Canadian Student Tobacco, Alcohol and Drugs Survey

2021–22 Public Use Microdata File (PUMF) User Guide

Health Canada

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Table of Contents

1 Introduction

The Canadian Student Tobacco, Alcohol and Drugs Survey (CSTADS) is a population-based survey conducted by Health Canada every two years. The survey is administered to a representative sample of students from public, private, and Catholic schools across the Canadian provinces to gather data on substance use. The 2021–22 cycle, which marks the 11th in the series, collected data from September 2021 to June 2022.

1.1 The Public Use Microdata File

This document is designed to facilitate the use of the CSTADS 2021–22 Public Use Microdata File (PUMF). PUMFs are anonymous datasets made available to researchers and the public, allowing for secondary analysis while protecting the confidentiality of respondents.

In producing the PUMF, the anonymous master data file was further modified through Statistical Disclosure Control techniques to ensure privacy. These techniques include recoding certain variables, suppressing sensitive data, and perturbing sample weights to protect the identities of students and schools. As a result, the summary statistics derived from the PUMF may slightly differ from those found on Health Canada's website, which uses the unaltered master file.

Please refer to the section "Guidelines for tabulation, analysis and release" in this document before analyzing or releasing any data. For information purposes only, Health Canada would appreciate receiving advanced copies of planned publications arising from CSTADS data at least 3 weeks prior to the publication date.

For technical inquiries, or to provide advanced copies, please email ODRS-BRSD@hc-sc.gc.ca.

1.2 Conditions of Data Use

As per the Open Government Licence – Canada, users must include the following acknowledgement and citation in any publications resulting from use of these data:

Acknowledgement: Data used for this research were taken from Health Canada's 2021–22 Canadian Student Tobacco, Alcohol and Drugs Survey (CSTADS). Health Canada has not reviewed, approved, or endorsed this research. Any views expressed or conclusions drawn herein do not necessarily represent those of Health Canada.

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2 Background

The Canadian Student Tobacco, Alcohol and Drugs Survey (CSTADS) serves as a key surveillance tool for Health Canada and its partners to help understand Canadian trends in student tobacco, alcohol and drug use. Understanding these trends is vital to the effective development and monitoring of policies and programs aimed at reducing substance use and related harms in this population. It complements other surveys conducted by Health Canada, including the Canadian Substance Use Survey (CSUS).

CSTADS is conducted every two years to collect data on substance use among a representative sample of public, private, and Catholic school students across the Canadian provinces.[1] In each cycle, tens of thousands of students in grades 7 to 12 (secondary I to V in Québec) participate, making it the largest student substance use survey in Canada and one of the largest globally. The survey provides Health Canada, its partners and stakeholders, as well as the Canadian public, with timely and reliable data on substance use among Canadian students.

2.1 Historical changes

For nearly three decades, this survey has collected data on youth behaviors and substance use. Over its history, several important changes were made. The survey was initially conducted as the Youth Smoking Survey (YSS) from 1994 to 2012–13, before being renamed CSTADS in the 2014–15 cycle to reflect a broadened focus on various substances. From 1994 to 2005–06, the survey sampled students in grades 5 through 9, and in 2006–07, its scope was extended to include students in grades 5 through 12. Beginning in 2008–09, grade 5 students were excluded from the sampling frame due to low substance use rates, followed by a similar exclusion of grade 6 students in 2016–17. As a result, the survey currently focuses on students in grades 7 through 12.

2.2 New changes in 2021-22

- Additional data on vaping and bullying were gathered.
- New Brunswick did not participate.

[1] With some variation in participation among provinces over time.

3 Sampling methods

3.1 Target population

The target population consists of all students enrolled in grades 7 through 12 (Secondary I through V in Quebec) at private, public, and Catholic schools across the Canadian provinces. The survey excludes students in the Territories (Yukon, Northwest Territories, and Nunavut) and those who attend specialized schools (e.g., schools for students with special needs, First Nation reserve schools, virtual/online schools, schools located on military bases, international schools, services providing instruction only outside of normal school hours, tutoring services, etc.). In addition, schools that were estimated to have an average class size for eligible grades of fewer than 18 students (or fewer than 20 total eligible students) are excluded from the target population of schools to control data collection costs.[2]

In the 2021–22 cycle, all provinces supported the project, although New Brunswick (NB) did not participate. Therefore, this cycle included schools in Alberta (AB), British Columbia (BC), Manitoba (MB), Newfoundland and Labrador (NL), Nova Scotia (NS), Ontario (ON), Prince Edward Island (PEI), Quebec (QC), and Saskatchewan (SK).

3.2 Sampling design

To obtain a sample of students, a stratified single-stage cluster design was used. Schools were selected from strata, and then all eligible students within selected schools were invited to participate in the survey.

Schools were allocated to different strata based on certain characteristics to ensure sufficient sample sizes within each group. This improves representativity of the sample and precision of estimates by taking into account the variability of key school characteristics in the survey's sample design. Details of these stratifications are below.

3.2.1 Health region characteristics

Schools were first stratified based on health region characteristics. In all provinces, schools were classified as either having low or high youth smoking prevalence in the health region. To create the smoking prevalence classifications (“high” or “low”), data from the Canadian Community Health Survey (CCHS) were used to derive an estimate of past 30-day smoking prevalence for youth 15 to 19 years of age in each provincial health region. The 2017–18 CCHS data were used in this cycle.

Within each province, the median health region smoking prevalence calculated from the CCHS data was used to create two groups of approximately the same number of schools based on high or low smoking

[2] Previous cycles required schools to have at least 20 students in at least one eligible grade for participation in CSTADS. The average of 18 was used in the current cycle to potentially capture more schools that may meet size criteria.

prevalence among youth.[3] Schools within health regions above the median were assigned to the "high" smoking prevalence group, while schools within health regions below the median were assigned to the "low" smoking prevalence group in that province. The schools in the median health region were assigned to the "high" group unless a more equal balance of schools was achieved for the two groups by assigning the median to the "low" group.[4]

In QC, ON, AB, MB, and SK, schools in non-urban areas were classified as "low" or "high" smoking prevalence as described above; however, schools in urban areas[5] in these provinces were classified under a third category of "urban". This third category was applied in QC, ON, and AB in previous cycles to ensure sufficient representation of schools in the most densely populated areas of these provinces, addressing lower response rates observed in previous cycles in urban areas.[6] In the 2021–22 cycle, this third category was also applied in the most highly populated areas of MB and SK to allow for a better approximate balance in the total number of eligible schools in the "high" and "low" smoking prevalence classifications.[7]

3.2.2 School type

Schools in each province were subsequently stratified based on type: "elementary" or "secondary". "Elementary" was defined as grades 7 and 8 in all provinces except AB, where elementary was defined as grades 7 to 9, and in QC, where there was no elementary classification. "Secondary" was defined as grades 9 to 12 in all provinces except AB, where secondary was defined as grades 10 to 12, and in QC, where secondary was defined as Secondary I to V.

Since schools may include both elementary and secondary grade levels, the following system was used to classify the schools: In schools where the total number of eligible elementary grade levels was greater than (or equal to) the total number of eligible secondary grade levels, the school was assigned to the "elementary" school category. Conversely, where the total number of eligible secondary grades was greater than the total estimated number of eligible elementary grades, the school was assigned to the "secondary" school category.

3.3 Provinces with modified sampling designs

3.3.1 Prince Edward Island

[3] In ON and MB, calculations of provincial median smoking prevalences exclude health regions defined as urban as they include only urban schools. In QC, SK, and AB, where health regions defined as urban may also include non-urban schools, all health regions are included in the provincial median calculation.
[4] It is noted that with declining smoking prevalences over time among youth and other groups, there may be declining benefit in the use of one cycle of CCHS data as a basis for stratification in sampling.
[5] Urbanicity was defined differently within each province based on the context and relative size of health regions, as well as reported experiences with survey administration during the previous cycles.
[6] The urbanicity stratification previously used in NL was not retained for the 2021–22 cycle due to the resulting small number of eligible schools in each stratum when applied.
[7] In ON and MB, health regions classified as urban include only urban schools. In contrast, health regions defined as urban in QC, SK, and AB may also include non-urban schools due to differing definitions of urbanicity within those provinces.

In PEI, a census approach was taken, where all eligible schools were invited to participate in the survey.

3.3.2 Nova Scotia

In Nova Scotia, the province requested representative data from each health zone. Therefore, sampling was adjusted by stratifying by school type (elementary, secondary) and health zone (Zone 1 – Western; Zone 2 – Northern; Zone 3 – Eastern; and Zone 4 - Central). The total target number of schools was increased to accommodate this stratification, though it remained similar to the total number of schools targeted in the previous 2017–18 cycle.

3.3.3 Newfoundland and Labrador

In Newfoundland and Labrador, the province approved both CSTADS and another national study to be conducted, provided that each school participate in only one of the surveys. A random sample of schools was drawn for CSTADS as per the planned sampling strategy and provided to the other survey team for review. In cases where targets could not be met for the other survey based on the remaining sample, new schools were chosen for CSTADS from the random list. Where school refusals were encountered for CSTADS, additional schools were drawn from the random list that were not included in the other survey's sample.

3.4 School sample selection

After stratification, schools were selected based on simple random sampling within each stratum. Most sampled schools were associated with a school board; in these cases, recruitment of school boards associated with sampled schools took place first, followed by recruitment of schools. Recruitment followed the order in which schools were randomly sampled.

Reports from past cycles of CSTADS have indicated that schools typically prefer to administer the survey to their entire school population (rather than a sample of classes or students) because full school administration is simpler both in terms of obtaining parental permission and administering the survey in classes. Therefore, all students within eligible grades in each recruited school were invited to participate in the survey. [8] As per previous cycles, equal probability of inclusion for students in a stratum is implied by the simple random sampling of schools within a stratum and the invitation to all students in eligible grades at selected schools to participate.

The target numbers of schools were selected based on several factors, including:

- A minimum of 36,000 student responses, distributed across provinces based on enrolments in eligible grades, with a similar sample allocation to allow provincial comparisons of approximately equal reliability.

[8] In rare cases, schools limited the participating grades or number of participating classes.

- Consideration of the estimated total number of students in each stratum, along with a minimum number of schools per province (typically a minimum of 16), a minimum number of schools per stratum (minimum of 4), and alignment with the 2018–19 targets for each stratum.

- Consideration of student-level response rates from the previous cycle (42%–90% student-level provincial response rates in 2018–19), capped conservatively at the average response rate of the previous cycle (69%).

Taken together, these factors led to an oversampling of schools in each province, ensuring that the minimum required total number of responses would still be met, even if the target number of schools was not.

4 Questionnaire development

The final 2021–22 CSTADS questionnaire was developed by Health Canada in English and French, based on past iterations of the survey. The final content of the questionnaire included questions on demographics, tobacco use, vaping, alcohol and drug use, and bullying.

Several key considerations guided the design and content of the questionnaire:

- **Comparability**: The basis of the questionnaire was past versions of the CSTADS (YSS) questionnaire (2002 to 2018–19), to allow for comparisons across cycles.
- **Responsiveness**: To meet the needs of users of the data, CSTADS investigators and those responsible for federal and provincial tobacco, alcohol and drug use strategies were given an opportunity to contribute topics/items for consideration.
- **Relevancy**: To ensure value-add for participating schools, items and content areas were added to enhance the school-specific results profiles and summaries to schools.
- **Feasibility**: To meet the criterion of students being able to complete the questionnaire in one class period (approximately 30 to 40 minutes), questionnaire length was restricted.

4.1 Pilot testing

Both English and French versions of the CSTADS questionnaire are pilot tested each cycle. The purpose of pilot testing is to assess the logic and order of the questions, the flow of the questionnaire, and whether the language and the terms used in the questionnaire are understood by youth.

For this cycle, a total of 8 virtual focus groups (4 in English and 4 in French) with youth of relevant grades were conducted, in addition to the completion of the survey in a web-based format, prior to the focus groups. In general, both Francophone and Anglophone participants found the survey to be clear, straightforward, and easy to complete, for both themselves as well as when considering other youth in their age group. A number of slight modifications were made to the questionnaire as a result of the pilot testing.

5 Survey implementation

5.1 Approvals and ethics reviews

Ethics approval is first sought from the Health Canada–Public Health Agency of Canada Research Ethics Board. Provinces are then approached to confirm their participation and gain approval to contact school boards.

Approval is then sought as required from school boards. Many school boards are able to provide approval based on a description of the current CSTADS project requirements, while other school boards (particularly in Ontario) require a formal application process through a board ethics review committee or other body. The survey team seeks to obtain the required form of school board approval from all school boards prior to recruiting schools within those boards, as applicable. School boards that decline participation or that do not respond to requests for participation or ethics applications are documented as refusals.

Private schools that are not associated with a school board or other authority are contacted directly.

All amendments, modifications, and adverse events that are encountered during the survey administration are reported to the Health Canada–Public Health Agency of Canada Ethics Review Board and other applicable authorities as required (e.g., schools).

5.2 Student recruitment

Within recruited schools, all students in grades 7 to 12 were invited to participate in the survey. Schools sent information and permission materials home to these students, detailing the project, providing contact details for the project staff, and directing parents to the project website for additional information and copies of the questionnaires.

Only students with permission, provided either by their parents or by themselves if they were of consenting age, were allowed to participate. School boards and schools determined the permission method (type of consent) most appropriate within their schools, employing a mix of active permission protocols (active) and active information-passive permission (passive) methods. In schools using active consent, parents or students of age were required to provide explicit permission on a form to participate. In schools using passive consent, parents or students of age were asked to fill out a form or call a toll-free number if they did not wish to participate. Students also had the opportunity to decline participation on the day of data collection.

At the student-level, non-response can result from parental/student refusals, absenteeism on the day of data collection, or occasional non-participation of eligible classes.

5.3 Data collection

Upon confirmation by a school administrator (principal) that a school will participate in the survey, a coordinator works with the school to obtain student counts and arrange for the delivery of all materials required to administer the survey, including paper copies of permission forms and the survey (unless the school prefers

to complete the survey online). On the day of data collection, school administrators and classroom teachers follow standard project instructions to administer the paper questionnaire during a designated class period. The questionnaire administration, including instructions to students, takes approximately 40 minutes or less in each class. To protect confidentiality, teachers are asked not to circulate in the classroom while students complete the questionnaire, and each student places their completed questionnaire in a sealable envelope, which the teacher seals in front of the class before it is returned to the office by a student.

In this cycle, data collection occurred between September 2021 and June 2022.

6 Data processing

This section presents a brief summary of the steps involved in producing the PUMF.

6.1 Data capture

Completed questionnaires are machine-scanned using Optical Mark Recognition (OMR) and Optical Character Recognition (OCR) technology. The procedures include several quality-control measures to ensure the accuracy of the scanned data. Processing staff visually scan all questionnaires to verify that the OMR correctly records the data. Scanned characters and text are reviewed and corrected as needed.

During the visual scanning process, processing staff can "correct" a questionnaire according to defined rules, such as darkening marks that are too light or incomplete (e.g., check marks instead of filled-in circles), erasing marks from answers where respondents changed their minds but did not sufficiently erase the original response, removing accidental or irrelevant marks (e.g., graffiti or doodles), and erasing marks made in areas designated for “office use only.” If processing staff are uncertain about how to proceed with an answer, the project manager provides guidance and, if necessary, consults with a data analyst.

6.2 Data cleaning

6.2.1 Skip patterns and inconsistent responses

The questionnaire was deliberately designed without skip patterns, incorporating response options like “I do not smoke” and “I did not use” to prevent identifying substance users based on the time taken to complete the survey.

Unlike computer-assisted questionnaires, which can generate prompts for inconsistent responses, paper-and-pencil surveys lack built-in answer verification. Instead, skip patterns are applied during PUMF preparation, based on initial responses that determine whether a respondent is a user or non-user of a substance. These skip patterns overwrite related dependent answers. Unless corrected by algorithms or skip patterns, inconsistent responses are retained in the data file.

To the extent possible, data cleaning procedures in 2021–22 followed the same approach as previous cycles.

6.2.2 Imputations of core smoking questions

Starting in CSTADS 2016–17, algorithms were developed for core smoking questions to ensure imputations reflected the collective evidence of each respondent’s smoking behaviours, rather than on the probability of behaviours based on patterns from other respondents. Inconsistent or missing responses were retained when they did not meet the algorithm criteria. In 2021–22, the following variables were imputed using these algorithms: SS_010 (Question 10), SS_030 (Question 13), SS_040 (Question 14), and TP_001 (Question 18).

Imputations were completed before the application of coverage/skip patterns (described above). Skip patterns were then applied and could overwrite imputed values.

6.2.3 Reducing reidentification risk in the PUMF

In the PUMF, several variables that could help in identifying schools or students are removed, as are variables that could help in regrouping student records by school. The remaining variables that could, in combination, serve to identify students (i.e., indirect identifiers) are identified and subjected to Statistical Disclosure Control (SDC) methods, such as recoding, suppression, and perturbation, in order to maintain privacy and minimize the risk of re-identification of respondents. In the CSTADS 2021–22 PUMF, the following variables were removed:

- school board and school identifiers (including postal code);
- student survey ID and school survey ID numbers;
- survey sampling stratification identifiers, intermediate weights and weight calibration totals;
- the language in which the survey was completed;
- age;
- sex; and
- median household income of the area where the respondent's school is located.

6.2.4 Standard codes

Based on the above data cleaning, the following standard codes are employed in the PUMF:

- 96 and 996: Valid skip (based on skip patterns)
- 98: Prefer not to answer
- 99 and 999: Not stated (i.e., no response, invalid/un-codable, or suppressed)

6.3 Survey weights

Survey weights are used to adjust survey data to ensure that the results are representative of the overall population. These weights account for unequal probabilities of selection, non-response, and differences in the demographic composition of the sample compared to the target population. By applying weights, researchers can minimize bias and make more reliable and valid inferences about the broader population.

For weighting purposes, CSTADS operates like a two-stage sample. In the first stage, a simple random sample of schools is selected in every stratum. In the second stage, all grade 7–12 students in selected schools are asked to participate in the survey, and those that do are treated as constituting a random sample. Based on this design, a four-step process is used to generate the CSTADS survey weights. In brief:

- In Step 1, first stage weights are generated at the school level. Weights are generated separately for each stratum. The first stage weight equals the number of schools in the stratum divided by the number of schools in the sample. This weight is the same for all schools in the same stratum.

- In Step 2, second stage weights are generated at the student level. In each school, weights are calculated at the grade and sex level by dividing the total number of students in that grade and sex, as provided by the school, by the number of participating students.

- In Step 3, the first and second stage weights are multiplied. On rare occasions, very low response rates can result in very high values, which will negatively impact estimates. For this reason, values are capped in every province, based on the distribution of weights therein.

- In Step 4, sample weights are calibrated so that they sum to provincial population counts by grade and sex, as obtained from the sample frame. In provinces where counts were not available by sex, a breakdown by sex was generated based on post-censal age-sex counts from Statistics Canada.

An additional 'perturbation' step is applied to the PUMF weight variable, where unbiased random noise is added to the survey weights and then recalibrated. This step helps reduce the potential risk of reidentification, as some characteristics are closely linked to the weights.

6.4 Bootstrap weights

The calculation of variance estimates and coefficients of variation requires detailed knowledge of the design of the survey. Such details cannot be given in the PUMF since confidentiality must be respected. To enable reliable variance estimation, 500 bootstrap weights (bsw1–bsw500) are provided in the PUMF dataset that take account of the complex sample design information, while preserving respondent confidentiality.

The Rao-Wu-Yue bootstrap method is a popular method for the estimation of variances for surveys with complex sample designs (detailed at length elsewhere[9]). First, corresponding to the original survey weights, B bootstrap weights are generated for every unit in the sample. The greater the B, the better the variance estimate. The bootstrap weights are typically produced using a process that involves subsampling the original sample units (e.g., schools and students). To estimate the variance of a statistic $\hat{Y}$, such as a weighted total $\hat{Y}=\Sigma_j \text{wt}_j y_j$, that was produced using the survey weights wt_j, B bootstrap estimates of the same statistic ($\hat{Y}_b$, b=1, …, B) are generated by replacing the survey weight with bootstrap weights. The bootstrap variance estimate for $\hat{Y}$ is $v_B(\hat{Y}) = \Sigma_b (\hat{Y}_b - \hat{Y}_B)^2/(B\text{-}1)$, where $\hat{Y}_B = \Sigma_b \hat{Y}_b/B$ is the average of the bootstrap estimates. Note that $\Sigma_b (\hat{Y}_b - \hat{Y}_B)^2$ is equivalent to $\Sigma_b \hat{Y}_b^2 - B\hat{Y}_B^2$.

A variation, used by CSTADS, is the mean bootstrap method. CSTADS generates 6,000 sets of bootstrap weights. But instead of using these to generate 6,000 bootstrap estimates, the sets of bootstrap weights are combined 12 at a time, with the mean of the 12 used as the bootstrap weight. This generates 500 sets of mean bootstrap weights. One advantage of the mean bootstrap method is that it admits fewer cases of bootstrap weights equal to 0, which can sometimes cause dividing by zero problems. When using mean bootstraps, the variance becomes $v_{BR}(\hat{Y}) = R\Sigma_b (\hat{Y}_b - \hat{Y}_B)^2/(B\text{-}1)$, where B is the number of sets of mean bootstrap weights and R is the number of bootstraps per mean. With CSTADS, B=500 and R=12. The 500 sets of mean bootstrap weights accompanying the PUMF (bsw1–bsw500) incorporate the effect of weight perturbation (the wtpumf) on the variance.

[9] Beaumont, J.F. & Émond, N. (2022). A Bootstrap Variance Estimation Method for Multistage Sampling and Two-Phase Sampling When Poisson Sampling Is Used at the Second Phase. *Stats* **2022**, 5, 339–357. https://doi.org/10.3390/stats5020019

7 Data quality

7.1 Response rates

As previously noted, CSTADS implementation includes multiple levels of recruitment. Within each province, survey representatives recruit school boards (divisions/districts) and schools, and then the team works with participating schools to recruit students to participate. As a result, non-response occurs at various levels.

7.1.1 Board-level recruitment and participation

A total of 204 school boards were approached, of which 109 (53%) participated in this survey; 23 (11%) were recruited but no students participated; and 72 (35%) refused, did not respond, could not be contacted, or withdrew their participation.

7.1.2 School-level recruitment and participation

A total of 509 eligible public, Catholic, and private schools were approached, of which 280 (55%) participated in this survey and 229 (45%) refused, did not respond, could not be contacted, or withdrew their participation.

7.1.3 Student-level recruitment and participation

A total of 93,786 students across nine provinces were eligible to participate (according to school contacts for participating classes), of whom 62,104 participated (completion rate of 65%) and 61,096 were retained in the dataset[10]. Of those who participated, approximately 92% participated with passive permission and 8% participated with active permission.

7.2 Survey errors

The estimates derived from this survey are based on a sample of schools. Somewhat different estimates might be obtained if a complete census had been taken using the same questionnaire, data collection staff, and processing methods. The difference between the estimates obtained from the sample and those resulting from a complete count taken under similar conditions are called the sampling error of the estimate.

Errors that are not related to sampling may occur at almost every phase of survey implementation. Administrators may misunderstand instructions, respondents may refuse to participate in the survey, be unable or unwilling to answer questions, or make errors in answering questions, the answers may be incorrectly entered on the questionnaire, and errors may be introduced in the processing and tabulation of the data. These are all examples of non-sampling errors.

[10] The dataset excludes respondents who are missing sex; those who are missing grade and it cannot be imputed; and those who complete only demographic questions.

Over a large number of observations, randomly-occurring errors will have little effect on estimates derived from the survey; however, errors occurring systematically will contribute to biases in the survey estimates. Considerable time and effort are taken to reduce non-sampling errors in the survey. Quality assurance measures are implemented at each step of the data collection and processing cycle to monitor the quality of the data. These measures include:

1. Providing detailed instructions for administrators (e.g., teachers) and participating students;
2. Conducting extensive training of project staff regarding survey procedures;
3. Implementing procedures to minimize data capture errors;
4. Conducting coding and editing quality checks to verify the processing logic; and
5. Adjusting survey weights for total (survey) non-response.

8 Guidelines for tabulation, analysis and release

This section details guidelines for users when tabulating, analyzing, and publishing or otherwise releasing any data derived from the CSTADS 2021–22 Public Use Microdata File (PUMF). With the aid of these guidelines, PUMF users will be able to generate results that are consistent with those of other users and, at the same time, will be able to develop currently unpublished figures in a manner consistent with these established guidelines. Please note that these guidelines are consistent where possible with past implementations and were initially adapted from the 2002 YSS User Guide written by Statistics Canada.

8.1 Importance of survey and bootstrap weights

When producing simple population estimates, including the production of ordinary statistical tables, users must apply the proper survey and bootstrap weights. There are three reasons why the survey weight variable and the bootstrap weight variables should be used when performing analyses.

1) **Total population versus sample size**[11]. Users may want results based on population figures instead of estimates based on the sample of individuals included in the study. For example, the CSTADS survey weight, when used, will produce results based on a national population estimate of *N*, which represents all the students in the participating provinces (grades 7-12) instead of *n*, which is the total number of students who actually completed the survey (i.e., the sample size of the CSTADS).

2) **Adjusting for sampling and non-response.** If every member of a population had an equal probability of being selected in a sample and had the same likelihood of participating in the survey, each case would carry the same survey weight and the survey weight for all individuals would be the inverse probability of selection and response. However, CSTADS sampling employed more complex considerations, and non-response was not homogeneous across provinces and strata. As a result, individuals did not have an equal probability of participating in the survey. To correct for this unequal probability, the survey weight variable was created. In short, using the survey weight variable permits the user to make generalizations to the population from the sample of respondents.

3) **Adjusting for the complex survey design.** If every member of a population had an equal chance of being selected for a sample, variances could be easily calculated by measuring how much each data point differs from the average. However, since CSTADS does not give every student an equal probability of being selected, variance estimation must account for a more complex sampling design, which introduces additional biases and larger sampling errors. To address this, bootstrap weight variables were created to accurately calculate variances and ensure reliable conclusions from the data.

If survey weights are not used, the estimates derived from the data cannot be considered as representative of the survey population and will not correspond to estimates produced by Health Canada. Additionally, if bootstrap weights are not used, statistical software will assume a simple random design, leading to inaccurate variance estimates and overly narrow confidence intervals. Producing estimates without survey weights and/or

[11] Sample size refers to the number of records in the final data set.

bootstraps weights may produce biased results, leading to erroneous conclusions and misinterpretation of the data.

8.2 Using survey and bootstrap weights

This section discusses how to use the weight variable (wtpumf) and the bootstrap weight variables (bsw1–bsw500). Users should know how to apply these variables within their software package.

8.2.1 Calculating weighted estimates

Estimates of population sizes can be obtained from the CSTADS PUMF by summing the final weights (wtpumf) for all records that belong to the population of interest. For example, to obtain an estimate of the total number of current smokers (derived variable DVTY1ST=1) in grade 9 (secondary III in Quebec), sum the weights wtpumf for all records having GRADE equal to 9 and DVTY1ST equal to 1. Note that this quantity will be underestimating the true population size by the extent to which grade 9 students did not report their smoking status (DVTY1ST=99, for Not Stated). A method to adjust estimates for such item non-response is given below.

Estimates of quantities can be obtained by multiplying the value of the variable of interest by the final weight for each record, then summing this quantity over all records of interest. For example, to obtain an estimate of the total number of whole cigarettes smoked in the past 7 days prior to the survey by students in grade 9, multiply the value reported in the derived variable DVCIGWK (number of whole cigarettes smoked in the past 7 days prior to the survey) by the final weight for the record (wtpumf), then sum this product for all records where DVCIGWK < 996 and GRADE equals 9.

Estimates of ratios are obtained by taking the ratios of weighted estimates. For example, to obtain an estimate of the average number of whole cigarettes smoked in the past 7 days prior to the survey by students in grade 9, divide the preceding estimate of the total number of whole cigarettes smoked in the past 7 days prior to the survey by students in grade 9 by the estimate of the number of grade 9 students, or by the estimate of the number of grade 9 students who are smokers, if that is desired.

8.2.2 Adjusting weighted estimates for item non-response

The final survey weights (wtpumf) are adjusted to account for total non-response (non-response to the survey), but not for item nonresponse (non-response to individual questions). Adjusting for item non-response is necessary to avoid biases in survey estimates. The adjustment can be simple or complicated, depending on the statistic being estimated, the information available for nonrespondents, and the model used for non-response.

A simple adjustment for item non-response consists of multiplying the final weights (wtpumf) of each respondent in the population of interest by the ratio of the sum of final weights for all records in the population of interest divided by the sum of final weights for all respondents to that question in the population of interest. For example, consider the following survey results for DVTY1ST for grade 9 students.

DVTY1ST	Number of records	Sum of wtpumf

1 = Current Smoker	180	6,802.1
2 = Former Smoker	24	696.8
3 = Never Smoker	10,815	375,630.6
99 = Not Stated	36	1,338.6
Total (Grade 9)	11,055	384,468.2
Note: These data are illustrative examples and not based on actual information.		

To adjust estimates of current smokers, former smokers and never smokers in grade 9 for non-response, multiply their weights wtpumf by the ratio 384468.2/(6802.1 + 696.8 + 375630.6) = 1.00349 before summing. The non-response adjusted estimate for the number of current smokers in grade 9 will thus be 6,825.8. The adjustment is small because there is very low non-response to that question.

The non-response adjustment for the estimate of the total number of whole cigarettes smoked in the past 7 days prior to the survey by students in grade 9 is slightly more complicated because the variable DVCIGWK is subject to a skip based on answers to an earlier question (SS_030: Have you ever smoked a whole cigarette?) which itself is subject to non-response. What is important is to determine which records to use to adjust for non-response. In some cases, it may be necessary to carry out two separate adjustments; first, for non-response to the filter question (SS_030) and then, for non-response to the question of interest (DVCIGWK). In this particular case, since nonrespondents to SS_030 were not made to skip the question of interest, we do not have to deal with question SS_030 when adjusting for non-response to DVCIGWK. Consider the following responses to DVCIGWK among grade 9 students.

DVCIGWK	Number of records	Sum of wtpumf
0 = 0 whole cigarettes smoked	358	10,358.1
1:252 = Range: 1 to 252 whole cigarettes smoked	334	11,866.2
996 = Valid Skip	10,234	357,512.6
999 = Not Stated	129	4,731.3
Total (Grade 9)	11,055	384,468.2
Note: These data are illustrative examples and not based on actual information.		

The adjustment for non-response to DVCIGWK for grade 9 consists of multiplying the weights wtpumf of respondents by the ratio of the sum of weights for all grade 9 students who were administered the question (10358.1 + 11866.2 + 4731.3) divided by the sum of weights for those who responded (10358.1 + 11866.2), which is 1.21289. The estimate of cigarettes smoked should be calculated using these adjusted weights instead of weights wtpumf, otherwise cigarette consumption may be underestimated by about one-sixth.

When estimating a quantity that is based on more than one question or item, such as a ratio, the set of respondents would normally consist of records that have reported all questions or items (i.e., reported values for both the numerator and the denominator, in the case of ratios).

Finally, note that the nonrespondent adjustment can be refined by being carried out separately by subgroup. This is recommended when item non-response rates are not very small and the non-response patterns differ for different sub-populations (e.g., by gender, grade, and/or geography), and these sub-populations are identifiable on the PUMF.

8.2.3 Calculating variance estimates using bootstrap weights

To generate the 500 bootstrap estimates for an estimate, it is necessary to replicate all the steps that were used to generate the original estimate, including any adjustment for item non-response, e.g., $wt_{adj,j} = wt_j (\Sigma_{all} wt_j / \Sigma_{resp} wt_j)$, except that the set of wtpumf values are successively replaced by each of the sets of bsw values (bsw1–bsw500) from the bootstrap weights file. These estimates are then inserted into the formula for the bootstrap variance.

Users must specify a variance formula for mean bootstrap weights in their software package. However, as some packages (e.g., SAS) do not provide this option, the Fay's modified balanced repeated replication (BRR) method for variance estimation should be specified instead, with a Fay coefficient set to 0.71132487.[12]

For example, to generate the 15th bootstrap estimate of the total number of current smokers in grade 9, sum the non-response-adjusted 15th bootstrap weights for all records having GRADE equal to 9 and DVTY1ST equal to 1. The non-response-adjusted 15th bootstrap weights are the weights bsw15 multiplied by the ratio of the sum of bsw15 for all records in grade 9 divided by the sum of bsw15 for all grade 9 records with DVTY1ST < 99.

8.3 Rounding guide

Rounding is a technique that helps protect privacy and prevents estimates from seeming more exact than they really are. Users are encouraged to adhere to the following guidelines for rounding estimates:

1. Estimates in the main body of a statistical table are to be rounded to the nearest hundred units using the normal rounding technique. In normal rounding, if the first or only digit to be dropped is 0 to 4, the last digit to be retained is not changed. If the first or only digit to be dropped is 5 to 9, the last digit to be retained is raised by 1. For example, in normal rounding to the nearest 100, if the last two digits are between 00 and 49, they are changed to 00 and the preceding digit (the hundreds digit) is left unchanged. If the last digits are between 50 and 99, they are changed to 00 and the preceding digit is incremented by 1.
2. Marginal sub-totals and totals in statistical tables are to be derived from their corresponding un-rounded components and then are to be rounded themselves to the nearest 100 units using normal rounding.

[12] This coefficient was calculated using the equation $1 - R^{0.5}$, where R=12, representing the size of the bootstrap weights sets used to generate 500 mean weight values.

3. Averages, proportions, rates and percentages are to be computed from un-rounded components (i.e., numerators and/or denominators) and then are to be rounded to one decimal using normal rounding. In normal rounding to a single digit, if the final or only digit to be dropped is 0 to 4, the last digit to be retained is not changed. If the first or only digit to be dropped is 5 to 9, the last digit to be retained is increased by 1.
4. Sums and differences of aggregates (or ratios) are to be derived from their corresponding un-rounded components and then are to be rounded themselves to the nearest 100 units (or the nearest one decimal) using normal rounding.

Under no circumstances are un-rounded estimates to be published or otherwise released by users. Un-rounded estimates imply greater precision than actually exists.

8.4 Release guidelines

Before releasing and/or publishing any estimate from the CSTADS 2021–22, users should first determine the quality level of the estimate. The quality levels are Acceptable, Marginal, and Unacceptable. Data quality is affected by both sampling and non-sampling errors (as discussed in section 7). However, for this purpose, the quality level of an estimate will be determined only on the basis of sampling error as reflected by the coefficient of variation (i.e., standard error divided by the estimate, multiplied by 100) as shown in Table 1 below.

First, users should determine the unweighted number of respondents who contributed to the numerator in the calculation of the estimate. **If this number is less than 30, the estimate must be considered to be of unacceptable quality and cannot be released.** For estimates based on sample sizes of 30 or more, users should then determine the coefficient of variation of the estimate and follow the guidelines in Table 1. Apply these quality level guidelines to the weighted and rounded estimate, produced using the survey and bootstrap weights (see section 8.2) and the rounding guide (see section 8.3).

If the weighted estimate can be released, it is considered best practice to report the sampling error of the estimate through its 95% confidence interval (CI). The confidence interval should be released with the estimate, in the same table as the estimate. We do not recommend constructing the confidence interval using the commonly used Wald interval method.[13] Instead, we recommend that users construct confidence intervals for proportions using alternative methods (in order of preference): the modified Wilson interval, the modified Clopper-Pearson interval, or the logit interval (see Korn and Graubard, 1998; and Liu and Kott, 2009).[14]

Table 1. Quality Level Guidelines for Weighted Estimates

Quality Level of Estimate	Guidelines

[13] Wald intervals, which take on the form $\hat{y} \pm 1.96\sqrt{\widehat{var}(\hat{y})}$ for estimate $\hat{y}$, are based on the assumption that the sampling distribution of the estimate is approximately normal. This assumption can break down for small sample sizes and for proportions near zero or one, resulting in overly narrow intervals.

[14] Modified Wilson intervals can be produced in SAS using the SURVEYFREQ procedure and specifying the option CL (type = WILSON). Modified Clopper-Pearson intervals can be produced in SUDAAN using the CROSSTAB procedure and specifying the option SMCONF=50. Logit intervals can be produced in SAS using the SURVEYREG procedure and specifying the bivariable model and the options DIFF and CL in lsmeans.

Acceptable	Estimates have a sample size of 30 or more and low coefficients of variation in the range of 0.0% to 16.5%. No warning is required.
Marginal	Estimates have a sample size of 30 or more and high coefficients of variation in the range of 16.6% to 33.3%. Estimates should be flagged with the letter M (or some similar identifier). They should be accompanied by a warning to caution subsequent users about the estimated levels of error associated with the estimates.
Unacceptable	Estimates have a sample size of less than 30, or very high coefficients of variation in excess of 33.3%. It is not recommended to release estimates of unacceptable quality. Such estimates should be replaced with the letter U (or some similar identifier) and the following statement: **"Unreleasable due to low sample size or high sampling variability."**

9 Variable Description

Table 2 describes the variables included in the CSTADS 2021–22 PUMF, excluding derived variables which are detailed in the subsequent section.

Table 2. Variable description, values and labels.

Variable Name	Position	Description	Values and Labels
SEQID	1	Unique ID	1 to 61,096
PROVID	2	Province of respondent	10 = Newfoundland and Labrador 11 = Prince Edward Island 12 = Nova Scotia 24 = Québec 35 = Ontario 46 = Manitoba 47 = Saskatchewan 48 = Alberta 59 = British Columbia
GRADE	3	What grade are you in?	7 = Grade 7 or Secondary I 8 = Grade 8 or Secondary II 9 = Grade 9 or Secondary III 10 = Grade 10 or Secondary IV 11 = Grade 11 or Secondary V 12 = Grade 12 *Note: During the cleaning process, data analysts investigated cases where grade was missing or inconsistent with the grades represented in their school. If a student indicated a grade that did not match the relevant grades in the school or province, or if grade was missing or uncodeable, the variable was recoded to the median grade of the class to which the student belonged. If this option was not available, then student age was used to impute grade.*

Variable Name	Position	Description	Values and Labels
DVGENDER	4	What is your gender? (Note: Gender refers to current gender which may be different from sex assigned at birth and may be different from what is indicated on legal documents. Responses for gender were collapsed into two categories, plus 99, and subjected to suppression.)	1 = Woman / girl 2 = Man / boy 99 = Another gender or gender not stated *Note: Write-in responses were recoded and used to create the derived variable.*
DVURBAN	5	Is the respondent's school in an urban or rural region?	1 = Urban 2 = Rural
DVRES	6	How many years have you lived in Canada? (Note: years lived in Canada were collapsed into 3 categories, plus 99, and subjected to suppression).	1 = I was born in Canada 2 = 1 to 10 years 3 = 11 or more years 99 = Not Stated
DVORIENT	7	Which of the following best describes you? (Note: sexual orientation was collapsed into two categories, plus 99, and subjected to suppression.)	1 = Another sexual orientation 2 = Straight/heterosexual 99 = Not Stated *Note: Write-in responses were recoded and used to create the derived variable.*
DVDESCRIBE	8	How would you describe yourself? (Note: dvdescribe was transformed from "Mark all that apply" multiple response variables into a single variable with 8 categories. If more than one response option was selected by a respondent, their response was coded as "8: Another race/Multiple". Respondents were also able to choose the "Another race/Multiple" response option if their population group was not listed. In the Atlantic Provinces, categories 2-8 were collapsed into "8: Another race/Multiple". This variable was also subjected to suppression.)	1 = White 2 = Black 3 = West Asian/Arab 4 = South Asian (Indian, ...) 5 = East/Southeast Asian (Chinese, ...) 6 = Latin American/Hispanic 7 = Aboriginal (First Nations, Métis, Inuit, ...) 8 = Another race/Multiple 99 = Not stated *Note: Write-in responses were recoded and used to create the derived variable.*

Variable Name	Position	Description	Values and Labels
WTPUMF	9	Weight assigned to each individual record. (Note: this variable was subjected to perturbation to maintain privacy; more information on how these weights were generated can be found in section 6.3)	
GH_010	10	In general, would you say your physical health is excellent, very good, good, fair or poor?	1 = Excellent 2 = Very good 3 = Good 4 = Fair 5 = Poor 6 = I do not know 99 = Not stated
GH_020	11	In general, would you say your mental health is excellent, very good, good, fair or poor?	1 = Excellent 2 = Very good 3 = Good 4 = Fair 5 = Poor 6 = I do not know 99 = Not stated
SS_010	12	Have you ever tried cigarette smoking, even just a few puffs?	1 = Yes 2 = No 99 = Not stated

Variable Name	Position	Description	Values and Labels
SS_020	13	How old were you when you first tried smoking cigarettes, even just a few puffs?	2 = I do not know 8 = 8 years or younger 9 = 9 years 10 = 10 years 11 = 11 years 12 = 12 years 13 = 13 years 14 = 14 years 15 = 15 years 16 = 16 years 17 = 17 years 18 = 18 years or older 96 = Valid Skip 98 = I have never done this 99 = Not Stated* ***Note:*** *If the age of initiation was higher than the self-reported age (or imputed age if missing), the variable was set to "99 = Not Stated." In the small number of cases where imputation was not possible, the reported age was retained.*
TS_011	14	At any time during the next 12 months do you think you will smoke a cigarette?	1 = Definitely yes 2 = Probably yes 3 = Probably not 4 = Definitely not 99 = Not Stated
SS_030	15	Have you ever smoked a whole cigarette?	1 = Yes 2 = No 96 = Valid Skip 99 = Not Stated
SS_040	16	Have you ever smoked 100 or more whole cigarettes in your life?	1 = Yes 2 = No 96 = Valid Skip 99 = Not Stated
WP_040a	17	Thinking back over the last 7 days, how many whole cigarettes did you smoke each day? Sunday	0 = 0 whole cigarettes smoked 1:36 = Range: 1 to 36 whole cigarettes smoked 96 = Valid Skip 99 = Not Stated

Variable Name	Position	Description	Values and Labels
WP_040b	18	Thinking back over the last 7 days, how many whole cigarettes did you smoke each day? Monday	0 = 0 whole cigarettes smoked 1:36 = Range: 1 to 36 whole cigarettes smoked 96 = Valid Skip 99 = Not Stated
WP_040c	19	Thinking back over the last 7 days, how many whole cigarettes did you smoke each day? Tuesday	0 = 0 whole cigarettes smoked 1:36 = Range: 1 to 36 whole cigarettes smoked 96 = Valid Skip 99 = Not Stated
WP_040d	20	Thinking back over the last 7 days, how many whole cigarettes did you smoke each day? Wednesday	0 = 0 whole cigarettes smoked 1:36 = Range: 1 to 36 whole cigarettes smoked 96 = Valid Skip 99 = Not Stated
WP_040e	21	Thinking back over the last 7 days, how many whole cigarettes did you smoke each day? Thursday	0 = 0 whole cigarettes smoked 1:36 = Range: 1 to 36 whole cigarettes smoked 96 = Valid Skip 99 = Not Stated
WP_040f	22	Thinking back over the last 7 days, how many whole cigarettes did you smoke each day? Friday	0 = 0 whole cigarettes smoked 1:36 = Range: 1 to 36 whole cigarettes smoked 96 = Valid Skip 99 = Not Stated
WP_040g	23	Thinking back over the last 7 days, how many whole cigarettes did you smoke each day? Saturday	0 = 0 whole cigarettes smoked 1:36 = Range: 1 to 36 whole cigarettes smoked 96 = Valid Skip 99 = Not Stated
SC_010	24	During the past 12 months, how many times have you stopped for one day or longer because you were trying to quit smoking?	1 = I have not smoked cigarettes in the past 12 months 2 = I have never smoked 3 = 0 times 4 = 1 time 5 = 2 or 3 times 6 = 4 or more times 96 = Valid Skip 99 = Not Stated

Variable Name	Position	Description	Values and Labels
CA_011	25	Where do you usually get your cigarettes?	1 = I do not smoke 2 = I buy them myself at a store 3 = I buy them from a First Nation Reserve (i.e., delivery service) 4 = I buy them on a First Nation Reserve 5 = I buy them from a friend 6 = I buy them from someone else 7 = I ask someone to buy them for me 8 = My brother or sister gives them to me 9 = My mother or father gives them to me 10 = A friend gives them to me 11 = Someone else gives them to me 12 = I take them from my mother, father, or siblings 13 = Other 96 = Valid Skip 99 = Not Stated
TP_001	26	In the last 30 days, how often did you use cigarettes?	1 = Daily 2 = Less than daily, but at least once a week 3 = Less than weekly, but at least once in the last 30 days 4 = Tried, but did not use in the last 30 days 5 = I have never tried 96 = Valid Skip 99 = Not Stated
TP_016	27	In the last 30 days, how often did you use cigars, little cigars or cigarillos (plain or flavoured)?	1 = Daily 2 = Less than daily, but at least once a week 3 = Less than weekly, but at least once in the last 30 days 4 = Tried, but did not use in the last 30 days 5 = I have never tried 99 = Not Stated

Variable Name	Position	Description	Values and Labels
TP_046	28	In the last 30 days, how often did you use smokeless tobacco (chewing tobacco, pinch, dip, snuff, or snus)?	1 = Daily 2 = Less than daily, but at least once a week 3 = Less than weekly, but at least once in the last 30 days 4 = Tried, but did not use in the last 30 days 5 = I have never tried 99 = Not Stated
TP_056	29	In the last 30 days, how often did you use nicotine patches, nicotine gum, nicotine lozenges, nicotine inhalers, or nicotine spray?	1 = Daily 2 = Less than daily, but at least once a week 3 = Less than weekly, but at least once in the last 30 days 4 = Tried, but did not use in the last 30 days 5 = I have never tried 99 = Not Stated
TP_066	30	In the last 30 days, how often did you use a water-pipe (hookah) to smoke shisha (tobacco)?	1 = Daily 2 = Less than daily, but at least once a week 3 = Less than weekly, but at least once in the last 30 days 4 = Tried, but did not use in the last 30 days 5 = I have never tried 99 = Not Stated
TP_086	31	In the last 30 days, how often did you use heated tobacco products (iQOS™ or Glo™)?	1 = Daily 2 = Less than daily, but at least once a week 3 = Less than weekly, but at least once in the last 30 days 4 = Tried, but did not use in the last 30 days 5 = I have never tried 99 = Not Stated
ELC_026a	32	In the last 30 days, how often did you vape an e-liquid or pod with nicotine?	1 = Daily 2 = Less than daily, but at least once a week 3 = Less than weekly, but at least once in the last 30 days 4 = Tried, but did not use in the last 30 days 5 = I have never tried 99 = Not Stated

Variable Name	Position	Description	Values and Labels
ELC_026b	33	In the last 30 days, how often did you vape an e-liquid or pod without nicotine?	1 = Daily 2 = Less than daily, but at least once a week 3 = Less than weekly, but at least once in the last 30 days 4 = Tried, but did not use in the last 30 days 5 = I have never tried 99 = Not Stated
ELC_026c	34	In the last 30 days, how often did you vape an e-liquid or pod, but you did not know what it contained?	1 = Daily 2 = Less than daily, but at least once a week 3 = Less than weekly, but at least once in the last 30 days 4 = Tried, but did not use in the last 30 days 5 = I have never tried 99 = Not Stated
VAP_010	35	At any time during the next 12 months do you think you will use a vape?	1 = Definitely yes 2 = Probably yes 3 = Probably not 4 = Definitely not 99 = Not Stated
CI_010	36	Which did you try first: a cigarette or an e-cigarette (vape, vape pen, tank & mod)?	1 = I have never tried a cigarette nor an e-cigarette 2 = I have only tried a cigarette and never tried an e-cigarette 3 = I have only tried an e-cigarette and never tried a cigarette 4 = I have tried both and tried a cigarette first 5 = I have tried both and tried an e-cigarette first 6 = I do not remember 99 = Not Stated

Variable Name	Position	Description	Values and Labels
VAP_020	37	Which flavor do you vape most often? (Note: mark only one)	1 = I do not vape 2 = Tobacco 3 = Fruit 4 = Candy 5 = Dessert 6 = Mint/Menthol 7 = Coffee/Tea 8 = Alcohol 9 = Flavourless 10 = No usual flavour 99 = Not Stated
VAP_030	38	What is your main reason for trying vaping the first time? (Note: mark only one)	1 = I do not vape 2 = Just to give it a try – to see what it's like 3 = I like the flavours 4 = To have a good time with my friends 5 = Peer pressure 6 = I use them instead of smoking cigarettes 7 = I am trying to quit smoking cigarettes 8 = I enjoy them 9 = I am addicted to them 10 = To relax or relieve tension 11 = To feel good / to get a nicotine high 12 = Other reasons 99 = Not Stated

Variable Name	Position	Description	Values and Labels
VAP_040	39	What is your main reason for currently/continued vaping? (Note: mark only one)	1 = I do not vape 2 = Just to give it a try – to see what it's like 3 = I like the flavours 4 = To have a good time with my friends 5 = Peer pressure 6 = I use them instead of smoking cigarettes 7 = I am trying to quit smoking cigarettes 8 = I enjoy them 9 = I am addicted to them 10 = To relax or relieve tension 11 = To feel good / to get a nicotine high 12 = Other reasons 99 = Not Stated
VAP_050a	40	Where do you usually get your vaping devices (vape, vape pen, tank & mod)? (Note: mark only one, if you get them from more than one place, please select where you get your devices and e-liquids or pods most often.)	1 = I do not vape 2 = I buy them from a vape shop (in person, not online) 3 = I buy them from a convenience store 4 = I ask someone to buy them for me 5 = I buy them online 6 = A family member gives them to me (bought, borrowed, shared) 7 = A friend gives them to me (bought, borrowed, shared) 8 = Someone else gives them to me (bought, borrowed, shared) 9 = I use my mother's, father's, or sibling's without their permission 10 = I use someone else's without their permission 11 = Other 99 = Not stated

Variable Name	Position	Description	Values and Labels
VAP_050b	41	Where do you usually get your e-liquids or pods? (Note: mark only one, if you get them from more than one place, please select where you get your devices and e-liquids or pods most often.)	1 = I do not vape 2 = I buy them from a vape shop (in person, not online) 3 = I buy them from a convenience store 4 = I ask someone to buy them for me 5 = I buy them online 6 = A family member gives them to me (bought, borrowed, shared) 7 = A friend gives them to me (bought, borrowed, shared) 8 = Someone else gives them to me (bought, borrowed, shared) 9 = I use my mother's, father's, or sibling's without their permission 10 = I use someone else's without their permission 11 = Other 99 = Not stated
VAP_060	42	During the past 12 months, how many times have you stopped for one day or longer because you were trying to quit vaping?	1 = I have not vaped in the past 12 months 2 = I have never vaped 3 = 0 times 4 = 1 time 5 = 2 or 3 times 6 = 4 or more times 99 = Not stated
ALC_010	43	Have you ever had a drink of alcohol that was more than just a sip? (Note: a drink means: 1 regular sized bottle, can, or draft of beer; 1 glass of wine; 1 bottle or can of cooler; 1 shot of liquor (rum, whiskey, Baileys®, etc.); or 1 mixed drink (1 shot of liquor with pop, juice, energy drink, etc.).	1 = Yes 2 = No 99 = Not Stated

Variable Name	Position	Description	Values and Labels
ALC_020	44	In the last 12 months, how often did you have a drink of alcohol that was more than just a sip?	1 = I did not drink alcohol in the last 12 months 3 = Less than once a month 4 = Once a month 5 = 2 or 3 times a month 6 = Once a week 7 = 2 or 3 times a week 8 = 4 to 6 times a week 9 = Every day 10 = I do not know 96 = Valid Skip 99 = Not Stated
ALC_030	45	How old were you when you first had a drink of alcohol that was more than just a sip?	3 = I do not know 8 = 8 years or younger 9 = 9 years 10 = 10 years 11 = 11 years 12 = 12 years 13 = 13 years 14 = 14 years 15 = 15 years 16 = 16 years 17 = 17 years 18 = 18 years or older 96 = Valid Skip 99 = Not Stated* *Note: If the age of initiation was higher than the self-reported age (or imputed age if missing), the variable was set to "99 = Not Stated." In the small number of cases where imputation was not possible, the reported age was retained.*
ALC_040	46	In the last 30 days, how often did you have a drink of alcohol that was more than just a sip?	1 = I have not done this in the last 30 days 2 = Once or twice 3 = Once or twice a week 4 = 3 or 4 times a week 5 = 5 or 6 times a week 6 = Every day 7 = I do not know 96 = Valid Skip 99 = Not Stated

Variable Name	Position	Description	Values and Labels
ALC_050	47	In the last 12 months, how often did you have 5 or more drinks of alcohol on one occasion?	1 = I have never had 5 or more drinks of alcohol on one occasion 2 = I have not done this in the last 12 months 3 = Less than once a month 4 = Once a month 5 = 2 or 3 times a month 6 = Once a week 7 = 2 to 5 times a week 8 = Daily or almost daily 9 = I do not know 96 = Valid Skip 99 = Not Stated
ALC_060	48	How old were you when you first had 5 or more drinks of alcohol on one occasion?	2 = I do not know 8 = 8 years or younger 9 = 9 years 10 = 10 years 11 = 11 years 12 = 12 years 13 = 13 years 14 = 14 years 15 = 15 years 16 = 16 years 17 = 17 years 18 = 18 years or older 96 = Valid Skip 99 = Not Stated* ***Note:*** *If the age of initiation was higher than the self-reported age (or imputed age if missing), the variable was set to "99 = Not Stated." In the small number of cases where imputation was not possible, the reported age was retained.*
ALC_071	49	In the last 30 days, how often did you have 5 or more drinks of alcohol on one occasion?	2 = I have not done this in the last 30 days 3 = Once or twice 4 = Once or twice a week 5 = 3 or 4 times a week 6 = 5 or 6 times a week 7 = Every day 8 = I do not know 96 = Valid Skip 99 = Not Stated

Variable Name	Position	Description	Values and Labels
NRG_010	50	In the last 12 months, did you drink an energy drink like Red Bull®, Monster® and Rockstar® (not sports drinks)?	1 = Yes 2 = No 99 = Not Stated
NRG_020	51	In the last 12 months, did you drink alcohol and an energy drink drank separately on one occasion?	1 = Yes 2 = No 99 = Not Stated
NRG_030	52	In the last 12 months, did you drink alcohol and an energy drink hand-mixed together by you or someone else?	1 = Yes 2 = No 99 = Not Stated
NRG_040	53	In the last 12 months, did you drink store-bought pre-mixed alcoholic beverages with energy drink names (such as Rockstar®+Vodka)?	1 = Yes 2 = No 99 = Not Stated
NRG_050	54	In the last 12 months, did you drink sweetened beverages with high alcohol content (7% or higher), (such as Four Loko, FCKD UP, Clubtails)?	1 = Yes 2 = No 99 = Not Stated
ALC_075	55	In the last 12 months, how did you usually get the alcohol you consumed? (Note: mark only one)	1 = I have never consumed alcohol 2 = I have not consumed alcohol in the last 12 months 3 = I took it from a friend or a family member without permission 4 = I took it from someone else without permission 5 = A parent (or guardian) gave it to me 6 = I got or bought it from a friend or a family member (not a parent or a guardian) 7 = I got or bought it from someone else 8 = It was shared at a party 9 = I got or bought it at a public event (e.g., concert, sporting event) 10 = I bought it or someone bought it for me at a store (e.g., liquor store, convenience store, grocery store) 11 = I bought it or someone bought it for me at a restaurant or bar 12 = Other 96 = Valid Skip 99 = Not Stated

Variable Name	Position	Description	Values and Labels
CAN_010	56	Have you ever used or tried marijuana or cannabis (a joint, pot, weed, hash, or hash oil)?	1 = Yes 2 = No 99 = Not Stated
CAN_020	57	In the last 12 months, how often did you use marijuana or cannabis?	1 = I have not done this in the last 12 months 3 = Less than once a month 4 = Once a month 5 = 2 or 3 times a month 6 = Once a week 7 = 2 or 3 times a week 8 = 4 to 6 times a week 9 = Every day 10 = I do not know 96 = Valid Skip 99 = Not Stated
CAN_030	58	How old were you when you first used marijuana or cannabis?	2 = I do not know 8 = 8 years or younger 9 = 9 years 10 = 10 years 11 = 11 years 12 = 12 years 13 = 13 years 14 = 14 years 15 = 15 years 16 = 16 years 17 = 17 years 18 = 18 years or older 96 = Valid Skip 99 = Not Stated* ***Note:*** *If the age of initiation was higher than the self-reported age (or imputed age if missing), the variable was set to "99 = Not Stated." In the small number of cases where imputation was not possible, the reported age was retained.*

Variable Name	Position	Description	Values and Labels
CAN_040	59	In the last 30 days, how often did you use marijuana or cannabis?	1 = I have not done this in the last 30 days 2 = Once or twice 3 = Once or twice a week 4 = 3 or 4 times a week 5 = 5 or 6 times a week 6 = Every day 7 = I do not know 96 = Valid Skip 99 = Not Stated
CAN_060	60	Indicate whether you have used marijuana or cannabis (a joint, pot, weed, hash, or hash oil) in the following ways: Smoked a joint, bong, pipe or blunt	1 = No, I have never done this 2 = Yes, I have done this in the last 30 days 3 = Yes, I have done this in the last 12 months 4 = Yes, I have done this, but not in the last 12 months 96 = Valid Skip 99 = Not Stated
CAN_070	61	Indicate whether you have used marijuana or cannabis (a joint, pot, weed, hash, or hash oil) in the following ways: Eaten it in food such as brownies, cakes, cookies or candy	1 = No, I have never done this 2 = Yes, I have done this in the last 30 days 3 = Yes, I have done this in the last 12 months 4 = Yes, I have done this, but not in the last 12 months 96 = Valid Skip 99 = Not Stated
CAN_080	62	Indicate whether you have used marijuana or cannabis (a joint, pot, weed, hash, or hash oil) in the following ways: Drank it in tea, cola, alcohol, or other drinks	1 = No, I have never done this 2 = Yes, I have done this in the last 30 days 3 = Yes, I have done this in the last 12 months 4 = Yes, I have done this, but not in the last 12 months 96 = Valid Skip 99 = Not Stated

Variable Name	Position	Description	Values and Labels
CAN_091	63	Indicate whether you have used marijuana or cannabis (a joint, pot, weed, hash, or hash oil) in the following ways: Vaped dried cannabis (e.g., using the same type of cannabis used in a joint)	1 = No, I have never done this 2 = Yes, I have done this in the last 30 days 3 = Yes, I have done this in the last 12 months 4 = Yes, I have done this, but not in the last 12 months 96 = Valid Skip 99 = Not Stated
CAN_092	64	Indicate whether you have used marijuana or cannabis (a joint, pot, weed, hash, or hash oil) in the following ways: Vaped liquid cannabis (also known as 'vaping concentrates' and 'vaping extracts')	1 = No, I have never done this 2 = Yes, I have done this in the last 30 days 3 = Yes, I have done this in the last 12 months 4 = Yes, I have done this, but not in the last 12 months 96 = Valid Skip 99 = Not Stated
CAN_100	65	Indicate whether you have used marijuana or cannabis (a joint, pot, weed, hash, or hash oil) in the following ways: Dabbed it (i.e., heated on a hot surface, including hot knife or nail, and the resulting smoke is then inhaled)	1 = No, I have never done this 2 = Yes, I have done this in the last 30 days 3 = Yes, I have done this in the last 12 months 4 = Yes, I have done this, but not in the last 12 months 96 = Valid Skip 99 = Not Stated
CAN_110	66	Indicate whether you have used marijuana or cannabis (a joint, pot, weed, hash, or hash oil) in the following ways: Used it some other way	1 = No, I have never done this 2 = Yes, I have done this in the last 30 days 3 = Yes, I have done this in the last 12 months 4 = Yes, I have done this, but not in the last 12 months 96 = Valid Skip 99 = Not Stated

Variable Name	Position	Description	Values and Labels
CAN_121	67	In the last 12 months, how did you usually get the marijuana or cannabis you used? (Note: mark only one, if you get the marijuana or cannabis from more than one place, please select where you get it most often.)	2 = I have not done this in the last 12 months 3 = I grow my own 4 = It was shared around a group of friends 5 = I took it from a family member or friend without their permission 6 = I took it from someone else without their permission 7 = I got or bought it online (e.g., website, social media store, etc.) 8 = I got or bought it from a family member or a friend 9 = I got or bought it from someone else 10 = I bought it from a store 11 = Someone bought it for me at a retail store 12 = Other 96 = Valid Skip 99 = Not Stated
CAN_130	68	The use of cannabis was made legal for adults in Canada. Has it been easier to get marijuana or cannabis for yourself after legalization?	1 = I have never bought/got marijuana or cannabis 2 = It has been easier 3 = It has been harder 4 = Neither easier nor harder 99 = Not Stated
CAN_140	69	In the last 12 months, how often did you have alcohol AND marijuana or cannabis on the same occasion? (e.g., at a party, in the same evening, etc.)	1 = I have never had alcohol AND cannabis on one occasion 2 = I have not done this in the last 12 months 3 = Less than once a month 4 = Once a month 5 = 2 to 3 times a month 6 = Once a week 7 = 2 to 5 times a week 8 = Daily or almost daily 9 = I do not know 99 = Not Stated
UND_010	70	Have you ever used a drug or substance to get high without knowing what it was?	1 = No, I have never done this 2 = Yes, I have done this in the last 12 months 3 = Yes, I have done this, but not in the last 12 months 99 = Not Stated

Variable Name	Position	Description	Values and Labels
UND_020	71	Have you ever used a drug or substance to get high that was not what you thought it was?	1 = No, I have never done this 2 = Yes, I have done this in the last 12 months 3 = Yes, I have done this, but not in the last 12 months 99 = Not Stated
MET_010	72	Have you ever used or tried amphetamines (speed, crystal meth or ice, meth, crank, ...)?	1 = No, I have never done this 2 = Yes, I have done this in the last 12 months 3 = Yes, I have done this, but not in the last 12 months 99 = Not Stated
XTC_010	73	Have you ever used or tried MDMA (ecstasy, E, X, ...)?	1 = No, I have never done this 2 = Yes, I have done this in the last 12 months 3 = Yes, I have done this, but not in the last 12 months 99 = Not Stated
HAL_010	74	Have you ever used or tried hallucinogens (LSD, acid, PCP, magic mushrooms or 'shrooms', mesc, ketamines, ...)?	1 = No, I have never done this 2 = Yes, I have done this in the last 12 months 3 = Yes, I have done this, but not in the last 12 months 99 = Not Stated
HER_010	75	Have you ever used or tried heroin (smack, junk, horse, ...)?	1 = No, I have never done this 2 = Yes, I have done this in the last 12 months 3 = Yes, I have done this, but not in the last 12 months 99 = Not Stated
COC_010	76	Have you ever used or tried cocaine (crack, blow, snow, ...)?	1 = No, I have never done this 2 = Yes, I have done this in the last 12 months 3 = Yes, I have done this, but not in the last 12 months 99 = Not Stated
SYN_010	77	Have you ever used or tried synthetic cannabinoids (spice, synthetic marijuana, scence, herbal mixtures, herbal incense, ...)?	1 = No, I have never done this 2 = Yes, I have done this in the last 12 months 3 = Yes, I have done this, but not in the last 12 months 99 = Not Stated

Variable Name	Position	Description	Values and Labels
BZP_010	78	Have you ever used or tried BZP/TFMPP (legal X, A2, piperazine, frenzy, nemesis, ...)?	1 = No, I have never done this 2 = Yes, I have done this in the last 12 months 3 = Yes, I have done this, but not in the last 12 months 99 = Not Stated
BS_010	79	Have you ever used or tried bath salts (mephedrone, MDPV, meph, MCAT, ...)?	1 = No, I have never done this 2 = Yes, I have done this in the last 12 months 3 = Yes, I have done this, but not in the last 12 months 99 = Not Stated
TNB_010	80	Have you ever used or tried 2C (nexus, 2C-B, 2C-I, 2C-C, ...) or NBOMe (25C-NBOMe, 25B-NBOMe, 25I-NBOMe, ...)?	1 = No, I have never done this 2 = Yes, I have done this in the last 12 months 3 = Yes, I have done this, but not in the last 12 months 99 = Not Stated
TRP_010	81	Have you ever used or tried tryptamines (DMT, 'psychosis', AMT, foxy, ...)?	1 = No, I have never done this 2 = Yes, I have done this in the last 12 months 3 = Yes, I have done this, but not in the last 12 months 99 = Not Stated
GLU_010	82	Have you ever used or tried glue, gasoline, or other solvents to get high?	1 = No, I have never done this 2 = Yes, I have done this in the last 12 months 3 = Yes, I have done this, but not in the last 12 months 99 = Not Stated
SAL_010	83	Have you ever used or tried salvia (divine sage, magic mint, sally D, ...)?	1 = No, I have never done this 2 = Yes, I have done this in the last 12 months 3 = Yes, I have done this, but not in the last 12 months 99 = Not Stated
SLP_010	84	Have you ever used or tried any of the following medications for non-medical reasons or to get high? Sleeping medicine from a store (Nytol®, Unisom®, ...)?	1 = No, I have never done this 2 = Yes, I have done this in the last 12 months 3 = Yes, I have done this, but not in the last 12 months 99 = Not Stated

Variable Name	Position	Description	Values and Labels
STI_030	85	Have you ever used or tried any of the following medications for non-medical reasons or to get high? Stimulants (diet pills, stay awake pills, uppers, bennies, wake-ups, ...)?	1 = No, I have never done this 2 = Yes, I have done this in the last 12 months 3 = Yes, I have done this, but not in the last 12 months 99 = Not Stated
DEX_010	86	Have you ever used or tried any of the following medications for non-medical reasons or to get high? Dextromethorphan such as cold and cough medicine (Robitussin DM®, Benylin DM®, robos, dex, DXM, ...)?	1 = No, I have never done this 2 = Yes, I have done this in the last 12 months 3 = Yes, I have done this, but not in the last 12 months 99 = Not Stated
GRV_010	87	Have you ever used or tried any of the following medications for non-medical reasons or to get high? Gravol®?	1 = No, I have never done this 2 = Yes, I have done this in the last 12 months 3 = Yes, I have done this, but not in the last 12 months 99 = Not Stated
STI_080	88	In the last 12 months, were you given a prescription by a Health Care Provider for medicine to treat hyperactivity or concentration difficulty, also called ADHD (Ritalin®, Concerta®, Adderall®, Dexedrine®, ...)?	1 = Yes 2 = No 3 = I do not know 99 = Not Stated
STI_050	89	Have you ever used ADHD medicine for non-medical reasons or to get high (Ritalin®, Concerta®, Adderall®, Dexedrine®, ...)?	1 = No, I have never done this 2 = Yes, I have done this in the last 12 months 3 = Yes, I have done this, but not in the last 12 months 99 = Not Stated
SED_050	90	In the last 12 months, were you given a prescription by a Health Care Provider for sedatives or tranquilizers to help you sleep, calm down, or relax your muscles (Ativan®, Xanax®, Valium®, ...)?	1 = Yes 2 = No 3 = I do not know 99 = Not Stated
SED_030	91	Have you ever used sedatives or tranquilizers for non-medical reasons or to get high (Ativan®, Xanax®, Valium®, ...)?	1 = No, I have never done this 2 = Yes, I have done this in the last 12 months 3 = Yes, I have done this, but not in the last 12 months 99 = Not Stated

Variable Name	Position	Description	Values and Labels
PR_100	92	In the last 12 months, were you given a prescription by a Health Care Provider for prescribed pain relievers (oxycodone, fentanyl, morphine, codeine, T3, ...)? This does not include pain relievers such as Advil®, Aspirin®, or regular Tylenol® that anyone can buy in a drug store.	1 = Yes 2 = No 3 = I do not know 99 = Not Stated
PR_030	93	Have you ever used the following prescription pain relievers for non-medical reasons or to get high? Oxycodone (oxy, OC, APO, OxyContin®, percs, roxies, OxyNEO®, ...)	1 = No, I have never done this 2 = Yes, I have done this in the last 12 months 3 = Yes, I have done this, but not in the last 12 months 99 = Not Stated
PR_050	94	Have you ever used the following prescription pain relievers for non-medical reasons or to get high? Fentanyl	1 = No, I have never done this 2 = Yes, I have done this in the last 12 months 3 = Yes, I have done this, but not in the last 12 months 99 = Not Stated
PR_060	95	Have you ever used the following prescription pain relievers for non-medical reasons or to get high? Other prescribed pain relievers (morphine, codeine, etc.)	1 = No, I have never done this 2 = Yes, I have done this in the last 12 months 3 = Yes, I have done this, but not in the last 12 months 99 = Not Stated

Variable Name	Position	Description	Values and Labels
PR_110	96	In the last 12 months, if you did use prescribed pain relievers for non-medical reasons or to get high, how did you get them? (Note: mark only one, if you get the prescribed pain relievers from more than one place, please select where you get them most often.)	1 = I have never taken prescribed pain relievers for non-medical reasons or to get high 2 = I did not do this in the last 12 months 3 = I used pain relievers from my own prescription for non-medical reasons or to get high 4 = I took them from a family member or friend without their permission 5 = I took them from someone else without their permission 6 = I got or bought them from a family member or friend 7 = I got or bought them from someone else 8 = I got or bought them online (e.g., website, social media store, etc.) 9 = Other 99 = Not Stated
POLY_010	97	In the last 12 months, have you used alcohol and amphetamines (speed, crystal meth or ice, meth, crank, ...) to get high on the same occasion? (e.g., at the same party, in the same evening, etc.)	1 = No, never 2 = Yes, less than once a month 3 = Yes, at least once a month 4 =Yes, I have done this, but not in the last 12 months 5 = I do not know 99 = Not stated
POLY_020	98	In the last 12 months, have you used alcohol and MDMA (ecstasy, E, X, ...) to get high on the same occasion? (e.g., at the same party, in the same evening, etc.)	1 = No, never 2 = Yes, less than once a month 3 = Yes, at least once a month 4 =Yes, I have done this, but not in the last 12 months 5 = I do not know 99 = Not stated
POLY_030	99	In the last 12 months, have you used alcohol and hallucinogens (LSD, acid, PCP, magic mushrooms or 'shrooms', mesc, ketamines, ...) to get high on the same occasion? (e.g., at the same party, in the same evening, etc.)	1 = No, never 2 = Yes, less than once a month 3 = Yes, at least once a month 4 =Yes, I have done this, but not in the last 12 months 5 = I do not know 99 = Not stated

Variable Name	Position	Description	Values and Labels
POLY_040	100	In the last 12 months, have you used alcohol and heroin (smack, junk, horse, ...) to get high on the same occasion? (e.g., at the same party, in the same evening, etc.)	1 = No, never 2 = Yes, less than once a month 3 = Yes, at least once a month 4 =Yes, I have done this, but not in the last 12 months 5 = I do not know 99 = Not stated
POLY_050	101	In the last 12 months, have you used alcohol and cocaine (crack, blow, snow, ...) to get high on the same occasion? (e.g., at the same party, in the same evening, etc.)	1 = No, never 2 = Yes, less than once a month 3 = Yes, at least once a month 4 =Yes, I have done this, but not in the last 12 months 5 = I do not know 99 = Not stated
POLY_060	102	In the last 12 months, have you used alcohol and ADHD medications (Ritalin®, Concerta®, Adderall®, Dexedrine®, ...) to get high on the same occasion? (e.g., at the same party, in the same evening, etc.)	1 = No, never 2 = Yes, less than once a month 3 = Yes, at least once a month 4 =Yes, I have done this, but not in the last 12 months 5 = I do not know 99 = Not stated
POLY_070	103	In the last 12 months, have you used alcohol and sedatives or tranquilizers (Ativan®, Xanax®, Valium®, ...) to get high on the same occasion? (e.g., at the same party, in the same evening, etc.)	1 = No, never 2 = Yes, less than once a month 3 = Yes, at least once a month 4 =Yes, I have done this, but not in the last 12 months 5 = I do not know 99 = Not stated
POLY_080	104	In the last 12 months, have you used alcohol and prescription pain relievers (oxycodone, fentanyl, morphine, codeine, etc.) to get high on the same occasion? (e.g., at the same party, in the same evening, etc.)	1 = No, never 2 = Yes, less than once a month 3 = Yes, at least once a month 4 =Yes, I have done this, but not in the last 12 months 5 = I do not know 99 = Not stated
POLY_090	105	In the last 12 months, have you used alcohol and sleeping medicine from a store (Nytol®, Unisom®, ...) to get high on the same occasion? (e.g., at the same party, in the same evening, etc.)	1 = No, never 2 = Yes, less than once a month 3 = Yes, at least once a month 4 =Yes, I have done this, but not in the last 12 months 5 = I do not know 99 = Not stated

Variable Name	Position	Description	Values and Labels
POLY_100	106	In the last 12 months, have you used alcohol and stimulants (diet pills, stay awake pills, uppers, bennies, wake-ups, ...) to get high on the same occasion? (e.g., at the same party, in the same evening, etc.)	1 = No, never 2 = Yes, less than once a month 3 = Yes, at least once a month 4 =Yes, I have done this, but not in the last 12 months 5 = I do not know 99 = Not stated
POLY_110	107	In the last 12 months, have you used alcohol and dextromethorphan such as cold and cough medicine (Robitussin DM®, Benylin DM®, robos, dex, DXM, ...) to get high on the same occasion? (e.g., at the same party, in the same evening, etc.)	1 = No, never 2 = Yes, less than once a month 3 = Yes, at least once a month 4 =Yes, I have done this, but not in the last 12 months 5 = I do not know 99 = Not stated
POLY_120	108	In the last 12 months, have you used alcohol and Gravol® to get high on the same occasion? (e.g., at the same party, in the same evening, etc.)	1 = No, never 2 = Yes, less than once a month 3 = Yes, at least once a month 4 =Yes, I have done this, but not in the last 12 months 5 = I do not know 99 = Not stated
POLY_130	109	In the last 12 months, have you used opioids and amphetamines (speed, crystal meth or ice, meth, crank, ...) to get high on the same occasion? (e.g., at the same party, in the same evening, etc.) (Opioids include heroin, prescription pain relievers (oxycodone, fentanyl, morphine, codeine, etc.)	1 = No, never 2 = Yes, less than once a month 3 = Yes, at least once a month 4 =Yes, I have done this, but not in the last 12 months 5 = I do not know 99 = Not stated
POLY_140	110	In the last 12 months, have you used opioids and MDMA (ecstasy, E, X, ...) to get high on the same occasion? (e.g., at the same party, in the same evening, etc.) (Opioids include heroin, prescription pain relievers (oxycodone, fentanyl, morphine, codeine, etc.)	1 = No, never 2 = Yes, less than once a month 3 = Yes, at least once a month 4 =Yes, I have done this, but not in the last 12 months 5 = I do not know 99 = Not stated

Variable Name	Position	Description	Values and Labels
POLY_150	111	In the last 12 months, have you used opioids and cocaine (crack, blow, snow, ...) to get high on the same occasion? (e.g., at the same party, in the same evening, etc.) (Opioids include heroin, prescription pain relievers (oxycodone, fentanyl, morphine, codeine, etc.)	1 = No, never 2 = Yes, less than once a month 3 = Yes, at least once a month 4 =Yes, I have done this, but not in the last 12 months 5 = I do not know 99 = Not stated
POLY_160	112	In the last 12 months, have you used opioids and ADHD medications (Ritalin®, Concerta®, Adderall®, Dexedrine®,...) to get high on the same occasion? (e.g., at the same party, in the same evening, etc.) (Opioids include heroin, prescription pain relievers (oxycodone, fentanyl, morphine, codeine, etc.)	1 = No, never 2 = Yes, less than once a month 3 = Yes, at least once a month 4 =Yes, I have done this, but not in the last 12 months 5 = I do not know 99 = Not stated
POLY_170	113	In the last 12 months, have you used opioids and stimulants (diet pills, stay awake pills, uppers, bennies, wake-ups, ...) to get high on the same occasion? (e.g., at the same party, in the same evening, etc.) (Opioids include heroin, prescription pain relievers (oxycodone, fentanyl, morphine, codeine, etc.)	1 = No, never 2 = Yes, less than once a month 3 = Yes, at least once a month 4 =Yes, I have done this, but not in the last 12 months 5 = I do not know 99 = Not stated
POLY_180	114	In the last 12 months, have you used opioids and sedatives or tranquilizers (Ativan®, Xanax®, Valium®, ...) to get high on the same occasion? (e.g., at the same party, in the same evening, etc.) (Opioids include heroin, prescription pain relievers (oxycodone, fentanyl, morphine, codeine, etc.)	1 = No, never 2 = Yes, less than once a month 3 = Yes, at least once a month 4 =Yes, I have done this, but not in the last 12 months 5 = I do not know 99 = Not stated
PH_010	115	How much do you think people risk harming themselves when they smoke cigarettes once in a while?	1 = No risk 2 = Slight risk 3 = Moderate risk 4 = Great risk 5 = I do not know 99 = Not Stated

Variable Name	Position	Description	Values and Labels
PH_020	116	How much do you think people risk harming themselves when they smoke cigarettes on a regular basis?	1 = No risk 2 = Slight risk 3 = Moderate risk 4 = Great risk 5 = I do not know 99 = Not Stated
PH_030	117	How much do you think people risk harming themselves when they smoke a water-pipe with tobacco (hookah) once in a while?	1 = No risk 2 = Slight risk 3 = Moderate risk 4 = Great risk 5 = I do not know 99 = Not Stated
PH_040	118	How much do you think people risk harming themselves when they smoke a water-pipe with tobacco (hookah) on a regular basis?	1 = No risk 2 = Slight risk 3 = Moderate risk 4 = Great risk 5 = I do not know 99 = Not Stated
PH_051	119	How much do you think people risk harming themselves when they use an e-cigarette WITH nicotine once in a while?	1 = No risk 2 = Slight risk 3 = Moderate risk 4 = Great risk 5 = I do not know 99 = Not Stated
PH_061	120	How much do you think people risk harming themselves when they use an e-cigarette WITH nicotine on a regular basis?	1 = No risk 2 = Slight risk 3 = Moderate risk 4 = Great risk 5 = I do not know 99 = Not Stated
PH_052	121	How much do you think people risk harming themselves when they use an e-cigarette WITHOUT nicotine once in a while?	1 = No risk 2 = Slight risk 3 = Moderate risk 4 = Great risk 5 = I do not know 99 = Not Stated
PH_062	122	How much do you think people risk harming themselves when they use an e-cigarette WITHOUT nicotine on a regular basis?	1 = No risk 2 = Slight risk 3 = Moderate risk 4 = Great risk 5 = I do not know 99 = Not Stated

Variable Name	Position	Description	Values and Labels
PH_110	123	How much do you think people risk harming themselves when they drink alcohol once in a while?	1 = No risk 2 = Slight risk 3 = Moderate risk 4 = Great risk 5 = I do not know 99 = Not Stated
PH_120	124	How much do you think people risk harming themselves when they drink alcohol on a regular basis?	1 = No risk 2 = Slight risk 3 = Moderate risk 4 = Great risk 5 = I do not know 99 = Not Stated
PH_070	125	How much do you think people risk harming themselves when they smoke marijuana or cannabis once in a while?	1 = No risk 2 = Slight risk 3 = Moderate risk 4 = Great risk 5 = I do not know 99 = Not Stated
PH_080	126	How much do you think people risk harming themselves when they smoke marijuana or cannabis on a regular basis?	1 = No risk 2 = Slight risk 3 = Moderate risk 4 = Great risk 5 = I do not know 99 = Not Stated
PH_130	127	How much do you think people risk harming themselves when they use marijuana or cannabis, in a way OTHER than smoking it, once in a while?	1 = No risk 2 = Slight risk 3 = Moderate risk 4 = Great risk 5 = I do not know 99 = Not Stated
PH_140	128	How much do you think people risk harming themselves when they use marijuana or cannabis, in a way OTHER than smoking it, on a regular basis?	1 = No risk 2 = Slight risk 3 = Moderate risk 4 = Great risk 5 = I do not know 99 = Not Stated
PH_090	129	How much do you think people risk harming themselves when they use prescribed medication such as prescribed pain relievers, tranquilizers, or medicine to treat ADHD, “to get high” once in a while?	1 = No risk 2 = Slight risk 3 = Moderate risk 4 = Great risk 5 = I do not know 99 = Not Stated

Variable Name	Position	Description	Values and Labels
PH_100	130	How much do you think people risk harming themselves when they use prescribed medication such as prescribed pain relievers, tranquilizers, or medicine to treat ADHD, “to get high” on a regular basis?	1 = No risk 2 = Slight risk 3 = Moderate risk 4 = Great risk 5 = I do not know 99 = Not Stated
CA_020	131	How difficult or easy do you think it would be for you to get a cigarette, if you wanted one?	1 = Very difficult 2 = Fairly difficult 3 = Fairly easy 4 = Very easy 5 = I do not know 99 = Not Stated
ELC_041	132	How difficult or easy do you think it would be for you to get an e-cigarette WITH NICOTINE, if you wanted one?	1 = Very difficult 2 = Fairly difficult 3 = Fairly easy 4 = Very easy 5 = I do not know 99 = Not Stated
ELC_042	133	How difficult or easy do you think it would be for you to get an e-cigarette WITHOUT NICOTINE, if you wanted one?	1 = Very difficult 2 = Fairly difficult 3 = Fairly easy 4 = Very easy 5 = I do not know 99 = Not Stated
ALC_080	134	How difficult or easy do you think it would be for you to get alcohol, if you wanted some?	1 = Very difficult 2 = Fairly difficult 3 = Fairly easy 4 = Very easy 5 = I do not know 99 = Not Stated
CAN_050	135	How difficult or easy do you think it would be for you to get marijuana or cannabis, if you wanted some?	1 = Very difficult 2 = Fairly difficult 3 = Fairly easy 4 = Very easy 5 = I do not know 99 = Not Stated
MET_030	136	How difficult or easy do you think it would be for you to get amphetamines (speed, crystal meth or ice, meth, crank, ...), if you wanted some?	1 = Very difficult 2 = Fairly difficult 3 = Fairly easy 4 = Very easy 5 = I do not know 99 = Not Stated

Variable Name	Position	Description	Values and Labels
XTC_030	137	How difficult or easy do you think it would be for you to get MDMA (ecstasy, E, X, ...), if you wanted some?	1 = Very difficult 2 = Fairly difficult 3 = Fairly easy 4 = Very easy 5 = I do not know 99 = Not Stated
HAL_030	138	How difficult or easy do you think it would be for you to get hallucinogens (LSD, acid, PCP, magic mushrooms, mesc, ...), if you wanted some?	1 = Very difficult 2 = Fairly difficult 3 = Fairly easy 4 = Very easy 5 = I do not know 99 = Not Stated
COC_030	139	How difficult or easy do you think it would be for you to get cocaine (crack, blow, snow, ...), if you wanted some?	1 = Very difficult 2 = Fairly difficult 3 = Fairly easy 4 = Very easy 5 = I do not know 99 = Not Stated
PR_090	140	How difficult or easy do you think it would be for you to get prescribed pain relievers (oxycodone, fentanyl, morphine, codeine, T3, ...), if you wanted some?	1 = Very difficult 2 = Fairly difficult 3 = Fairly easy 4 = Very easy 5 = I do not know 99 = Not Stated
STI_070	141	How difficult or easy do you think it would be for you to get medicine to treat ADHD (Ritalin®, Concerta®, Adderall®, Dexedrine®, ...), if you wanted some?	1 = Very difficult 2 = Fairly difficult 3 = Fairly easy 4 = Very easy 5 = I do not know 99 = Not Stated
DR_010	142	Have you ever driven a vehicle (e.g., car, snowmobile, motor boat, or all-terrain vehicle (ATV)) within an hour of drinking one or more drinks of alcohol?	1 = No, never 2 = Yes, in the last 30 days 3 = Yes, more than 30 days ago 99 = Not Stated
DR_020	143	Have you ever driven a vehicle (e.g., car, snowmobile, motor boat, or all-terrain vehicle (ATV)) within 2 hours of using marijuana or cannabis?	1 = No, never 2 = Yes, in the last 30 days 3 = Yes, more than 30 days ago 99 = Not Stated
DR_060	144	Have you ever been a passenger in a vehicle (e.g., car, snowmobile, motor boat, or all-terrain vehicle (ATV)) driven by someone who had one or more drinks of alcohol in the last hour?	1 = No, never 2 = Yes, in the last 30 days 3 =Yes, more than 30 days ago 4 = I do not know 99 = Not Stated

Variable Name	Position	Description	Values and Labels
DR_070	145	Have you ever been a passenger in a vehicle (e.g., car, snowmobile, motor boat, or all-terrain vehicle (ATV)) driven by someone who had been using marijuana or cannabis in the last 2 hours?	1 = No, never 2 = Yes, in the last 30 days 3 =Yes, more than 30 days ago 4 = I do not know 99 = Not Stated
BEH_010	146	Is smoking cigarettes allowed (or do you think is allowed) at your house?	1 = Allowed inside and outside 2 = Allowed inside only 3 = Allowed outside only 4 = Not allowed inside or outside 99 = Not Stated
BEH_020	147	Is smoking cannabis allowed (or do you think is allowed) at your house?	1 = Allowed inside and outside 2 = Allowed inside only 3 = Allowed outside only 4 = Not allowed inside or outside 99 = Not Stated
BEH_030	148	Is vaping e-cigarettes allowed (or do you think is allowed) at your house?	1 = Allowed inside and outside 2 = Allowed inside only 3 = Allowed outside only 4 = Not allowed inside or outside 99 = Not Stated
BEH_040	149	Is vaping cannabis allowed (or do you think is allowed) at your house?	1 = Allowed inside and outside 2 = Allowed inside only 3 = Allowed outside only 4 = Not allowed inside or outside 99 = Not Stated
BUL_010	150	In the last 30 days, in what ways were you bullied by other students? Physical attacks (getting beaten up, pushed, or kicked, ...)	1 = Yes 2 = No 99 = Not Stated
BUL_020	151	In the last 30 days, in what ways were you bullied by other students? Verbal attacks (getting teased, threatened, or having rumours spread about you, ...)	1 = Yes 2 = No 99 = Not Stated
BUL_030	152	In the last 30 days, in what ways were you bullied by other students? Non-verbal attacks (being ignored, being left out or excluded, being given dirty looks, ...)	1 = Yes 2 = No 99 = Not Stated
BUL_040	153	In the last 30 days, in what ways were you bullied by other students? Cyber-attacks (being sent mean text messages or having rumours spread about you on the internet, ...)	1 = Yes 2 = No 99 = Not Stated

Variable Name	Position	Description	Values and Labels
BUL_050	154	In the last 30 days, in what ways were you bullied by other students? Had someone steal from you or damage your things	1 = Yes 2 = No 99 = Not Stated
BUL_060	155	In the last 30 days, how often have you been bullied by other students?	1 = I have not been bullied by other students in the last 30 days 2 = Less than once a week 3 = About once a week 4 = 2 or 3 times a week 5 = Daily or almost daily 99 = Not Stated
BUL_070	156	In the last 30 days, in what ways did you bully other students? Physical attacks (beat up, pushed, or kicked them, ...)	1 = Yes 2 = No 99 = Not Stated
BUL_080	157	In the last 30 days, in what ways did you bully other students? Verbal attacks (teased, threatened, or spread rumours about them, ...)	1 = Yes 2 = No 99 = Not Stated
BUL_090	158	In the last 30 days, in what ways did you bully other students? Non-verbal attacks (ignoring, leaving someone out or excluding them, giving dirty looks, ...)	1 = Yes 2 = No 99 = Not Stated
BUL_100	159	In the last 30 days, in what ways did you bully other students? Cyber-attacks (sent mean text messages or spread rumours about them on the internet, ...)	1 = Yes 2 = No 99 = Not Stated
BUL_110	160	In the last 30 days, in what ways did you bully other students? Stolen from them or damaged their things	1 = Yes 2 = No 99 = Not Stated
BUL_120	161	In the last 30 days, how often did you bully other students?	1 = I have not bullied other students in the last 30 days 2 = Less than once a week 3 = About once a week 4 = 2 or 3 times a week 5 = Daily or almost daily 99 = Not Stated
DVTY1ST	162	Derived smoking status	1 = Current Smoker 2 = Former Smoker 3 = Never Smoker 99 = Not Stated

Variable Name	Position	Description	Values and Labels
DVTY2ST	163	Detailed smoking classifications (derived)	1 = Current Daily Smoker 2 = Current Occasional Smoker 3 = Former Smoker 4 = Experimental Smoker (Beginner) 5 = Past Experimental Smoker 6 = Puffer 7 = Never Tried 99 = Not Stated
DVLAST30	164	Has the respondent smoked one or more cigarettes in the last 30 days?	1 = Yes 2 = No 99 = Not Stated
DVAMTSMK	165	If a respondent is a current smoker, the average number of whole cigarettes smoked per day in the past week. (Note: Values with a decimal of .5 or greater were rounded up)	0 = 0 whole cigarettes smoked 1:36 = Range: 1 to 36 whole cigarettes smoked 96 = Valid Skip 99 = Not Stated
DVCIGWK	166	If a respondent is a current smoker, the total number of whole cigarettes smoked in the past 7 days prior to the survey	0 = 0 whole cigarettes smoked 1:252 = Range: 1 to 252 whole cigarettes smoked 996 = Valid Skip 999 = Not Stated
DVNDSMK	167	If a respondent is a current smoker, the number of days on which respondent smoked at least one whole cigarette in the week prior to the survey	0 = Did not smoke in the last 7 days 1 = Smoked 1 day in the last 7 days 2 = Smoked 2 days in the last 7 days 3 = Smoked 3 days in the last 7 days 4 = Smoked 4 days in the last 7 days 5 = Smoked 5 days in the last 7 days 6 = Smoked 6 days in the last 7 days 7 = Smoked every day in the last 7 days 96 = Valid Skip 99 = Not Stated
DVAVCIGD	168	If a respondent is a current smoker, the average number of whole cigarettes smoked on the days that the respondent smoked	0 whole cigarettes smoked 1:36 = Range: 1 to 36 whole cigarettes smoked 96 = Valid Skip 99 = Not Stated

10 Derived Variables

The PUMF includes derived variables, created by combining questionnaire items, to facilitate data analysis and ensure consistency across users. Table 3 describes the derived variables included in the CSTADS 2021–22 PUMF.

Table 3. Algorithms for derived variables.

Derived Variable	Related Survey Question(s)	Values and Labels	Definition and Calculation
DVTY1ST	**SS_030 (Question 13)**: Have you ever smoked a whole cigarette? 1 (Yes) 2 (No) 96 (Valid Skip) 99 (Not Stated) Coverage: All Respondents where SS_010 = 1 or 99 (Ever tried smoking a cigarette, even a few puffs or not stated) **SS_040 (Question 14)**: Have you ever smoked 100 or more whole cigarettes in your life? 1 (Yes) 2 (No) 96 (Valid Skip) 99 (Not Stated) Coverage: All Respondents where SS_030 = 1 or 99 (Ever smoked a whole cigarette or not stated) **TP_001 (Question 18a)**: In the last 30 days, how often did you use any of the following? a) Cigarettes? 1 (Daily) 2 (Less than daily, but at least once a week)	1 = Current Smoker	Definition: A current smoker is someone who has smoked at least 100 cigarettes in his or her lifetime, and who has smoked at least one whole cigarette during the past 30 days. Calculation: **SS_040** (Question 14): Have you ever smoked 100 or more whole cigarettes in your life? Valid response 1 (Yes) AND **TP_001** (Question 18a): In the last 30 days, how often did you use any of the following? a) Cigarettes? Valid responses 1 (Daily) 2 (Less than daily, but at least once a week) 3 (Less than weekly, but at least once in the last 30 days)
		2 = Former Smoker	Definition: A former smoker is a person who reports having smoked 100 or more cigarettes but did not smoke in the last 30 days. Calculation: **SS_040** (Question 14): Have you ever smoked 100 or more whole cigarettes in your life?

Derived Variable	Related Survey Question(s)	Values and Labels	Definition and Calculation
	3 (Less than weekly, but at least once in the last 30 days) 4 (Tried, but did not use in the last 30 days) 5 (I have never tried) 99 (Not Stated) Coverage: Respondents where SS_010 = 1 or 99 (Ever tried smoking a cigarette, even a few puffs or not stated) Note: If SS_010 = 2 "No" then TP_001 is given a value of "96=Valid Skip". If SS_010 = 1 "Yes" but respondent answered TP_001 = 5 "I have never tried", then TP_001 is given a value of 99 "Not stated" (missing).		Valid response 1 (Yes) AND TP_001 (Question 18a): In the last 30 days, how often did you use any of the following? a) Cigarettes? Valid response 4 (Tried, but did not use in the last 30 days)
		3 = Never Smoker	Definition: A never smoker is a person who reports that he or she has not smoked 100 or more whole cigarettes in his or her lifetime but might have smoked a whole cigarette. Calculation: SS_040 (Question 14): Have you ever smoked 100 or more whole cigarettes in your life? Valid response 2 (No) OR SS_030 (Question 13): Have you ever smoked a whole cigarette Valid responses 2 (No) 96 (Valid Skip)
		99 = Not Stated	Definition: Smoking status unknown. Respondents whose smoking status could not be determined due to missing responses in one or more contributing variable. Calculation: Remaining respondents who were not assigned a smoking status based on the logic above.
DVTY2ST	SS_010 (Question 10): Have you ever tried cigarette smoking, even just a few puffs?	1 = Current Daily Smoker	Definition: A current daily smoker is a person who reports currently smoking cigarettes every day.

Derived Variable	Related Survey Question(s)	Values and Labels	Definition and Calculation
	1 (Yes) 2 (No) 99 (Not Stated) Coverage: All Respondents **SS_030 (Question 13)**: Have you ever smoked a whole cigarette? 1 (Yes) 2 (No) 96 (Valid Skip) 99 (Not Stated) Coverage: All Respondents where SS_010 = 1 or 99 (Ever tried smoking a cigarette, even a few puffs or not stated) **SS_040 (Question 14)**: Have you ever smoked 100 or more whole cigarettes in your life? 1 (Yes) 2 (No) 96 (Valid Skip) 99 (Not Stated) Coverage: All Respondents where SS_030 = 1 or 99 (Ever smoked a whole cigarette or not stated. **TP_001 (Question 18a)**: In the last 30 days, how often did you use any of the following? a) Cigarettes? 1 (Daily) 2 (Less than daily, but at least once a week) 3 (Less than weekly, but at least once in the last 30 days) 4 (Tried, but did not use in the last 30 days) 5 (I have never tried) 99 (Not Stated)		Calculation: **SS_040** (Question 14): Have you ever smoked 100 or more whole cigarettes in your life? Valid response 1 (Yes) AND **TP_001** (Question 18a): In the last 30 days, how often did you use any of the following? a) Cigarettes? Valid responses 1 (Daily)
		2 = Current Occasional Smoker	Definition: A current occasional smoker is a person who currently smokes cigarettes but not every day. Calculation: **SS_040** (Question 14): Have you ever smoked 100 or more whole cigarettes in your life? Valid response 1 (Yes) AND **TP_001** (Question 18a): In the last 30 days, how often did you use any of the following? a) Cigarettes? Valid responses 2 (Less than daily, but at least once a week) 3 (Less than weekly, but at least once in the last 30 days)
		3 = Former Smoker	Definition: A former smoker is a person who smoked at least 100 cigarettes in his/her lifetime but did not smoke at all in the last 30 days. Calculation: **SS_040** (Question 14): Have you ever smoked 100 or more whole cigarettes in your life?

Derived Variable	Related Survey Question(s)	Values and Labels	Definition and Calculation
	Coverage: Respondents where SS_010 = 1 or 99 (Ever tried smoking a cigarette, even a few puffs or not stated) Note: If SS_010 = 2 "No" then TP_001 is given a value of "96=Valid Skip". If SS_010 = 1 "Yes" but respondent answered TP_001 = 5 "I have never tried", then TP_001 is given a value of 99 "Not stated" (missing).		Valid response 1 (Yes) AND TP_001 (Question 18a): In the last 30 days, how often did you use any of the following? a) Cigarettes? Valid response 4 (Tried, but did not use in the last 30 days)
		4 = Experimental Smoker (Beginner)	Definition: An experimental smoker is a person who has smoked in the last 30 days but has not smoked 100 or more cigarettes. Calculation: SS_030 (Question 13): Have you ever smoked a whole cigarette? Valid response 1 (Yes) AND SS_040 (Question 14): Have you ever smoked 100 or more whole cigarettes in your life? Valid response 2 (No) AND TP_001 (Question 18a): In the last 30 days, how often did you use any of the following? a) Cigarettes? 1 (Daily) 2 (Less than daily, but at least once a week) 3 (Less than weekly, but at least once in the last 30 days)
		5 = Past Experimental Smoker	Definition: A past experimental smoker is a person who has smoked a whole cigarette but did not smoke in the last 30 days and also did not smoke 100 cigarettes in his/her lifetime.

Derived Variable	Related Survey Question(s)	Values and Labels	Definition and Calculation
			Calculation: **SS_030** (Question 13): Have you ever smoked a <u>whole</u> cigarette? Valid response 1 (Yes) AND **SS_040** (Question 14): Have you ever smoked 100 or more whole cigarettes in your life? Valid response 2 (No) AND **TP_001** (Question 18a): In the last 30 days, how often did you use any of the following? a) Cigarettes? 4 (Tried, but did not use in the last 30 days)
		6 = Puffer	Definition: A puffer is a person who has tried smoking, but has never smoked a whole cigarette. Calculation: **SS_010** (Question 10): Have you <u>ever</u> tried cigarette smoking, even just a few puffs? Valid response 1 (Yes) AND **SS_030** (Question 13): Have you ever smoked a <u>whole</u> cigarette? Valid response 2 (No)
		7 = Never Tried	Definition: A person classified as never tried, has never tried a cigarette, not even just a few puffs. Calculation: **SS_010** (Question 7): Have you <u>ever</u> tried cigarette smoking, even just a few puffs? Valid response 2 (No)

Derived Variable	Related Survey Question(s)	Values and Labels	Definition and Calculation
		99 = Not Stated	Definition: Detailed smoking status unknown. Respondents whose detailed smoking status could not be determined due to missing responses in one or more contributing variable(s). Calculation: Remaining respondents who were not assigned a smoking status based on the logic above.
DVLAST30	**SS_030 (Question 13)**: Have you ever smoked a whole cigarette? 1 (Yes) 2 (No) 96 (Valid Skip) 99 (Not Stated) Coverage: All Respondents where SS_010 = 1 or 99 (Ever tried smoking a cigarette, even a few puffs or not stated **TP_001 (Question 18a)**: In the last 30 days, how often did you use any of the following? a) Cigarettes? 1 (Daily) 2 (Less than daily, but at least once a week) 3 (Less than weekly, but at least once in the last 30 days) 4 (Tried, but did not use in the last 30 days) 5 (I have never tried) 99 (Not Stated) Coverage: Respondents where SS_010 = 1 or 99 (Ever tried smoking a cigarette, even a few puffs or not stated)	1 = Yes 2 = No 99 = Not Stated	Definition: A measure of the prevalence of having smoked one or more cigarettes in the last 30 days out of all respondents. This variable includes students who reported current smoking or experimental smoking who have used a cigarette in the past 30 days. This variable does not include students who have tried smoking, but never smoked a whole cigarette. This variable enables consistency with the definition used in previous cycles of CSTADS. Calculation: Code “Yes” if (SS_030 = 1 or 99) AND TP_001 = 1, 2, or 3 Code “No” if (SS_030 = 1 or 99 AND TP_001 = 4) OR (SS_030 = 99 AND TP_001 = 5) OR (SS_030 = 2 or 96) Code “Not Stated” for all remaining respondents who did not respond to question 18a (TP_001) OR (SS_030 = 1 AND TP_001 = 5)

Derived Variable	Related Survey Question(s)	Values and Labels	Definition and Calculation
	Note: If SS_010 = 2 "No" then TP_001 is given a value of "96=Valid Skip". If SS_010 = 1 "Yes" but respondent answered TP_001 = 5 "I have never tried", then TP_001 is given a value of 99 "Not stated" (missing).		
DVAMTSMK	**(All seven days from Question 15)** Thinking back over the last 7 days, how many whole cigarettes did you smoke each day? a) Sunday b) Monday c) Tuesday d) Wednesday e) Thursday f) Friday g) Saturday Component variables: WP_040A, WP_040B, WP_040C, WP_040D, WP_040E, WP_040F, WP_040G	0 = 0 whole cigarettes smoked 1:36 = Range: 1 to 36 whole cigarettes smoked 96 = Valid Skip 99 = Not Stated	Definition: The average number of whole cigarettes smoked per day across all 7 days in the past week. Calculation of Responses: (WP_040a + WP_040b + WP_040c + WP_040d + WP_040e + WP_040f + WP_040g)/7 Coverage: Respondents where SS_030 = 1 or 99 (Ever smoked a whole cigarette or not stated) [Note within the data: All responses of 37 or greater should be set to "99=Not stated". Respondents who have not smoked a whole cigarette (SS_030=2 or 96) should be set to "96=Valid skip".]
DVCIGWK	**(All seven days from Question 15)** Thinking back over the last 7 days, how many whole cigarettes did you smoke each day? a) Sunday b) Monday c) Tuesday d) Wednesday e) Thursday f) Friday g) Saturday	0 = 0 whole cigarettes smoked 1:252 = Range: 1 to 252 whole cigarettes smoked 996 = Valid Skip 999 = Not Stated	Definition: Total number of whole cigarettes smoked in the last 7 days. Calculation of Responses: WP_040a + WP_040b + WP_040c + WP_040d + WP_040e + WP_040f + WP_040g Notes: Not necessary for all to have valid responses. If all component variables have missing data then DVCIGWK = 999. Values with a

Derived Variable	Related Survey Question(s)	Values and Labels	Definition and Calculation
	Component variables: WP_040A, WP_040B, WP_040C, WP_040D, WP_040E, WP_040F, WP_040G		decimal of .5 or greater were rounded up. Coverage: Respondents where SS_030 = 1 or 99 (Ever smoked a whole cigarette or not stated)
DVNDSMK	**(All seven days from Question 15)** Thinking back over the last 7 days, how many whole cigarettes did you smoke each day? a) Sunday b) Monday c) Tuesday d) Wednesday e) Thursday f) Friday g) Saturday Component variables: WP_040A, WP_040B, WP_040C, WP_040D, WP_040E, WP_040F, WP_040G	0 = Did not smoke in the last 7 days 1 = Smoked 1 day in the last 7 days 2 = Smoked 2 days in the last 7 days 3 = Smoked 3 days in the last 7 days 4 = Smoked 4 days in the last 7 days 5 = Smoked 5 days in the last 7 days 6 = Smoked 6 days in the last 7 days 7 = Smoked every day in the last 7 days 96 = Valid Skip 99 = Not Stated	Definition: Number of days the respondent smoked at least one whole cigarette in the week prior to the survey. Calculation of Responses: A count of WP_040a, WP_040b, WP_040c, WP_040d, WP_040e, WP_040f, and WP_040g with valid responses excluding days with a missing or zero response. Notes: If all component variables are equal to the numeric value 0 or if some of the component variables are equal to the numeric value 0 and some are missing then DVNDSMK = 0. If all component variables have missing data then DVNDSMK = 99. Coverage: Respondents where SS_030 = 1 or 99 (Ever smoked a whole cigarette or not stated)
DVAVCIGD	Calculation of Responses: DVCIGWK / DVNDSMK	0 = 0 whole cigarettes smoked 1:36 = Range: 1 to 36 whole cigarettes smoked 96 = Valid Skip 99 = Not Stated	Definition: Average number of whole cigarettes smoked on the days that the respondent smoked. Calculation: If DVCIGWK and DVNDSMK = 0 then DVAVCIGD = 0. If either DVCIGWK or DVNDSMK were missing, then DVAVCIGD = 99.

Derived Variable	Related Survey Question(s)	Values and Labels	Definition and Calculation
			Notes: Values with a decimal of .5 or greater were rounded up Coverage: Respondents where SS_030 = 1 or 99 (Ever smoked a whole cigarette or not stated)
DVURBAN	Using information from Statistics Canada's 2021 Census Population Profile, the school's postal code was matched to its corresponding Census Dissemination Area (DA). Based on the Statistical Area Classification system variable SACTYPE obtained from Statistics Canada's 2021 Census Geographic Attribute (GA) file, each respondent was then assigned a rural or urban status based on the DA of the school they attended at the time of their participation in the survey. The SACTYPE variable distinguishes among census metropolitan areas (all of which are tracted), tracted versus untracted census agglomerations, and the residual area not in any census metropolitan area or census agglomeration ("rural and small town Canada"), with the latter further classified by the relative importance of commuting flows to work in any census metropolitan area or census agglomeration (CMACA) -- also known as "metropolitan influence zones" or MIZ.	1 = Urban 2 = Rural	Definition: To classify the respondent's school location as urban or rural. The school's postal code was used to calculate this variable. Coverage: All Respondents Calculation: Categories 1 to 3 would be categorized as Urban (DVURBAN = 1) and categories 4 to 8 would be categorized as Rural (DVURBAN = 2). Notes: Among cases where multiple DA's were associated with a school's postal code, urban/rural status was based on whether more than 50% of the corresponding DA's were classified as urban/rural according to the DVURBAN variable.

Derived Variable	Related Survey Question(s)	Values and Labels	Definition and Calculation
	SACTYPE has the following categories: 1 = CENSUS METROPOLITAN AREA 2 = TRACTED CENSUS AGGLOMERATION 3 = NON-TRACTED CENSUS AGGLOMERATION 4 = NON-CMACA, STRONG CMACA INFLUENCE 5 = NON-CMACA, MODERATE CMACA INFLUENCE 6 = NON-CMACA, WEAK CMACA INFLUENCE 7 = NON-CMACA, NO CMACA INFLUENCE 8 = NON-CMACA, TERRITORIES		