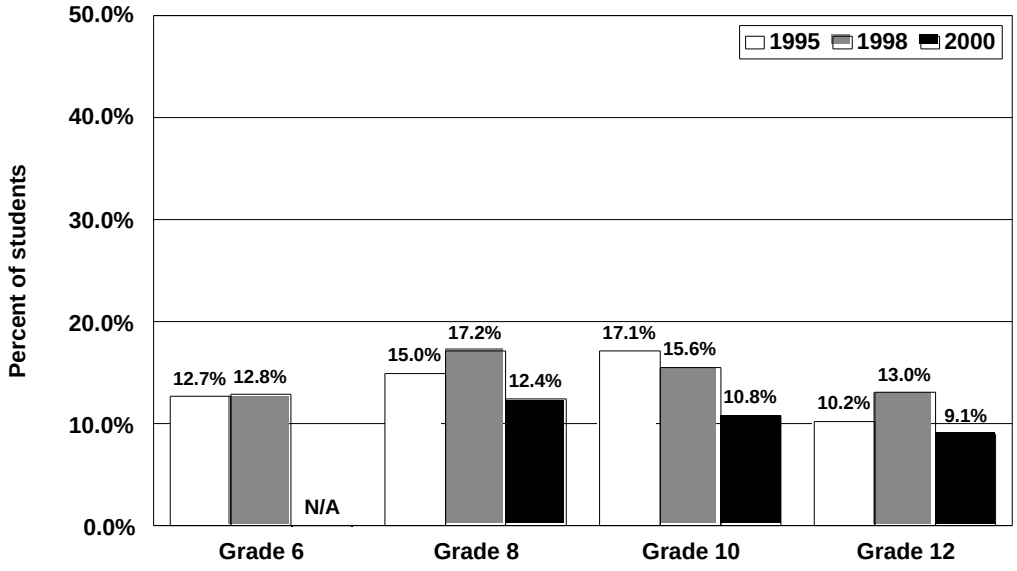
Figure 15:
Weapon Carrying in the Past 30 Days



Males were more likely than females to report weapon carrying. Among Grade 8 students, 16.9 percent of males reported weapon carrying in the past 30 days, compared to 5.6 percent of females. Among Grade 10 students, 17.2 percent of males reported weapon carrying in the past 30 days, compared to 3.7 percent of females. Among Grade 12 students, 15.7 percent of males reported weapon carrying in the past 30 days, compared to 5.7 percent of females.

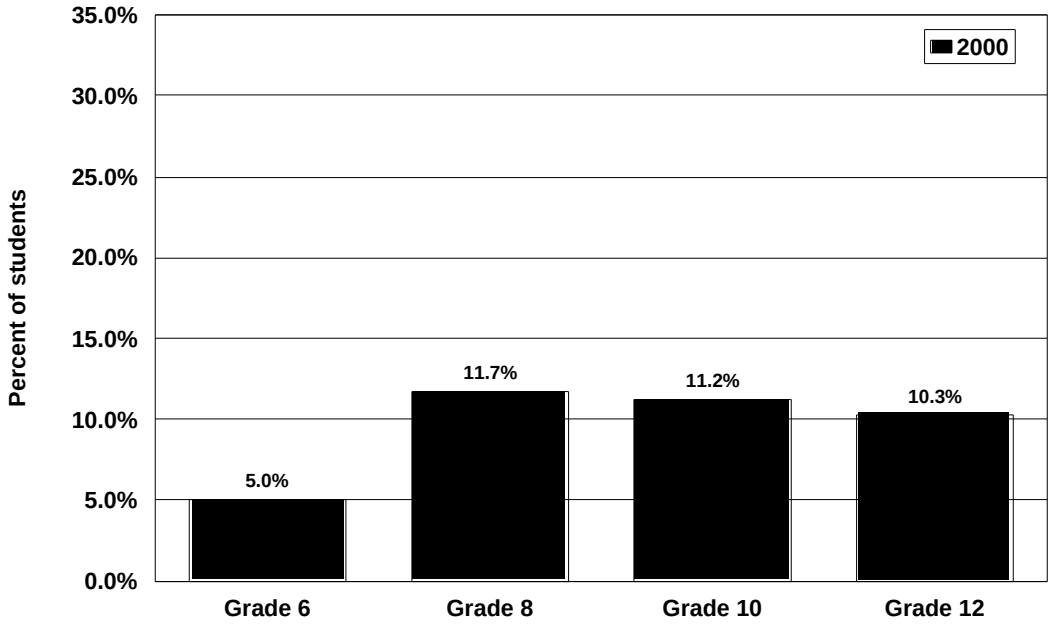
The survey asked the students how many times in the past year they had attacked someone with the idea of seriously hurting that person. Figure 16 shows a decrease in this behavior from 1998 to 2000 among Grade 8, 10, and 12 students (Grade 6 students were not asked this question). One in eight (12.4 percent) Grade 8 students and about one in ten Grade 10 (10.8 percent) and Grade 12 (9.1 percent) students reported that they had attacked someone with the idea of seriously hurting that person during the past year.

Figure 16:
Prevalence of Attacking Someone With the Idea of Seriously Hurting That Person



Students were asked how old they were when they first belonged to a gang (sometimes referred to as an organization, click, clique, set, or posse). Figure 17 shows the percentages of the students who reported having ever belonged to a gang (i.e., they answered with an age of first belonging rather than stating *never have*). Among Grade 6 students, one in 20 (5.0 percent) reported having belonged to a gang. About one in nine Grade 8 (11.7 percent) and Grade 10 (11.2 percent) students reported having ever belonged to a gang. Among Grade 12 students, one in ten (10.3 percent) reported having ever belonged to a gang.

Figure 17:
Percentage of Students Who Had Belonged to a Gang

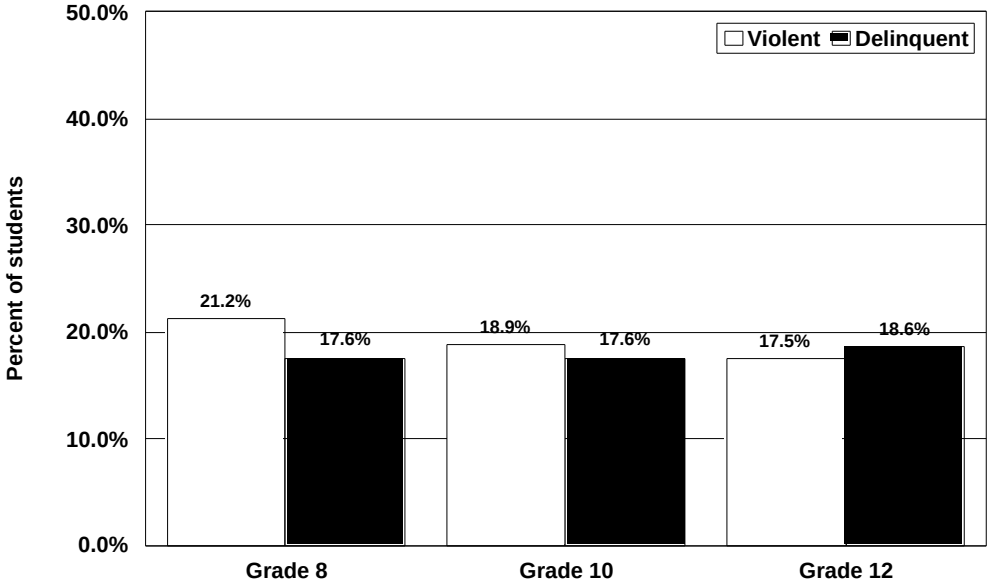


The WSSAHB included specific questions regarding different indicators of violent behavior (e.g., fighting, weapon carrying). Combining the information across indicators provides school and health officials with a composite index of violent behaviors that can be used as a general indicator of the magnitude of violent behavior in a given school. The authors combined the information from three WSSAHB questions to define the following three levels of violent or delinquent behavior: (a) *none*—no violent or delinquent behavior reported in the past 12 months, (b) *infrequent*—one or two violent or delinquent behaviors in the past 12 months, and (c) *frequent*—three or more violent or

delinquent behaviors or the occurrence of a single violent incident or delinquent behavior ten or more times in the past 12 months. The three questions included in the violent behavior scale were: 30-day weapon carrying, carrying a handgun in the past year, and attacked someone in the past year (Questions 96, 98b, and 98f). The three questions included in the delinquent behavior scale were: been suspended from school in the past year, sold illegal drugs in the past year, and been arrested in the past year (Questions 98a, 98c, and 98e). Additional details about the construction of these scales are in the Technical Report. These scales are not comparable to the scales constructed in 1995 and 1998 due to changes to the questions.

Figure 18 shows the percentages of students at each grade level who exhibited some degree of violent and delinquent behavior (Grade 6 students were not asked all the questions necessary to compute these scales). The prevalence of at least some violent behavior is fairly consistent across grade levels—about one in five Grade 8, 10, and 12 students had engaged in at least one violent behavior in the past year. Delinquent behavior was also fairly consistent across grade levels—about one in six Grade 8, 10, and 12 students had engaged in at least one delinquent behavior in the past year.

Figure 18:
Prevalence of Violent and Delinquent Behavior in the Past Year



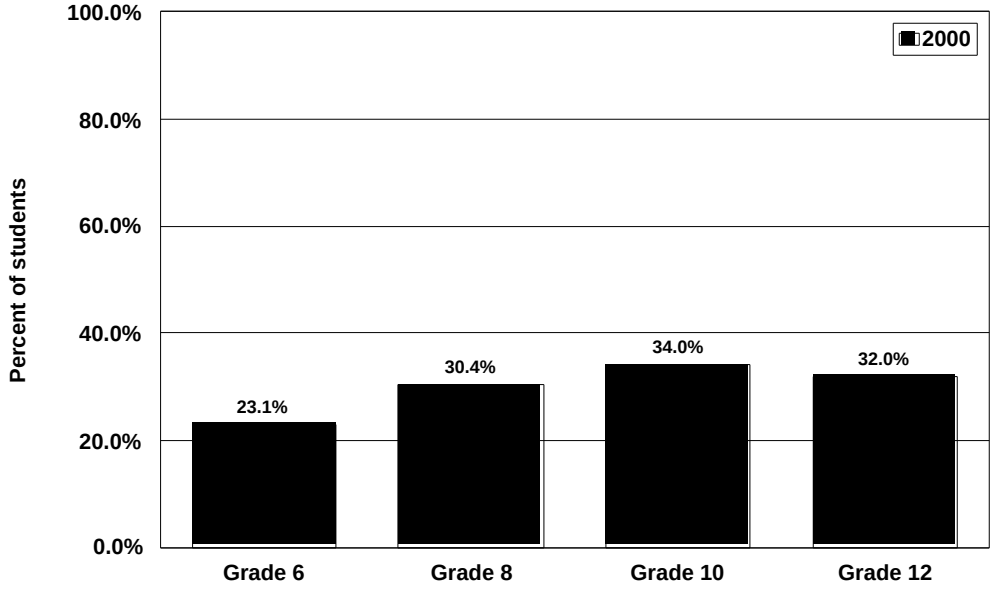
Note: Violence and delinquent behavior data not collected from Grade 6 students.

People who are depressed experience a range of symptoms, including sadness, loss of usual interests and pleasures, sleep disturbance, weight or appetite disturbance, difficulty concentrating, intense feelings of guilt, and suicidal thoughts or behaviors (Keefe and Harvey, 1994). Individuals who experience depression may experience social or occupational impairment. Even if this impairment is not present, normal functioning requires markedly increased effort. People who experience a depressed mood or loss of interest for at least two weeks, accompanied by at least four additional symptoms of depression, are said to have a major depressive episode (American Psychiatric Association, 1994). This serious condition is associated with high mortality—up to 15 percent of individuals with severe major depressive disorder die by suicide.

The 2000 WSSAHB contained one question related to depression: "During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?" Although this question is not sufficient to diagnose depression, Figure 19 illustrates that by the time the students reached Grade 6, nearly one in four (23.1 percent) reported having experienced depressive feelings during the past year. Among Grade 8, 10, and 12 students, about

one in three students reported having experienced depressive feelings during the past year.

Figure 19:
Students Reporting Experience of Depressive Feelings



Among Grade 6 students, males and females were about equally likely to report experiencing depressive feelings in the past year (24.0 percent of females and 21.7 percent of males). As the students got older, however, females were more likely than males to report that they had experienced depressive feelings during the past year. Among Grade 8 students, 33.9 percent of females reported having experienced depressive feelings, compared to 26.4 percent of males. Among Grade 10 students, 41.3 percent of females reported having experienced depressive feelings, compared to 25.9 percent of males. Among Grade 8 students, 38.3 percent of females reported having experienced depressive feelings, compared to 25.4 percent of males.

Depression is an important condition to address due to its association with suicide. Attempted suicide heightens the risk of eventual suicide and is related to a host of other problem behaviors, such as substance abuse and delinquency. Although the 2000 WSSAHB did not include questions regarding suicide ideation and suicidal behavior, the 1992 and 1995 administrations did include such questions. In 1995 about one in five students had thought about suicide and about one in ten had made a plan to attempt

suicide. A similar proportion of students, about one in ten, had actually attempted suicide. About 30 percent of these attempted suicides resulted in injury.

Chapter 4: School Climate

The 2000 administration of the WSSAHB included expanded coverage of school climate. Questions asked for the first time addressed perceived safety at school and bullying behavior. Other questions, which had been asked before, addressed weapon carrying at school. The Governor's Substance Abuse Prevention Advisory Committee aims to increase the percentage of adolescents reporting that they feel safe in school to 85 percent of Grade 6 students, 85 percent of Grade 8 students, 85 percent of Grade 10 students, and 90 percent of Grade 12 students. In 1998, 79 percent of Grade 6 students, 74 percent of Grade 8 students, 79 percent of Grade 10 students, and 86 percent of Grade 12 students reported that they felt safe at their school. In 2000 the percentage of Grade 6 students who reported feeling safe in their school increased to 86 percent and the percentage of Grade 8 students who reported feeling safe in their school increased to 77 percent.

In addition, students reported how safe they felt in several areas in school, including the classroom, the halls or stairs, the bathroom, the locker rooms, the playground or school grounds, the lunchroom, on the bus, on the way to school, and on the way home from school. Table 12 details the results. Although most students generally felt safe in school, too large a percentage reported feeling unsafe in at least some areas of school. In particular, students felt that the classroom is a safe area (Grade 8 students were most likely to report feeling a little or very unsafe in the classroom; 8.9 percent reported this feeling). Students were more likely to report feeling unsafe in the bathrooms and on the playground or school grounds. In general, younger students were less likely than older students to report feeling safe at school. For example, one in four Grade 6 students (24.8 percent) reported feeling a little or very unsafe on the playground or school grounds, compared to 23.5 percent of Grade 8, 18.7 percent of Grade 10, and 12.8 percent of Grade 12 students.

Table 12:
Perceived Safety at School

Location	Percentage of Students Responding

	Grade 6	Grade 8	Grade 10	Grade 12
In class				
Very unsafe	1.8	2.3	2.7	2.3
A little unsafe	4.8	6.6	5.0	3.2
Mostly safe	29.9	44.0	41.4	37.0
Very safe	63.5	47.1	50.9	57.4
In the halls or stairs				
Very unsafe	4.5	5.0	4.7	3.1
A little unsafe	16.4	18.5	14.5	10.2
Mostly safe	41.1	50.0	49.1	44.7
Very safe	38.0	26.5	31.7	42.0
In the bathroom				
Very unsafe	6.0	7.1	6.3	4.4
A little unsafe	18.3	15.6	12.6	8.8
Mostly safe	36.3	45.2	45.1	42.4
Very safe	39.4	32.1	35.9	44.5
In the locker rooms				
Very unsafe	6.1	6.3	5.6	4.0
A little unsafe	13.3	12.3	10.7	8.6
Mostly safe	35.1	47.2	46.3	41.7
Very safe	45.6	34.3	37.4	45.7
On the playground or school grounds				
Very unsafe	6.4	6.9	5.7	3.9
A little unsafe	18.4	16.6	13.0	8.9
Mostly safe	39.2	48.3	48.3	44.2
Very safe	36.1	28.2	33.0	43.0
In the lunchroom				
Very unsafe	3.0	4.5	4.6	3.5
A little unsafe	6.7	8.8	8.4	6.8
Mostly safe	32.6	44.7	44.8	41.6
Very safe	57.6	42.0	42.2	48.1

table continues

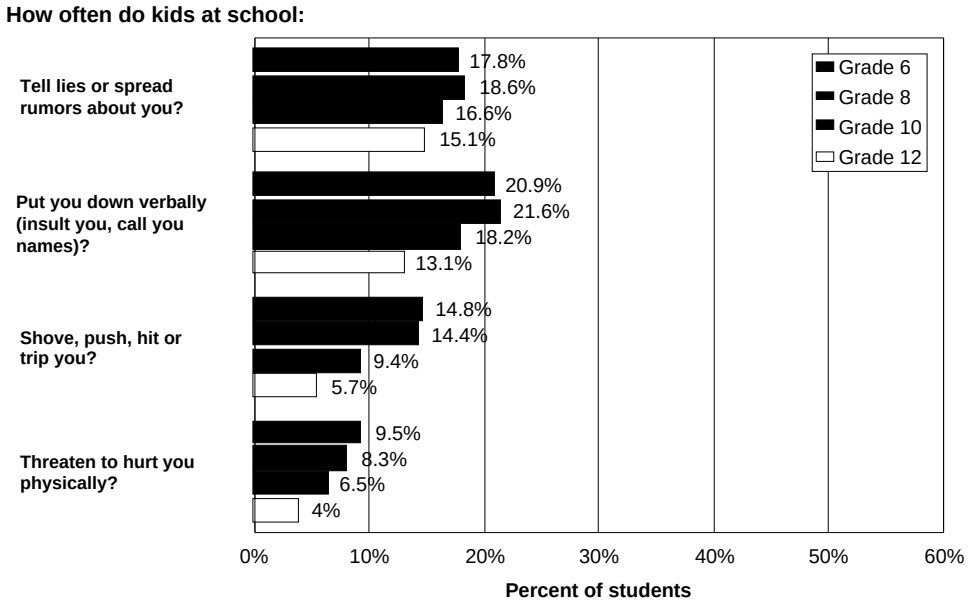
Table 12, continued

Location	Percentage of Students Responding			
	Grade 6	Grade 8	Grade 10	Grade 12
On the bus				

Very unsafe	6.5	5.4	4.9	3.5
A little unsafe	11.4	9.2	6.9	3.0
Mostly safe	30.3	28.6	20.5	7.6
Very safe	23.7	19.8	16.2	5.8
Don't take the bus	28.0	36.9	51.6	80.1
On the way to school				
Very unsafe	4.9	4.2	3.6	2.9
A little unsafe	11.7	10.5	7.0	5.9
Mostly safe	37.1	39.4	37.5	36.4
Very safe	46.4	45.8	51.9	54.8
On the way home after school				
Very unsafe	5.6	5.0	4.1	3.3
A little unsafe	12.8	14.4	8.9	6.6
Mostly safe	39.9	42.8	39.5	36.4
Very safe	41.7	37.9	47.6	53.8

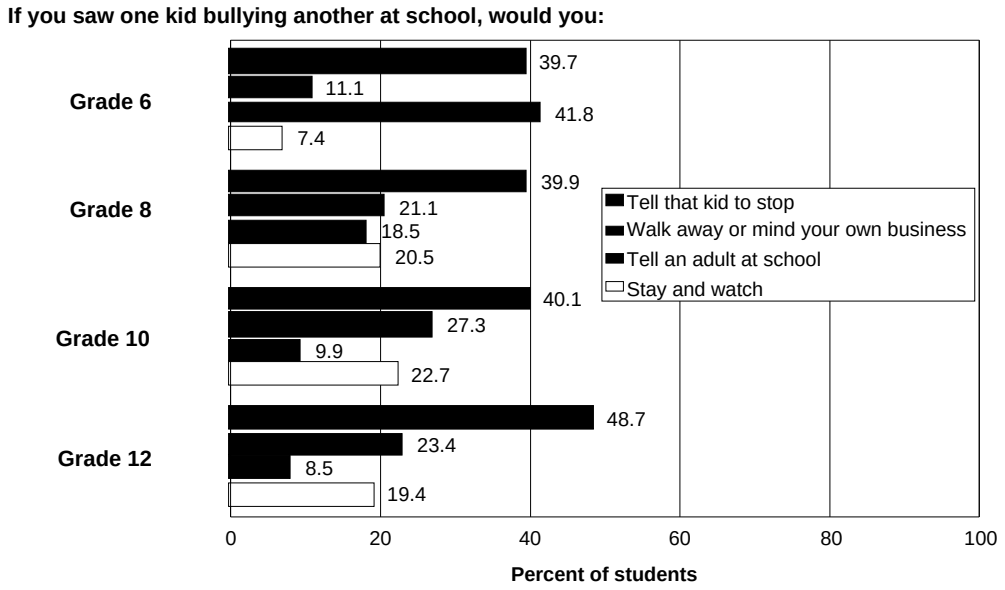
Many students reported having experienced bullying at school, although most did not. For example, among the Grade 6 students, one in five (20.9 percent) reported that other students at school put them down verbally *a lot* or *every day*. Younger students were more likely than older students to report having experienced bullying at school. Figure 20 illustrates these results.

Figure 20:
Students Who Experienced Bullying Behaviors at School



Students were asked what they would do if they saw a student bullying another student at school. Students in Grades 6, 8, and 10 were most likely to report that they would tell the bully to stop. The Grade 6 students were, however, more likely than the students in the other grades to report that they would tell an adult at school. In contrast, older students were more likely than younger ones to report that they would either walk away or mind their own business or to stay and watch. Figure 21 illustrates these results.

Figure 21:
Students' Reactions in Bullying Situations



Students were asked about the last time they had carried a gun; knife or razor; or club, stick, pipe, or other weapon on school property for self-protection or because they thought they might need the weapon in a fight. Figure 22 shows the percentages of students who reported that they had carried a weapon within the past month. The percentage of students who reported this behavior is quite low, although the behavior does occur, and Grade 8 and Grade 10 students were more likely than Grade 6 or Grade 12 students to carry a weapon to school. The Healthy People 2010 objectives related to intentional injury and related risk behaviors include "Reduce weapon carrying on school property during the past 30 days among adolescents in Grades 9 through 12 to 4.9 percent."

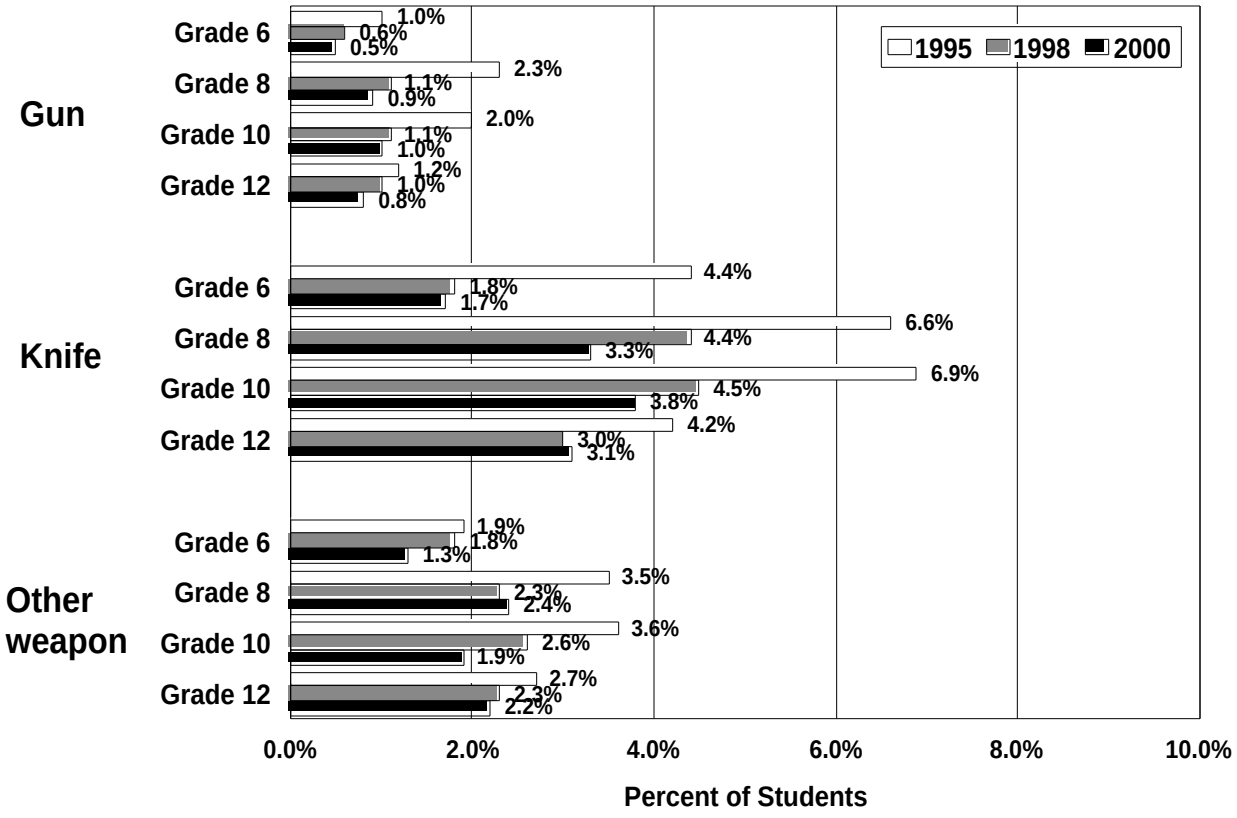


Figure 22:
Students Who Carried a Weapon to School in the Past Month

Chapter 5: Risk and Protective Factors

The adolescent health risk behaviors addressed in this report have many implications for the students, families, schools, and communities in which they occur. Decades of research have shown that *risk factors* are associated with increased likelihood of health risk behaviors, including alcohol, tobacco, and other drug abuse (Hawkins et al., 1992), and violence and delinquent behaviors (Bensley and Van Eenwyk, 1995; Brewer, Hawkins, Catalano, and Neckerman, 1995). Similarly, *protective factors* exert a positive influence or buffer against the negative influence of risk.

The 1995, 1998, and 2000 WSSAHB administrations included substantial coverage of risk and protective factors using standardized assessment tools developed by the Social Development Research Group at the University of Washington (Arthur et al., 1998). The reliability analyses for the scales measuring these factors are presented in the Technical Report. Fourteen risk factors were assessed and organized into four domains of influence—community, family, school, and peer-individual:

Community

- Low neighborhood attachment.
- Laws and norms favorable toward drug use.
- Perceived availability of drugs.
- Perceived availability of handguns.

Family

- Poor family management.

School

- Academic failure.
- Low commitment to school.

Peer-Individual

- Early initiation of drug use.
- Early initiation of problem behavior.
- Favorable attitudes toward antisocial behavior.
- Favorable attitudes toward drug use.
- Perceived risk of use.

- Friends' use of drugs.
- Rewards for antisocial involvement.

Because the family domain was optional on the 2000 WSSAHB, the number of students who answered the questions in this domain was smaller than the numbers of respondents for the other domains and not all of the sampled schools asked these questions. Thus the results for the family domain are not included in this report.

Another body of research has focused on the abilities of young people to overcome the odds that challenge them (Werner and Smith, 1989) and succeed in spite of a preponderance of risk in their environments. Benard (1991) summarized this literature on protective factors, citing the longitudinal research of Werner and Smith and Rutter (1979) in the formulation of a construct termed *resilience*. Resnick et al. (1997) found that parent-family connectedness and perceived school connectedness were protective against every health risk behavior measured in their study except history of pregnancy. Parental expectations regarding school achievement and school connectedness were also associated with lower levels of health risk behaviors (except in the case of suicide, in which only parent-family connectedness was protective).

The WSSAHB also assessed 8 protective factors (again, results for the optional family domain are not included in this report):

Community

- Opportunities for prosocial involvement.
- Rewards for prosocial involvement.

Family

- Opportunities for prosocial involvement.
- Rewards for prosocial involvement.

School

- Opportunities for prosocial involvement.
- Rewards for prosocial involvement.

Peer-Individual

- Social skills.
- Belief in the moral order.

Several researchers and government agencies have described a risk reduction and protective factor enhancement approach as the most promising approach to preventing problem behaviors (Hawkins et al., 1992; Institute of Medicine, 1994). The premise of this approach is that preventing a problem before it occurs necessitates addressing the factors that predict the problem. Ideally, doing so entails discovering the causes of the problem behavior and influencing the causes. Today, longitudinal research has identified several factors that are potential causes of problem behaviors. Further work is necessary to determine which of these factors are truly causal. In the interim, these risk and protective factors represent promising inputs for prevention and intervention programs and policies.

This chapter presents the 2000 results of the WSSAHB assessment of risk and protection at each grade level in each of three domains. The relationship between risk and protective factors and the major health risk behaviors of alcohol use, drug use, violent behavior, and delinquent behavior are also presented. Readers should remember that all results are based on student self-report and therefore represent perceptions of risk and protection, which may not be accurate. Furthermore, the statistical relationships between risk and protective factors and health risk behaviors are not necessarily causal relationships. Rather, the statistical relationships indicate an association or co-occurrence of these factors and behaviors. Both the risk factor and the behavior may be associated with a third factor such as poverty or other factors that were not included in this study. Similarly, some apparent relationships may be confounded with age.

Community Domain

The WSSAHB assessed four risk factors and two protective factors in the community domain. For purposes of this report, these risk and protective factors are described as follows:

Risk Factors

- *Low neighborhood attachment.* Students who do not feel a part of the neighborhood in which they live and feel that what they do there does not make a difference in their lives are at higher risk for crime and substance abuse.

- *Laws and norms favorable toward drug use.* The policies a community holds in relation to health and problem behaviors are communicated through laws, social practices, and expectations and are related to use.
- *Perceived availability of drugs.* Perceptions of the availability or access to alcohol and other drugs have been shown to predict use of these substances.
- *Perceived availability of handguns.* Perceptions of the availability or access to handguns may be related to the use of handguns.

Protective Factors

- *Opportunities for prosocial involvement*. Youth need opportunities to participate meaningfully in activities in the community.
- *Rewards for prosocial involvement*. Youth need rewards for positive participation in prosocial activities.

Each risk and protective factor scale is calculated as the average of one or more questions. Students whose scores placed them above a cut point determined by recent analyses conducted by the University of Washington Social Development Research Group were considered at risk on a given risk factor or resilient on a given protective factor. Table 13 details the percentages of students at risk and the percentages of students resilient on the risk and protective factor scales in the community domain. The 1998 results reflect a reanalysis of the 1998 survey data conducted by the Department of Social and Health Services' Research and Data Analysis Division based on updated cut points that determine whether a student is considered at risk. The Governor's Substance Abuse Prevention Advisory Committee has selected a number of key risk and protective factors for which to establish state targets. As this report is going to press, those targets have not been adjusted to reflect reanalysis based on updated cut points.

Table 13:
Profile of Community Risk and Protective Factors

	Factor	Grade 6		Grade 8		Grade 10		Grade 12	
		1998	2000	1998	2000	1998	2000	1998	2000
Risk	Low neighborhood attachment	53.1	48.6	40.1	35.0	44.7	43.8	48.2	48.2
Risk	Laws and norms favorable toward drug use	52.4	37.5	46.7	33.3	55.5	44.1	49.6	42.3
Risk	Perceived availability of drugs	40.3	26.8	47.7	34.9	58.7	48.8	60.9	55.9
Risk	Perceived availability of handguns	14.2	22.7	22.3	35.7	30.9	25.3	37.7	32.6
Protective	Opportunities for prosocial involvement	–	42.4	–	56.5	–	48.9	–	47.1
Protective	Rewards for prosocial involvement	62.2	67.4	54.0	52.6	44.3	55.7	52.2	51.5

Note: Figures indicate the percentage of survey participants reporting the risk and protective factors. Dashes indicate this protective factor was not present in the 1998 administration.

Table 13 illustrates three noteworthy points. First, as students got older they were at considerably increased risk on the factor of perceived availability of drugs. Second, Grade 6 students were more likely than older students to be resilient on the factor of rewards for prosocial involvement. Third, changes occurred from 1998 to 2000 in the percentages of students at risk or resilient on some factors. In particular, the percentage of Grade 12 students at risk on the factors laws and norms favorable toward drug use and perceived availability of drugs decreased.

The correlations that appear in Table 14 show the strength of the relationships between the community risk and protective factors and global measures of health risk behaviors on the survey. Results of the four risk and two protective factor scales are correlated with four health behavior composite scales: alcohol use, drug use, violent behavior, and

delinquent behavior. A positive correlation indicates a direct relationship. For example, being at higher risk on a risk factor is associated with higher alcohol use if the two are positively correlated. A negative correlation indicates an inverse relationship. For example, being at greater resilience on a protective factor is associated with less alcohol use if the two are negatively correlated. Correlations may range between -1 (perfect inverse correlation) and +1 (perfect direct correlation); a correlation of 0 indicates that the two variables are not associated with one another. Table 14 reports only statistically significant correlations, which provide the assurance that the observed relationships between the risk or protective factors with the health behavior scales are stronger than could be expected by chance or coincidence. Statistical significance proffers greater confidence that the relationship is real, replicable, and has implications for prevention programs.

Table 14:
Correlation of Community Risk and Protective Factors With Health Behavior Scales

Factor		Alcohol Use	Drug Use	Violent Behavior	Delinquent Behavior
Risk	Low neighborhood attachment	0.20	0.20	0.16	0.15
	Laws and norms favorable toward drug use	0.46	0.44	0.27	0.28
	Perceived availability of drugs	0.57	0.53	0.23	0.29
	Perceived availability of handguns	0.27	0.25	0.28	0.20
Protective	Opportunities for positive involvement	-0.24	-0.24	-0.14	-0.18
	Rewards for conventional involvement	-0.21	-0.21	-0.12	-0.14

Note: Figures are correlations between the community risk and protective factors and the health risk behaviors. A correlation of -1 indicates perfect inverse correlation, a correlation of +1 indicates perfect direct correlation, and a correlation of 0 indicates that the two variables are not associated with one another.

The strongest correlations between community risk factors and health risk behaviors involved the perceived availability of drugs and laws and norms favorable toward drug use. The correlations themselves, and their relative strength, were generally similar in 1998 and 2000.

School Domain

School is an environment in which young people spend a great deal of time. As a result, schools have the opportunity, although not the sole responsibility, to greatly influence adolescent development. The 2000 WSSAHB included two risk factors and two protective factors in the school domain:

Risk Factors

- *Academic failure.* Children fail in school for many reasons, but research indicates that the very experience of failure, regardless of whether the failure is linked to the students' abilities, places them at higher risk of negative behaviors.
- *Little commitment to school.* When young people cease to see the school role as viable, they are at higher risk of engaging in health risk behaviors.

Protective Factors

- *Opportunities for prosocial involvement*. When young people are given more opportunities to participate meaningfully in important activities at school, they are less likely to engage in problem behaviors.
- *Rewards for prosocial involvement*. When young people are recognized and rewarded for their contributions at school, they are less likely to be involved in health risk behaviors.

Table 15 details the percentages of students at risk and percentages of students resilient on the risk and protective factors in the school domain. The percentage of students who showed little commitment to school increased for older students, from 35.2 percent of Grade 6 students to 47.3 percent of Grade 12 students. In addition, the percentage of students who perceived rewards for conventional involvement dropped from 60.1 percent of Grade 6 students to 45.0 percent of Grade 12 students. The percentage of students at risk on the factor low commitment to school increased from 1998 to 2000. The percentage of students resilient on the factor opportunities for prosocial involvement increased from 1998 to 2000 among Grade 6, 8, and 10 students. The percentage of students resilient on the factor rewards for prosocial involvement increased from 1998 to 2000 among Grade 6 and Grade 8 students.

Table 15:
Profile of School Risk and Protective Factors

		Grade 6		Grade 8		Grade 10		Grade 12	
Factor		**1998**	**2000**	**1998**	**2000**	**1998**	**2000**	**1998**	**2000**
R	Academic failure	40.2	39.9	42.5	41.4	41.8	38.2	38.0	41.3
	Little commitment to school	36.7	35.2	33.8	39.4	31.7	42.5	33.1	47.3
P	Opportunities for prosocial involvement	54.4	59.2	54.3	60.5	53.6	57.4	55.9	57.7
	Rewards for prosocial involvement	51.6	60.1	47.8	52.8	59.8	59.3	47.3	45.0

Note: R = Risk. P = Protective. Figures indicate the percentage of survey participants reporting the risk and protective factors.

Table 16 details the correlations between risk and protective factors in the school domain and the four health behavior scales. In the school domain there were moderate correlations between the risk factor of little commitment to school and alcohol use.

Table 16:
Correlations of School Risk and Protective Factors With Health Behavior Scales

Factor		Alcohol Use	Drug Use	Violent Behavior	Delinquent Behavior
R	Academic failure	0.23	0.26	0.22	0.28
	Little commitment to school	0.41	0.39	0.27	0.28
P	Opportunities for prosocial involvement	-0.21	-0.21	-0.18	-0.17
	Rewards for prosocial involvement	-0.24	-0.22	-0.19	-0.14

Note: R = Risk. P = Protective. Figures are correlations between the school risk and protective factors and the health risk behaviors. A correlation of -1 indicates perfect inverse correlation, a correlation of +1 indicates perfect direct correlation, and a correlation of 0 indicates that the two variables are not associated with one another.

Peer-Individual Domain

The social environments of the school and community greatly influence young people's behavior. In addition, many characteristics of individuals and attributes of peer groups are powerful determinants of behavior. To study this, the survey included seven risk factors and two protective factors in the peer-individual domain:

Risk Factors

- *Early initiation of drug use.* Research clearly shows that the earlier an individual begins using alcohol, tobacco, and other drugs, the more likely he or she is to develop drug use problems in adolescence.
- *Early initiation of problem behavior.* Research clearly shows that the earlier an individual begins engaging in delinquent and violent behavior, the more likely he or she is to develop delinquent or violent behavior problems in adolescence.
- *Favorable attitudes toward antisocial behavior.* Young people who accept or condone antisocial behavior are more likely to engage in health risk behaviors.
- *Favorable attitudes toward drug use.* Young people who have positive or accepting attitudes toward drug use are more likely to engage in a variety of health risk behaviors.
- *Perceived risk of use.* Young people who do not perceive a risk in using alcohol, tobacco, and other drugs are at higher risk of engaging in substance use.

- *Friends' use of drugs.* Young people whose friends use drugs are more likely to engage in health risk behaviors.
- *Rewards for antisocial involvement.* Young people who believe that they are favorably perceived as a result of engaging in antisocial behavior are more likely to engage in that behavior.

Protective Factors

- *Social skills.* Young people who are socially competent and engage in positive interpersonal relations with their peers are less likely to participate in negative health risk behaviors.
- *Belief in the moral order.* Young people who have a belief in what is right or wrong are at lower risk for engaging in problem behaviors.

Table 17 shows the profile of the peer-individual risk and protective factors across grade levels. As students got older they were more likely to report being at risk in terms of early initiation of drug use, early initiation of problem behavior, favorable attitudes toward drug use, perceived risk of drug use, and friends' use of drugs. From 1998 to 2000 there was a decrease in the percentages of students at risk on the factor of friends' use of drugs among specific age groups. Decreases on the factors of early initiation of problem behavior, favorable attitudes toward drug use, and rewards for antisocial involvement are also evident. The percentage of students resilient on the protective factor social skills increased among Grade 8 and Grade 10 students and increased on the protective factor belief in the moral order among Grade 6 and Grade 8 students.

Table 17:
Profile of Peer-Individual Risk and Protective Factors

	Factor	Grade 6		Grade 8		Grade 10		Grade 12	
		1998	2000	1998	2000	1998	2000	1998	2000
Risk	Early initiation of drug use	42.8	27.1	47.0	44.8	51.3	45.5	44.9	48.7
	Early initiation of problem behavior	23.4	18.0	36.6	28.9	39.7	31.8	35.5	33.4
	Favorable attitudes toward antisocial behavior	36.3	32.3	43.4	36.6	40.9	43.4	34.5	41.9
	Favorable attitudes toward drug use	34.4	23.5	45.0	34.4	51.9	45.4	52.1	47.1
	Perceived risk of use	–	13.8	–	21.8	–	20.9	–	26.4
	Friends' use of drugs	41.4	22.9	52.2	37.5	53.1	42.2	46.6	43.4
	Rewards for antisocial involvement	38.8	25.4	52.5	42.7	39.9	38.1	48.7	43.6
Protective	Social skills	64.9	—	55.7	66.1	49.6	55.4	62.4	64.2
	Belief in the moral order	45.3	56.8	54.1	64.4	66.4	69.2	54.5	57.4

Note: Figures indicate the percentage of survey participants reporting the risk and protective factors. Dashes indicate that the risk or protective factor was not computed for a given grade or year or not comparable across years.

Table 18 shows the strength of the relationships between peer-individual risk and protective factors and health risk behaviors. Consistent with previous administrations of the WSSAHB, in 2000 the strongest peer-individual correlates with health risk behaviors were early initiation of drug use, attitudes favorable toward drug use, and friends' use of drugs. As the research literature has shown abundantly, the earlier a student begins experimenting with any of these problem behaviors, the more likely he or she is to advance to higher levels of that behavior or experience problematic consequences in later adolescence, or both.

Table 18:
Correlations of Peer-Individual Risk and Protective Factors With Health Behavior Scales

Factor		Alcohol Use	Drug Use	Violent Behavior	Delinquent Behavior
Risk	Early initiation of drug use	0.76	0.64	0.36	0.41
	Early initiation of problem behavior	0.34	0.41	0.57	0.57
	Favorable attitudes toward antisocial behavior	0.46	0.46	0.42	0.37
	Favorable attitudes toward drug use	0.65	0.65	0.33	0.40
	Perceived risk of use	0.37	0.41	0.27	0.34
	Friends' use of drugs	0.67	0.70	0.31	0.43
	Rewards for antisocial involvement	0.29	0.30	0.21	0.20
Protective	Social skills	-0.57	-0.56	-0.39	-0.42
	Belief in the moral order	-0.46	-0.44	-0.37	-0.34

Note: Figures are correlations between the peer-individual risk and protective factors and the health risk behaviors. A correlation of -1 indicates perfect inverse correlation, a correlation of +1 indicates perfect direct correlation, and a correlation of 0 indicates that the two variables are not associated with one another.

Consistent with previous administrations of the WSSAHB, in 2000 the protective factors showed their strongest relationships with health risk behaviors in the peer-individual domain. An internal belief in the moral order and positive social skills were associated with lower levels of alcohol use, drug use, delinquent behavior, and violent behavior.

The results presented thus far in this chapter have addressed risk and protective factors on an individual basis. The tables have shown the strength of the relationship of each of these factors with health risk behaviors and grade-to-grade differences in the severity of risk and the level of protection on each factor. The influence of specific risk or protective factors on health risk behaviors is important to demonstrate because it can provide useful guidance to state and local prevention efforts.

Research has suggested a cumulative effect in the influence of risk and protection on these health risk behaviors (Bry, McKeon, and Pandina, 1982; Newcomb, Maddahian, and Skager, 1987; Werner and Smith, 1989). In addition to examining the specific

influence of a given risk or protective factor, examining the relationship between multiple risk or protective factors and these behaviors is important. This examination helps illustrate whether students who are at high risk on more risk factors are more likely to engage in health risk behaviors than students who are at high risk on fewer factors. An examination of the relationship between multiple risk or protective factors and health risk behaviors also helps show whether students who are well protected are less likely to engage in these behaviors than students who are less protected.

Figure 23 displays the relationship between the number of risk factors present and the use of alcohol and other drugs. To assess this relationship, students participating in the survey were classified as to whether they were at high risk on none, one, two, three, or more of the risk factors assessed on the 2000 WSSAHB. Twelve risk factors were used as the maximum because too few students in the groups possessed more than 12 risk factors to provide stable estimates of alcohol and other drug use. Once these groups were formed, the prevalence rates of alcohol use (both lifetime and 30-day) and other drug use (both lifetime and 30-day) were calculated. These group means were then plotted to display the relationship shown in the figure.

Perhaps the most obvious interpretation is the clear, linear relationship between the number of risk factors present and the prevalence of lifetime and 30-day alcohol and other drug use. Clearly, as the number of risk factors for individual students increased, the more likely they were to use alcohol and other drugs. These findings are consistent with the findings from the two previous WSSAHB administrations.

Figure 23:
The Relationship Between Alcohol and Drug Use and the Number of Risk Factors Reported by Washington Students

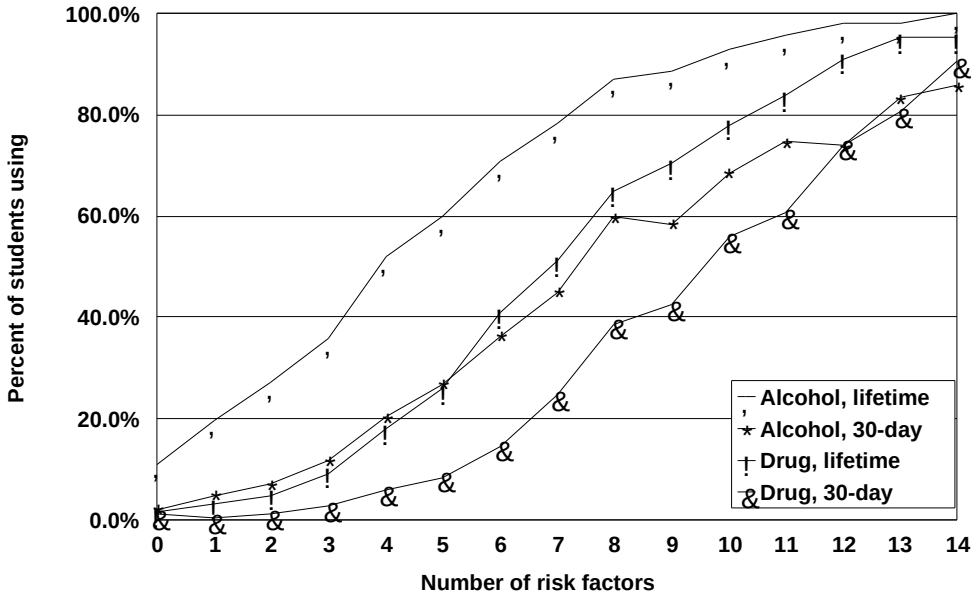
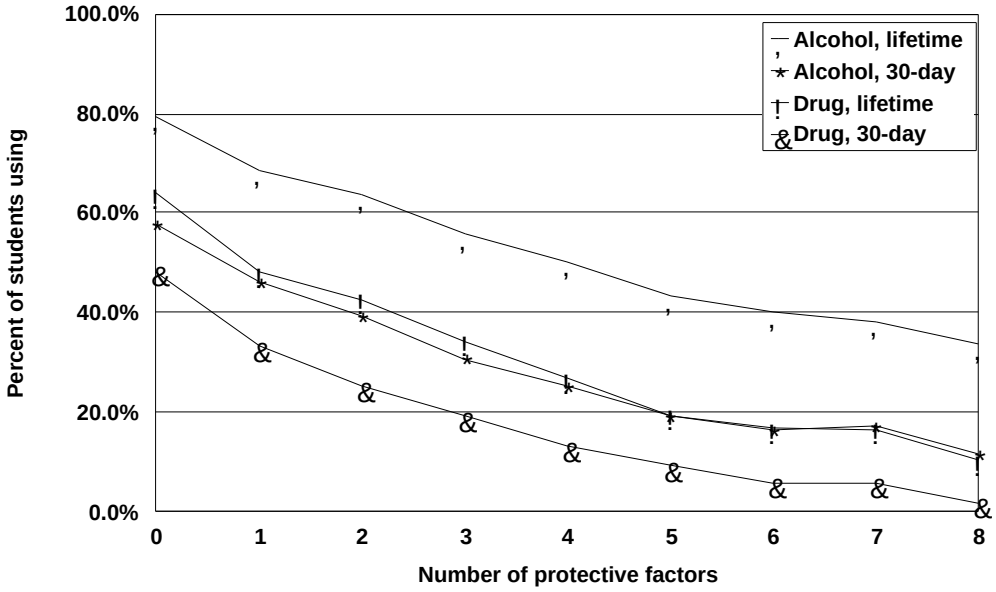


Figure 24 is a similar display relating the presence of protective factors to alcohol and other drug use. Again, the overall relationship was a strong one, with increased levels of protection (i.e., the presence of several protective factors in students) clearly associated with lower rates of alcohol and other drug use. Protective factors have also been found to have a moderating effect on the presence of risk factors (DeWit, Silverman, Goodstadt, and Stoduto, 1995; Gabriel, Deck, Einspruch, Nickel, 1997; Jessor, Van den Bos, Vanderryn, Costa, and Trubin, 1995).

Figure 24:
The Relationship Between Alcohol and Drug Use and the Number of Protective Factors Reported by Washington Students



Summary

In summary, the influence of the risk and protective factors on key health risk behaviors among adolescents is once again supported by the reports of Washington students in the 2000 survey effort. In general, the 2000 WSSAHB findings, which are similar to the results reported in both 1995 and 1998, indicate that:

- Of all risk and protective factors, those in the peer-individual domain show the strongest relationships with health risk behaviors.
- Alcohol and other drug use is also strongly correlated with the community risk factors laws and norms favorable to use and perceived availability of drugs, and the school risk factor little commitment to school.
- The cumulative effect of risk and protective factors on alcohol and other drug use is evident among Washington students. Students at high risk on a larger number of risk factors were increasingly more likely to use alcohol and other drugs, whereas students possessing a larger number of protective factors were increasingly less likely to use alcohol and other drugs.

The data presented in this chapter represent the state as a whole. The level of these indicators of risk and protection likely vary by community and the results for any given community can show the extent to which students in that community experience risk

and protective factors. Communities can compare community-level data to state-level data, and to county-level data where available, to determine which risk and protective factors are priorities for their communities to address. These communities can then target specific populations or geographical areas, where risk exposure is high and protection is low, for intensive interventions.

Chapter 6: Characteristics of the Students Surveyed

The 2000 findings of the Washington State Survey of Adolescent Health Behaviors presented in this report are based on the responses of 17,970 students in Grades 6, 8, 10, and 12. These students were selected using a scientific sampling plan designed by the authors to represent the full population of students at these grade levels across the state. Students from all geographic regions, urban and rural schools, and students of all races/ethnicities were included in the survey. Full details of the sampling plan and its representativeness of the target population are included in the Technical Report.

This chapter describes the students participating in the survey in terms of a variety of background characteristics and their participation in activities in their schools and communities. The specific characteristics discussed in this chapter are the students' gender and race/ethnicity, the geographic region in which the students lived, the type of school the students attended (urban, rural, or suburban), the number of adults and other children living at the students' homes, and student employment (whether the students held a part-time job).

Gender

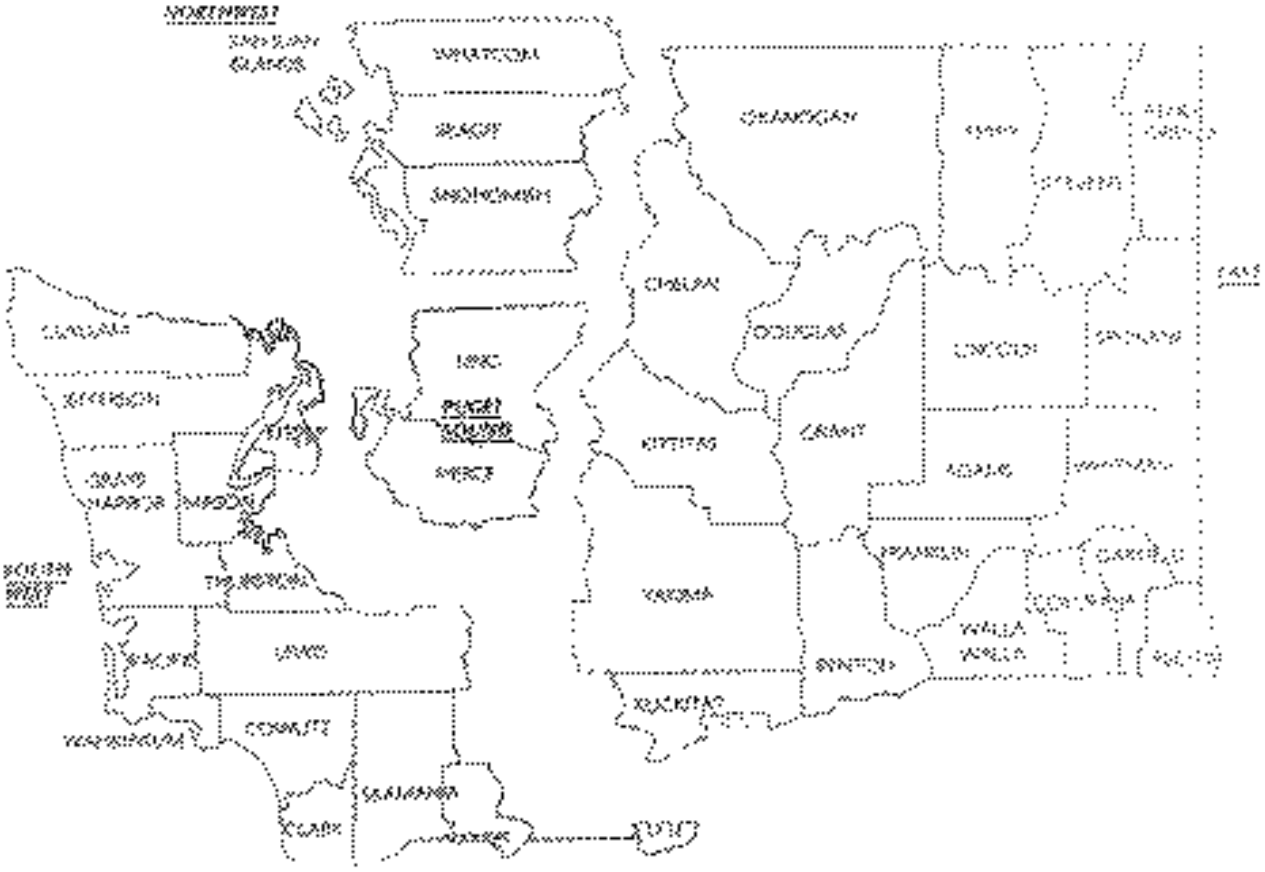
Males and females were nearly equally represented at all of the surveyed grade levels. The largest deviation from a 50–50 split occurred at the Grade 8 level, where the sample consisted of 51.9 percent females. This percentage closely matches the distribution of population of students in the state (the largest difference was at the Grade 8 level, where females were overrepresented by 3.4 percent). Gender is an important characteristic to consider when interpreting the incidence and prevalence of health behaviors.

Geographic Region

For the purpose of sampling, Washington was divided into the four geographic regions displayed in Figure 25. The eastern region included 20 counties and approximately 24 percent of the student population in the state. The southwest region included 11 counties and approximately 22 percent of the student population. The Puget Sound

region included 3 counties and approximately 37 percent of the student population. The northwest region included 5 counties and approximately 16 percent of the student population.

Figure 25:
Geographic Regions



Because of different survey return rates, survey participation represented a higher proportion of students in some regions, and a lower proportion in other regions, than the sampling plan originally specified. Among Grade 6 students the eastern, southwest, and Puget Sound regions were underrepresented and the northwest region was overrepresented. Among Grade 8 and Grade 10 students, the eastern and Puget Sound regions were underrepresented and the northwest region was overrepresented. Among Grade 12 students, the southwest and Puget Sound regions were underrepresented and the northwest region was overrepresented. The responses of students from each region

were weighted to achieve representation by region within about 1 percent of the actual population statistics. Table 19 details these proportions.

Table 19:
Actual and Weighted Proportions of Survey Participants by Geographic Region

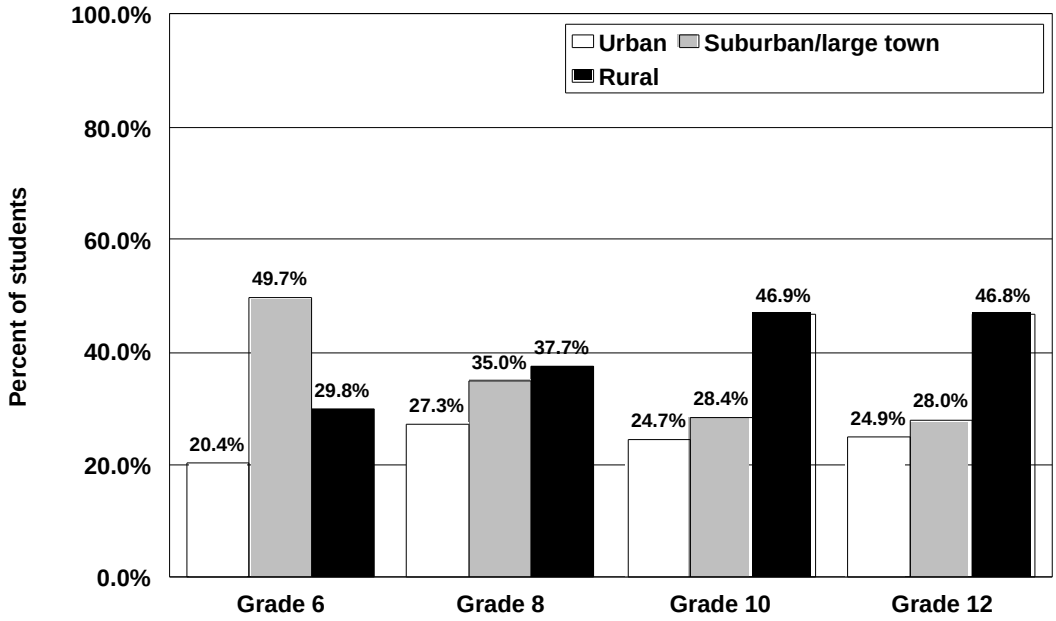
Grade	East			Southwest			Puget Sound			Northwest		
	Actual	Weighted	State	Actual	Weighted	State	Actual	Weighted	State	Actual	Weighted	State
6	20.8	23.7	24.2	14.6	21.8	22.0	37.8	38.5	37.4	26.9	16.0	16.4
8	19.8	24.6	24.4	25.4	21.5	22.2	26.3	38.0	37.4	28.4	15.9	16.0
10	19.8	24.6	24.0	21.4	22.2	22.5	31.9	37.8	37.0	26.8	15.4	16.5
12	21.9	24.8	24.7	18.9	37.7	36.7	31.7	15.1	15.4	27.6	15.1	15.4

Note: Figures represent percentage of survey participants.

Urban/Suburban/Rural School

Three categories describing the urbanity or rurality of the participating schools were used to draw the sample. Urban schools were located in large urban centers and smaller cities that are urban in nature but with more modest population size. For the 2000 WSSAHB administration, schools in these cities accounted for about 26 percent of Washington's student population. Suburban schools were located in areas near large cities or were small cities. These schools accounted for about 37 percent of the student population. Rural schools were from identifiable communities away from urban areas with smaller populations than small cities or from areas with low population density. Schools in this category included about 37 percent of the student population. Figure 26 illustrates the percentages of students in the sample by the rural/urban characteristics of their schools. At the Grade 6 level students in urban schools were overrepresented and students in suburban schools were underrepresented, whereas the opposite was true at the Grade 8 level. At the Grade 10 and Grade 12 levels, students in urban schools were overrepresented and students in rural schools were underrepresented. The weighting procedure brought the sampled proportions in line with the population proportions for Grade 8 students, but suburban Grade 6 students were somewhat overrepresented and rural high school students were somewhat overrepresented.

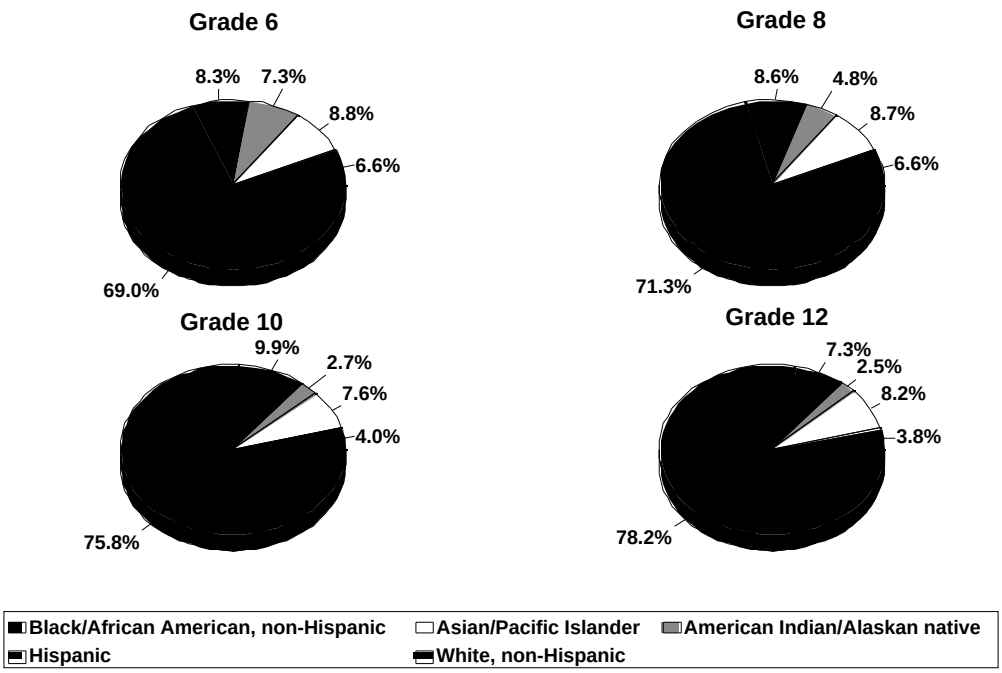
Figure 26:
Distribution of Students in the State Sample by Rural/Urban Characteristics of School



Race/Ethnicity

Because of the sponsoring agencies' interest in estimating prevalence rates for different ethnic groups, schools were divided into high and low minority enrollment for the purpose of sampling. The survey asked the students to identify which racial/ethnic group they considered themselves to belong to. Two questions were posed to the students. The first question asked students to select a single category based on those used by the federal Department of Education Office of Civil Rights (and thus used by OSPI). The second question was based on the federal census categories and allowed students to select as many groups as they wished. Figure 27 shows the proportion of students who reported themselves as being in the five traditional categories.

Figure 27:
Survey Respondents' Race and Ethnicity

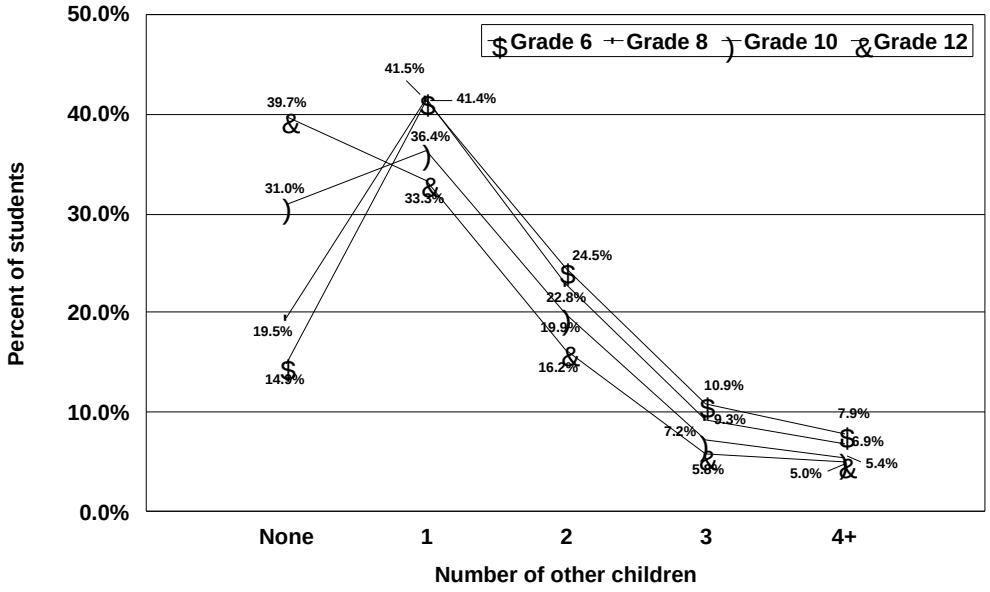


Consistent with the sampling design, White, non-Hispanic students were somewhat underrepresented and members of other ethnic groups were slightly overrepresented. The weighting procedure brought the sample proportions close to the actual population proportions, although White, non-Hispanic students remained a little underrepresented at the Grade 6 and Grade 8 levels.

Adults and Other Children at Home

Most (86 to 90 percent) of the students who completed the survey reported living with their mother, and about two-thirds (67 to 71 percent) reported living with their father. About one in eight students (11 to 13 percent) reported living with a stepfather.
Figure 28 illustrates the number of other children the survey respondents reported as living at home. Older students were more likely than younger students to report that no other children lived with them at home (39.7 percent of Grade 12 students compared to 14.9 percent of Grade 6 students). The influence of siblings and peers on many of the health behaviors under study in this survey is well documented. Like peers, older siblings can be models of prosocial behavior or they can influence younger children to engage in risk or problem behaviors.

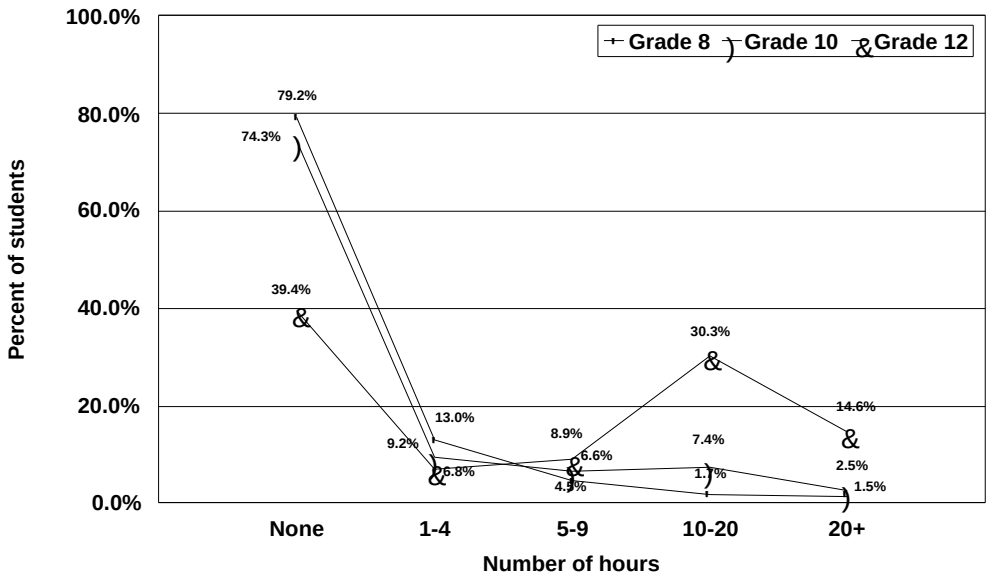
Figure 28:
Number of Children at Home



Working at a Part-Time Job

Having a part-time job represents important responsibility to a young person. Previous research indicates that a moderate amount of part-time work is associated with lower alcohol, tobacco, and other drug use (Johnston et al., 1994). Working too many hours, however, is associated with emotional stress and problem behaviors (Resnick et al., 1997). Figure 29 displays the distribution of the number of hours the students reported typically worked per week during the school year.

Figure 29:
Hours per Week Worked at a Part-Time Job



The percentage of students who worked at a part-time job increased, as students got older. One in five Grade 8 students worked at a part-time job, compared to three in five Grade 12 students.

Chapter 7: Conclusion

The 2000 administration of the Washington State Survey of Adolescent Health Behaviors continued the collaborative tradition of state agencies assessing the health of youth throughout the state. Sponsoring agencies included the Office of Superintendent of Public Instruction, the Washington State Department of Social and Health Services / Division of Alcohol and Substance Abuse, the Office of Community Development, and the Department of Health. RMC Research Corporation conducted the survey. This survey was the sixth of its kind in the state since 1988 and the results in this report charted trends in health behaviors and related risk and protective factors over the past 12 years. The number of schools and students participating in the survey has increased substantially for each of the past three administrations.

Alcohol continues to be the substance of choice among Washington's students, followed by cigarettes and marijuana. This finding is true for both lifetime prevalence and 30-day use. The average age of first use of alcohol, tobacco, and marijuana did not change from 1998 to 2000. After an essentially steady increase from 1992 to 1998, binge drinking decreased among students in Grades 6, 8, and 10 and leveled off among students in Grade 12. Current use of cigarettes remained steady from 1998 to 2000. Smokeless tobacco use in the past 30 days decreased from 1998 to 2000 among students in Grades 8, 10, and 12.

Most students understand that secondhand smoke is harmful. Grade 6 students were much more likely than older students to report that they had practiced in class ways to say no to tobacco during the past year. About two-thirds of Grade 6 students and about three-fourths of older students reported that they had seen or heard antismoking ads at least once a week during the past 30 days.

Marijuana use in the past 30 days decreased from 1998 to 2000 among Grade 8, 10, and 12 students. This change was associated with a continued increase in the percentages of students who thought there is great risk in smoking marijuana. A similar result was found for binge drinking.

Grade 6 students showed a steady decline from 1992 to 1998 in weapon carrying for self-protection or because they thought they might need a weapon in a fight, but Grade 6 students were not asked this question in 2000. Grade 8 students showed a decrease in weapon carrying from 1992 to 1995 and then again from 1998 to 2000. Grade 10 and Grade 12 students reported decreased weapon carrying from 1992 to 1995, but a level prevalence of weapon carrying since then (although the results for the Grade 10 students suggest a small continued decline).

Most students generally feel safe in school. In particular, students reported feeling that the classroom is a safe area. Students were more likely to report feeling unsafe in the bathrooms and on the playground or school grounds. In general, younger students were less likely than older students to feel safe at school. Many students reported having experienced bullying at school, although most did not. Younger students were more likely than older students to report that they had experienced bullying at school. The percentage of students who reported carrying a weapon on school property was quite low, although this behavior does occur.

This report reaffirmed the relationship between substance use and risk and protective factors. In particular, community and school domain risk factors perceived availability of drugs, laws and norms favorable toward drug use, and little commitment to school were associated with alcohol and drug use. Peer-individual domain risk factor early initiation of drug use, attitudes favorable toward drug use, and friends' use of drugs were strongly associated with substance use. This report also reaffirmed the clear relationship between the number of risk and protective factors present and the prevalence of lifetime and 30-day alcohol and other drug use.

The 2000 WSSAHB is part of an ongoing effort to assess the health of youth throughout Washington State. The results of the survey will be used by stakeholders at the state, county, district, school, and community levels who are interested in developing and improving prevention and intervention programs to better the lives of youth.

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