# healthy <br> ykuth survey <br> <br> 2021 Analytic Report 

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Sponsoring Washington State Agencies: Health Care Authority - Division of Behavioral Health and Recovery Department of Health Office of Superintendent of Public Instruction Liquor and Cannabis Board

Prepared by:
Looking Glass Analytics, Inc.
July 2022

# Washington State Healthy Youth Survey 2021 

## Analytic Report

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> This report is available online at:
> http://www.AskHYS.net

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The Healthy Youth Survey was administered by the Washington State Health Care Authority Division of Behavioral Health and Recovery, the Department of Health, the Office of the Superintendent of Public Instruction, and the Liquor and Cannabis Board. The Healthy Youth Survey Planning Committee includes members of these state agencies and oversaw the implementation of the 2021 survey.

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## Executive Summary

This report provides a snapshot of some topics from the 2021 Healthy Youth Survey. The report does not include all topics that are covered on the survey. HYS 2021 continues Washington State's ongoing effort to assess the youth health and well-being throughout the state. The results of the survey will be used by partners and stakeholders at the state, county, district, school, and community levels to develop and improve prevention and intervention programs to better the lives of their youth.

## Background

The Washington State Healthy Youth Survey (HYS) measures behaviors, attitudes, and experiences that contribute to the health and safety of youth in Washington State. Survey results have been used as needs assessment data for program planning and also to evaluate effectiveness of prevention and health promotion initiatives at the federal, state, and local levels.

The 2021 administration of the HYS represents a collaborative effort among the Health Care Authority Division of Behavioral Health and Recovery (HCA/DBHR); the Office of Superintendent of Public Instruction (OSPI); the Department of Health (DOH); the Liquor and Cannabis Board (LCB); and the contractor, Looking Glass Analytics, Inc. (LGAN). Representatives of these agencies served as members of the Healthy Youth Survey Planning Committee (HYSPC), which guided every aspect of the survey development and implementation.
The HYS 2021 was the 17th administration of a statewide survey among Washington's students. This report highlights results on some topics included on HYS 2021. Comparisons by grade and gender for these topics as well as changes from the HYS 2018 and trends are included in this report.

## Special Considerations for HYS 2021 and the COVID-19 Pandemic

Due to the unexpected shift to primarily remote learning, the HYS was not administered in fall 2020, but delayed until fall 2021. The delay means a change in the cohort of students being surveyed that could potentially influence historical data trends, though evaluating this may be impossible given how many other factors shifted for HYS 2021. The delay also allowed for rollout of an online/e-survey option and a remote administration protocol to better meet the needs of potentially hybrid classrooms. Only a very small number of schools elected to do the survey on paper in 2021, and similarly, only a small number took the survey remotely. Bias analyses indicate that completion rates were better for students who were in-person and for those who did the survey online versus those who were remote or did the survey on paper. However, these differences and any bias caused by shifts in administration protocol are not believed to have had a major impact on how students responded to questions. Interpreting HYS 2021 data alongside prior years requires caution. HYS 2021 reflects the immense effects of the pandemic on students and families. Changes in historic trends that may have occurred regardless of the pandemic are difficult to tease out from those that are entirely pandemic related.

## Participation

Washington State schools were randomly selected for the HYS 2021 statewide sample. Of the sampled schools asked to participate, about 87 percent of Grade 6 schools, 82 percent of Grade 8 schools, 90 percent of Grade 10 schools, and 85 percent of Grade 12 schools took part in the survey

A total of 169 schools and 31,167 students contributed data to the statewide sample. In addition, 176,427 students in 800 schools participated in the survey as non-sampled schools. These additional schools received reports of their own results, but those results are not included in this statewide report because the schools were not part of the representative statewide sample.

## Results

Results from the 2021 HYS by grade are presented in this Analytic Report, along with any significant increases or decreases from 2018 to 2021. Overall, HYS 2021 results must be interpreted with caution in relation to prior survey years due to the impact of the pandemic on responses, as mentioned above. Presented here are highlights of the full results from select topics presented in the report:

Mental Health: Overall, persistent feelings of sadness and hopelessness and suicidal ideation, planning, and attempts remained steady or decreased slightly across students in Washington compared to 2018, despite the substantial burden of the pandemic on their daily lives. This diverts from national trends showing a rise in poor mental health outcomes among youth. Moreover, the concentration of mental health obstacles exacerbated during the pandemic should be a concern for parents, providers, and schools seeking to support youth.
Substance Use: Alcohol, cannabis, painkiller, and polysubstance use all extended a downward trend from prior years, though decreases in 2021 were larger than in prior years, suggesting a potential impact of the pandemic on access to and use of these substances. Meanwhile, recent and ever use of cigarettes and vaping products decreased substantially in 2021 as did perceived access reported by youth. In addition, perceived harm of using vaping products on health rose notably. These trends correspond to national shifts indicating substance use declines across youth since the start of the pandemic.
Adverse Childhood Experiences: A new composite measure of adverse experiences was estimated for HYS 2021. Data confirm national trends that adverse childhood experiences are more common among students identifying as female versus male and most youth report 0 or 1 ACEs.

Risk and Protective Factors: As in previous survey administrations, there was a clear relationship between the number of risk and protective factors present and the use of alcohol, cigarettes, and marijuana for students in Grade 8 (the only grade examined in terms of risk and protective factors for this report). The greater the number of risk factors for individual students, the more likely they were to use alcohol, cigarettes, and marijuana. Similarly, the greater the number of protective factors for individual students, the less likely they were to use alcohol, cigarettes, and marijuana.

## Introduction

## Purpose

The Washington State Healthy Youth Survey (HYS) measure health risk behaviors that contribute to morbidity, mortality, and social problems among youth in Washington State. These behaviors include alcohol, tobacco, and other drug use; behaviors that result in unintentional and intentional injuries (e.g., violence); dietary behaviors and physical activity; and related risk and protective factors. The survey produces estimates of 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. This report uses the survey results to estimate the current status of these health risk behaviors and examine trends in the behaviors over the past 20 years.

The survey results also provide important needs assessment data for program planning. They offer insight into the effectiveness of statewide prevention and health promotion initiatives designed to reach a range of education- and health-related goals at the federal, state, and local levels. Federal initiatives of interest to readers of this report include these:

- No Child Left Behind (DOE, 2001), which addresses the importance of school safety.
- High School Graduation Initiative (US DOE, 2002).
- The National Drug Control Strategy (The White House, 2014).
- Substance Abuse Prevention and Mental Health Promotion Five Year Strategic Plan (SAMHSA, 2017).
- The U.S. Department of Health and Human Services' Healthy People 2020 Health Promotion Objectives (U.S. Department of Health and Human Services, 2010).

State initiatives of interest to readers of this report include these:

- The Washington State Board of Health Strategic Plan 2009 (Washington State Board of Health, 2009).
- Graduation: A Team Effort (GATE) Initiative (OSPI, 2011).
- Washington State Suicide Prevention Plan (DOH, 2016)
- Washington State Substance Abuse Prevention and Mental Health Promotion Strategic Plan (Washington State Prevention Enhancement Policy Consortium 2017).

The 2021 administration of the Healthy Youth Survey meets a wide variety of information needs by producing:

- Empirical needs assessment data necessary for planning substance misuse and other prevention and early intervention programs, including county-level strategic plans.
- Data for studying trends of student substance use and misuse, as well as associated risk and protective factors.
- Information to support monitoring of the Substance Abuse Prevention and Treatment Block Grant (SAPTBG) from the Substance Abuse and Mental Health Services Administration (SAMHSA).
- Needs assessment, evaluation, and monitoring of federal grants to prevent and reduce substance use such as the Reducing Underage Drinking Initiative and the evaluation of results from the Partnership for Success Grant.
- Information to support the evaluation of prevention and education programs funded under the federal Safe and Drug-Free Schools and Communities Act, the federal Tobacco Settlement, and the state Omnibus Controlled Substance and Alcohol Abuse Act.
- Data to measure the progress toward attainment of the state's goals for substance misuse prevention.
- Information on the progress of programs implemented pursuant to the state's Youth Violence Act (E2SHB 2319).
- Information on sexual education in schools used to help monitor implementation of the Healthy Youth Act.
- Needs assessment data used as part of the Comprehensive Needs Assessment for the Maternal and Child Health Block Grant.
- Data that can contribute information to local community profiles designed to help community stakeholders understand the importance of programs that support youth.
- 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.
- Data fulfilling the state youth survey requirement as specified in Initiative 502.
- Data to support community and state level grant applications.
- Data to support the Governor's Results Washington Initiative (http://www.results.wa.gov/)
- Data in response to SB 6191 focused on adverse childhood experiences measured among youth.


## Survey Administration

## Historical Youth Survey Administration in Washington

HYS 2021 is the most recent in a series of youth assessments conducted in Washington since 1988. The survey content and methodology have varied over time:

- The first two administrations in 1988 and 1990 included only questions about alcohol, tobacco, and other drug use and associated behaviors (Deck and Nickel, 1989; Gabriel, 1991).
- The 1992 and 1995 surveys asked additional questions that addressed other health risk behaviors (Einspruch and Pollard, 1993; Gabriel, Deck, Einspruch, and Nickel, 1995).
- The 1998 survey focused on alcohol, tobacco, and other drug use and related risk and protective factors (Einspruch, Gabriel, Deck, and Nickel, 1998).
- The 1999 survey (Bensley, VanEenwyk, Schoder, and Tollefsen, 2000) was based on the Centers for Disease Control and Prevention's Youth Risk Behavior Survey (Grunbaum et al., 2004).
- The 2000 survey was similar to the 1998 survey and focused on alcohol, tobacco, and other drug use and related risk and protective factors (Einspruch, Deck, Nickel, and Hyatt, 2001).
- Surveys since 2002 have included items related to health behaviors, substance use, and related risk and protective factors (Einspruch and Hyatt, 2004), (Einspruch, 2005, and 2007).
- In 2021, HYS results included a new combined measure of childhood adversities. This work aligned with SB 6191 and a call for expanded reporting on Adverse Childhood Experiences.

This report only includes results from the Healthy Youth Survey which was first administered in 2002. Results from previous surveys are available online and are included in prior Analytic Reports available at: https://www.askhys.net/Reports/Analytic.

## Current Administration of Healthy Youth Survey

To adapt to the changing school environment due to COVID-19 and to take advantage of webbased survey technology, the 2021 HYS was offered as an electronic survey (E-survey) for the first time.

The survey administration location and timeframe were expanded to allow schools to give the survey in-person or remote classrooms and on multiple days. All prior administrations of HYS were conducted only in physical classrooms using paper and pencil survey questionnaires on the same day. Paper and pencil questionnaires were available to schools on request.

Washington public schools, except institutional/correctional schools, serving Grades 6, 8, 10, or 12 were invited to participate in the survey at the beginning of the 2021 calendar year. Schools that wished to participate registered between February through June 2021.
Each school designated a survey coordinator. Online training was provided to coordinators with the information necessary to successfully administer the survey. E-survey links and instructional materials were made available on the project website, www.AskHYS.net. Coordinators trained teachers in their school(s) who were to administer the survey to students (teacher training materials were provided to the coordinators). Each school also designated an IT support staff to help prepare for the E-survey administration and test the E-survey links.

The coordinators received materials to notify parents/caregivers and students prior to the survey administration. Parents/caregivers had an opportunity to decline their child's participation, and students could also choose not to participate. Students participated on a voluntary and anonymous basis. Students who did not wish to participate were provided with alternative activities during survey administration. Teachers read standardized instructions and showed an instructional video to students.

## Participation

The Department of Health selected three simple random samples to constitute representative samples of schools serving Grade 6, Grade 8, and Grades 10 and 12 combined in Washington. One sample was drawn for Grade 6 and another sample for Grade 8. Grades 6 and 8 may be together in a middle school or separate in an elementary school and middle/junior high school. The third sample was drawn for Grades 10 and 12 because those grades usually are located together in a high school,. Of those schools asked to participate in the survey, about 87 percent
of schools with Grade 6 students, 82 percent with Grade 8 students, 90 percent with Grade 10 students, and 85 percent with Grade 12 students took part in the survey.

Overall response rates were about 72 percent of the Grade 6 students, 71 percent of the Grade 8 students, 70 percent of the Grade 10 students, and 44 percent of the Grade 12 students. These percentages are based on the October 2021 enrollment in all sampled schools (including nonparticipating schools). Non-response is both a function of schools choosing not to participate AND students not participating. Student non-participation could be because of a number of reasons, including students being absent on the day of the survey, students opting themselves out, parents/caregivers opting their students out, and students not completing valid surveys. Although the Grade 12 participation rate is below 70 percent, these findings are expected to be representative of Washington youth in public schools, based on an extensive examination of bias conducted for previous HYS administrations.

Only valid survey responses are included each cycle. A series of quality control steps were conducted to remove data that were incomplete, obviously inaccurate, or internally inconsistent (e.g., reporting no lifetime use of a substance and also reporting use of the same substance in the past 30 days). The results presented in this report are not perfect estimates. There are margins of error indicated by the confidence intervals.
A total of 31,167 students in 169 schools contributed data to the statewide results. In addition, 176,427 students in 800 schools participated in the survey as non-sampled schools. Nonsampled schools received reports of their own results, but those results are not included in this statewide report because the schools were not part of the representative statewide sample.

Most schools administered the E-survey in a physical classroom. About 2 percent of surveys collected were from paper and pencil questionnaires and about 2 percent of surveys from remote classrooms.

Over time, the number of students participating in Washington youth surveys has grown, until the 2021 administration where participation slightly declined. High levels of participation in HYS may reflect increasing interest across the state in health-related information, and it is a tribute to the collaboration and funding efforts among sponsoring agencies, schools, and local community members.

Total Number of Survey Respondents by Year, 2002-2018


This chapter details the methodological considerations of HYS 2021. The chapter addresses the topics of sampling, survey administration, the questionnaires, translations, reliability and validity, data preparation and analysis, response rates, non-completion rates, and the characteristics of the students who completed the survey. The survey procedures were approved by the Washington State Institutional Review Board.

## Sampling

The statewide results presented in this report are based on a statewide sample of all schools in the public-school system including tribal and charter schools serving the surveyed grades, with at least 15 students in each grade. For the statewide sample, Department of Health epidemiology staff drew three simple random samples of all public schools serving Grade 6, Grade 8, and Grades 10 and 12 together. This procedure was used because Grades 10 and 12 usually are located together within a single school, whereas Grades 6 and 8 may be located together in a middle school or separate in an elementary school and a middle school or junior high school. About 12 percent of the schools had fewer than 15 students per grade, but these schools accounted for less than 1 percent of the students. Consequently, excluding these schools from the statewide sample saves considerable effort in the recruitment and administration phase without biasing the final results.

To obtain a confidence interval of plus or minus 3 percent for statewide results at each grade, based on the intraclass correlations obtained in the 2000 Washington State Survey of Adolescent Health Behaviors (WSSAHB), we estimated that a sample size of about 5,335 students would be needed per grade. Using estimations of a 50 percent response rate for schools and a 90 percent response rate for students within the participating schools, and experience from the earlier survey administrations, the sample was drawn to include 82 schools serving Grade 6, 66 schools serving Grade 8, 55 schools serving Grades 10 and 12, 3 schools serving Grade 10 but not 12 , and 5 schools serving Grade 12 but not 10 .

The Department of Health also drew county samples in four large counties with thirty or more schools per grade. County samples were drawn for King, Pierce, Snohomish, and Spokane for Grade 6; King, Pierce, Snohomish, and Spokane for Grade 8; and King, Pierce, and Snohomish for Grades 10 and 12 . Schools already selected for the county sample were also included in the county sample. Then additional schools were sampled to reach a total of 20 schools in each county/grade-level sample.

Schools not selected for the state or county samples were offered an opportunity to participate in the survey by "piggybacking" onto the statewide data collection effort. The data from the piggyback schools, including those drawn for the county samples, are not included in the results presented in this report because they were not part of the state sample.

## Questionnaires

The questions on HYS 2021 were derived primarily from the following sources: the Monitoring the Future Survey (Johnston et al., 1994; National Institute on Drug Abuse, 2001), the Youth Risk Behavior Survey (Eaton et al., 2006), the Global Youth Tobacco Survey (Centers for Disease Control and Prevention, 2000), and the Communities that Care Survey (Arthur, Hawkins, Catalano, and Pollard, 1998). In 2021, there were three main survey forms - Form C for Grade 6 students and Forms A and B for Grade 8, 10, and 12 students. The questions for Grade 8, 10, and 12 students were divided into two forms (A and B) because the number of items of interest to the sponsoring agencies was greater than could be answered by a student during the allotted time (one class period). The forms are randomized so that about half of the students take Form A and the other half take Form B.

While both Form $A$ and $B$ contained a core set of 52 questions, Form $A$ contained additional items mostly drawn from the Monitoring the Future Survey and the Communities that Care Survey. Form B mainly contained items from the Youth Risk Behavior Survey and the Global Youth Tobacco Survey.

Schools with Grades 8, 10, and 12 that did not want to ask questions on sexual behavior and sexual violence could "opt out" and those questions were then removed from their online survey forms. Schools that did not want to ask questions on sexual orientation and gender identity could request an exemption to have the questions removed from their online survey forms. The exemption required the schools to describe how asking these questions would prevent their participation in the survey.

Form $A$ had 144 questions, Form $B$ had 130 questions and six removable questions ( 136 total). Students in Grades 8, 10, and 12 completed either Forms A or B. Form C contained 99 questions drawn primarily from Forms $A$ and $B$ (not including the removable questions) and was completed by students in Grade 6.

## Translations

The survey was available in English, Spanish, Russian, Ukrainian, and Vietnamese. In the state sample, approximately $1.6 \%$ of students used Spanish, $0.3 \%$ used Russian, $0.4 \%$ used Ukrainian, and $0.2 \%$ used Vietnamese translated surveys.

## Reliability and Validity

A survey item is valid if it accurately measures the concept it is intended to measure. A survey item is reliable if it consistently produces the same results under the same circumstances. Nearly all HYS 2021 questions were gleaned from established surveys that have been used throughout the United States-some for more than 25 years. Each of these surveys has been subjected to scientific research regarding reliability and validity and has been field-tested extensively (Arthur et al., 1998; Eaton et al., 2006; Johnston et al., 1994). This field testing generally addresses such issues as the content and structure of the questions, the ordering of the questions, the types and ordering of the response options, and the survey length.

Bensley (1997) reviewed the reliability and validity of school-based surveys and found adequate reliability based on a large test-retest study as well as studies of interrelationships among the data (such as gender and age differences, and differences between dropouts and in-school youth). Bensley found that remaining questions about validity were based on differences among methodologies. School-based, self-administered surveys appeared to yield higher prevalence of socially disapproved behaviors than either telephone surveys or face-to-face interviews, but lower prevalence than biochemical indicators of substance use or methods that provide even greater anonymity. Biochemical indicators, which provide the most objective comparison data, and low self-reported use of a fictitious drug suggest that most self-reported behaviors on school-based surveys are likely valid but some underreporting may occur. Underreporting of socially disapproved behaviors has been noted for both adults and youth, particularly when the possibility is greater that the responding individual is identifiable.

## Data Preparation and Analysis

Electronic and paper surveys were received, processed and cleaned the data using programs designed to detect dishonest and inconsistent answers. Most data processing and analytic code were written using SAS analytic software.

SAS was used to create local reports with item-level frequency distributions and scale results for the participating schools, districts, counties, and ESDs. In all cases, a minimum of 15 valid, completed surveys were required at a given grade level for a grade level report to be produced. In addition, 70 percent or more of the students enrolled at a district, county, or ESD were required to have participated in the survey for a report of results to be produced at that level (if participation was between 40 and 69 percent, a "report of participating schools" was produced). An interpretive guide to aid recipients in reading their reports was made available on the project web site, www.AskHYS.net. Statewide results were presented as comparative data in the local reports.

For this Analytic Report, STATA Statistical Software was used for determining significant differences by grade-level, sex assigned at birth and change from 2018 to 2021. Joinpoint 4.2.0.2 was used to determine significant trends for HYS questions with at least five administrations.

## Differences by Grade Level and Sex Assigned at Birth

A chi-square test of significance was used to compare 2021 results among grade levels and between sex assigned at birth. Comparisons with a $p$-value less than 0.05 were considered significant differences.

## Differences Over Time

A chi-square test of significance was used to compare HYS 2018 results to HYS 2021 results. Comparisons with a $p$-value less than 0.05 were reported as significant differences.

Joinpoint analysis (National Cancer Institute, 2018) was used to examine trends over time back to 2002 for those questions that had been asked on five or more administrations of the survey. Differences in the linear trend of the time span of the question are reported for analyses in which the $p$-value was less than 0.05 . Joinpoint analysis tested both whether there was a
significant trend over time and whether there was a change in the trend over time (i.e., a change in inflection). The Joinpoint analysis allowed one change in trend if there were seven time points. Significant trends are reported for analyses in which the $p$-value was less than 0.05 .
Washington data presented in this report include prior administrations of the HYS from 2002 through 2018.

- 2002: Healthy Youth Survey —HYS was administered in public schools in the fall of 2002. A total of 24,685 Grade $6,8,10$, and 12 students in 171 schools participated in the state sample for a state response rate of about 55 percent. An additional 112,650 students participated in the survey voluntarily and contributed to local results.
- 2004: Healthy Youth Survey-HYS was administered in public schools in the fall of 2004. A total of 30,263 Grade 6, 8, 10, and 12 students in 191 schools participated in the state sample for a state response rate of about 65 percent. An additional 154,832 students participated in the survey voluntarily and contributed to local results.
- 2006: Healthy Youth Survey-HYS was administered in public schools in the fall of 2006. A total of 32,531 Grade 6, 8, 10, and 12 students in 203 schools participated in the state sample for a state response rate of about 65 percent. An additional 165,781 students participated in the survey voluntarily and contributed to local results.
- 2008: Healthy Youth Survey-HYS was administered in public schools in the fall of 2008. A total of 30,346 Grade 6, 8, 10, and 12 students in 201 schools participated in the state sample for a state response rate of about 66 percent. An additional 180,505 students participated in the survey voluntarily and contributed to local results.
- 2010: Healthy Youth Survey-HYS was administered in public schools in the fall of 2010. A total of 34,069 Grade 6, 8, 10, and 12 students in 212 schools participated in the state sample for a state response rate of about 70 percent. An additional 177,262 students participated in the survey voluntarily and contributed to local results.
- 2012: Healthy Youth Survey-HYS was administered in public schools in the fall of 2012. A total of 33,207 Grade 6, 8, 10, and 12 students in 201 schools participated in the state sample for a state response rate of about 69 percent. An additional 171,659 students participated in the survey voluntarily and contributed to local results.
- 2014: Healthy Youth Survey-HYS was administered in public schools in the fall of 2014. A total of 35,262 Grade $6,8,10$, and 12 students in 192 schools participated in the state sample for a state response rate of about 68 percent. An additional 188,962 students participated in the survey voluntarily and contributed to local results.
- 2016: Healthy Youth Survey-HYS was administered in public schools in the fall of 2016. A total of 36,809 Grade 6, 8, 10, and 12 students in 198 schools participated in the state sample for a state response rate of about 69 percent. An additional 195,203 students participated in the survey voluntarily and contributed to local results.
- 2018: Healthy Youth Survey-HYS was administered in public schools in the fall of 2018. A total of 32,271 Grade 6, 8, 10, and 12 students in 182 schools participated in the state
sample for a state response rate of about 66 percent. An additional 202,423 students participated in the survey voluntarily and contributed to local results.


## Calculating Confidence Intervals

Reports of results from previous Washington State surveys are available on www.AskHYS.net. Confidence intervals for the 2002, 2004, 2006, 2008, and 2010 data were obtained by analysis using SUDAAN. For 2012, 2014, 2016, 2018, and 2021, confidence intervals were obtained using SAS.

## Response Rates

The overall response rates (the number of participating students who completed valid surveys divided by the total enrollment in schools asked to participate in the state sample) were 72 percent in Grade 6, 71 percent in Grade 8, 70 percent in Grade 10, and 44 percent in Grade 12. Participation rates presented here are based on the enrollment data from the Office of Superintendent of Public Instruction's P-105 October Enrollment Headcount Report for October 2021 (retrieved from https://www.k12.wa.us/data-reporting/data-portal). Although Grade 12 participation rates are below 70 percent, these findings are expected to be representative of most Washington youth in public schools based on an examination of bias conducted for previous HYS administrations, available at: https://www.askhys.net/Reports/BiasAnalysis.

The table below provides the response rates for schools calculated by dividing the number of participating schools by the number of schools asked to participate. Because some schools were selected for more than one sampled grade, the total number of schools is less than the sum of the number of schools at each grade.

State Sample School Response Rates in 2021

| Grade | School <br> Participated | Schools Asked to <br> Participate | Response Rate |
| :--- | :---: | :---: | :---: |
| Grade 6 | 71 | 82 | $87 \%$ |
| Grade 8 | 54 | 66 | $82 \%$ |
| Grade 10 | 52 | 58 | $90 \%$ |
| Grade 12 | 51 | 60 | $85 \%$ |

This table provides the percentage of valid surveys compared to total enrollment in sampled schools asked to participate.

## Student Response Rates in 2021 (Valid Surveys)

| Grade | Number of <br> Valid Surveys | Enrollment in <br> Schools Asked to <br> Participate | Percent of Valid <br> Surveys |
| :--- | :---: | :---: | :---: |
| Grade 6 | 8,426 | 11,648 | $72 \%$ |
| Grade 8 | 7,691 | 10,795 | $71 \%$ |
| Grade 10 | 9,378 | 13,359 | $70 \%$ |
| Grade 12 | 5,672 | 12,992 | $44 \%$ |

Of the original 226,207 surveys that were submitted from all schools (sampled and "piggyback"), a total of 13,945 were removed during the preprocessing due to improbable survey dates/times,
improbable completion time, and multiple machine use. Another 13,498 surveys were removed because they had an invalid grade level for the school. The remaining scanned surveys were processed to detect dishonest and inconsistent answers. A total of 5,119 were dropped during the data cleaning process. This was about 3 percent of Grade 6 surveys, 2 percent of Grade 8 and 10 surveys, and 3 percent of Grade 12 surveys. Another 205 surveys were completed by students who used the wrong survey form for their grade. Responses from students who took the wrong form were included in school building results, but excluded from higher aggregations, such as district, county and state results.

## E-survey Non-completion Rates by Form

For past administrations, survey questions were asked in a specific order and analyses were conducted to determine the percentage of students who completed the survey. For 2021, questions on Form $A$ and Form B were asked in randomized blocks, but the survey still ended with a question about answering the survey honestly. The rates at which valid respondents failed to complete the last honesty question on a survey by form type were:

- 19 percent of Grade 8 and 19 percent of Grade 10 and 12 students did not complete the last question on Form A.
- 13 percent of Grade 8, 14 percent of Grade 10, and 1 percent of Grade 12 students did not complete the last question Form $B$.
- 15 percent of Grade 6 students did not complete the last question Form C.

Since questions on the E-survey Forms A and B were randomized into blocks, individual question non-completion was fairly consistent throughout the survey. Questions on the E-survey Form $C$ were not randomized, so question non-completion increases towards the end of the survey.

This chart illustrates the percentage of Grade 8, 10, and 12 students who did not complete each question asked on the Form A version of the E-survey.

Non-completion Rates for Form A, Grades 8, 10, and 12 in 2021


Note: The red line indicates desired maximum of $15 \%$ for non-completion.
This next chart illustrates the percentage of Grade 8, 10, and 12 students who did not complete each question asked on the Form $B$ version of the E-survey.

Six questions on sexual behavior and sexual violence asked on Form B were optional. Some schools chose to remove them from their survey questions: 58 percent of Grade 8 students and 45 percent of Grade 10 and 12 students did not complete the sexual behavior and sexual violence questions.

## Non-completion Rates for Form B Grades 8, 10, and 12 in 2021



Note: The red line indicates desired maximum of $15 \%$ for non-completion; the light blue line indicates removable questions. On Form B, there were spikes at questions 5 and 46 - question 5 was about Asian/Pacific Islander race and questions 46 were about self-report weight..

This chart illustrates the percentage of Grade 6 students who did not complete each question asked on the Form C of the E-survey.

## Non-completion Rates for Form C, Grade 6 in 2021



Note: The red line indicates desired maximum of $15 \%$ for non-completion.
Non-completion rates for the paper and pencil surveys were lower than the rates for the Esurveys. Details on paper and pencil non-completion rates are available in the 2021 Bias Analysis: https://www.askhys.net/Reports/BiasAnalysis

## Cautions

Readers should bear in mind several cautions when interpreting the survey results presented in this report. This section describes these cautions in detail.

## Representativeness

Survey responses are often used to estimate the frequency of behaviors or other characteristics in a population larger than those who actually completed the survey. Thus, the results of the survey are used to characterize all Grade 6, 8, 10, and 12 students in Washington State, even though only a portion of public school students took the survey. This is possible only if the students who participated in the survey are not different from those who did not participate. If they are different, the survey is considered biased, and the results are limited in their ability to be generalized to all students. Bias represents systematic error and is different from the random fluctuation measured by confidence intervals.

The 2021 HYS results are generalizable to the majority of youth in Washington State but may underrepresent students attending small schools and alternative schools. They also may not be representative of youth who attend private schools, Tribal schools, home school, or who have dropped out of school. Students in juvenile detention facilities are restricted from participating in the survey.

## Trends and Changes Over Time

Results for each year available are presented in charts and tables throughout the report. In comparing the results of the HYS 2021 survey and earlier surveys, readers should remember that certain factors may influence apparent changes and trends.

Due to concerns about the impacts of survey administration changes in 2021 and COVID-19, trends were not analyzed with 2021 HYS data. Trend results are only reported for the years 2002 through 2018. Changes from 2018 to 2021 are included in this report, but caution should be used in interpreting differences.

## Rounding Differences

Results presented in this Analytic Report were calculated to two decimal points and then rounded to whole numbers. Results presented in the Appendix of this report and in the local reports prepared by Looking Glass Analytics were also calculated to two decimal points and then rounded to one decimal point. If the results ending in 0.5 in the Appendix or local reports were rounded to whole numbers, those rounded results may be 1 percent different from the whole numbers presented in this report. For example, if a result in the Appendix is 8.5 percent, then you would round up to 9 percent. But that 8.5 percent could have originally been 8.49 percent thus it was rounded down to 8 percent in this report.

## School Dropouts

In interpreting differences between survey results for each grade level, readers should remember that some reported behaviors and risk factors may appear more prevalent in Grade 10
compared to Grade 12 because of increased rate of school dropout 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 are underestimates because many of the youth most likely to engage in risky behaviors may have dropped out of school (Johnston, O'Malley, and Bachman, 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 in earlier grades.

The school dropout concern is not new and has existed in previous Washington surveys. Unless the characteristics of school dropouts have changed over time, the bias in Grade 12 estimates is likely similar to what it has been in the past. This 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. These factors include the ability to read or accurately interpret the intention of survey questions, to accurately recall events during a specific time frame, or to have developed opinions about different topics.

## Self-Report Data

The survey measures self-reports, which may be influenced by factors including problems in remembering, social desirability or the wish to present oneself in a positive manner, reading ability, and developmental changes. However, research indicates that these factors are not common.

## Correlational Data

Interrelationships among the variables should not be interpreted as indicating that one variable caused the other. Although causal relationships might exist, the direction of the correlation may be the reverse of what is expected, or an apparent relationship might be due to some other measured or unmeasured cause.

## Respondent Characteristics

The findings of HYS 2021 presented in this report are based on the responses of 33,167 students in Grades 6, 8, 10, and 12. Schools were selected using a scientific sampling plan intended to represent the full population of public school students at these grade levels across the state. The table below provides details about the demographic characteristics of the participating students.

## Respondent Characteristics in 2021, Percent of Students (and 95\% CI)

|  | 6th Grade $\%( \pm \mathrm{Cl})$ | 8th Grade $\% ~( \pm \mathrm{Cl})$ | 10th Grade \% ( $\pm$ CI) | 12th Grade \% ( $\pm \mathrm{Cl}$ ) |
| :---: | :---: | :---: | :---: | :---: |
| Age | ( $\mathrm{n}=8402$ ) | ( $\mathrm{n}=7627$ ) | ( $\mathrm{n}=9336$ ) | ( $\mathrm{n}=5653$ ) |
| 10 or younger | 0.6\% ( $\pm 0.2$ ) | ** | ** | ** |
| 11 | 75.2\% ( $\pm 1.2$ ) | ** | ** | ** |
| 12 | 23.7\% ( $\pm 1.1$ ) | 0.6\% ( $\pm 0.1$ ) | 0.0\% ( $\pm 0.0)$ | 0.1\% ( $\pm 0.1$ ) |
| 13 | 0.5\% ( $\pm 0.2$ ) | 76.7\% ( $\pm 1.2$ ) | 0.0\% ( $\pm 0.0)$ | 0.0\% ( $\pm 0.0)$ |
| 14 | 0.0\% ( $\pm 0.0)$ | 22.4\% ( $\pm 1.1$ ) | 0.8\% ( $\pm 0.2$ ) | 0.0\% ( $\pm 0.0)$ |
| 15 | 0.0\% ( $\pm 0.0)$ | 0.3\% ( $\pm 0.1$ ) | 77.2\% ( $\pm 1.2$ ) | 0.1\% ( $\pm 0.1$ ) |
| 16 | ** | 0.0\% ( $\pm 0.0)$ | 21.4\% ( $\pm 1.2$ ) | 1.1\% ( $\pm 0.3$ ) |
| 17 | ** | 0.0\% ( $\pm 0.0)$ | 0.5\% ( $\pm 0.2$ ) | 75.9\% ( $\pm 1.6$ ) |
| 18 | ** | 0.0\% ( $\pm 0.0)$ | 0.0\% ( $\pm 0.0)$ | 21.4\% ( $\pm 1.3$ ) |
| 19 or older | ** | 0.0\% ( $\pm 0.0)$ | 0.0\% ( $\pm 0.0)$ | 1.2\% ( $\pm 0.4$ ) |
| Sex Assignment at Birth | ( $\mathrm{n}=8305$ ) | ( $\mathrm{n}=7535$ ) | ( $\mathrm{n}=9091$ ) | ( $\mathrm{n}=5581$ ) |
| Female | 49.5\% ( $\pm 1.3$ ) | 50.1\% ( $\pm 1.0)$ | 50.6\% ( $\pm 1.0)$ | 49.5\% ( $\pm 1.8)$ |
| Male | 50.5\% ( $\pm 1.3)$ | 49.9\% ( $\pm 1.0$ ) | 49.4\% ( $\pm 1.0$ ) | 50.5\% ( $\pm 1.8)$ |
| Gender Identity | ( $\mathrm{n}=0$ ) | ( $\mathrm{n}=7026$ ) | ( $\mathrm{n}=8658$ ) | ( $\mathrm{n}=5363$ ) |
| Male | ** | 47.6\% ( $\pm 1.1$ ) | 47.2\% ( $\pm 1.1$ ) | 47.5\% ( $\pm 1.8$ ) |
| Female | ** | 39.7\% ( $\pm 1.3$ ) | 42.3\% ( $\pm 1.1$ ) | 43.4\% ( $\pm 2.0$ ) |
| Transgender | ** | 0.9\% ( $\pm 0.2$ ) | 0.7\% ( $\pm 0.2$ ) | 0.8\% ( $\pm 0.2$ ) |
| Questioning/not sure of my gender identity | ** | 2.8\% ( $\pm 0.4$ ) | 1.9\% ( $\pm 0.4$ ) | 1.3\% ( $\pm 0.3$ ) |
| Something else fits better | ** | 2.8\% ( $\pm 0.5$ ) | 2.0\% ( $\pm 0.4$ ) | 1.9\% ( $\pm 0.4$ ) |
| I do not know what this question is asking. | ** | 0.3\% ( $\pm 0.1$ ) | 0.4\% ( $\pm 0.2$ ) | 0.4\% ( $\pm 0.1$ ) |
| Selected more than one response | ** | 6.0\% ( $\pm 0.7$ ) | 5.6\% ( $\pm 0.7$ ) | 4.8\% ( $\pm 0.9$ ) |
| Gender Identity | ( $\mathrm{n}=0$ ) | ( $\mathrm{n}=6866$ ) | ( $\mathrm{n}=8548$ ) | ( $\mathrm{n}=5299$ ) |
| Heterosexual (straight) | ** | 66.2\% ( $\pm 2.0)$ | 70.0\% ( $\pm 2.2$ ) | 71.7\% ( $\pm 2.0$ ) |
| Gay or lesbian | ** | 4.4\% ( $\pm 0.5$ ) | $3.7 \% ~( \pm 0.5)$ | $3.4 \%$ ( $\pm 0.6)$ |
| Bisexual | ** | 12.2\% ( $\pm 1.0)$ | 12.9\% ( $\pm 1.2$ ) | 13.2\% ( $\pm 1.5$ ) |
| Questioning/not sure | ** | $6.9 \%$ ( $\pm 0.8)$ | $5.6 \%$ ( $\pm 0.7)$ | 4.8\% ( $\pm 0.6$ ) |
| Something else fits better | ** | $6.6 \% ~( \pm 0.8)$ | $5.1 \%( \pm 0.7)$ | 4.9\% ( $\pm 0.7$ ) |


|  | 6th Grade $\%( \pm \mathrm{Cl})$ | 8th Grade $\%( \pm \mathrm{Cl})$ | 10th Grade $\%( \pm \mathrm{Cl})$ | 12th Grade \% ( $\pm \mathrm{Cl}$ ) |
| :---: | :---: | :---: | :---: | :---: |
| I don't know what this question is asking. | ** | 3.7\% ( $\pm 0.5$ ) | 2.7\% ( $\pm 0.6$ ) | 2.1\% ( $\pm 0.5$ ) |
| Race - Ethnic Group | ( $\mathrm{n}=8004$ ) | ( $\mathrm{n}=7472$ ) | ( $\mathrm{n}=9083$ ) | ( $\mathrm{n}=5590$ ) |
| American Indian or Alaska Native AOIC* | 7.4\% ( $\pm 1.1$ ) | 6.2\% ( $\pm 1.3$ ) | 4.5\% ( $\pm 0.9$ ) | 4.5\% ( $\pm 1.1$ ) |
| Asian or Asian American AOIC* | 13.4\% ( $\pm 3.4$ ) | 12.4\% ( $\pm 3.2$ ) | 14.6\% ( $\pm 5.0$ ) | 12.6\% ( $\pm 3.9$ ) |
| Black or African-American AOIC* | 8.8\% ( $\pm 2.2$ ) | 7.7\% ( $\pm 2.0$ ) | 7.3\% ( $\pm 2.0$ ) | $6.2 \% ~( \pm 1.6)$ |
| Hispanic or Latino/Latina AOIC* | 22.4\% ( $\pm 5.9$ ) | 20.7\% ( $\pm 5.3$ ) | 23.5\% ( $\pm 7.9$ ) | 24.8\% ( $\pm 9.9$ ) |
| Native Hawaiian or other Pacific Islander AOIC* | 3.7\% ( $\pm 1.2$ ) | 3.2\% ( $\pm 0.7$ ) | 3.3\% ( $\pm 1.0)$ | 3.4\% ( $\pm 1.0)$ |
| White or Caucasian AOIC* | 33.8\% ( $\pm 5.0$ ) | 57.5\% ( $\pm 4.8)$ | 60.6\% ( $\pm 7.3$ ) | 64.0\% ( $\pm 8.2$ ) |
| Other AOIC* | 25.9\% ( $\pm 2.0$ ) | 13.0\% ( $\pm 1.2$ ) | $5.8 \%( \pm 0.7)$ | 4.0\% ( $\pm 0.6$ ) |
| Language Spoken at Home | ( $\mathrm{n}=8376$ ) | ( $\mathrm{n}=7556$ ) | ( $\mathrm{n}=9093$ ) | ( $\mathrm{n}=5594$ ) |
| English | 74.6\% ( $\pm 4.6$ ) | 82.5\% ( $\pm 3.8$ ) | 79.7\% ( $\pm 5.3$ ) | 80.5\% ( $\pm 6.2$ ) |
| Spanish | 13.8\% ( $\pm 4.5$ ) | 10.2\% ( $\pm 3.5$ ) | 12.4\% ( $\pm 5.4$ ) | 13.0\% ( $\pm 6.6$ ) |
| Russian | ** | 1.2\% ( $\pm 0.5$ ) | 0.9\% ( $\pm 0.3)$ | 0.7\% ( $\pm 0.3$ ) |
| Ukrainian | ** | $0.3 \%( \pm 0.2)$ | 0.2\% ( $\pm 0.1$ ) | 0.3\% ( $\pm 0.2$ ) |
| Vietnamese | ** | $0.5 \%( \pm 0.3)$ | 0.9\% ( $\pm 0.8)$ | 0.6\% ( $\pm 0.4$ ) |
| Chinese | ** | 0.7\% ( $\pm 0.4$ ) | 0.9\% ( $\pm 0.6$ ) | 0.6\% ( $\pm 0.4$ ) |
| Korean | ** | $0.5 \%( \pm 0.5)$ | 0.5\% ( $\pm 0.4$ ) | 0.3\% ( $\pm 0.2$ ) |
| Japanese | ** | $0.2 \%( \pm 0.1)$ | 0.2\% ( $\pm 0.1$ ) | 0.1\% ( $\pm 0.1$ ) |
| Other | 11.6\% ( $\pm 3.0$ ) | 4.1\% ( $\pm 1.3$ ) | 4.5\% ( $\pm 1.8$ ) | 3.9\% ( $\pm 1.4)$ |
| Migrant Status | ( $\mathrm{n}=8362$ ) | ( $\mathrm{n}=7542$ ) | ( $\mathrm{n}=9101$ ) | ( $\mathrm{n}=5591$ ) |
| Non-migrant student | 86.5\% ( $\pm 1.4$ ) | 89.0\% ( $\pm 1.4)$ | 92.4\% ( $\pm 1.1$ ) | 93.8\% ( $\pm 0.9$ ) |
| Migrant student | 13.5\% ( $\pm 1.4)$ | 11.0\% ( $\pm 1.4)$ | 7.6\% ( $\pm 1.1$ ) | 6.2\% ( $\pm 0.9$ ) |
| Disability | ( $\mathrm{n}=0$ ) | ( $\mathrm{n}=3412$ ) | ( $\mathrm{n}=4335$ ) | ( $\mathrm{n}=2570$ ) |
| Without disability | ** | 76.9\% ( $\pm 2.0$ ) | 73.4\% ( $\pm 1.8$ ) | 70.3\% ( $\pm 2.9$ ) |
| With disability | ** | 23.1\% ( $\pm 2.0$ ) | 26.6\% ( $\pm 1.8$ ) | 29.7\% ( $\pm 2.9$ ) |

Notes:

- "**"Indicates that the answer choice was not included on the survey.
- Race/ethnic groups are reported for students who selected a single race/ethnic group alone or in combination with any other race. An additional race category is also displayed that combines students who selected more than one group. There are reported as "more than one race/ethnicity marked".


## WA HYS Adverse Childhood Experiences (WAH-ACEs)

Adverse Childhood Experience (ACEs) are indicators of severe stressors that occur during a person's first 18 years of life. Research has shown that these adverse experiences can influence physical, mental, social, and behavioral health across the lifespan. The Washington HYS ACEs Score (WAH-ACEs) assesses 11 adverse experiences that youth may report on the HYS to better assess the burden of these experiences among our state's youth. WAH-ACEs can be used to understand the local levels of exposure to childhood adversity, and the relationships between these experiences and other questions on the survey. Detailed information about the development and interpretation of the score is available here - WAHACEs Interpretive Guide.

In 2021, the frequency of WAH-ACEs reported:

- 0 WA-ACEs: 44 percent of Grade 8 students, 43 percent of Grade 10 students, and 36 percent of Grade 12 students.
- 1 WA-ACE : 22 percent of Grade 8 students, 23 percent of Grade 10 students, and 25 percent of Grade 12 students.
- 2 WA-ACEs : 13 percent of Grade 8 and 10 students, and 15 percent of Grade 12 students.
- 3 WA-ACEs: 8 percent of Grade 8 students, and 9 percent of Grade 10 and 12 students.
- 4 or more WA-ACEs: 12 percent of Grade 8 students, 11 percent of Grade 10 students, and 15 percent of Grade 12 students.

Differences by grade level:

- Grade 8 and 10 students were more likely than Grade 12 students to report experiencing 0 WAH-ACEs.
- Grade 12 students were more likely than Grade 8 students to report experiencing 1 WAH-ACE.
- Grade 12 students were more likely than Grade 10 students to report experiencing 4 or more WAH-ACEs.


## Differences by sex assigned at birth:

- Grades 8, 10, and 12 males were more likely than females to report experiencing 0 WAHACEs.
- Grades 12 males were more likely than females to report experiencing 1 WAH-ACE.
- Grades 8 and 10 females were more likely than males to report experiencing 3 WAH ACEs.
- Grades 8,10 , and 12 females were more likely than males to report experiencing 4 or more WAH-ACEs.


## WAH-ACEs Frequency, Grades 8, 10, and 12 in 2021



| Frequency | Grade 8 | Grade 10 | Grade 12 |
| :--- | :---: | :---: | :---: |
| 0 WAH-ACEs | $44.3 \pm 3.7$ | $42.9 \pm 4.0$ | $36.5 \pm 3.5$ |
| 1 WAH-ACE | $21.6 \pm 1.9$ | $23.4 \pm 1.8$ | $24.7 \pm 2.1$ |
| 2 WAH-ACEs | $13.5 \pm 2.0$ | $13.3 \pm 1.3$ | $14.9 \pm 1.9$ |
| 3 WAH-ACEs | $8.2 \pm 1.4$ | $9.0 \pm 1.5$ | $9.4 \pm 1.6$ |
| 4 or more WAH-ACEs | $12.4 \pm 2.0$ | $11.4 \pm 2.0$ | $14.6 \pm 2.3$ |

Survey Questions:

- I feel safe during school (NO!/no).
- During the past 30 days, on how many days did you not go to school because you felt you would be unsafe on your way to and from school?* (Any days)
- Bullying is when one or more students threaten, spread rumors about, hit, shove, or otherwise hurt another student over and over again. It is not bullying when two students of about the same strength or power argue or fight or tease each other in a friendly way. In the last 30 days, how often have you been bullied?* (Any days)
- During the past 12 months, did someone you were dating or going out with ever limit your activities, threaten you, or make you feel unsafe in any other way?** (Yes)
- In the past 12 months, how many times did someone you were dating or going out with physically hurt you on purpose? (Count such things as being hit, slammed into something, or injured with an object or weapon.)** (Any times)
- Have you ever been in a situation where someone made you engage in kissing, sexual touch or intercourse when you did not want to? (Yes)
- Not counting TV, movies, video games, and sporting events, have you seen an adult hit, slap, punch, shove, kick, or otherwise physically hurt another adult more than one time? (Yes)
- Has an adult ever physically hurt you on purpose (like pushed, slapped, hit, kicked or punched you), leaving a mark, bruise or injury? (Yes)
- How often does a parent or adult in your home swear at you, insult you, put you down or humiliate you? (Sometimes, Often, Very often)
- Are your current living arrangements the result of losing your home because your family cannot afford housing? (Yes)
- How often in the past 12 months did you or your family have to cut meal size or skip meals because there wasn't enough money for food? (Any times)

Note. Percentages represent student's WAH-ACEs scores computed from eleven questions. For each question, a student was assigned a value of 0 or 1 and these were added up to create their final score. Multiple imputation, taking into account
mother's education, sex assigned at birth, and race/ethnicity, was used to account for students who did not answer all eleven questions on the survey.
Source: HYS 2021

## Problematic Internet Use

With a rise in internet use among youth over the past several years, interest in the nature of that use and its effects on health and wellbeing has also grown. Problematic internet use (PIU) is use that is risky, excessive, or impulsive that can lead to adverse consequences in an individual's life, including physical, emotional, social, or functional impairment. (Moreno, 2012). The relationship between PIU and mental health is bidirectional - they affect each other. PIU has been linked to stress, fewer positive health behaviors, and poor academic performance. HYS 2021 included a 3item Problematic and Risky Internet Use Screen Scale (PRIUSS) to help assess risk for PIU among students (Moreno, 2016). Students who reported a score of three or more were categorized as "at risk" for PIU*.

In 2021, 17 percent of Grade 8 students, 18 percent of Grade 10 students, and 23 percent of Grade 12 students were at risk for problematic Internet use.

Differences by grade level:

- Grade 12 students were more likely than Grade 8 and 10 students to report problematic Internet use.

Differences by sex assigned at birth:

- Grades 8,10 , and 12 females were more likely than males to report experiencing problematic Internet use.

Problematic Internet Use, Grades 8, 10, and 12 in 2021


| Grade | $\mathbf{2 0 2 1}$ |
| :--- | :---: |
| Grade 8 | $16.5 \pm 1.2$ |
| Grade 10 | $18.1 \pm 1.5$ |
| Grade 12 | $22.8 \pm 2.7$ |

Survey Questions:

- How often do you experience increased social anxiety due to your Internet use.
- How often do you feel withdrawal when away from the Internet.
- How often do you lose motivation to do other things that need to get done because of the Internet.
*Note. Percentages represent students who answered all three Problematic Internet Use questions. Each response option has a value of 0-4. Students are given a total score based on the sum of their responses to the three questions (0-12). Scores of three or higher are considered at risk for problematic Internet use.

Source: HYS 2021

## Worries Due to COVID-19

Youth experience the effects of the COVID-19 pandemic in several ways, including how it has influenced their family life. Three questions were added to HYS 2021 to assess to what degree youth reported feeling worried about pandemic's impact on housing stability, food insecurity, and their parents' jobs. These questions help indicate if youth, or a subset of youth, were particularly worried about the effects of the pandemic.

In 2021, students reported being pretty worried or extremely worried about:

- Their parents losing their job(s) due to COVID: 31 percent of Grade 6, 15 percent of Grade 8 students, 14 percent of Grade 10 students, and 15 percent of Grade 12 students.
- Their family being unable to afford housing due to COVID: 34 percent of Grade 6, 17 percent of Grade 8 students, 15 percent of Grade 10 students, and 16 percent of Grade 12 students.
- Not having enough food to eat due to COVID: 29 percent of Grade 6, 12 percent of Grade 8 students, 10 percent of Grade 10 students, and 11 percent of Grade 12 students


## Differences by grade level:

- Grade 6 students were more likely than Grade 8, 10, and 12 students to report that they were worried about their parents losing their job(s), their family being unable to afford housing, and not having enough food to eat due to COVID.

Differences by sex assigned at birth:

- Grade 8 and 12 females were more likely than males to report that they were worried about their parents losing their job(s) due to COVID.
- Grade 6, 8, 10, and 12 females were more likely than males to report that they were worried about their family being unable to afford housing and not having enough food to eat due to COVID.


## Worries Due to COVID-19, Grades 8, 10, and 12 in 2021



|  | Grade 6 | Grade 8 | Grade 10 | Grade 12 |
| :--- | :---: | :---: | :---: | :---: |
| Worried about parents losing their job(s) due to COVID | $30.8 \pm 3.1$ | $15.4 \pm 1.7$ | $13.8 \pm 2.3$ | $15.1 \pm 2.9$ |
| Worried about family being unable to afford housing due to COVID | $33.6 \pm 3.4$ | $17.1 \pm 1.8$ | $14.8 \pm 2.6$ | $15.7 \pm 3.1$ |
| Worried about not having enough food to eat due to COVID | $29.1 \pm 3.1$ | $12.1 \pm 1.4$ | $10.1 \pm 2.0$ | $10.6 \pm 2.5$ |

## Survey Questions:

- How much are you worried right now about the following things as a result of the COVID pandemic? Your parents or guardians losing their job(s)?
- How much are you worried right now about the following things as a result of the COVID pandemic? Your family being unable to afford rent or housing?
- How much are you worried right now about the following things as a result of the COVID pandemic? Not having enough food to eat?

Note. Percentages represent students who answered, "Pretty worried" or "Extremely worried".
Source: HYS 2021

# Physical Activity and Dietary Behavior 

## Weight

The Healthy People 2030 objective is to reduce the proportion of adolescents ages 12-19 who are "obese," determined using a body mass index (BMI) based on height and weight, to 15.5 percent by 2030.

BMI is a problematic and limited metric for assessing overall health of a community or individual. Increasingly, research is showing that addressing health behaviors and outcomes using a weight neutral approach has more benefits for wellbeing than focusing on BMI or "obesity" as the end outcome. Discussion of BMI and "obesity" should take a trauma-informed approach due to the potential harmful impacts on youth struggling with disordered eating and weight stigma.

In 2021, 17 percent of Grade 8 students, 16 percent of Grade 10 students, and 15 percent of Grade 12 students were "obese" based on their reported BMI. Sixteen percent of Grade 8 students and 15 percent of Grade 10 and Grade 12 students were "overweight."

Differences by grade level:

- There were no differences in "obesity" or "overweight" by grade.

Differences by sex assigned at birth:

- Grade 8, 10, and 12 males were more likely than females to be "obese."
- There were no differences in "overweight" by sex assigned at birth for any grade.


## Differences over time:

- Among Grade 8 students, there was an increase in "obesity" from 2018 to 2021.
- There were no changes in "overweight" from 2018 to 2021.
- Among Grade 10 and 12 students, there were significant increases in "obesity" from 2002 through 2018.
- Among Grade 10 students, there were significant increases in "overweight" from 2002 through 2018.


## "Obesity" and "Overweight," Grades 8, 10, and 12, from 2002-2021

Obese
30


0


## Overweight



Differences by grade level:

- Grade 6 and 8 students were more likely than Grade 10 and 12 students to be physically active for 60 minutes, seven days a week.

Differences by sex assigned at birth:

- Grades $6,8,10$, and 12 males were more likely than females to be physically active for 60 minutes, seven days a week.


## Differences over time:

- Among Grades $6,8,10$, and 12 students, there were decreases in being physically active for 60 minutes, seven days a week from 2018 to 2021.
- Among Grade 6 students, there was a decrease in being physically active for 60 minutes, seven days a week, from 2006 through 2018.
- Among Grade 8 and 12 students, there were increases in being physically active for 60 minutes, seven days a week, from 2006 through 2018.


## 60 Minutes of Exercise 7 Days a Week, Grades 6, 8, 10, and 12, 2006-2021



Survey Question: In the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day? (Add up all the time you spent in any kind of physical activity that increases your heart rate or makes you breathe hard some of the time.)

Note. Percentages represent students who reported they were physically active for at least 60 minutes on 7 days in an average week.

Source: HYS 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021

## Television Watching and Video Game Playing

In 2021, about 31 percent of Grade 6 students, 28 percent of Grade 8 students, 33 percent of Grade 10 students, and 34 percent of Grade 12 students reported restricting television and video viewing and video game playing to two hours or less on a school day. The most recent guidelines from the American Academy of Pediatrics (AAP) do not place a time restriction on youth older than age two. The AAP Guidelines encourage parents of youth over age two to create a Family Media Use Plan that accounts for age, health, personality and developmental stage.

Differences by grade level:

- Grade 10 and 12 students were more likely than Grade 8 students to restrict television and video viewing and video game playing to two hours or less on a school day.

Differences by sex assigned at birth:

- Grade 6, 8, 10, and 12 females were more likely than males to restrict television and video viewing and video game playing to two hours or less on a school day.

Differences over time:

- Among Grades 6, 8, 10, and 12 students, there were decreases in restricting television and video viewing and video game playing to two hours or less on a school day from 2018 to 2021.

Television Watching or Video Game Playing Restricted to $\mathbf{2}$ Hours or Less on an Average School Day, Grades 6, 8, 10, and 12 in 2021


| Measure | Grade 6 | Grade 8 | Grade 10 | Grade 12 |
| :--- | :---: | :---: | :---: | :---: |
| TV Watching | $55.5 \pm 3.0$ | $52.2 \pm 2.5$ | $58.0 \pm 3.3$ | $58.4 \pm 2.5$ |
| Video Game Playing | $62.6 \pm 2.5$ | $60.2 \pm 2.3$ | $64.1 \pm 3.0$ | $67.5 \pm 2.4$ |
| Less than 2 Hours for Both | $30.7 \pm 2.8$ | $27.5 \pm 2.2$ | $33.0 \pm 2.9$ | $34.2 \pm 2.4$ |

Survey Questions:

- On an average school day, how many hours do you watch TV shows or movies or stream videos (such as YouTube,

Netflix, Hulu) on any electronic device (Computer, TV set, tablets or smartphone)?

- On an average school day, how many hours do you play video or computer games, or use a computer for something that is not school work? (Count time spent on things such as Xbox, PlayStation, tablet or smartphone, social media).


## Notes:

- Percentages represented students who reported watching TV and/or playing video games for less than two hours total on an average school day.
- The wording for both questions changed in 2018, making changes over time no longer comparable.

Source: HYS 2021.

## Nutrition

## Fruit and Vegetable Consumption

Youth need to eat a variety of fruits and vegetables every day to get essential vitamins and minerals, fiber, and other substances that are important for good health and to reduce the risk of obesity and chronic diseases. The 2020-2025 U.S. Dietary Guidelines for Americans recommend eating sufficient amounts of fruits and vegetables within caloric needs. The recommendation for fruit consumption for youth ages 9-18 ranges from 1.5-2.5 cups per day. The Healthy Youth Survey does not measure intake of fruits and vegetables relative to caloric need and age but in terms of number of times fruits and vegetables are eaten a day, which is consistent with the Youth Risk Behavior Survey. (U.S. Department of Health and Human Services, 2020)

## Eating Fruit Less Than Once a Day

In 2021, 39 percent of Grade 8 students, 42 percent of Grade 10 students, and 45 percent of Grade 12 students ate fruit less than once a day.

Differences by grade level:

- Grade 12 students were more likely than Grade 8 and Grade 10 students to eat fruit less than once a day by grade.

Differences by sex assigned at birth:

- Grades 8,10 , and 12 females were more likely than males to eat fruit less than once a day.

Differences over time:

- There were no changes in eating fruit less than once a day from 2018 to 2021.
- Among Grade 8 students, there was an increase in eating fruit less than once a day from 2002 through 2018.

Eating Fruit Less Than Once a Day, Grades 8, 10, and 12, 2002-2021


Survey Questions: During the past 7 days, how many times did you?:

- Drink 100\% fruit juice such as orange juice, apple juice or grape juice? (Do not count punch, Kool-Aid, sports drinks, and other fruit-flavored drinks.)
- Eat fruit? (Do not count fruit juice.)

Note. Percentages are calculated from the questions above to represent students who reported eating fruit less than once a day

Source: HYS 2002, 2004, 2006, 2008, 2012, 2014, 2016, 2018, and 2021. Questions were not asked in 2010.

## Eating Vegetables Less Than Once a Day

In 2021, 32 percent of Grade 8 students, 30 percent of Grade 10 students, and 31 percent of Grade 12 students ate vegetables less than once a day.

Differences by grade level:

- There were no differences in eating vegetables less than once a day by grade.

Differences by sex assigned at birth:

- Grades 8 and 10 females were more likely than males to eat vegetables less than once a day.

Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in eating vegetables less than once a day from 2018 to 2021.
- Among Grade 8 students, there was an increase in eating vegetables less than once a day from 2006 through 2018.
- Among Grade 10 students, there was an increase in eating vegetables less than once a day from 2012 through 2018.

Eating Vegetables Less Than Once a Day, Grades 8, 10, and 12, 2002-2021


Survey Questions: During the past 7 days, how many times did you?:

- Eat green salad?
- Eat potatoes? (Do not count French fries, fried potatoes, or potato chips.)
- Eat carrots?
- Eat other vegetables? (Do not count green salad, potatoes, or carrots.)

Note. Percentages are calculated from the questions above to represent students who reported eating vegetables less than once a day

Source: HYS 2002, 2004, 2006, 2008, 2012, 2014, 2016, 2018, and 2021. Questions were not asked in 2010.

## Eating Dinner with Family

In 2021, 72 percent of Grade 6 students, 70 percent of Grade 8 students, 61 percent of Grade 10 students, and 50 percent of Grade 12 students reported eating dinner with their family most of the time or always.

Children and adolescents who eat meals with family are more likely to have healthy eating habits.

Differences by grade level:

- Grades 6 and 8 students were more likely than Grade 10 and 12 students to eat dinner with their family most of the time or always. Grade 10 students were more likely than Grade 12 students to eat dinner with their family most of the time or always.

Differences by sex assigned at birth:

- Grade $6,8,10$, and 12 males were more likely than females to eat dinner with their family most of the time or always.


## Differences over time:

- Among Grade 10 students, there was an increase in eating dinner with the family from 2018 to 2021.
- Among Grade 8 students, there was a decrease in eating dinner with the family most of the time or always from 2002 through 2018.

Eating Family Dinners Most of the Time or Always, Grades 6, 8, 10, and 12, 2002-2021


Survey Question: How often do you eat dinner with your family?
Note: Percentages represent students who reported that they ate dinner with their family most of the time or always.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Sweetened Beverages - Drinking Daily, Drinking at School, and Purchasing at School

In 2021, 17 percent of Grade 8 students, 19 percent of Grade 10 students, and 24 percent of Grade 12 students reported drinking sweetened beverages once or more a day. In 2021, 35 percent of Grade 8 students, 45 percent of Grade 10 students, and 47 percent of Grade 12 students reported drinking sweetened drinks at school. Among those who reported drinking these beverages at school in 2021, 9 percent of Grade 8 students, 26 percent of Grade 10 students, and 18 percent of Grade 12 students bought the sweetened drinks at school.

Drinking sugar-sweetened beverages can replace other nutrient dense foods needed for growth and development during adolescence. Sugar-sweetened beverages are also associated with increased risk of dental caries, insulin resistance, and higher overall caffeine intake. (Bleich, 2018)

Differences by grade level:

- Grade 12 students were more likely than Grade 8 and 10 students to report drinking sweetened beverages once or more per day.
- Grade 10 and 12 students were more likely than Grade 8 students to drink sweetened drinks at school.
- Among those who drank sweetened beverages at school, Grade 10 students were more likely than Grade 8 and 12 students to buy the sweetened drinks at school and Grade 12 students were more likely than Grade 8 to buy the sweetened drinks at school.

Differences by sex assigned at birth:

- Grade 8 males were more likely than females to report drinking sweetened beverages once or more a day.
- Grade 12 females were more likely than males to drink sweetened drinks at school.
- Among those who drank sweetened beverages at school, Grade 10 and 12 males were more likely than females to buy the sweetened drinks at school.


## Sweetened Beverages - Drinking Daily, Drinking at School, and Purchasing at School, Grades 8, 10, and 12 in 2021



| Measure | Grade 8 | Grade 10 | Grade 12 |
| :--- | :---: | :---: | :---: |
| Drinking Daily | $16.9 \pm 2.0$ | $19.5 \pm 1.9$ | $23.7 \pm 2.3$ |
| Drinking at School | $34.7 \pm 2.6$ | $45.0 \pm 3.0$ | $47.2 \pm 3.8$ |
| Purchasing at School | $9.3 \pm 2.9$ | $25.5 \pm 4.8$ | $17.7 \pm 3.3$ |

## Survey Questions:

- Drinking daily: During the past 7 days, how many times did you drink sugar-sweetened drinks like soda, sports drinks, energy drinks, coffee drinks, tea drinks, or other flavored sugar-sweetened drinks? Do not include diet, sugarfree or drinks with artificial sweetener.
- Drinking at school: During the past 7 days, how many times did you drink sugar-sweetened drinks like soda, sports drinks, energy drinks, coffee drinks, tea drinks, or other flavored sugar-sweetened drinks at school (including any after-school and weekend activities)? Do not include diet, sugar-free or drinks with artificial sweetener.
- Purchasing at school: During the past 7 days, where did you usually get the soda or other sugar-sweetened drinks that you drank at school? Choose only one answer.

Note. Percentages represent students who reported that they consumed one or more sweetened beverages daily.
Source: HYS 2021.

## Food Insecurity

In 2021, 5 percent of Grade 8 students, 6 percent of Grade 10 students, and 8 percent of Grade 12 students reported food insecurity.

Food insecurity has a substantial impact on children's current and future health. According to a 2020 review, food insecurity increases the risk of school absenteeism and poor school outcomes, as well as increasing children's risk of developing various chronic diseases. (Pai, S., \& Bahadur, K. 2020)

## Differences by grade level:

- Grade12 student were more likely than Grade 8 and 10 students to report having to cut meal size or skip meals.

Differences by sex assigned at birth:

- Grade 8 females were more likely than males to report having to cut meal size or skip meals.


## Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in having to cut meal size or skip meals for any grade from 2018 to 2021.
- Among Grade 8 and 10 students, there were decreasing trends in having to cut meal size or skip meals from 2002 through 2018.

Food Insecurity During Any Months in the Past Year, Grades 8, 10, and 12, 2002-2021


Survey Question: How often in the past 12 months did you or your family have to cut meal size or skip meals because there wasn't enough money for food?

Notes:

- Percentages represent students who reported that their family cut meal size or skipped meals during any months in the past year due to lack of money for food.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Health Status and Health Care

## Asthma

## Lifetime Asthma

Lifetime asthma includes anyone who has ever been told by a doctor or nurse that they have asthma. In 2021, 12 percent of Grade 6 students, 15 percent of Grade 8 students, 16 percent of Grade 10 students, and 19 percent of Grade 12 students reported that they had been told they have asthma.

## Differences by grade level:

- Grade 8, 10 and 12 students were more likely than Grade 6 students to have been diagnosed with asthma in their lifetime. Grade 12 students were more likely than Grade 8 and Grade 10 students to have been diagnosed with asthma in their lifetime.

Differences by sex assigned at birth:

- Grade 6 males were more likely than females to have been diagnosed with asthma in their lifetime.


## Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in having been diagnosed with asthma in their lifetime from 2018 to 2021.
- Among Grade 10 students, there was an increase in having been diagnosed with asthma in their lifetime from 2002 through 2018.

Lifetime Asthma, Grades 6, 8, 10, and 12, 2002-2021


| Grade | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 | 2016 | 2018 | 2021 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Grade 12 | $18.7 \pm 1.5$ | $19.9 \pm 1.6$ | $19.0 \pm 1.6$ | $20.8 \pm 1.5$ | $19.2 \pm 1.4$ | $22.2 \pm 1.7$ | $21.5 \pm 1.3$ | $21.1 \pm 1.2$ | $21.3 \pm 1.4$ | $16.0 \pm 1.4$ |
| Grade 12 | $19.3 \pm 1.8$ | $19.3 \pm 1.7$ | $21.2 \pm 2.0$ | $20.5 \pm 1.9$ | $19.1 \pm 1.5$ | $23.1 \pm 1.6$ | $20.9 \pm 1.4$ | $23.4 \pm 1.3$ | $21.3 \pm 1.5$ | $18.6 \pm 1.5$ |

Survey Question: Has a doctor or nurse ever told you that you have asthma?
Note. Percentages represent students who reported that they were ever told they had asthma by a doctor or nurse in their life.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Current Asthma

Current asthma includes anyone who had ever been told they have asthma by a doctor or a nurse and also reports that they still have asthma. In 2021, 7 percent of Grade 6 and Grade 8 students, 8 percent of Grade 10 students, and 9 percent of Grade 12 students reported that they were told they had asthma and that they still have asthma.
Differences by grade level:

- Grade 10 and 12 students were more likely than Grade 6 students to report having current asthma.

Differences by sex assigned at birth:

- Grade 6 males were more likely than females to report having current asthma.

Differences over time:

- There were no changes in having current asthma from 2018 to 2021.
- There were no trends in having current asthma for any grade from 2002 through 2018.


## Current Asthma, Grades 6, 8, 10, and 12, 2008-2021



| Grade | $\mathbf{2 0 0 8}$ | $\mathbf{2 0 1 0}$ | $\mathbf{2 0 1 2}$ | $\mathbf{2 0 1 4}$ | $\mathbf{2 0 1 6}$ | $\mathbf{2 0 1 8}$ | $\mathbf{2 0 2 1}$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Grade 12 | $9.9 \pm 1.4$ | $7.9 \pm 1.0$ | $10.5 \pm 1.1$ | $8.4 \pm 0.8$ | $10.1 \pm 1.4$ | $8.3 \pm 1.1$ | $8.5 \pm 1.0$ |

Survey Questions:

- Has a doctor or nurse ever told you that you have asthma?
- Do you still have asthma?


## Notes:

- Percentages represent students who reported that they were ever told by a doctor they had asthma and still have asthma.
- The definition of current asthma changed in 2008, so previous results for current asthma are not comparable. In the past, current asthma was defined as being diagnosed by a doctor and having an asthma attack in the past year.

Source: HYS 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Access to Care

## Access to a Dentist

Access to dental care is an important component of being a healthy adolescent and adult. In 2021, 74 percent of Grade 8 students, 76 percent of Grade 10 students, and 74 percent of Grade 12 students had seen a dentist in the past 12 months.

Differences by grade level:

- There were no differences in having seen a dentist in the past year by grade.

Differences by sex assigned at birth:

- There were no differences in having seen a dentist in the past year by sex assigned at birth.


## Differences over time:

- Among Grade 8 students, there was a decrease in seeing a dentist in the past year from 2018 to 2021.
- Among Grade 8 and 10 students, there were increases in seeing a dentist in the past year from 2002 through 2014.

Student Access to a Dentist Grades in Past Year 8, 10, and 12, 2002-2021


Survey Question: When was the last time you saw a dentist for a check-up, exam, teeth cleaning, or other dental work?
Note:

- Percentages represent students who reported they saw a dentist in the past year.
- Students who reported "not sure" were not included in the results.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Access to a Doctor

In 2021, 68 percent of Grade 8 students, 67 percent of Grade 10 students, and 64 percent of Grade 12 students had seen a doctor in the past 12 months.

Differences by grade level:

- Grade 8 and Grade 10 students were more likely than Grade 12 students to have seen a doctor in the past year.

Differences by sex assigned at birth:

- There were no differences in seeing a doctor in the past year by sex assigned at birth.


## Differences over time:

- There were no changes in seeing a doctor in the past year from 2018 to 2021.
- Among Grade 8 students, there was an increase in seeing a doctor in the past year from 2002 through 2018.
- Among Grade 12 students, there was an increase in seeing a doctor in the past year from 2006 through 2018.

Student Access to a Doctor in Past Year, Grades 8, 10, and 12, 2002-2021


Survey Question: When was the last time you saw a doctor or health care provider for a check-up or physical exam when you were not sick or injured?

Note:

- Percentages represent students who reported they saw a doctor in the past year.
- Students who reported "not sure" were not included in the results.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2014, 2018, and 2021. Question was not asked in 2012 or in 2016.

## Mental Health

## Depressive Feelings

Students were asked, "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, it can be used as a surrogate measure for experiencing symptoms of depression (Merikangas, 2009).

In 2021, 35 percent of Grade 8 students, 38 percent of Grade 10 students, and 45 percent of Grade 12 students reported experiencing depressive feelings during the past year.

## Differences by grade level:

- Grade 10 and Grade 12 students were more likely than Grade 8 students to experience depressive feelings. Grade 12 students were more likely than Grade 10 students to experience depressive feelings.

Differences by sex assigned at birth:

- Grade 8, 10, and 12 females were more likely than males to experience depressive feelings.


## Differences over time:

- Among Grade 8 and 12 students, there were increases in experiencing depressive feelings from 2018 to 2021.
- Among Grade 10 and 12 students, there were increases in experiencing depressive feelings from 2002 through 2018.

Symptoms of Depression in Past Year, Grades 8, 10, and 12, 2002-2021


| Grade | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 | 2016 | 2018 | 2021 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Grade 8 | $26.5 \pm 1.7$ | $29.4 \pm 1.6$ | $24.8 \pm 1.7$ | $24.2 \pm 1.6$ | $25.2 \pm 1.3$ | $25.9 \pm 1.5$ | $27.2 \pm 1.9$ | $27.7 \pm 1.5$ | $32.2 \pm 1.8$ | $35.0 \pm 2.0$ |
| Grade 10 | $29.5 \pm 1.2$ | $32.6 \pm 1.4$ | $30.3 \pm 1.3$ | $30.2 \pm 1.7$ | $29.8 \pm 1.3$ | $30.9 \pm 1.2$ | $34.9 \pm 2.0$ | $34.5 \pm 1.5$ | $40.0 \pm 1.8$ | $38.1 \pm 1.7$ |
| Grade 12 | $28.7 \pm 2.0$ | $32.0 \pm 1.3$ | $29.5 \pm 1.4$ | $29.4 \pm 1.9$ | $28.4 \pm 1.4$ | $30.4 \pm 1.6$ | $33.7 \pm 2.0$ | $36.7 \pm 1.9$ | $40.7 \pm 2.3$ | $44.7 \pm 2.3$ |

Survey Question: 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?

Note: Percentages represent students who reported that, yes, they felt sad or hopeless for two weeks or more in the past year.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Anxiety

Students were asked two questions about anxiety: How often over the last 2 weeks were you bothered by 1) feeling nervous, anxious or on edge, and 2) Not being able to stop or control worrying. These questions form the Generalized Anxiety Disorder (GAD)-2 scale. When added together as a 0-6 scale, a cutoff of 3 has been found to have acceptable properties in screening for GAD (Plummer, Manea, Trepel, and McMillan 2016). While this is not sufficient to diagnose an anxiety disorder among youth responding to the HYS, it can be used as an indicator of students experiencing a high level of anxiety.

In 2021, 34 percent of Grade 8 students, 40 percent of Grades 10 students, and 45 percent of Grade 12 students reported experiencing high levels of anxiety in the past two weeks.

Differences by grade level:

- Among Grade 8, 10, and 12 students, as grade levels increase, each grade was more likely to report experiencing high levels of anxiety in the past two weeks.

Differences by sex assigned at birth:

- Grade 8, 10, and 12 females were more likely than males to experience high levels of anxiety in the past two weeks.


## Differences over time:

- Among Grade 8, 10, and 12 students, there were increases in experiencing high levels of anxiety in the past two weeks from 2018 to 2021.

High Levels of Anxiety in the Past Two Weeks, Grades 8, 10, and 12, 2014-2021


Survey Questions:

- How often over the last 2 weeks were you bothered by: Feeling nervous, anxious or on edge?
- How often over the last 2 weeks were you bothered by: Not being able to stop or control worrying?

Note: Percentages represent students who reported that, they were feeling nervous or unable to stop worrying on at least several days and feeling nervous or unable to stop worrying on at least more than half of the days in the past two weeks, or that they were experiencing one of these concerns nearly every day.

Source: HYS 2014, 2016, 2018, and 2021.

## Children's Hope Scale

Hope reflects a future orientated mindset and motivational process by which an individual has an expectation toward attaining a desirable goal. Research has linked hope with overall physical, psychological, and social well-being. The Children's Hope Scale is an assessment which measures the ability to initiate and sustain action towards goals (also known as pathways thinking) and the ability to find a way to carry out goals (i.e.. agency thinking).

The Children's Hope Scale uses a six-point response scale with "none of the time" equating to the lowest value of one, and "all of the time" equating to the highest value of six. Adding the response values for pathway questions will provide a pathway score ranging from 2-12; higher scores reflect higher pathways thinking. Adding the response values for agency questions will provide an agency score ranging from 2-12; higher scores reflect higher agency thinking. Adding pathway and agency scores will provide an overall hope score (i.e., level of hope). Scores of 4-8 indicate no to very low hope, 9-12 indicate slightly hopeful, 13-16 indicate moderately hopeful, and 17-24 indicates highly hopeful.

In 2021, 43 percent of Grade 6, 44 percent of Grade 8 and Grade 10 students, and 46 percent of Grade 12 students reported being "highly hopeful".

Differences by grade level:

- There were no differences in reporting being highly hopeful by grade level.

Differences by sex assigned at birth:

- Grade 6, 8, 10, and 12 males were more likely than females to report being highly hopeful.


## Differences over time:

- Among Grade 8 and 12 students, there were decreases in experiencing being highly hopeful from 2018 to 2021.


## Children's Hope Scale, Grades 8, 10, and 12 in 2021



Survey Questions:

- I can think of many ways to get the things in life that are most important to me.
- I am doing just as well as other kids my age
- When I have a problem, I can come up with lots of ways to solve it.
- I think the things I have done in the past will help me in the future.

Note: Percentages represent students who answered all four Hope Scale questions. Scores of 4-8 indicate no to very low hope, 9-12 indicate slightly hopeful, 13-16 indicate moderately hopeful, and 17-24 indicates highly hopeful.

Source: HYS 2021.

## Suicide

Suicide attempts and suicide ideation are associated with adverse childhood experiences (ACEs), a recent or serious loss (including divorce of parents or breakup with significant other), substance use disorders, struggling with sexual orientation, lack of social support, and stigma around help-seeking (Child Mind Institute). Prior suicide attempts increase risk for another suicide attempt. Loss of a loved one to suicide or family history of suicide also increases an individual's risk.

Key protective factors include problem-solving and conflict resolution skills, strong social connections, restricted access to highly lethal means of suicide, and access to evidence-based clinical interventions. In a research study, youth hospitalized for suicide risk chose four caring adults in their lives who then received suicide education (King, et.al, 2019). Empowering a youth's adult support network as part of a safety plan is a promising strategy.

In 2021, students reported the following suicide-related behaviors:

- Seriously considered attempting suicide in the past year: 19 percent of Grade 8 students, 20 percent of Grade 10 and Grade 12 students.
- Made a plan about how to attempt suicide in the past year: 16 percent of Grade 8 and Grade 10 students, and 15 percent of Grade 12 students.
- Attempted suicide: 9 percent of Grade 8 students, 8 percent of Grade 10 students, and 7 percent of Grade 12 students.
- Felt they did not have an adult to turn to for help when feeling sad or hopeless, 13 percent of Grade 6 and Grade 8 students, and 15 percent of Grade 10 and Grade 12 students did not have an adult to turn to for help when feeling sad or hopeless.

Suicide-Related Behaviors, Grades 8, 10, and 12 in 2021


| Measure | Grade 8 | Grade 10 | Grade 12 |
| :--- | :---: | :---: | :---: |
| Seriously considered suicide | $19.0 \pm 1.6$ | $19.6 \pm 1.4$ | $20.4 \pm 1.6$ |
| Made a suicide plan | $16.2 \pm 1.8$ | $15.6 \pm 1.2$ | $14.8 \pm 2.0$ |
| Actually attempted suicide | $9.1 \pm 1.3$ | $8.2 \pm 0.9$ | $6.7 \pm 1.1$ |


| Measure | Grade 8 | Grade 10 | Grade 12 |
| :--- | :---: | :---: | :---: |
| No adult to turn to when sad or hopeless | $12.6 \pm 1.3$ | $14.7 \pm 1.4$ | $15.2 \pm 1.6$ |

Survey Questions:

- During the past 12 months, did you ever seriously consider attempting suicide?
- During the past 12 months, did you make a plan about how you would attempt suicide?
- During the past 12 months, how many times did you actually attempt suicide?
- When you feel sad or hopeless, are there adults that you can turn to for help?

Notes:

- Percentages represent students who seriously considered suicide, who made a plan to attempt suicide, or who attempted suicide any time in the past 12 months.
- Percentages for "no adult to turn to when sad or hopeless" represent students who said "no".

Source: HYS 2021.

## Suicide Attempts

The Healthy People 2030 objective is to reduce the percentage of adolescents in grades 9 through 12 who attempt suicide from 8.9 percent to 1.8 percent (Healthy People 2030).

In 2021, 9 percent of Grade 8 students, 8 percent of Grade 10 students, and 7 percent of Grade 12 students reported making a suicide attempt in the past year.

Differences by grade level:

- Grade 8 and Grade 10 were more likely than Grade 12 students to have attempted suicide in the past year.

Differences by sex assigned at birth:

- Grade 8, 10, and 12 females were more likely than males to have attempted suicide in the past year.


## Differences over time:

- Among Grade 10 and Grade 12 students, there were decreases in attempting suicide in the past 12 months from 2018 to 2021.
- Among Grade 12 students, there was an increase in attempting suicide in the past 12 months from 2002 through 2018.

Students Who Attempted Suicide, Grades 8, 10, and 12, 2002-2021


Survey Question: During the past 12 months, how many times did you actually attempt suicide?
Notes:

- Percentages represent students who reported attempted suicide any time in the past 12 months.
- In 2006, the survey response options were changed from the number of times of attempted suicide to "yes" or "no" attempted suicide. 2006 survey results are not reported.

Source: HYS 2002, 2004, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Physical, Emotional and Sexual Abuse

## Physical, Emotional and Sexual Abuse

Intimate partner violence and sexual violence are serious, preventable public health issues that often begin in adolescence and affect every community in our state. Intimate partner violence experienced in adolescence is often referred to as teen dating violence (TDV).
Sexual violence can occur in any type of relationship or be perpetrated by a stranger. Most perpetrators of sexual violence are known to their victims, but the type of relationship varies. For example, acts of sexual violence are often perpetrated by acquaintances, intimate partners, or family members (CDC, 2020).

Intimate partner and sexual violence are associated with several risk factors and other forms of violence. Research shows that 1) children who are exposed to intimate partner violence between their parents or caregivers are more likely to experience intimate partner violence later in life and 2) youth who experience teen dating violence are at greater risk for suicidal ideation (Niolon, 2016). Additionally, victims of sexual violence have a higher prevalence of other health conditions, including asthma, frequent headaches, chronic pain, and difficulty sleeping (CDC, 2022).

Intimate partner violence and sexual violence are harmful to survivors, families, and communities. The effects of intimate partner violence and sexual violence can be long lasting, and negatively affect a person's quality of life physically, psychologically, and socially (Basile, 2016).

## Witnessing Physical Abuse

In 2021, 20 percent of Grade 8 students, and 22 percent of Grade 10 students, and 24 percent Grade 12 students reported they'd seen an adult hurt another adult more than once.

## Differences by grade level:

- Grade 12 students were more likely than Grade 8 students to have seen an adult hurt another adult more than once.

Differences by sex assigned at birth:

- Grade 8 females were more likely than males to have seen an adult hurt another adult more than once.


## Differences over time:

- Among Grade 10 and Grade 12 students, there were decreases in seeing an adult hurt another adult from 2018 to 2021.
- Among Grade 8 and 10 students, there were decreases seeing an adult hurt another adult from 2002 through 2018.


## Witnessing Physical Abuse, Grades 8, 10, and 12, 2002-2021



Survey Question: Not counting TV, movies, video games, and sporting events, have you seen an adult hit, slap, punch, shove, kick, or otherwise physically hurt another adult more than one time?

Note: Percentages represent students who reported "yes" they had seen an adult hurt another adult.
Source: HYS 2002, 2006, 2010, 2016, 2018, and 2021.

## Experiencing Physical Abuse

In 2021, 17 percent of Grade 8 students, 18 percent of Grade 10 students, and 20 percent of Grade 12 students reported being ever physically hurt by an adult on purpose.

Differences by grade level:

- There were no differences in reporting ever being physically hurt by an adult on purpose by grade level.

Differences by sex assigned at birth:

- Grade 8, 10, and 12 females were more likely than males to report ever being physically hurt by an adult on purpose.


## Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in ever being physically hurt by an adult on purpose from 2018 to 2021.

Experiencing Physical Abuse, Grades 6, 8, 10, and 12, 2014-2021

$$
■ 2014 ■ 2016 \quad \text { ■ } 2018 \text { ■ } 2021
$$



| Grade | $\mathbf{2 0 1 4}$ | $\mathbf{2 0 1 6}$ | $\mathbf{2 0 1 8}$ | $\mathbf{2 0 2 1}$ |
| :--- | :---: | :---: | :---: | :---: |
| Grade 8 | $22.2 \pm 1.5$ | $19.3 \pm 1.6$ | $20.4 \pm 1.6$ | $17.3 \pm 2.1$ |
| Grade 10 | $26.5 \pm 1.8$ | $22.6 \pm 1.5$ | $25.2 \pm 1.9$ | $18.0 \pm 1.5$ |
| Grade 12 | $24.9 \pm 2.2$ | $22.1 \pm 1.9$ | $26.5 \pm 2.1$ | $20.2 \pm 2.0$ |

Survey Question: During the past 12 months, how many times were you in a physical fight? Has an adult ever physically hurt you on purpose (like pushed, slapped, hit, kicked or punched you), leaving a mark, bruise or injury?

Note: Percentages represent students who reported "yes" ever been physically hurt by an adult on purpose.
Source: HYS 2014, 2016, 2018, and 2021.

## Emotional Abuse at Home

In 2021, 31 percent of Grade 8 and Grade 10 students, and 34 percent of Grade 12 students reported being sworn at, insulted, or humiliated by an adult at home.

## Differences by grade level:

- Grade 12 students were more likely than Grade 10 students to have been sworn at, insulted, or humiliated by an adult at home.

Differences by sex assigned at birth:

- Grade 8, 10, and 12 females were more likely than males to have been sworn at, insulted, or humiliated by an adult at home.


## Differences over time:

- Among Grade 10 and 12, there were decreases in being sworn at, insulted, or humiliated by an adult at home 2018 to 2021.

Emotional Abuse at Home, Grades 6, 8, 10, and 12, 2016-2021


| Grade | $\mathbf{2 0 1 6}$ | $\mathbf{2 0 1 8}$ | $\mathbf{2 0 2 1}$ |
| :--- | :---: | :---: | :---: |
| Grade 8 | $33.7 \pm 1.9$ | $32.6 \pm 1.8$ | $30.9 \pm 2.7$ |
| Grade 10 | $37.8 \pm 1.8$ | $38.8 \pm 2.1$ | $30.7 \pm 1.9$ |
| Grade 12 | $37.1 \pm 1.9$ | $38.8 \pm 2.6$ | $33.8 \pm 2.2$ |

Survey Question: How often does a parent or adult in your home swear at you, insult you, put you down or humiliate you?

Note: Percentages represent students who reported "sometimes", "often", or "very often" being sworn at, insulted, or humiliated by an adult at home.

Source: HYS 2016, 2018, and 2021.

## Emotional and Physical Dating Violence

In 2021, 13 percent of Grade 8 and Grade 10 students, and 15 percent of Grade 12 students who had dated in the past year reported the person they were dating limited their activities, threatened or made them feel unsafe in any other way in the past year. In 2021, 7 percent of Grade 8 students, 6 percent of Grade 10 students, and 7 percent Grade 12 students who had dated in the past year, reported the person they were dating physically hurt on purpose in the past year.

## Differences by grade level:

- Grade 12 students were more likely than Grade 10 students being limited, threatened, or made to feel unsafe by the person they were dating in the past year.
- There were no differences in being physically hurt on purpose by the person they were dating in the past year by grade.

Differences by sex assigned at birth:

- Grade 8, 10, and 12 females were more likely than males to be ever limited, threatened, or made to feel unsafe by the person they were dating in the past year.
- There were no differences in being physically hurt on purpose by the person they were dating in the past year by sex assigned at birth.


## Differences over time:

- Among Grade 10 students, there was a decrease in being limited, threatened, or made to feel unsafe by the person they were dating in the past year from 2018 to 2021.
- Among Grade 8, 10, and 12 students, there were decreases in being physically hurt on purpose by the person they were dating in the past year from 2018 to 2021.


## Emotional and Physical Dating Violence, Grades 8, 10, and 12, 2014-2021



| Measure | Grade | $\mathbf{2 0 1 4}$ | $\mathbf{2 0 1 6}$ | $\mathbf{2 0 1 8}$ | $\mathbf{2 0 2 1}$ |
| :--- | :--- | :---: | :---: | :---: | :---: |
| Was limited in <br> activities, threatened <br> or made to feel <br> unsafe | Grade 8 | $10.2 \pm 1.6$ | $10.6 \pm 1.5$ | $14.1 \pm 1.7$ | $12.5 \pm 2.1$ |
| Grade 10 | $15.7 \pm 2.0$ | $16.1 \pm 1.3$ | $18.5 \pm 1.7$ | $12.5 \pm 1.5$ |  |
| Was physically hurt <br> on purpose | Grade 12 | $13.0 \pm 1.4$ | $14.2 \pm 1.7$ | $16.7 \pm 1.8$ | $15.1 \pm 1.9$ |
|  | Grade 8 | $10.6 \pm 1.7$ | $6.8 \pm 1.3$ | $9.6 \pm 1.5$ | $6.8 \pm 1.5$ |
|  | Grade 10 | $11.3 \pm 1.9$ | $11.1 \pm 1.6$ | $10.8 \pm 1.7$ | $6.3 \pm 1.1$ |
|  | Grade 12 | $10.0 \pm 1.6$ | $9.0 \pm 1.6$ | $11.6 \pm 1.7$ | $6.6 \pm 1.4$ |

Survey Question:

- During the past 12 months, did someone you were dating or going out with ever limit your activities, threaten you, or make you feel unsafe in any other way?
- In the past 12 months, how many times did someone you were dating or going out with physically hurt you on purpose? (Count such things as being hit, slammed into something, or injured with an object or weapon.)

Notes:

- Percentages represent students who dated in the past 12 months and responded "yes" they were limited, threatened, or made to feel unsafe or they were physically hurt on purpose.
- Students who reported that they did not date or go out with anyone in the past 12 months were not included in the results. The sample sizes for the 2021 results in this chart are 1,182 Grade 8, 2,001 Grade 10, and 1,512 Grade 12 students.

Source: HYS 2014, 2016, 2018, and 2021.

## Sexual Behavior

For 2021, about $60 \%$ of schools included in the state sample elected to administer six removable questions on sexual behavior and abuse. Engaging in sexual activities can result in unintended pregnancy and sexually transmitted diseases, including HIV.

## Lifetime Sex

In 2021, 4 percent of Grade 8 students, 14 percent of Grade 10 students, and 37 percent of Grade 12 students reported they ever had sex.

## Differences by grade level:

- Among Grade 8, 10, and 12 students, as grade levels increase, each grade was more likely to have ever had sex.

Differences by sex assigned at birth:

- There were no differences in ever having sex by sex assigned at birth.

Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in ever having sex from 2018 to 2021.
- Among Grade 8 students, there were decreases in having sex from 2010 through 2018.

Ever Had Sex, Grades 8, 10, and 12, 2010-2021


Survey Question: How old were you when you had sex for the first time?

Notes:

- Percentages represent students who had ever had sex. In 2018, sex was defined as including oral, vaginal, and/or anal sex.
- The questions on sexual behavior are removable for schools. The proportion of schools administering the questions each year has changed over time. School participation was about $40 \%$ from 2010 through 2014, increased to about 80\% in 2016 and 2018, and dropped to about 60\% in 2021.

Source: HYS 2010, 2012, 2014, 2016, 2018, and 2021.
More information: Information about the removable questions and their generalizability are available in Bias Analysis reports, found at: http://www.askhys.net/Reports/BiasAnalysis.

## Sexual Behaviors Among Those Who Have Had Sex

Sexual behaviors reported among those who have ever had sex:

- Thirteen percent of Grade 10 students and 7 percent of Grade 12 had sex before the age of 13 .
- Seventeen percent of Grade 10 students and 26 percent of Grade 12 students had sex with four or more partners in their lifetime.


## Differences by grade level:

- Grade 10 students were more likely than Grade 12 students to have had sex before age 13.
- Grade 12 students were more likely than Grade 10 students to have had four or more sex partners.

Differences by sex assigned at birth:

- Grade 10 males were more likely than females to have had sex before age 13.
- Grade 12 males were more likely than females to have had four or more sex partners.


## Differences over time:

- There were no changes in having sex before age 13 or having four or more partners for any grade from 2018 to 2021.
- Among Grade 12 students, there was a decrease in having four or more partners from 2010 through 2018.

Sexual Behaviors Among Those Who Ever Had Sex, Grades 10 and 12, from 2010-2021
$\rightarrow$-Sex before age 13 Grade 10


| Measure | Grade | $\mathbf{2 0 1 0}$ | $\mathbf{2 0 1 2}$ | $\mathbf{2 0 1 4}$ | $\mathbf{2 0 1 6}$ | $\mathbf{2 0 1 8}$ | $\mathbf{2 0 2 1}$ |
| :--- | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Sex before <br> age 13 | Grade 10 | $17.9 \pm 6.4$ | $18.0 \pm 3.8$ | $13.7 \pm 3.5$ | $14.9 \pm 2.5$ | $16.5 \pm 3.2$ | $12.7 \pm 3.9$ |
| 4 or more sex <br> partners | Grade 12 | $10.3 \pm 3.3$ | $8.6 \pm 2.6$ | $8.3 \pm 2.3$ | $8.6 \pm 2.0$ | $7.4 \pm 1.6$ | $7.0 \pm 2.5$ |
|  | Grade 10 | $24.8 \pm 6.6$ | $22.5 \pm 4.4$ | $20.2 \pm 3.7$ | $18.7 \pm 2.5$ | $19.5 \pm 3.2$ | $16.5 \pm 4.0$ |
|  | Grade 12 | $33.8 \pm 3.3$ | $29.3 \pm 5.3$ | $28.4 \pm 4.6$ | $27.7 \pm 2.7$ | $25.4 \pm 2.7$ | $25.5 \pm 3.6$ |

Survey Questions:

- Have you ever had sex?
- How old were you when you had sex for the first time?
-With how many people have you ever had sex?


## Notes:

- Percentages represent students who had ever had sex who reported having had sex before age 13 , and having had 4 or more sexual partners.
- The questions on sexual behavior are removable for schools. The proportion of schools administering the questions each year has changed over time. School participation was about $40 \%$ from 2010 through 2014, increased to about 80\% in 2016 and 2018, and dropped to about 60\% in 2021.
- Students who reported that they had not had sex in their lifetime were not included in the results. The sample sizes for the 2021 results in this chart are 363 Grade 10 and 575 Grade 12 students.
- The results for Grade 8 are not reported.

Source: HYS 2010, 2012, 2014, 2016, 2018, and 2021.

## Pregnancy and STD Prevention Methods Among Those Who Had Sex

In 2021, during last sex, the following methods were used among those who had sex and their sexual partner to prevent pregnancy and sexually transmitted diseases (STD):

- Twenty-three percent of Grade 10 students and 17 percent of Grade 12 students reported that they or their partner didn't use any pregnancy or STD prevention method.
- Twenty-eight percent of Grade 10 students and 35 percent of Grade 12 students reported that they or their partner used birth control pills for pregnancy prevention.
- Fifty-nine percent of Grade 10 students and 55 percent of Grade 12 students reported that they or their partner used condoms for pregnancy or STD prevention.
- Nine percent of Grade 10 students and 17 percent of Grade 12 students reported that they or their partner had an IUD or implant for pregnancy prevention.
- Three percent of Grade 10 and Grade 12 students reported that they or their partner had a shot for pregnancy prevention.
- Two percent of Grade 10 and Grade 12 students reported that they or their partner used a patch or birth control ring for pregnancy prevention.
- Ten percent of Grade 10 students and 14 percent of Grade 12 students reported that they or their partner used withdrawal for pregnancy prevention.
- Five percent of Grade 10 students and 3 percent of Grade 12 students were not sure if they or their partner used a pregnancy or STD prevention method.


## Differences by grade level:

- Grade 10 students were more likely than Grade 12 students to report that they or their partner did not use a pregnancy or STD prevention method.
- Grade 12 students were more likely than Grade 10 students to report that they or their partner use birth control pills, use an IUD or implant, and use withdrawal for pregnancy prevention.

Differences by sex assigned at birth:

- Grade 12 males were more likely than females to report that they or their partner used condoms for pregnancy or STD prevention.

Pregnancy and STD Prevention Methods Among Those Who Had Sex, Grades 10 and 12 in 2021


| Measure | Grade 10 | Grade 12 |
| :--- | :---: | :---: |
| No method | $23.3 \pm 4.3$ | $17.3 \pm 2.8$ |
| Birth control pills | $28.0 \pm 5.0$ | $35.4 \pm 3.9$ |
| Condom | $59.2 \pm 4.5$ | $55.3 \pm 4.5$ |


| Measure | Grade 10 | Grade 12 |
| :--- | :---: | :---: |
| IUD or implant | $9.0 \pm 2.8$ | $17.3 \pm 3.4$ |
| A shot | $3.0 \pm 1.6$ | $3.0 \pm 1.6$ |
| Patch or ring | $1.9 \pm 1.7$ | $1.6 \pm 0.9$ |
| Withdrawal | $9.6 \pm 2.6$ | $14.3 \pm 3.2$ |
| Not sure | $4.9 \pm 2.6$ | $2.6 \pm 1.6$ |

Question: The last time you had sex, what method(s) did you or your partner use to prevent pregnancy and/or sexually transmitted infections? Select all that you used.

Notes:

- Percentages represent students who had ever had sex and they or their partners used a method to prevent pregnancy or sexually transmitted infections the last time they had sex.
- The questions on sexual behavior are removable for schools. The proportion of schools administering the questions each year has changed over time. School participation was about $40 \%$ from 2010 through 2014, increased to about 80\% in 2016 and 2018, and dropped to about 60\% in 2021.
- Students who reported that they had not had sex in their lifetime were not included in the results. The sample sizes for the 2021 results in this chart are 363 Grade 10 and 575 Grade 12 students.
- The results for Grade 8 are not reported.

Source: HYS 2021

## School Climate

## School Safety, Bullying, and Harassment

RCW 28A.320.185 requires all public school districts and public schools to have current safety plans and procedures in place. State legislators, the Governor, the state education agency, local schools and communities, and parents recognize that students must feel safe at school to be successful learners. Effective school safety plans that include bullying and harassment prevention programs challenge traditional cultural norms that might condone bullying as a normal part of growing up.

## Feeling Safe at School

When students feel safe at school, they are more likely to make better grades compared to those students who do not feel safe at school (Dilley 2009). In 2021, 83 percent of Grade 6 students, 84 percent of Grade 8 students, 83 percent of Grade 10 students, and 82 percent of Grade 12 students felt safe at school.

Differences by grade level:

- There were no differences in feeling safe at school by grade level.

Differences by sex assigned at birth:

- Grade 8, 10, and 12 males were more likely than females to feel safe at school.

Differences over time:

- Among Grade 8 and 10 students, there were increases in feeling safe at school from 2018 to 2021.
- Among Grade 8 students, there was an increase from 2002 through 2014 and a decrease from 2014 to 2018 in feeling safe at school.
- Among Grade 8 and 10 students, there were increases in feeling safe at school from 2018 to 2021.

Perceived Safety at School, Grades 6, 8, 10, and 12, 2002-2021


Survey Question: I feel safe at my school.
Note: Percentages represent students who reported yes or YES! that they felt safe at school.
Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## People From School Who Help

In 2021, 72 percent of Grade 8 and 10 students, and 75 percent of Grade 12 students reported there are people at their school who will help if they need it.

Differences by grade level:

- Grade 12 students were more likely than Grade 10 students to report having people at their school who will help if they need it.

Differences by sex assigned at birth:

- Grades 8, 10, and 12 males were more likely than females to report having people at their school who will help if they need it.

People From School Who Help If Needed, Grades 8, 10, and 12 in 2021


| Grade | $\mathbf{2 0 2 1}$ |
| :--- | :---: |
| Grade 8 | $72.0 \pm 2.2$ |
| Grade 10 | $71.9 \pm 2.2$ |
| Grade 12 | $75.0 \pm 2.1$ |

Survey Question: There are people from my school who will help me if I need it.
Note. Percentages represent students who report "Yes" there are people from school who will help.
Source: HYS 2021

## Bullied at School

Bullying is defined as when one or more students threaten, spread rumors about, hit, shove, or otherwise hurt another student over and over again. It is not bullying when two students of about the same strength or power argue or fight or tease each other in a friendly way. The definition of bullying includes electronic forms of bullying, known as cyberbullying.

Students who are bullied at school are more likely to get lower grades compared to those who are not bullied. Creating a safe environment is critical for students' academic achievement. Research has identified best practice support programs that address school harassment and bullying and build positive school culture (Smith, Pepler, and Rigby, 2004). In 2021, 32 percent of Grade 6 students, 23 percent of Grade 8 students, and 13 percent of Grade 10 and 12 students reported being bullied at school in the last 30 days.

Differences by grade level:

- Grade 6 students were more likely than Grade 8, 10, and 12 students to have been bullied. Grade 8 students were more likely than Grade 10 and 12 students to have been bullied.

Differences by sex assigned at birth:

- Grade 6, 8, 10, and 12 females were more likely than males to have been bullied.


## Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in bullying from 2018 to 2021.
- Among Grade 10 students, there was an increase from 2002 through 2012 and a decrease from 2012 through 2018 in bullying.
- Among Grade 12 students, there was an increase in bullying from 2002 through 2018.

Bullied at School, Grades 6, 8, 10, and 12, 2002-2021


Survey Question: For 2018: In the last 30 days, how often have you been bullied? Bullying is when one or more students threaten, spread rumors about, hit, shove, or otherwise hurt another student over and over again. It is not bullying when two students of about the same strength or power argue or fight or tease each other in a friendly way.

Note: Percentages represent students who reported they were bullied on any days in the last 30 days.
Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Social Media Harassment and Sexting

Many schools have modified their policy and procedures to specifically address harassment, and computer or cell phone harassment is included in bullying and harassment policies and procedures.

In 2021, 18 percent of Grade 8 students, 12 percent of Grade 10 students, and 11 percent of Grade 12 students reported being harassed through social media in the past 30 days. In 2021, 15 percent of Grade 8 students, 19 percent of Grade 10 students, and 22 percent of Grade 12 students reported receiving sexually suggestive or revealing messages, images, photos or videos via text, app, or social media in the past 30 days.

Differences by grade level:

- Grade 8 students were more likely than Grade 10 and 12 students to be harassed through social media in the past 30 days.
- Among Grade 8, 10, and 12 students, as grade levels increase, each grade was more likely to report receiving sexually suggestive or revealing messages, images, photos or videos via text, app, or social media in the past 30 days.


## Differences by sex assigned at birth:

- Grade 8 and 10 females were more likely than males to be harassed through social media in the past 30 days.
- Grade 8 and 10 females were more likely than males to receive sexually suggestive or revealing messages, images, photos or videos via text, app, or social media in the past 30 days.


## Differences over time:

- Among Grade 8 students, there was an increase in being harassed through social media in the past 30 days from 2018 to 2021.
- Among Grade 10 students, there was a decrease in being harassed through social media in the past 30 days from 2018 to 2021.
- Among Grade 8, 10, and 12 students, there were decreases in receiving sexually suggestive or revealing messages, images, photos or videos via text, app, or social media in the past 30 days from 2018 to 2021.

Social Media Harassment and Sexting, Grades 8, 10, and 12 in 2021

$$
\square 2018 \square 2021
$$



| Measure | Grade | $\mathbf{2 0 1 8}$ | $\mathbf{2 0 2 1}$ |
| :--- | :--- | :---: | :---: |
| Social media <br> harassment | Grade 8 | $15.8 \pm 1.4$ | $18.4 \pm 1.7$ |
|  | Grade 10 | $14.3 \pm 1.3$ | $11.7 \pm 1.3$ |
|  | Grade 12 | $12.4 \pm 1.3$ | $11.1 \pm 1.4$ |
| Sexting | Grade 8 | $21.0 \pm 1.7$ | $14.9 \pm 1.7$ |
|  | Grade 10 | $30.8 \pm 1.8$ | $18.8 \pm 1.7$ |


| Measure | Grade | 2018 | $\mathbf{2 0 2 1}$ |
| :--- | :--- | :---: | :---: |
|  | Grade 12 | $11.6 \pm 1.7$ | $21.7 \pm 1.8$ |

Survey Questions:

- Harassed through social media: In the past 30 days, how often have you been bullied by someone using social media, a phone, or video games?
- Sexting: During the past 30 days, have you received sexually suggestive or revealing messages, images, photos or videos via text, app, or social media?

Notes: Percentages represent students who were harassed with a computer or cell phone on any days in the past 30 days and students who received sexually suggestive messages, images, photos or video in the past 30 days.

Source: HYS 2018 and 2021

## Harassment Due to Perceived Sexual Orientation and Race/Ethnicity

In 2021, 15 percent of Grade 8 students, 9 percent of Grade 10 students, and 7 percent of Grade 12 students reported being harassed in the past 30 days due to their perceived sexual orientation. In 2021, 9 percent of Grade 8 students and 7 percent of Grade 10 and 12 students reported being harassed in the past 30 days due to their perceived race, ethnicity, or national origin.

Differences by grade level:

- Grade 8 students were more likely than Grade 10 and 12 students to be harassed due to perceived sexual orientation and due to race, ethnicity, or national origin.

Differences by sex assigned at birth:

- Grade 8, 10, and 12 females were more likely than males to be harassed due to perceived sexual orientation.
- Grade 8 and 10 females were more likely than males to be harassed due to perceived race, ethnicity, or national origin.

Harassment Due to Perceived Sexual Orientation and Race/Ethnicity, Grades 8, 10, and 12 in 2021


| Measure | Grade 8 | Grade 10 | Grade 12 |
| :--- | :---: | :---: | :---: |
| Harassed due to perceived sexual orientation | $15.3 \pm 1.5$ | $8.6 \pm 1.2$ | $7.1 \pm 1.1$ |
| Harassed due to perceived race, ethnicity, or national origin | $9.1 \pm 1.4$ | $6.7 \pm 0.9$ | $6.7 \pm 1.0$ |

Survey Questions:

- In the past 30 days, how often were you bullied, harassed, or intimidated because someone thought you were gay, lesbian, or bisexual (whether you are or are not)?
- In the past 30 days, how often were you bullied, harassed, or intimidated because of your race, ethnicity, or national origin or what someone thought it was?
Notes:
- Percentages represent students who reported being harassed on any days in the past 30 days.
- Prior to 2021, these questions about harassment specified harassment at school or on your way to or from school.

Source: HYS 2021.

## Weapon Carrying at School

School safety requires the commitment of staff members, students, parents, and the community. Creating a safe and supportive learning environment is critical for student academic success (Dilley, 2009). In 2021, 2 percent of Grade 6, 8, and 10 students, and 3 percent of Grade 12 students reported weapon carrying at school in the past 30 days.

## Differences by grade level:

- Grade 12 students were more likely than Grade 6, 8, and 10 students to carry a weapon at school in the past 30 days.


## Differences by sex assigned at birth:

- Grade 12 males were more likely than females to carry a weapon at school in the past 30 days.


## Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in weapon carrying at school from 2018 to 2021.
- Among Grade 6 students, there was an increase from 2004 through 2014 and a decrease from 2014 through 2018 in weapon carrying at school.
- Among Grade 8 students, there was a decrease in weapon carrying at school from 2002 to 2018.
- Among Grade 10 students, there was a decrease in weapon carrying at school from 2006 to 2018.

Weapon Carrying at School in the Past 30 Days, Grades 6, 8, 10, and 12, 2002-2021


Survey Question: During the past 30 days, did you carry a weapon such as a gun, knife, or club on school property?

Notes:

- Percentages represent students who reported any weapon carrying at school in the past 30 days.
- Grade 6 students were asked if they carried a weapon at school, "yes" or "no."
- Grade 8,10 , and 12 students were asked the number of times they carried a weapon.
- In 2006, the response options were reduced from 5 different numbers of times options to 3 different numbers of times. In 2021, a response option for not being on school property in the past 30 days was added.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Substance Use at School

The use of substances at school significantly affects student learning and compromises the school environment. Substance use and misuse are closely correlated with violent behavior (Office of National Drug Control Policy, 2007). Prevention, early intervention, treatment, and other related efforts that reduce the number of students engaging in these behaviors and coming to school drunk or high enhances school safety and increases student potential for academic success.

## Alcohol or Other Drug Use While Participating in School

The National Center for Education Statistics (2013) tracks alcohol and marijuana use as Indicators of School Crime and Safety relying on data collected from the Youth Risk Behavior Surveillance System (YRBS). In 2018, 6 percent of students surveyed in grades 9-12 reported
using marijuana on school property while 3 percent reported using alcohol on school property during the past 30 days.

In 2021, 4 percent of Grade 8 students, 6 percent of Grade 10 students, and 11 percent of Grade 12 students reported being drunk or high while participating in school in the past year.

Differences by grade level:

- Grade 8, 10, and 12 students, as grade levels increase, each grade was more likely to be drunk or high while participating in school in the past year.

Differences by sex assigned at birth:

- Grade 8 and 12 females were more likely than males to report being drunk or high while participating in school in the past year.

Drunk or High While Participating in School in the Past Year, Grades 8, 10, and 12 in 2021


| Measure | Grade 8 | Grade 10 | Grade 12 |
| :--- | :---: | :---: | :---: |
| Drunk or high while participating in school, past year | $3.6 \pm 1.0$ | $6.2 \pm 1.1$ | $11.4 \pm 1.9$ |

Survey Question: How many times in the past year (12 months) have you been drunk or high while participating in school?

Notes:

- Percentages represent students who reported being drunk or high any times while participating in school in the past year.
- In prior years this question asked about being drunk or high at school.

Source: HYS 2021.

## Tobacco, E-cigarette/Vape, Marijuana, and Alcohol Use on School Property

In 2021, less than 1 percent of Grade 8, 10, and 12 students reported using tobacco at school in the past 30 days. Three percent of Grade 8 students, 7 percent of Grade 10 students, and 4 percent of Grade 12 students reported using e-cigarettes at school. Two percent of Grade 8 students, 4 percent of Grade 10 students, and 2 percent of Grade 12 students reported using
marijuana at school. Less than 1 percent of Grade 8 students, 2 percent of Grade 10 students, and less than 1 percent of Grade 12 students reported using alcohol at school.

Differences by grade level:

- Grade 12 students were more likely than Grade 8 students to use tobacco at school.
- Grade 8,10 , and 12 students, as grade levels increase, each grade was more likely to vape at school.
- Grade 8, 10, and 12 students, as grade levels increase, each grade was more likely to use marijuana at school.
- Grade 12 students were more likely than Grade 8 and 10 students to drink alcohol at school.

Differences by sex assigned at birth:

- Grade 8, 10, and 12 females were more likely than males to vape at school in the past 30 days.
- Grade 10 females were more likely than males to drink alcohol at school in the past 30 days.

Tobacco, E-cigarette, Marijuana, and Alcohol Use on School Property in the Past 30 Days, Grades 8, 10, and 12 in 2021


Survey Question: During the past 30 days, which of the following did you use on school property? Choose all that apply. I have not been on school property in the past 30 days.; I didn't use any of these on school property.;
Tobacco (cigarettes, cigars, or chew/dip; Electronic cigarette, also called e-cigs, JUUL, or vape pens; Marijuana;
Alcohol (at least one drink)
Notes: Percentages represent students who reported using a substance on school property on any days in the past

30 days.
Source: HYS 2021

## Availability of School Staff to Discuss Substance-Related Problems

Students who have opportunities for interaction with school staff, especially in times of crisis, are more likely to be connected to school and academically successful (Catalano, Haggerty, Oesterle, Fleming, and Hawkins, 2004). In 2021, 60 percent of Grade 8 students, and 59 percent of Grade 10 and 12 students reported having someone at school with whom to discuss substance-related problems.

Differences by grade level:

- There were no differences in someone at school with whom to discuss substance-related problems by grade level.

Differences by sex assigned at birth:

- Grade 12 males were more likely than females to have someone at school to discuss substance-related problems.


## Differences over time:

- Among Grade 10 and 12 students, there were increases in having someone at school with whom to discuss substance-related problems for any grade from 2018 to 2021.
- Among Grade 8, 10, and 12 students, there were decreases in having someone at school with whom to discuss substance-related problems from 2002 through 2018.

Availability of School Staff to Discuss Substance-Related Problems, Grades 8, 10, and 12, 2002-2021


| Grade | $\mathbf{2 0 0 2}$ | $\mathbf{2 0 0 4}$ | $\mathbf{2 0 0 6}$ | $\mathbf{2 0 0 8}$ | $\mathbf{2 0 1 0}$ | $\mathbf{2 0 1 2}$ | $\mathbf{2 0 1 4}$ | $\mathbf{2 0 1 6}$ | $\mathbf{2 0 1 8}$ | $\mathbf{2 0 2 1}$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Grade 12 | $74.2 \pm 2.8$ | $68.0 \pm 3.4$ | $67.1 \pm 4.1$ | $62.4 \pm 5.2$ | $63.6 \pm 4.3$ | $59.2 \pm 2.9$ | $55.9 \pm 6.7$ | $50.5 \pm 4.8$ | $44.8 \pm 4.7$ | $58.8 \pm 4.7$ |

Survey Question: Does your school provide a counselor, intervention specialist, or other school staff member for students to discuss problems with alcohol, tobacco, or other drugs?

Note: Percentages represent students who were aware of having someone at school with whom they could discuss substance-related problems. Those who answered "I'm not sure" were considered not aware.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## School Attendance

A significant portion of young people's lives is spent attending school. When youth enjoy school and attend regularly, they are more likely to achieve academically and are at much less risk of engaging in a variety of at-risk behaviors.

In 2021, 24 percent of Grade 6 students, 25 percent of Grade 8 students, 27 percent of Grade 10 students, and 33 percent of Grade 12 students were absent from school for any reason on three or more days in the past 30 days.

## Differences by grade level:

- Grade 12 students were more likely than Grade 6, 8, and 10 students to report being absent from school for any reason on three or more days in the past 30 days.
- Grade 10 students were more likely than Grade 6 students to report being absent from school for any reason on three or more days in the past 30 days.

Differences by sex assigned at birth:

- Grade 6 males were more likely than females to report being absent from school for any reason on three or more days in the past 30 days.
- Grade 10 and 12 females were more likely than males to report being absent from school for any reason on three or more days in the past 30 days.


## Differences over time:

- Among Grade 6, 8, 10, and 12 students, there were increases in being absent from school for any reason on three or more days in the past 30 days from 2018 to 2021.


## Absent from School Three or More Days in Past Month, Grades 6, 8, 10, and 12 in 2021



| Grade | $\mathbf{2 0 2 1}$ |
| :--- | :---: |
| Grade 6 | $23.7 \pm 2.4$ |
| Grade 8 | $25.4 \pm 2.0$ |
| Grade 10 | $27.4 \pm 2.5$ |
| Grade 12 | $33.1 \pm 2.6$ |

Survey Question: During the past 30 days, on how many days have you been absent from school for any reason? Include any day that you missed at least half of the school days.
Note. Percentages represent students were absent 3 or more days.
Source: HYS 2021

## Skipping or Cutting School

In 2021, 28 percent of Grade 6 students, 17 percent of Grade 8 and 10 students, and 26 percent of Grade 12 students reported skipping or cutting at least one day of school in the past 30 days.

Differences by grade level:

- Grade 6 students were more likely than Grade 8 and 10 students to skip or cut a whole day of school in the past 30 days. Grade 12 students were more likely than Grade 8 and 10 students to skip or cut a whole day of school in the past 30 days.

Differences by sex assigned at birth:

- Grade 6 males were more likely than females to skip or cut a whole day of school in the past 30 days. Grade 10 and 12 females were more likely than males to skip or cut a whole day of school in the past 30 days.


## Differences over time:

- Among Grade 6 and 8 students, there were increases in skipping school from 2018 to 2021.
- There were no trends in skipping school for any grade from 2002 through 2018.

Skipping School in the Past 30 Days, Grades 6, 8, 10, and 12, 2002-2021


Survey Question: During the LAST 4 WEEKS, how many whole days of school have you missed because you skipped or "cut"?

Notes:

- Percentages represent students who reported that they skipped or cut any days of school in the past 4 weeks.
- This question was not asked of Grade 6 students in 2002, 2004, and 2006, but was added back on the survey in 2008.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Enjoying School

Students who report a positive attitude toward school are more likely to be academically successful (Catalano, Haggerty, Oesterle, Fleming, and Hawkins, 2004). In 2021, 21 percent of Grade 6 students, 9 percent of Grade 8 students, 6 percent of Grade 10 students, and 5 percent of Grade 12 students reported almost always enjoying school over the past year.

Differences by grade level:

- Grade 6 students are more likely than Grade 8, 10, and 12 students to report they almost always enjoy school. Grade 8 students are more likely than Grade 10 and 12 students to report they almost always enjoy school.

Differences by sex assigned at birth:

- There were no differences in reporting almost always enjoying school by sex assigned at birth.


## Differences over time:

- Among Grade 6, 8, 10, and 12 students, there were decreases in reporting almost always enjoying school from 2018 to 2021.
- Among Grade 10 students, there was a decrease in reporting almost always enjoying school from 2002 through 2018.
- Among Grade 12 students, there was a decrease in reporting almost always enjoying school from 2010 through 2018.


## Enjoying School (Almost Always), Grades 6, 8, 10, and 12, 2002-2021



Survey Question: Think back over the past year in school. How often did you enjoy being in school?
Note: Percentages represent students who reported that they almost always enjoyed being in school over the past year.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

# Unintentional Injury Behaviors 

## Motor Vehicle Safety

## Riding With a Drinking Driver

Impaired driving is a strong risk factor for a fatal crash. At all levels of blood alcohol concentration (BAC), the risk of involvement in a motor vehicle crash is greater for teens than for older drivers. Among drivers between 15 and 20 years of age who were involved in fatal crashes in 2012, 23\% had been drinking (National Highway Traffic Safety Administration, 2012). The Healthy People 2020 objective is to reduce the percentage of adolescents in grades 9 through 12 who report riding with a driver who has been drinking alcohol from 28.3 to 25.5 percent.

In 2021, 6 percent of Grade 6 students, 10 percent of Grade 8 and 10 students, and 8 percent of Grade 12 students reported riding in a car in the last 30 days which was driven by someone who had been drinking alcohol.

## Differences by grade level:

- Grade 8, 10, and 12 students were more likely than Grade 6 students to ride in a vehicle driven by someone who had been drinking alcohol. Grade 8 students were more likely than Grade 12 students to ride in a vehicle driven by someone who had been drinking alcohol.

Differences by sex assigned at birth:

- Grade 6, 8, and 10 females were more likely than males to ride in a vehicle driven by someone who had been drinking alcohol.


## Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in riding in a vehicle driven by someone who had been drinking alcohol from 2018 to 2021.
- Among Grade 10 and 12 students, there were decreases in riding in a vehicle driven by someone who had been drinking alcohol from 2002 through 2018.

Riding in a Vehicle Driven by Someone Who Had Been Drinking Alcohol, Grades 6, 8, 10,
and 12, 2002-2021


Survey Questions:

- For Grade 8, 10, and 12 students: During the past 30 days, how many times did you ride in a car or other vehicle driven by someone who had been drinking alcohol?
- For Grade 6 students: In the last 30 days, have you ridden in a car driven by someone who had been drinking alcohol?

Note: Percentages represent students who reported that they rode in a vehicle in the last 30 days whose driver had been drinking alcohol.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Riding With a Marijuana User

Research indicates impairment in driving after recent smoking of marijuana or with blood THC serum concentrations 2-5 ng/mL, particularly for infrequent users of cannabis (Skopp, 2003; Hartman, 2013; Hammond, 2014). In addition, there is a higher risk of auto accidents for drivers under the influence of both alcohol and marijuana than under the influence of one substance alone (Dubois, 2015).

In 2021, 8 percent of Grade 8 students, 9 percent of Grade 10 students, and 15 percent of Grade 12 students reported riding in a vehicle in the past 30 days with someone who had been using marijuana.

## Differences by grade level:

Grade 12 students were more likely than Grade 8 and 10 students to ride with a driver who used marijuana.

Differences by sex assigned at birth:

- Grade 8, 10, and 12 females were more likely than males to ride with a driver who used marijuana.


## Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in riding with a driver who used marijuana from 2018 to 2021.

Riding in a Vehicle Driving by Someone Who Had Been Using Marijuana, Grades 8, 10, and 12, 2014-2021


Survey Questions:

- During the past 30 days, how many times did you ride in a car or other vehicle driven by someone who had been using marijuana?

Notes:

- Percentages represent students who reported having ridden in a vehicle in the past 30 days which was driven by someone who had been using marijuana.

Source: HYS 2014, 2016, 2018, and 2021.

## Driving After Using Alcohol, Marijuana, or Both

In 2021, 1 percent of Grade 10 students and 4 percent of Grade 12 students reported driving after drinking alcohol.

In 2021, 2 percent of Grade 10 students and 9 percent of Grade 12 students reported driving within three hours after using marijuana.

In 2021, 1 percent of Grade 10 students and 4 percent of Grade 12 students reported driving
after drinking alcohol and using marijuana at the same time.
Differences by grade level:

- Grade 12 students were more likely than Grade 10 students to report drinking after drinking alcohol, within three hours after using marijuana, and after drinking alcohol and using marijuana at the same time.

Differences by sex assigned at birth:

- There were no differences in driving after drinking alcohol, within three hours after using marijuana, and after drinking alcohol and using marijuana at the same time by sex assigned at birth.


## Driving a Vehicle After Using Alcohol, Marijuana, or Both, Grades 10 and 12 in 2021



| Measure | Grade 10 | Grade 12 |
| :--- | :---: | :---: |
| After drinking alcohol | $1.1 \pm 0.5$ | $3.8 \pm 0.9$ |
| Within 3 hours after using marijuana | $2.2 \pm 0.8$ | $9.4 \pm 1.8$ |
| After drinking alcohol and using marijuana at the same time | $1.4 \pm 0.4$ | $4.1 \pm 0.7$ |

Survey Questions:

- During the past 30 days, how many times did you drive a car or other vehicle when you had been drinking alcohol?
- During the past 30 days, how many times did you drive a car or other vehicle within three hours after using marijuana?
- During the past 30 days, how many days did you drive a car or other vehicle when you had been drinking alcohol and using marijuana at the same time?

Notes:

- Percentages represent students who reported having driven in the past 30 days.
- Students responding "I did not drive a car or other vehicle during the past 30 days" were not included. The sample sizes for the 2021 results in this chart are
- 1,872 Grade 10 and 1,652 Grade 12 students for drinking and driving.
- 1,872 Grade 10 and 1,639 Grade 12 students for marijuana use and driving.
- 4,017 Grade 10 and 3,469 Grade 12 students for using both alcohol and marijuana and driving.
- The results for Grade 8 students are not reported due to the fact that most are not old enough to drive (NR, not reported).

Source: 2021.

## Texting or Emailing - Riding and Driving

In 2021, 28 percent of Grade 6 students reported riding in a vehicle with someone who was texting or emailing while driving in the past 30 days.

In 2021, among those who reported driving, 13 percent of Grade 10 students and 48 percent of Grade 12 students report driving while texting or emailing in the past 30 days.

Differences by grade level:

- Grade 12 students were more likely than Grade 10 students to drive while texting or emailing.

Differences by sex assigned at birth:

- There were no differences in riding with someone who was texting or emailing by sex assigned at birth.
- Grade 12 females were more likely than males to drive while texting or emailing.

Differences over time:

- Among Grade 6 students, there was no change in riding with someone who was texting or emailing from 2018 to 2021.

Texting - Riding and Driving, Grades 6, 10, and 12, 2014-2021


| Grade | Grade | $\mathbf{2 0 1 4}$ | $\mathbf{2 0 1 6}$ | $\mathbf{2 0 1 8}$ | $\mathbf{2 0 2 1}$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Riding in a vehicle driven by someone <br> who was texting or emailing | Grade 6 | $27.0 \pm 1.8$ | $26.4 \pm 1.3$ | $28.0 \pm 1.5$ | $28.4 \pm 1.8$ |
| Driving a vehicle while texting or <br> emailing | Grade 10 | NA | NA | NA | $13.4 \pm 1.3$ |
|  | Grade 12 | NA | NA | NA | $47.8 \pm 2.9$ |

## Survey Questions:

- During the past 30 days, did you ride in a car or other vehicle driven by someone who was texting or emailing?
- During the past 30 days, how many days did you text or email while driving a car or other vehicle?

Notes:

- Percentages represent students who reported riding with a texting or emailing driver in the past 30 days.
- Percentages represent students who reported driving while texting or emailing in the past 30 days. Students responding "I did not drive a car or other vehicle during the past 30 days" were not included. The sample sizes for the 2021 results in this chart are 4,114 Grade 10 and 3,715 Grade 12.
- The results for Grade 8 students are not reported due to the fact that most are not old enough to drive.

Source: HYS 2014, 2016, 2018, and 2021.

## Swimming Safety

## Taken Formal Swim Lessons

A study shows that swimming lessons reduce drowning risk (Brenner, 2009).
In 2021, 48 percent of Grade 6 students, 59 percent of Grade 8 students, 58 percent of Grade 10 students, and 59 percent of Grade 12 students had taken formal swimming lessons.

Differences by grade level:

- Grade 8, 10, and 12 students were more likely than Grade 6 students to report taking formal swim lessons.

Differences by sex assigned at birth:

- There were no differences in taking formal swim lessons by sex assigned at birth.


## Differences over time:

- There were no changes in having taken formal swim lessons for any grade from 2018 to 2021.

Taken Formal Swim Lessons, Grades 6, 8, 10, and 12, 2014-2021


| Grade | $\mathbf{2 0 1 4}$ | $\mathbf{2 0 1 6}$ | $\mathbf{2 0 1 8}$ | $\mathbf{2 0 2 1}$ |
| :--- | :---: | :---: | :---: | :---: |
| Grade 6 | $55.8 \pm 3.7$ | $58.8 \pm 4.2$ | $51.3 \pm 5.3$ | $47.9 \pm 5.7$ |
| Grade 8 | $59.5 \pm 4.8$ | $56.0 \pm 5.3$ | $58.8 \pm 5.1$ | $58.5 \pm 5.3$ |


| Grade | $\mathbf{2 0 1 4}$ | $\mathbf{2 0 1 6}$ | $\mathbf{2 0 1 8}$ |
| :--- | :---: | :---: | :---: |
| $\mathbf{2 0 2 1}$ |  |  |  |
| Grade 10 | $59.3 \pm 5.6$ | $57.3 \pm 6.0$ | $57.6 \pm 5.3$ |
| Grade 12 | $63.5 \pm 5.6$ | $58.1 \pm 6.2$ | $54.8 \pm 5.6$ |

Survey Question: Have you ever taken formal swimming lessons?
Note: Percentages represent students who reported "yes" they had formal swim lessons.
Source: HYS 2014, 2016, 2018, and 2021.

## Good Swimmer

In 2021, 45 percent of Grade 6 students, 51 percent of Grade 8 students and 50 percent of Grade 10, and 48 percent of Grade 12 students felt they were good swimmers.

Differences by grade level:

- Grade 8 and 10 students were more likely than Grade 6 students to report feeling like a good swimmer.

Differences by sex assigned at birth:

- Grade 10 and 12 males were more likely than females to report feeling like a good swimmer.


## Differences over time:

- Among Grade 6 and 8 students, there were decreases in feeling like good swimmers from 2018 to 2021.

Good Swimmer, Grades 6, 8, 10, and 12, 2016-2021


| Grade | $\mathbf{2 0 1 6}$ | $\mathbf{2 0 1 8}$ | $\mathbf{2 0 2 1}$ |
| :--- | :---: | :---: | :---: |
| Grade 6 | $57.5 \pm 2.2$ | $54.2 \pm 2.5$ | $45.1 \pm 2.8$ |
| Grade 8 | $55.6 \pm 3.4$ | $56.7 \pm 2.8$ | $50.5 \pm 3.3$ |
| Grade 10 | $54.6 \pm 3.3$ | $52.3 \pm 3.4$ | $50.3 \pm 3.4$ |
| Grade 12 | $56.0 \pm 3.3$ | $51.8 \pm 3.5$ | $48.4 \pm 3.5$ |

Note: Percentages represent students who reported that they are "good" swimmers.
Source: HYS 2016, 2018, and 2021.

## Bicycle Safety

Wearing a helmet while riding a bicycle reduces the risk for head injuries. Wearing a helmet while riding a bicycle reduces the risk for head injuries. One study performed an analysis of the 2012 National Trauma Data Bank and found that helmeted bicycle riders had 51\% reduced odds of severe TBI and reduced the odds of facial fractures by 31\% (Joseph, et al., 2016). Washington adolescents have a low prevalence of wearing a bicycle helmet. In 2021, 49 percent of the Grade 6 students who rode a bicycle in the past year wore a helmet always or most of the time.

Differences by sex assigned at birth:

- There were no differences in wearing a helmet always or most of the time when bicycling by sex assigned at birth.

Differences over time:

- Among Grade 6 students, there was no change in wearing helmets always or most of the time when bicycling from 2018 through to 2021.
- There was no trend among Grade 6 students wearing helmets always or most of the time when bicycling from 2002 through to 2018.

Helmet Wearing When Riding a Bicycle (Most of the Time or Always), Grades 6, 8, 10, and 12, 2002-2021


Survey Questions:

- For Grade 6 - When you ride a bicycle, how often do you wear a helmet?
- For Grade 8, 10, and 12 - When you rode a bicycle in the past 12 months, how often did you wear a helmet?

Notes:

- Percentages represent students who reported that they rode a bicycle in the past 12 months and wore a helmet most of the time or always.
- Students who reported that they "did not ride a bicycle" were not included in the results. The sample sizes for the 2021 results in this figure are 7,127.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021. Question was not asked in 2014 or 2016. It was only asked of Grade 6 in 2018 and 2021.

## Intentional Injury Behaviors

## Physical Fighting

Physical fighting, a common form of interpersonal violence among teens, is a public health concern both because of the potential for fight-related injuries and its association with participation in many other health risk behaviors.

In 2021, 28 percent of Grade 6 students, 17 percent of Grade 8 students, 9 percent of Grade 10 students, and 8 percent of Grade 12 students reported being in a physical fight in the past year.

The Healthy People 2020 objective is to reduce physical fighting in the past year among adolescents in grades 9 through 12 to 28.4 percent.

Differences by grade level:

- Grade 6 students were more likely than Grade 8, 10 and 12 students to be in a physical fight in the past year.
- Grade 8 students were more likely than Grade 10 and 12 students to be in a physical fight in the past year.

Differences by sex assigned at birth:

- Grade $6,8,10$, and 12 males were more likely than females to be in a physical fight in the past year.


## Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in physical fighting in the past year from 2018 to 2021.
- Among Grade 6, 8, 10, and 12 students, there were decreases in physical fighting in the past year from 2002 through 2018.

Physical Fight in Past Year, Grades 6, 8, 10, and 12, 2002-2021


Survey Question: During the past 12 months, how many times were you in a physical fight?
Note: Percentages represent students who reported being in any number of physical fights in the past year.
Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Gang Membership

Youth gangs are responsible for a substantial portion of serious violence in the United States and commit a disproportionate share of offenses (Egley et al., 2012). In schools and neighborhoods where gangs are active, gangs create a climate of fear and increase the amount of violence and criminal behavior.

In 2021, 4 percent of Grade 8 and 10 students, and 5 percent of Grade 12 students reported being in a gang in the past year.

## Differences by grade level:

- Grade 12 students were more likely than Grade 8 and 10 students to report gang membership in the past year.

Differences by sex assigned at birth:

- Grade 8, 10, and 12 males were more likely than females to have been a gang member in the past year.

Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in gang membership from 2018 to 2021.

Gang Membership, Grades 8, 10, and 12, 2014-2021


Survey Question: During the past 12 months, have you been a member of a gang?
Note: Percentages represent students who reported "yes" they were a member of a gang in the past 12 months.

Source: HYS 2014, 2016, 2018, and 2021.

## Gangs at School

In 2021, 6 percent of Grade 8 students, 10 percent of Grade 10 students, and 12 percent of Grade 12 students reported that there are gangs at their school.

Differences by grade level:

- Grade 10 and 12 students were more likely than Grade 8 students to report gangs at their school.

Differences by sex assigned at birth:

- Grade 10 males were more likely than females to report gangs at their school.


## Differences over time:

- Among Grade 8 and 10, there were decreases in reporting gangs at their school from 2018 to 2021.

Gangs at School, Grades 8, 10, and 12, 2014-2021


Survey Question: Are there gangs at your school?
Note: Percentages represent students who reported "yes" there are gangs at their school.
Source: HYS 2014, 2016, 2018, and 2021.

# Alcohol, Tobacco, and Other Drug Use 

## Lifetime Substance Use

Lifetime prevalence is the percentage of students who had ever tried a substance, even if on only one occasion. This section presents lifetime substance use results by grade from 2002 to 2021. Lifetime prevalence trends reflect experimental use, and thus are especially relevant to efforts that aim to delay youths' initiation of substance use.

Lifetime Substance Use, Grades 6, 8, 10, and 12, 2002-2021

| Measure | Grade | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 | 2016 | 2018 | 2021 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Alcohol | Grade 6 | $32.7 \pm 2.0$ | $30.3 \pm 1.3$ | $30.9 \pm 1.5$ | $29.2 \pm 1.4$ | $26.3 \pm 1.2$ | $23.0 \pm 1.5$ | $21.2 \pm 1.3$ | $21.2 \pm 1.3$ | $24.3 \pm 1.1$ | $21.3 \pm 1.6$ |
|  | Grade 8 | $44.2 \pm 1.9$ | $42.0 \pm 2.1$ | $37.6 \pm 2.7$ | $39.4 \pm 2.3$ | $39.0 \pm 2.1$ | $35.4 \pm 1.7$ | $29.0 \pm 1.8$ | $27.9 \pm 2.2$ | $31.7 \pm 1.9$ | $20.8 \pm 1.7$ |
|  | Grade 10 | $60.0 \pm 2.5$ | $60.4 \pm 1.8$ | $61.2 \pm 2.0$ | $60.6 \pm 2.2$ | $57.1 \pm 2.3$ | $52.2 \pm 2.9$ | $50.1 \pm 2.1$ | $47.6 \pm 2.1$ | $49.1 \pm 2.6$ | $31.6 \pm 2.7$ |
|  | Grade 12 | $74.9 \pm 2.0$ | $72.6 \pm 1.9$ | $72.2 \pm 1.5$ | $72.4 \pm 1.8$ | $70.6 \pm 2.0$ | $68.0 \pm 1.9$ | $66.2 \pm 2.1$ | $63.8 \pm 2.1$ | $62.8 \pm 2.8$ | $49.7 \pm 3.1$ |
| Cigarette (whole) | Grade 6 | $6.3 \pm 0.9$ | $5.4 \pm 0.8$ | $4.9 \pm 0.8$ | $3.8 \pm 0.6$ | NA | NA | NA | NA | NA | NA |
| Cigarette <br> (just a <br> puff) | Grade 8 | $28.6 \pm 2.4$ | $23.9 \pm 2.7$ | $19.8 \pm 2.6$ | $20.1 \pm 2.5$ | $17.6 \pm 2.0$ | $14.7 \pm 1.9$ | $11.8 \pm 1.6$ | $11.4 \pm 1.5$ | $11.4 \pm 1.5$ | $8.7 \pm 1.5$ |
|  | Grade 10 | $39.0 \pm 3.5$ | $35.1 \pm 2.9$ | $35.5 \pm 2.7$ | $33.0 \pm 2.5$ | $29.2 \pm 2.9$ | $23.9 \pm 2.6$ | $22.0 \pm 2.6$ | $19.2 \pm 1.7$ | $17.2 \pm 2.2$ | $13.0 \pm 2.0$ |
|  | Grade 12 | $52.1 \pm 3.1$ | $47.5 \pm 3.5$ | $45.0 \pm 2.8$ | $44.3 \pm 3.1$ | $40.8 \pm 3.6$ | $36.6 \pm 2.5$ | $31.5 \pm 3.0$ | $28.7 \pm 2.5$ | $25.0 \pm 2.4$ | $19.9 \pm 2.3$ |
| Marijuana | Grade 6 | $3.4 \pm 0.6$ | $3.0 \pm 0.5$ | $3.2 \pm 0.5$ | $2.7 \pm 0.5$ | $3.9 \pm 0.6$ | $2.9 \pm 0.5$ | $3.1 \pm 0.5$ | $2.4 \pm 0.4$ | $3.8 \pm 0.5$ | $3.7 \pm 0.6$ |
|  | Grade 8 | $15.7 \pm 1.6$ | $14.0 \pm 1.8$ | $10.7 \pm 1.6$ | $11.9 \pm 1.4$ | $13.2 \pm 1.6$ | $13.7 \pm 1.4$ | $10.4 \pm 1.5$ | $10.0 \pm 1.5$ | $10.8 \pm 1.3$ | $6.4 \pm 1.0$ |
|  | Grade 10 | $32.4 \pm 2.5$ | $29.5 \pm 2.0$ | $30.8 \pm 2.2$ | $30.8 \pm 1.9$ | $30.9 \pm 2.5$ | $29.3 \pm 2.4$ | $29.4 \pm 2.4$ | $27.8 \pm 2.4$ | $29.3 \pm 2.6$ | $15.9 \pm 2.0$ |
|  | Grade 12 | $48.0 \pm 2.4$ | $41.1 \pm 3.1$ | $43.1 \pm 2.7$ | $44.6 \pm 2.7$ | $45.7 \pm 2.4$ | $45.6 \pm 2.2$ | $45.7 \pm 3.1$ | $45.3 \pm 2.3$ | $43.0 \pm 3.0$ | $33.7 \pm 3.4$ |
| Inhalants | Grade 6 | $3.6 \pm 0.6$ | $3.7 \pm 0.5$ | $3.7 \pm 0.5$ | $2.9 \pm 0.4$ | $3.5 \pm 0.5$ | $2.4 \pm 0.5$ | $2.3 \pm 0.4$ | $2.0 \pm 0.4$ | $2.9 \pm 0.4$ | NA |
|  | Grade 8 | $0.0 \pm 0.0$ | $0.0 \pm 0.0$ | $5.7 \pm 1.0$ | $6.1 \pm 1.1$ | $5.8 \pm 0.7$ | $6.1 \pm 0.9$ | $4.5 \pm 0.7$ | $4.8 \pm 0.6$ | $6.4 \pm 0.9$ | NA |
|  | Grade 10 | $0.0 \pm 0.0$ | $0.0 \pm 0.0$ | $10.7 \pm 1.3$ | $8.9 \pm 1.1$ | $9.2 \pm 1.0$ | $9.2 \pm 1.0$ | $7.6 \pm 0.9$ | $7.6 \pm 1.0$ | $8.2 \pm 0.9$ | NA |
|  | Grade 12 | $0.0 \pm 0.0$ | $0.0 \pm 0.0$ | $9.4 \pm 1.6$ | $9.7 \pm 1.5$ | $10.7 \pm 1.5$ | $9.7 \pm 1.2$ | $8.0 \pm 1.2$ | $7.4 \pm 0.8$ | $8.0 \pm 1.1$ | NA |
| Other illegal drugs | Grade 6 | $3.3 \pm 0.6$ | $2.9 \pm 0.3$ | $3.3 \pm 0.4$ | $3.8 \pm 0.5$ | $2.3 \pm 0.4$ | $2.0 \pm 0.4$ | $2.5 \pm 0.4$ | $2.0 \pm 0.3$ | $2.6 \pm 0.4$ | $3.3 \pm 0.1$ |
| E- <br> cigarette <br> /vape | Grade 8 | NA | NA | NA | NA | NA | NA | NA | NA | $18.5 \pm 2.0$ | $10.1 \pm 1.8$ |
|  | Grade 10 | NA | NA | NA | NA | NA | NA | NA | NA | $35.0 \pm 3.1$ | $18.5 \pm 2.4$ |
|  | Grade 12 | NA | NA | NA | NA | NA | NA | NA | NA | $47.4 \pm 3.5$ | $31.8 \pm 3.0$ |
| Meth | Grade 8 | $2.5 \pm 0.5$ | $3.3 \pm 0.7$ | $1.9 \pm 0.5$ | $2.8 \pm 0.5$ | $2.4 \pm 0.5$ | $3.3 \pm 0.7$ | $2.6 \pm 0.5$ | $2.9 \pm 0.5$ | $1.6 \pm 0.4$ | $0.5 \pm 0.2$ |
|  | Grade 10 | $4.5 \pm 0.7$ | $5.1 \pm 0.9$ | $5.9 \pm 0.9$ | $4.7 \pm 0.7$ | $4.8 \pm 1.2$ | $5.2 \pm 1.0$ | $4.1 \pm 0.8$ | $4.1 \pm 0.6$ | $2.8 \pm 0.7$ | $0.9 \pm 0.3$ |
|  | Grade 12 | $7.2 \pm 1.6$ | $6.3 \pm 1.2$ | $7.1 \pm 1.3$ | $5.6 \pm 1.2$ | $4.8 \pm 0.9$ | $5.6 \pm 1.1$ | $3.8 \pm 0.8$ | $4.8 \pm 0.9$ | $3.4 \pm 0.7$ | $1.2 \pm 0.4$ |
| Cocaine | Grade 8 | $3.1 \pm 0.5$ | $3.4 \pm 0.6$ | $2.4 \pm 0.5$ | $3.2 \pm 0.6$ | $2.6 \pm 0.5$ | $3.8 \pm 0.7$ | $2.9 \pm 0.5$ | $3.0 \pm 0.6$ | $1.9 \pm 0.5$ | NA |
|  | Grade 10 | $5.4 \pm 0.8$ | $6.0 \pm 1.1$ | $7.3 \pm 1.1$ | $7.0 \pm 0.9$ | $6.1 \pm 1.0$ | $6.1 \pm 1.0$ | $4.2 \pm 0.7$ | $5.0 \pm 0.8$ | $3.9 \pm 1.0$ | NA |
|  | Grade 12 | $8.3 \pm 1.4$ | $8.3 \pm 1.7$ | $9.8 \pm 1.5$ | $10.5 \pm 1.9$ | $8.9 \pm 1.5$ | $8.1 \pm 1.3$ | $6.5 \pm 0.9$ | $6.9 \pm 1.1$ | $5.8 \pm 1.2$ | NA |
| Heroin | Grade 8 | $0.0 \pm 0.0$ | $2.4 \pm 0.6$ | $1.6 \pm 0.5$ | $2.8 \pm 0.5$ | $2.2 \pm 0.5$ | $3.0 \pm 0.6$ | $2.6 \pm 0.5$ | $2.9 \pm 0.6$ | $1.5 \pm 0.5$ | $0.4 \pm 0.2$ |
|  | Grade 10 | $0.0 \pm 0.0$ | $3.4 \pm 0.7$ | $4.7 \pm 1.0$ | $4.4 \pm 0.9$ | $3.5 \pm 0.9$ | $4.2 \pm 0.7$ | $3.4 \pm 0.7$ | $3.6 \pm 0.7$ | $2.8 \pm 0.8$ | $0.5 \pm 0.2$ |
|  | Grade 12 | $0.0 \pm 0.0$ | $3.2 \pm 0.7$ | $4.7 \pm 0.9$ | $4.6 \pm 0.9$ | $4.1 \pm 0.9$ | $5.1 \pm 1.2$ | $3.2 \pm 0.8$ | $3.7 \pm 0.7$ | $2.9 \pm 0.6$ | $0.8 \pm 0.4$ |
| Steroids | Grade 8 | $3.1 \pm 0.5$ | $1.6 \pm 0.4$ | $1.9 \pm 0.4$ | NA | $2.4 \pm 0.5$ | $3.0 \pm 0.7$ | $2.4 \pm 0.5$ | $3.1 \pm 0.6$ | $1.6 \pm 0.4$ | NA |


| Measure | Grade | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 | 2016 | 2018 | 2021 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Grade 10 | $2.9 \pm 0.4$ | $2.8 \pm 0.5$ | $3.2 \pm 0.5$ | NA | $3.5 \pm 0.9$ | $4.2 \pm 0.7$ | $3.2 \pm 0.6$ | $3.6 \pm 0.7$ | $2.6 \pm 0.7$ | NA |
|  | Grade 12 | $4.2 \pm 0.6$ | $2.5 \pm 0.5$ | $3.9 \pm 0.7$ | NA | $3.5 \pm 1.0$ | $4.6 \pm 1.0$ | $3.3 \pm 0.8$ | $3.7 \pm 0.6$ | $3.0 \pm 0.8$ | NA |
| Illegal injection drugs | Grade 8 | $1.6 \pm 0.3$ | $1.4 \pm 0.4$ | $1.7 \pm 0.4$ | $1.6 \pm 0.2$ | NA | NA | NA | NA | NA | NA |
|  | Grade 10 | $2.1 \pm 0.4$ | $1.8 \pm 0.6$ | $2.5 \pm 0.4$ | $2.2 \pm 0.3$ | NA | NA | NA | NA | NA | NA |
|  | Grade 12 | $2.1 \pm 0.5$ | $1.8 \pm 0.4$ | $2.9 \pm 0.7$ | $2.3 \pm 0.4$ | NA | NA | NA | NA | NA | NA |

Notes:

- NA indicate a substance was not represented on that particular year's survey.
- In 2010, the description "(coke, rock, snow)" was dropped from the cocaine question.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Current Substance Use

Student responses to questions about substance use in the past 30 days are indicators of their current substance use. This section presents current (30-day) prevalence results by grade from 2002 to 2021. Binge drinking in the past 2 weeks is also included in these tables. Detailed results for individual substances appear in subsequent sections.

Current (30-Day) Substance Use, Grades 6, 8, 10, and 12, 2002-2021

| Measure | Grade | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 | 2016 | 2018 | 2021 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Alcohol | Grade 6 | $3.8 \pm 0.7$ | $4.4 \pm 0.5$ | $4.3 \pm 0.6$ | $3.5 \pm 0.5$ | $3.8 \pm 0.5$ | $2.5 \pm 0.5$ | $2.1 \pm 0.4$ | $1.8 \pm 0.4$ | $2.4 \pm 0.4$ | $2.2 \pm 0.4$ |
|  | Grade 8 | $17.8 \pm 1.5$ | $18.1 \pm 1.7$ | $15.4 \pm 1.8$ | $16.1 \pm 1.5$ | $14.4 \pm 1.3$ | $11.9 \pm 1.2$ | $8.1 \pm 0.9$ | $7.6 \pm 1.1$ | $8.4 \pm 0.9$ | $3.6 \pm 0.6$ |
|  | Grade 10 | $29.3 \pm 1.6$ | $32.6 \pm 1.6$ | $32.8 \pm 1.6$ | $31.7 \pm 1.6$ | $27.7 \pm 1.9$ | $23.3 \pm 1.6$ | $20.6 \pm 1.5$ | $20.4 \pm 1.4$ | $18.5 \pm 1.6$ | $8.4 \pm 1.6$ |
|  | Grade 12 | $42.8 \pm 2.5$ | $42.6 \pm 2.4$ | $42.1 \pm 2.1$ | $40.8 \pm 2.4$ | $40.0 \pm 2.2$ | $36.1 \pm 2.2$ | $32.9 \pm 2.5$ | $32.0 \pm 2.3$ | $27.9 \pm 2.3$ | $20.0 \pm 3.6$ |
| Binge | Grade 6 | NA | NA | NA | $3.0 \pm 0.5$ | $3.7 \pm 0.6$ | $2.4 \pm 0.5$ | $2.3 \pm 0.5$ | $1.3 \pm 0.3$ | $1.9 \pm 0.4$ | $1.9 \pm 0.5$ |
|  | Grade 8 | $10.0 \pm 1.2$ | $10.2 \pm 1.3$ | $8.6 \pm 1.6$ | $9.1 \pm 1.1$ | $8.1 \pm 0.9$ | $7.1 \pm 0.8$ | $4.5 \pm 0.6$ | $4.0 \pm 0.7$ | $4.6 \pm 0.6$ | $2.8 \pm 0.5$ |
|  | Grade 10 | $18.7 \pm 1.6$ | $18.7 \pm 1.5$ | $19.6 \pm 1.8$ | $18.4 \pm 1.4$ | $16.2 \pm 1.9$ | $14.3 \pm 1.3$ | $10.6 \pm 1.1$ | $10.9 \pm 1.0$ | $9.6 \pm 1.1$ | $5.5 \pm 1.1$ |
|  | Grade 12 | $27.3 \pm 2.5$ | $25.8 \pm 2.4$ | $26.1 \pm 2.0$ | $25.9 \pm 2.1$ | $24.9 \pm 2.2$ | $21.8 \pm 1.7$ | $19.2 \pm 1.9$ | $18.0 \pm 1.6$ | $15.2 \pm 1.6$ | $12.4 \pm 2.2$ |
| Cigarettes | Grade 6 | $2.2 \pm 0.4$ | $2.0 \pm 0.4$ | $1.9 \pm 0.4$ | $1.4 \pm 0.3$ | $1.7 \pm 0.4$ | $1.2 \pm 0.3$ | $1.1 \pm 0.3$ | $0.5 \pm 0.2$ | $1.0 \pm 0.3$ | $0.8 \pm 0.2$ |
|  | Grade 8 | $9.2 \pm 1.0$ | $7.8 \pm 1.1$ | $6.4 \pm 1.2$ | $7.3 \pm 1.0$ | $6.6 \pm 0.9$ | $5.1 \pm 0.7$ | $4.0 \pm 0.6$ | $3.1 \pm 0.5$ | $2.7 \pm 0.5$ | $1.3 \pm 0.4$ |
|  | Grade 10 | $15.0 \pm 1.4$ | $13.0 \pm 1.4$ | $14.9 \pm 1.4$ | $14.4 \pm 1.6$ | $12.7 \pm 1.7$ | $9.6 \pm 1.2$ | $7.9 \pm 1.1$ | $6.3 \pm 0.7$ | $5.0 \pm 0.7$ | $1.9 \pm 0.4$ |
|  | Grade 12 | $22.7 \pm 2.2$ | $19.7 \pm 2.1$ | $20.0 \pm 1.8$ | $20.0 \pm 2.7$ | $19.6 \pm 2.4$ | $15.6 \pm 1.8$ | $13.1 \pm 1.5$ | $11.0 \pm 1.5$ | $8.0 \pm 1.2$ | $3.8 \pm 0.8$ |
| Tobacco, chewing | Grade 6 | $1.0 \pm 0.3$ | $1.0 \pm 0.2$ | $1.2 \pm 0.3$ | $1.1 \pm 0.2$ | $1.0 \pm 0.3$ | $1.0 \pm 0.2$ | $1.2 \pm 0.3$ | $0.5 \pm 0.2$ | $1.0 \pm 0.3$ | $0.6 \pm 0.2$ |
|  | Grade 8 | $2.7 \pm 0.5$ | $2.8 \pm 0.5$ | $2.8 \pm 0.6$ | $3.4 \pm 0.5$ | $3.0 \pm 0.5$ | $2.6 \pm 0.4$ | $1.3 \pm 0.4$ | $1.6 \pm 0.4$ | $1.4 \pm 0.4$ | $0.5 \pm 0.3$ |
|  | Grade 10 | $4.8 \pm 0.7$ | $4.9 \pm 0.6$ | $6.4 \pm 1.1$ | $6.7 \pm 1.3$ | $6.2 \pm 1.4$ | $4.6 \pm 0.9$ | $3.7 \pm 0.6$ | $3.0 \pm 0.8$ | $2.4 \pm 0.6$ | $0.6 \pm 0.2$ |
|  | Grade 12 | $7.5 \pm 1.3$ | $7.6 \pm 1.1$ | $8.9 \pm 1.7$ | $8.6 \pm 1.2$ | $8.9 \pm 1.6$ | $7.7 \pm 1.4$ | $5.1 \pm 1.0$ | $5.5 \pm 0.8$ | $3.7 \pm 1.1$ | $0.9 \pm 0.4$ |
| E-cigarettes /vape | Grade 6 | NA | NA | NA | NA | NA | NA | NA | $1.2 \pm 0.3$ | $3.0 \pm 0.5$ | $3.0 \pm 0.6$ |
|  | Grade 8 | NA | NA | NA | NA | NA | $1.7 \pm 0.4$ | $8.5 \pm 1.2$ | $6.2 \pm 1.4$ | $10.5 \pm 1.4$ | $4.9 \pm 1.0$ |
|  | Grade 10 | NA | NA | NA | NA | NA | $3.9 \pm 1.0$ | $18.0 \pm 1.5$ | $12.7 \pm 1.8$ | $21.2 \pm 2.6$ | $7.6 \pm 1.2$ |
|  | Grade 12 | NA | NA | NA | NA | NA | $6.7 \pm 2.0$ | $23.1 \pm 2.2$ | $19.9 \pm 2.3$ | $29.6 \pm 2.8$ | $15.1 \pm 1.9$ |
| Marijuana | Grade 6 | $1.3 \pm 0.4$ | $1.7 \pm 0.3$ | $1.5 \pm 0.3$ | $1.2 \pm 0.3$ | $1.6 \pm 0.4$ | $1.2 \pm 0.4$ | $1.3 \pm 0.4$ | $0.8 \pm 0.2$ | $1.3 \pm 0.3$ | $0.9 \pm 0.3$ |
|  | Grade 8 | $10.4 \pm 1.1$ | $9.2 \pm 1.2$ | $7.0 \pm 1.3$ | $8.3 \pm 1.1$ | $9.5 \pm 1.1$ | $9.4 \pm 1.0$ | $7.3 \pm 1.0$ | $6.4 \pm 1.1$ | $7.2 \pm 1.0$ | $2.8 \pm 0.6$ |
|  | Grade 10 | $18.3 \pm 1.8$ | $17.1 \pm 1.3$ | $18.3 \pm 1.4$ | $19.1 \pm 1.2$ | $20.0 \pm 1.8$ | $19.3 \pm 1.6$ | $18.1 \pm 1.6$ | $17.2 \pm 1.6$ | $17.9 \pm 1.6$ | $7.2 \pm 1.2$ |
|  | Grade 12 | $24.7 \pm 1.7$ | $19.5 \pm 2.2$ | $21.6 \pm 1.9$ | $23.4 \pm 2.3$ | $26.3 \pm 2.0$ | $26.7 \pm 1.4$ | $26.7 \pm 2.2$ | $26.5 \pm 1.8$ | $26.2 \pm 2.1$ | $15.9 \pm 2.7$ |


| Measure | Grade | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 | 2016 | 2018 | 2021 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Other illegal drugs** (not alcohol, tobacco, or marijuana | Grade 6 | NA | NA | NA | NA | $0.9 \pm 0.2$ | $0.8 \pm 0.2$ | $0.6 \pm 0.2$ | $0.6 \pm 0.2$ | $0.9 \pm 0.3$ | $1.1 \pm 0.2$ |
|  | Grade 8 | NA | $3.3 \pm 0.5$ | $3.0 \pm 0.6$ | $3.4 \pm 0.5$ | $3.0 \pm 0.4$ | $2.8 \pm 0.5$ | $1.9 \pm 0.3$ | $2.7 \pm 0.5$ | $3.4 \pm 0.7$ | $1.2 \pm 0.4$ |
|  | Grade 10 | NA | $5.7 \pm 0.7$ | $7.2 \pm 0.8$ | $7.0 \pm 0.7$ | $6.5 \pm 1.2$ | $5.1 \pm 0.6$ | $4.4 \pm 0.5$ | $5.6 \pm 0.9$ | $5.9 \pm 0.9$ | $1.1 \pm 0.3$ |
|  | Grade 12 | NA | $6.8 \pm 0.9$ | $8.6 \pm 1.1$ | $8.1 \pm 1.2$ | $7.5 \pm 0.9$ | $7.3 \pm 0.9$ | $6.6 \pm 1.0$ | $8.5 \pm 1.3$ | $6.8 \pm 1.2$ | $2.8 \pm 0.8$ |
| Heated tobacco products | Grade 8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | $3.8 \pm 0.7$ |
|  | Grade 10 | NA | NA | NA | NA | NA | NA | NA | NA | NA | $4.5 \pm 0.7$ |
|  | Grade 12 | NA | NA | NA | NA | NA | NA | NA | NA | NA | $5.1 \pm 0.9$ |
| Cigars | Grade 8 | $8.3 \pm 1.3$ | $6.4 \pm 1.1$ | $6.9 \pm 1.4$ | $8.3 \pm 1.4$ | $4.3 \pm 0.7$ | $2.9 \pm 0.5$ | $1.9 \pm 0.5$ | $1.2 \pm 0.4$ | $1.5 \pm 0.4$ | $0.8 \pm 0.3$ |
|  | Grade 10 | $11.4 \pm 1.5$ | $11.4 \pm 1.5$ | $16.9 \pm 2.4$ | $16.0 \pm 1.8$ | $8.5 \pm 1.3$ | $6.9 \pm 1.2$ | $5.1 \pm 0.6$ | $4.1 \pm 0.7$ | $3.2 \pm 0.7$ | $1.1 \pm 0.3$ |
|  | Grade 12 | $15.2 \pm 1.7$ | $18.4 \pm 1.7$ | $24.3 \pm 2.5$ | $20.9 \pm 2.3$ | $17.4 \pm 2.5$ | $13.7 \pm 1.7$ | $10.2 \pm 1.4$ | $8.9 \pm 1.4$ | $6.7 \pm 1.1$ | $2.0 \pm 0.5$ |
| Tobacco in a pipe | Grade 8 | $5.6 \pm 1.1$ | $4.0 \pm 0.8$ | $3.7 \pm 1.0$ | $5.1 \pm 1.0$ | NA | NA | NA | NA | NA | NA |
|  | Grade 10 | $5.9 \pm 1.9$ | $5.6 \pm 1.2$ | $10.1 \pm 1.8$ | $7.1 \pm 0.9$ | NA | NA | NA | NA | NA | NA |
|  | Grade 12 | $5.0 \pm 1.5$ | $5.0 \pm 1.0$ | $9.1 \pm 1.9$ | $6.8 \pm 0.9$ | NA | NA | NA | NA | NA | NA |
| Bidis | Grade 8 | $6.8 \pm 1.4$ | $5.3 \pm 1.0$ | $4.5 \pm 1.1$ | $6.3 \pm 1.3$ | NA | NA | NA | NA | NA | NA |
|  | Grade 10 | $8.0 \pm 2.4$ | $8.1 \pm 1.3$ | $12.7 \pm 1.9$ | $10.4 \pm 1.0$ | NA | NA | NA | NA | NA | NA |
|  | Grade 12 | $8.3 \pm 1.7$ | $8.3 \pm 1.6$ | $11.8 \pm 1.7$ | $10.1 \pm 1.1$ | NA | NA | NA | NA | NA | NA |
| Cloves | Grade 8 | $5.0 \pm 1.3$ | $3.6 \pm 0.8$ | $3.2 \pm 1.0$ | $4.0 \pm 1.0$ | NA | NA | NA | NA | NA | NA |
|  | Grade 10 | $6.3 \pm 2.4$ | $5.5 \pm 1.0$ | $9.5 \pm 1.8$ | $6.7 \pm 1.0$ | NA | NA | NA | NA | NA | NA |
|  | Grade 12 | $5.5 \pm 1.7$ | $5.5 \pm 1.0$ | $8.9 \pm 1.8$ | $7.0 \pm 1.2$ | NA | NA | NA | NA | NA | NA |
| Dissolvable tobacco | Grade 8 | NA | NA | NA | NA | NA | NA | NA | NA | $0.9 \pm 0.3$ | NA |
|  | Grade 10 | NA | NA | NA | NA | NA | NA | NA | NA | $1.1 \pm 0.3$ | NA |
|  | Grade 12 | NA | NA | NA | NA | NA | NA | NA | NA | $1.5 \pm 0.5$ | NA |
| Pain killers to get high | Grade 8 | NA | NA | $3.6 \pm 0.7$ | $4.3 \pm 0.9$ | $4.3 \pm 0.5$ | $3.2 \pm 0.4$ | $2.3 \pm 0.4$ | $2.1 \pm 0.3$ | $2.4 \pm 0.4$ | $1.0 \pm 0.3$ |
|  | Grade 10 | NA | NA | $10.1 \pm 1.2$ | $9.5 \pm 1.2$ | $8.3 \pm 1.3$ | $6.0 \pm 0.8$ | $4.7 \pm 0.6$ | $4.4 \pm 0.6$ | $3.6 \pm 0.6$ | $1.0 \pm 0.2$ |
|  | Grade 12 | NA | NA | $11.6 \pm 2.0$ | $12.0 \pm 1.6$ | $7.9 \pm 1.2$ | $7.5 \pm 1.0$ | $5.6 \pm 0.9$ | $5.4 \pm 0.8$ | $3.8 \pm 0.7$ | $1.3 \pm 0.3$ |
| Prescription, not prescribed | Grade 8 | NA | NA | NA | NA | NA | NA | $4.2 \pm 0.6$ | $5.2 \pm 0.9$ | $5.5 \pm 0.8$ | $1.4 \pm 0.4$ |
|  | Grade 10 | NA | NA | NA | NA | NA | NA | $7.6 \pm 0.8$ | $7.9 \pm 0.9$ | $6.8 \pm 1.0$ | $1.5 \pm 0.3$ |
|  | Grade 12 | NA | NA | NA | NA | NA | NA | $9.0 \pm 1.3$ | $8.8 \pm 1.2$ | $6.6 \pm 1.1$ | $1.9 \pm 0.5$ |
| Inhalants | Grade 8 | $5.0 \pm 0.6$ | NA | $5.0 \pm 0.8$ | $6.4 \pm 1.1$ | NA | NA | NA | NA | NA | NA |
|  | Grade 10 | $3.8 \pm 0.5$ | NA | $5.7 \pm 0.6$ | $5.6 \pm 1.0$ | NA | NA | NA | NA | NA | NA |
|  | Grade 12 | $3.0 \pm 0.6$ | NA | $3.5 \pm 0.6$ | $4.5 \pm 0.9$ | NA | NA | NA | NA | NA | NA |
| Cocaine or Crack | Grade 8 | $2.4 \pm 0.5$ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
|  | Grade 10 | $2.7 \pm 0.5$ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
|  | Grade 12 | $4.4 \pm 0.7$ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Methamphetamines | Grade 8 | $2.1 \pm 0.4$ | $1.9 \pm 0.3$ | $1.3 \pm 0.3$ | $2.1 \pm 0.5$ | NA | NA | NA | NA | NA | NA |
|  | Grade 10 | $2.9 \pm 0.6$ | $2.9 \pm 0.5$ | $2.9 \pm 0.5$ | $3.6 \pm 0.7$ | NA | NA | NA | NA | NA | NA |
|  | Grade 12 | $3.4 \pm 0.7$ | $2.8 \pm 0.5$ | $2.7 \pm 0.6$ | $3.8 \pm 1.1$ | NA | NA | NA | NA | NA | NA |
| Ecstasy or MDMA Use | Grade 8 | $2.4 \pm 0.4$ | $2.1 \pm 0.3$ | NA | NA | NA | NA | NA | NA | NA | NA |
|  | Grade 10 | $3.2 \pm 0.8$ | $2.7 \pm 0.5$ | NA | NA | NA | NA | NA | NA | NA | NA |
|  | Grade 12 | $3.6 \pm 0.7$ | $2.7 \pm 0.5$ | NA | NA | NA | NA | NA | NA | NA | NA |
| Prescription, not prescribed | Grade 8 | NA | NA | NA | NA | NA | NA | $4.2 \pm 0.6$ | $5.2 \pm 0.9$ | $5.5 \pm 0.8$ | $1.4 \pm 0.4$ |
|  | Grade 10 | NA | NA | NA | NA | NA | NA | $7.6 \pm 0.8$ | $7.9 \pm 0.9$ | $6.8 \pm 1.0$ | $1.5 \pm 0.3$ |


| Measure | Grade | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 | 2016 | 2018 | 2021 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Grade 12 | NA | NA | NA | NA | NA | NA | $9.0 \pm 1.3$ | $8.8 \pm 1.2$ | $6.6 \pm 1.1$ | $1.9 \pm 0.5$ |
| Stimulant, like <br> Adderall or Ritalin | Grade 8 | NA | $2.8 \pm 0.4$ | $2.0 \pm 0.5$ | $2.8 \pm 0.5$ | $9.4 \pm 1.1$ | $10.4 \pm 0.9$ | NA | NA | $0.8 \pm 0.3$ | $0.4 \pm 0.2$ |
|  | Grade 10 | NA | $4.2 \pm 0.6$ | $5.0 \pm 0.9$ | $4.9 \pm 0.8$ | $11.5 \pm 1.5$ | $10.5 \pm 1.1$ | NA | NA | $2.1 \pm 0.5$ | $0.7 \pm 0.2$ |
|  | Grade 12 | NA | $3.6 \pm 0.8$ | $5.2 \pm 1.0$ | $5.4 \pm 1.1$ | $9.8 \pm 1.1$ | $11.7 \pm 1.9$ | NA | NA | $2.3 \pm 0.6$ | $1.0 \pm 0.4$ |
| Painkiller, like Vicodin, OxyContin, or Percocet | Grade 8 | NA | NA | NA | NA | NA | NA | NA | NA | $1.6 \pm 0.4$ | $0.9 \pm 0.3$ |
|  | Grade 10 | NA | NA | NA | NA | NA | NA | NA | NA | $2.4 \pm 0.5$ | $0.7 \pm 0.3$ |
|  | Grade 12 | NA | NA | NA | NA | NA | NA | NA | NA | $2.7 \pm 0.6$ | $0.8 \pm 0.3$ |
| Tranquilizer, like Valium or Xanax | Grade 8 | NA | NA | NA | NA | NA | NA | NA | NA | $0.9 \pm 0.3$ | $0.2 \pm 0.2$ |
|  | Grade 10 | NA | NA | NA | NA | NA | NA | NA | NA | $1.5 \pm 0.4$ | $0.3 \pm 0.2$ |
|  | Grade 12 | NA | NA | NA | NA | NA | NA | NA | NA | $1.6 \pm 0.5$ | $0.3 \pm 0.2$ |
| Another kind of prescription drug | Grade 8 | NA | NA | NA | NA | NA | NA | NA | NA | $1.7 \pm 0.4$ | $0.9 \pm 0.3$ |
|  | Grade 10 | NA | NA | NA | NA | NA | NA | NA | NA | $2.0 \pm 0.5$ | $0.9 \pm 0.3$ |
|  | Grade 12 | NA | NA | NA | NA | NA | NA | NA | NA | $1.7 \pm 0.5$ | $1.1 \pm 0.4$ |
| Over-thecounter drug | Grade 8 | NA | NA | NA | NA | NA | NA | NA | NA | $6.2 \pm 0.9$ | $2.7 \pm 0.7$ |
|  | Grade 10 | NA | NA | NA | NA | NA | NA | NA | NA | $5.0 \pm 1.1$ | $2.8 \pm 0.6$ |
|  | Grade 12 | NA | NA | NA | NA | NA | NA | NA | NA | $3.7 \pm 0.8$ | $2.5 \pm 0.7$ |
| Something but don't know what it was | Grade 8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | $1.0 \pm 0.3$ |
|  | Grade 10 | NA | NA | NA | NA | NA | NA | NA | NA | NA | $0.7 \pm 0.2$ |
|  | Grade 12 | NA | NA | NA | NA | NA | NA | NA | NA | NA | $0.5 \pm 0.3$ |
| Psychedelics | Grade 8 | $3.0 \pm 0.5$ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
|  | Grade 10 | $4.0 \pm 0.7$ | NA | NA | NA | NA | NA | NA | NA | NA | NA |
|  | Grade 12 | $5.1 \pm 1.2$ | NA | NA | NA | NA | NA | NA | NA | NA | NA |

Notes:

- NA indicate a substance was not represented on that particular year's survey.
- Binge drinking in the past two weeks (not in the past 30 days)
- In 2014, the question for electronic cigarettes (e-cigs), added the language "or vape pens". In 2021, "JUUL" was added to the description.
- In 2014, the description of marijuana was changed from "grass, hash, pot "to "weed, hash, pot". In 2021, "weed, hash, pot' was dropped.
- The questions on stimulant use have changed over time:
- During the past 30 days, on how many days did you: use Ritalin without a doctor's orders? $(2004,2006,2008)$
- Some kids take a medicine prescribed by their doctor to help with hyperactivity or focus (ADD). Some names for this medicine are Ritalin, Adderall, or Concerta. In the past 30 days have you taken one of these drugs? (2010, 2012)
- During the past 30 days, which of the following have you used for non-medical reasons? Choose all that apply. I used a stimulant, like Adderall or Ritalin. (2021)

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Alcohol Use

Alcohol has been consistently reported as the substance most frequently used by Washington's youth. However, the prevalence of past 30-day use of alcohol has steadily declined nationally (Monitoring the Future, 2016) and in Washington State since 2000. As age-specific survey data illustrate, the number of youth using alcohol increases sharply with each grade. The number of

Grade 6 and 8 students who report any lifetime use is of particular concern because of the strong association between age of initiation and subsequent alcohol misuse and dependence.

## Lifetime Alcohol Use

In 2021, 21 percent of Grade 6 and 8 students, 32 percent of Grade 10 students, and 50 percent of Grade 12 students reported having tried more than a sip or two of alcohol sometime in their lives (lifetime use).

## Differences by grade level:

- Grade 10 students were more likely than Grade 6 and 8 students to report drinking more than a sip or two of alcohol in their lifetime. Grade 12 students were more likely than Grade 6, 8, and 10 students to report drinking more than a sip or two of alcohol in their lifetime.

Differences by sex assigned at birth:

- Grade 6 males were more likely than females to report they drank more than a sip or two of alcohol in their lifetime.
- Grade 8, 10, and 12 females were more likely than males to report they drank more than a sip or two of alcohol in their lifetime.

Differences over time:

- Among Grade 6, 8, 10, and 12 students, there were decreases in lifetime alcohol use from 2018 to 2021.
- Among Grade 6, 8, 10, and 12 students, there were decreases in lifetime alcohol use from 2002 through 2018.

Lifetime Alcohol Use, More than a Sip, Grades 6, 8, 10, and 12, 2002-2021


| Grade | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 | 2016 | 2018 | 2021 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Grade 10 | $60.0 \pm 2.5$ | $60.4 \pm 1.8$ | $61.2 \pm 2.0$ | $60.6 \pm 2.2$ | $57.1 \pm 2.3$ | $52.2 \pm 2.9$ | $50.1 \pm 2.1$ | $47.6 \pm 2.1$ | $49.1 \pm 2.6$ | $31.6 \pm 2.7$ |
| Grade 12 | $74.9 \pm 2.0$ | $72.6 \pm 1.9$ | $72.2 \pm 1.5$ | $72.4 \pm 1.8$ | $70.6 \pm 2.0$ | $68.0 \pm 1.9$ | $66.2 \pm 2.1$ | $63.8 \pm 2.1$ | $62.8 \pm 2.8$ | $49.7 \pm 3.1$ |

Survey Questions:

- How old were you the first time you: Had more than a sip or two of beer, wine, or hard liquor (for example: vodka, whiskey, or gin)?
- Have you ever, even once in your lifetime: Had more than a sip or two of beer, wine, or hard liquor (for example: vodka, whiskey, or gin)?

Note: Percentages represent students who had ever had more than a sip of alcohol at any age in their life (Grades 8, 10 and 12) or had ever had a sip of alcohol in their life (Grade 6).

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021

## 30-Day Alcohol Use

In 2021, 2 percent of Grade 6 students, 4 percent of Grade 8 students, 8 percent of Grade 10 students, and 20 percent of Grade 12 students reported drinking alcohol in the past 30 days.

Differences by grade level:

- Among Grade 6, 8, 10, and 12 students, as grade levels increase, each grade was more likely to have used alcohol in the past 30 days.


## Differences by sex assigned at birth:

- Grade 8, 10, and 12 females were more likely than males to have used alcohol in the past 30 days.


## Differences over time:

- Among Grade 8, 10, and 12 there were decreases in 30-day alcohol use from 2018 to 2021.
- Among Grade 6, 8, 10, and 12 students, there were decreases in 30-day alcohol use from 2002 through 2018.


## 30-Day Alcohol Use, Grades 6, 8, 10, and 12, 2002-2021



| Grade | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 | 2016 | 2018 | 2021 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Grade 6 | $3.8 \pm 0.7$ | $4.4 \pm 0.5$ | $4.3 \pm 0.6$ | $3.5 \pm 0.5$ | $3.8 \pm 0.5$ | $2.5 \pm 0.5$ | $2.1 \pm 0.4$ | $1.8 \pm 0.4$ | $2.4 \pm 0.4$ | $2.2 \pm 0.4$ |
| Grade 8 | $17.8 \pm 1.5$ | $18.1 \pm 1.7$ | $15.4 \pm 1.8$ | $16.1 \pm 1.5$ | $14.4 \pm 1.3$ | $11.9 \pm 1.2$ | $8.1 \pm 0.9$ | $7.6 \pm 1.1$ | $8.4 \pm 0.9$ | $3.6 \pm 0.6$ |
| Grade 10 | $29.3 \pm 1.6$ | $32.6 \pm 1.6$ | $32.8 \pm 1.6$ | $31.7 \pm 1.6$ | $27.7 \pm 1.9$ | $23.3 \pm 1.6$ | $20.6 \pm 1.5$ | $20.4 \pm 1.4$ | $18.5 \pm 1.6$ | $8.4 \pm 1.6$ |
| Grade 12 | $42.8 \pm 2.5$ | $42.6 \pm 2.4$ | $42.1 \pm 2.1$ | $40.8 \pm 2.4$ | $40.0 \pm 2.2$ | $36.1 \pm 2.2$ | $32.9 \pm 2.5$ | $32.0 \pm 2.3$ | $27.9 \pm 2.3$ | $20.0 \pm 3.6$ |

Survey Question: During the past 30 days, on how many days did you: Drink a glass, can or bottle of alcohol (beer, wine, wine coolers, hard liquor)?

Note: Percentages represent students who reported that they drank alcohol on any days in the past 30 days.
Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021

## Binge Drinking

The survey question on binge drinking (framed as five or more drinks in a row during the previous two weeks) may underestimate excessive alcohol consumption. Low-weight and inexperienced drinkers suffer negative effects from fewer than five drinks, and students may underestimate the amount of alcohol they consume in a "drink." In addition, the new recommended measurement of binge drinking for women is 4 drinks or more in one occasion (Chavez, 2011).

In 2021, 2 percent of Grade 6 students, 3 percent of Grade 8 students, 6 percent of Grade 10 students, and 12 percent of Grade 12 students reported binge drinking in the past two weeks.

Differences by grade level:

- Among Grade 6, 8, 10, and 12 students, as grade levels increase, each grade was more likely to report binge drinking.

Differences by sex assigned at birth:

- Grade 10 and 12 females were more likely than males to report binge drinking.


## Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in binge drinking from 2018 to 2021.
- Among Grade 6, 8, 10, and 12 students, there were decreases in binge drinking from 2002 through 2018.


## Binge Drinking, Grades 6, 8, 10, and 12, 2002-2021



Survey Question: Think back over the last 2 weeks. How many times have you had five or more drinks in a row? (A drink is a glass of wine, a bottle of beer, a shot glass of liquor, or a mixed drink.)

Note: Percentages represent students who reported that they had five or more drinks in a row any number of times in the past two weeks.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021

## Average Age of First Alcohol Use

Some youth begin experimenting with alcohol and other drugs at an early age. Early (age 12-14) and late (age 15-17) adolescence initiation and use of alcohol are associated with alcohol related problems in adulthood (Buchman, 2009; McCambridge, 2011). 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 their life (National Center on Addiction and Substance Abuse, 2011).

In 2021, among Grade 10 students who have had more than a sip or two of beer, wine, or hard liquor, the average age of first use was 12.9 years.

## Average Age of First Use of Alcohol in 2021

| Grade | $\mathbf{2 0 2 1}$ |
| :--- | :---: |
| Grade 8 | $11.3( \pm 0.1)$ |
| Grade 10 | $12.9( \pm 0.1)$ |
| Grade 12 | $14.4( \pm 0.1)$ |

Survey Question: How old were you the first time you had more than a sip or two of beer, wine, or hard liquor (for
example: vodka, whiskey, or gin)?
Note: Age of first use is calculated by excluding students who responded that they "never had" drank alcohol, and calculating the mean age of first use among those who drank at any age.
Source: HYS 2021.

## Levels of Problem Drinking: Composite Scale

The level of drinking is an important consideration in the design of prevention and intervention strategies. The definitions of experimental, heavy, and problem drinking combine frequency of drinking and episodes of binge drinking (see Notes below) (Courtney et al., 2009). Students reported the following levels of drinking in 2021:

- Experimental drinking: 2 percent of Grade 8,4 percent of Grade 10 students, and 8 percent of Grade 12 students.
- Heavy drinking: 2 percent of Grade 8 , and 3 percent of Grade 10, and 7 percent of Grade 12 students.
- Problem drinking: 2 percent of Grade 8, 3 percent of Grade 10, and 8 percent of Grade 12 students.


## Differences by grade level:

- Among Grade 8, 10, and 12 students, as grade levels increase, each grade was more likely to report experimental drinking, heavy drinking, and problem drinking.


## Differences by sex assigned at birth:

- Grade 8 and 10 females were more likely than males to report experimental drinking.
- Grade 8 and 12 females were more likely than males to report heavy drinking.
- There were no differences in problem drinking by sex assigned at birth.


## Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in experimental drinking from 2018 to 2021.
- Among Grade 8 and 10 students, there were decreases in heavy drinking from 2018 to 2021.
- Among Grade 8, 10, and 12 students, there were decreases in problem drinking from 2018 to 2021.
- Among Grade 8, 10, and 12 students, there were decreases in experimental, heavy, and problem drinking from 2006 to 2018.

Levels of Problem Drinking, Grades 8, 10, and 12, 2006-2021


| Measure | Grade | 2006 | 2008 | 2010 | 2012 | 2014 | 2016 | 2018 | 2021 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8th Grade | No Drinking | $84.3 \pm 2.1$ | $82.4 \pm 1.7$ | $84.3 \pm 1.4$ | $86.4 \pm 1.3$ | $90.8 \pm 1.0$ | $91.3 \pm 1.1$ | $90.5 \pm 1.0$ | $95.0 \pm 0.6$ |
|  | Experimental Drinking | $5.8 \pm 0.9$ | $6.9 \pm 0.7$ | $6.2 \pm 0.5$ | $5.3 \pm 0.5$ | $3.9 \pm 0.5$ | $3.6 \pm 0.5$ | $4.3 \pm 0.5$ | $1.7 \pm 0.3$ |
|  | Heavy Drinking | $4.7 \pm 0.8$ | $4.9 \pm 0.6$ | $4.3 \pm 0.5$ | $4.0 \pm 0.5$ | $2.6 \pm 0.4$ | $2.2 \pm 0.3$ | $2.8 \pm 0.4$ | $1.6 \pm 0.3$ |
|  | Problem Drinking | $5.2 \pm 1.1$ | $5.8 \pm 0.8$ | $5.3 \pm 0.8$ | $4.4 \pm 0.6$ | $2.8 \pm 0.5$ | $2.9 \pm 0.6$ | $2.5 \pm 0.5$ | $1.7 \pm 0.4$ |
| 10th Grade | No Drinking | $66.7 \pm 2.1$ | $66.8 \pm 1.7$ | $70.6 \pm 2.2$ | $75.0 \pm 1.7$ | $78.1 \pm 1.6$ | $78.3 \pm 1.5$ | $80.0 \pm 1.8$ | $89.6 \pm 1.8$ |
|  | Experimental Drinking | $10.2 \pm 1.1$ | $12.0 \pm 0.9$ | $10.9 \pm 0.7$ | $8.5 \pm 0.6$ | $9.2 \pm 0.9$ | $8.7 \pm 0.7$ | $8.7 \pm 0.7$ | $3.8 \pm 0.7$ |
|  | Heavy Drinking | $9.0 \pm 1.1$ | $8.4 \pm 0.8$ | $8.2 \pm 0.7$ | $7.1 \pm 0.7$ | $5.9 \pm 0.7$ | $6.2 \pm 0.5$ | $5.2 \pm 0.8$ | $3.4 \pm 0.6$ |
|  | Problem Drinking | $14.1 \pm 1.4$ | $12.8 \pm 0.9$ | $10.4 \pm 1.6$ | $9.4 \pm 1.0$ | $6.9 \pm 0.8$ | $6.8 \pm 0.8$ | $6.2 \pm 0.8$ | $3.2 \pm 0.6$ |
| 12th Grade | No Drinking | $56.8 \pm 2.5$ | $57.8 \pm 2.4$ | $58.4 \pm 2.3$ | $61.9 \pm 2.1$ | $65.4 \pm 2.5$ | $66.5 \pm 2.2$ | $70.3 \pm 2.3$ | $77.9 \pm 3.5$ |
|  | Experimental Drinking | $13.6 \pm 1.4$ | $12.6 \pm 0.9$ | $13.1 \pm 1.2$ | $12.3 \pm 1.0$ | $11.7 \pm 0.9$ | $11.6 \pm 0.9$ | $11.3 \pm 1.0$ | $7.7 \pm 1.4$ |
|  | Heavy Drinking | $12.1 \pm 1.1$ | $11.9 \pm 1.0$ | $12.5 \pm 0.8$ | $11.0 \pm 0.9$ | $10.8 \pm 1.3$ | $9.9 \pm 1.0$ | $8.6 \pm 0.8$ | $7.0 \pm 1.5$ |
|  | Problem Drinking | $17.6 \pm 2.0$ | $17.7 \pm 1.7$ | $16.1 \pm 2.1$ | $14.8 \pm 1.5$ | $12.1 \pm 1.3$ | $12.0 \pm 1.1$ | $9.9 \pm 1.5$ | $7.5 \pm 1.3$ |

## Survey Questions:

- During the past 30 days, on how many days did you: Drink a glass, can or bottle of alcohol?
- Think back over the last 2 weeks. How many times have you had five or more drinks in a row?


## Notes:

- Experimental drinking represents drinking 1-2 times in the past 30 days and no binge drinking in the past two weeks.
- Heavy drinking represents drinking 3-5 times in the past 30 days and/or binge drinking 1 time in the past two weeks.
- Problem drinking represents drinking 6 or more times in the past 30 days and/or binge drinking 2 or more times in the past two weeks.

Source: HYS 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Perception of Access to Alcohol

In spite of the laws that seek to prevent underage drinking, a high percentage of youth do not find it hard to obtain alcohol. The perception of easy access to alcohol is lower among Washington State youth than the national average (Johnston, 2015).

In 2021, 71 percent of Grade 6 students, 51 percent of Grade 8 students, 32 percent of Grade 10 students, and 23 percent of Grade 12 students reported that alcohol would be very hard to get.

Differences by grade level:

- Among Grade 6, 8, 10, and 12 students, as grade levels increase, each grade was less likely to perceive that alcohol would be very hard to get.

Differences by sex assigned at birth:

- Grade 8 and 10 males were more likely than females to perceive that alcohol would be very hard to get.

Differences over time:

- Among Grade 8, 10, and 12 students, there were increases in the perception that alcohol would be very hard to get from 2018 to 2021.
- Among Grade 6, 8, 10, and 12 students, there were increases in the perception that alcohol would be very hard to get from 2002 through 2018.

Perception That Access to Alcohol is Very Hard, Grades 6, 8, 10, and 12, 2002-2021


Survey Question: If you wanted to get some beer, wine, or hard liquor (for example: vodka, whiskey, or gin), how easy would it be for you to get some?

Note: Percentages represent students who reported it would be "very hard" to get alcohol if they wanted some.

## Usual Sources of Alcohol

The following chart represents where they usually obtained alcohol, among students who used alcohol in the past 30 days.

Differences by grade level:

- Grade 12 students were more likely than Grade 8 students to get alcohol from a store.
- Grade 10 and 12 students were more likely than Grade 8 students to get alcohol from friends.
- Among Grade 8, 10, and 12 students, as grade levels increase, each grade was more likely to get alcohol at a party.
- Grade 12 students were more likely than Grade 8 and 10 students to give someone money to get alcohol.
- Grade 8 students were more likely than Grade 12 students to get alcohol at home without parental permission.
- There were no differences in getting alcohol from an older sibling, at home with permission, by stealing it from a store, or from another way by grade level.

Differences by sex assigned at birth:

- Grade 10 males were more likely than females to buy alcohol from a store and to steal alcohol from a store.
- Grade 10 females were more likely than males to get alcohol from friends.
- Grade12 females were more likely than males to get alcohol and from home with and without parental permission.
- There were no differences in getting alcohol at a party, from an older sibling, by giving money to someone, by stealing it from a store, or from another way by sex assigned at birth.


## Differences over time:

- Among Grade 8 students, there was a decrease in getting alcohol from friends from 2018 to 2021.
- Among Grade 10 students, there was an increase in getting alcohol from an older sibling from 2018 to 2021.
- Among Grade 12 students, there were increases in getting alcohol from buying it at a store, at a party, and at home without parental permission from 2018 to 2021.
- Among Grade 8, 10, and 12 students, there were increases in getting alcohol at home with parental permission from 2018 to 2021.
- Among Grade 10 and 12 students, there were increases in getting alcohol some other way from 2018 to 2021.
- There were no changes in getting alcohol by giving money to someone or by stealing it from a store from 2018 to 2021.
- Among Grade 8 students, there was an increase in getting alcohol at home with parental permission from 2008 through 2018.
- Among Grade 10 students, there was a decrease in getting alcohol by giving someone money from 2008 through 2018.
- Among Grade 12 students, there was an increase in getting alcohol at home without permission from 2008 through 2018.


Survey Question: During the past 30 days, how did you usually get alcohol (beer, wine, or hard liquor)? Choose all that apply. II did not get alcohol in the past 30 days; I bought it from a store.; I stole it from a store.; I got it from friends.; I got it at a party.; I got it from an older brother or sister.; I gave money to someone to get it for me.; I took it from home without my parents' permission.; I got it at home with my parents' permission.; I got it some other way.

Notes: Students could check multiple responses.

- Stealing alcohol from a store was not asked until 2014.
- Students who reported that they "did not get alcohol in the past 30 days" were not included in the results.
- The sample sizes for the 2021 results in these charts are 168 Grade 8; 539 Grade 10; and 647 Grade 12 students.

Source: HYS 2021.

## Perception of Risk from Daily Alcohol Consumption

Because alcohol use is so widely accepted in our culture, it is not surprising that youth do not appreciate the possible harmful effects of alcohol consumption.

In 2021, 37 percent of Grade 6 students, 45 percent of Grade 8 students, 48 percent of Grade 10 students, and 49 percent of Grade 12 students perceived "great risk" in having one or two drinks of an alcoholic beverage every day.

Differences by grade level:

- Grade 8, 10, and 12 students were more likely than Grade 6 students to perceive great risk in having one or two drinks of alcohol every day. Grade 12 students were more likely
than Grade 8 students to perceive great risk in having one or two drinks of alcohol every day.

Differences by sex assigned at birth:

- Grade 10 and 12 females were more likely than males to perceive great risk in having more than one or two drinks of alcohol every day.


## Differences over time:

- Among Grade 6, 8, 10, and 12 students, there were increases in the perception of great risk in having one or two drinks of alcohol every day from 2018 through 2021.
- Among Grade 6, 8, 10, and 12 students, there were increases in the perception of great risk in having one or two drinks of alcohol every day from 2002 through 2018.

Perception of Great Risk From Daily Alcohol Consumption, Grades 6, 8, 10, and 12, 20022021


Survey Question: How much do you think people risk harming themselves if they take one or two drinks of an alcoholic beverage (wine, beer, a shot of liquor) nearly every day?

Note: Percentages represent students who reported that there is great risk from daily alcohol consumption.
Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Tobacco Use

Historically, cigarettes have been the most popular tobacco product used by youth. After peaking in the late 1990s, youth cigarette smoking rates have declined significantly. Despite this progress, tobacco use remains the leading cause of preventable death in Washington State.

Each year, approximately 8,300 adults in Washington die from smoking and approximately 104,000 youth living in Washington today will die prematurely from smoking (Campaign for Tobacco-Free Kids, 2022).

Starting in 2014, electronic delivery systems (ENDS) replaced combustible cigarettes as the most used tobacco product among youth. In 2021, 1 out of 9 high school students ( $11 \%$ ) living in the United States (U.S.) reported e-cigarette use in the past 30 days. According to the World Health Organization (WHO), the majority of e-cigarettes contain toxic chemicals, including heavy metals and substances that can cause cancer. The use of END products are associated with increased risk of cardiovascular diseases, lung disorders and adverse effects on developing fetuses during pregnancy; furthermore, nicotine exposure among children and adolescents has been found to negatively affect brain development and lead to nicotine addiction (WHO, 2020).

## Lifetime Cigarette Smoking

In 2021, 9 percent of Grade 8 students, 13 percent of Grade 10 students, and 20 percent of Grade 12 students reported ever having smoked a cigarette, even just a puff.

## Differences by grade level:

- Among Grade 8, 10, and 12 students, as grade levels increase, each grade was more likely to have ever smoked a cigarette, even just a puff.

Differences by sex assigned at birth:

- Grade 8, 10, and 12 females were more likely than males to have ever smoked a cigarette, even just a puff.


## Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in ever smoking a cigarette from 2018 to 2021.
- Among Grade 8, 10, and 12 students, there were decreases in ever smoking a cigarette from 2002 through 2018.

Lifetime Cigarette Use - Even Just a Puff, Grades 6, 8, 10, and 12, 2002-2021


Survey Question: How old were you the first time you smoked a cigarette, even just a puff?
Note: Lifetime percentages represent students who had ever smoked even just a puff of a cigarette at any age in their life.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## 30-Day Cigarette Smoking

In 2021, 1 percent of Grade 6 and 8 students, 2 percent of Grade 10 students, and 4 percent of Grade 12 students reported smoking a cigarette in the past 30 days.

Differences by grade level:

- Among Grade 6, 8, 10, and 12 students, as grade levels increase, each grade was more likely to have smoked cigarettes in the past 30 days.

Differences by sex assigned at birth:

- Grade 8, 10, and 12 females were more likely than males to have smoked cigarettes in the past 30 days.

Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in 30-day cigarette smoking from 2018 to 2021
- Among Grade 6, 8, 10 and 12 students, there were decreases in 30-day cigarette smoking from 2002 through 2018.

30-Day Cigarette Use, Grades 6, 8, 10, and 12, 2002-2021


Survey Question: During the past 30 days, on how many days did you: Smoke cigarettes?
Note: Percentages represent students who smoked cigarettes on any days in the past 30 days.
Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Average Age of First Cigarette Smoking

The table below shows the average age of first use for students who had ever tried a cigarette, even just a puff.

The earlier youth begin smoking cigarettes, the more likely they are to become strongly addicted to nicotine. About nine out of ten adult smokers began smoking when they were teens or earlier (Surgeon General Report 2012).

In 2021, among Grade 10 students who have smoked at least a puff of a cigarette, the average age of first use was 12.8 years.

## Average Age of First Cigarette Use in 2021

| Grade | $\mathbf{2 0 2 1}$ |
| :--- | :---: |
| Grade 8 | $11.7( \pm 0.2)$ |
| Grade 10 | $12.8( \pm 0.2)$ |
| Grade 12 | $14.2( \pm 0.2)$ |

Survey Question: How old were you the first time you smoked a cigarette, even just a puff?
Note: Age of first use is calculated by excluding students who responded that they "never had" smoked a puff of a
cigarette and calculating the mean age of use among those who smoked at any age.
Source: HYS 2021.

## 30-Day Chewing Tobacco Use

Using chewing tobacco represents a significant health risk and is not a safe substitute for smoking cigarettes. Risks associated with chewing tobacco include nicotine addiction, cancers of the mouth and pancreas, increased risk of adverse pregnancy outcomes and cardiovascular disease, gum recession, and nicotine poisoning among children (CDC, 2020).

In 2021, use of chewing tobacco in the past 30 days was reported by less than 1 percent of Grade 6, 8, 10, and 12 students.

Differences by grade level:

- There were no differences in having used chewing tobacco in the past 30 days by grade level.

Differences by sex assigned at birth:

- Grade 10 males were more likely than females to have used chewing tobacco in the past 30 days.

Differences over time:

- Among Grade 6, 8, 10, and 12 students, there were decreases in 30-day chewing tobacco use from 2018 to 2021.
- Among Grade 10 and 12 students, there were decreases in 30-day chewing tobacco use from 2002 through 2018.

30-Day Chewing Tobacco Use, Grades 6, 8, 10 and 12, 2002-2021


| Grade | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 | 2016 | 2018 | 2021 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Grade 10 | $4.8 \pm 0.7$ | $4.9 \pm 0.6$ | $6.4 \pm 1.1$ | $6.7 \pm 1.3$ | $6.2 \pm 1.4$ | $4.6 \pm 0.9$ | $3.7 \pm 0.6$ | $3.0 \pm 0.8$ | $2.4 \pm 0.6$ | $0.6 \pm 0.2$ |
| Grade 12 | $7.5 \pm 1.3$ | $7.6 \pm 1.1$ | $8.9 \pm 1.7$ | $8.6 \pm 1.2$ | $8.9 \pm 1.6$ | $7.7 \pm 1.4$ | $5.1 \pm 1.0$ | $5.5 \pm 0.8$ | $3.7 \pm 1.1$ | $0.9 \pm 0.4$ |

Survey Question: During the past 30 days, on how many days did you: Use chewing tobacco, snuff, or dip?
Note: Percentages represent students who reported that they had used chewing tobacco on any days in the past 30 days.
Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## 30-Day Cigar, Cigarillo or Little Cigar Smoking

In 2021, cigar smoking in the past 30 days was reported by less than 1 percent of Grade 8 students, 1 percent of Grade 10 students, and 2 percent of Grade 12 students.

Differences by grade level:

- Grade 12 students were more likely than Grade 8 and 10 students to have smoked cigars in the past 30 days.

Differences by sex assigned at birth:

- There were no differences in smoking cigars in the past 30 days by sex assigned at birth.


## Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in 30-day cigar smoking from 2018 to 2021.
- Among Grade 8, 10, and 12 students, there were decreases in 30-day cigar smoking from 2002 through 2018.


## 30-Day Cigar, Cigarillo or Little Cigar Smoking, Grades 8, 10 and 12, 2002-2021



Survey Question: During the past 30 days, on how many days did you: Smoke cigars, cigarillos or little cigars?
Notes:

- Percentages represent students who reported that they had smoked cigars on any days in the past 30 days.
- In 2006 and 2008 HYS administrations, the question about cigar use was asked on the removable portion of the survey.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## 30-Day Electronic Cigarettes, E-cigs or Vape Pen Use

In 2021, e-cig or vape pen use in the past 30 days was reported by 3 percent of Grade 6 students, 5 percent of Grade 8 students, 8 percent of Grade 10 students, and 15 percent of Grade 12 students.

Differences by grade level:

- Among Grade 6, 8, 10, and 12 students, as grade levels increase, each grade was more likely to have used an e-cig or vape pen in the past 30 days.

Differences by sex assigned at birth:

- Grade 8, 10, and 12 females were more likely than males to have used an e-cig or vape pen in the past 30 days.


## Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in 30 -day e-cig or vape pen use from 2018 to 2021.

30-Day Electronic Cigarettes, E-cigs, or Vape Pen Use, Grades 6, 8, 10, and 12, 2012-2021


| Grade | $\mathbf{2 0 1 2}$ | $\mathbf{2 0 1 4}$ | $\mathbf{2 0 1 6}$ | $\mathbf{2 0 1 8}$ | $\mathbf{2 0 2 1}$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Grade 6 | NA | NA | $1.2 \pm 0.3$ | $3.0 \pm 0.5$ | $3.0 \pm 0.6$ |
| Grade 8 | $1.7 \pm 0.4$ | $8.5 \pm 1.2$ | $6.2 \pm 1.4$ | $10.5 \pm 1.4$ | $4.9 \pm 1.0$ |
| Grade 10 | $3.9 \pm 1.0$ | $18.0 \pm 1.5$ | $12.7 \pm 1.8$ | $21.2 \pm 2.6$ | $7.6 \pm 1.2$ |
| Grade 12 | $6.7 \pm 2.0$ | $23.1 \pm 2.2$ | $19.9 \pm 2.3$ | $29.6 \pm 2.8$ | $15.1 \pm 1.9$ |

Survey Question: During the past 30 days, on how many days did you: Use an electronic cigarette, also called e-cigs, or vape pens?

Notes:

- Percentages represent students who reported that they had used an electronic cigarette, also called e-cigs, or vape pens, on any days in the past 30 days.
- A question about 30-day electronic cigarettes and e-cigs was asked in 2012, but the question did not include the term "vape pens."
- More response options were added in 2016.

Source: HYS 2012, 2014, 2016, 2018, and 2021.

## 30-Day Heated Tobacco Product Use

In 2021, heated tobacco products (which heat a liquid to produce vapor) were used by 4 percent of Grade 8 students and 5 percent of Grade 10 and 12 students.

Differences by grade level:

- Grade 12 students were more likely than Grade 8 students to have used heated tobacco products in the past 30 days.

Differences by sex assigned at birth:

- Grade 8, 10, and 12 females were more likely than males to have used heated tobacco products in the past 30 days.
30-Day Heated Tobacco Product Use, Grades 8, 10, and 12 in 2021


| Grade | $\mathbf{2 0 2 1}$ |
| :--- | :---: |
| Grade 8 | $3.8 \pm 0.7$ |
| Grade 10 | $4.5 \pm 0.7$ |
| Grade 12 | $5.1 \pm 0.9$ |

Survey Question: During the past 30 days, did you use a heated tobacco product? (Heated tobacco products are different from e-cigarettes, which heat a liquid to produce vapor. Some brands of heated tobacco products include iQOS, glo and Eclipse.)
Note: Percentages represent students who reported that they had used heated tobacco products, on any days in the past

30 days.
Source: HYS 2021.

## Susceptibility to Cigarette Smoking

Youth who have not made a firm commitment against smoking cigarettes are considered susceptible to smoking. They may or may not have smoked recently or in their lifetime, but their susceptibility predicts that given the opportunity or an accepting environment they may initiate smoking. This measure was developed by Pierce, Gilpin, Farkas, and Merritt (1996) and has been found to predict progression to smoking within a longitudinal study of youth behaviors.

Susceptibility to cigarette smoking is a composite measure, using the results from two questions: "If one of your best friends offered you a cigarette, would you smoke it?" and, "Do you think that you will smoke a cigarette anytime in the next year?" If a student does not respond "definitely not" to both questions, then he or she is considered to be susceptible to smoking.

In 2021, 23 percent of Grade 8 students, 25 percent of Grade 10 students, and 26 percent of Grade 12 students were susceptible to smoking.

## Differences by grade level:

- There were no differences in susceptibility to cigarette smoking by grade level.


## Differences by sex assigned at birth:

- Grade 8 and 10 females were more likely than males to be susceptible to cigarette smoking.


## Differences over time:

- There were no changes in susceptibility to cigarette smoking from 2018 to 2021.
- Among Grade 8, 10, and 12, there were decreases in susceptibility to cigarette smoking from 2002 through 2018.

Susceptibility to Cigarette Smoking, Grades 6, 8, 10, and 12, 2002-2021


Survey Questions:

- If one of your best friends offered you a cigarette, would you smoke it?
- Do you think that you will smoke a cigarette anytime in the next year?

Note: Susceptibility to cigarette smoking is a composite measure, using the results of the two questions above. If a student does not respond "definitely not" to both questions, then they are susceptible to smoking.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2016, 2018, and 2021. Questions were not asked in 2014.

## Secondhand Smoke Exposure

There is no risk-free level of exposure to secondhand smoke. According to the American Lung Association, secondhand smoke contains hundreds of chemicals known to be toxic or carcinogenic such as formaldehyde, benzene, vinyl chloride, arsenic ammonia and hydrogen cyanide and causes approximately 7,330 deaths from lung cancer and 33,950 deaths from heart disease each year (ALA, 2020).

In 2021, 17 percent of Grade 6 students, 18 percent of Grade 8, 10, and 12 students reported being exposed to secondhand smoke in a room in the past week.

Differences by grade level:

- There were no differences in having been exposed to secondhand smoke in a room in the past week by grade.


## Differences by sex assigned at birth:

- Grade 6, 8 and 10 females were more likely than males to have been exposed to secondhand smoke in a room in the past week.

Differences over time:

- Among Grade 8,10 , and 12 students, there were decreases in exposure to secondhand smoke in a room in the past week from 2018 to 2021.
- Among Grade 6, 8, 10, and 12 students, there were decreases in exposure to secondhand smoke in a room in the past week from 2002 through 2018.

Exposure to Secondhand Smoke in Room, Grades 6, 8, 10, and 12, 2002-2021


Survey Question: During the past 7 days, on how many days were you in the same room with someone who was smoking cigarettes?

Note: Percentages represent students who reported they had been exposed to secondhand smoke in a room in the past week.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Perception of Access to Cigarettes

There is strong evidence that community mobilization, along with additional interventions such as strong local laws for tobacco retailers, active enforcement of retailer sales laws, and retailer education helps reduce youth tobacco by restricting access to tobacco products from commercial sources (North Dakota Department of Human Services, 2018).

In 2021, 76 percent of Grade 6 students, 62 percent of Grade 8 students, 46 percent of Grade 10 students, and 36 percent of Grade 12 students reported that it would be very hard to get cigarettes.

Differences by grade level:

- Among Grade 6, 8, 10, and 12 students, as grade levels increase, each grade was less likely to perceive that cigarettes would be very hard to get.


## Differences by sex assigned at birth:

- Grade 8 males were more likely than females to perceive that cigarettes are very hard to get.

Differences over time:

- Among Grade 8, 10, and 12 students, there were increases in the perception that it would be very hard to get cigarettes from 2018 to 2021.
- Among Grade $6,8,10$, and 12 students, there were increases in the perception that it would be very hard to get cigarettes from 2002 through 2018.

Perception of Access to Cigarettes as Very Hard, Grades 6, 8, 10, and 12, 2002-2021


Survey Question: If you wanted to get some cigarettes, how easy would it be for you to get some?
Note: Percentages represent students who reported it would be "very hard" to get cigarettes if they wanted some.
Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Perception of Risk From Heavy Cigarette Smoking (Pack or More Daily)

In 2021, 55 percent of Grade 6 students, 69 percent of Grade 8 students, 73 percent of Grade 10 students, and 76 percent of Grade 12 students reported there was great risk in smoking a pack or more of cigarettes a day.

Differences by grade level:

- Grade 8,10 , and 12 students were more likely than Grade 6 students to perceive great risk in smoking a pack or more of cigarettes a day. Grade 10 and 12 students were more likely than 8 Grade students to perceive great risk in smoking a pack or more of cigarettes a day.

Differences by sex assigned at birth:

- Grade 10 and 12 females were more likely than males to perceive great risk in smoking a pack or more of cigarettes a day.


## Differences over time:

- Among Grade 6 and 8 students, there were decreases the perception of great risk from smoking a pack of cigarettes or more a day from 2018 to 2021.
- Among Grade 6 students, there was a decrease in the perception of great risk from smoking a pack of cigarettes or more a day from 2002 through 2018.


## Perception of Great Risk from Heavy Cigarette Smoking, Grades 6, 8, 10, and 12, 20022021



Survey Question: How much do you think people risk harming themselves if they: Smoke one or more packs of cigarettes per day?

Note: Percentages represent students who reported there is "great risk" from smoking a pack or more of cigarettes a day.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Perception of Risk From Electronic Cigarettes (Almost Daily)

In 2021, 51 percent of Grade 8 students, 50 percent of Grade 10 students, and 47 percent of Grade 12 students reported there was great risk in using an electronic cigarette almost daily.

Differences by grade level:

- Grade 8 students were more likely than grade 12 students perceive great risk in almost daily electronic cigarette use.

Differences by sex assigned at birth:

- Grade 10 and 12 females were more likely than males to perceive great risk in almost daily electronic cigarette use.

Differences over time:

- Among Grade 8, 10, and 12 students, there were increases the perception of great risk from daily electronic cigarette use from 2018 to 2021.

Perception of Great Risk From Almost Daily Electronic Cigarette Use, Grades 8, 10, and 12, 2016-2021


| Grade | $\mathbf{2 0 1 6}$ | $\mathbf{2 0 1 8}$ | $\mathbf{2 0 2 1}$ |
| :--- | :---: | :---: | :---: |
| Grade 8 | $37.0 \pm 3.2$ | $42.3 \pm 2.9$ | $51.0 \pm 2.8$ |
| Grade 10 | $29.7 \pm 2.7$ | $35.1 \pm 2.7$ | $49.6 \pm 3.0$ |
| Grade 12 | $22.1 \pm 1.8$ | $30.7 \pm 2.1$ | $46.5 \pm 2.2$ |

Survey Question: How much do you think people risk harming themselves if they: Use electronic cigarettes, also called ecigs or vape pens regularly (almost daily)?

Note: Percentages represent students who reported there is great risk from almost daily electronic cigarette use.
Source: HYS 2016, 2018, and 2021.

## Usual Sources of Tobacco

Despite laws restricting access to tobacco, youth still obtain it from a variety of sources. Younger youth who are experimenting with tobacco usually get it from friends or parents. Older, more addicted youth usually purchase their tobacco or ask friends over 18 to buy it for them (Tanski, 2019).

## Differences by grade level:

- Grade 12 students were more likely than Grade 8 students to purchase tobacco from a store.
- Grade 8 students were more likely than Grade 10 and 12 students to purchase tobacco from a vending machine.
- Grade 12 students were more likely than Grade 8 and 10 students to get tobacco by giving money to someone.
- Grade 10 students were more likely than Grade 12 students to get tobacco by borrowing or bumming.
- Grade 12 students were more likely than Grade 10 students to get tobacco from someone 18 or older.
- Grade 8 students were more likely than Grade 10 and 12 students to get tobacco by stealing it from a store or family member.
- Grade 10 students were more likely than Grade 12 students to get tobacco some other way.

Differences by sex assigned at birth:

- Grade 10 and 12 males were more likely than females to purchase tobacco from a vending machine.
- Grade 10 females were more likely than males to borrow or bum tobacco.
- Grade 10 and 12 males were more likely than females to get tobacco some other way.
- There were no differences in purchasing tobacco from a store, giving money to someone, from someone 18 or older, or stealing it from a store or family member by sex assigned at birth.


## Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in purchasing tobacco from a store from 2018 to 2021.
- Among Grade 10 and 12 students, there were decreases in purchasing tobacco from a vending machine from 2018to 2021.
- Among Grade 8, 10, and 12 students, there were increases in borrowing or bumming tobacco from 2018to 2021.
- Among Grade 8 students, there was an increase in stealing tobacco from a store or a family member from 2018 to 2021.
- Among Grade 10 and 12 students, there were increases in getting tobacco some other way from 2018 to 2021.
- There were no changes in giving money to someone or from someone 18 or older from 2018 to 2021.
- Among Grade 12 students, there was a decrease in borrowing or bumming tobacco from 2002 through 2018.
- Among Grade 12 students, there was an increase in stealing tobacco from a store or a family member from 2002 through 2018.


## Usual Sources of Tobacco Among Current Tobacco Users, Grades 8, 10, and 12 in 2021



| Grade | Store <br> purchase | Vending <br> machine | Gave <br> money | Borrowed <br> or bummed | Someone <br> $\mathbf{1 8 +}$ | Stole from <br> store or family | Other way |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Grade 8 | $3.8 \pm 4.4$ | $5.7 \pm 5.1$ | $12.4 \pm 6.0$ | $26.7 \pm 7.0$ | $8.6 \pm 4.4$ | $12.4 \pm 6.3$ | $30.5 \pm 7.9$ |
| Grade 10 | $9.6 \pm 4.2$ | $1.4 \pm 1.5$ | $16.4 \pm 4.3$ | $29.2 \pm 5.9$ | $5.5 \pm 2.7$ | $4.1 \pm 2.5$ | $33.8 \pm 7.8$ |
| Grade 12 | $15.6 \pm 3.8$ | $1.6 \pm 1.4$ | $23.4 \pm 4.9$ | $20.6 \pm 5.8$ | $11.3 \pm 3.7$ | $3.1 \pm 2.4$ | $24.5 \pm 4.9$ |

Survey Question: During the past 30 days, how did you usually get your own tobacco? (Choose only one answer.)
Notes:

- Proportions represent students who smoked cigarettes in the past 30 days and where they usually got their tobacco.
- Students who reported that they "did not get tobacco in the past 30 days" were not included in the results.
- The sample sizes for the 2021 results in this figure are 105 for Grade 8, 219 for Grade 10, and 257 for Grade 12 students.

Source: HYS 2021.

## Usual Sources of Electronic Vapor Products

According to the 2021 National Youth Tobacco Survey (CDC, 2021), the most prevalent source of e-cigarettes was through friends (33\%) followed by having someone else buy it. Another $10 \%$ of youth reported getting e-cigarettes from a family member (Bach, L, 2022).

In Washington for 2021, most students obtained e-cigarettes from borrowing (or bumming) them from someone else (33\%) and giving someone money to purchase them (27\%).

## Differences by grade level:

- Grade 12 students were more likely than Grade 8 and 10 students to purchase vape products from a store.
- Among Grade 8, 10, and 12 students, as grade levels increase, each grade was more likely to purchase vape products at a vape shop.
- were more likely than Grade 10 students to purchase vape products from a vape shop.
- Grade 8 students were more likely than Grade 10 students to buy vape products on the Internet.
- Grade 12 students were more likely than Grade 8 students to give money to someone to buy vape products.
- Grade 8 students were more likely than Grade 10 and 12 students to steal vapor products from a store or a family member.
- There were no differences in getting vapor products by borrowing or bumming them, from someone 18 or older, or from another way by grade level.

Differences by sex assigned at birth:

- Grade 10 and 12 males were more likely than females to get vape products some other way.
- There were no differences in purchasing vape products from a store, a vape shop, or the Internet, or getting them by giving someone money to buy them, borrowing or bumming them, from a person 18 or older, or stealing them from a store or a family member by sex assigned at birth.


## Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in purchasing vape products from a store from 2018 to 2021.
- Among Grade 10 and 12 students, there were decreases in purchasing vape products from the Internet from 2018 to 2021.
- Among Grade 8, 10, and 12 students, there were increases in getting vape products some other way from 2018 to 2021.
- There were no changes in getting vapor products by giving someone money to buy them, borrowing or bumming them, from someone 18 or older, or stealing them from a store or family member from 2018 to 2021.

Usual Sources of Electronic Vapor Products Among Current Vape Product Users, Grades 8, 10, and 12 in 2021


Survey Question: During the past 30 days, how did you usually get your own electronic vapor products? (Choose only one answer.)

Notes:

- Proportions represent students who used electronic vapor products in the past 30 days and where they usually got their vapor products.
- Students who reported that they "did not use electronic vapor products in the past 30 days" were not included in the results.
- The sample sizes for the 2021 results in this figure are 155 for Grade 8; 352 for Grade 10; and 392 for Grade 12 students.

Source: HYS 2021.

## Nicotine Addiction

In 2021, 2 percent of Grade 8 students, 3 percent of Grade 10 students, and 6 percent of
Grade 12 students reported that they use nicotine products within an hour of waking up.

## Differences by grade level:

- Among Grade 8, 10, and 12 students, as grade levels increase, each grade was more likely to use nicotine products within an hour of waking up.

Differences by sex assigned at birth:

- Grade 12 females were more likely than males to use nicotine products within an hour of waking up.


## Used Nicotine with 1 Hour of Waking Up, Grades 8, 10, and 12 in 2021



| Grade | $\mathbf{2 0 2 1}$ |
| :--- | :---: |
| Grade 8 | $1.6 \pm 0.6$ |
| Grade 10 | $2.9 \pm 0.7$ |
| Grade 12 | $5.8 \pm 1.0$ |

Survey Question: How soon after you wake up do you want to use products with nicotine (cigarettes, JUUL, vapes, etc.)?
Note: Percentages represent students who reported using nicotine products within an hour of waking up.
Source: HYS 2021.

## Type of Substance Used in an Electronic Cigarette

In 2021, students were asked if they used an electronic cigarette and what type of substance they used in it during the past 30 days. Among those who said they used an electronic cigarette:

- 51 percent of Grade 8 students, 53 percent of Grade 10 students, and 66 percent of Grade 12 students used liquid with nicotine.
- 21 percent of Grade 8 students, 38 percent of Grade 10, and 42 percent of Grade 12 students used liquid with THC (marijuana).
- 14 percent of Grade 8 students, 11 percent of Grade 10, and 6 percent of Grade 12 students used liquid with both nicotine and THC (marijuana).
- 9 percent of Grade 8 students, 3 percent of Grade 10 students, and 4 percent of Grade 12 students used liquid with neither nicotine or THC.
- 39 percent of Grade 8 students, 31 percent of Grade 10 students, and 16 percent of Grade 12 students did not know what type of substance they used.


## Differences by grade level:

- Grade 12 students were more likely than Grade 8 and 10 students to use liquid with nicotine.
- Grade 10 and 12 students were more likely than Grade 8 students to use liquid with THC.
- Grade 8 and 10 students were more likely than Grade 12 students to use liquid with both nicotine and THC.
- Grade 8 students were more likely than Grade 10 and 12 students to use liquid with neither nicotine nor THC.
- Among Grade 8, 10, and 12 students, as grade levels increase, each grade was less likely to not know what type of substance they used.


## Differences by sex assigned at birth:

- Grade 8, 10, and 12 females were more likely than males to use liquid with nicotine.
- Grade 12 females were more likely than males to use liquid with both nicotine and THC.
- Grade 8 and 12 males were more likely than females to not know what type of substance they used.
- There were no differences in using liquid with THC and using liquid with neither nicotine nor TCH by sex assigned at birth.


## Type of Substance Use in an Electronic Cigarette Among Those Who Vaped, Grades 8, 10, and 12 in 2021

Grade $8 ■$ Grade $10 ■$ Grade 12


| Grade | Nicotine | THC <br> (marijuana) | Nicotine and <br> THC (marijuana) | Neither nicotine <br> nor THC | Don't know |
| :--- | :---: | :---: | :---: | :---: | :---: |
| 8th Grade | $51.1 \pm 5.1$ | $21.0 \pm 4.5$ | $13.7 \pm 3.2$ | $9.2 \pm 2.8$ | $38.8 \pm 5.2$ |
| 10th Grade | $52.7 \pm 4.8$ | $38.1 \pm 3.2$ | $10.7 \pm 1.8$ | $3.3 \pm 1.2$ | $31.2 \pm 3.9$ |
| 12th Grade | $66.4 \pm 3.7$ | $42.3 \pm 3.9$ | $6.3 \pm 1.4$ | $4.1 \pm 1.2$ | $16.0 \pm 3.0$ |

Survey Question: During the past 30 days, which of the following e-cig or vaping products did you use? Choose all that apply. I did not use any e-cig or vaping products in the past 30 days.; Liquid with nicotine in it; Liquid with THC (marijuana) in it; Liquid with nicotine and THC (marijuana) in it; Liquid with neither nicotine nor THC; Don't know

## Notes:

- Percentages represent students who reported that they used any type of substance(s) in an electronic cigarette.
- Students who reported "did not use an electronic cigarette in the past 30 days" were not included in the results.
- The sample sizes for the 2021 results in this figure are 415 Grade 8, 797 Grade 10, and 880 Grade 12 students.

Source: HYS 2021

## 30-Day Flavored Tobacco or Marijuana Product Use

In 2021, less than 1 percent of Grade 8 and 10 students, and 1 percent of Grade 12 students reported that they used cigars, little cigars, hookah, or other smoked tobacco that were flavored. Less than one percent of Grade 8, 10, and 12 students reported that they used chewing tobacco, dissolvables, snus, or other smokeless tobacco that were flavored. Two percent of Grade 8 students, 4 percent of Grade 10 students, and 7 percent of Grade 12 students reported that they used joints, bongs, pipes, blunts, or other smoked marijuana products that were flavored.

## Differences by grade level:

- Grade 12 students were more likely than Grade 8 and 10 students to have used flavored cigars, little cigars, hookah, or other smoked tobacco products in the past 30 days.
- Among Grade 8, 10, and 12 students, as grade levels increase, each grade was more likely to have used flavored joints, bongs, pipes, blunt, or other smoked marijuana products in the past 30 days.
- There were no differences for using flavored chewing tobacco, dissolvables, snus, or other smokeless tobacco by grade level.


## Differences by sex assigned at birth:

- Grade 10 and 12 females were more likely than males to have used flavored joints, bongs, pipes, blunt, or other smoked marijuana products in the past 30 days.
- There were no differences for using flavored cigars, little cigars, hookah, or other smoked tobacco products or flavored chewing tobacco, dissolvables, snus, or other smokeless tobacco by sex assigned at birth.

30-Day Flavored Tobacco or Marijuana Product Use, Grades 6, 8, 10, and 12 in 2021


| Grade | Grade 8 | Grade 10 | Grade 12 |
| :--- | :--- | :--- | :--- |
| Cigars, little cigars, hookah, or other smoked tobacco | $0.3 \pm 0.2$ | $0.3 \pm 0.2$ | $1.6 \pm 0.5$ |
| Chewing tobacco, dissolvables, snus or other smokeless tobacco | $0.4 \pm 0.2$ | $0.3 \pm 0.2$ | $3.8 \pm 0.9$ |
| Joints, bongs, pipes, blunt, or other smoked marijuana products | $1.2 \pm 0.5$ | $0.4 \pm 0.2$ | $6.7 \pm 1.3$ |

Survey Question: During the past 30 days, which of the following tobacco or marijuana products that you used were flavored to taste like menthol (mint), candy, fruit, or any other flavors? Choose all that apply? I did not use any flavored tobacco or marijuana products in the past 30 days.; Cigars, little cigars, hookah, or other smoked tobacco; Chewing tobacco, dissolvables, snus or other smokeless tobacco; Joints, bongs, pipes, blunt, or other smoked marijuana products; I do not know.

Note: Percentages represent students who flavored tobacco or marijuana products in the past 30 days.
Source: HYS 2021.

## Marijuana Use

Marijuana has been the most widely used drug since the state's first survey of youth substance use in 1988. It is also by far the primary drug used by youth entering treatment. National trends in use have been associated with youth perception of the risk of marijuana use-that is, as perception of risk declined during the 1990s, the prevalence of marijuana use grew.

## Lifetime Marijuana Use

In 2021, 4 percent of Grade 6 students, 6 percent of Grade 8 students, 16 percent of Grade 10 students, and 34 percent of Grade 12 students reported having used marijuana at some time in their life.

## Differences by grade level:

- Among Grade 6, 8, 10, and 12 students, as grade levels increase, each grade was more likely to have used marijuana in their lifetime.

Differences by sex assigned at birth:

- Grade 8, 10, and 12 females were more likely than males to have used marijuana in their lifetime.


## Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in lifetime marijuana use from 2018 to 2021.
- Among Grade 8 and 10 students, there were decreases in lifetime marijuana use from 2002 through 2016.

Lifetime Marijuana Use, Grades 6, 8, 10 and 12, 2002-2021


Survey Question:

- How old were you the first time you: Used marijuana?
- Have you ever, even once in your lifetime: Used marijuana?

Notes:

- Percentages represent students who had ever used marijuana at any age in their life (Grades 8, 10, and 12) or had ever used marijuana in their life (Grade 6).
- For both questions, the word "smoked" was changed to "used" in 2014.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## 30-Day Marijuana Use

In 2021, 1 percent of Grade 6 students, 3 percent of Grade 8 students, 7 percent of Grade 10 students, and 16 percent of Grade 12 students reported using marijuana in the past 30 days.

Differences by grade level:

- Among Grade 6, 8, 10, and 12 students, as grade levels increase, each grade was more likely to have used marijuana in the past 30 days.

Differences by sex assigned at birth:

- Grade 8, 10, and 12 females were more likely than males to have used marijuana in the past 30 days.


## Differences over time:

- Among Grade 6, 8, 10, and 12 students, there were decreases in 30 -day marijuana use from 2018 to 2021.
- Among Grade 6 and 8 students, there were decreases in 30-day marijuana use from 2002 through 2018.

30-Day Marijuana Use, Grades 6, 8, 10 and 12, 2002-2021


Survey Question: During the past 30 days, on how many days did you: Use marijuana or hashish (weed, hash, pot)?
Notes:

- Percentages represent students who used marijuana on any days in the past 30 days.
- In 2014, "smoked marijuana" was changed to "used marijuana".
- The description of marijuana changed from "grass, hash, pot" to "weed, hash, pot" in 2014.
- More response options were added in 2016.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Average Age of First Marijuana Use

Some students begin experimenting with marijuana at an early age. Early (12-14 years of age) initiation of drug use, such as marijuana, is associated with a greater risk of developing an addiction and drug misuse problem than initiation during adulthood (Chen, 2009).

Among Grade 10 students who reported having ever used marijuana, the average age of first use was 13.4 years.

## Average Age of First Marijuana Use in 2021

| Grade | $\mathbf{2 0 2 1}$ |
| :--- | :---: |
| Grade 8 | $12.1( \pm 0.2)$ |
| Grade 10 | $13.4( \pm 0.1)$ |
| Grade 12 | $14.7( \pm 0.1)$ |

Survey Question: How old were you the first time you used marijuana?
Note: Age of first use is calculated by excluding students who responded that they "never had" used marijuana and calculating the mean age of use among those who used marijuana at any age.
Source: HYS 2021.

## Perception of Access to Marijuana

A study based on a national survey (Caulkins and Pacula, 2006) found that among people of all ages, most marijuana users obtain the drug for free ( 59 percent), from a friend or relative (88 percent), and through indoor transactions (87 percent). Only 6 percent reported purchasing marijuana from a stranger. The perceived ease of availability of marijuana among Washington State youth has been consistently below the national average (Monitoring the Future, 2016).

In 2021, 85 percent of Grade 6 students, 68 percent of Grade 8 students, 46 percent of Grade 10 students, and 29 percent of Grade 12 students reported that it would be very hard to get marijuana.

## Differences by grade level:

- Among Grade 6, 8, 10, and 12 students, as grade levels increase, each grade was less likely to perceive that marijuana would be very hard to get.

Differences by sex assigned at birth:

- Grade 8 and 10 males were more likely than females to perceive that marijuana would be very hard to get.


## Differences over time:

- Among Grade 8, 10, and 12 students, there were increases in the perception that getting marijuana would be very hard from 2018 to 2021.
- There were no trends in the perception that getting marijuana would be very hard for any grade from 2002 through 2018.

Perception of Access to Marijuana as Very Hard, Grades 6, 8, 10 and 12, 2002-2021


| Grade | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 | 2016 | 2018 | 2021 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Grade 6 | $86.5 \pm 1.4$ | $87.5 \pm 1.2$ | $85.4 \pm 1.2$ | $86.0 \pm 1.2$ | $84.3 \pm 1.4$ | $86.3 \pm 1.4$ | $86.0 \pm 1.4$ | $88.1 \pm 1.2$ | $85.4 \pm 1.2$ | $84.5 \pm 1.3$ |
| Grade 8 | $56.6 \pm 2.8$ | $63.4 \pm 2.9$ | $66.6 \pm 3.4$ | $62.5 \pm 2.5$ | $61.5 \pm 2.8$ | $60.5 \pm 2.8$ | $65.8 \pm 2.8$ | $64.8 \pm 2.4$ | $62.2 \pm 2.6$ | $68.4 \pm 1.9$ |
| Grade 10 | $29.4 \pm 2.7$ | $32.3 \pm 2.1$ | $33.9 \pm 2.4$ | $30.8 \pm 2.3$ | $27.7 \pm 2.1$ | $30.7 \pm 2.4$ | $29.1 \pm 2.3$ | $33.8 \pm 2.7$ | $32.7 \pm 2.1$ | $46.1 \pm 2.8$ |
| Grade 12 | $15.4 \pm 2.0$ | $18.3 \pm 1.9$ | $20.7 \pm 2.3$ | $19.5 \pm 2.2$ | $16.6 \pm 1.7$ | $17.9 \pm 2.2$ | $17.2 \pm 1.5$ | $18.6 \pm 1.5$ | $21.6 \pm 2.4$ | $29.4 \pm 2.7$ |

Survey Question: If you wanted to get some marijuana, how easy would it be for you to get some?
Note: Percentages represent students who reported that it would be "very hard" to get marijuana if they wanted some.
Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Perception of Risk From Regular Marijuana Use

Long-term trend data from Monitoring the Future suggests that perceived risk of marijuana use is a leading indicator of actual use. That is, during the 1970s, and again in the 1990s, as the perception of risk fell, the use of marijuana rose (Johnston, O'Malley, Bachman, and Schulenberg, 2007).

In 2021, 46 percent of Grade 6 and 8 students, 33 percent of Grade 10 students, and 24 percent of Grade 12 students reported there was great risk in using marijuana regularly.

## Differences by grade:

- Grade 6 and 8 students were more likely than Grade 10 and 12 students to perceive great risk in regular marijuana use. Grade10 students were more likely than Grade 12 students to perceive great risk in regular marijuana use.

Differences by sex assigned at birth:

- Grade 10 and 12 females were more likely than males to perceive great risk in regular marijuana use.


## Differences over time:

- There were no changes in the perception of great risk from using marijuana regularly from 2018 to 2021.
- Among Grade 6, 8, 10, and 12 students, there were decreases in the perception of great risk from using marijuana regularly from 2002 through 2018.

Perception of Great Risk From Regular Marijuana Smoking, Grades 6, 8, 10, and 12, 20022021


Survey Question: How much do you think people risk harming themselves if they: Use marijuana regularly? (at least once or twice a week)

Notes:

- Percentages represent students who reported there is "great risk" from regular marijuana use.
- The word "smoke" was changed to "use" in 2014.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Usual Sources of Marijuana

Most students got marijuana from friends. Younger students are more likely to get marijuana from home, while older students are more likely to get marijuana from friends, at parties, and to give money to someone to buy it for them. The following chart represents where they usually obtained marijuana, among students who used marijuana in the past 30 days.

## Differences by grade level:

- Grade 12 students were more likely than Grade 8 students to buy marijuana from a store.
- Grade 12 students were more likely than Grade 8 students to get marijuana from friends.
- Among Grade 8, 10, and 12 students, as grade levels increase, each grade was more likely to get marijuana at a party.
- Grade 12 students were more likely than Grade 10 students give money to someone for marijuana.
- Grade 12 students were more likely than Grade 8 and 10 students to get marijuana from home with parental permission.
- There were no differences in getting marijuana by stealing it from a store, from a sibling, from home without parental permission, or getting it some other way by grade level.

Differences by sex assigned at birth:

- Grade 10 males were more likely than females to buy marijuana from a store.
- Grade 10 females were more likely than males get marijuana from friends, from a party, and at home without parental permission.
- Grade 12 females were more likely than males to get marijuana at home with parental permission.
- There were no differences in getting marijuana by stealing it from a store, from a sibling, by giving money to someone, or getting it some other way by sex assigned at birth.


## Differences over time:

- Among Grade 12 students, there increases buying marijuana at a store, getting marijuana from a party, and getting marijuana at home without parental permission from 2018 to 2021.
- Among Grade 10 students, there was an increase in getting marijuana from a sibling from 2018 to 2021.
- Among Grade 10 and 12 students, there were increases in getting marijuana from home with parental permission from 2018 to 2021.
- Among Grade 8, 10, and 12 students, there were increases in getting marijuana some other way from 2018 to 2021.

Usual Sources of Marijuana Among Current Marijuana Users, Grades 8, 10, and 12 in 2021
■Grade 8 ■ Grade 10 Grade 12


Survey Question: During the past 30 days, how did you usually get marijuana? Choose all that apply. I did not get marijuana in the past 30 days. I bought it from a store.; I stole it from a store.; I got it from friends.; I got it at a party.; I got it from an older brother or sister.; I gave money to someone to get it for me.; I took it from home without my parents' permission.; I got it at home with my parents' permission.; I got it some other way.

## Notes:

- Students could check multiple responses.
- Students who reported that they "did not get marijuana in the past 30 days" were not included in the results.
- The sample sizes for the 2021 results in this figure are 147 Grade 8, 331 Grade 10, and 440 Grade 12 students.

Source: HYS 2021.

## Type of Marijuana

In 2021, students were asked if they used marijuana, and how they used it. Among those who said they used marijuana in the past 30 days:

- 74 percent of Grade 8 students, 69 percent of Grade 10 students, and 67 percent of Grade 12 students usually smoked it.
- 34 percent of Grade 8 students, 31 percent of Grade 10 students, and 32 percent of Grade 12 students usually ate it.
- 2 percent of Grade 8 students, 6 percent of Grade 10 students, and 5 percent of Grade 12 students usually drank it.
- 43 percent of Grade 8,47 percent of Grade 10 students, and 51 percent of Grade 12 students usually vaporized it.
- 37 percent of Grade 8, 36 percent of Grade 10 students, and 33 percent of Grade 12 students usually dabbed it.
- 6 percent of Grade 8 students, 7 percent of Grade 10 students, and 6 percent of Grade 12 students usually used it some other way.


## Differences by grade level:

- There were no differences in the types of marijuana used by students in the past 30 days by grade level.

Differences by sex assigned at birth:

- Grade 10 and 12 males were more likely than females to use marijuana some other way.
- There were no differences in smoking, eating, drinking, vaporizing, or dabbing marijuana in the past 30 days by sex assigned at birth.

Type of Marijuana Used Among Marijuana Users in Past 30 Days, Grades 8, 10, and 12 in 2021


Survey Question: During the past 30 days, if you used marijuana, how did you use it? Choose all that apply.? I did not use marijuana during the past 30 days.; Smoked it (in a joint, bong, pipe, blunt).; Ate it (in brownies, cakes, cookies, candy).; Drank it (tea, cola, alcohol).; Vaporized it (e-cig, JUUL, or vape pen).; Dabbed it.; Used it some other way.
Notes:

- Percentages represent students who reported that they used marijuana in one of the specified ways.
- Students who reported that they "did not use marijuana in the past 30 days" were not included in the results. The sample sizes for the 2021 results in this figure are: 123 Grade 8; 308 Grade 10; and 430 Grade 12 students.
- The question changed from usual method of marijuana use to "Choose all that apply" in 2021.

Source: HYS 2021.

## Other Drugs Not Including Alcohol, Tobacco, or Marijuana

The Healthy Youth Survey also tracks drugs that are less common than alcohol, tobacco, and marijuana. The drugs that are included in the survey can change over time. For instance, early surveys included prescription drugs, but they were eliminated as concerns about party drugs grew. In 2016, several new questions regarding prescription drug misuse were added in response to heightened national and local awareness of this issue among youth.

## 30-Day Other Drug Use (Not Including Alcohol, Tobacco, or Marijuana)

In 2021, 1 percent of Grade 6, 8, and 10 students, and 3 percent of Grade 12 students reported using an illegal drug other than alcohol, tobacco, or marijuana in the past 30 days.

Differences by grade level:

- Grade 12 students were more likely than Grade 6, 8, and 10 students to use other illegal drugs in the past 30 days.


## Differences by sex assigned at birth:

- Grade 8 females were more likely than males to use other illegal drugs in the past 30 days.

Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in 30-day other illegal drug use from 2018 to 2021.
- Among Grade 8, there was a decrease in 30-day other illegal drug use from 2004 through 2014.


## 30-Day Other Drug Use (Not Including Alcohol, Tobacco, or Marijuana), Grades 6, 8, 10, and 12, 2004-2021



Survey Question: During the past 30 days, on how many days did you: Not counting alcohol, tobacco, or marijuana, use another illegal drug?

Note: Percentages represent students who used other illegal drugs on any days in the past 30 days.
Source: HYS 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Opiate (Painkiller) Use

Awareness and concern are growing regarding the use of painkillers that young people are using to get high. Using painkillers (namely for nonmedical reasons, i.e., to get high) puts
adolescents at risk for various dangers directly related to the drugs themselves, such as overdose and death. Furthermore, prescription opioid use (and misuse) is a risk-factor for heroin initiation among adolescents (Palamar, Shearston, Dawson, Mateu-Gelabert, and Ompad, 2016) (Monitoring the Future, 2013). This can lead to heroin dependency, which not only carries its own risks of overdose and death, but of contracting Hepatitis $C$ and HIV/AIDS, among other issues.

In 2021, painkiller use "to get high" in the past 30 days was reported by 1 percent of Grade 8, 10, and 12 students.

## Differences by grade level:

- There were no differences in using painkillers to get high in the past 30 days by grade level.

Differences by sex assigned at birth:

- Grade 10 females were more likely than males to have used painkillers to get high in the past 30 days.


## Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in using painkillers to get high in the past 30 days from 2018 to 2021.
- Among Grade 8, 10, and 12 students, there were decreases in using painkillers to get high in the past 30 days from 2006 through 2018.


## 30-Day Prescription Painkiller Use, Grades 8, 10, and 12, 2006-2021



Survey Question: During the past 30 days, on how many days did you: Use a pain killer to get high, like Vicodin, OxyContin (sometimes called Oxy or OC) or Percocet (sometimes called Percs)?

Note: Percentages represent students who reported using painkillers to get high on any days in the past 30 days.
Source: HYS 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Prescription Drug Misuse

In 2021, using non-prescribed prescription drugs in the past 30 days was reported by 1 percent of Grade 8 students, and 2 percent of Grade 10 and 12 students.

Differences by grade level:

- There were no differences in using non-prescribed prescription drugs in the past 30 days by grade level.

Differences by sex assigned at birth:

- Grade 8 and 10 females were more likely than males to non-prescribed prescription drugs in the past 30 days.


## Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in using non-prescribed prescription drugs in the past 30 days from 2018 to 2021.

30-Day Use of Non-prescribed Prescription Drugs, Grades 8, 10, and 12, 2014-2021


Survey Question: During the past 30 days, on how many days did you: Use prescription drugs not prescribed to you?
Note: Percentages represent students who reported using non-prescribed prescription drugs on any days in the past 30 days.

Source: HYS 2014, 2016, 2018, and 2021.

## Lifetime Methamphetamine Use

Methamphetamine, a subclass of amphetamines, was at one time called "speed." During the past several years, media reports have sometimes referred to methamphetamine use as an epidemic. This reflects the environmental and familial consequences of methamphetamine production. Nationally, methamphetamine use has been declining, including most recently among young adults (Substance Abuse and Mental Health Services Administration, 2009).

In 2021, Less than one percent of Grade 8 and 10 students and 1 percent of Grade 12 students reported having used methamphetamine at least once in their lifetime.

## Differences by grade level:

- Grade 12 students were more likely than Grade 8 students to have used methamphetamines in their lifetime.

Differences by sex assigned at birth:

- There were no differences in using methamphetamines in their lifetime by sex assigned at birth.


## Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in lifetime methamphetamine use from 2018 to 2021.
- Among Grade 12 students, there was a decrease in lifetime methamphetamine use from 2002 through 2018.


## Lifetime Methamphetamine Use, Grades 8, 10, and 12, from 2002-2021



Survey Question: Have you ever, even once in your lifetime, used any of the following drugs? Methamphetamines
(meth, crystal meth, ice, crank) Do not include other types of amphetamines.
Notes: Percentages represent students who had ever used methamphetamines in their life.
Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Lifetime Heroin Use

In 2021, less than 1 percent of Grade 8, 10, and 12 students reported having used heroin at least once in their lifetime.

Differences by grade level:

- Grade 12 students were more likely than Grade 8 students to have used heroin in their lifetime.

Differences by sex assigned at birth:

- Grade 10 and 12 males were more likely than females to have used heroin in their lifetime.


## Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in lifetime heroin use from 2018 to 2021.
- There were no trends in lifetime heroin use for any grade from 2004 through 2018.

Lifetime Heroin Use, Grades 8, 10, and 12, from 2002-2021
-Grade $8 \sim$ Grade $10 \sim$ Grade 12


| Grade | $\mathbf{2 0 0 4}$ | $\mathbf{2 0 0 6}$ | $\mathbf{2 0 0 8}$ | $\mathbf{2 0 1 0}$ | $\mathbf{2 0 1 2}$ | $\mathbf{2 0 1 4}$ | $\mathbf{2 0 1 6}$ | $\mathbf{2 0 1 8}$ | $\mathbf{2 0 2 1}$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Grade 8 | $2.4 \pm 0.6$ | $1.6 \pm 0.5$ | $2.8 \pm 0.5$ | $2.2 \pm 0.5$ | $3.0 \pm 0.6$ | $2.6 \pm 0.5$ | $2.9 \pm 0.6$ | $1.5 \pm 0.5$ | $0.4 \pm 0.2$ |
| Grade 10 | $3.4 \pm 0.7$ | $4.7 \pm 1.0$ | $4.4 \pm 0.9$ | $3.5 \pm 0.9$ | $4.2 \pm 0.7$ | $3.4 \pm 0.7$ | $3.6 \pm 0.7$ | $2.8 \pm 0.8$ | $0.5 \pm 0.2$ |
| Grade 12 | $3.2 \pm 0.7$ | $4.7 \pm 0.9$ | $4.6 \pm 0.9$ | $4.1 \pm 0.9$ | $5.1 \pm 1.2$ | $3.2 \pm 0.8$ | $3.7 \pm 0.7$ | $2.9 \pm 0.6$ | $0.8 \pm 0.4$ |

Survey Question: Have you ever, even once in your lifetime, used any of the following drugs: Heroin?
Note: Percentages represent students who had ever used heroin in their life.
Source: HYS 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## 30-Day Prescription Drug Use for Non-Medical Use

In 2021, an additional question about using different types of prescription drugs for nonmedical use found that in the past 30 days:

- Less than one percent of Grade 8 and 10 students and 1 percent of Grade 12 students used non-prescribed stimulant, like Adderall or Ritalin.
- Less than one percent of Grade 8, 10, and 12 students used a non-prescribed painkiller, like Vicodin, OxyContin, or Percocet or used a non-prescribed tranquilizer, like Valium or Xanax.
- Less than one percent of Grade 8 and 10 students and 1 percent of Grade 12 students, used another kind of non-prescribed prescription drug.
- Three percent of Grade 8,10, and 12 students used an over-the-counter drug, like cough syrup or cold medicine.
- One percent of Grade 8 students and less than one percent of Grade 10 and 12 students used something, but they did not know what it was.


## Differences by grade level:

- Grade 12 students were more likely than Grade 8 students to have used non-prescribed stimulant, like Adderall or Ritalin in the past 30 days.
- Grade 8 students were more likely than Grade 8 students to have used something, but they did not know what it was in the past 30 days.
- There were no differences in using a non-prescribed painkiller, tranquilizer, another kind of prescription drug, or over-the counter drugs in the past 30 days by grade level.

Differences by sex assigned at birth:

- Grade 12 males were more likely than females to have used non-prescribed painkiller, like Vicodin, OxyContin, or Percocet in the past 30 days.
- Grade 8 females were more likely than males to have used another kind of nonprescribed prescription drug in the past 30 days.
- There were no differences in using a non-prescribed stimulant, tranquilizer, over-the counter drugs, or using something they did not know what it was in the past 30 days by sex assigned at birth.


## Differences over time:

- Among Grade 8, 10, and 12 students, there were decreases in using non-prescribed stimulants, using non-prescribed painkillers, using non-prescribed tranquilizers, and using over-the-counter drugs, and using something from 2018 to 2021.
- Among Grade 8 and 10 students, there were decreases in using another kind of nonprescribed prescription drug in the past 30 days from 2018 to 2021.


## 30-Day Prescription Drug Use for Non-Medical Reasons by Type of Drug, Grades 8, 10, and 12 in 2021



| Grade | Stimulant | Painkiller | Tranquilizer | Another kind <br> of Rx drug | Over-the- <br> counter drug | Something else |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Grade 8 | $0.4 \pm 0.2$ | $0.9 \pm 0.3$ | $0.2 \pm 0.2$ | $0.9 \pm 0.3$ | $2.7 \pm 0.7$ | $1.0 \pm 0.3$ |
| Grade 10 | $0.7 \pm 0.2$ | $0.7 \pm 0.3$ | $0.3 \pm 0.2$ | $0.9 \pm 0.3$ | $2.8 \pm 0.6$ | $0.7 \pm 0.2$ |
| Grade 12 | $1.0 \pm 0.4$ | $0.8 \pm 0.3$ | $0.3 \pm 0.2$ | $1.1 \pm 0.4$ | $2.5 \pm 0.7$ | $0.5 \pm 0.3$ |

Survey Question: During the past 30 days, which of the following have you used for non-medical reasons? Select all that apply. Response options: I did not take any of these for non-medical reasons; I used a stimulant, like Adderall or Ritalin; I used a painkiller, like Vicodin, OxyContin, or Percocet; I used a tranquilizer, like Valium or Xanax; I used another kind of prescription drug; I used an over-the-counter drug, like cough syrup or cold medicine; I took something, but I don't know what it was.

Note: Percentages represent students who used prescription drugs for non-medical use.
Source: HYS 2021.

## Risk and Protective Factors

This chapter covers a broad set of questions about health behaviors and about the risk factors and protective factors associated with them. Risk factors are characteristics of individuals and their families, schools, and communities that make them more vulnerable to ill health and poor lifestyle choices. Similarly, protective factors exert a positive influence or buffer against the negative influence of risk in these social environments. The Healthy Youth Survey includes many questions directly related to health, but most of the risk and protective factors measured in the survey are associated with behaviors such as substance use, violence, and dropping out of school. The presence of multiple risk factors predicts an increased likelihood that an individual will engage in these behaviors, whereas the presence of protective factors helps to diminish the effect of risk factors and increase the individual's resilience.

Research over several decades has identified risk factors that are associated with increased likelihood of health risk behaviors including alcohol, tobacco, and other drug use (Dryfoos, 1991; Hawkins et al., 1992; Kandel, Daview, Karus, and Yamagucchi, 1986); violence and delinquent behaviors (Bensley, Speicher, VanEenwyk, and Schoder, 1999; Brewer, Hawkins, Catalano, and Beckerman, 1995; Hereinto, Chung, and Catalano, 2004; Wasserman et al., 2003); and driving after drinking (Sabel, Bensley, and VanEenwyk, 2004).

Another body of research has focused on young people's ability to overcome the odds that challenge them (Werner and Smith, 1989) and to succeed despite high levels 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).

Using these multiple strands of research, researchers at the University of Washington's Social Development Research Group developed a theoretical framework called the Social Development Strategy (SDS). The SDS recognizes that adolescents generally make decisions based on values learned from their community, family, or school; giving adolescents opportunities for engagement, the ability to learn and use skills, and recognizing their actions will promote bonding to their community. When adolescents are bonded to a healthy community, they make healthy decisions and grow into healthy adults; conversely, if youth are disconnected from community or bonded an unhealthy community, they are more likely to develop unhealthy behaviors (Cambron, et al., 2019). By addressing risk and protective factors, families, schools, and communities can help promote positive social development. Early and sustained intervention through the elementary grades can help to put children on a developmental trajectory leading to more positive outcomes and fewer problem behaviors over the long term. These risk and protective factors represent promising inputs for prevention and intervention programs and policies.

The data presented in this chapter represent Washington State as a whole. The level of these indicators of risk and protection likely vary by community. 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. Communities can then implement prevention services for specific populations or geographical areas where risk exposure is high and protection is low.

The 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021 survey administrations in Washington included substantial coverage of risk and protective factors using standardized assessment tools developed by the Social Development Research Group (Arthur et al., 1998; Arthur, Hawkins, Pollard, Catalano, and Baglioni, 2002) and published in their Communities That Care survey. These risk and protective factors are organized into four domains of influence: community, school, peer-individual, and family.

More information on the risk and protective factors, see the What are Risk and Protective Factors? Fact sheet at: https://www.askhys.net/FactSheets
HYS 2021 assessed six risk factors among students in Grade 6, and 11 risk factors among students in Grades 8, 10, and 12.

Risk Factors Included in 2021

| Domain | Risk Factor |
| :---: | :---: |
| Community | Laws and norms favorable toward drug use ${ }^{\mathrm{E}}$ |
|  | Perceived availability of drugs |
|  | Perceived availability of handguns ${ }^{\text {s }}$ |
|  | Low neighborhood attachment ${ }^{5}$ |
| School | Academic failure |
|  | Low commitment to school |
| Peer-Individual | Perceived risk of drug use |
|  | Early initiation of drug use ${ }^{s}$ |
|  | Favorable attitudes toward drug use |
|  | Friends' use of drugs ${ }^{\text {s }}$ |
| Family | Poor family management ${ }^{\text {s }}$ |
|  | Parental attitudes favorable towards drug use ${ }^{\text {s }}$ |
| ${ }^{5}$ Included only on the survey for Grades 8, 10, and 12 students. <br> ${ }^{E}$ Included only on the survey for Grade 6 students. |  |
|  |  |

The HYS 2021 administration also assessed four protective factors among students in Grade 6 and five protective factors among students in Grades 8, 10, and 12.

Protective Factors Included in 2021

| Domain | Protective Factor |
| :--- | :--- |
| Community | Opportunities for prosocial involvement ${ }^{\mathrm{s}}$ <br> Rewards for prosocial involvement ${ }^{\mathrm{E}}$ |
| School | Opportunities for prosocial involvement ${ }^{\mathrm{s}}$ <br> Rewards for prosocial involvement |
| Peer-Individual | Social skills ${ }^{\mathrm{s}}$ |

This chapter presents HYS 2021 results for the assessment of risk and protection at each grade level in the peer-individual, family, school, and community domains. The relationships between risk and protective factors and the major health risk behaviors of substance use and violent 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 might not be accurate. Furthermore, the statistical relationships between risk and protective factors and health risk behaviors are not necessarily causal. 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 addressed in this study. Each risk and protective factor scale is calculated as the average score of the students' responses to one or more questions. Students whose scores placed them above a cut point, determined by the Social Development Research Group's research, were considered "at risk" on a given risk factor, or "resilient" on a given protective factor.

Research has also 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.

The following chart shows the relationship between the number of risk factors present and the use of alcohol, cigarettes, and marijuana for Grade 8 students. This relationship also holds true for Grade 10 and 12 students. 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, cigarette, and marijuana use. As the number of risk factors for individual students increased, so did the likelihood that they would use alcohol, cigarettes, and marijuana. These findings are consistent with the findings from the previous survey administrations.

Relationship Between Substance Use and Number of Risk Factors, Grade 8 in 2021


Note: Percentages represent students who reported using alcohol, cigarettes, or marijuana in their lifetime or in the past 30 days according to each number of risk factors (0 through 11).

Source: HYS 2021.

The following chart is a similar display, relating the presence of protective factors to the use of alcohol, cigarettes, and marijuana for Grade 8 students. This relationship also holds true for Grade 10 and 12 students. Again, the overall relationship is strong: increased levels of protection were clearly associated with lower rates of alcohol, cigarette, and marijuana use. Protective factors have also been found to have a buffering effect on the presence of risk factors (DeWit, Silverman, Goodstadt, and Stoduto, 1995; Gabriel, Deck, Einspruch, and Nickel, 1997; Jessor, Van den Bos, Vanderryn, Costa, and Trubin, 1995). These findings are consistent with the findings from previous survey administrations.

Relationship Between Substance Use and Number of Protective Factors, Grade 8 in 2021


Note: Percentages represent students who reported using alcohol, cigarettes, or marijuana in their lifetime or in the past 30 days according to each number of protective factors (0 through 5).

Source: HYS 2021.

## Community Domain: Risk Factors

HYS 2021 assessed four risk factors in the community domain:

- 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 drug use.
- Among Grade 6 students, there was an increase in laws and norms favorable towards drug use for any grade from 2018 to 2021.
- Among Grade 6 students, there was a decrease in laws and norms favorable towards drug use from 2002 through 2014.
- Among Grade 8, 10, and 12 students, there were decreases in laws and norms favorable towards drug use from 2002 through 2018.
- Perceived availability of drugs. Perceptions of the availability of alcohol and other drugs have been shown to predict use of these substances.
- Among Grade 8, 10, and 12 students, there were decreases in the perceived availability of drugs from 2018 to 2021.
- Among Grade 6, 8, 10, and 12 students, there were decreases in the perceived availability of drugs from 2002 through 2018.
- Perceived availability of handguns.
- Among Grade 12 students, there was a decrease decreases in the perceived availability of handguns from 2018 to 2021.
- Low neighborhood attachment.

Profile of Community Risk Factors, Percent of Youth at Risk, Grades 6, 8, 10, and 12, 20022021

| Measure | Grade | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 | 2016 | 2018 | 2021 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Laws and norms favorable to drug use | Grade 6 | $37.1 \pm 1.8$ | $37.1 \pm 1.7$ | $37.0 \pm 1.8$ | $35.9 \pm 1.6$ | $36.5 \pm 1.6$ | $34.5 \pm 1.8$ | $33.9 \pm 1.7$ | $34.0 \pm 1.9$ | $36.6 \pm 1.7$ | $40.9 \pm 2.6$ |
|  | Grade 8 | $33.0 \pm 2.1$ | $29.8 \pm 2.6$ | $28.2 \pm 3.1$ | $28.3 \pm 2.5$ | $27.7 \pm 2.2$ | $26.4 \pm 2.2$ | $23.1 \pm 2.1$ | $23.7 \pm 2.0$ | $24.3 \pm 2.2$ | NA |
|  | Grade 10 | $38.7 \pm 3.4$ | $40.1 \pm 2.5$ | $39.1 \pm 3.1$ | $36.7 \pm 2.8$ | $34.5 \pm 3.1$ | $31.4 \pm 2.8$ | $31.7 \pm 3.0$ | $28.0 \pm 2.3$ | $29.6 \pm 1.8$ | NA |
|  | Grade 12 | $39.3 \pm 2.2$ | $37.3 \pm 2.5$ | $35.8 \pm 3.8$ | $34.4 \pm 2.5$ | $32.5 \pm 2.6$ | $32.4 \pm 2.3$ | $31.2 \pm 2.4$ | $30.2 \pm 2.1$ | $28.0 \pm 2.1$ | NA |
| Perceived availability of drugs | Grade 6 | $23.6 \pm 1.8$ | $22.5 \pm 1.5$ | $24.6 \pm 1.4$ | $23.5 \pm 1.3$ | $22.6 \pm 1.3$ | $19.5 \pm 1.6$ | $18.7 \pm 1.3$ | $16.4 \pm 1.2$ | $19.4 \pm 1.1$ | $18.8 \pm 1.5$ |
|  | Grade 8 | $29.3 \pm 2.0$ | $23.0 \pm 2.2$ | $20.9 \pm 2.1$ | $24.8 \pm 2.1$ | $24.1 \pm 2.2$ | $22.8 \pm 2.1$ | $17.1 \pm 1.7$ | $16.4 \pm 1.7$ | $17.9 \pm 1.6$ | $13.9 \pm 1.4$ |
|  | Grade 10 | $35.5 \pm 2.9$ | $31.8 \pm 2.2$ | $32.7 \pm 2.0$ | $34.2 \pm 2.8$ | $34.4 \pm 2.8$ | $28.4 \pm 1.8$ | $26.5 \pm 2.1$ | $\mathbf{2 2 . 9} \pm \mathbf{2 . 1}$ | $22.3 \pm 2.0$ | $13.2 \pm 1.2$ |
|  | Grade 12 | $45.2 \pm 3.5$ | $40.5 \pm 3.0$ | $38.1 \pm 2.9$ | $39.4 \pm 2.3$ | $38.1 \pm 2.5$ | $36.0 \pm 1.9$ | $31.7 \pm 2.1$ | $30.2 \pm 2.1$ | $27.2 \pm 2.5$ | $17.6 \pm 1.8$ |
| Perceived availability of handguns | Grade 8 | $36.4 \pm 2.5$ | $34.4 \pm 2.6$ | $31.6 \pm 2.6$ | $34.9 \pm 2.5$ | $\mathbf{3 1 . 3} \pm 2.3$ | $32.6 \pm 2.1$ | NA | NA | $26.3 \pm 2.0$ | $25.8 \pm 2.1$ |
|  | Grade 10 | $21.9 \pm 2.4$ | $21.0 \pm 1.9$ | $21.5 \pm 2.0$ | $20.7 \pm 1.5$ | $18.2 \pm 2.4$ | $17.4 \pm 1.9$ | NA | NA | $13.4 \pm 1.8$ | $12.1 \pm 1.4$ |
|  | Grade 12 | $26.2 \pm 1.9$ | $26.6 \pm 2.3$ | $25.5 \pm 3.0$ | $24.4 \pm 2.0$ | $22.6 \pm 2.6$ | $20.3 \pm 2.6$ | NA | NA | $18.0 \pm 1.6$ | $13.5 \pm 2.1$ |
| Low <br> neighborhood attachment | Grade 8 | $41.1 \pm 2.5$ | NA | $36.6 \pm 2.6$ | $34.5 \pm 2.3$ | $33.9 \pm 2.1$ | NA | NA | NA | NA | $32.0 \pm 2.5$ |
|  | Grade 10 | $45.0 \pm 2.2$ | NA | $47.9 \pm 2.8$ | $44.8 \pm 2.5$ | $41.9 \pm 3.0$ | NA | NA | NA | NA | $40.3 \pm 3.4$ |
|  | Grade 12 | $46.9 \pm 3.6$ | NA | $50.2 \pm 2.7$ | $53.3 \pm 3.3$ | $50.2 \pm 2.4$ | NA | NA | NA | NA | $53.9 \pm 3.9$ |

Notes:

- Percentages represent students who are at risk based upon their risk factor scale scores.
- Changes that are statistically significant at the 95 percent confidence level from the previous year are bolded.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Community Domain: Protective Factors

HYS 2021 assessed two protective factors in the community domain.

- Opportunities for prosocial involvement. Youth need opportunities to participate meaningfully in activities in the community. Note: in 2002, the items in this scale were modified for the Healthy Youth Survey and are therefore different than those used by the Social Development Research Group.
- Among Grade 8, 10, and 12 students, there were decreases in opportunities for prosocial involvement for any grade from 2018 to 2021
- There were no trends in opportunities for prosocial involvement for any grade from 2002 to 2018
- Rewards for prosocial involvement. Youth need rewards for positive participation in prosocial activities.
- Among Grade 6 students, there were no changes in rewards for prosocial involvement from 2018 to 2021.
- Among Grade 6 students, there was a decrease in rewards for prosocial involvement from 2002 through 2018.

Profile of Community Protective Factors, Percent of Youth Protected, Grades 6, 8, 10, and 12, 2002-2021

| Measure | Grade | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 | 2016 | 2018 | 2021 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Opportunities for prosocial involvement | Grade 8 | $50.7 \pm 2.2$ | $72.3 \pm 2.2$ | $69.2 \pm 2.5$ | $66.6 \pm 2.9$ | $67.5 \pm 3.0$ | $73.2 \pm 2.3$ | $75.3 \pm 3.1$ | $72.3 \pm 3.0$ | $72.4 \pm 3.4$ | $58.7 \pm 3.8$ |
|  | Grade 10 | $46.6 \pm 2.8$ | $72.4 \pm 2.7$ | $66.1 \pm 3.1$ | $69.2 \pm 3.3$ | $71.1 \pm 3.2$ | $75.2 \pm 3.7$ | $75.4 \pm 3.1$ | $75.9 \pm 3.3$ | $71.3 \pm 3.7$ | $59.7 \pm 5.2$ |
|  | Grade 12 | $42.7 \pm 3.4$ | $70.9 \pm 2.7$ | $69.3 \pm 3.0$ | $71.3 \pm 4.0$ | $76.0 \pm 2.8$ | $76.3 \pm 3.9$ | $77.7 \pm 3.6$ | $76.6 \pm 3.3$ | $73.6 \pm 3.1$ | $61.8 \pm 6.1$ |
| Rewards for prosocial involvement | Grade 6 | $48.0 \pm 1.7$ | $38.7 \pm 1.1$ | $37.9 \pm 1.3$ | $36.4 \pm 1.4$ | $35.9 \pm 1.3$ | $37.4 \pm 1.3$ | $36.9 \pm 1.7$ | $34.6 \pm 1.4$ | $30.2 \pm 1.9$ | $31.6 \pm 2.5$ |

## Notes:

- Percentages represent students who are protected based upon their protective factor scale scores.
- Dashes (-) indicate that the protective factor was not included in the survey that year.
- Changes that are statistically significant at the 95 percent confidence level from the previous year are bolded.
- Opportunities for prosocial involvement was asked differently in 2002, so it is not included in the trend analysis.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## School Domain: Risk Factors

HYS 2021 assessed two risk factors in the school domain.

- 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 for negative behavior.
- There were no changes in academic failure from 2018 to 2021.
- Among Grade 8 students, there was a decrease in academic failure from 2002 through 2018.
- Low commitment to school. When young people cease to see the school role as viable, they are at higher risk of engaging in the health risk behaviors.
- Among Grade 6, 8, 10, and 12 students, there were increases in low commitment to school from 2018 to 2021.
- There were no trends for low commitment to school for any grade from 2002 through 2018.

Profile of School Risk Factors, Percent of Youth at Risk, Grades 6, 8, 10, and 12, 2002-2021

| Measure | Grade | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 | 2016 | 2018 | 2021 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Academic failure | Grade 6 | $41.2 \pm 1.9$ | $40.6 \pm 1.7$ | $41.5 \pm 1.8$ | $42.4 \pm 2.0$ | $41.9 \pm 2.0$ | $37.8 \pm 2.1$ | $39.5 \pm 1.9$ | $38.3 \pm 1.8$ | $43.6 \pm 2.2$ | $45.0 \pm 2.7$ |
|  | Grade 8 | $47.3 \pm 2.0$ | $48.2 \pm 2.3$ | $45.9 \pm 2.4$ | $47.5 \pm 2.1$ | $46.8 \pm 2.2$ | $45.3 \pm 2.3$ | $43.9 \pm 2.2$ | $45.4 \pm 2.3$ | $44.8 \pm 2.5$ | $47.6 \pm 2.7$ |
|  | Grade 10 | $46.8 \pm 2.5$ | $47.2 \pm 2.4$ | $50.7 \pm 2.0$ | $48.2 \pm 1.6$ | $47.4 \pm 2.3$ | $45.3 \pm 2.4$ | $46.1 \pm 2.6$ | $47.4 \pm 2.4$ | $47.9 \pm 2.0$ | $48.3 \pm 3.8$ |
|  | Grade 12 | $48.5 \pm 2.3$ | $46.7 \pm 2.3$ | $50.1 \pm 2.4$ | $51.4 \pm 2.3$ | $49.1 \pm 2.2$ | $47.5 \pm 2.5$ | $49.2 \pm 2.8$ | $51.4 \pm 2.3$ | $50.8 \pm 2.6$ | $47.4 \pm 3.8$ |
| Low commitment to school | Grade 6 | $40.5 \pm 1.5$ | $44.4 \pm 1.6$ | $52.0 \pm 1.5$ | $43.0 \pm 1.8$ | $38.9 \pm 1.5$ | $36.9 \pm 1.8$ | $38.1 \pm 1.9$ | $40.6 \pm 1.4$ | $50.5 \pm 1.5$ | $58.1 \pm 2.0$ |
|  | Grade 8 | $34.4 \pm 2.0$ | $37.1 \pm 1.8$ | $36.2 \pm 2.2$ | $38.6 \pm 2.2$ | $35.6 \pm 1.7$ | $31.8 \pm 1.7$ | $31.9 \pm 1.8$ | $35.1 \pm 2.0$ | $43.2 \pm 2.2$ | $58.7 \pm 2.2$ |
|  | Grade 10 | $37.3 \pm 3.1$ | $40.7 \pm 2.3$ | $39.9 \pm 1.8$ | $38.2 \pm 1.8$ | $37.8 \pm 2.8$ | $33.1 \pm 1.9$ | $38.3 \pm 2.7$ | $39.2 \pm 2.1$ | $44.4 \pm 2.2$ | $56.6 \pm 2.5$ |
|  | Grade 12 | $37.6 \pm 2.9$ | $42.2 \pm 2.7$ | $40.8 \pm 2.5$ | $41.4 \pm 2.1$ | $36.5 \pm 2.2$ | $36.1 \pm 2.3$ | $40.4 \pm 2.6$ | $41.4 \pm 2.4$ | $41.7 \pm 2.3$ | $55.2 \pm 3.1$ |

Notes:

- Percentages represent students who are at risk based upon their risk factor scale scores.
- Changes that are statistically significant at the 95 percent confidence level from the previous year are bolded.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## School Domain: Protective Factors

HYS 2021 assessed two protective factors in the school domain.

- 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.
- Among Grade 8 and 10 students, there were increases in opportunities for prosocial involvement for any grade from 2018 to 2021.
- Among Grade 8, 10, and 12 students, there were increases in opportunities for prosocial involvement from 2002 through 2018.
- 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.
- Among Grade 6, 8, and 10 students, there were increases in rewards for prosocial involvement from 2018 to 2021.
- Among Grade 6 and 12 students, there was a decrease in rewards for prosocial involvement from 2002 through 2018.

| Measure | Grade | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 | 2016 | 2018 | 2021 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Opportunities for prosocial involvement | Grade 8 | $62.6 \pm 2.4$ | $62.2 \pm 2.0$ | $64.0 \pm 2.8$ | $59.8 \pm 2.4$ | $62.6 \pm 2.3$ | $65.7 \pm 1.9$ | $70.0 \pm 2.3$ | $69.6 \pm 2.2$ | $67.1 \pm 2.7$ | $71.6 \pm 1.9$ |
|  | Grade 10 | $59.6 \pm 2.4$ | $58.5 \pm 2.7$ | $57.7 \pm 2.2$ | $59.0 \pm 2.2$ | $61.8 \pm 2.5$ | $66.5 \pm 2.1$ | $65.2 \pm 2.6$ | $67.5 \pm 2.4$ | $63.9 \pm 2.7$ | $69.8 \pm 2.3$ |
|  | Grade 12 | $63.5 \pm 2.2$ | $61.2 \pm 2.7$ | $61.6 \pm 2.6$ | $60.7 \pm 3.1$ | $64.0 \pm 3.4$ | $65.5 \pm 3.0$ | $68.3 \pm 3.1$ | $67.8 \pm 2.7$ | $68.5 \pm 3.2$ | $70.1 \pm 3.0$ |
| Rewards for prosocial involvement | Grade 6 | $50.5 \pm 2.2$ | $52.3 \pm 1.7$ | $52.8 \pm 1.8$ | $49.8 \pm 1.6$ | $49.5 \pm 1.6$ | $49.7 \pm 2.1$ | $44.9 \pm 1.9$ | $45.2 \pm 1.9$ | $37.8 \pm 1.8$ | $38.5 \pm 1.9$ |
|  | Grade 8 | $52.1 \pm 2.1$ | $53.4 \pm 2.4$ | $56.6 \pm 2.2$ | $53.1 \pm 2.2$ | $49.0 \pm 2.3$ | $51.1 \pm 2.5$ | $52.8 \pm 2.8$ | $52.3 \pm 2.6$ | $47.8 \pm 2.7$ | $55.4 \pm 2.0$ |
|  | Grade 10 | $61.4 \pm 2.5$ | $61.3 \pm 2.3$ | $61.1 \pm 1.8$ | $63.5 \pm 2.2$ | $58.4 \pm 2.7$ | $60.1 \pm 2.0$ | $57.5 \pm 2.5$ | $58.2 \pm 2.1$ | $52.7 \pm 2.8$ | $62.7 \pm 2.2$ |
|  | Grade 12 | $45.8 \pm 3.1$ | $44.6 \pm 2.6$ | $45.4 \pm 2.5$ | $46.8 \pm 3.2$ | $45.3 \pm 3.4$ | $46.2 \pm 2.6$ | $43.3 \pm 2.6$ | $42.7 \pm 3.2$ | $39.9 \pm 3.5$ | $47.1 \pm 3.3$ |

Notes:

- Percentages represent students who are protected based upon their protective factor scale scores.
- Dashes (-) indicate that the protective factor was not included in the survey that year.
- Changes that are statistically significant at the 95 percent confidence level from the previous year are bolded.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Peer-Individual Domain: Risk Factors

HYS 2021 assessed four risk factors in the peer-individual domain.

- 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.
- Among Grade 10 students, there was a decrease in perceived risk of drug use from 2018 to 2021.
- Among Grade 6, 8, 10, and 12 students, there were increases in perceived risk of drug use from 2002 through 2018.
- Early initiation of drug use. Research 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 as an adult.
- Among Grade 8 students, there was an increase in early initiation of drug use from 2018 to 2021.
- Among Grade 10 students, there was a decrease in early initiation of drug use from 2018 to 2021.
- Among Grade 8, 10, and 12 students, there were decreases in early initiation of drug use from 2002 through 2018.
- 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.
- Among Grade 8 students, there was a decrease in favorable attitudes towards drug use from 2018 to 2021.
- Among Grade 12 students, there was an increase in favorable attitudes towards drug use from 2018 to 2021.
- Among Grade 6 students, there was an increase in favorable attitudes towards drug use from 2014 through 2018.
- Among Grade 10 students, there was a decrease in favorable attitudes towards drug use from 2002 through 2018.
- Friends' use of drugs. Young people whose friends use drugs are more likely to engage in health risk behaviors.
- Among Grade 8 and 10 students, there were decreases in friends' use of drugs from 2018 to 2021.
- Among Grade 8, 10, and 12 students, there were decreases in friends' use of drugs from 2002 through 2018.


## Profile of Peer-Individual Risk Factors, Percent of Youth at Risk, Grades 6, 8, 10, and 12, 2002-2021

| Measure | Grade | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 | 2016 | 2018 | 2021 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Perceived Risk of Drug Use | Grade 6 | $32.3 \pm 2.2$ | $30.4 \pm 1.7$ | $32.7 \pm 1.5$ | $31.9 \pm 2.2$ | $40.3 \pm 2.4$ | $37.7 \pm 2.8$ | $40.7 \pm 2.4$ | $40.2 \pm 2.4$ | $43.1 \pm 2.2$ | $44.6 \pm 3.1$ |
|  | Grade 8 | $38.3 \pm 2.1$ | $35.1 \pm 2.3$ | $33.0 \pm 2.9$ | $33.9 \pm 2.5$ | $37.7 \pm 2.6$ | $39.2 \pm 2.9$ | $37.9 \pm 3.4$ | $42.3 \pm 3.3$ | $46.9 \pm 2.9$ | $45.0 \pm 2.3$ |
|  | Grade 10 | $34.8 \pm 2.6$ | $33.7 \pm 1.9$ | $35.0 \pm 2.1$ | $35.6 \pm 2.2$ | $39.1 \pm 2.7$ | $38.1 \pm 2.6$ | $41.2 \pm 2.8$ | $41.3 \pm 2.7$ | $43.8 \pm 3.1$ | $37.7 \pm 2.9$ |
|  | Grade 12 | $43.4 \pm 2.3$ | $38.4 \pm 3.6$ | $40.6 \pm 2.7$ | $43.3 \pm 2.3$ | $48.0 \pm 2.5$ | $49.4 \pm 2.4$ | $52.8 \pm 2.2$ | $52.9 \pm 2.7$ | $52.7 \pm 3.5$ | $49.0 \pm 1.1$ |
| Early Initiation of Drug Use | Grade 8 | $27.4 \pm 2.5$ | $24.6 \pm 2.7$ | $19.8 \pm 2.6$ | $20.8 \pm 2.6$ | $20.1 \pm 2.2$ | $18.2 \pm 2.0$ | $13.7 \pm 1.9$ | $14.2 \pm 2.1$ | $15.3 \pm 1.7$ | $18.0 \pm 2.0$ |
|  | Grade 1 | $32.5 \pm 3.2$ | $29.2 \pm 2.4$ | $31.4 \pm 2.4$ | $29.3 \pm 2.3$ | $26.6 \pm 2.9$ | $\mathbf{2 2 . 2} \pm \mathbf{2 . 3}$ | $20.5 \pm 2.3$ | $18.9 \pm 1.8$ | $18.0 \pm 2.3$ | $13.5 \pm 2.0$ |
|  | Grade 12 | $37.5 \pm 2.2$ | $33.0 \pm 3.2$ | $32.9 \pm 2.9$ | $32.3 \pm 2.9$ | $27.9 \pm 3.1$ | $26.4 \pm 3.0$ | $22.8 \pm 2.7$ | $22.4 \pm 2.0$ | $19.0 \pm 2.1$ | $21.3 \pm 2.4$ |
| Favorable Attitudes Towards Drug Use | Grade 6 | $22.6 \pm 1.5$ | $22.2 \pm 1.5$ | $21.4 \pm 1.3$ | $20.9 \pm 1.2$ | $20.9 \pm 1.5$ | $18.3 \pm 1.6$ | $19.6 \pm 1.3$ | $18.9 \pm 1.4$ | $24.1 \pm 1.5$ | $23.2 \pm 2.1$ |
|  | Grade 8 | $27.8 \pm 2.2$ | $27.2 \pm 2.4$ | $22.9 \pm 2.5$ | $24.8 \pm 2.4$ | $24.5 \pm 1.9$ | $26.6 \pm 2.1$ | $23.8 \pm 2.3$ | $24.8 \pm 2.3$ | $28.7 \pm 2.2$ | $25.5 \pm 1.8$ |
|  | Grade 10 | $37.6 \pm 2.9$ | $35.0 \pm 1.8$ | $37.2 \pm 1.8$ | $37.2 \pm 2.3$ | $36.7 \pm 2.5$ | $37.0 \pm 2.2$ | $41.0 \pm 2.2$ | $38.7 \pm 2.5$ | $39.1 \pm 2.4$ | $38.9 \pm 3.0$ |
|  | Grade 12 | $40.8 \pm 3.1$ | $36.8 \pm 2.8$ | $34.9 \pm 2.8$ | $37.7 \pm 2.3$ | $37.9 \pm 2.5$ | $40.0 \pm 2.3$ | $39.9 \pm 2.8$ | $39.5 \pm 2.6$ | $34.9 \pm 2.1$ | $40.8 \pm 4.3$ |
| Friends' Use of Drugs | Grade 8 | $28.5 \pm 2.3$ | $27.2 \pm 2.8$ | $22.8 \pm 3.0$ | $25.6 \pm 2.9$ | $24.1 \pm 2.1$ | $23.2 \pm 2.2$ | $15.3 \pm 2.3$ | $15.3 \pm 2.3$ | $19.9 \pm 1.7$ | $11.8 \pm 1.6$ |
|  | Grade 10 | $30.7 \pm 2.6$ | $27.6 \pm 2.1$ | $29.7 \pm 2.3$ | $28.8 \pm 1.8$ | $29.0 \pm 2.0$ | $\mathbf{2 5 . 1} \pm \mathbf{2 . 0}$ | $23.0 \pm 2.1$ | $\mathbf{1 8 . 6} \pm \mathbf{2 . 0}$ | $\mathbf{2 2 . 2} \pm \mathbf{2 . 4}$ | $13.8 \pm 1.8$ |
|  | Grade 12 | $36.9 \pm 3.0$ | $25.9 \pm 3.4$ | $26.5 \pm 2.9$ | $27.2 \pm 3.0$ | $28.5 \pm 2.5$ | $25.5 \pm 1.9$ | $22.5 \pm 2.3$ | $20.5 \pm 2.3$ | $20.8 \pm 1.7$ | $19.0 \pm 3.0$ |

Notes:

- Percentages represent students who are at risk based upon their risk factor scale scores.
- Dashes (-) indicate that the risk factor was not included in the survey that year.
- Changes that are statistically significant at the 95 percent confidence level from the previous year are bolded.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Family Domain: Risk Factors

HYS 2021 assessed two risk factors in the family domain.

- Poor family management.
- Among Grade 10 and 12 students, there were decreases in poor family management from 2018 to 2021.
- Among Grade 8, 10, and 12 students, there were decreases in poor family management from 2002 through 2018.
- Parental attitudes favorable towards drug use.
- Among Grade 8, 10, and 12 students, there were increases in parental attitudes favorable towards drug use from 2018 to 2021.
- There were no trends in parental attitudes favorable towards drug use for any grade from 2004 through 2016.

Profile of Family Risk Factors, Percent of Youth at Risk, Grades 6, 8, 10, and 12, 2002-2021

| Measure | Grade | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 | 2016 | 2018 | 2021 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Poor family management | Grade 8 | $39.2 \pm 2.4$ | $38.4 \pm 2.0$ | $37.4 \pm 3.1$ | $39.2 \pm 2.5$ | $36.0 \pm 2.2$ | $33.7 \pm 1.9$ | $30.6 \pm 2.4$ | $33.4 \pm 2.2$ | $34.6 \pm 2.1$ | $34.5 \pm 2.0$ |
|  | Grade 10 | $36.6 \pm 5.7$ | $38.7 \pm 2.3$ | $42.5 \pm 2.6$ | $42.8 \pm 2.6$ | $39.3 \pm 3.0$ | $32.3 \pm 2.1$ | $32.8 \pm 2.1$ | $31.8 \pm 1.7$ | $34.1 \pm 2.0$ | $24.4 \pm 2.1$ |
|  | Grade 12 | $43.8 \pm 4.2$ | $42.6 \pm 2.4$ | $43.4 \pm 2.7$ | $43.5 \pm 2.2$ | $38.8 \pm 2.9$ | $38.2 \pm 2.3$ | $34.4 \pm 2.4$ | $34.8 \pm 2.0$ | $32.5 \pm 2.3$ | $25.0 \pm 2.0$ |
| Parental attitudes favorable towards drug use | Grade 8 | NA | $31.2 \pm 2.6$ | NA | $26.6 \pm 2.5$ | $21.5 \pm 1.4$ | $23.9 \pm 1.6$ | $22.2 \pm 2.0$ | $24.0 \pm 1.9$ | $25.3 \pm 1.9$ | $32.0 \pm 1.9$ |
|  | Grade 10 | NA | $41.8 \pm 2.4$ | NA | $44.4 \pm 2.1$ | $36.8 \pm 2.3$ | $37.1 \pm 2.1$ | $40.5 \pm 2.2$ | $38.4 \pm 2.2$ | $38.9 \pm 2.1$ | $43.1 \pm 2.9$ |
|  | Grade 12 | NA | $41.7 \pm 3.3$ | NA | $44.2 \pm 2.7$ | $36.4 \pm 2.9$ | $41.2 \pm 1.8$ | $41.3 \pm 2.7$ | $42.3 \pm 2.4$ | $39.6 \pm 2.6$ | $46.5 \pm 3.6$ |

Notes:

- The family domain was measured on the removable portion of the survey prior to the 2014 HYS. Not all of the participating schools asked these questions, and the number of students who answered the questions in this domain was smaller than the numbers of respondents for the other domains from 2002 to 2012.
- Percentages represent students who are at risk based upon their risk factor scale scores.
- Dashes (-) indicate that the risk factor was not included in the survey that year.
- Changes that are statistically significant at the 95 percent confidence level from the previous year are bolded.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## Family Domain: Protective Factors

HYS 2021 assessed two protective factors in the family domain.

- Opportunities for prosocial involvement.
- Among Grade 6 students, there was a decrease in opportunities for prosocial involvement from 2018 to 2021.
- Among Grade 10 and 12 students, there were increases in opportunities for prosocial involvement from 2018 to 2021.
- Among Grade 6 students, there was a decrease in opportunities for prosocial involvement from 2002 through 2018.
- Rewards for prosocial involvement.
- Among Grade 6 students, there was a decrease in prosocial involvement from 2018 to 2021.
- Among Grade 6 students, there was a decrease in prosocial involvement from 2002 to 2018.

Profile of Family Protective Factors, Percent of Youth Protected, Grades 6, 8, 10, and 12, 2002-2021

| Measure | Grade | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 | 2016 | 2018 | 2021 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Opportunities for prosocial involvement | Grade 6 | $58.1 \pm 2.3$ | $58.5 \pm 2.1$ | $54.2 \pm 2.1$ | $54.8 \pm 1.9$ | $53.2 \pm 1.9$ | $55.6 \pm 2.2$ | $52.6 \pm 2.1$ | $54.1 \pm 1.9$ | $50.5 \pm 2.4$ | $44.6 \pm 3.3$ |
|  | Grade 8 | $63.3 \pm 2.2$ | NA | $66.6 \pm 3.0$ | $61.3 \pm 2.3$ | $63.6 \pm 2.1$ | $66.3 \pm 1.8$ | $68.5 \pm 2.1$ | $67.2 \pm 2.1$ | $65.7 \pm 2.4$ | $64.1 \pm 2.0$ |
|  | Grade 10 | $56.7 \pm 3.0$ | NA | $53.5 \pm 2.8$ | $51.7 \pm 2.9$ | $55.6 \pm 3.0$ | $58.7 \pm 2.2$ | $57.8 \pm 2.5$ | $59.1 \pm 2.0$ | $53.4 \pm 2.4$ | $61.0 \pm 2.3$ |
|  | Grade 12 | $56.7 \pm 3.6$ | NA | $53.6 \pm 2.1$ | $53.4 \pm 2.5$ | $53.7 \pm 2.9$ | $55.8 \pm 2.1$ | $57.8 \pm 2.5$ | $55.3 \pm 2.4$ | $54.1 \pm 2.2$ | $61.6 \pm 3.0$ |


| Measure | Grade | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 | 2016 | 2018 | 2021 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rewards for prosocial involvement | Grade 6 | $62.2 \pm 2.7$ | $62.5 \pm 1.9$ | $58.2 \pm 2.2$ | $58.6 \pm 2.1$ | $56.8 \pm 2.1$ | $57.4 \pm 2.0$ | $53.6 \pm 2.3$ | $56.4 \pm 1.7$ | $52.3 \pm 2.2$ | $45.9 \pm 2.6$ |

Notes:

- The family domain was measured on the removable portion of the survey prior to the 2014 HYS. Not all of the participating schools asked these questions, and the number of students who answered the questions in this domain was smaller than the numbers of respondents for the other domains from 2002 to 2012.
- Percentages represent students who are protected based upon their protective factor scale scores.
- Dashes (-) indicate that the protective factor was not included in the survey that year.
- Changes that are statistically significant at the 95 percent confidence level from the previous year are bolded.

Source: HYS 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2021.

## References

American Lung Association. (2020). Health Effects of Secondhand Smoke. Retrieved from https://www.lung.org/quit-smoking/smoking-facts/health-effects/secondhand-smoke.

Arlen Egley, Jr., James C. Howell, and Meena Harris. Juvenile Justice Fact Sheet 4: Highlights of the 2012 National Youth Gang Survey. Accessed December 2015:
https://www.nationalgangcenter.gov/PublicationsArthur, M.W., Hawkins, J.D., Catalano, R.F., and Pollard, J.A. (1998). Student survey of risk and protective factors and prevalence of alcohol, tobacco, and other drug use. Seattle, WA: Social Development Research Group.

Arthur, M.W., Hawkins, J.D., Pollard, J.A., Catalano, R.F., and Baglioni, A.J. (2002). Measuring risk and protective factors for substance use, delinquency and other adolescent problem behaviors: The Communities That Care Youth Survey. Evaluation Review, 26(2), 575-601.

Bach, L. Where do Youth get their E-Cigarettes? (March 2022). Campaign for Tobacco Free Kids. Where do Youth Get Their E-Cigarettes? Retrieved from: https://www.tobaccofreekids.org/assets/factsheets/0403.pdf

Basile, K.C., DeGue, S., Jones, K., Freire, K., Dills, J., Smith, S.G., Raiford, J.L. (2016). STOP SV: A Technical Package to Prevent Sexual Violence. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

Bellal, J., et al. (2016). Bicycle helmets work when it matters the most. The American Journal of Surgery, Volume 213, Issue 2, 413-417.

Benard, B.L. (1991). Fostering resiliency in kids: Protective factors in the family, school, and community. San Francisco, CA: Far West Laboratory for Educational Research and Development.

Bensley, L. (1997, August). Reliability and validity of the Youth Risk Behavior Survey: Draft briefing paper. Olympia, WA: Washington State Department of Health Office of Epidemiology.

Bensley, L., VanEenwyk, J., Schoder, J., and Tollefsen, P. (2000). Washington State Youth Risk Behavior Survey: 1999. Olympia, WA: Washington State Department of Health.

Brewer, D.D., Hawkins, J.D., Catalano, R.F., and Neckerman, H.J. (1995). Preventing serious, violent, and chronic juvenile offending. In Howell, J.C., Krisberg, B. , Hawkins, J.D., and Wilson, J.J. A sourcebook: Serious, violent, and chronic juvenile offenders. Thousand Oaks, CA: Sage, 61-141.

Brenner RA, Taneja GS, Haynie DL, Trumble AC, Qian C, Klinger RM, Klebanoff MA. (2009). Association between swimming lessons and drowning in childhood: a case-control study. Arch Pediatr Adolesc Med. Mar;163(3):203-10. doi: 10.1001/archpediatrics.2008.563

Bry, B.H., McKeon, P., and Pandina, R.J. (1982). Extent of drug use as a function of number of risk factors. Journal of Abnormal Psychology. 91, 273-279.

Buchmann, A.F., et al. (2009). Impact of age at first drink on vulnerability to alcohol-related problems: testing the marker hypothesis in a prospective study of young adults. J. Psychiatr. Res. 43, 1205-1212.

Campaign for Tobacco-Free Kids. (2022). The Toll of Tobacco in Washington. Retrieved from: https://www.tobaccofreekids.org/problem/toll-us/washington.

Catalano R.F., Haggerty, K.P., Oesterle, S., Fleming, C.B., and Hawkins, J.D. (2004). The Importance of Bonding to School for Healthy Development: Findings from the Social Development Research Group. Journal of School Health, 74(7), 252-61.

Cambron, C., Catalano, R.F., \& Hawkins, J.D. (2019). The social development model. In D.P. Farrington, L. Kazemian, \& A.R. Piquero (Eds.), The Oxford handbook of developmental and life-course criminology (pp. 224-247). New York, NY: Oxford University Press.

Caulkins, J. and Pacula, R. (2006). Marijuana markets: Inferences from reports by the household population. Journal of Drug Issues, 36(1), 173-200.

Center on Hunger and Poverty (2002). The Consequences of Hunger and Food Insecurity for Children: Evidence from Recent Scientific Studies. Waltham, M.A.: Center on Hunger and Poverty, Heller School for Social Policy and Management, Brandeis University.

Centers for Disease Control and Prevention. (2000). Youth tobacco surveillance: United States, 1998-1999. Retrieved from:
http://www.cdc.gov/mmwr/preview/mmwrhtml/ss4910a1.htm
Centers for Disease Control and Prevention. (2009). Youth Risk Behavior Surveillance—United States, 2007. National Center for Chronic Disease Prevention and Health Promotion. Retrieved from http://www.cdc.gov/healthyyouth/yrbs/index.htm

Centers for Disease Control and Prevention. (2010). Injury Prevention and Control: Motor Vehicle Safety factsheet. National Center for Chronic Disease Prevention and Health Promotion. Retrieved from http://www.cdc.gov/Motorvehiclesafety/teen drivers/teendrivers factsheet.html

Centers for Disease Control and Prevention. (2020). Intimate Partner Violence, Sexual Violence, and Stalking Among Men. National Center for Injury Prevention and Control, Division of Violence Prevention. Retrieved from https://www.cdc.gov/violenceprevention/intimatepartnerviolence/menipvsvandstalking.html

Centers for Disease Control and Prevention. (2020). Smokeless Tobacco: Health Effects. Retrieved from: https://www.cdc.gov/tobacco/data_statistics/fact_sheets/smokeless/health_effects/index. htm

Centers for Disease Control and Prevention. (2021). National Youth Tobacco Survey (NYTS). Retrieved from: https://www.cdc.gov/tobacco/data_statistics/surveys/nyts/index.htm

Chapman D.P., Perry G.S., and Strine, T.W. (2005). The vital link between chronic disease and depressive disorders. Preventing Chronic Disease. Retrieved from: http:www.cdc.gov/pcd/issues/2005/jan/04_0066.htm

Chavez, P.R., Nelson, D.E., Naimi, T.S., Brewer, R.D. (2011). Impact of a new gender-specific definition for binge drinking on prevalence estimates for women. Am J Prev Med. Apr;40(4):468-71. doi: 10.1016/j.amepre.2010.12.008.

Chen, C.-Y., Storr, C. L., \& Anthony, J. C. (2009). Early-onset drug use and risk for drug dependence problems. Addictive Behaviors, 34(3),319-322. doi: 10.1016/j.addbeh.2008.10.021

Courtney KE, Polich J. Binge Drinking in Young Adults: Data, Definitions, and Determinants. Psychological bulletin. 2009;135(1):142-156. Doi:10.1037/a0014414.

Deck, D.D. and Nickel, P.N. (1989). Substance abuse among public school students in Washington. Olympia, WA: Office of Superintendent of Public Instruction.

DeWit, D.J., Silverman, G., Goodstadt, M., and Stoduto, G. (1995). The construction of risk and protective factor indices for adolescent alcohol and other drug use. Journal of Drug Issue, 25(4), 837-863.

Dilley, J. (2009). School-based Health Interventions and Academic Achievement. Healthy Students, Successful Students. Partnership Committee, Washington State Board of Health, Washington State Office of Superintendent of Public Instruction, Washington State Department of Health.

Distefan, J., et al. (1998). Parental influences predict adolescent smoking in the United States, 1989-1993. Journal of Adolescent Health, 22, 466-74.

Dye B.A., Tan S., Smith V., Lewis, B.G., Barker, L.K., Thornton-Evans G., et al. (2007). Trends in oral health status: United States, 1988-1994 and 1999-2004. National Center for Health Statistics. Vital Health Stat 11(248).

Dryfoos, J.G. (1991). Adolescents at risk: A summation of work in the field: Programs and policies. Journal of Adolescent Health, 12(8), 630-637.

Dubois S, Mullen N, Weaver B, Bédard M. (2015). The combined effects of alcohol and cannabis on driving: Impact on crash risk. Forensic Sci Int. Mar;248:94-100. doi:10.1016/j.forsciint.2014.12.018. Epub 2014 Dec 25. PubMed PMID: 25612879

Eaton, D.K., Kann, L., Kinchen, S., Ross, J., Hawkins, J., Harris, W.A., et al. (2006). Youth risk behavioral surveillance United States 2005: Surveillance summaries. (MMWR 2006:55 No.SS-5). Atlanta, GA: Centers for Disease Control and Prevention.

Einspruch, E.L. (2005). Washington State Healthy Youth Survey 2004: Analytic report. Olympia, WA: Office of Superintendent of Public Instruction.

Einspruch, E.L., Deck, D.D., Nickel, P.R., and Hyatt, G. (2001). Washington State Survey of Adolescent Health Behaviors 2000: Analytic report. Olympia, WA: Office of Superintendent of Public Instruction.

Einspruch, E.L., Gabriel, R.M., Deck, D.D., and Nickel, P.N. (1998). Washington State Survey of Adolescent Health Behaviors 1998: Analytic report. Olympia, WA: Office of Superintendent of Public Instruction.

Einspruch, E.L. and Hyatt, G. (2004). Washington State Survey of Adolescent Health Behaviors 2002: Analytic report. Olympia, WA: Office of Superintendent of Public Instruction.
Einspruch, E.L. and Pollard, J.P. (1993). Washington State Survey of Adolescent Health Behaviors: 1988-1990. Olympia, WA: Office of Superintendent of Public Instruction.

Food Research and Action Center and Center on Hunger and Poverty (2003) The Paradox of Hunger and Obesity in America. Retrieved from: http://www.frac.org/html/news

Gabriel, R.M. (1991). Substance abuse among public school students in Washington State: 19881990. Olympia, WA: Office of Superintendent of Public Instruction.

Gabriel, R.M., Deck, D.D., Einspruch, E.L., and Nickel, P.N. (1995). The findings of the Washington State Survey of Adolescent Health Behaviors: Analytic report. Olympia, WA: Office of Superintendent of Public Instruction.
Gabriel, R.M., Deck, D.D., Einspruch, E.L., and Nickel, P.N. (1997). Risk and protective factors associated with alcohol, tobacco, and other drug use and violence. Olympia, WA: Office of Superintendent of Public Instruction.
Hampton, T. (2007). Food insecurity harms health, well-being of millions in the United States. JAMA, 298, 1851-1853.

Hartman RL, Huestis MA. (2013). Cannabis effects on driving skills. Clin Chem. Mar;59(3):478-92. doi: 10.1373/clinchem.2012.194381. Epub 2012 Dec 7. Review.PubMed PMID: 23220273; PubMed Central PMCID: PMC3836260.

Hawkins, J.D., Catalano, R.F., Jr., Barnard, K.E., Gottfredson, G.D., Holmes, A.B., and Miller, J.Y. (1992). Communities that care: Action for abuse prevention. San Francisco, CA: Jossey Bass.

Hawkins, J.D., Catalano, R.F., and Miller, J.Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: implications for substance abuse prevention. Psychological Bulletin, 112(1), 64-105.

Hawkins, D., Guo, J., Hill, K., Battin-Pearson, S., and Abbott, R. (2001). Long-term effect of the Seattle social development intervention on school bonding trajectories. Applied Developmental Science, 5(4), 225-236.

Johnston, L.D., O'Malley, P.M., and Bachman, J.G. (1994). National survey results on drug use: The Monitoring the Future Study 1975-1993. Volume I: Secondary students. Rockville, MD: National Institute on Drug Abuse.

Johnston, L.D., O'Malley, P.M., Bachman, J.G., and Schulenberg, J.E. (2007). Monitoring the Future national results on adolescent drug use: Overview of key findings, 2006. (NIH Publication No. 07-6202). Bethesda, MD: National Institute on Drug Abuse.

Johnston, L. D., O'Malley, P. M., Miech, R. A., Bachman, J. G., Schulenberg, J. E. (2015). Monitoring the Future national survey results on drug use: 1975-2014: Overview, key findings on adolescent drug use. Ann Arbor: Institute for Social Research, The University of Michigan, 90pp.

Johnston, L. D., O'Malley, P. M., Miech, R. A., Bachman, J. G., Schulenberg, J. E. (2017). Monitoring the Future national survey results on drug use: 1975-2016: Overview, key findings on adolescent drug use. Ann Arbor: Institute for Social Research, The University of Michigan, 113pp.

Hammond, C.J., et al. (2014). Journal of Behavioral Addictions. An exploratory examination of marijuana use, problem-gambling severity, and health correlates among adolescents. Jun;3(2):90-101. doi: 10.1556/JBA.3.2014.009.

Kandel, D.B., Daview, M., Karus, D. and Yamagucchi, K. (1986). The consequences in young adulthood of adolescent drug involvement: An overview. Archives of General Psychiatry, 43, 746-754.

King, C.A., Arango, A., Kramer, A., Busby, D., Czyz, E., Foster, C.E., Gillespie, B.W., et al. (2019). Association of the Youth-Nominated Support Team Intervention for Suicidal Adolescents With 11- to 14-Year Mortality Outcomes: Secondary Analysis of a Randomized Clinical Trial. Journal of the American Medical Association Psychiatry, 76(5), 492-498.

Lobstein, T., et al. (2015). Child and adolescent obesity: part of a bigger picture. The Lancet, 385(9986), 2510-2520.

Merikangas KR, Avenevoli S, Costello EJ, Koretz D, Kessler RC. (2009). The National Comorbidity Survey Adolescent Supplement (NCS-A): I. Background and Measures. Journal of the American Academy of Child and Adolescent Psychiatry, 48(4):367-369. doi:10.1097/CHI.0b013e31819996f1.

McCambridge, J., McAlaney, J., Rowe, R. (2011) Adult Consequences of Late Adolescent Alcohol Consumption: A Systematic Review of Cohort Studies. PLoS Med 8(2): e1000413. doi:10.1371/journal.pmed.1000413.

Moreno, Megan A. et al. (2012) Problematic Internet Use Among Older Adolescents: A Conceptual Framework. Journal of Adolescent Health, 52(2); S86.

Moreno, Megan A et al. (2016) Development and Testing of a 3-Item Screening Tool for Problematic Internet Use. (2016) J Pediatr. 176.

National Cancer Institute. (1992). Smokeless Tobacco or Health: An International Perspective. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute.

National Center for Education Statistics. (2013). Indicators of School Crime and Safety: 2013. Indicator 16: Students' Use of Marijuana on School Property and Anywhere. Retrieved from: https://nces.ed.gov/programs/crimeindicators/crimeindicators2013/ind_16.asp, June 2015.

National Cancer Institute. (2018). Joinpoint regression program. Retrieved from: http://surveillance.cancer.gov/joinpoint.

The National Center on Addiction and Substance Abuse, Columbia University. (2011). Adolescent Substance Use: America's \#1 Public Health Problem. June 2011. Retrieved from: http://www.casacolumbia.org/addiction-research/reports/adolescent-substance-use

National Highway Traffic Safety Administration (NHTSA), Dept. of Transportation (US). Traffic safety facts 2012: Young Drivers. Washington (DC): NHTSA. Retrieved from: http://www-nrd.nhtsa.dot.gov/Pubs/812019.pdf, April 2014.

National Institute on Drug Abuse. (2001). Monitoring the future: A continuing study of American youth. Retrieved from: http://www.monitoringthefuture.org

Newcomb, M.D., Maddahian, E., and Skager, R. (1987). Substance abuse and psychosocial risk factors among teenagers: Associations with sex, age, ethnicity, and type of school. American Journal of Drug and Alcohol Abuse, 13, 413-433.

Newman, I., et al. (1989). The influence of parental attitude and behavior on early adolescent cigarette smoking. Journal of School Health 59(4), 150-152.

Niolon, P. H., Kearns, M., Dills, J., Rambo, K., Irving, S., Armstead, T., \& Gilbert, L. (2017). Preventing Intimate Partner Violence Across the Lifespan: A Technical Package of Programs, Policies, and Practices. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

North Dakota Department of Human Services. (December 2018). Youth tobacco use can be reduced through compliance checks. Retrieved from https://www.nd.gov/dhs/info/news/2018/12-21-agencies-work-together-to-reduce-youth-access-to-tobacco.pdf.

Office of National Drug Control Policy. (2007). Teens, drugs violence: A special report. Accessed from: https://www.hsdl.org/?view\&did=477440, May 2015.

Pierce, J.P., Gilpin, E.A., Farkas, A.J., and Merritt, R.K. (1996). Validation of susceptibility as a predictor of which adolescents take up smoking in the United States. Health Psychology, 15(5), 355-361.

Plummer, F., Manea L., Trepel, D., and McMillan D. (2016). Screening for anxiety disorders with the GAD-7 and GAD-2: a systematic review and diagnostic metaanalysis. General Hospital Psychiatry, 39, 24-31.

Resnick, M., Bearman, P.S., Blum, R.W., Bauman, K.E., Harris, K.K., Jones, J., et al. (1997). Protecting adolescents from harm: Findings from the National Longitudinal Study on Adolescent Health. Journal of the American Medical Association, 278(10), 823-832.

Rutter, M. (1979). Protective factors in children's responses to stress and disadvantage. In M.W. Kent and J.E. Rolf (Eds.), Primary Prevention of Psychopathology, Vol. 3. Social competence in children. Hanover, NH: University Press of New England, 49-74.

Sabel, J., Bensley, L., and VanEenwyk, J. (2004). Associations between adolescent drinking and driving involvement and self-reported risk and protective factors in students in public schools in Washington State. Journal of Studies on Alcohol, 65, 213-216.

Skopp G, Richter B, Pötsch L. Serum cannabinoid levels 24 to 48 hours after cannabis smoking. Arch Kriminol. 2003 Sep-Oct;212(3-4):83-95. German. PubMed PMID: 14639811.

Smith P.K., Pepler, D., Rigby, K. (2004). Bullying in Schools: How Successful Can Interventions Be? Cambridge University Press, 2004. Serum cannabinoid levels 24 to 48 hours after cannabis smoking. Arch Kriminol. 2003 Sep-Oct;212(3-4):83-95.

Starr, G., Rogers, T., Schooley, M., Porter, S., Wiesen, E., and Jamison, N. (2005). Key outcome indicators for evaluation compressive tobacco control programs. Atlanta, GA: Centers for Disease Control and Prevention, 46.

Substance Abuse and Mental Health Services Administration. (2009). Results from the 2008 National Survey on Drug Use and Health: National Findings. Office of Applied Studies, NSDUH Series H-36, HHS Publication No. SMA 09-4434. Rockville, MD.
Substance Abuse and Mental Health Services Administration. (2012). Substance Abuse Prevention and Mental Health Promotion Five Year Strategic Plan. Center for Substance Use and Prevention. Rockville, MD.

Task Force on Community Preventive Services. Tobacco. (2005). In : Zaza, S., Briss, P.A., Harris, K.W., (eds). The Guide to Community Preventive Services: What Works to Promote Health? Atlanta (GA): Oxford University Press; 2005:3-79. The White House. National drug control strategy. Washington DC.

Tomar, S. (2003). Is use of smokeless tobacco a risk factor for cigarette smoking? The U.S. experience. Nicotine \&Tobacco Research, 5(4), 561-569.

Tanski, S., Emond, J., Stanton, C., Kirchner, T., Choi, K., Yang, L., Ryant, C., Robinson, J., Hyland, A. (December 2019). Youth Access to Tobacco Products in the United States: Findings From Wave 1 (2013-2014) of the Population Assessment of Tobacco and Health Study. Nicotine \& Tobacco Research, Volume 21, Issue 12, Pages 1695-1699.
U.S. Department of Education, Office of Elementary and Secondary Education. (2001). No Child Left Behind: A desktop reference. Washington, DC.
U.S. Department of Education, Office of Elementary and Secondary Education. (2002). High School Graduation Initiative, also known as School Dropout Prevention Program. Washington, DC.
U.S. Department of Health and Human Services. (1994). Preventing tobacco use among young people: A report of the Surgeon General. Atlanta, GA: National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health.
U.S. Department of Health and Human Services. (2020). Healthy People 2020. Retrieved from http://www.healthypeople.gov/2020/default.aspx, December 3, 2012.
U.S. Department of Health and Human Services. (2030). Healthy People 2030. Retrieved from https://health.gov/healthypeople.
U.S. Department of Health and Human Services. (2015). Dietary Guidelines. Retrieved from http http://www.health.gov/dietaryguidelines, June 22, 2015.
U.S. Department of Health and Human Services. (2006c). The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General. Children are Hurt by Secondhand Smoke. Retrieved from: www.surgeongeneral.gov/library/secondhandsmoke/factsheets/factsheet2.html
U.S. Department of Health and Human Services. (2014). Let's Make the Next Generation TobaccoFree: Your Guide to the 50th Anniversary Surgeon General's Report on Smoking and Health. Atlanta, GA: National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health.
U.S. Department of Health and Human Services. (2008). Physical Activity Guidelines for Americans. Retrieved from: http://www.health.gov/PAguidelines/

Washington State Board of Health. (2009). 2009 Washington State Board of Health Strategic Plan. Olympia, WA.
Wasserman, G.A., Keenan, K., Tremblay, R., Coie, J.D., Merrenkohl, T.I., Loeber, R. and Petechuk, D. (2003). Risk and protective factors of child delinquency. Child Delinquency Bulletin. Retrieved from: http://www.ncjrs.org/html/ojjdp/193409/contents.html

Weinreb, L., et al. (2002). Hunger: its impact on children's health and mental health. Pediatrics, 110(4); 41.

Werner, E. and Smith, R. (1989). Vulnerable but invincible: A longitudinal study of resilient children and youth. New York: Adams, Bannister, and Cox.

World Health Organization. (2020). E-cigarettes are Harmful to Health. Retrieved from: https://www.who.int/news/item/05-02-2020-e-cigarettes-are-harmful-to-health.

World Health Organization. (2007). Smokeless Tobacco and Some Tobacco-Specific NNitrosamines. International Agency for Research on Cancer Monographs on the Evaluation of Carcinogenic Risks to Humans. Lyon, France. Vol. 89.

