Cayman Islands Student Drug Use Report 2018

Comparative Survey about Drug Use among students from 7th to 12th Years in the Cayman Islands.

National Drug Council
Cayman Islands

Dr. Ken-Garfield Douglas, Consultant
Luisa McLaughlin, Research Analyst
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Introduction

The National Drug Council presents the report of the ninth cycle of the Cayman Islands Student Drug Use Survey (CISDUS), 2018, which was conducted with the objective of estimating the magnitude and characteristics of the consumption of psychoactive substances in the school population, public and private educational centres nationwide.

To achieve the implementation of the survey among students, it was fundamental to ensure that there was a strategic alliance with the schools for the planning, organization and administration of the questionnaires. The survey questionnaire was divided into two: one specifically for years 7-8 and one specifically for years 9-12, to ensure comprehension of all questions. Survey implementation occurred during the weeks of February 26th – March 19th, 2018, utilizing one class period (approximately 40 minutes) and recorded an 85% response rate.

The supply, trafficking and consumption of drugs is a problem that transcends international borders, transcends public health, does not discriminate against age, gender, educational level or religion, and its consequences affect the family nucleus, the community and society. The problem of drug use is a complex task, especially around the schools. Therefore, the importance of this type of study is to help with the accumulation of scientific evidence to guide decision-making in the definition of programmes for the reduction of drug use.

In the dynamics of supply and demand of drugs, there are institutions, agencies and communities responsible, who work hard to prevent the consequences as well as the problems that pertain to drugs. Consequently, it is very important that the results of the present study provide the opportunity to work intra- and inter sectorally, in order to intervene in the multiple factors that influence drug trafficking and consumption, such as drug strategies prevention, treatment and rehabilitation.

Objectives and Methodology

General Objective:

To determine the magnitude and characteristics of the consumption of psychoactive substances amongst the school population between the ages of 11 and 18 years old in the Cayman Islands.

Specific Objectives:

- To understand the nature and extent of the drug problem amongst middle and high school students.
- To be able to track changes in drug use patterns over time.
- To aid in the development and strengthening of prevention programmes and policies.
- To examine and monitor trends in the prevalence and frequency of substance use

Methodology:

- ***Conceptual Framework:***

The World Report on Drugs of the Year 2018[1], mentions that Cannabis was the most commonly used drug in 2016. The global number of cannabis users continues to rise and appears to have increased by roughly 16 percent in the decade ending 2016, which is in line with the increase in the world population. The quantities of cannabis herb seized globally declined by 27 percent, to 4,386 tons, in 2016. The decline was particularly marked in North America, where the availability of medical cannabis in many jurisdictions and the legalization of cannabis for recreational use in several states of the United States may have played a role.

The Report on Students' Drug Use in 13 Caribbean Countries (2016)[2]showed that alcohol and marijuana are the main drugs of use in most of the Caribbean

[1] World Drug Report, 2018. United Nations Office on Drugs and Crime.
[2] Report on Students' Drug Use in 13 Caribbean Countries, 2016. OID/CICAD.

countries. Prevalence is relatively high but there is substantial variability from country to country. Tobacco is also used throughout the region, but to a lesser extent than alcohol and even marijuana. Prevalence suggests that cigarette use is mainly for the purpose of experimentation, given that current use rates are very low. What is interesting is the comparison of the use of cigarettes versus marijuana—past year marijuana prevalence surpassed past year cigarette prevalence in most of the countries by a factor of two to three times in some instances, and past month prevalence for marijuana was also notably higher than past month cigarette use in most countries.

Besides the CISDUS, the Ministry of Health recognizes the use of illicit drugs as a serious health problem that has public impact on the entire population, especially adolescents, young people and adults of productive age. The beginning of consumption can be with licit drugs as well as illicit, which can lead to tolerance and addiction.

According to the World Health Organization (WHO), a "drug" is any substance that, introduced in the organism by any route of administration, produces an alteration, in some way, of the natural functioning of the central nervous system of the individual. It is also susceptible of creating dependence, be it psychological, physical, or both.

This survey among school-age children allows visualizing the age of onset in the consumption of drugs licit and illicit, helps to describe the pattern of consumption in this age group, as well as to capture the incidence of new drugs. It is also important to define strategies, preventive measures, and for the management of timely treatments in a highly vulnerable population.

- ***Survey Design:***

The CISDUS employs a complete census[3] of students enrolled in years 7 to 12. In 2018, 3,270 public and private school students from Grand Cayman and Cayman Brac completed anonymous, self-administered questionnaires during the period of February 26th to March 19th, 2018.

Although, sample surveys are preferable for collecting data in large populations, there are several advantages to conducting a complete census when the

[3] A census is the procedure of systematically acquiring and recording information about the members of a given population. It is a regularly occurring and official count of a particular population. The census can be contrasted with sampling in which information is obtained only from a subset of a population.

population is deemed small, as is the case for the Cayman Islands school population. First, public acceptance and compliance is often enhanced in census surveys. In turn, this also strengthens political acceptance and credibility, especially in new research endeavours. Second, data analysis is less complicated because calculation of sampling error is irrelevant. Third, survey administration is easier, and fourth, a census provides the maximum numbers required to study subgroup differences. In sum, a census can increase reliability of your data as well as the public acceptance of it.

- ***Sample Participation and Characteristics:***

Fourteen high schools and the University College of the Cayman Islands (just the students in Year 12) in the Cayman Islands participated in 2018. Of the 3846 (approximately) enrolled students, 3270 completed questionnaires at a participation rate of 85%.

- ***Data Interpretation and Presentation:***

Because the survey is based on a census, there is no sampling error attached to estimates (although estimates still have error based on non-sampling error such as misreporting). Thus, the calculation of confidence intervals is inappropriate. Although the data is population derived, there are still important reasons to perform inferential statistical analysis. First, a census can be regarded as a sample because it is subject to observational error (rates of ganja use could vary slightly if the census was replicated the following day) and it has a population limited in time and space. Second, random sampling is not a prerequisite for drawing statistical inference. For example, if we were to find numerical differences in alcohol use among districts, we still need to rule out the possibility of chance processes in generating the differences. Consequently, in this report we employ statistical tests, primarily the chi-square test, to ensure that differences are not due to chance processes. We report a difference as statistically significant if the probability is at the 0.05 level or lower.

Readers should note the following important points regarding the data analyses in this report:

(1) Since there is still the element of chance findings and the element of non-sampling errors (such as misreporting), we cannot treat all absolute differences in percentages as meaningful and important; and

(2) Small percentages are more unreliable than larger percentages.

- ***Questionnaire Design:***

A few months prior to the survey, a focus group was conducted with stakeholders from different arenas to help with choosing the most appropriate and relevant questions. Participants were comprised of:

- School principals and/or counsellors from various schools, and,
- Representative of partner agencies:
  - Her Majesty's Cayman Islands Prison Services
  - Cayman Islands Red Cross
  - Big Brothers Big Sisters
  - Governor's Office

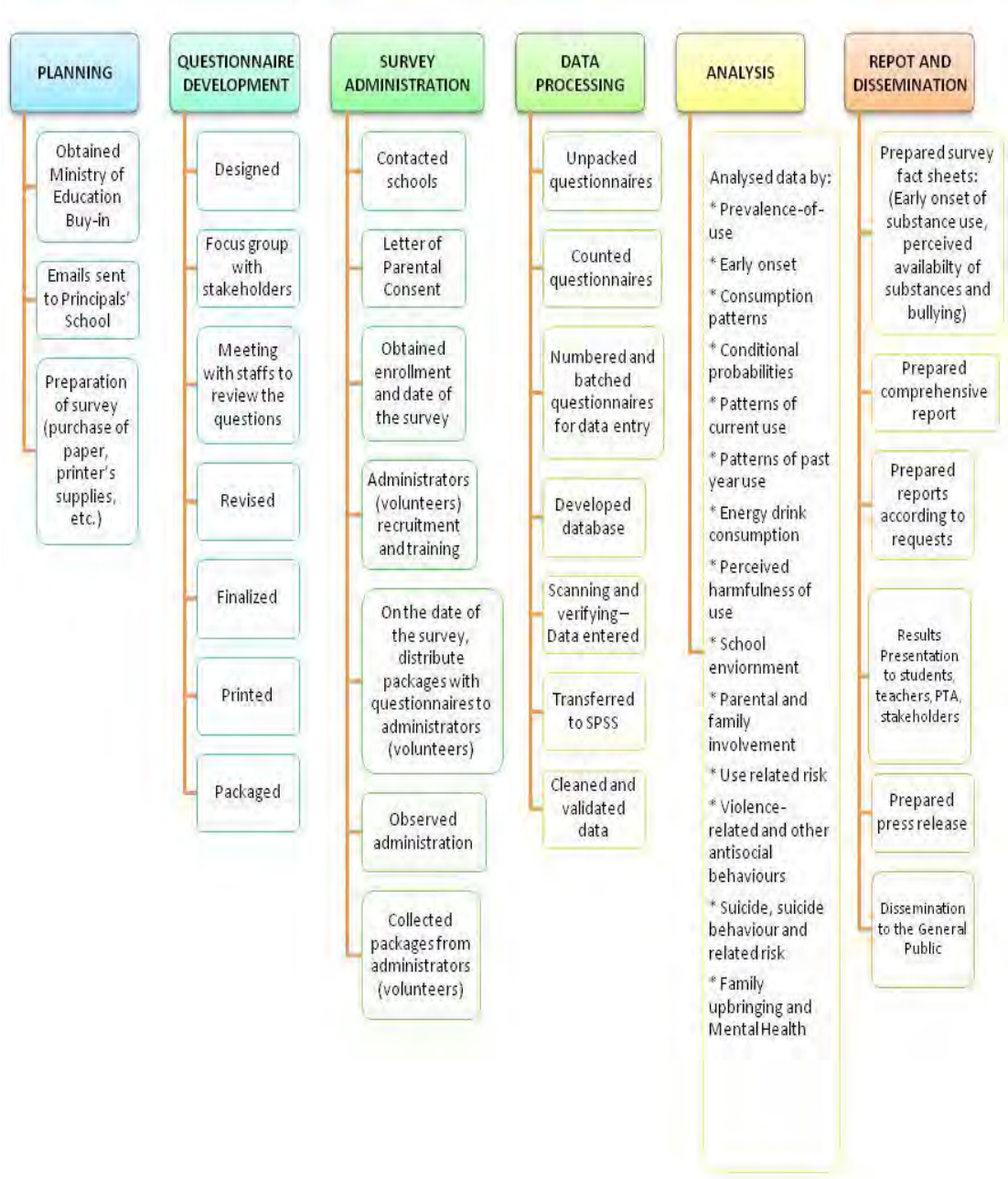
The 2018 CISDUS presented two questionnaires: one for students in Years 7, and 8 and another for students in Years 9, 10, 11 and 12. The first questionnaire was designed for the younger students (Years 7-8) and contains questions about demographics, school environment, experience with drugs (cigarettes, electronic cigarettes, alcohol and marijuana), energy drinks, violence related behaviours, health and feelings, and family upbringing.

For older students (Years 9 – 12), the questionnaire included questions about demographics, school environment, experience with drugs (cigarettes, electronic cigarettes, alcohol, marijuana, crack cocaine, cocaine powder, ecstasy, LSD, tranquilizers, and pain relief pills), energy drinks, violence related behaviours, health and feelings, and family upbringing (see questionnaires available at NDC website: www.ndc.ky

The average completion time was 30 minutes for students in Years 7-8 and 45 minutes for students in Years 9-12. Students were asked to evaluate the comprehension and sensitive nature of the questionnaire whereby more than half of the students (51.7%) indicated that the questionnaire was "easy" or "very easy" to understand; a small percentage (3.9%) indicated that the questionnaire was "difficult" or "very difficult". This latter finding provides some reassurance that social desirability should not greatly bias our estimates, even among the youngest students.

- ***Procedure:***

Survey procedure has been standard over all survey years. For more information about procedure, please visit our website, www.ndc.ky, for all prior reports.



Data Processing and Analysis:

Responses to the survey questions were captured directly onto the questionnaire by the respondents.

Data entry and analysis were conducted at the NDC:

- At each school site upon student completion, volunteer administrators returned the packages for counting, signing off and transfer to the offices of the NDC. There, packages were unpacked, counted, numbered, and batched for scanning, using OpenText Teleform, software specialized in scanning, reading and verifying questionnaires. This process spanned approximately four weeks.

- After the verification process is complete, data is then exported to SPSS for cleaning and analysis, and sent to Dr. Ken-Garfield Douglas, the external consultant, to perform the data analyses, fact sheets and comprehensive report.

The fact sheets produced for this survey were:

- Early onset of substance use
- Perceived availability of substances
- Bullying

Substance Use Measures and Definitions:

The CISDUS report primarily emphasizes the prevalence of substance use, i.e. the percentage of students who report using a given drug at some point in their lifetime, during the 12 months before the survey or more specifically during the 30 days prior to the survey. It is important to note that prevalence does not imply regular, frequent or problematic use, but it is an important first-order epidemiological indicator of the size of the population that has at minimum tried a substance. Throughout this report certain terms have been used to describe the prevalence of substance use.

*Definition of Variables:

The World Health Organization (WHO) defines ***drugs*** as any natural substance or synthetic that when introduced into the body is capable, due to its effects on the system central nervous system, to alter and modify the psychic, emotional activity and functioning of the organism.

Illicit drugs are those whose production, carrying, transportation and marketing is legally prohibited or used without medical prescription.

They are distinguished according to their origin in natural drugs (from some plant) or synthetic (made from chemical substances).
In accordance with the objectives of the study, the following psychoactive substances were considered:

- Cigarettes
- Electronic Cigarettes
- Alcohol (in any of its forms: wine, beer, hard liquor as whisky, rum, vodka, tequila, etc.)
- Crack cocaine
- Cocaine powder
- Ecstasy
- LSD
- Tranquilizers without a medical prescription
- Pain killers without medical prescription (i.e.: oxycodeine)

Prevalence: The term prevalence refers to the proportion of a population who has used a drug over a particular time period. In this population survey of middle and senior school students, prevalence is measured by asking students to recall their use of drugs. Typically, the three most widely used recall periods are: lifetime (ever used a drug), last year (used a drug in the last twelve months), and last month (used a drug in the last 30 days).

- *Lifetime prevalence:* the proportion of survey respondents who reported ever having used the named drug at the time they were surveyed (that is, at least once). A person who records lifetime prevalence may – or may not – be currently using the drug. Lifetime prevalence should not be interpreted as meaning that people have necessarily used a drug over a long period of time or that they will use the drug in the future.

- *Annual (past 12 months) prevalence*: the proportion of survey respondents who reported using a named drug in the year prior to the survey. For this reason, last year prevalence is often referred to as recent use, and also classified as lifetime prevalence.

- *Current (past 30 days) prevalence*: the proportion of survey respondents who reported using a named drug in the 30-day period prior to the survey. Last month prevalence is often referred to as current use, and also classified as

lifetime and recent prevalence. A proportion of those reporting current use may be occasional (or first-time) users who happen to have used in the period leading up to the survey – it should therefore be appreciated that current use is not synonymous with regular use.

Binge drinking: A report of five drinks or more in a row within the past two weeks.

Early onset: The age of onset is a very important indicator in the policies on substance use; therefore, it must be interpreted with great precision. This calculation is done on the basis of those students who have already consumed a certain substance, no matter how small this group may be. On the other hand, it must be recognized that the subpopulation that does not participate in this indicator (because until the time of the study had never been consumed) could reach to do it in the future, at a later age, in such a way that if the cohort of people were followed in time, the average and median age of first use would be higher.

Survey Limitations:

Research findings has demonstrated that collecting data on alcohol, tobacco and drug use prevalence among young populations through surveys is the most efficient and frequently used method of collection; the advantage of school surveys is that they are cost-effective and relatively easy to conduct. However, some limitations and disadvantages are associated with school surveys.

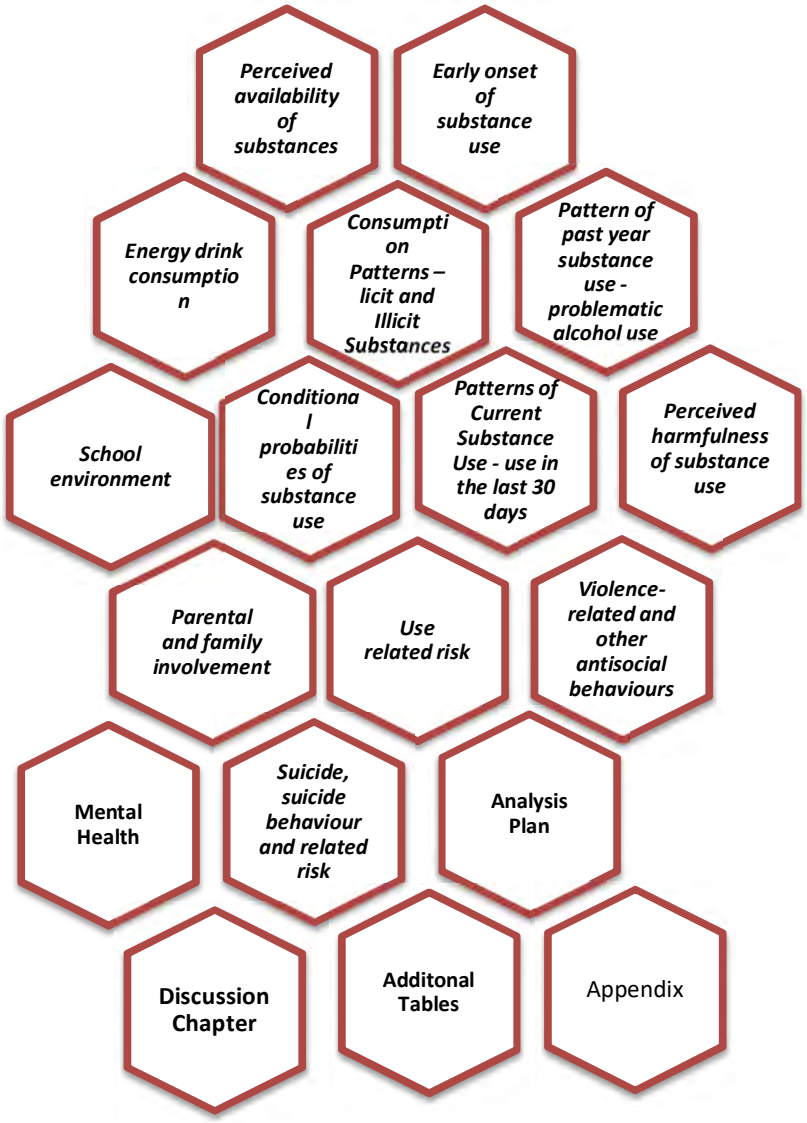
Participation: The survey was restricted to students enrolled in public and private schools. Excluded were students from home-schools and school leavers. Students who were absent on the day of survey administration and special education classes were not represented. Students from two schools were unable to participate due to the timing of the survey.

Reliability: The risk of receiving inaccurate responses is probably higher if the data collection setting is less formal, that is, if the student thinks that classmates might be able to see their responses. There is strong evidence from many studies, however, that data collected through school surveys have a high level of reliability and validity. To minimize the effects of overestimation a very large population frame was utilized. Additionally, consumption questions were asked in a variety of ways as a means of confirming previous responses. As this survey was based on self-reported data, the results should therefore be interpreted with caution.

Literacy: Literacy issues posed a challenge to a few students in completing the questionnaire on their own, especially from Years 7 and 8; and, therefore, volunteers and teachers (in some schools) were permitted to verbally read the survey questions aloud.

Volunteers: A month and a half prior to the survey information flyers/emails requesting volunteers to participate in the survey were distributed. The response was not as expected, despite the large database of volunteers that we have at NDC, not many volunteers returned to participate in this cycle. Press releases, radio and social media were used to invite the public to participate in this initiative.

Since we did not get the number of volunteers necessary for the administration and in order to cover the demand, it was necessary to split the largest schools to cover all grades. Three days were necessary to administer the survey at John Gray High School, Clifton Hunter High School and Cayman Islands Further Education Centre.


Perceived availability of substances
Early onset of substance use
Energy drink consumption
Consumption Patterns – licit and Illicit Substances
Pattern of past year substance use - problematic alcohol use
School environment
Conditional probabilities of substance use
Patterns of Current Substance Use - use in the last 30 days
Perceived harmfulness of substance use
Parental and family involvement
Use related risk
Violence-related and other antisocial behaviours
Mental Health
Suicide, suicide behaviour and related risk
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Analysis Chapter - Results of Data Analysis

This section presents the 2018 results for 15 selected key themes by four comparison variables: gender, age, location (districts) and grade level. For each theme the results are shown in tables and charts and they are compared with the unweighted survey averages. The eight key themes are within the questionnaire item and for more detailed information about each them and comparison variables please refer to the master questionnaire and to the result tables. The key themes are listed following:

Perceived availability of substances

Early onset of substance use

Consumption Patterns – licit and Illicit Substances

Conditional probabilities of substance use

Patterns of Current Substance Use - use in the last 30 days

Pattern of past year substance use - problematic alcohol use

Energy drink consumption

Perceived harmfulness of substance use

School environment

Parental and family involvement

Use related risk

Violence-related and other antisocial behaviours

Suicide, suicide behaviour and related risk

Family Upbringing and Mental Health

Summary of Key Results - Overall

Perceived Availability of Substances

- Fourteen percent of the students in the survey replied that they would find it 'somewhat easy', 'easy' or 'very easy' (hereafter referred to as 'easy') to get hold of cigarettes if they wanted to. The survey average for e-cigarettes was 23%.
- Gender differences were statistically significant at the aggregate level (13.8 % for boys versus 12.9% for girls, χ^2 =11.648, p=0.003). The Gender differences were also statistically significant for e-cigarettes at the aggregate level (25 % for boys versus 20.9% for girls, χ^2 =9.45, p=0.009).
- Where differences were observed, proportions were generally higher for boys than girls. However, in the case of availability of cigarettes, girls in East End district reported a slightly higher prevalence than males. In the case of availability of e-cigarettes, girls in the district of West Bay reported a slightly higher prevalence than males (21.1% for girls versus 19.9% for boys).
- Girls reported a statistically significant higher prevalence than boys (28 % for boys versus 32.5% for girls, χ^2 =9.348, p=0.09) with respect to perceived availability of alcoholic beverages. Girls in all districts, except Cayman Brac, reported a higher prevalence than males (2-10 percentage points higher).
- Overall, girls were more likely than boys to consider marijuana to be easily available (survey average: 14% versus 13%, p>0.05). This was also the case for three of the six districts (George Town, North Side and West Bay); girls reported prevalence that was 1-3 percentage points higher.

Age of First Use and Early Onset of Substance Use

- Boys were significant more likely than girls to report an earlier age of first use for the illicit drugs (crack. cocaine powder, ecstasy and LSD). However, age of first use of all licit substances and including marijuana was about the same for boys and girls. Girls (12 .5 years) were more likely to report an earlier age of first use for pain killers than boys (13.6 years)

- Both on overall average and in most individual district, more boys than girls have smoked cigarettes at the age of 13 or younger. Overall, boys were significant more likely to report early onset of cigarette use - (8.4% for boys versus 6.2% for girls, χ^2 =7.15, p=0.028).
- More than twice as many students (16.3%) - compared to early cigarette use - had smoked e-cigarettes at the age of 13 or younger. There was a statistically significant difference among boys and girls with respect to early onset of e-cigarette use. Overall, boys were significant more likely to report early onset of e-cigarette use - (17.6% for boys versus 14.7% for girls, χ^2 =6.51, p=0.038).
- Girls were significant more likely than boys to have used alcohol at the age of 13 or younger (29.3% for girls versus 26.4% for boys, χ^2 =9.47, p=0.009). The highest gender differences were found in Cayman Brac (33.8% for girls versus 20.8% for boys, a difference of 13 percentage points) and North Side (29.5% for girls versus 22.9% for boys, a difference of 6.6 percentage points).
- Boys were more likely than girls to have used marijuana at the age of 13 or younger (7.7% for boys versus 6.4% for girls, p>0.05). The highest gender differences were found in East End (13.2% for boys versus 5.4% for girls, a difference of 7.8 percentage points) and North Side (13.6% for girls versus 8.3% for boys, a difference of 5.3 percentage points).

Consumption Patterns – licit and Illicit Substances

- Overall lifetime prevalence of cigarettes was 16.4% - one in six students reported having tried cigarettes. Rates of cigarette smoking range between 14.4% and 18.8% in the districts. The average lifetime prevalence of cigarette smoking was about the same among boys (16.8%) and girls (15.4%).
- On average, 3.7% of the students in the survey had used cigarettes during the last 30 days. The highest rates were found in North Side (5.3%), and East End (4.2%). The average rates for boys and girls were about the same, and the gender rates were also close in most districts.

- Overall lifetime prevalence of e-cigarettes was 32.8% - about one in three students reported having tried cigarettes. Rates of e-cigarette smoking range between 23.1% and 43.8%.
- In all but one district, 29% or more of the students had tried smoking e-cigarettes at least once. The average lifetime prevalence of e-cigarette smoking was significantly different by gender: boys (35.1%) and girls (30%), %, χ^2 =9.36, p=0.002).
- The average rates for boys and girls were significantly different, and the gender rates also varied considerably in most districts. The survey average for last 30 days or current prevalence for boys was (15.3%) and girls (9.4%), χ^2 =25.476, p=0.000.
- The survey average for lifetime alcohol use was 54.4%. The lifetime prevalence among the district ranged from 45-56 %. The highest rates of lifetime alcohol prevalence (55% or more) were found in Bodden Town (56%), East End (55.2%) and George Town (55.3%).
- Overall, 31% of the students in the survey had consumed alcohol during the 30 days prior to the survey. The highest rates of last 30 days or current alcohol prevalence were found in Bodden Town (32.9%), East End (37.5%) and George Town (31.9%).
- On average, more girls than boys have drunk alcohol during the 30 days prior to the survey (33.5% for girls versus 29% for boys), χ^2 =7.203, p=0.007). The district with a particularly large gender difference in this direction was East End (46.4% girls versus 23.7% boys -22.5 percentage points).
- The most prevalent illicit drug reported in the survey is marijuana. On average, 29.8% of the students have used marijuana at least once in their lifetime.
- Greater than 25% of students in all districts reported having used marijuana at least once in their lifetime. On average, boys reported similar lifetime use as girls (29.9% versus 29.5%).

- Overall, 14.6% of students in the survey had consumed marijuana during the 30 days prior to the survey. The highest rates of last 30 days or current marijuana prevalence were found in East End (19.8%), Bodden Town (17.2%) and North Side (17%).
- The most frequently tried illicit drugs were ecstasy and LSD. Prevalence was negligible for all occurrences (2.8% ecstasy and 1.7% LSD).

Use of pharmaceuticals

- Overall lifetime prevalence of the use of tranquilizers without prescription was 2.5% with negligible use in the last 30 days at 0.5%. Lifetime use was most prevalent in North Side (3.4%) and East End (3.1%). On average, slightly more boys than girls reported use of tranquillizers without prescription (lifetime) (2.9% versus 2.2%).
- On average, use of painkillers without prescription was reported by 8.2% of the students for lifetime and 2.6% for last 30 days or current use.
- Unlike tranquillizers, slightly more girls (9.7%) than boys (6.8%) reported lifetime use of painkillers—this difference was statistically significant, $\chi^2 = 5.465$, $p=0.019$). The was the same in the case of current use, slightly more girls (3.6%) than boys (1.7%) reported current use of painkillers—this difference was statistically significant, $\chi^2 = 7.111$, $p=0.008$).

Conditional probabilities of substance use

- Among students who have used cigarettes at least once, 77.7% have used e-cigarettes, 86.6% have also used alcohol, 67.8% marijuana, 2.4% crack cocaine, 8.9% ecstasy, 7.9% tranquillizers or sedatives and 16.3% pain killers without a doctor's prescription.
- Almost every student (79.6%-98%) that has used a licit or illicit substance also reported having used alcohol, but not every student who has tried alcohol has also tried another substance.

- Boys and girls who have used cigarettes at least once were as likely to report notable high proportion of e-cigarettes use (77.2% versus 78.3%), alcohol (84.3% versus 89.2%), marijuana (68.4% versus 71.1%).
- Among students that have used alcohol, 25.7% tried cigarettes, 41.8% e-cigarettes, 43.5% marijuana and 11% pain killers.
- About a quarter of boys and girls who have used alcohol at least once reported use of cigarettes (26.8% versus 24.6%). However the prevalence of e-cigarettes was notable higher (51.8% versus 45.9%), as was marijuana use (43.7% versus 43.4%).
- Of the students that have used marijuana, 36.8% have also used cigarettes, 59.8% e-cigarettes, 79.6% alcohol, pain killers (12.6%), crack cocaine (1.6%) or tranquillizers (5.5%) or ecstasy (6.5%).
- Boys and girls who have used marijuana at least once were as likely to report notable high proportion of cigarette use (36.5% versus 37.1%), e-cigarettes (63.3% versus 54.6%) and alcohol (77.2% versus 82%). Girls were notable more likely to report higher proportional use of alcohol compared to boys.
- Among users of tranquilizers and pain killers, 65% or more have also used cigarettes, e-cigarettes or alcohol and 52% or more have tried cannabis.
- Boys who have used tranquilizers reported a significantly higher prevalence of pain killer use (82.8% compared to girls (63.6%) as well as ecstasy use (58.6% compared to girls (22.7%).

Patterns of current use

Heavy episodic drinking (binge drinking) in the last 30 days

- Among students who reported drinking in the 30-day period prior to the survey, more than half of the students, (every second student), (53.7 %) reported heavy episodic drinking during the last 30 days

- This drinking pattern was found more often in East End (65.6%), Cayman Brac (62.1%) and North Side (58.3%). The difference between boys and girls was about 9 percentage points on average, with generally higher figures for boys
- The overall gender difference between boys and girls was statistically significant, boys (58.1%) and girls (49.6%), χ^2 =6.738 p=0.009).
- Significant gender differences were found in two of the districts, with the largest differences in North Side (37 percentage points) and East End (29 pp). However, in Cayman Brac slightly more girls than boys reported heavy episodic drinking at least once in the last 30 days (62.5 % for girls versus 61.5% for boys).

Frequency of alcohol use in the last 30 days

- Among students who had used alcohol in the last 30 days, the prevalence of drinking alcohol daily was 2.8% for beer, 3.3% for wine, 2.9% for coolers and 3.9% for liquor.
- Boys were more likely than girls to have consumed these beverages on a daily basis (boys were five times more likely to consume beer, and about two times more likely to have consumed wine and spirits compared to girls).
- Among students who had used alcohol in the last 30 days, the prevalence of drinking alcohol only on weekends was 13.7% for beer, 9.9% for wine, 18% for coolers and 18.6% for liquor. Boys were as likely as girls to have consumed these beverages on weekends only.
- 5% of students had consumed at least one of the alcoholic beverages mentioned on a daily basis—5.9% for boys and 4% for girls. Additionally, 20.8% of students had consumed at least one of the alcoholic beverages mentioned on a 'weekends only' basis during the last 30 days prior to the survey--22% for boys and 19.8% for girls.
- On average, liquor (40%) and coolers (36%) were the preferred alcoholic beverages consumed in the last 30 days. Preference for wine was 28.9% and beer 25.4%.

- The difference between boys (30.5%) and girls (20.7%) with respect beer consumption was about 10 percentage points. This difference was statistically significant, χ^2 =19.265, p=0.000). The difference between boys (32.4%) and girls (39.4%) with respect to consuming coolers as a preference was also statistically significant, χ^2 =7.993, p=0.005).

Daily cigarette use

- Overall, 3.4% of all students surveyed smoked cigarettes every day in the last 30 days (3% each for boys and girls. The proportions for e-cigarettes was somewhat higher—7.4% overall (13% among boys and 8% among girls).
- Among students who had smoked e-cigarettes in the last 30 days (n=342), 77.5% had smoked 1-5 refills daily, a further 9.6% had smoked 6-10 refills, 5.3% smoked 11-20 refills and another 7.3% had smoked more than 20 refills daily. Girls were more likely to report higher proportions for the smoking 1-5 and 11-20 e-cigarettes refills daily while boys reported higher proportions for (6-10 and >20 refills daily).

Energy drinks

- Lifetime consumption was reported to be 70.5% overall. The consumption was significantly higher among boys (74.9%) as compared to girls (66.1%), p<0.001. Of those who had ever consumed an energy drink, 13.4% reported that they had mixed alcohol in an energy drink for consumption—(13.3% each for boys and girls).
- With respect to mixing energy drink with alcohol, the district with the highest prevalence was Bodden Town (15.2%) followed by East End (14.1%).
- Cayman Brac and North Side reported the lowest prevalence for lifetime prevalence of energy drink consumption while East End reported the lowest prevalence for mixing energy drink with alcohol.
- Students who reported lifetime or current use of cigarettes and marijuana were significant more likely to also report lifetime consumption of energy drink (p<0.001), Table xx). Greater than 80% of

either lifetime or last 30 days users of both cigarettes and marijuana reported having consumed energy drinks.

Friends Substance Use

- About a third of the students (32.6%) reported that they had friends who had smoked cigarettes; some 12% had friends who had smoked e-cigarettes; just over half of the students (51%) had friends who had drank alcohol; and almost half (46.9%) had friends who had smoked marijuana.
- With respect to smoking cigarettes, notable more girls (35.5%) compared to boys (30.1%) reported this.
- Overall prevalence for friends who smoke e-cigarettes was 12%. Boys (14.3%) reported a significantly higher proportion of friends who smoked e-cigarettes than girls (9.3%), $\chi^2 = 6.897$, $p=0.005$).
- Overall prevalence of friends who drank alcohol was 51%. A notable higher proportion of girls (53.6%) compared to boys (48.6%) had friends who had drank alcohol. This difference however was not statistically significant.
- Overall prevalence of friends who smoked marijuana was 47%. Boys and girls reported about the same proportions of friends who had smoked marijuana in the last 12 months (45.4% for boys versus 48.3% for girls).
- The proportions reported by districts were significantly difference ($p<0.05$) with higher proportions reported for George Town (50.2%), West Bay (49.3%), and lower proportions for Cayman Brac (31%) and East End (25%).
- When the relationship of friend's substance use was tabulated by grade levels it showed that in all cases (for all substances) the proportion of friends who reportedly used drugs increased proportionally as grade levels increased. These observed increases were statistically significant at the $p<0.001$ level.

Perceived Harmfulness of Substance Use:

- Perception of **no risk** of harm related to the use of the substances indicated ranged from a low of 6.1% for drinking alcohol daily to a high of 40.8% for using marijuana once or twice.
- Some 6.9% of students did not see any risk of harm for smoking one or more packs of cigarettes daily, while 28.3% said there was no risk to smoking e-cigarettes and 23% said no risk for regularly smoking marijuana.
- On the other hand, a notable high proportion of students reported **great risk** of harm for smoking one or more packs of cigarettes daily (69%), drinking alcohol daily (51.8%), regularly smoking marijuana (28.2%), using marijuana once or twice (15.7%) and smoking e-cigarettes (12.5%).

Perception of risk of harm and current substance use

- For students who said there was no risk of harm from smoking cigarettes, 21.9% were current smokers while for those who said there was great risk, only 8.2% were also current smokers.
- With regards to e-cigarettes smoking, 148/345 (42.2%) of those who said there was no risk of harm were also currently smoking e-cigarettes compared to only 6.6% who felt there was great risk of harm. ***Important to note that 77/122 (60.7%) of current cigarettes smokers were also smoking e-cigarettes.***
- For alcohol, 69.7% of students who felt there was no risk were current users of alcohol compared to 54.5% who felt there was great risk. Some 82.8% students who felt there was no risk in smoking marijuana once or twice were current users of marijuana compared to only 19.2% who felt there was great risk.
- Likewise, for smoking marijuana regularly, a high proportion (70.6%) who felt there was no risk in smoking marijuana regularly were current users of marijuana compared to only 30.9% who felt there was great risk.

- Perceptions of risk of harm among boys and girls showed statistically significant differences, as it relates to perception of no risk - significantly more boys felt that there was no risk of harm within all five categories of substance use when compared to girls. For example, twice as many boys (30.9%) compared to girls (15.4%) felt there was no risk of harm related to smoking marijuana regularly.

Prosocial involvement and school bonding

- Students who had a strong bond to school were significantly more likely to report less past year and last 30 days substance use in all categories. Students with no school bonding were two times more likely to report current cigarette use (OR 1.741 95%CI 1.093-2.772), 1.8 times more likely to report last 30 days marijuana use and 1.6 times more likely to report e-cigarettes use in the last 30 days.
- A much larger proportion of students felt that there are students who try drugs at their school (81% overall, with a significantly higher proportion of girls (85%) compared to boys 77%, chi square test, $p<0.05$).
- However, the study found that students who report a positive school climate, in the context of 'school bonding", related to feeling safe, having a strong support system at school and feeling a part of the school) were less likely to engage in drug use.

Parental Involvement

- Significantly, more boys (14.3%) reported this compared to girls (9.3%), $p<0.01$. Some 4% of smokers overall could smoke cigarettes at home. Like e-cigarettes, the difference between boys (5.4%) and girls (1.9%) was also statistically significant, $p<0.01$.
- Smoking marijuana at home was reported by 5% of marijuana smokers overall. Again boys (6.4%) were significantly more likely to report this compared to girls (3.2%), $p<0.05$.

- As grade levels increased, the proportion of students reporting being allowed to use substances at home also increased significantly (for e-cigarettes: from a low of 7% to a high of 20.8% at the highest grade; and for alcohol, from a low of 17.3% to a high of 54.5% at the highest grade).

Family Involvement and History of Use

- Four in ten students (41%) reported that that someone in their family has had an alcohol or drug problem. Significantly more girls (44.9%) than boys (36.5%) reported this to be the case.

Family attachment and prosocial involvement

- Just about one-third of student overall (34%) said persons in their family often insults or yell at each other (a significantly higher proportion of girls (38.4%) compared to boys (28.8%) reported this, $p<0.01$.

Overall Use-Related Risks and Gender Differences

- The proportion of students who indicated that they have experienced getting into an arguments or fights was 23.5%. This was reported by 26.5% of boys compared to 20.3% of girls, a difference of 6.2 percentage point that was statistically significant, $p<0.05$.

Violence-related Behaviours - Bullying

- More than half of the students overall (54%) reported been bullied at some time, while bullying in the past 30 days was even lower (23.8%).
- The proportions reported by boys and girls were significantly different for all items. Significantly more girls (66.2%) compared to boys (62.9%) reported ever been bullied, $p<0.001$).
- This was also the case for past year bullying (44% girls versus 37.3% girls, $p<0.01$), and for last 30 days (25.7% girls versus 21.5% boys, $p<0.05$).

- Interestingly, significantly more girls (24%) reported having bullied someone at school or in the community when compared to boys (18.9%), $p<0.01$.
- For those who have been bullied, the higher proportions were reported for the two earliest level (Year 7 and Year 8). For those who had bullied someone, the grade level reporting the highest proportion was Year 11 (29.3%).

Weapons in Community or at School

- Overall, 67.2% of students reported that they had carried a weapon in the community or at school (67.2% boys and 65.1% girls). Higher than average proportions were reported for Cayman Brac (85.7%) and Bodden Town (71.3%).
- In relation to number of times threatened, a small proportion overall indicated been threatened (8.8%). Boys (11.5%) were significantly more likely to report this compared to girls (6.5%), $p<0.05$. Higher than average proportions were noted for North Side (11.1%).

Other Antisocial Behaviours

- Overall 9.8% of students got suspended because of violence. The difference between boys (12.3%) and girls (7.4%) was statistically significant, $p<0.05$. About 6% of students overall reported belonging to a gang/crew. The difference between boys (7.6%) and girls (3.7%) was statistically significant, $p<0.05$.

Suicidal Ideations and Suicide Attempts

- About one in three students (34.2%) reported that they had seriously considered attempting suicide (n=664) – significantly more girls (45.5%) compared to boys (21.6%).
- The prevalence of actual attempted suicide was 13% overall (n=244). Again, girls (18.2%) were significantly more likely to report this compared to boys (7.1%).
- About 5% reported that their suicide attempt had to be treated by a doctor or nurse (n=90) - (7.1% among girls and 2.9% among boys).

Self-harming Behaviour

- Overall, 28.1% of students reported that they have engaged in self-harming behaviours such as cutting, burning, scratching, hitting or banging body parts, pinching, etc. This was reported by over 500 students. Again, girls (40.8%) were significantly more likely to report this compared to boys (13.7%).

Abuse (physical, sexual and "any or both")

- Physical abuse overall was reported by 16.7% of students overall (n=312). Girls (20.4%) were significantly more likely to report this compared to boys (12.4%). In terms of sexual abuse, the prevalence was 9.9% overall (n=185) with girls (15.8%) significantly more likely to report this compared to boys (3.4%).
- A variable was computed for "any abuse", whether physical or sexual and the prevalence was 21.8% (n=412). Twice as many girls (28.6%) compared to boys (14.3%) reported either being physically or sexually abused.

Risk Factors for Suicide Among Students

Abuse (physical, sexual and "any or both")

- Physical abuse overall was reported by 16.7% of students. About 30% of students who were physically abused had attempted suicide compared to about 10% of those who had not been physically abused. Students who were physically abused were 3.9 [OR=3.967] times more likely to attempt suicide compared to those who were not so abused.
- The reported prevalence of sexual abuse was 9.9%. Students who were sexually abused were six times more likely [OR=6.025] to have attempted suicide compared to those who were not so abused (39.9% versus 9.9%).
- The relationship between suicide attempt and students who reported either sexual or physical abuse or both ("any abuse") was also explored. The prevalence of "any abuse" overall was 21.8% and students who had

experienced "any abuse" were four times [OR=4.405] more likely to have attempted suicide compared to those who had not (29% versus 8.5%).

Ever Been Bullied

- The prevalence of being bullied overall was 54%. Students who were bullied were 5.6 times more likely [OR=5.641] to have attempted suicide compared to those who were not bullied abused (20.5% versus 4.4%).

Binge Drinking

- The prevalence of binge drinking overall was 19.7%. Students who reported binge drinking were 1.6 times more likely [OR=1.563] to have attempted suicide compared to those who had not reported binge drinking (16.9% versus 24.1%).

Self-harming Behaviours

- The prevalence of self-harming overall was 28.1%. Students who reported self-harming were 17 times more likely [OR=16.930] to have attempted suicide compared to those who had not reported self-harming drinking (38.2% versus 3.5%).

Age

- The relationship between age grouping and the risk of suicide was explored by chi-square test. There was a significant difference between rates among the younger cohort (those age 13, 14 or 15 with a cumulative prevalence of 34%) and the older cohort (those age 16, 17 or 18 with a cumulative prevalence of 41%), $p<0.01$.

Meaning of Mental Health/Health Education re MH

- Most all students (92.2% overall and 90.4% boys and 93.8% girls) said they understood what was meant by mental health (table 19). However, less than half (45.8%) of the students said they were not taught about mental health in school.

Violence and Aggression/Life-Threatening Event

- One in six students (59.9%) reported that they have witnessed violence and aggression (61.2% boys and 58.3% girls). Most students had witnessed this at home (38%) followed by in the community (34%) and at school (28.4%).

Family History of Mental Illness

- Six percent of students indicated that a parent or parents suffer from a mental illness. This was indicated by 5% of boys and 7% of girls. When asked if they had ever been diagnosed with a mental illness, 9.7% (n=173/1775) of grades 8-12 students said they had been so diagnosed, -- (68/830 or 8.2% boys) and (101/910 or 11% girls).

Family History of Mental Illness

- Six percent of students indicated that a parent or parents suffer from a mental illness. This was indicated by 5% of boys and 7% of girls. When asked if they had ever been diagnosed with a mental illness, 9.7% (n=173/1775) of grades 8-12 students said they had been so diagnosed, -- (68/830 or 8.2% boys) and (101/910 or 11% girls).

Mental Health – Anxiety and Depression

- Data showed that students in grade 10 and above exhibited more clinical threshold. Girls experienced higher clinical threshold than boys meaning that our services need to be targeting girl's mental health.

- Data regarding mental health education in the community indicated that over half of the young people had not been taught about mental health in school and 23.6% of the student show dissatisfaction to themselves and nearly 10% has a diagnosis of mental health difficulties. Meaning that community education about mental health is needed.

- Positive sign is that over 84.4% of the student have sought help regarding their difficulties.

Summary of Key Results - Boy/Girl Differences

Perceived Availability of Substances

- Gender differences were statistically significant at the aggregate level for availability of cigarettes (13.8 % for boys versus 12.9% for girls, χ^2 =11.648, p=0.003). The Gender differences were also statistically significant for e-cigarettes at the aggregate level (25 % for boys versus 20.9% for girls, χ^2 =9.45, p=0.009).
- Where differences were observed, proportions were generally higher for boys than girls. However, in the case of availability of cigarettes, girls in East End district reported a slightly higher prevalence than males. In the case of availability of e-cigarettes, girls in the district of West Bay reported a slightly higher prevalence than males (21.1% for girls versus 19.9% for boys).
- Girls reported a statistically significant higher prevalence than boys (28 % for boys versus 32.5% for girls, χ^2 =9.348, p=0.09) with respect to perceived availability of alcoholic beverages. Girls in all districts, except Cayman Brac, reported a higher prevalence than males (2-10 percentage points higher).
- Overall, girls were more likely than boys to consider marijuana to be easily available (survey average: 14% versus 13%, p>0.05). This was also the case for three of the six districts (George Town, North Side and West Bay); girls reported prevalence that was 1-3 percentage points higher.

Age of First Use and Early Onset of Substance Use

- Boys were significant more likely than girls to report an earlier age of first use for the illicit drugs (crack. cocaine powder, ecstasy and LSD). However, age of first use of all licit substances and including marijuana was about the same for boys and girls. Girls (12 .5 years) were more likely to report an earlier age of first use for pain killers than boys (13.6 years)
- Both on overall average and in most individual district, more boys than girls have smoked cigarettes at the age of 13 or younger. Overall, boys were significant more likely to report early onset of cigarette use - (8.4% for boys versus 6.2% for girls, χ^2 =7.15, p=0.028).
- There was a statistically significant difference among boys and girls with respect to early onset of e-cigarette use. Overall, boys were significant more likely to report early onset of e-cigarette use - (17.6% for boys versus 14.7% for girls, χ^2 =6.51, p=0.038).
- Girls were significant more likely than boys to have used alcohol at the age of 13 or younger (29.3% for girls versus 26.4% for boys, χ^2 =9.47, p=0.009). The highest gender differences were found in Cayman Brac (33.8% for girls versus 20.8% for boys, a difference of 13 percentage points) and North Side (29.5% for girls versus 22.9% for boys, a difference of 6.6 percentage points).
- Boys were more likely than girls to have used marijuana at the age of 13 or younger (7.7% for boys versus 6.4% for girls, p>0.05). The highest gender differences were found in East End (13.2% for boys versus 5.4% for girls, a difference of 7.8 percentage points) and North Side (13.6% for girls versus 8.3% for boys, a difference of 5.3 percentage points).

Consumption Patterns – licit and Illicit Substances

- Overall lifetime prevalence of e-cigarettes was 32.8% - about one in three students reported having tried cigarettes. The average lifetime prevalence of e-cigarette smoking was significantly different by gender: boys (35.1%) and girls (30%), %, χ^2 =9.36, p=0.002).

- The average rates for boys and girls were significantly different, and the gender rates also varied considerably in most districts. The survey average for last 30 days or current prevalence for boys was (15.3%) and girls (9.4%), χ^2 =25.476, p=0.000.
- On average, more girls than boys have drunk alcohol during the 30 days prior to the survey (33.5% for girls versus 29% for boys), χ^2 =7.203, p=0.007).
- The most prevalent illicit drug reported in the survey is marijuana. On average, 29.8% of the students have used marijuana at least once in their lifetime. On average, boys reported similar lifetime use as girls (29.9% versus 29.5%).

Use of Pharmaceuticals

- Overall lifetime prevalence of the use of tranquilizers without prescription was 2.5% with negligible use in the last 30 days at 0.5%. On average, slightly more boys than girls reported use of tranquillizers without prescription (lifetime) (2.9% versus 2.2%).
- On average, use of painkillers without prescription was reported by 8.2% of the students for lifetime and 2.6% for last 30 days or current use. Unlike tranquillizers, slightly more girls (9.7%) than boys (6.8%) reported lifetime use of painkillers—this difference was statistically significant, χ^2 =5.465, p=0.019).
- The was the same in the case of current use, slightly more girls (3.6%) than boys (1.7%) reported current use of painkillers—this difference was statistically significant, χ^2 =7.111, p=0.008).

Conditional Probabilities of Substance Use

- Boys and girls who have used cigarettes at least once (lifetime) were as likely to report notable high proportion of e-cigarettes use (77.2% versus 78.3%), alcohol (84.3% versus 89.2%), marijuana (68.4% versus 71.1%).

- About a quarter of boys and girls who have used alcohol at least once reported use of cigarettes (26.8% versus 24.6%). However, the lifetime prevalence of e-cigarettes was notable higher for boys (51.8% versus 45.9%), as was marijuana use (43.7% versus 43.4%).
- Boys and girls who have used marijuana at least once were as likely to report notable high proportion of cigarette use: boys (36.5%) versus girls (37.1%), e-cigarettes (63.3% versus 54.6%) and alcohol (77.2% versus 82%). Girls were notable more likely to report higher proportional use of alcohol compared to boys.
- Boys who have used tranquilizers reported a significantly higher prevalence of pain killer use (82.8% compared to girls (63.6%) as well as ecstasy use (58.6% compared to girls (22.7%).

Patterns of Current Use

Heavy Episodic Drinking (Binge Drinking) In The Last 30 Days

- Among students who reported drinking in the 30-day period prior to the survey, more than half of the students, (every second student), (53.7 %) reported heavy episodic drinking during the last 30 days. The difference between boys and girls was about 9 percentage points on average, with generally higher figures for boys.
  - The overall gender difference between boys and girls was statistically significant, boys (58.1%) and girls (49.6%), χ^2 =6.738 p=0.009). Significant gender differences were found in two of the districts, with the largest differences in North Side (37 percentage points) and East End (29 pp). However, in Cayman Brac slightly more girls than boys reported heavy episodic drinking at least once in the last 30 days (62.5 % for girls versus 61.5% for boys).

Frequency of Alcohol Use In The Last 30 Days

- Among students who had used alcohol in the last 30 days, the prevalence of drinking alcohol daily was 2.8% for beer, 3.3% for wine, 2.9% for coolers and 3.9% for liquor. Boys were more likely than girls

to have consumed these beverages daily (boys were five times more likely to consume beer, and about two times more likely to have consumed wine and spirits compared to girls).

- Among students who had used alcohol in the last 30 days, the prevalence of drinking alcohol only on weekends was 13.7% for beer, 9.9% for wine, 18% for coolers and 18.6% for liquor. Boys were as likely as girls to have consumed these beverages on weekends only.
- 5% of students had consumed at least one of the alcoholic beverages mentioned daily—5.9% for boys and 4% for girls. Some 20.8% of students had consumed at least one of the alcoholic beverages mentioned on a 'weekends only' basis during the last 30 days prior to the survey--22% for boys and 19.8% for girls.
- On average, liquor (40%) and coolers (36%) were the preferred alcoholic beverages consumed in the last 30 days. Preference for wine was 28.9% and beer 25.4%.
    - The difference between boys (30.5%) and girls (20.7%) with respect beer consumption was about 10 percentage points. This difference was statistically significant, χ^2 =19.265, p=0.000).
    - The difference between boys (32.4%) and girls (39.4%) with respect to consuming coolers as a preference was also statistically significant, χ^2 =7.993, p=0.005).

Daily Cigarette Use

- Overall, 3.4% of all students surveyed smoked cigarettes every day in the last 30 days (3% each for boys and girls. The proportions for e-cigarettes was somewhat higher—7.4% overall (13% among boys and 8% among girls).
- Among students who had smoked e-cigarettes in the last 30 days (n=342), girls were more likely to report higher proportions for the smoking 1-5 and 10-20 e-cigarettes refills daily while boys reported higher proportions for (6-10 and >20 refills daily).

Energy Drinks

- Lifetime consumption was reported to be 70.5% overall. The consumption was significantly higher among boys (74.9%) as compared to girls (66.1%), $p<0.001$. Mixed alcohol in an energy drink for consumption— (13.3% each for boys and girls).

Friends Substance Use

- About a third of the students (32.6%) reported that they had friends who had smoked cigarettes; some 12% had friends who had smoked e-cigarettes; just over half of the students (51%) had friends who had drank alcohol; and almost half (46.9%) had friends who had smoked marijuana. With respect to smoking cigarettes, notable more girls (35.5%) compared to boys (30.1%) reported that their friends did this.
- Overall prevalence for friends who smoke e-cigarettes was 12%. Boys (14.3%) reported a significantly higher proportion of friends who smoked e-cigarettes than girls (9.3%), $\chi^2 = 6.897$, $p=0.005$).
- Overall prevalence of friends who drank alcohol was 51%. A notable higher proportion of girls (53.6%) compared to boys (48.6%) had friends who had drank alcohol.
- Overall prevalence of friends who smoked marijuana was 47%. Boys and girls reported about the same proportions of friends who had smoked marijuana in the last 12 months (45.4% for boys versus 48.3% for girls).

Perceived Harmfulness of Substance Use:

- Perception of **no risk** of harm related to the use of the substances indicated ranged from a low of 6.1% for drinking alcohol daily to a high of 40.8% for using marijuana once or twice. Some 6.9% of students did not see any risk of harm for smoking one or more packs of cigarettes daily, while 28.3% said there was no risk to smoking e-cigarettes and 23% said no risk for regularly smoking marijuana.

- On the other hand, a notable high proportion of students reported **great risk** of harm for smoking one or more packs of cigarettes daily (69%), drinking alcohol daily (51.8%), regularly smoking marijuana (28.2%), using marijuana once or twice (15.7%) and smoking e-cigarettes (12.5%).

Perception of Risk of Harm and Current Substance Use

- Perceptions of risk of harm among boys and girls showed statistically significant differences, as it relates to perception of no risk - significantly more boys felt that there was no risk of harm within all five categories of substance use when compared to girls. For example, twice as many boys (30.9%) compared to girls (15.4%) felt there was no risk of harm related to smoking marijuana regularly.

Prosocial Involvement and School Bonding

- A much larger proportion of students felt that there are students who try drugs at their school (81% overall, with a significantly higher proportion of girls (85%) compared to boys 77%, chi square test, $p<0.05$).

Parental Involvement

- The most prevalent response to the questions whether parents allow students to use drugs at home was for alcohol use. Overall, 32.2%, (30% of boys and 33.7% of girls). The next most prevalent occurrence related to smoking e-cigarettes at home (12% overall). Significantly, more boys (14.3%) reported this compared to girls (9.3%), $p<0.01$.
- Some 4% of smokers overall could smoke cigarettes at home. Like e-cigarettes, the difference between boys (5.4%) and girls (1.9%) was also statistically significant, $p<0.01$. Smoking marijuana at home was reported by 5% of marijuana smokers overall. Again boys (6.4%) were significantly more likely to report this compared to girls (3.2%), $p<0.05$.

Family Involvement and History of Use

- Four in ten students (41%) reported that that someone in their family has had an alcohol or drug problem. Significantly more girls (44.9%) than boys (36.5%) reported this to be the case.

Family attachment and prosocial involvement

- Just about one-third of student overall (34%) said persons in their family often insults or yell at each other (a significantly higher proportion of girls (38.4%) compared to boys (28.8%) reported this, $p<0.01$.

Overall Use-Related Risks and Gender Differences

- The proportion of students who indicated that they have experienced getting into an arguments or fights was 23.5%. This was reported by 26.5% of boys compared to 20.3% of girls, a difference of 6.2 percentage point that was statistically significant, $p<0.05$.

Violence-related Behaviours - Bullying

- More than half of the students overall (54%) reported been bullied at some time, while bullying in the past 30 days was even lower (23.8%).
- The proportions reported by boys and girls were significantly different for all items. Significantly more girls (66.2%) compared to boys (62.9%) reported ever been bullied, $p<0.001$).
- This was also the case for past year bullying (44% girls versus 37.3% boys, $p<0.01$), and for last 30 days (25.7% girls versus 21.5% boys, $p<0.05$).
- Interestingly, significantly more girls (24%) reported having bullied someone at school or in the community when compared to boys (18.9%), $p<0.01$.

Weapons in Community or at School

- Overall, 67.2% of students reported that they had carried a weapon in the community or at school (67.2% boys and 65.1% girls).

- In relation to number of times threatened, a small proportion overall indicated been threatened (8.8%). Boys (11.5%) were significantly more likely to report this compared to girls (6.5%), $p<0.05$.

Other Antisocial Behaviours

- Overall 9.8% of students got suspended because of violence. The difference between boys (12.3%) and girls (7.4%) was statistically significant, $p<0.05$. About 6% of students overall reported belonging to a gang/crew. The difference between boys (7.6%) and girls (3.7%) was statistically significant, $p<0.05$.

Suicidal Ideations and Suicide Attempts

- About one in three students (34.2%) reported that they had seriously considered attempting suicide (n=664) – significantly more girls (45.5%) compared to boys (21.6.
- The prevalence of actual attempted suicide was 13% overall (n=244). Again, girls (18.2%) were significantly more likely to report this compared to boys (7.1%).
- About 5% reported that their suicide attempt had to be treated by a doctor or nurse (n=90) - (7.1% among girls and 2.9% among boys).

Self-harming Behaviour

- Overall, 28.1% of students reported that they have engaged in self-harming behaviours such as cutting, burning, scratching, hitting or banging body parts, pinching, etc. This was reported by over 500 students. Again, girls (40.8%) were significantly more likely to report this compared to boys (13.7%).

Abuse (physical, sexual and "any or both")

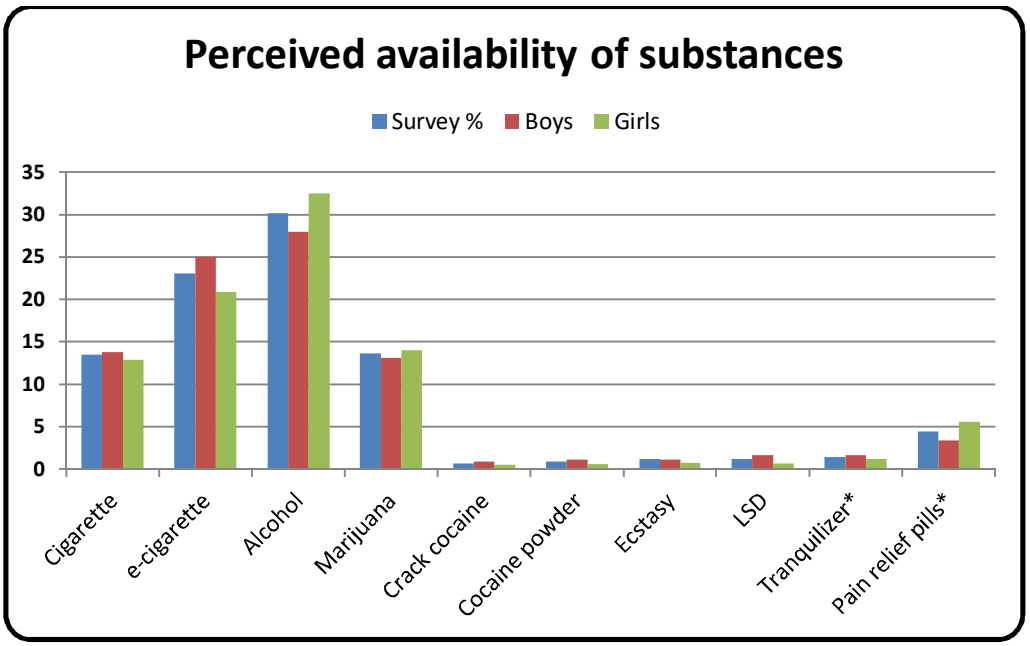
- Physical abuse overall was reported by 16.7% of students overall (n=312). Girls (20.4%) were significantly more likely to report this compared to boys (12.4%).

- In terms of sexual abuse, the prevalence was 9.9% overall (n=185) with girls (15.8%) significantly more likely to report this compared to boys (3.4%).
- A variable was computed for "any abuse", whether physical or sexual and the prevalence was 21.8% (n=412). Twice as many girls (28.6%) compared to boys (14.3%) reported either being physically or sexually abused.

Perceived availability of substances (%)

- easy to obtain

[percentage of students rating a substance as either 'somewhat easy', 'easy' or 'very easy' to obtain]



Perceived Availability of Substances

Table 1:Perceived availability of substances (%)

[percentage of students rating a substance as either 'somewhat easy', 'easy' or 'very easy' to obtain]										
		Gender		Year/grade level						
	Survey %	Boys	Girls	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13
Cigarette	13.5	13.8	12.9	4.8	6.8	10.9	14.8	21.0	24.0	27.3
e-cigarette	23.1	25.0	20.9	6.5	15.0	17.1	25.3	39.8	36.8	43.3
Alcohol	30.2	28.0	32.5	8.6	19.2	19.5	32.2	54.8	52.5	64.7
Marijuana	13.6	13.1	14.0	2.3	5.3	8.4	10.6	26.6	26.7	24.3
Crack cocaine	0.7	0.9	0.5	-	-	1.4	1.0	1.5	0.7	1.5
Cocaine powder	0.9	1.1	0.6	-	-	1.2	1.2	1.5	1.5	2.0
Ecstasy	1.2	1.1	0.8	-	-	1.6	1.2	2.9	2.0	2.0
LSD	1.2	1.6	0.7	-	-	1.0	1.0	3.3	2.2	2.0
Tranquilizer*	1.4	1.6	1.2	-	-	1.0	1.8	3.1	2.7	4.7
Pain relief pills*	4.5	3.4	5.6	-	-	6.6	6.2	9.5	6.1	6.7

* without a doctor's prescription

Table 2: Perceived availability of substances (%) by location

[percentage of students rating a substance as either 'somewhat easy', 'easy' or 'very easy' to obtain]				
Location	Cigarettes	e-cigarette	Alcohol	Marijuana
Survey Average	13.5	23.1	30.2	13.6
Cayman Brac	13.6	17.0	21.1	12.2
Bodden Town	14.4	26.1	31.3	15.4
East End	18.8	29.2	28.1	16.6
George Town	12.4	22.4	32.3	12.9
Noth Side	11.7	22.3	29.8	13.8
West Bay	13.8	20.9	27.6	12.6

Cigarettes and e-cigarettes

Fourteen percent of the students in the survey replied that they would find it 'somewhat easy', 'easy' or 'very easy' (hereafter referred to as 'easy') to get hold of cigarettes if they wanted to (Table 1). The survey average for e-cigarettes was 23%. Gender differences were statistically significant at the aggregate level (13.8 % for boys versus 12.9% for girls, χ^2 =11.648, p=0.003). The Gender differences were also statistically significant for e-cigarettes at the aggregate level (25 % for boys versus 20.9% for girls, χ^2 =9.45, p=0.009).

Students in the East End were most likely to find it easy to obtain cigarettes (18.8 %). In Bodden Town, West Bay and Cayman Brac, the perceived availability was comparative to the survey average, with 14.4%, 13.8% and 13.6% of the students, respectively, reporting access to be easy. Slightly lower proportions of perceived availability were found for North Side (11.7%) and George Town (12.4%), table 2.

Again, students in the East End (29.2%) and Bodden Town (26.1%) districts were most likely to find it easy to obtain e-cigarettes. In all other districts the perceived availability was slightly below the survey average, (17.0 – 22.4%).

Where differences were observed, proportions were generally higher for boys than girls. However, in the case of availability of cigarettes, girls in East End district reported a slightly higher prevalence than males. In the case of availability of e-cigarettes, girls in the district of West Bay reported a slightly higher prevalence than males (21.1% for girls versus 19.9% for boys).

Alcohol

Alcoholic beverages were perceived to be relatively easy to obtain in most districts and gender differences were rather significant (Table 1). Just about a third of surveyed students (30.2 %) stated that they would find it easy to acquire alcoholic beverages if they wanted to. In Bodden Town, George Town and North Side, about 30 % of the students reported easy access. The lowest proportions were Cayman Brac (21%) and West Bay (27.6%) table 2.

Girls reported a statistically significant higher prevalence than boys (28 % for boys versus 32.5% for girls, χ^2 =9.348, p=0.09) with respect to perceived availability of alcoholic beverages. Girls in all districts, except Cayman Brac, reported a higher prevalence than males (2-10 percentage points higher).

Illicit drugs, Tranquilizers and Pain Killers

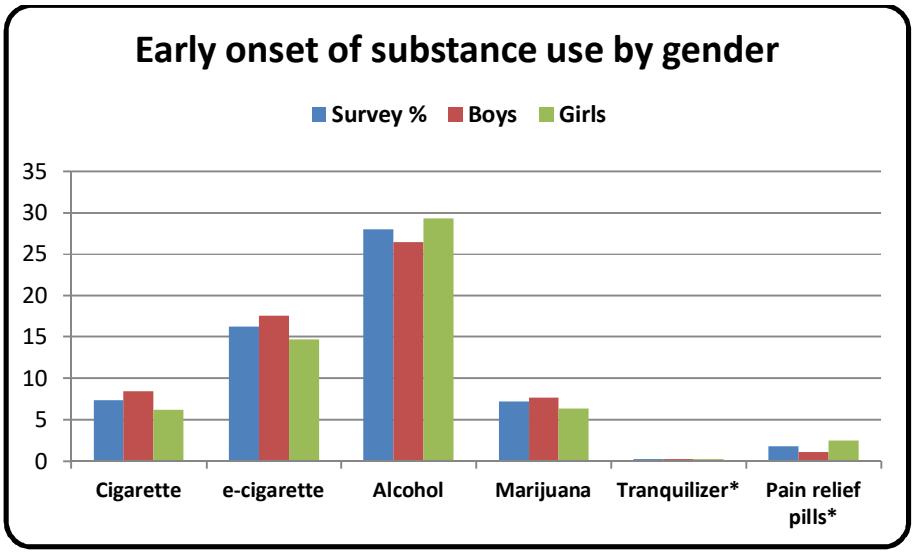
About one in seven students (14%) rated marijuana to be easily obtainable (Table 1). In East End (15.6%) and Bodden Town (15.4%) districts, more students than in any other district perceived marijuana to be easily available. All other districts were slightly below the survey average with Cayman Brac having the lowest perceived availability of marijuana (12.2%).

Overall, girls were more likely than boys to consider marijuana to be easily available (survey average: 14% versus 13%, $p>0.05$). This was also the case for three of the six districts (George Town, North Side and West Bay); girls reported prevalence that was 1-3 percentage points higher.

Perceived availability of other illicit drugs was very low (Table 1): ecstasy and LSD (1.2%), crack cocaine and cocaine powder (less than 1 %). Tranquilizers (1.4%) and pain killers (4.5%) were overall perceived as not easily available. This was the same pattern observed for boys and girls as well as for the districts –of all drugs mentioned, painkillers were considered the easiest to obtain and this among girls (in four of the six districts) rather than boys.

Age of First Use & Early onset of substance use by Gender

[percentage of students using a substance at age of 13 years or younger]



Age of First Use and Early Onset of Substance Use

Table 3: Age of First Use of Selected Substances

Substances		Age (years)				
	n	Mean	Median	Mode	Range	Standard deviation
Cigarette	394	12.8	13.0	13	13	2.50
e-cigarette	948	13.2	13.0	13	13	2.063
Alcohol	1359	12.0	12.0	13	14	2.844
Marijuana	472	13.3	13.5	14	13	2.145
Crack cocaine	6	13.5	14.0	14	6	2.258
Cocaine powder	10	14.2	14.5	14	7	2.486
Ecstasy	26	14.9	15.0	16	7	1.782
LSD	15	15.2	15.0	15	6	1.699
Tranquilizer*	21	14.2	14.0	13	9	2.237
Pain relief pills*	101	13.0	13.0	13	10	2.433

Age of First Use

As shown in table 3 above, the average age of first use of alcohol (12 years) was the lowest average among all substances. First use for all illicit substances except marijuana ranged between 13.5 and 15.2 years. Age of first use for tranquilizers was similar to that of the illicit drugs excluding marijuana. Importantly, use of pain killers without a doctor's prescription began at the same age as cigarette or e-cigarette use.

Boys were significant more likely than girls to report an earlier age of first use for the illicit drugs (crack. cocaine powder, ecstasy and LSD). However, age of first use of all licit substances and including marijuana was about the same for boys and girls. Girls (12 .5 years) were more likely to report an earlier age of first use for pain killers than boys (13.6 years), Table 53 additional tables).

Early Onset of Substance Use

Refers to the prevalence of students experiencing substance use at the age of 13 years or younger.

Table 4: Early onset of substance use (%) by Gender

[percentage of students using a substance at age of 13 years or younger]					
	Survey %	Boys	Girls	Chi square (χ^2)	p-value
Cigarette	7.3	8.4	6.2	7.15	0.028
e-cigarette	16.3	17.6	14.7	6.51	0.038
Alcohol	28.0	26.4	29.3	9.49	0.009
Marijuana	7.2	7.7	6.4	3.84	0.146
Tranquilizer*	0.3	0.3	0.3	-	-
Pain relief pills*	1.8	1.1	2.5	8.70	0.013

* without a doctor's prescription

Table 5: Early onset of substance use (%) by Location

[percentage of students using a substance at age of 13 years or younger]				
Location	Cig	e-cig	Alc	Mari
Survey Average	7.3	16.3	28.0	7.2
Cayman Brac	9.5	15.0	27.9	5.4
Bodden Town	9.2	20.3	28.8	8.9
East End	9.4	26.0	31.2	8.3
George Town	6.4	13.8	28.7	6.5
North Side	3.2	17.0	26.6	10.6
West Bay	6.3	14.3	25.6	6.2

Cigarettes and e-cigarettes

A low proportion of students (7.3 % or one in fourteen) had smoked cigarettes at the age of 13 or younger (Table 4). The proportions vary considerably across district, from highs of: 9.5% in Cayman Brac, Bodden Town (9.2%) and East End (9.4%); to lows of 6.4% in George Town, West Bay (6.3%) and North Side (3.2%).

Both on overall average and in most individual district, more boys than girls have smoked cigarettes at the age of 13 or younger. Overall, boys were significant more likely to report early onset of cigarette use - (8.4% for boys versus 6.2% for girls, χ^2 =7.15, p=0.028).

The largest difference between boys and girls was found in Bodden Town (10.9% versus 7.6 %). The highest rates among boys were found in Bodden Town and East End (10.5%). Cayman Brac, East End and Bodden Town had the highest rates among girls (7.6-10.8 %).

More than twice as many students (16.3%, when compared to early cigarette use) had smoked e-cigarettes at the age of 13 or younger (Table 4). There was a statistically significant difference among boys and girls with respect to early onset of e-cigarette use. Overall, boys were significant more likely to report early onset of e-cigarette use - (17.6% for boys versus 14.7% for girls, χ^2 =6.51, p=0.038).

Likewise, the proportions for e-cigarette vary considerably across district, from highs of: 26% in East End, Bodden Town (20.3%) and North Side (17%); to lows of 13.8% in George Town, West Bay (14.3%) and Cayman Brac (15%), table 5.

Both on overall average and in most individual district, more boys than girls have smoked e-cigarettes at the age of 13 or younger (table 52). The only exception was in the case of North Side (18.2% girls versus 16.7% boys).

The largest differences between boys and girls was found in Cayman Brac (6.1 percentage points) followed by Bodden Town (4.5 percentage points) and George Town (3.7 percentage points). The highest rates among both boys and girls were found in East End and Bodden Town.

Alcohol

More than a quarter of the students (28.2) reported alcohol use at the age of 13 or younger (Table 4). The highest proportions of students reporting alcohol use at an early age were found in the districts of East End (31.2%), Bodden Town (28.8%) and George Town (28.7%). The districts with the lowest rates were West Bay (25.6%) and North Side (26.6%).

Girls were significant more likely than boys to have used alcohol at the age of 13 or younger (29.3% for girls versus 26.4% for boys, χ^2 =9.47, p=0.009). The highest gender differences were found in Cayman Brac (33.8% for girls versus 20.8% for boys, a difference of 13 percentage points) and North Side (29.5% for girls versus 22.9% for boys, a difference of 6.6 percentage points).

Illicit drugs

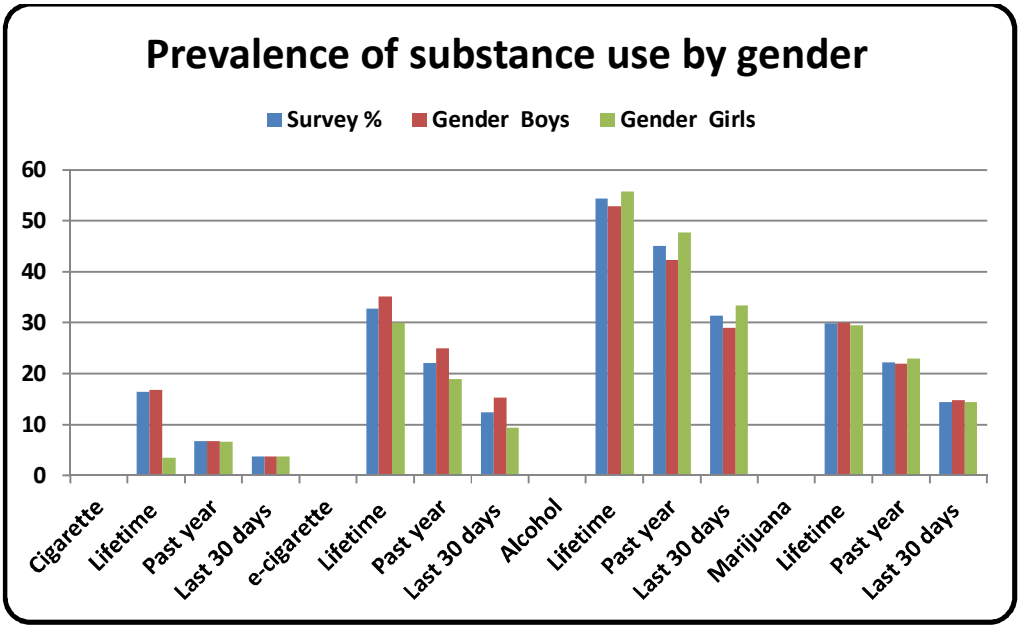
On average, 7 % of the students reported that they had first used marijuana at the age of 13 or younger (Table 4). The highest proportions were found in North Side (10.6%), Bodden Town (8.9%) and East End (8.3%), table 5.

Boys were more likely than girls to have used marijuana at the age of 13 or younger (7.7% for boys versus 6.4% for girls, p>0.05). The highest gender differences were found in East End (13.2% for boys versus 5.4% for girls, a difference of 7.8 percentage points) and North Side (13.6% for girls versus 8.3% for boys, a difference of 5.3 percentage points). The lowest difference was reported for West Bay, 5.5% for boys versus 5.9% for girls, a difference of less than 1.0 percentage point.

Rates for early onset of tranquilizers and pain killers were very low (Table 4) - tranquilizers (0.3%) and pain killers (1.8%). For tranquilizers, rates for both boys and girls were well below less than 1% while for pain killers the rates ranged between 1.1% and 4.5% with girls reporting the higher rates.

Consumption Patterns – licit and Illicit Substances

Percentage of students reporting use of cigarettes, e-cigarettes, alcohol, marijuana and other illicit drugs for lifetime, past year and last 30 days.



Consumption Patterns – licit and Illicit Substances

Percentage of students reporting use of cigarettes, e-cigarettes, alcohol, marijuana and other illicit drugs for lifetime, past year and last 30 days. Five tables below (Table 6 through Table 10) show the prevalence of lifetime, past year and current use for all students overall and comparisons by gender, statistical relationship between boys and girls, and lifetime and current use by location.

Table 6: Overall prevalence of substance use (%)

[Percentage of students reporting use of cigarettes, e-cigarettes, alcohol, marijuana and other illicit drugs for lifetime, past year and last 30 days]			
	Lifetime	Past year	Last 30 days
Cigarette	16.4	6.7	3.7
e-cigarette	32.8	22.0	12.4
Alcohol	54.4	45.1	31.3
Marijuana	29.8	22.2	14.6
Crack cocaine	0.7	0.3	0.1
Cocaine powder	1.2	0.6	0.1
Ecstasy	2.8	1.9	0.5
LSD	1.7	1.2	0.5
Tranquilizer*	2.5	1.8	0.5
Pain relief pills*	8.2	5.9	2.6

Gender comparison - Percentage of students reporting use of cigarettes, e-cigarettes, alcohol, marijuana and other illicit drugs for lifetime, past year and last 30 days.

Table 7: Prevalence of substance use by Gender (%)

[Percentage of students reporting use of cigarettes, e-cigarettes, alcohol, marijuana and other illicit drugs for lifetime, past year and last 30 days]						
Substances	Lifetime		Past year		Last 30 days or current	
	Boys	Girls	Boys	Girls	Boys	Girls
Cigarette	16.8	15.4	6.8	6.6	3.7	3.5
e-cigarette	35.1	30.0	25.0	18.9	15.3	9.4
Alcohol	52.9	55.8	42.3	47.7	29.0	33.4
Marijuana	29.9	29.5	21.9	22.9	14.8	14.4
Crack cocaine	1.3	0.1	0.6	-	0.2	--
Cocaine powder	1.8	0.5	0.8	0.4	0.3	-
Ecstasy	4.2	1.3	3.0	0.9	1.0	0.1
LSD	2.5	0.9	1.8	0.6	0.9	0.2
Tranquilizer*	2.9	2.2	2.0	1.7	0.6	0.4
Pain relief pills*	6.8	9.7	4.9	7.1	1.7	3.6

Relationship of lifetime and current use prevalence and gender.

Table 8: Association of substance use prevalence with gender (%)

Chi-square test of association between substance use prevalence and Gender (%)					
	Survey %	Boys	Girls	Chi square (χ^2)	p-value
Lifetime e-cigarettes	32.8	35.1	30.0	9.36	0.002
Last 30 days e-cigarette	12.4	15.3	9.4	25.467	0.000
Last 30 days alcohol	31.3	29.0	33.4	7.203	0.007
Lifetime pain killers	8.2	6.8	9.7	5.465	0.019
Last 30 days pain killers	2.6	1.7	3.6	7.11	0.008

Location Comparison

Percentage of students reporting use of cigarettes, e-cigarettes, alcohol, marijuana and other illicit drugs for lifetime and last 30 days.

Table 9: Prevalence of Lifetime Use by Location (%)

[percentage of students reporting use of various substances] – Lifetime				
Location	Cigarettes	e-cigarette	Alcohol	Marijuana
Survey Average	16.4	32.8	54.4	29.9
Bodden Town	18.5	38.0	56.0	33.8
East End	18.8	43.8	55.2	42.7
George Town	14.4	30.9	55.3	27.6
North Side	16.0	37.2	51.1	37.2
West Bay	16.7	29.3	53.3	26.5
Cayman Brac	16.3	23.1	44.9	27.2

Table 10: Prevalence of Use: Last 30 Days by Location (%)

[percentage of students reporting use of various substances] – Last 30 days				
Location	Cigarettes	e-cigarette	Alcohol	Marijuana
Survey Average	3.7	12.4	31.3	14.6
Bodden Town	3.9	13.7	32.9	17.2
East End	4.2	12.5	37.5	19.8
George Town	3.6	11.9	31.9	13.8
North Side	5.3	11.7	29.8	17.0
West Bay	3.7	11.5	29.9	12.6
Cayman Brac	2.7	12.9	20.4	10.9

Cigarette Use

Lifetime

Overall lifetime prevalence of cigarettes was 16.4% - one in six students reported having tried cigarettes. Rates of cigarette smoking range between 14.4% and 18.8% in the districts (Table 6). In all but one district, 16% or more of the students had tried smoking at least once. The highest prevalence rates were found in the districts of East End (18.8%), followed by Bodden Town (18.5%), West Bay, Cayman Brac and North Side (16.7%, 16.3% and 16% respectively). These rates for West Bay, Cayman Brac and North Side were within the survey average of 16.4% for all districts, table 9.

The average lifetime prevalence of cigarette smoking was about the same among boys (16.8%) and girls (15.4%), table 7. In three of the six districts surveyed, girls were as likely as boys to have tried cigarettes. Districts with the largest gender differences were Cayman Brac (10.4% for boys versus 23.1% for girls), Bodden Town (20.5% versus 15.8%) and West Bay (17.7% versus 14.7%). The largest gender differences where girls reported higher rates were found in Cayman Brac (12.7 percentage points difference).

Last 30 days

On average, 3.7% of the students in the survey had used cigarettes during the last 30 days, table 6. The highest rates were found in North Side (5.3%), and East End (4.2%). All other districts reported last-30-day prevalence at the overall average or below with Cayman Brac reporting the lowest prevalence (2.7%), table10.

The average rates for boys and girls were about the same, and the gender rates were also close in most districts. The survey average for last 30 days or current prevalence for boys was (3.7%) and girls (3.5%). Districts with high smoking rates (above the average): for boys was Bodden Town (5.1%), and for girls was North Side and George Town (4.5% and 4.2% respectively).

E-cigarette

Lifetime

Overall lifetime prevalence of e-cigarettes was 32.8% - about one in three students reported having tried cigarettes. Rates of e-cigarette smoking range between 23.1% and 43.8% (Table 6). In all but one district, 29% or more of the students had tried smoking e-cigarettes at least once. The highest prevalence rates were found in the districts of East End (43.8%), followed by Bodden Town (38%), North Side (37.2%), George Town (30.9%) and West Bay (29.3%). Cayman Brac had the lowest prevalence (23.1%).

The average lifetime prevalence of e-cigarette smoking was significantly different by gender: boys (35.1%) and girls (30%), %, χ^2 =9.36, p=0.002), table 8. Across districts, boys were more likely to have tried cigarettes. The only district where girls reported a slightly higher prevalence than boys was Cayman Brac (23.1% versus 20.8%). Districts with the largest gender differences (in rank order) were North Side (43.8% for boys versus 31.8% for girls), Bodden Town (43% versus 32.9%) and George Town (33.2% versus 29.5%).

Last 30 days

On average, 12.4% of the students in the survey had used e-cigarettes during the last 30 days. The highest rate was found in Bodden Town (13.7%). All other districts reported last-30-day prevalence at the overall average or below with West Bay reporting the lowest prevalence (11.5%).

The average rates for boys and girls were significantly different, and the gender rates also varied considerably in most districts. The survey average for last 30 days or current prevalence for boys was (15.3%) and girls (9.4%), χ^2 =25.476, p=0.000. Districts with the largest gender differences (in rank order) were East End (21.1% for boys versus 7.1% for girls), Bodden Town (19.6% versus 8%) and George Town (14.1% versus 9.5%). The only district where girls

reported a slightly higher prevalence than boys was North Side (13.6% versus 10.4%).

Alcohol

Lifetime

The survey average for lifetime alcohol use was 54.4% (table 6). The lifetime prevalence among the district ranged from 45-56 %. The highest rates of lifetime alcohol prevalence (55% or more) were found in Bodden Town (56%), East End (55.2%) and George Town (55.3%). Districts with rates below the survey average were North Side (51.1%), West Bay (53.3%) and Cayman Brac (44.9%).

The lifetime average for boys was 52.9% and for girls 55.8%. This difference was however not statistically significant. A higher proportion for girls than boys was found in all districts. Large differences between girls and boys were observed in East End (58.9% for girls versus 47.4% for boys; a 11.5 percentage points difference) and North Side (54.5% versus 47.9%; a 6.6 percentage points difference).

Last 30 days

Overall, 31% of the students in the survey had consumed alcohol during the 30 days prior to the survey. The highest rates of last 30 days or current alcohol prevalence were found in Bodden Town (32.9%), East End (37.5%) and George Town (31.9%). Districts with rates below the survey average were North Side (29.8%), West Bay (29.9%) and a particularly low prevalence rate was reported from Cayman Brac (20.4%).

On average, more girls than boys have drunk alcohol during the 30 days prior to the survey (33.5% for girls versus 29% for boys), $\chi^2 = 7.203$, $p=0.007$). The district with a particularly large gender difference in this direction was East End (46.4% girls versus 23.7% boys -22.5 percentage points). In four districts,

more girls than boys (5 percentage points and more) reported alcohol use during the last 30 days (Cayman Brac, George Town, North Side, and West Bay).

Marijuana Use

Lifetime

The most prevalent illicit drug reported in the survey is marijuana. On average, 29.8% of the students have used marijuana at least once in their lifetime (Table 6). The district with the highest lifetime prevalence of marijuana use was East End (42.7%). Greater than 25% of students in all districts reported having used marijuana at least once in their lifetime. The lowest levels of marijuana use (26.5%) was reported West Bay.

On average, boys reported similar lifetime use as girls (29.9% versus 29.5%). This was the case in three of the six districts with exceptions being North Side – 12 percentage points difference between boys (43.8% versus girls (31.8%); East End –9.6 percentage points difference between boys (36.8% versus girls (46.4%); and Cayman Brac 4 percentage points difference between boys (28.6% versus girls (24.6%).

Last 30 days

Overall, 14.6% of students in the survey had consumed marijuana during the 30 days prior to the survey. The highest rates of last 30 days or current marijuana prevalence were found in East End (19.8%), Bodden Town (17.2%) and North Side (17%). Districts with rates below the survey average were George Town (13.8%), West Bay (12.6%) and Cayman Brac (10.9%), the lowest prevalence reported.

On average, boys reported similar current use as girls (14.8% versus 14.4%). Gender differences (though small) were notable for the districts of North Side (5.9 percentage points), Bodden Town (4.4 pp), Cayman Brac and East End (3 pp each).

Any illicit drug use/other illicit drug use

Besides cannabis, some students have also used other illicit substances (crack cocaine, cocaine powder, ecstasy and LSD). The most frequently tried illicit drugs were ecstasy and LSD. Prevalence was negligible for all occurrences (2.8% ecstasy and 1.7% LSD).

In the case of any illicit drugs other than cannabis, on average, 3.3 % of the students reported having used them at least once. Current use prevalence rates were even more negligible (less than half of one percent of students reported use. Reported lifetime use was generally higher among boys in all instances.

Use of pharmaceuticals

Percentage of students reporting use of pharmaceuticals (tranquilizers or painkillers without a doctor's prescription.

Table 11: Prevalence of Pharmaceutical Use (%)

[percentage of students reporting use of tranquilizers or painkillers without a prescription]									
	Survey average	Gender		Districts					
		Boys	Girls	Cayman Brac	Bodden Town	East End	George Town	North Side	West Bay
Tranquilizers*									
Lifetime	2.5	2.9	2.2	2.5	2.7	3.1	2.3	3.4	2.6
Last 30 days	0.5	0.6	0.4	-	0.5	-	0.4	-	0.9
Painkillers*									
Lifetime	8.2	6.8	9.7	7.4	8.5	3.1	7.8	8.6	9.2
Last 30 days	2.6	1.7	3.6	-	2.2	-	2.6	3.4	3.9

* without a doctor's prescription

Tranquillizers

Overall lifetime prevalence of the use of tranquilizers without prescription was 2.5% with negligible use in the last 30 days at 0.5%. Lifetime use was most prevalent in North Side (3.4%) and East End (3.1%) (Table 11).

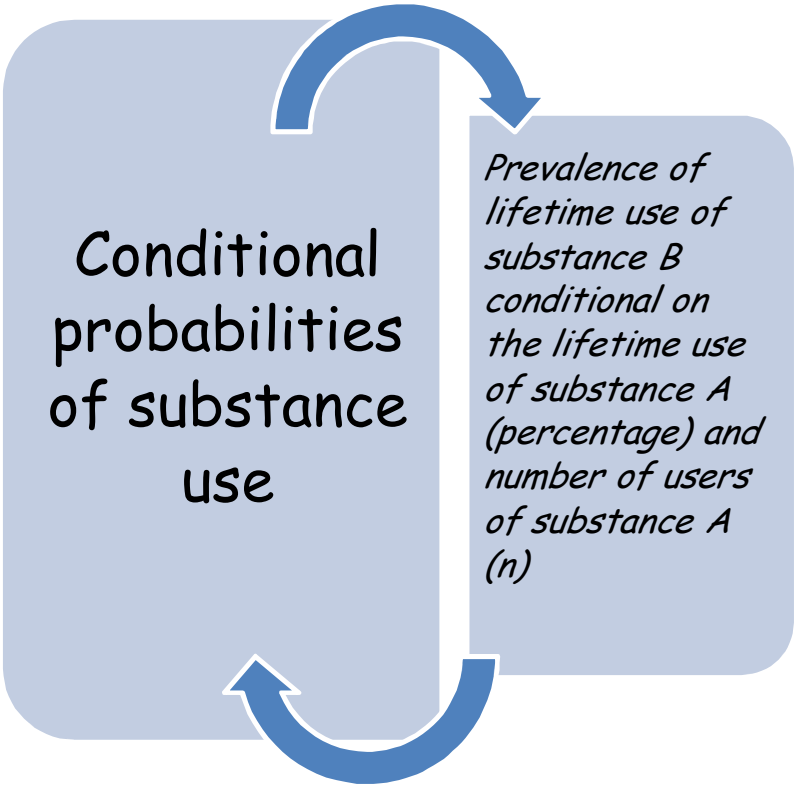
All other districts reported lifetime prevalence between 2.3% and 2.7% with George Town reporting the lowest levels of non-prescription use of tranquillizers (2.3 %).

On average, slightly more boys than girls reported use of tranquillizers without prescription (lifetime) (2.9% versus 2.2%). This was the same pattern observed for last 30 days or current use (0.6% versus 0.4%). Both lifetime and current use was negligible within the districts (< 1% for lifetime and 1.3% for current).

Painkillers

On average, use of painkillers without prescription was reported by 8.2% of the students for lifetime and 2.6% for last 30 days or current use (table 11). The districts with the highest lifetime prevalence rates are West Bay (9.2%), North Side (8.6%) and Bodden Town (8.5%). Unlike tranquillizers, slightly more girls (9.7%) than boys (6.8%) reported lifetime use of painkillers—this difference was statistically significant, $\chi^2 = 5.465$, $p=0.019$). The was the same in the case of current use, slightly more girls (3.6%) than boys (1.7%) reported current use of painkillers—this difference was statistically significant, $\chi^2 = 7.111$, $p=0.008$).

Larger gender differences (6 percentage points or more) for lifetime use were found in North Side and Cayman Brac. In the case of current use this was observed in North Side.



Conditional Probabilities of Substance Use

[Prevalence of lifetime use of substance B conditional on the lifetime use of substance A (percentage) and number of users of substance A (n)]

		Lifetime prevalence – Substance B							
Substance A and (lifetime prevalence)	# of users (n)	Cigarettes	e-cigarette	Alcohol	Marijuana	Crack cocaine	Ecstasy	Tranquilizer	Pain killer
Cigarettes	535	-	77.7	86.6	67.8	2.4	8.9	7.9	16.3
E-cigarettes	1071	38.5	-	81.5	54.7	1.3	5.5	5.4	13.0
Alcohol	1780	25.7	41.8	-	43.5	1.0	4.0	3.9	44.0
Marijuana	975	36.8	59.8	79.6	-	1.6	6.5	5.5	12.6
Tranquilizers	52	64.7	88.2	98.0	74.5	17.6	43.1	-	74.5
Painkillers	169	40.7	64.7	85.0	52.1	6.0	17.4	22.8	-

Conditional probabilities of substance use

Prevalence of lifetime use of substance B conditional on the lifetime use of substance A (percentage) and number of users of substance A (*n*)

Table 12: Conditional Probabilities of Substance Use - Overall

***[Prevalence of lifetime use of substance B conditional on the lifetime use of substance A (percentage) and number of users of substance A* (n)]**									
		Overall Lifetime prevalence – Substance B							
Substance A and (lifetime prevalence)	# of users (n)	Cigarettes	e-cigarette	Alcohol	Marijuana	Crack cocaine	Ecstasy	Tranquilizer	Pain killer
Cigarettes	535	-	77.7	86.6	67.8	2.4	8.9	7.9	16.3
E-cigarettes	1071	38.5	-	81.5	54.7	1.3	5.5	5.4	13.0
Alcohol	1780	25.7	41.8	-	43.5	1.0	4.0	3.9	44.0
Marijuana	975	36.8	59.8	79.6	-	1.6	6.5	5.5	12.6
Tranqs	52	64.7	88.2	98.0	74.5	17.6	43.1	-	74.5
Painkillers	169	40.7	64.7	85.0	52.1	6.0	17.4	22.8	-

Table 13: Conditional Probabilities of Substance Use - Boys

Prevalence of lifetime use of substance B conditional on the lifetime use of substance A (percentage) and number of users of substance A (*n*)									
		Boys - Lifetime prevalence – Substance B							
Substance A and (lifetime prevalence)	# of users (n)	Cigarettes	e-cigarette	Alcohol	Marijuana	Crack cocaine	Ecstasy	Tranquillizer	Pain killer
Cigarettes	276	-	77.2	84.3	68.4	4.3	12.3	8.5	16.6
E-cigarettes	556	37.1	-	78.1	54.0	2.3	7.9	5.8	11.6
Alcohol	838	26.8	51.8	-	43.7	2.0	6.4	4.6	9.4
Marijuana	474	36.5	63.3	77.2	-	2.9	9.7	6.5	12.9
Tranqs	29	62.1	86.2	96.6	45.9	27.6	58.6	-	82.2
Painkillers	68	51.5	73.5	83.8	64.7	13.2	33.8	35.3	-

Cigarette Use

Among students who have used cigarettes at least once, 77.7% have used e-cigarettes, 86.6% have also used alcohol, 67.8% marijuana, 2.4% crack cocaine, 8.9% ecstasy, 7.9% tranquillizers or sedatives and 16.3% pain killers without a doctor's prescription, (Table 12 through Table 14). Almost every student

(79.6%-98%) that has used a licit or illicit substance also reported having used alcohol, but not every student who has tried alcohol has also tried another substance.

Table 14: Conditional Probabilities of Substance Use - Girls

Prevalence of lifetime use of substance B conditional on the lifetime use of substance A (percentage) and number of users of substance A (*n*)									
		Girls - Lifetime prevalence – Substance B							
Substance A and (lifetime prevalence)	# of users (n)	Cigarettes	e-cigarette	Alcohol	Marijuana	Crack cocaine	Ecstasy	Tranqs	Pain killer
Cigarettes	248	-	78.3	89.2	71.1	0.5	5.3	7.3	16.0
E-cigarettes	485	40.2	-	85.4	55.5	0.2	3.0	5.0	14.5
Alcohol	901	24.6	45.9	-	43.4	0.1	1.9	3.2	15.5
Marijuana	477	37.1	54.6	82.0	-	0.3	3.5	4.6	12.4
Tranqs	22	68.2	90.9	100.0	72.7	4.5	22.7	-	63.6
Painkillers	99	33.3	58.6	85.9	43.4	1.0	6.1	14.1	-

Male/Female Comparison

Boys and girls who have used cigarettes at least once were as likely to report notable high proportion of e-cigarettes use (77.2% versus 78.3%), alcohol (84.3% versus 89.2%), marijuana (68.4% versus 71.1%). Girls were notable more likely to report higher proportional use of alcohol and marijuana compared to boys. Both boys and girls who had used cigarettes reported similar proportional use of tranquillizers (8.5% versus 7.3%) and pain killers (16.6% versus 16.6%).

Alcohol Use

Among students that have used alcohol, 25.7% tried cigarettes, 41.8% e-cigarettes, 43.5% marijuana and 11% pain killers. Less than 5% reported having used tranquillizers, crack cocaine or ecstasy.

Male/Female Comparison

About a quarter of boys and girls who have used alcohol at least once reported use of cigarettes (26.8% versus 24.6%). However, the prevalence of e-cigarettes was notable higher (51.8% versus 45.9%), as was marijuana use (43.7% versus 43.4%). Boys and girls who had used alcohol reported dis-similar proportional use of tranquilizers (4.6% versus 3.2%), ecstasy (6.4% versus 1.9%) and pain killers (9.4% versus 15.5%).

Marijuana Use

Of the students that have used marijuana, 36.8% have also used cigarettes, 59.8% e-cigarettes, 79.6% alcohol, pain killers (12.6%), crack cocaine (1.6%) or tranquillizers (5.5%) or ecstasy (6.5%).

Male/Female Comparison

Boys and girls who have used marijuana at least once were as likely to report notable high proportion of cigarette use (36.5% versus 37.1%), e-cigarettes (63.3% versus 54.6%) and alcohol (77.2% versus 82%). Girls were notable more likely to report higher proportional use of alcohol compared to boys. Both boys and girls who had used marijuana reported similar proportional use of pain killers (12.9% versus 12.4%) but girls reported slightly lower prevalence of tranquilizers (6.5% versus 4.6%).

Use of Tranquilizers and Pain Killers

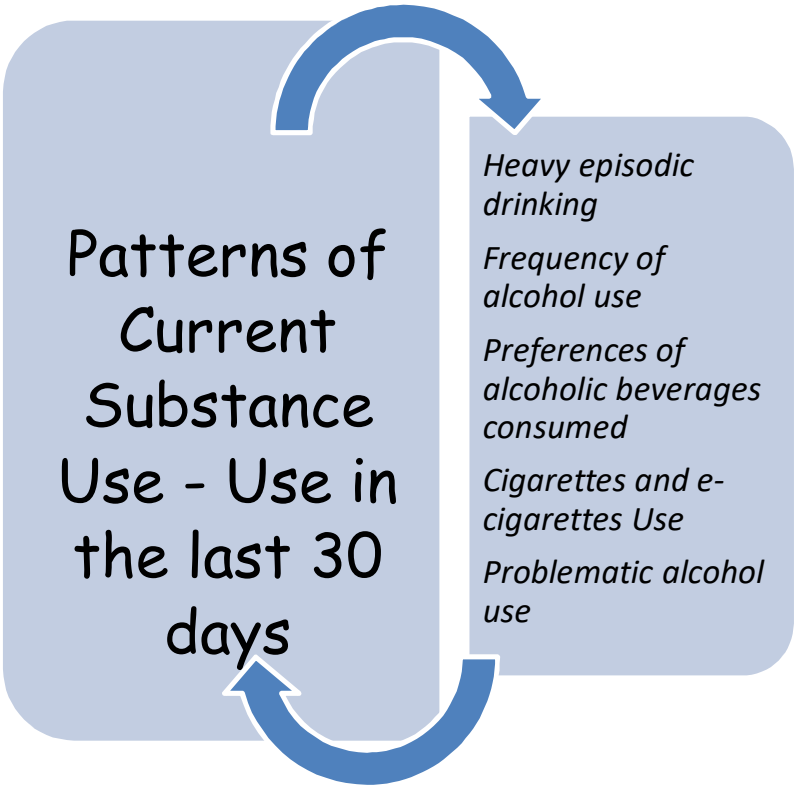
Among users of tranquilizers and pain killers, 65% or more have also used cigarettes, e-cigarettes or alcohol and 52% or more have tried cannabis. With respect to users of one of the drugs (other than cannabis (crack cocaine, ecstasy, tranquilizers, or painkillers) the lowest probability of using one of the other drugs related to 6% of pain killer users who said they had also used crack cocaine. The highest probability was seen with respect to pain killers' use by students who had used tranquilizers (74.5%).

Finally, among the students that have used substances from the two groups, tranquillizers or pain killers: of the students that have used painkillers without a doctor's prescription, more than one in five reported the use of tranquillizers (22.8%) with 17.4% reporting use of ecstasy. Among students reporting use of tranquilizers, about three quarter have also used pain killers or marijuana (74.5%) and 43.1% have used ecstasy.

Male/Female Comparison

Boys who have used tranquilizers reported a significantly higher prevalence of pain killer use (82.8% compared to girls (63.6%) as well as ecstasy use (58.6% compared to girls (22.7%). This was also the case for pain killer users, - boys reported a significantly higher prevalence of tranquilizer use (35.3% compared to girls (14.1%).

Both boys and girls who have used tranquilizers were similarly likely to report high prevalence of cigarette, e-cigarette, alcohol and marijuana use (greater than 62%).


Patterns of Current Substance Use - Use in the last 30 days
Heavy episodic drinking
Frequency of alcohol use
Preferences of alcoholic beverages consumed
Cigarettes and e-cigarettes Use
Problematic alcohol use

Patterns of current use

Heavy Episodic Drinking (Binge Drinking) In The Last 30 Days

Table 15: Heavy episodic drinking – binge drinking

Binge Drinking - Having five or more drinks in the last 30 days on the same occasion.			
	Overall	Boys	Girls
Survey Average	53.7	58.1	49.6
Location			
Bodden Town	56.2	60.2	52.5
East End	65.6	87.5	58.3
George Town	48.1	52.0	44.7
North Side	58.3	80.0	42.9
West Bay	55.8	61.1	51.7
Cayman Brac	62.1	61.5	62.5

Heavy episodic drinking in the last 30 days - Refers to having five or more drinks in the last 30 days on the same occasion.

Among students who reported drinking in the 30-day period prior to the survey, more than half of the students, (every second student), (53.7 %) reported heavy episodic drinking during the last 30 days (Table 15). This drinking pattern was found more often in East End (65.6%), Cayman Brac (62.1%) and North Side (58.3%). The difference between boys and girls was about 9 percentage points on average, with generally higher prevalence for boys (Table 15). The overall gender difference between boys and girls was statistically significant, boys (58.1%) and girls (49.6%), χ^2 =6.738 p=0.009).

Significant gender differences were found in two of the districts, with the largest differences in North Side (37 percentage points) and East End (29 pp). However, in Cayman Brac slightly more girls than boys reported heavy episodic drinking at least once in the last 30 days (62.5 % for girls versus 61.5% for boys).

Heavy episodic drinking (binge drinking) in the last 30 days was not significantly correlated with early onset of alcohol use. Some (55.4%) of

students who reported early onset also reported binge drinking. This compares to 50.5% of students who reported late onset, p>0.05.

Frequency of alcohol use in the last 30 days

Table 16: Frequency of alcoholic use in last 30 days

Frequency of alcoholic use in last 30 days									
	Survey average	Gender		Districts					
		Boys	Girls	Cayman Brac	Bodden Town	East End	George Town	North Side	West Bay
Drank Daily									
Beer	2.8	5.2	0.8	3.7	4.2	3.4	1.4	11.1	2.4
Wine	3.3	4.4	2.4	3.6	4.6	6.2	2.2	3.6	4.4
Coolers	2.9	3.5	2.4	-	3.5	9.1	3.2	3.8	1.4
Liquor (spirits)	3.9	5.1	2.9	3.7	4.5	12.1	1.6	14.8	5.2
Drank Weekends Only									
Beer	13.7	17.6	10.4	18.5	14.1	12.1	14.3	7.4	13.9
Wine	9.9	8.2	11.4	3.6	10.3	9.4	10.2	7.1	11.7
Coolers	18.0	17.5	18.4	29.6	20.7	15.2	14.6	15.4	19.0
Liquor (spirits)	18.6	20.1	17.3	22.2	20.8	21.2	15.2	18.5	21.1

Students were asked to indicate what type of alcoholic beverage they had consumed in the last 30 days prior to the survey and in what frequency. The responses are reported for frequencies of 'daily' and 'weekends only'. The beverages indicated in the questionnaire were beer, wine, coolers and liquor (spirits).

Among students who had used alcohol in the last 30 days, the prevalence of drinking alcohol daily was 2.8% for beer, 3.3% for wine, 2.9% for coolers and 3.9% for liquor (Table 16). Boys were more likely than girls to have consumed these beverages daily (boys were five times more likely to consume beer, and about two times more likely to have consumed wine and spirits compared to girls). Students from North Side reported the highest prevalence for daily beer consumption (11.1%) and for daily liquor (14.8%); while students from East End had the highest prevalence for wine (6.2%) and coolers (9.1%).

Among students who had used alcohol in the last 30 days, the prevalence of drinking alcohol only on weekends was 13.7% for beer, 9.9% for wine, 18% for coolers and 18.6% for liquor (Table 16). Boys were as likely as girls to have consumed these beverages on weekends only. Notable more boys consumed beer (17.6% versus 10.4%) as well as liquor (20.1% versus 17.3%). However, notable more girls consumed wine (11.4% versus 8.2%) and slightly more girls consumed coolers (18.4% versus 17.5%).

Students from all districts except George Town consumed liquor on 'weekends only' at a prevalence that was above the survey average of 18.6%. Cayman Brac, East End, and West Bay reported the highest prevalence in this regard. With respect to consuming coolers on weekends only, Cayman Brac reported the highest prevalence (29.6%) but Bodden Town and George Town were above the survey average of 18%.

Students from West Bay had the highest prevalence for wine on weekends only (11.7%), however, Bodden Town and George Town were slightly above the survey average of 9.9%. Cayman Brac reported the highest prevalence for beer consumption on weekends only (18.5%). Again, Bodden Town and George Town were slightly above the survey average of 13.7%.

Any 'Daily' or Any 'Weekends Only' Use

Prevalence was computed for ***any 'daily'*** use of an alcoholic beverage within the last 30 days as well as ***any 'weekends only'*** beverage consumption. Some 5% of students had consumed at least one of the alcoholic beverages mentioned daily—5.9% for boys and 4% for girls. With respect to 'weekends only', 20.8% of students had consumed at least one of the alcoholic beverages mentioned on a 'weekends only' basis during the last 30 days prior to the survey--22% for boys and 19.8% for girls.

Preferences of Alcoholic Beverages Consumed In The Last 30 Days

The relative contribution of each beverage to the total amount of alcohol consumed is taken as an indicator of ***preference*** in alcoholic beverages among student who had drunk alcohol. On average, liquor (40%) and coolers (36%) were the preferred alcoholic beverages consumed in the last 30 days (Table 17). Preference for wine was 28.9% and beer 25.4%.

Table 17: Preference of alcoholic beverages consumed in last 30 days

Preference of alcoholic beverages consumed in last 30 days									
Preference for:	Survey average	Gender		Districts					
		Boys	Girls	Cayman Brac	Bodden Town	East End	George Town	North Side	West Bay
Beer	25.4	30.5*	20.7	17.2	23.5	16.0	27.4	20.4	27.8
Wine	28.9	27.4	29.8	18.0	28.6	32.7	29.3	22.0	30.8
Coolers	36.0	32.4	39.4*	24.1	36.1	51.0	36.9	31.9	34.9
Liquor (spirits)	40.1	38.3	41.7	29.3	39.4	44.0	42.0	35.4	39.5

*statistically significant ($p<0.05$)

Preference for beer was highest in West Bay (27.8%) and George Town (27.4%). For wines the preference was higher in East End (32.7%) and again in West Bay (30.8%), (Figure 1). With respect to preference for coolers, higher proportions were found in East End (51%) and George Town (36.9%).

This same pattern was found for preference for liquor –East End (44%) and George Town (42%) reported the highest proportions. Cayman Brac and North Side reported the lowest prevalence for any of the beverages with respect to preference with one exception; East End reported the lowest proportions for consuming beer.

The difference between boys (30.5%) and girls (20.7%) with respect beer consumption was about 10 percentage points. This difference was statistically significant, χ^2 =19.265, p=0.000). The difference between boys (32.4%) and girls (39.4%) with respect to consuming coolers as a preference was also statistically significant, χ^2 =7.993, p=0.005).

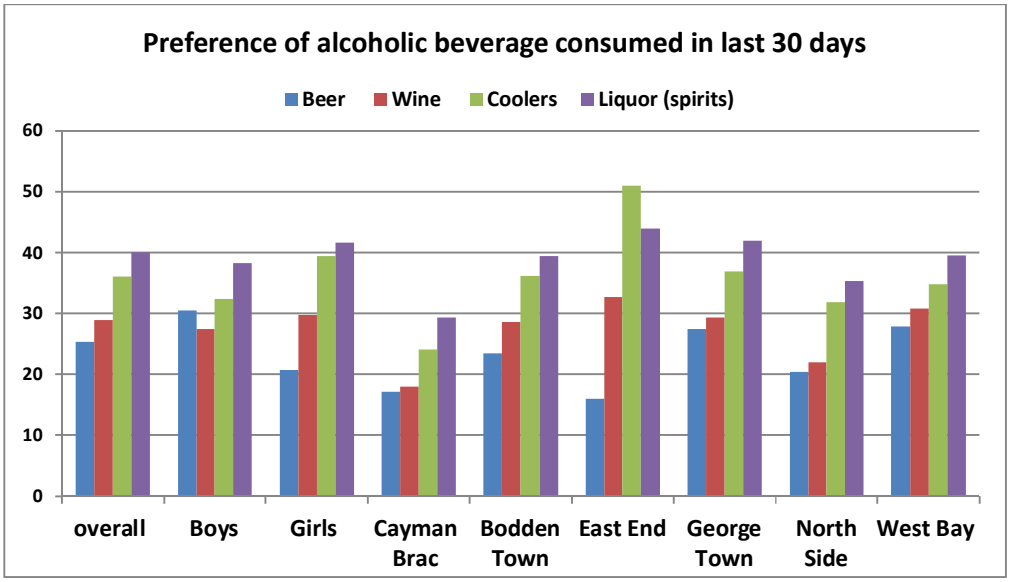


Figure 1: Preference of alcoholic beverage consumed in last 30 days

Cigarettes and e-cigarettes Use in last 30 days

Daily Cigarette Use

Table 18: Daily Cigarette Use in last 30 days

Daily Cigarette Use in last 30 days						
No. of cigarettes and No. of refills for e-cigarettes	Cigarettes (n=113)			E-cigarettes (n=332)		
	Survey average	Gender		Survey average	Gender	
		Boys	Girls		Boys	Girls
1-5	69.0	66.0	74.1	77.5	75.5	82.5
6-10	12.4	11.3	13.0	9.6	11.2	5.6
11-20	6.2	9.4	1.9	5.3	4.4	7.1
More than 20	12.4	13.2	11.1	7.3	8.7	4.8

Overall, 3.4% of all students surveyed smoked cigarettes every day in the last 30 days (3% each for boys and girls (Figure 2 below). The proportions for e-cigarettes was somewhat higher—7.4% overall (13% among boys and 8% among girls).

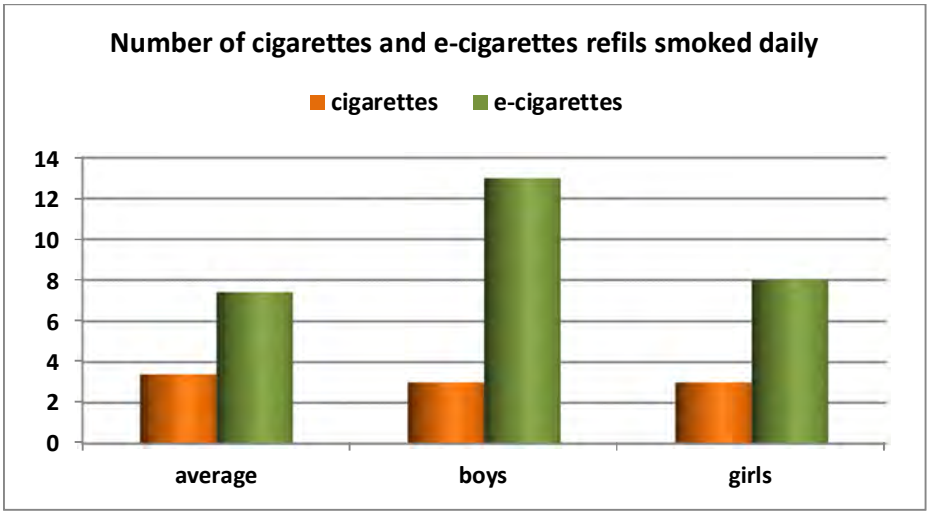
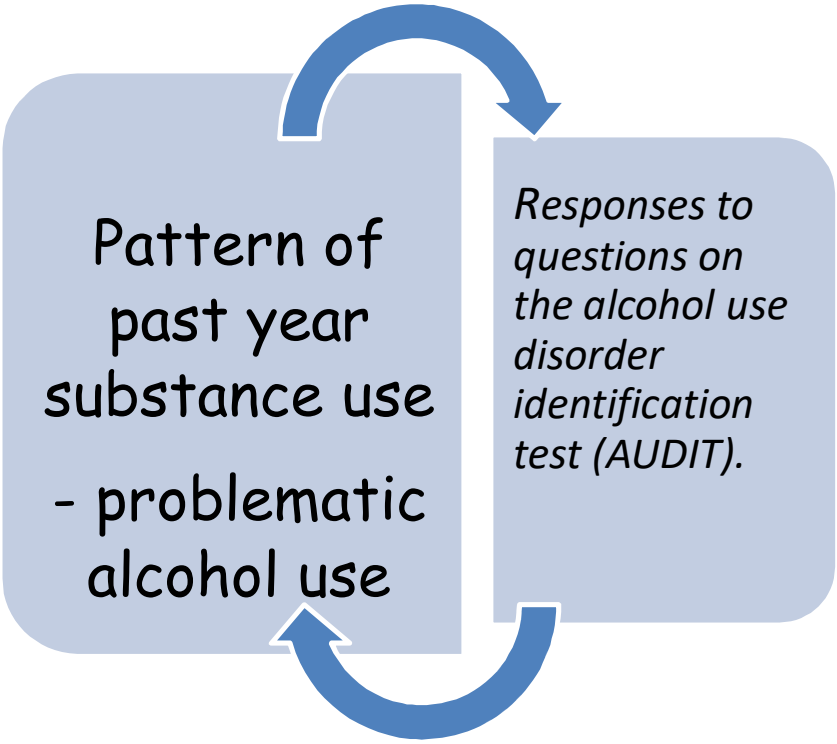
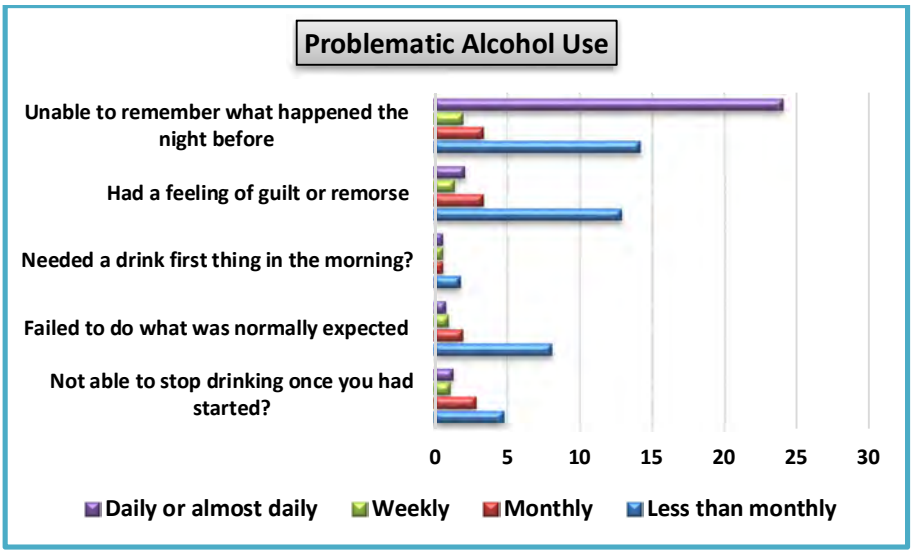


Figure 2: Preference of alcoholic beverage consumed in last 30 days

Among students who had smoked cigarettes in the last 30 days (n=113), 69% had smoked 1-5 cigarettes daily, a further 12.4% had smoked 6-10 cigarettes, 6.2% smoked 11-20 cigarettes and another 12.4% had smoked more than 20 cigarettes daily. Girls were more likely to report higher proportions for the smoking 1-5 and 6-10 cigarettes daily while boys reported higher proportions for the larger quantities (11-20 and >20).

Among students who had smoked e-cigarettes in the last 30 days (n=342), 77.5% had smoked 1-5 refills daily, a further 9.6% had smoked 6-10 refills, 5.3% smoked 11-20 refills and another 7.3% had smoked more than 20 refills daily. Girls were more likely to report higher proportions for the smoking 1-5 and 11-20 e-cigarettes refills daily while boys reported higher proportions for (6-10 and >20 refills daily).


Pattern of past year substance use
- problematic alcohol use
Responses to questions on the alcohol use disorder identification test (AUDIT).


Problematic Alcohol Use
Unable to remember what happened the night before
Had a feeling of guilt or remorse
Needed a drink first thing in the morning?
Failed to do what was normally expected
Not able to stop drinking once you had started?
0
5
10
15
20
25
30
Daily or almost daily
Weekly
Monthly
Less than monthly

Use in the past 12 months - Problematic alcohol use

Relates to the percentage distribution of responses to questions on the alcohol use disorder identification test (AUDIT).

Table 19: Percentage distribution of responses to questions on the alcohol use disorder identification test (AUDIT).

Percentage distribution of responses to questions on the alcohol use disorder identification test (AUDIT).					
Audit items	Response categories				
How often in the past 12 months have you …….	Cumulative (yes)	Less than monthly	Monthly	Weekly	Daily or almost daily
(a) Found that you were not able to stop drinking once you had started?	10.1	4.8	2.9	1.1	1.3
(b) Failed to do what was normally expected of you because of drinking?	12.0	8.1	2.0	1.0	0.8
(c) Needed a drink first thing in the morning to get yourself going after a heavy drinking session the day before?	3.6	1.8	0.6	0.6	0.6
(d) Had a feeling of guilt or remorse after drinking?	19.7	12.9	3.4	1.4	2.1
(e) Been unable to remember what happened the night before because you had been drinking?	22.1	14.2	3.4	2.0	24

A notable proportion of students (10% or 111 students) admitted that they were unable to stop drinking once they had started. A slightly larger proportion (12%) reported that they have failed to do what was normally expected from them because of drinking. A small proportion of students (3.6%) reported that they needed a drink first thing in the morning to get themselves going after a heavy drinking session (table 19).

A notable high proportion of students (19.7% or 211 students) reported that they had a feeling of guilty or remorse after drinking. This compares with 22% of students who reported that they have been unable to remember what happened the night before because they had been drinking.

Scoring The AUDIT Items

The five items derived from the AUDIT questionnaire (table 19) were scored as per the audit scoring guidelines when used to determine dependence (items a, b and c) or when use to determine alcohol-related problems (items d and e) as shown in table 20. The general guidelines for interpreting scores note that a secondary dependence score of 4 or more as a subtotal of the items 'a' to 'c' suggests the possibility of alcohol dependence (and therefore the need for more intensive intervention if further assessment confirms dependence). Alcohol-related problems score: any scoring on questions 'd' and 'e' warrants further investigation to determine whether the problem is of current concern and requires intervention.

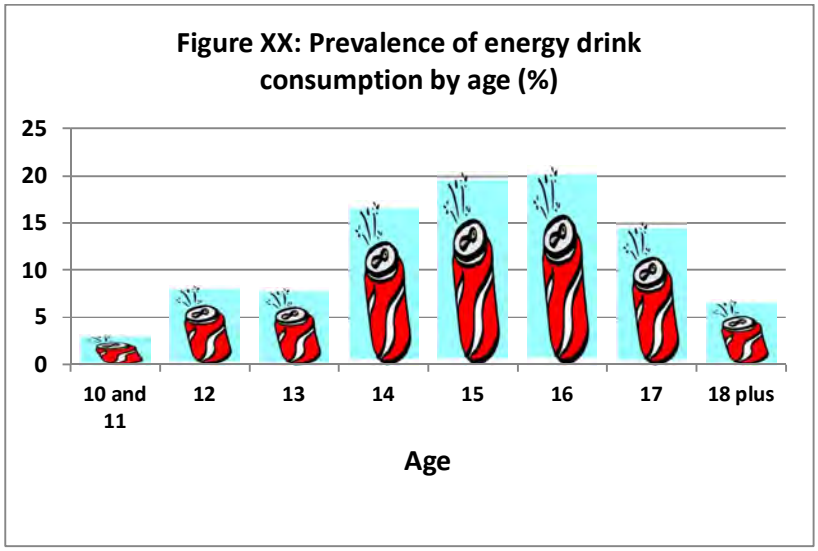
Table 20: Dependence and Alcohol-related Scores as per AUDIT Items

Dependence and Alcohol-related Scores as per AUDIT Items			
How often in the past 12 months have you …….	Overall	Boys	Girls
Dependence items			
(a) Found that you were not able to stop drinking once you had started?	4% 44/1098	4% 20/491	3.8% 22/586
(b) Failed to do what was normally expected of you because of drinking?			
(c) Needed a drink first thing in the morning to get yourself going after a heavy drinking session the day before?			
Alcohol-related Problems			
(d) Had a feeling of guilt or remorse after drinking?	33.3% 351/1087	32.5% 158/485	32.5% 189/582
(e) Been unable to remember what happened the night before because you had been drinking?			

With respect to the dependence scores, 4% of students overall (4% boys and 3.8% girls) scored 4 or more as a subtotal for the three items and for alcohol-related problems, a very large proportion (33%) had a score of one or more (range 1-8) on the two items – (32.5% each for boys and girls).

Energy drink consumption

[Percentage of students who report having comsumed energy drinks]



Energy drinks - **Consumption Pattern**

Table 21: Energy drinks consumption (%)

Energy drinks consumption (%)									
Energy drinks	Survey average	Gender		Districts					
		Boys	Girls	Cayman Brac	Bodden Town	East End	George Town	North Side	West Bay
Ever consumed (yes)	70.5	74.9	66.1	63.1	71.4	72.7	71.4	64.4	69.1
Ever mixed with alcohol (yes)	13.4	13.3	13.3	9.6	15.2	7.4	14.1	12.7	11.6

Students were asked to indicate if they had ever drunk an 'energy drink' and if yes, in what context as well as if they had ever mixed alcohol with an energy for consumption. Lifetime consumption was reported to be 70.5% overall (table 21). The consumption was significant higher among boys (74.9%) as compared to girls (66.1%), $p<0.001$. Of those who had ever consumed an energy drink, 13.4% reported that they had mixed alcohol in an energy drink for consumption— (13.3% each for boys and girls).

In relation to the districts, energy drink consumption was highest in East End (72.7%) followed by Bodden Town and George Town (71.4% each). With respect to mixing energy drink with alcohol, the district with the highest prevalence was Bodden Town (15.2%) followed by East End (14.1%). Cayman Brac and North Side reported the lowest prevalence for lifetime prevalence of energy drink consumption while East End reported the lowest prevalence for mixing energy drink with alcohol.

Context of Consumption of Energy Drinks

The main reason given for use of energy drinks was in relation to before or after sporting activities (46.4% or every fourth student), table 22. Far more boys (50.3%) than girls 41.7%) reported using energy drinks in relation to sporting activities, $p<0.001$. The next most prevalent reason given (from the

options) was 'while hanging out' (22.9%) and the least prevalent was while studying (7.2%).

Table 22: Context of energy drinks consumption (%)

Context of energy drinks consumption (%)			
When do you drink energy drinks most often:	Survey average	Gender	
		Boys	Girls
While studying	7.2	5.6	9.0
Before or after sporting activities	46.4	50.3	41.7
While hanging out	22.9	22.7	23.3
Other reasons	23.5	21.4	26.1

Girls (9%) were significantly more likely to give the reason 'while studying' compared to boys (5.6%) while about the same proportion of boys as girls used energy drinks in the context of while hanging out (slightly more than one-fifth of the students who reported lifetime use).

As seen below in Figure 3, prevalence increased proportionally as age increased. This until age 16 and then showed a decline through to age 18 plus.

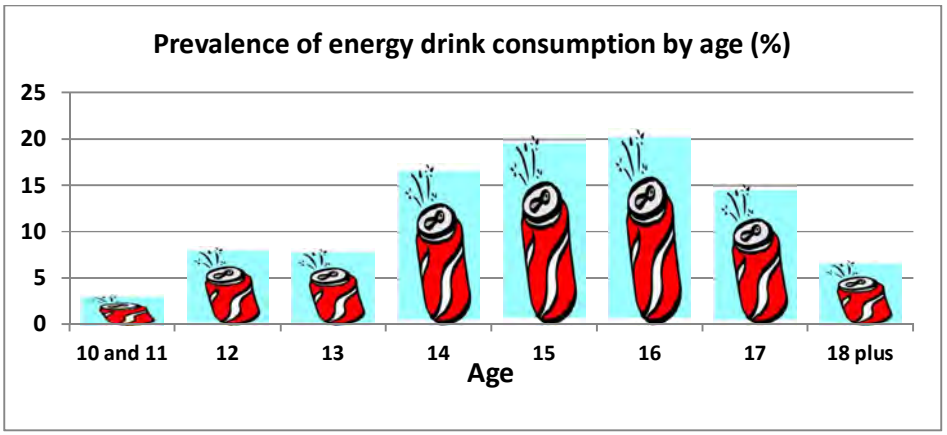


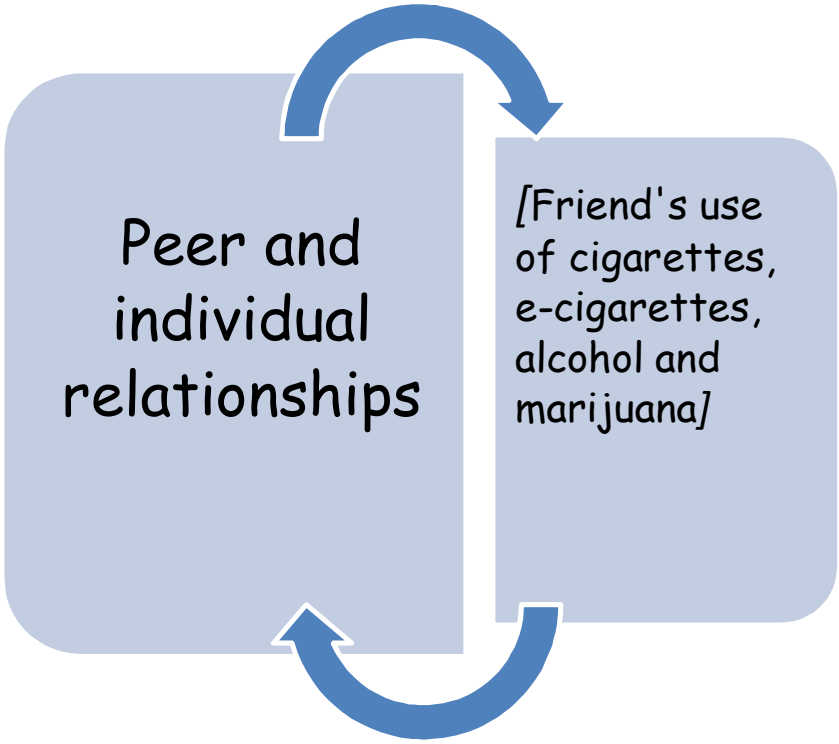
Figure 3: Prevalence of energy drink consumption by age (%)

Association Between Lifetime Energy Drink Consumption and Drug Consumption (Chi-Square (X^2) Test)

Independent chi-square tests were done to determine the association between lifetime energy drink consumption and the following variables: lifetime and current cigarettes use and lifetime and current marijuana use. Students who reported lifetime or current use of cigarettes and marijuana were significant more likely to also report lifetime consumption of energy drink ($p<0.001$), Table 23). Greater than 80% of either lifetime or last 30 days users of both cigarettes and marijuana reported having consumed energy drinks.

Table 23: Association between energy drink consumption and cigarettes and marijuana use

Association between energy drink consumption and cigarettes and marijuana use			
Substances Used	Percent		
	Energy drink (yes)	Energy drink (no)	p-value
Cigarettes lifetime			
Yes	93.4	6.6	0.001
No	69.6	30.4	
Cigarettes last 30 days			
Yes	87.9	12.1	0.001
No	67.1	32.9	
Marijuana lifetime			
Yes	83.3	16.7	0.001
No	65.1	34.9	
Marijuana last 30 days			
Yes	86.0	14.0	0.001
No	67.8	32.0	



Two powerful questions open the door to understanding alcohol use, one question is about friends' drinking, and the other is about personal drinking frequency. The friends' drinking question is an early warning signal that strongly predicts the student's potential future drinking levels (Brown et al., 2010). It also allows you a non-threatening "side door" entrance to begin talking about alcohol with younger students in particular. The personal drinking question zeroes in on frequency, the best predictor of current risk for alcohol-related harm in adolescents who are already drinking (Chung et al., 2012). The researchers examined many other questions, but these two by far had the greatest practicality and predictive strength. If you're going to ask about alcohol, these are the questions to ask.

Friends Substance Use

Table 24: Friends Substance Use Last 12 months by gender and location (%)

[percentage of students reporting that their friends used drugs in the last 12 months by category of substance]									
		Gender		Districts					
	Survey average	Boys	Girls	Cayman Brac	Bodden Town	East End	George Town	North Side	West Bay
Cigarettes	32.6	30.1	35.5	31.5	28.3	18.2	35.7	29.5	37.2
E-cigarettes	12.1	14.3	9.3	11.1	13.3	11.1	11.2	20.0	10.9
Alcohol	51.0	48.6	53.6	39.3	47.9	37.7	55.9	42.3	51.0
Marijuana	46.9	45.4	48.3	31.0	47.8	25.0	50.2	36.4	49.3

Students were asked the question - In the past 12 months have any of your friends smoked cigarettes, e-cigarettes, alcohol and marijuana? About a third of the students (32.6%) reported that they had friends who had smoked cigarettes; some 12% had friends who had smoked e-cigarettes; just over half of the students (51%) had friends who had drank alcohol; and almost half (46.9%) had friends who had smoked marijuana (Table 24).

With respect to smoking cigarettes, notable more girls (35.5%) compared to boys (30.1%) reported this. The proportions reported by districts substantially differed with East End reporting the lowest proportion (18.2%) and West Bay reporting the highest proportion (37.2%). George Town and Cayman Brac reported proportions what were slightly above or just below (respectively) the overall average. The difference observed by districts were statistically significant, ($p<0.05$).

Overall prevalence of friends who smoke e-cigarettes was 12%. Boys (14.3%) reported a significantly higher proportion of friends who smoked e-cigarettes than girls (9.3%), $\chi^2 = 6.897$, $p=0.005$). Except for North Side (20%) and Bodden Town (13.3%), all other districts reported proportions of friends who smoked e-cigarettes that was below the overall survey average of (12%).

Overall prevalence of friends who drank alcohol was 51%. A notable higher proportion of girls (53.6%) compared to boys (48.6%) had friends who had

drank alcohol. This difference however was not statistically significant. On the other hand, the proportions reported by districts were significantly difference ($p<0.05$) with higher proportions reported for George Town (55.9%), West Bay (51%), and lower proportions for Cayman Brac (39.3%) and East End (37.7%).

Overall prevalence of friends who smoked marijuana was 47%. Boys and girls reported about the same proportions of friends who had smoked marijuana in the last 12 months (45.4% for boys versus 48.3% for girls). The proportions reported by districts were significantly difference ($p<0.05$) with higher proportions reported for George Town (50.2%), West Bay (49.3%), and lower proportions for Cayman Brac (31%) and East End (25%).

Table 25: Friends Substance Use Last 12 months by Grade Level

[percentage of students reporting that their friends used drugs in the last 12 months by category of substance]							
	Year/grade level						
	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13
Cigarette	11.2	24.9	25.9	33.1	48.9	46.5	67.9
E-cigarettes	7.1	9.9	7.6	10.4	15.3	15.6	20.8
Alcohol	19.8	28.7	42.0	53.5	67.3	67.4	82.5
Marijuana	10.0	25.0	42.9	51.8	69.7	63.8	85.0

When the relationship of friend's substance use was tabulated by grade levels it showed that in all cases (for all substances) the proportion of friends who reportedly used drugs increased proportionally as grade levels increased (table 25). These observed increases were statistically significant at the $p<0.001$ level.

Pattern of consumption, early onset and perception of availability of students who reported that they had friends who had use at least one or all (any) of the substances indicated (cigarettes, e-cigarettes, alcohol or marijuana)

A new variable was computed – ***'friends use of any or all substances'*** in the past 12 months based on the original question that was asked in the survey - In the past 12 months have any of your friends smoked cigarettes, e-cigarettes,

alcohol and marijuana? A profile of students who had friends who used "any substance in the past 12 months" is presented in Table 26 below based on the following characteristics: patterns of drug consumption, early onset of substance use, friend's substance use and perception of availability.

The table below (table 26) shows, for example,

(a) That early onset of cigarette use (used by age 13 or younger) among students who had friends who had use any of the substances in the past year was 16.3% versus 7.3% which was the overall survey average (greater than twice the survey average).

(b) That perceived availability of marijuana (easy to obtain) among students who had friends who had use any of the substances in the past year was 34.7% versus 13.6% which was the overall survey average (greater than two and a half times the survey average).

(c) That 'any daily alcoholic beverage' consumed among students who had friends who had use any of the substances in the past year was 6.5% versus 5% which was the overall survey average (not very different than the survey average).

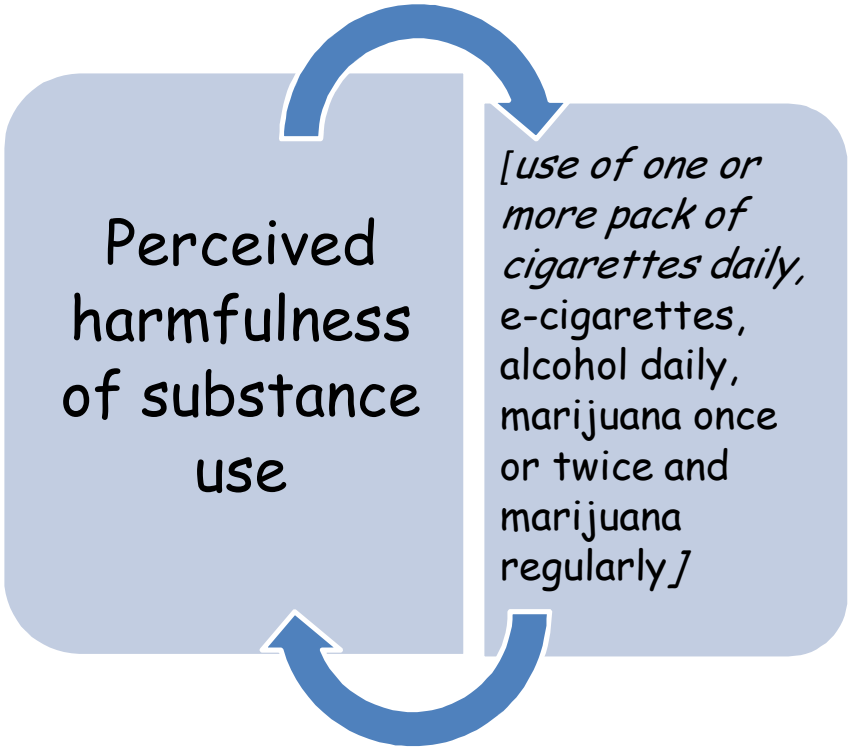
(d) That current cigarettes use among students who had friends who had use any of the substances in the past year was 9.8% versus 3.7% which was the overall survey average (greater than two and a half times the survey average).

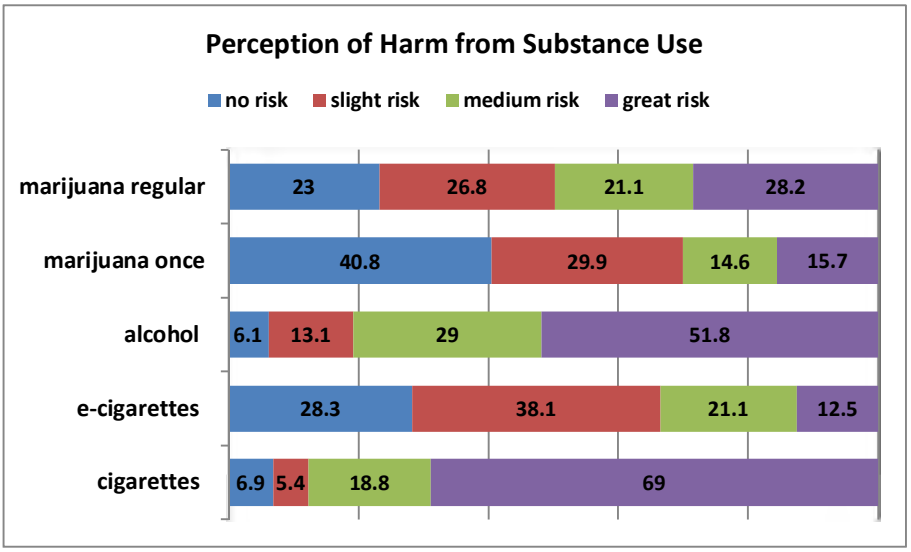
(e) That lifetime alcohol use among students who had friends who had use any of the substances in the past year was 92.4% versus 54% which was the overall survey average (almost twice the survey average).

(f) That the proportion among students in the overall survey who had friends that used marijuana was 46.9% versus 29.6% for those who had friends who had use any of the substances in the past year.

Table 26: Pattern of substance use conditional on friend's drug use

Pattern of consumption, early onset and perception of availability of students who reported that they had friend who had use at least one or all (any) of the substances indicated (cigarettes, e-cigarettes, alcohol or marijuana)				
	Percentage (%)			
	Survey average	Average for "friend who used any sub)."	Boys	Girls
Early onset of cigarette use (used by age =<13)	7.3	16.3	19.6	13.3
Early onset of e-cigarettes	16.3	30.0	34.0	26.4
Early onset of alcohol	28.0	50.7	49.3	52.1
Early onset of marijuana	7.2	17.0	19.6	14.6
Early onset of painkillers	1.8	3.7	2.5	4.8
Availability of cigarette (easy to obtain)	13.5	30.6	33.2	28.3
Availability of e-cigarettes	23.1	52.0	56.2	48.3
Availability of alcohol	30.2	70.0	64.3	75.1
Availability of marijuana	13.6	34.7	34.4	35.0
Availability of pain killers	4.5	10.1	8.8	11.4
Binge drinking (5 or more drinks)	53.7	46.0	52.0	41.1
Any illicit lifetime excluding marijuana	3.3	6.9	10.8	3.6
Any illicit last 30day excluding marijuana	0.3	1.9	3.3	0.7
Any daily alcoholic beverage consumed	5.0	6.5	7.9	5.3
Any weekend alcoholic beverage consumed	20.8	29.5	33.7	25.9
Lifetime cigarette use (ever used)	16.4	35.5	39.2	32.1
Lifetime alcohol use	54.4	92.4	90.0	94.7
Lifetime marijuana use	29.8	55.3	57.0	53.8
Current cigarette use (used in last 30 days)	3.7	9.8	9.8	9.7
Current alcohol use	31.3	70.4	68.3	72.4
Current marijuana use	14.6	37.4	35.6	39.5
Friends who use cigarettes (in the last 12 months)	32.6	34.7	34.9	34.6
Friends who use e-cigarette	12.1	13.8	18.2	9.9
Friends who use alcohol	51.0	82.7	78.5	86.5
Friends who use marijuana	46.9	29.6	28.6	30.4


Perceived harmfulness of substance use
[use of one or more pack of cigarettes daily, e-cigarettes, alcohol daily, marijuana once or twice and marijuana regularly]


Perception of Harm from Substance Use
no risk
slight risk
medium risk
great risk
marijuana regular
23
26.8
21.1
28.2
marijuana once
40.8
29.9
14.6
15.7
alcohol
6.1
13.1
29
51.8
e-cigarettes
28.3
38.1
21.1
12.5
cigarettes
6.9
5.4
18.8
69

Perceived Harmfulness of Substance Use:

Students were asked: How much do you think people risk harming themselves physically or in other ways if there were to try using the indicated substances. Perception of **no risk** of harm related to the use of the substances indicated ranged from a low of 6.1% for drinking alcohol daily to a high of 40.8% for using marijuana once or twice. Some 6.9% of students did not see any risk of harm for smoking one or more packs of cigarettes daily, while 28.3% said there was no risk to smoking e-cigarettes and 23% said no risk for regularly smoking marijuana (Table 27).

On the other hand, a notable high proportion of students reported **great risk** of harm for smoking one or more packs of cigarettes daily (69%), drinking alcohol daily (51.8%), regularly smoking marijuana (28.2%), using marijuana once or twice (15.7%) and smoking e-cigarettes (12.5%).

Overall the perception of greatest harm (slight, medium or great harm cumulated) was reported for smoking cigarettes and drinking alcohol, followed by regularly marijuana use, smoking e-cigarettes, and the least for using marijuana once or twice.

Table 27: Perception of Harm related to use of cigarettes, e-cigarettes, alcohol, and marijuana (%)

Perception of Harm related to use of cigarettes, e-cigarettes, alcohol, and marijuana (%)				
	No risk	Slight risk	Medium risk	Great risk
One or more packs of Cigarettes per day	6.9	5.4	18.8	69.0
Smoking E-cigarettes	28.3	38.1	21.1	12.5
Drink Alcohol daily	6.1	13.1	29.0	51.8
Try marijuana once or twice	40.8	24.9	14.6	15.7
Smoke marijuana regularly	23.0	26.8	21.1	28.2

Perception of Risk of Harm and Current Substance Use

The proportion of students who were current users of cigarettes, alcohol, e-cigarettes and marijuana was cross tabulated with their perception of harm for each of the categories of substances indicated. The results (Table 28) show that

for students who said there was no risk of harm from smoking cigarettes, 21.9% were current smokers while for those who said there was great risk, only 8.2% were also current smokers.

With regards to e-cigarettes smoking, 148/345 (42.2%) of those who said there was no risk of harm were also currently smoking e-cigarettes compared to only 6.6% who felt there was great risk of harm. ***Important to note that 77/122 (60.7%) of current cigarettes smokers were also smoking e-cigarettes.***

For alcohol, 69.7% of students who felt there was no risk were current users of alcohol compared to 54.5% who felt there was great risk. Some 82.8% students who felt there was no risk in smoking marijuana once or twice were current users of marijuana compared to only 19.2% who felt there was great risk. Likewise, for smoking marijuana regularly, a high proportion (70.6%) who felt there was no risk in smoking marijuana regularly were current users of marijuana compared to only 30.9% who felt there was great risk.

Table 28: Perception of risk of harm and current substance use

Perception of risk of harm and current substance use				
Current users of:	No risk	Slight risk	Medium risk	Great risk
Cigarettes	21.9	28.0	19.4	8.2
E-cigarettes	42.9	38.3	22.2	6.6
Alcohol	69.7	72.5	65.3	54.5
Marijuana*	82.8	55.2	37.9	19.2
Marijuana**	70.6	79.6	61.8	30.9

*use marijuana one or twice ** Smoke marijuana regularly

Perceptions of Risk of Harm Among Boys and Girls

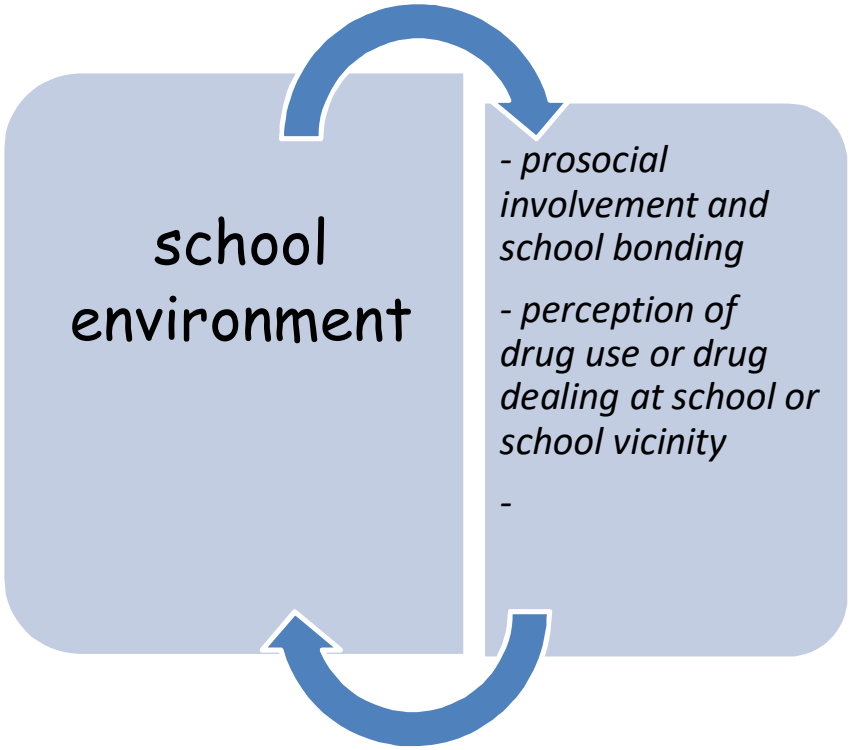
Perceptions of risk of harm among boys and girls showed statistically significant differences, as it relates to perception of no risk (Table 29). Significantly more boys felt that there was no risk of harm within all five categories of substance use when compared to girls. For example, twice as many boys (30.9%) compared to girls (15.4%) felt there was no risk of harm related to smoking marijuana regularly. This was also seen for alcohol (8.9%

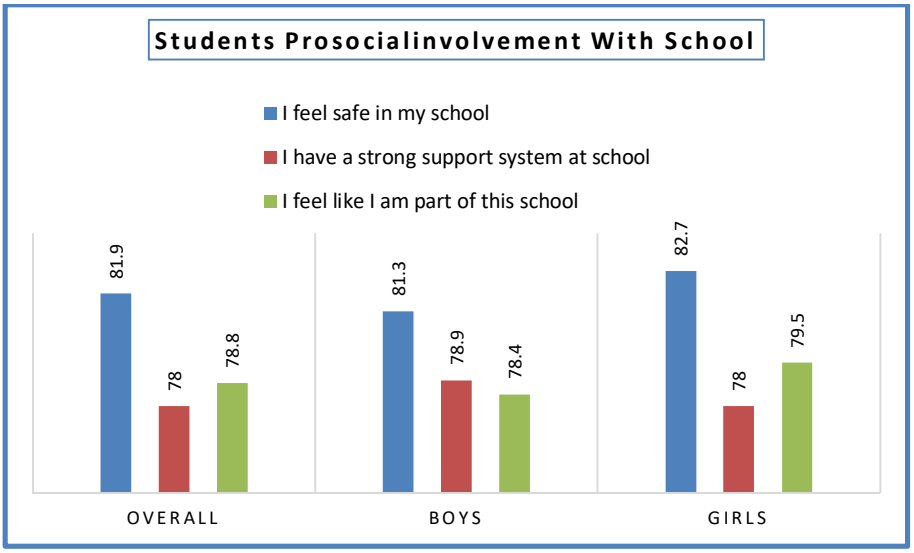
versus 3.6%), cigarettes (8.8% versus 4.5%) and e-cigarettes (33.5% versus 22.6%).

Important to note though that for slight, medium and great risk, the gender differences were not as large and related to higher proportions of girls in most cases reporting that there was harm related to the use of the indicated substances.

Table 29: Perception of Harm related to use of cigarettes, e-cigarettes, alcohol, and marijuana by gender (%)

Perception of Harm related to use of cigarettes, e-cigarettes, alcohol, and marijuana by gender (%)										
	Cigarettes 1 or more packs daily		E-cigarettes		Alcohol daily		Marijuana once or twice		Marijuana regularly	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
No risk	8.8	4.5	35.5	22.6	8.9	3.6	45.9	36.4	30.9	15.4
Slight risk	7.1	3.4	35.8	40.4	14.0	12.5	24.5	32.9	25.1	28.0
Medium risk	15.2	21.3	18.6	24.2	30.3	27.4	12.8	15.6	18.4	25.8
Great risk	69.0	70.9	12.1	12.8	46.8	56.5	16.8	15.1	25.6	30.8


school environment
- prosocial involvement and school bonding
- perception of drug use or drug dealing at school or school vicinity
-


Students Prosocialinvolvement With School
I feel safe in my school
I have a strong support system at school
I feel like I am part of this school
81.9
78
78.8
81.3
78.9
78.4
82.7
78
79.5
OVERALL
BOYS
GIRLS

Prosocial involvement and school bonding

Students were asked questions about the school environment to which they were to respond for the most part with 'yes' or 'no' and for three, whether they agreed or disagreed (strongly agree, agree and somewhat agree were computed as "agree" and likewise strongly disagree, disagree and somewhat disagree were computed as "disagree".

When asked if they felt safe at school, most all students agreed (eight of every ten or 82%), Table 30. There was also high agreement among boys (81% and girls (83%). Slightly less students agreed with the statements, 'I have a strong support system at school' – (78% overall) and 'I feel like I am part of this school' – (79% overall). About the same proportions of boys and girls responded in agreement with these questions.

Table 30: Response to questions about safety, support and feeling a part of school (%)

Response to questions about safety, support and feeling a part of school – Percent agree/disagree						
	Agree			Disagree		
	Overall	Boys	Girls	Overall	Boys	Girls
I feel safe in my school	81.9	81.3	82.7	17.4	17.9	16.8
I have a strong support system at school	78.0	78.9	78.0	19.8	18.7	20.4
I feel like I am part of this school	78.8	78.4	79.5	19.2	19.1	19.1

School Bonding*

*Feeling of safety, good support at school and feeling a part of the school were the main requirements for the 'school bonding index' that was computed for this survey. Students who agreed (strongly agree, agree or somewhat agreed with the statements) were thought to have a positive bond with school. Having computed the index, 93.7% of students overall were bonded to their school while 6.3% were not.

From table 31 below, students who had a strong bond to school were significantly more likely to report less past year and last 30 days substance use in all categories. Students with no school bonding were two times more likely to report current cigarette use (OR 1.741 95%CI 1.093-2.772), 1.8 times more likely to report last 30 days marijuana use and 1.6 times more likely to report e-cigarettes use in the last 30 days.

Table 31: Relationship between school bonding and past year and current drug use

Relationship between school bonding and past year and current drug use				
	School Bonding Index / (%) of Users		**Odds Ratio**	**95% CI**
	No	**Yes**		
Cigarettes past year	10.7	6.5	1.741	1.093-2.772
Cigarettes last 30 days	6.8	3.5	2.007	1.129-3.369
E-cigarettes past year	29.3	21.5	1.514	1.107-2.070
E-cigarettes last 30 days	18.0	12.0	1.609	1.109-2.335
Alcohol past year	63.2	44.6	1.412	1.064-1.875
1Alcohol last 30 days	39.5	30.7	1.472	1.101-1.968
Marijuana past year	31.7	21.6	1.689	1.243-2.294
Marijuana last 30 days	22.9	14.1	1.818	1.292-2.557

Perception of Drug Use or Drug Dealing At School or School Vicinity

About six of ten students (57.8%) believed that there are drugs at their school. Slightly more girls (59.4%) than boys (56.2%) were of this opinion (Table 32). A much larger proportion of students felt that there are students who try drugs at their school (81% overall, with a significantly higher proportion of girls (85%) compared to boys 77%, chi square test, $p<0.05$).

When asked about trying to buy or sell drugs among students in the area surrounding the school, about half of the students (49%) said yes this was the case. Just about one-fifth (19-20%) of the students said they had either personally seen a student selling or giving drugs at school or in the area surrounding the school (about the same proportions of boys as girls responded yes to these scenarios).

Table 32: Perception of Drug Availability and Use on the School Compound – Percent responding "Yes"

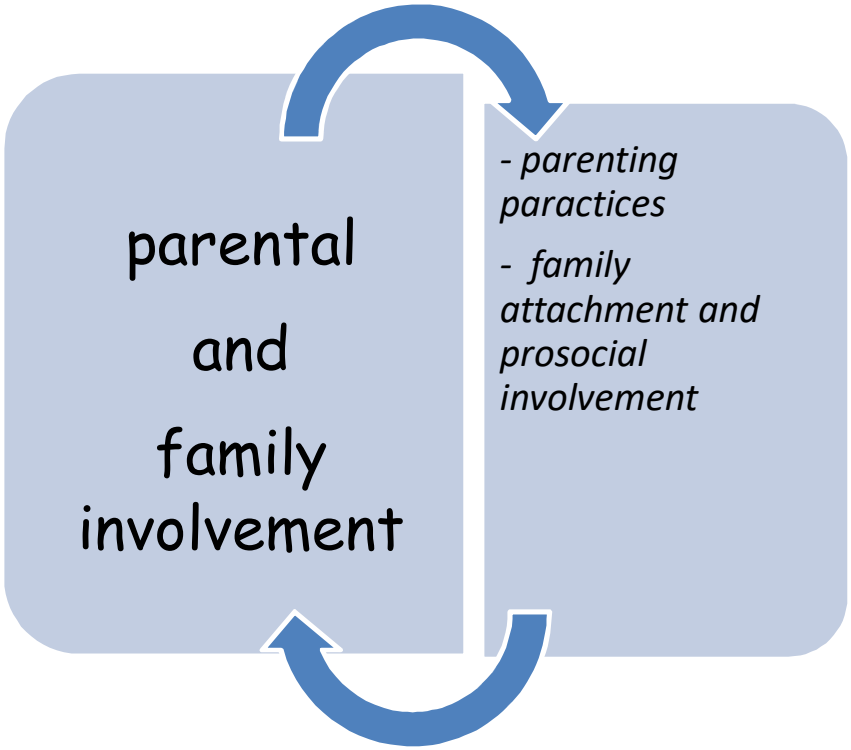
Perception of Drug Availability and Use on the School Compound – Percent responding "Yes"			
	Responses of "yes"		
	Survey average	Boys	Girls
Do you believe that there are drugs at your school?	57.8	56.2	59.4
Do you believe that there are students who try drugs at your school	81.1	76.9	85.2
Do you believe that some students try to buy or sell drugs amongst themselves in the area surrounding the school?	48.9	45.4	52.1
Have you personally seen a student selling or giving drugs at school?	19.1	19.7	18.7
Have you personally seen a student selling or giving drugs in the area surrounding the school?	20.0	20.4	19.4
Have you personally seen a student using drugs at school?	31.7	30.4	32.5
Have you personally seen a student using drugs in the area surrounding the school?	31.1	30.5	31.4
Have you ever carried marijuana to school?	17.0	19.6	14.4
Do you know someone in your school who you can get marijuana from?	52.8	46.5	58.2

A larger proportion, almost one-third of the students said they had personally seen a student using drugs at school (31.7%) or in the area surrounding the school (31.1%). Overall some 17% of students who had smoked marijuana said they had taken marijuana to school. Males were more likely to report this compared to girls (19.6% for boys versus 14.4% for girls).

When asked if they knew someone at school who they can get marijuana from, half of the students who had used marijuana said yes (52.8%). Important to note that girls (58.2%) were significantly more likely to report this compared to boys (46.5%), $p<0.01$.

However, the study found that students who report a positive school climate, in the context of 'school bonding", related to feeling safe, having a strong support system at school and feeling a part of the school) were less likely to engage in drug use.

In the survey, students were asked about their school environment. Feeling of safety, good support at school and feeling a part of the school were the main requirements for the perception of 'school bonding' index computed, analyzed and presented in these results.


parental
and
family
involvement
- parenting paractices
- family attachment and prosocial involvement

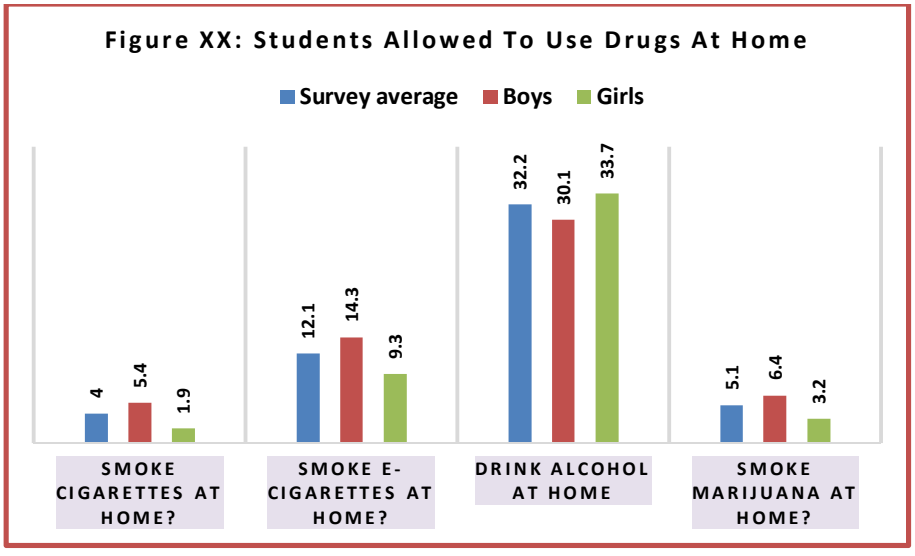


Figure XX: Students Allowed To Use Drugs At Home
Survey average
Boys
Girls
4
5.4
1.9
12.1
14.3
9.3
32.2
30.1
33.7
5.1
6.4
3.2
SMOKE CIGARETTES AT HOME?
SMOKE E-CIGARETTES AT HOME?
DRINK ALCOHOL AT HOME
SMOKE MARIJUANA AT HOME?

Parental Involvement

Parenting Practices

Table 33: Percentage of students who can use drugs at home (%) – Overall and by Gender

Percentage of students who can use drugs at home (%) – Overall and by Gender			
Do your parents (or guardians) allow you to	Survey average	Boys	Girls
Smoke cigarettes at home?	4.0	5.4	1.9
Smoke e-cigarettes at home?	12.1	14.3	9.3
Drink alcohol at home	32.2	30.1	33.7
Smoke marijuana at home?	5.1	6.4	3.2

The most prevalent response to the questions whether parents allow students to use drugs at home was for alcohol use. Overall, 32.2% of students reported that their parents allowed them to drink alcohol at home (30% of boys and 33.7% of girls). The next most prevalent occurrence related to smoking e-cigarettes at home (12% overall), table 33.

Significantly, more boys (14.3%) reported this compared to girls (9.3%), $p<0.01$. Some 4% of smokers overall could smoke cigarettes at home. Like e-cigarettes, the difference between boys (5.4%) and girls (1.9%) was also statistically significant, $p<0.01$. Smoking marijuana at home was reported by 5% of marijuana smokers overall. Again boys (6.4%) were significantly more likely to report this compared to girls (3.2%), $p<0.05$.

Parenting Practice - Year/Grade Level Comparisons

Table 34: Percentage of students who can use drugs at home (%) – Grade Level

Percentage of students who can use drugs at home (%) – Grade Level							
Do your parents (or guardians) allow you to	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13
Smoke cigarettes at home?	2.0	1.2	4.6	4.1	3.6	7.8	9.8
Smoke e-cigarettes at home?	7.1	9.9	7.6	10.4	15.3	15.6	20.8
Drink alcohol at home	17.3	22.4	25.2	35.5	34.8	41.3	54.5
Smoke marijuana at home?	1.8	3.8	5.0	2.4	5.1	8.6	11.8

When students' responses were compared by grade level, there was a significantly difference between the proportion of students that were allowed to smoke e-cigarettes and alcohol at home. As grade levels increased, the proportions of students reporting being allowed to use substances at home also increased significantly (for e-cigarettes: from a low of 7% to a high of 20.8% at the highest grade; and for alcohol, from a low of 17.3% to a high of 54.5% at the highest grade), table 34.

Family Involvement and History of Use

Table 35: Percentage response to Family Involvement/Family History of Use

Percentage response to Family Involvement and Family History of Use			
	Overall	Boys	Girls
Has anyone in your family ever had an alcohol or drug problem?*	40.9	36.5	44.9
Has anyone in your family ever sold drugs*	15.3	13.1	17.3
Have you sold illegal drugs, either for yourself or for others?*	5.1	7.4	2.9
Have your parents spoken to you about their experiences with alcohol and other drugs when they were your age?	42.2	40.6	43.4
Do your parents talk to you about the importance of not using alcohol, cigarettes and other drugs?	76.3	77.4	75.5

****statistically significant relationships, p<0.001***

Family involvement and family history of use were surveyed in the questions above (Table 35). Four in ten students (41%) reported that that someone in their family has had an alcohol or drug problem. Significantly more girls (44.9%) than boys (36.5%) reported this to be the case.

When asked if anyone in the family ever sold drugs, 15.3% reported 'yes'. Again, significantly more girls (17.3%) compared to boys (13.1%) reported this. Overall, 5% of students reported selling illegal drug. In this case though, significantly more boys (7.4%) compared to girls (2.9%) reported this. All gender difference for the above items were significant at the p<0.001 level.

Four of ten students (42.2%) reported that their parents spoke to them about their experiences with alcohol and other drugs. Slightly more girls reported this to be the case compared to boys - (boys (40.6%) and girls (43.3%). A relatively high proportions of students (76.3%) reported that their parents spoke to them about the importance of not using alcohol, cigarettes and other drugs - (boys (77.4%) and girls (75.5%).

From the chart below (Figure 4), the results indicate that the highest proportions of student who reported that their parents spoke to them about the importance of ATOD were in the grade level that just transitioned from primary to secondary school and up to about year 10 (78.4-79.7%). Thereafter the proportions reporting this gradually decreased (71-74%).

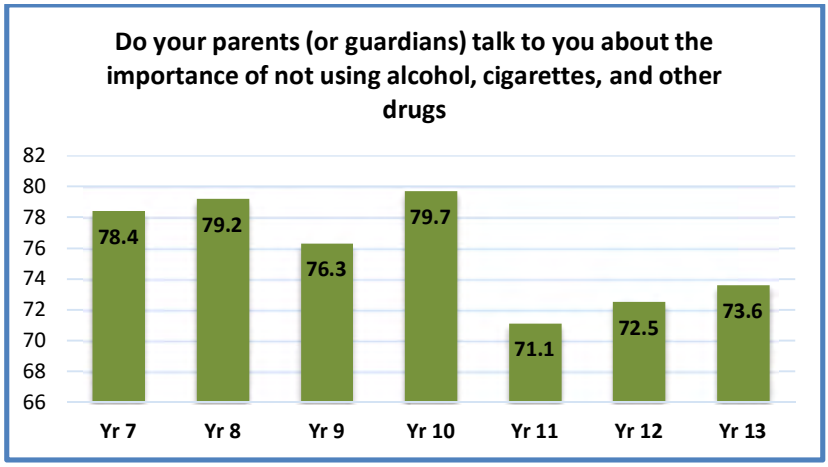


Figure 4: Importance of not using drugs by grade level

Family Attachment and Prosocial Involvement

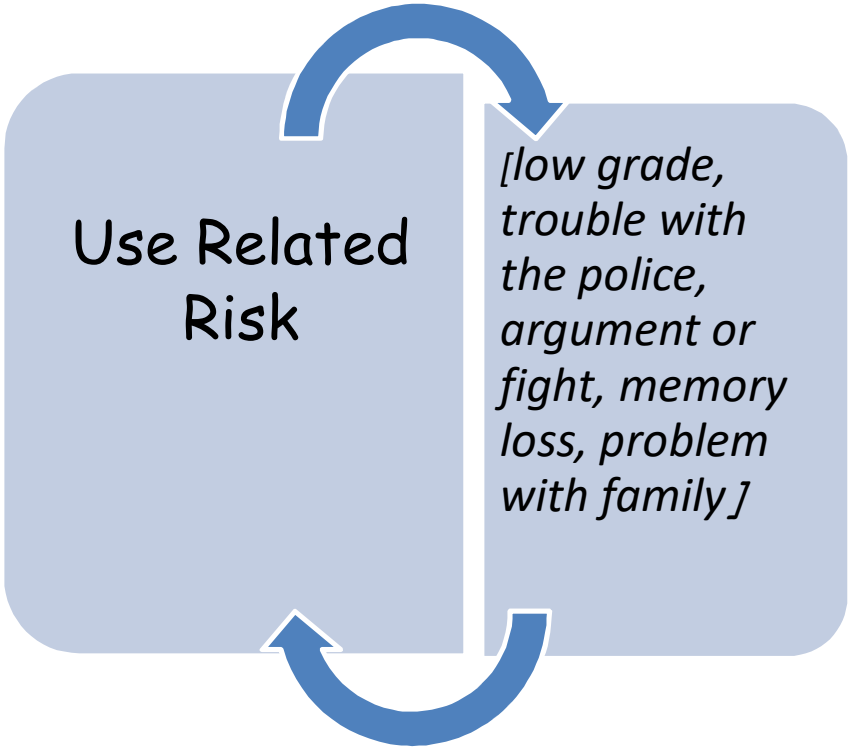
Students were asked to respond to numerous questions about family involvement in their daily lives. More than eight in ten students (84%) overall said the rules that their family had about alcohol, cigarettes and other drugs were clear (Table 36). About the same proportion of boys and girls reported this. Just about one-third of student overall (34%) said persons in their family often insults or yell at each other (a significantly higher proportion of girls (38.4%) compared to boys (28.8%) reported this, $p<0.01$.

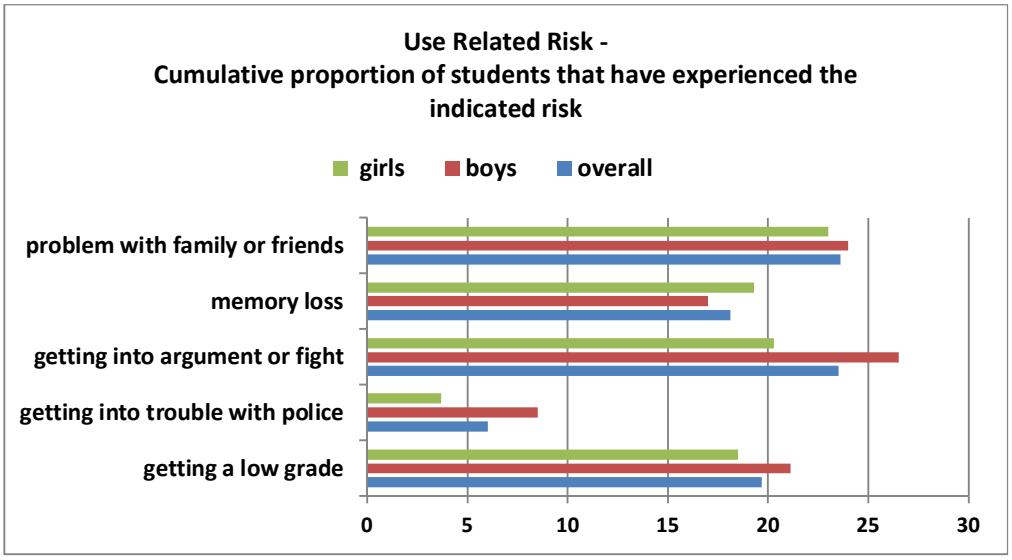
Eight of ten student (82%) – (boys 77% versus 86.6% girls, p<0.001) reported that their parents or caregiver knows where they are when they are not at home. The difference between boys and girls was statistically significant. Girls were more likely to report this compared to boys. A relatively high proportion of student overall (72.7%) reported knowing someone outside of school to ask for help if they had a personal problem, (boys 72.3% versus 73.6% girls).

More than eight in ten students overall (84.6%) reported that their parents/caregivers ask if they have gotten their homework done, (boys 86.1% versus 83.5% girls). Just about three-quarters of students overall (74.6%) said that their parents or caregiver knows if they had not come home from school on time. A slightly higher proportion of girls (75.5%) compared to boys (73.4%) reported this.

Table 36: Family Attachment and Prosocial Involvement (%) Overall and by Gender

Family Attachment and Prosocial Involvement (%) – Overall and by Gender			
	Overall	Boys	Girls
The rules about alcohol, cigarettes, and other drugs in my family are clear.	84.0	84.9	83.4
People in my family often insult or yell at each other.	34.0	28.8	38.4
When I am not at home, one of my parent(s)/ caregiver(s) knows where I am and who I am with.	81.9	77.0	86.6
If I had a personal problem, I know an adult outside of school I can ask for help.	72.6	72.3	73.6
My parents/caregivers give me lots of opportunities to do fun things with them.	76.4	77.2	75.9
My parents/caregivers ask if I've gotten my homework done.	84.6	86.1	83.5
My parents/caregivers know if I do not come home on time.	74.6	73.4	75.7


Use Related Risk
[low grade, trouble with the police, argument or fight, memory loss, problem with family]


Use Related Risk -
Cumulative proportion of students that have experienced the indicated risk
girls
boys
overall
problem with family or friends
memory loss
getting into argument or fight
getting into trouble with police
getting a low grade
0
5
10
15
20
25
30

Use Related Risk

Students were asked to indicate their experience with certain situations because of drinking alcohol or using illicit drugs over the past 12 months (the question was, "**Over the PAST 12 MONTHS, how often have you experienced or been in the following situations because of drinking alcohol or using illicit drugs?"** There were five response categories with the following options: never, rarely sometimes and often. The options of sometimes, often and rarely were summed and expressed as students' indications of having had the experience. The cumulative column refers to the total proportion of students that have experienced the indicated risk in the past year (table 37).

Table 37: Proportion of students who experienced the indicated use-related risk - Overall

Proportion of students who experienced the indicated use-related risk - Overall					
	Never	Rarely	Sometimes	Often	Cum.
Getting a low grade on an important test/ exam or school project	80.3	8.3	9.3	2.0	19.7
Getting into some kind of trouble with the police	94.0	3.8	1.7	0.6	6.0
Getting into an argument or fight	76.5	11.2	9.3	3.0	23.5
Memory loss	81.9	8.7	7.3	2.3	18.1
Problems with your family/**friends**	76.4	9.5	10.4	3.7	23.6

Overall Use-Related Risks and Gender Differences – (Table 38)

<u>Getting a low grade</u>

The proportion of students who indicated that they have experienced getting a low grade was 19.7%. A slightly higher proportion of boys (21.1%) compared to girls (18.5%). When the overall average was compared with the district proportions, a notable difference was observed for students in East End (33.8% or 14 percentage points difference). Proportion for Bodden Town (22.6%) was also notable higher than the overall average.

Trouble with the Police

The proportion of students who indicated that they have experienced trouble with the police was 6%. A significantly higher proportions of boys (8.5%) reported this compared to girls (3.7%), $p<0.001$. The overall average was compared with the district proportions, a notable difference was observed for students in East End (12.3% or 6.3 percentage points difference).

Getting into an arguments or fights

The proportion of students who indicated that they have experienced getting into an arguments or fights was 23.5%. This was reported by 26.5% of boys compared to 20.3% of girls, a difference of 6.2 percentage point that was statistically significant, $p<0.05$. When the overall average was compared with the district proportions, a notable high difference was observed for students in East End (43.2% or 19.7 percentage points difference). Proportion for Cayman Brac (28.3%) was also slightly higher than the overall average.

Memory Loss (figure 60d)

The proportion of students who indicated that they have experienced memory was 18.1%. Although slightly more girls (19.3%) experiences this compared to 17% of boys, this difference was not statistically significant. When the overall average was compared with the district proportions, the only district with a slightly higher proportion of note was for students in North Side (21.6% or 3.5 percentage points difference).

Problems with Family

The proportion of students who indicated that they have experienced problems with family was 23.6%. A slightly higher proportion of boys (24%) compared to girls (23%) experiences this. When the overall average was compared with the district proportions, a notable difference was observed for students in East End (38.6% or 15percentage points difference). Proportion for Bodden Town (26.6%) was also notable higher than the overall average.

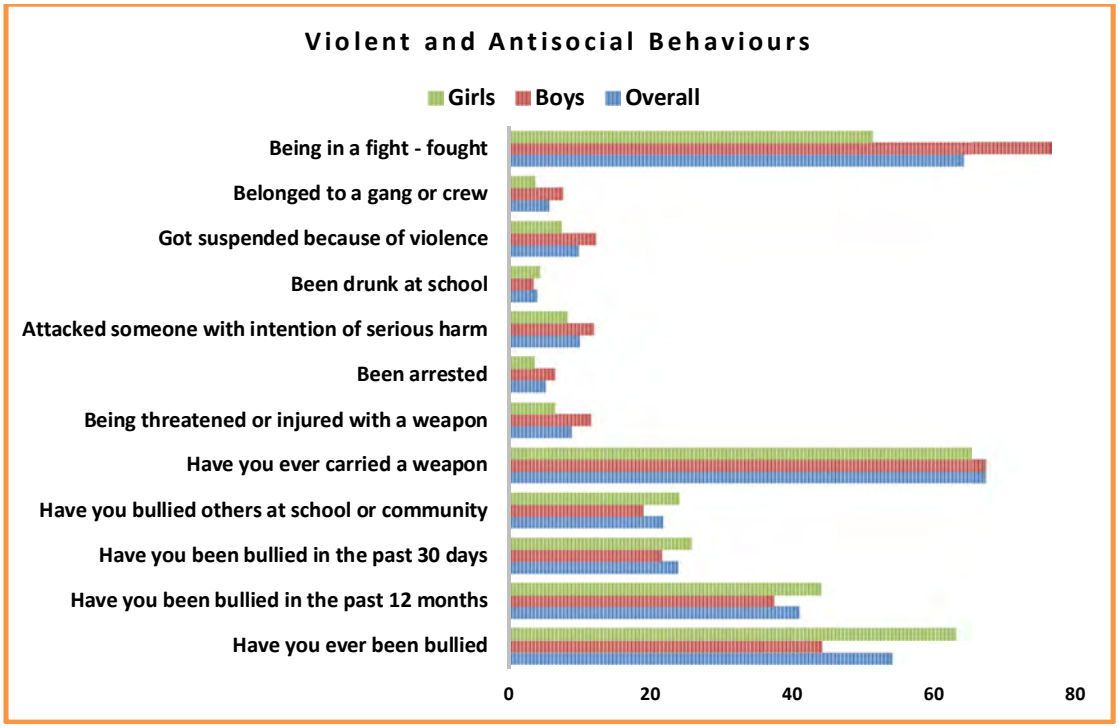
Table 38: Proportion of students who experienced the indicated use-related risk - Boys and Girls

Proportion of students who experienced the indicated use-related risk - Boys and Girls					
	Never	Rarely	Sometimes	Often	Cum.
Boys					
Getting a low grade on an important test/ exam or school project	78.9	8.5	10.5	2.1	21.1
Getting into some kind of trouble with the police	91.5	5.6	2.0	0.9	8.5
Getting into an argument or fight	73.5	13.5	9.9	3.0	26.5
Memory loss	83.0	8.5	6.4	2.0	17.0
Problems with your family/friends	76.0	11.0	9.7	3.3	24.0
Girls					
Getting a low grade on an important test/ exam or school project	81.5	8.4	8.1	2.0	18.5
Getting into some kind of trouble with the police	96.3	2.1	1.3	0.4	3.7
Getting into an argument or fight	79.7	8.9	8.5	2.9	20.3
Memory loss	80.7	9.0	8.2	2.1	19.3
Problems with your family/friends	77.0	8.0	11.1	3.9	23.0

Table 39: Proportion of students who experienced the indicated use-related risk - District

Proportion of students who experienced the indicated use-related risk - District						
	Districts					
	Cayman Brac	Bodden Town	East End	George Town	North Side	West Bay
Getting a low grade on an important test/ exam or school project	20.3	26.6	38.6	17.0	20.0	19.0
Getting into some kind of trouble with the police	5.8	6.4	12.3	5.3	7.0	6.1
Getting into an argument or fight	28.3	24.1	43.2	20.4	22.9	24.5
Memory loss	18.3	19.5	20.2	15.9	21.6	19.3
Problems with your family/friends	23.2	26.6	38.6	20.5	23.0	23.5


Violence-related and other antisocial behaviours
- experience with bullying
- carrying weapon in community or at school
- other antisocial behaviours


Violent and Antisocial Behaviours
Girls
Boys
Overall
Being in a fight - fought
Belonged to a gang or crew
Got suspended because of violence
Been drunk at school
Attacked someone with intention of serious harm
Been arrested
Being threatened or injured with a weapon
Have you ever carried a weapon
Have you bullied others at school or community
Have you been bullied in the past 30 days
Have you been bullied in the past 12 months
Have you ever been bullied
0
20
40
60
80

Violence-related Behaviours

Bullying

Table 40: Percentage of students who had experienced bullying or had bullied someone –Overall, Gender and Location

Percentage of students who had experienced bullying or had bullied someone – Overall, Gender and Location									
	Overall	Gender		District					
		Boys	Girls	Cayman Brac	Bodden Town	East End	George Town	North Side	West Bay
Have you ever been bullied?	54.0	44.1	62.9	66.2	55.6	51.3	51.7	61.2	53.0
Have you been bullied in the past 12 months?	40.9	37.3	44.0	44.2	40.6	37.3	41.2	43.3	40.0
Have you been bullied in the past 30 days?	23.8	21.5	25.7	29.3	24.8	12.0	24.0	27.1	21.8
Have you bullied others at your school/ comm..	21.7	18.9	24.0	20.1	23.1	26.6	20.9	22.0	20.9

Overall/Gender Differences

More than half of the students overall (54%) reported been bullied at some time. The proportions who reported been bullied in the past year was notable lower (40.9%) while bullying in the past 30 days was even lower (23.8%). A notable high proportion of students reported that they had bullied others at their school or community (21.7%), table 40.

The proportions reported by boys and girls were significantly different for all items. Significantly more girls (66.2%) compared to boys (62.9%) reported ever been bullied, $p<0.001$). This was also the case for past year bullying (44% girls versus 37.3% boys, $p<0.01$), and for last 30 days (25.7% girls versus 21.5% boys, $p<0.05$). Interestingly, significantly more girls (24%) reported having bullied someone at school or in the community when compared to boys (18.9%), $p<0.01$.

Comparisons by Location

Proportion of students reporting ever been bullied was significantly different by district location. Proportions higher than the overall average of (54%) were reported for Cayman Brac (66.2%) and North Side (61.2%) table 40. Bullying in the past 30 days, though slightly higher than the overall average (23.8%) in some locations, showed the differences that were not statistically significant.

Locations with higher proportions were Cayman Brac (29.3%) and North Side (27.1%). In terms of bullying someone in your community or school, the proportions by location was not very different from the overall average (21.7%). A notable higher proportion was reported only for East End (26.6%).

The figure below (figure 5) shows the distribution of ways in which students said they had experienced bullying. For the most part and for most of the times, students were made fun of because of their body, left out of activities, made fun of because of race/skin colour, kicked, pushed or shoved, or bullied on social media.

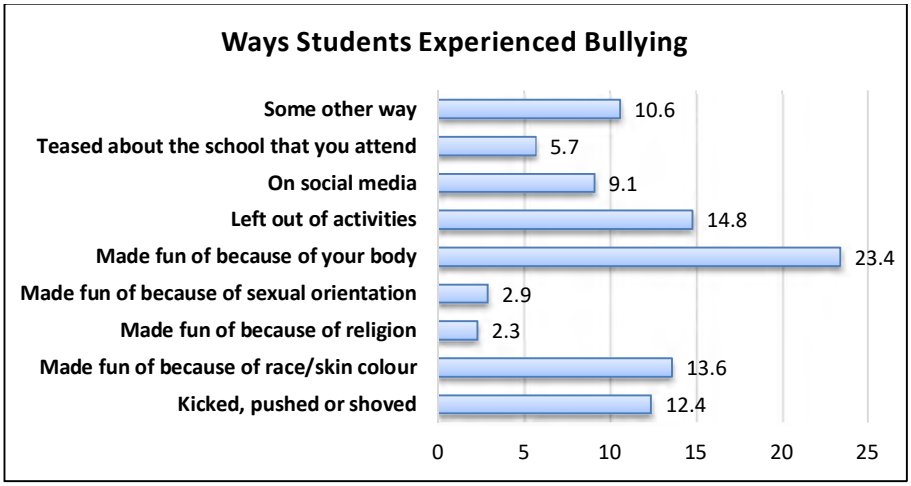


Figure 5: Ways Students Experienced Bullying

Grade Level Comparisons

Grade level comparisons were made between students who were either bullied or have bullied someone in the last 30 days, Table 41. For those who have been bullied, the higher proportions were reported for the two earliest level (Year 7

and Year 8). For those who had bullied someone, the grade level reporting the highest proportion was Year 11 (29.3%).

Table 41: Percentage of students who were bullied or have bullied someone (%) – Grade Level

Percentage of students who were bullied or have bullied someone (%) – Grade Level							
	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13
Have you been bullied in the past 30 days?	28.9	29.6	21.4	20.4	21.6	20.4	14.5
Have you bullied others at your school/ community?	16.3	23.5	21.4	20.5	29.3	22.4	13.0

Weapons in Community or at School

Students were asked to report if they had ever carried a weapon in the community or at school and how many times they were threatened with a weapon. The options to the latter question were recoded to indicate if a student was ever threatened or not threatened and presented in table 42. The table presents result for cross-tabulation by gender and location.

Table 42: Percentage of students who had carried a weapon - Overall, Gender and Location

Percentage of students who had carried a weapon in the community or at school /being threatened or injured with a weapon – Overall, Gender and Location									
	Overall	Gender		District					
		Boys	Girls	Cayman Brac	Bodden Town	East End	George Town	North Side	West Bay
Have you ever carried a weapon	67.2	67.2	65.1	85.7	71.3	100.0	67.0	40.0	60.6
Been threatened or injured with a weapon	8.8	11.5	6.5	8.4	9.2	6.1	9.1	11.1	8.1

Overall, 67.2% of students reported that they had carried a weapon in the community or at school (67.2% boys and 65.1% girls). Higher than average proportions were reported for Cayman Brac (85.7%) and Bodden Town (71.3%).

In relation to number of times threatened, a small proportion overall indicated been threatened (8.8%). Boys (11.5%) were significantly more likely to report this compared to girls (6.5%), $p<0.05$. Higher than average proportions were noted for North Side (11.1%). Reported proportions in all other locations were just about the overall average or below.

Grade Level Comparison

From table 43 below, 58-83% of students in grade levels (Year 9 through 13) reported carrying a weapon either in the community or at school. The highest proportion was reported for Year 9 (82.5%) and Year 10 (75%). With respect to being threatened, 7% or more in all grade levels reported being threatened (range 7-11%)

Table 43: Percentage of students who carried weapon or were threatened (%) – Grade Level

Percentage of students who carried weapon or were threatened (%) – Grade Level							
	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13
Have you ever carried a weapon			82.5	75.0	58.0	58.2	60.0
Been threatened or injured with a weapon	7.5	10.0	6.6	9.0	10.9	9.7	7.2

Other Antisocial Behaviours

Table 44: Responses of "yes" to the antisocial behaviour items (%)

Responses of "yes" to the antisocial behaviour items (%)			
Have you ever...	Overall	Boys	Girls
Been arrested	5.1	6.5	3.6
Attacked someone with intention of serious harm	10.0	11.9	8.2
Been drunk at school	3.9	3.4	4.4
Got suspended because of violence	9.8	12.3	7.4
Belonged to a gang/crew	5.6	7.6	3.7
Been in a fight (fought)	64.0	76.4	51.2

Overall, a small proportion of students said they had been arrested (5.1%) (Table 44). Boys (6.5%) were significantly more likely to indicate being arrested compared to girls (3.6%). One in ten students (10%) said they had attacked someone with intention of serious harm. Again, slightly more boys (11.9%) compared to girls (8.2%).

A small proportion (3.9%) reported being drunk at school (3.4% boys versus 4.4% girls). Overall 9.8% of students got suspended because of violence. The difference between boys (12.3%) and girls (7.4%) was statistically significant, $p<0.05$. About 6% of students overall reported belonging to a gang/crew. The difference between boys (7.6%) and girls (3.7%) was statistically significant, $p<0.05$.

Fighting

Overall, 64% of students had been in a fight, (table 44 above). Varying reasons were given for having fought. Most common reason given was "to defend myself", to support a friend and to defend other members of family, (figure 6).

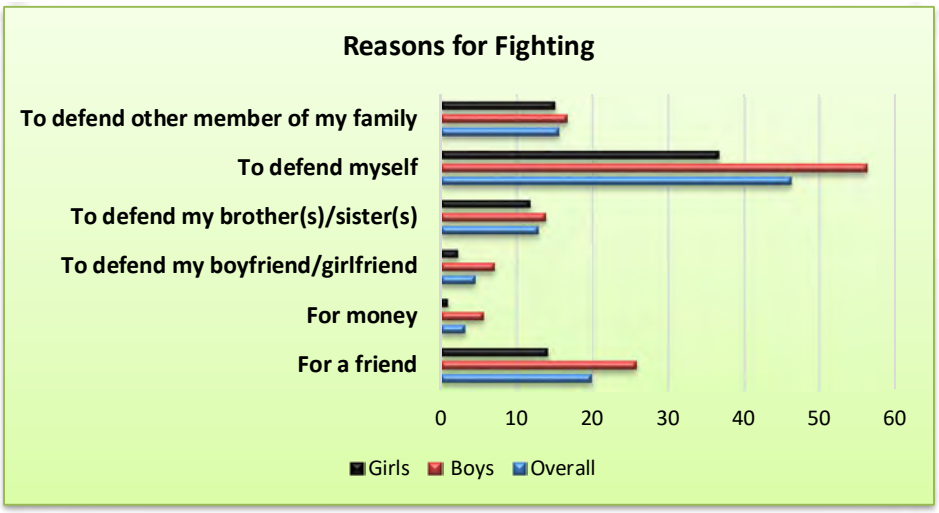


Figure 6: Reasons for Fighting

Recent Findings

The suicide rate among children and adolescents in the U.S. has increased dramatically in recent years and has been accompanied by substantial changes in the leading methods of youth suicide, especially among young girls. Much work is currently underway to elucidate the relationships between psychopathology, substance use, child abuse, bullying, internet use, and youth suicidal behaviour. Recent evidence also suggests sex-specific and moderating roles of gender in influencing risk for suicide and suicidal behaviour.

Youth suicide ideations and suicidal behaviours

Table 45: Prevalence of Student's Suicide /Suicide Behaviour and Abuse

Prevalence of Student's Suicide /Suicide Behaviour and Abuse				
	N	Percentage		
Have you ……		Overall	Boys	Girls
Seriously considered attempting suicide?	646	34.2	21.6	45.5*
Actually attempted suicide?	244	13.0	7.1	18.2*
Did your suicide attempts result in an injury, poisoning, etc., that had to be treated by doctor/nurse?	90	5.1	2.9	7.1*
Engaged in self-harming behaviours? such as cutting, burning, etc.?	507	28.1	13.7	40.8*
Been physically abused?	312	16.7	12.4	20.4*
Been sexually abused?	185	9.9	3.4	15.8*
Any abuse (computed variable)	412	21.8	14.3	28.6

***significantly difference at p<0.001**

Suicidal Ideations and Suicide Attempts

About one in three students (34.2%) reported that they had seriously considered attempting suicide (n=664) – significantly more girls (45.5%) compared to boys (21.6%) Table 45 and figure 7). The prevalence of actual attempted suicide was 13% overall (n=244). Again, girls (18.2%) were significantly more likely to report this compared to boys (7.1%). About 5% reported that their suicide attempt had to be treated by a doctor or nurse (n=90) - (7.1% among girls and 2.9% among boys).

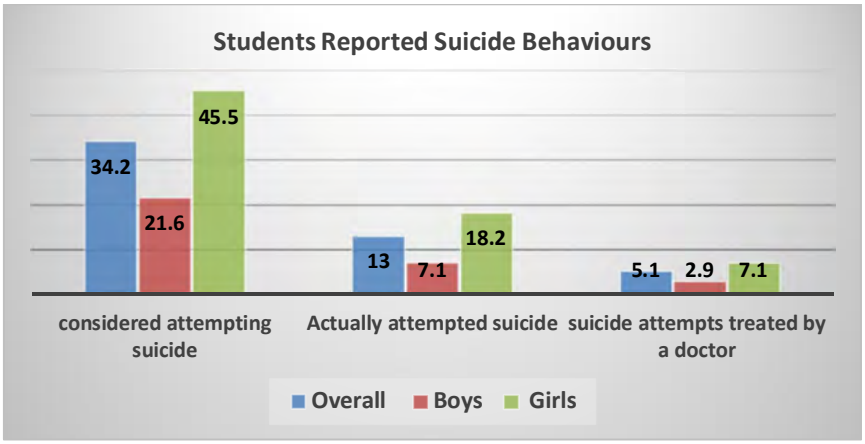


Figure 7: Students Reported Suicidal Behaviours

Students were asked to indicate with whom they would speak when they had thoughts of suicide. From table 46 below, most students reported not speaking to anyone, or to a friend for the most part

Table 46: Speaking to Someone About Suicide Thoughts (%)

Speaking to Someone About Suicide Thoughts (%)	
Boyfriend/girlfriend	6.8
Family	7.5
Friends	16.5
Parents	6.2
Pastor / priest / church member	1.2
Other person	3.9
I don't talk to anyone	32.0

Self-harming Behaviour

Overall, 28.1% of students reported that they have engaged in self-harming behaviours such as cutting, burning, scratching, hitting or banging body parts, pinching, etc. This was reported by over 500 students. Again, girls (40.8%) were significantly more likely to report this compared to boys (13.7%). Figure 8 below shows main types of self-harming behaviours reported by students.

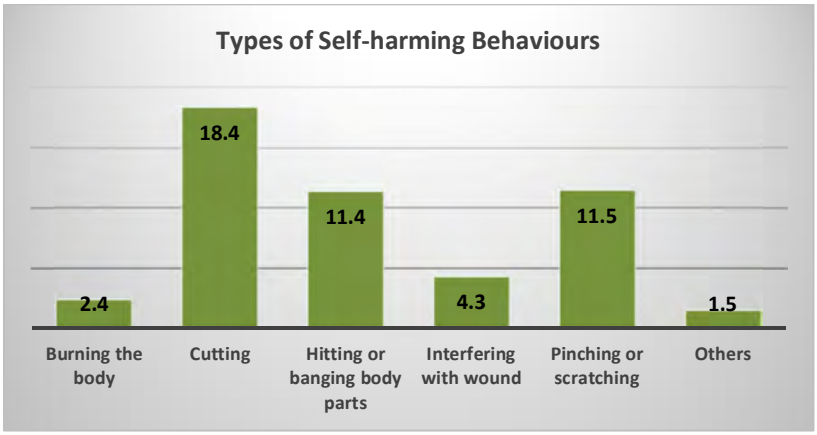


Figure 8: Types of Self-harming Behaviours

Abuse (physical, sexual and "any or both")

Physical abuse overall was reported by 16.7% of students overall (n=312). Girls (20.4%) were significantly more likely to report this compared to boys (12.4%). In terms of sexual abuse, the prevalence was 9.9% overall (n=185) with girls (15.8%) significantly more likely to report this compared to boys (3.4%). A variable was computed for "any abuse", whether physical or sexual and the prevalence was 21.8% (n=412). Twice as many girls (28.6%) compared to boys (14.3%) reported either being physically or sexually abused, (Table 45).

Risk Factors for Suicide Among Students

Table 47: Risk for Suicide Among Students

Risk for Suicide Among Students				
	Attempted suicide [n (%)]		Odds ratio	95% Confidence interval CI
Factors	No	Yes		
Physical Abuse				
No	1387 (90.4)	148 (9.6)	3.967	2.944 – 5.344
Yes	215 (70.3)	91 (29.7)		
Sexual Abuse				
No	1498 (90.1)	165 (9.9)	6.025	4.302 – 8.737
Yes	215 (70.3)	73 (39.9)		
Any Abuse				
No	1329 (91.5)	123 (8.5)	4.405	3.318 – 5.848
Yes	287 (71.0)	117 (29.0)		
Ever Bullied				
No	787 (95.6)	36 (4.4)	5.641	3.903 – 8.152
Yes	779 (79.5)	201 (20.5)		
Binge Drinking				
No	472 (83.1)	96 (16.9)	1.563	1.130 – 2.161
Yes	280 (75.9)	89 (24.1)		
Self-harming				
No	1235 (96.5)	45 (3.5)	16.930	11.953 – 23.979
Yes	308 (61.8)	190 (38.2)		

Numerous risk factors are associated with youth suicide. In this survey we explored the relationship between attempted suicide and physical and sexual abuse, bullying, age and self-harming behaviour (Table 47). The table above

shows that in all factors explored there was a statistically significant risk associated with the factor and attempting suicide.

Abuse (physical, sexual and "any or both")

Physical abuse overall was reported by 16.7% of students. About 30% of students who were physically abused had attempted suicide compared to about 10% of those who had not been physically abused. Students who were physically abused were 3.9 [OR=3.967] times more likely to attempt suicide compared to those who were not so abused.

Sexual abuse overall was reported by 9.9% of students. Students who were sexually abused were six times more likely [OR=6.025] to have attempted suicide compared to those who were not so abused (39.9% versus 9.9%).

The relationship between suicide attempt and students who reported either sexual or physical abuse or both ("any abuse") was also explored. The prevalence of "any abuse" overall was 21.8% and students who had experienced "any abuse" were four times [OR=4.405] more likely to have attempted suicide compared to those who had not (29% versus 8.5%).

Ever Been Bullied

The prevalence of being bullied overall was 54%. Students who were bullied were 5.6 times more likely [OR=5.641] to have attempted suicide compared to those who were not bullied abused (20.5% versus 4.4%).

Binge Drinking

The prevalence of binge drinking overall was 19.7%. Students who reported binge drinking were 1.5 times more likely [OR=1.563] to have attempted suicide compared to those who had not reported binge drinking (16.9% versus 24.1%).

Self-harming Behaviours

The prevalence of self-harming overall was 28.1%. Students who reported self-harming were 17 times more likely [OR=16.930] to have attempted suicide

compared to those who had not reported self-harming drinking (38.2% versus 3.5%).

Age

The relationship between age grouping and the risk of suicide was explored by chi-square test (Table 48). There was a significantly difference between rates among the younger cohort (those age 13, 14 or 15 with a cumulative prevalence of 34%) and the older cohort (those age 16, 17 or 18 with a cumulative prevalence of 41%), $p<0.01$.

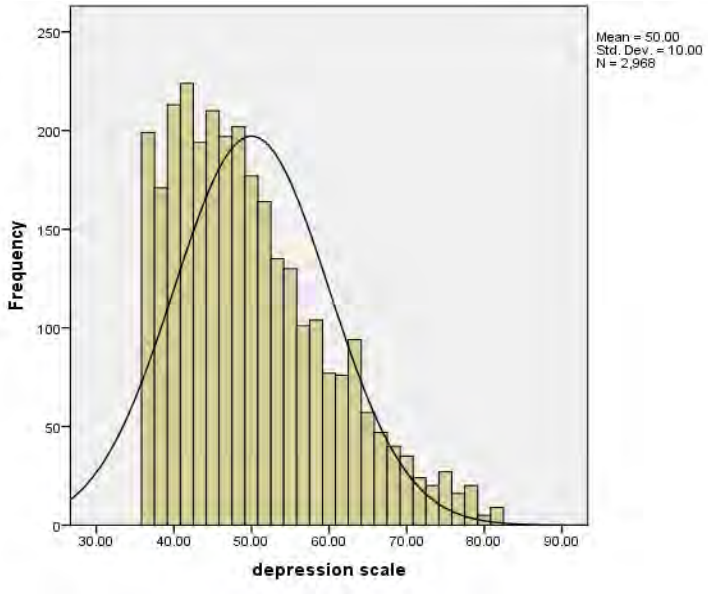
Table 48: Relationship between suicide attempts and age

Relationship between suicide attempts and age						
	Age					
	13 yrs	14 yrs	15 yrs	16 yrs	17 yrs	18 yrs
Prevalence n/N (%)	26/304 (8.4)	65/451 (14.4)	48/421 (11.4)	70/400 (17.5)	27/229 (11.8)	7/62 (11.3)

Mental Health

- general mental health questions

- question on the Revised Child Anxiety and Depression Scale (RCAD)



Health – Mental Health

Table 49: Student's Responses of "yes" to Questions About Mental Health

Student's Responses of "yes" to Questions About Mental Health (%)			
	Overall	Boys	Girls
Do you understand what mental health is?	92.2	90.4	93.8
Have you been taught about mental health in school?	45.8	51.6	40.6
In the past 12 months, how many times have you seen a doctor, nurse, or counsellor about your mental or emotional health?			
I didn't see a doctor, nurse or counsellor	71.5	71.3	72.0
Once	9.2	8.9	9.1
2-5 times	12.5	13.0	12.3
6-10 times	1.7	3.4	2.5
More than 10 times	2.1	3.3	4.1
How would you rate your mental or emotional health?			
Excellent	21.5	28.7	14.9
Very good	24.0	28.7	19.5
Good	26.0	23.8	28.3
Fair	19.6	11.7	26.6
Poor	8.9	7.1	10.6

Meaning of Mental Health/Health Education

Most all students (92.2% overall and 90.4% boys and 93.8% girls) said they understood what was meant by mental health (table 19). However, less than half (45.8%) of the students said they were not taught about mental health in school. When asked if they had seen a doctor, nurse, or counsellor about your mental or emotional health, a little more than a quarter (28%) indicated that they had (28.7% boys versus 28% girls). Responses for girls and boys were not dis-similar with respect to this question.

Mental or Emotional Health

One-fifth of the students expressed that their mental health was "excellent" while 24% said "very good", 26% "good", 19.6% "fair" and 8.9% "poor". Boys were more likely to express that their mental health was "excellent" or "fair"—for example, twice as many boys (28.7%) compared to girls (15.9%) said "excellent". Additionally, twice as many girls (26.6%) said it was "fair" compared to boys (11.7%), (table 49).

Table 50: Student's Responses of "yes" to Questions About Mental Health

Student's Responses of "yes" to Questions About Mental Health (%)			
	Overall	Boys	Girls
On a whole, I am satisfied with myself.			
Agree	76.4	84.4	69.6
Disagree	23.6	15.6	30.4
If there was an app that would allow you to express your feelings in a private and safe way, would you use it?	46.6	38.1	54.3
Do you currently express your feelings using social media?	23.5	21.8	24.9
Have you ever witnessed violence and aggression?	59.9	61.2	58.3
If yes, where?			
At home	37.9		
At school	28.4		
In the community	33.8		
Have you been through a life-threatening event	35.9	38.5	33.0
Do your parent(s) suffer from any mental illness	5.9	4.9	6.7
Have you ever been diagnosed with a mental health issue/illness?	173/1775 (9.7)	68/173 (8.2)	101/173 (11.1)
If yes, have you ever sought help for your mental health?	146/173 (84.4)	54/146 (36.9)	89/146 (60.9)

Feelings About Self

Overall more than seventy-five percent of students were satisfied with themselves while 23.6% were not. Eight of every ten boys (84.4%) said they were satisfied with themselves (table 50). This compares to 69.6% of girls. Twice as many girls were not satisfied with themselves compared to boys (30.4% versus 15.6%), $p<0.01$.

Social Media

Four in ten students (46.6%) said they would use an app to express their feelings in a private and safe way if one was available. Girls indicated a notable higher proportion than boys in response to this question (54.3% and 38.1% respectively), (table 50).

In response to the question – Do you currently express your feelings using social media? - 23.5% of students said yes, (24.9% girls and 21.8% boys). For the most part, students were using Snapchat, Instagram and WhatsApp for social media communication, Figure 9.

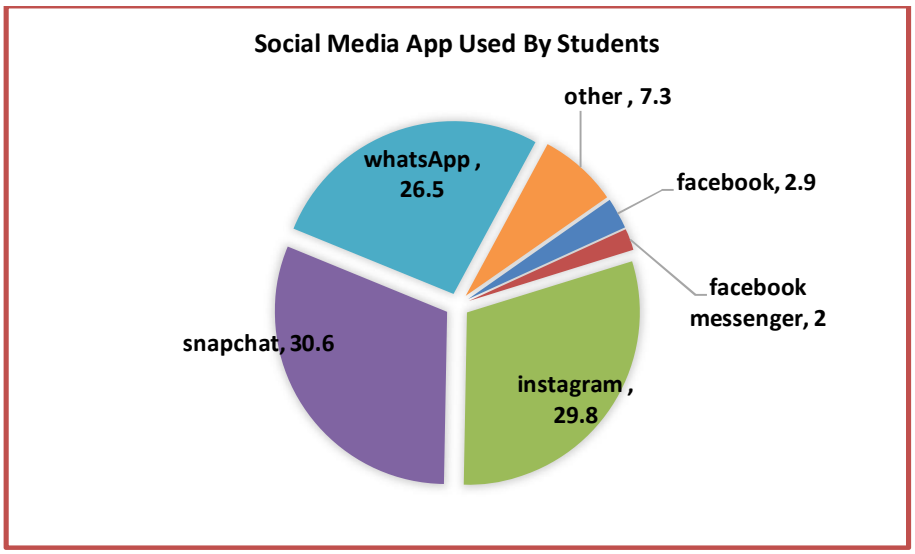


Figure 9: Social Media Apps Currently Used by Students

Violence and Aggression/Life-Threatening Event

One in six students (59.9%) reported that they have witnessed violence and aggression (61.2% boys and 58.3% girls). Most students had witnessed this at home (38%) followed by in the community (34%) and at school (28.4%). More than one-third (36%) have been through a life-threatening event (39% boys and 33% girls).

Family History of Mental Illness

Six percent of students indicated that a parent or parents suffer from a mental illness. This was indicated by 5% of boys and 7% of girls. When asked if they had ever been diagnosed with a mental illness, 9.7% (n=173/1775) of grades 8-12 students said they had been so diagnosed, -- (68/830 or 8.2% boys) and (101/910 or 11% girls). Overall, 84.4% (149/173) of those who said they have been diagnosed said they had sought 'help' for their condition.

For the most part, respondents sought help from counseling services, medication and psychological services. The main reasons given for not seeking help related to: feeling that they did not need it, not knowing if it would help, fear of judgment and being embarrassed to access support or help (table 51).

Table 51: the reasons why student did not seek support/help (%)

I don't need it	48.3
I don't know if it would be helpful	16.9
Fear of judgment	9.8
I am embarrassed to access support or help	6.6
Other	4.7
I don't know how or where to access support/get help	4.5
I can't afford it	4.3
I feel disappointed with the service	3.5
There is a wait list	1.2

Mental Health Analysis – Revised Children's Anxiety and Depression Scale

Available evidence suggests that approximately 8 to 27% of children and adolescents experience the debilitating effects of anxiety and depression at some point in their development[4]. Anxiety disorders in childhood have been related to increasing severity of anxiety symptoms, additional anxiety disorders, and depression in adolescence and adulthood[5]. Due to the covert nature of anxiety and depression, children are often not recognized by teachers and parents as having emotional/behavioural problems until the symptoms cause significant interference in academic and social functioning[6]. For this reason, self-report assessments may be particularly important to identify these problems in youth.

This survey utilized a 30-item questionnaire derived from the Revised Child Anxiety and Depression Scales (RCADS)[7] original questionnaire that measures

[4] Costello, E.J., Mustillo, S., Erkanli, A., Keeler, G., & Angold, A. (2003). Prevalence and development of psychiatric disorders in childhood and adolescence. Archives of General Psychiatry, 60, 837-844. https://www.ncbi.nlm.nih.gov/pubmed/12912767

[5] Bittner, A., Egger, H., Erkanli, A., Costello, E., Foley, D. & Angold, A. (2007). What do childhood anxiety disorders predict? Journal of Child Psychology and Psychiatry, 48, 1174- 1183. https://www.ncbi.nlm.nih.gov/pubmed/18093022

[6] Muris, P. & Meesters, C. (2002). Symptoms of anxiety disorders and teacher-reported school functioning of normal children. Psychological Report, 91, 588-590. http://psycnet.apa.org/doi/10.2466/PR0.91.6.588-590

[7] Bruce F. Chorpita, Chad Ebesutani, Susan H. Spence (2015) Revised Children's Anxiety and Depression Scale.

depression and anxiety. This is a self-report questionnaire with subscales including: separation anxiety disorder (SAD), social anxiety/social phobia (SP), generalized anxiety disorder (GAD), panic disorder (PD), obsessive compulsive disorders (OCD) and major depression disorder (MDD).

Scoring

Each item is assigned a numerical value from 0-3, where 0 = Never, 1 = Sometimes, 2 = Often, and 3 = Always. For each subscale add the numerical values for each item together. The items that comprise each subscale are listed below. For example, for Major Depression you would add the numerical values for items 2, 6, 11, 15, 19, 21, 25, 29, 40 and 47.

Based on the items in the RCADs (47 items scale) there should be six sub-scales. However, with only 30 items in the school survey section corresponding to questions in the RCAD scale, only the following two sub-scales were applicable. Items for obsessive-compulsive disorder (OCD) were not included, separation anxiety and generalized anxiety had three or more items missing. The Total Anxiety Scale was computed using the 21 items from the four subscale that were scored (Social phobia, panic disorder, separation anxiety disorder and generalized anxiety disorder.

1. Social phobia/Social Anxiety
2. Panic disorder
3. Major depression
4. Separation anxiety
5. Generalized anxiety
6. Obsessive-compulsive disorder

The guidelines for scoring recommend that scales with more than two items not be scores. Missing data for raw scores can be handled by prorating the remaining items within a scale. To estimate the scale score, take the sum of the completed items within that scale and divide that by the number of items completed, then multiple by the total number of items in that scale, and then round the result. This recommendation was followed and the scale scores for

sub-scales panic disorder, separation anxiety and generalized anxiety were estimated before converting them to T-scores.

The sum of the raw scores (each child's response) was converted to a standardized z-score.

The basic z score formula for a sample is: $z = (x - \mu) / \sigma$. Simply put, a z-score is the number of standard deviations from the mean a data point is. A z-score is also known as a standard score and it can be placed on a normal distribution curve. Z-scores range from -3 standard deviations (which would fall to the far left of the normal distribution curve) up to +3 standard deviations (which would fall to the far right of the normal distribution curve).

Z-scores were then converted to T-scores which are the applicable scores to determine the clinical thresholds for the syndromes (T-scores of 65 or higher indicates the borderline clinical threshold and T-score of 70 or higher indicates scores above the clinical threshold).

*T-scores are standardized scores (t = [(z-score *10) +50]. A score of 50 represents the mean. A difference of 10 from the mean indicates a difference of one standard deviation. Thus, a score of 60 is one standard deviation above the mean, while a score of 30 is two standard deviations below the mean.*

Reliability Statistics

The 30-item scales used in this survey had '**excellent**' internal consistency reliability. The alpha coefficient (Cronbach's alpha) was 0.946. **Test** reliability refers to the degree to which a **test** is consistent and stable in measuring what it is intended to measure. In other words, 95% of the time this instrument will produce the same consistent result in measuring depression and anxiety among Cayman Island students.

Reliability Statistics

Cronbach's Alpha	N of Items
.946	30

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q96a	26.62	291.063	.636	.944
Q96b	27.11	288.798	.698	.943
Q96c	27.30	291.944	.560	.945
Q96d	26.67	293.012	.528	.945
Q96e	27.51	296.680	.505	.945
Q96f	27.01	294.727	.495	.945
Q96g	27.37	292.969	.581	.944
Q96h	26.77	294.442	.503	.945
Q96i	27.06	291.182	.555	.945
Q96j	27.74	291.707	.656	.944
Q96k	27.67	293.609	.593	.944
Q96l	27.98	304.381	.327	.946
Q96m	28.00	299.501	.550	.945
Q96n	27.40	294.480	.577	.944
Q96o	27.37	290.465	.648	.944
Q96p	27.08	290.068	.615	.944
Q96q	27.26	290.848	.625	.944
Q96r	27.16	288.786	.657	.944
Q96s	27.44	291.529	.677	.943
Q96t	27.82	295.029	.603	.944
Q96u	27.34	286.208	.728	.943
Q96v	26.90	290.854	.640	.944
Q96w	27.13	288.473	.642	.944
Q96x	27.70	295.322	.543	.945
Q96y	27.91	295.656	.636	.944
Q96z	27.32	290.489	.620	.944
Q96aa	27.33	294.183	.503	.945
Q96bb	27.90	296.093	.596	.944
Q96cc	27.67	293.576	.624	.944
Q96dd	27.55	291.879	.640	.944

Student's Demographics related to RCAD analysis

		Boys	Girls
Overall		1585 (48.5)	1616 (49.4)
Unknown gender	69 (2.1)		
Year/Grade			
Year 7 / Grade 6	604 (18.5)	19.4	17.8
Year 8 / Grade 7	599 (18.3)	17.7	19.0
Year 9 / Grade 8	514 (15.7)	15.8	15.6
Year 10 / Grade 9	513 (15.7)	16.3	14.4
Year 11 / Grade 10	482 (14.7)	14.9	14.8
Year 12 / Grade 11	408 (12.5)	11.3	13.7
Year 13 / Grade 12	150 (4.6)	4.5	4.7

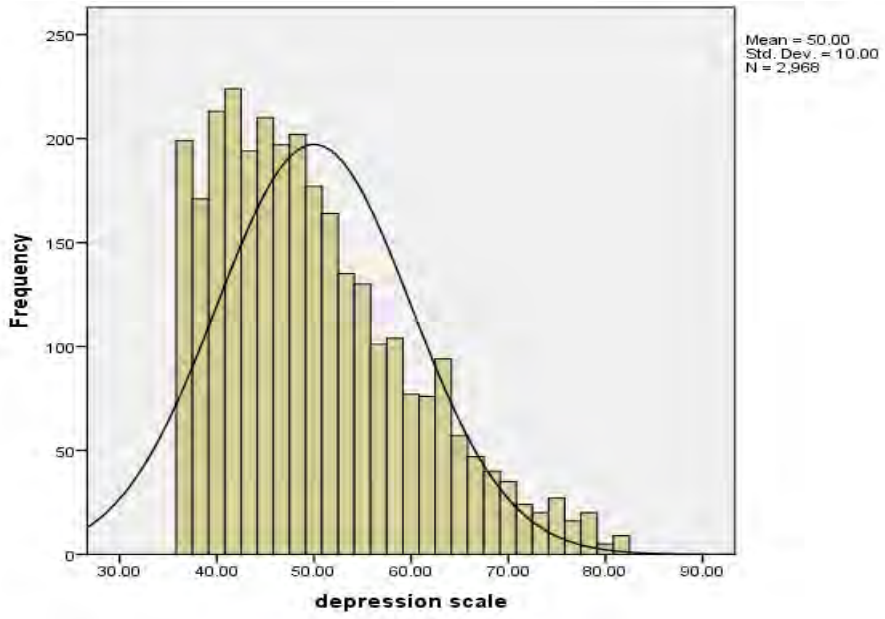
Disorders/Syndromes and T-Score Classifications

Table 52: Percentage of scores >T=65, Overall, Boys vs Girls and Grade

Disorders/Syndromes and score classifications	*Percentage of scores >T=65, Overall, Boys vs Girls and for Grade Levels*									
	Overall	Gender		Grade Level						
		Boys	Girls	6	7	8	9	10	11	12
Total Depression (n=2968)										
T >=65 (borderline clinical threshold	8.2	4.1	**11.8**	2.7	5.2	7.1	7.7	**14.4**	**12.2**	**11.7**
T >=70 (above clinical threshold)	4.1	1.6	**6.3**	1.3	3.1	3.2	4.4	**6.8**	**6.2**	**5.8**
Total Anxiety (n=2973)										
T >=65 (borderline clinical threshold	9.2	4.1	**13.7**	5.4	7.0	7.9	8.7	**13.7**	**12.2**	8.7
T >=70 (above clinical threshold)	4.9	2.4	**7.3**	1.5	3.9	5.2	5.0	**8.4**	**6.5**	5.1
Panic Disorder (n=2959)										
T >=65 (borderline clinical threshold	8.7	4.4	**12.8**	4.6	5.8	7.1	**9.6**	**14.2**	**13.0**	8.0
T >=70 (above clinical threshold)	5.1	2.5	**7.6**	1.9	4.2	4.3	**5.8**	**8.7**	**6.2**	**7.3**
Social Phobia/Social Anxiety (n=2962)										
T >=65 (borderline clinical threshold	9.9	5.6	**13.9**	9.2	**11.0**	8.0	**10.4**	9.1	8.7	7.3
T >=70 (above clinical threshold)	3.2	1.5	**5.2**	**3.8**	3.3	3.4	2.9	2.5	**4.1**	**3.6**

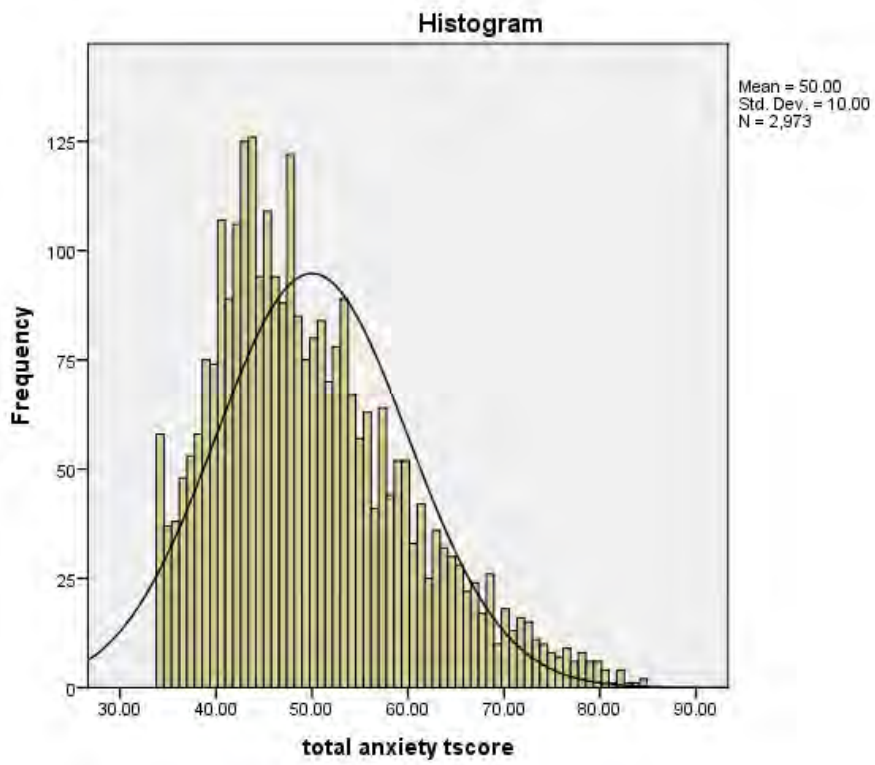
Total Depression

Some 8.2% of the t-scores were borderline clinical threshold with 4.1% above clinical threshold for depression disorder. Girls were significantly more likely to have scores borderline clinical threshold (11.8% versus 4.1%) compared to boys, as well as, t-scores above clinical threshold (6.3% versus 1.6%). Students in grade 10 (14.4%), grade 11 (12.2%) and grade 12 (11.7) were more likely than students in the other grades to report t-scores that were higher than the overall average (8.2%) for borderline clinical threshold. This was the same pattern observed for depression disorder t-scores above clinical threshold: grade 10 (6.8%), grade 11 (6.2%), grade 12 (5.8%), and grade 9 (4.4%).



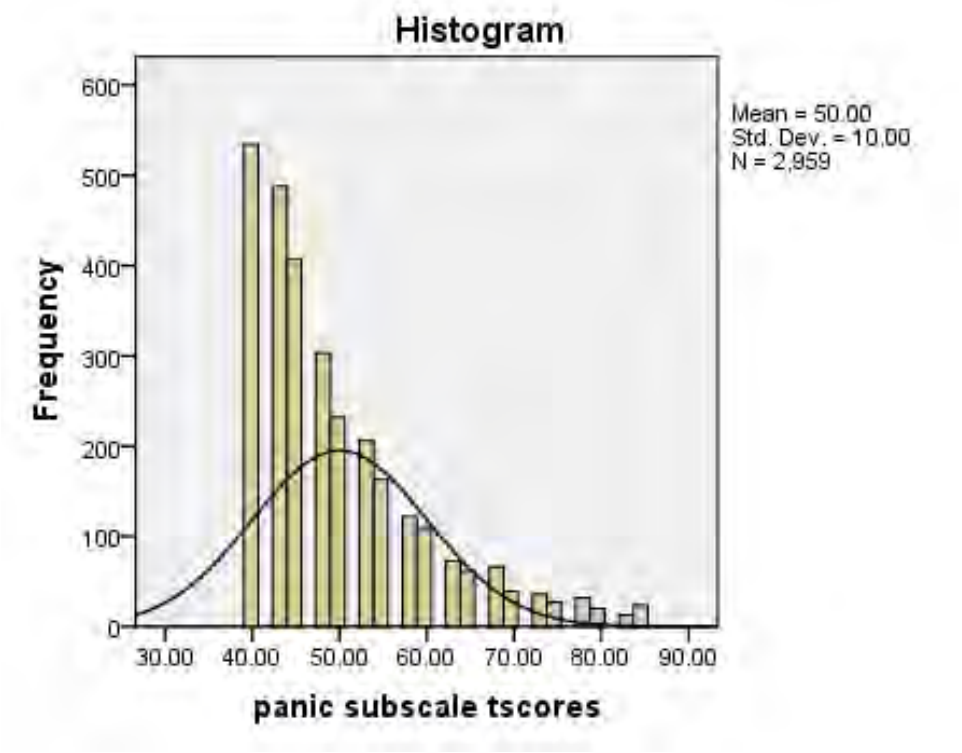
Total Anxiety

Some 9.2% of the t-scores were borderline clinical threshold with 4.9% above clinical threshold for total anxiety. Girls were significantly more likely to have scores borderline clinical threshold (13.7% versus 4.1%) compared to boys, as well as, t-scores above clinical threshold (7.3% versus 2.4%). Students in grade 10 (13.7%), grade 11 (12.2%) were more likely than students in the other grades to report t-scores that were higher than the overall average (9.2%) for borderline clinical threshold. The pattern observed for total anxiety t-scores above clinical threshold that were higher than the overall average (4.9%) was slightly different. Four grades had higher proportions: grade 10 (8.4%), grade 11 (6.5%), grade 12 (5.8%), and grade 8 (5.24.4%).



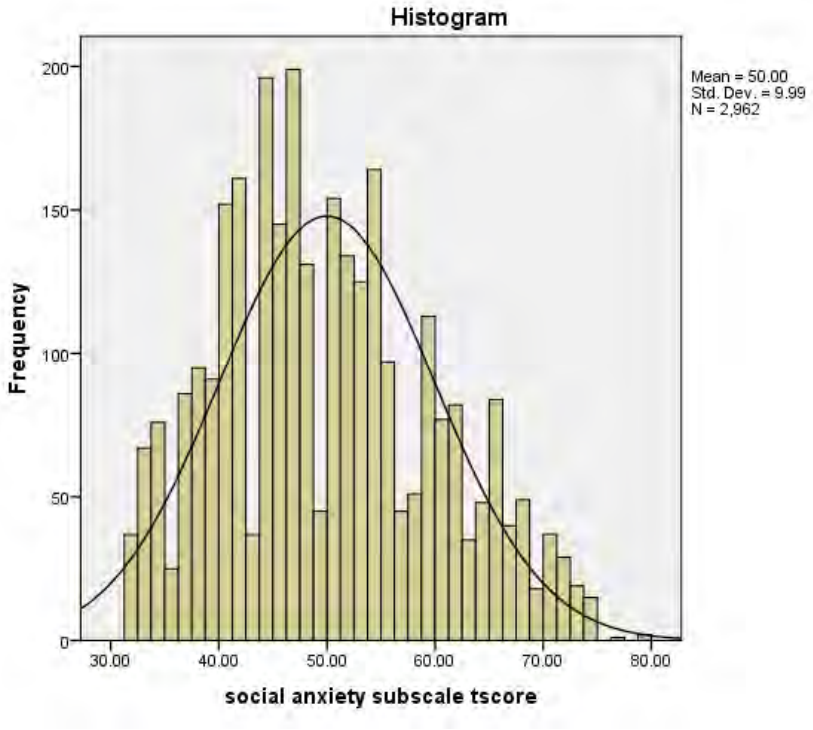
Sub-scale – Panic Disorder

Some 8.7% of the t-scores were borderline clinical threshold with 5.1% above clinical threshold for panic disorder. Girls were significantly more likely to have scores borderline clinical threshold (12.8% versus 4.4%) compared to boys, as well as, t-scores above clinical threshold (7.6% versus 2.5%). Students in grade 10 (9.6%), grade 11 (14.2%) and grade 12 (13%) were more likely than students in the other grades to report t-scores that were higher than the overall average (8.7%) for borderline clinical threshold. The pattern observed for panic disorder t-scores above clinical threshold that were higher than the overall average (5.1%) was slightly different. Four grades had higher proportions: grade 9 (5.9%), grade 10 (8.7%), grade 11 (6.2%), and grade 12 (7.3%).



Sub-scale – Social Phobia/ Social Anxiety

Some 9.9% of the t-scores were borderline clinical threshold with 5.1% above clinical threshold for social phobia. Girls were significantly more likely to have scores borderline clinical threshold (13.9% versus 5.6%) compared to boys, as well as, t-scores above clinical threshold (5.2% versus 1.5%). Students in grade 7 (11%) and grade 9 (10.4%) were the only two grades where the proportions were above the overall average (9.9%) for borderline clinical threshold. In addition, students in four grades were above the overall proportion (3.2%) for social phobia t-scores above clinical threshold: grade 6 (3.8%), grade 8 (4.3%), grade 11 (4.1%) and grade 12 (3.6%).



Multiple Linear Regression - **Predicting Depression and Anxiety**

Multiple Linear Regression analysis was conducted to assess if the independent variables (predictors, e.g. – seriously considered attempting suicide, satisfaction with self, engaging in self harming behaviour and abuse) predict the dependent variable (depression or anxiety). Therefore, multiple linear regression was used to assesses the relationship among sets of dichotomous predictor variables on the interval criterion/dependent variables (depression and anxiety).

Predicting Depression

The results of the analysis is shown in table 53 below. From the table below, at least four variables are significant predictors of depression in this group of students, namely:

1. Seriously considered attempting suicide (yes/no) - q150
2. Engaging in self harming behaviour (yes/no) – q152a
3. Physical abuse (yes/no) - q153
4. Satisfaction with self (agree (yes)/disagree (no) – q159a

Table 53: Model Summary for Linear Regression - Depression

Model Summary	Adjusted R Square	F Change	Sig. F Change
a. Predictors: (Constant), Q150a	.265	69.069	.000
b. Predictors: (Constant), Q150a, satisfaction with self	.368	31.616	.000
c. Predictors: (Constant), Q150a, satisfaction with self, Q152a	.390	7.961	.005
d. Predictors: (Constant), Q150a, satisfaction with self, Q152a, Q153	.401	4.154	.043

Dependent variable – total depression

Predicting Total Anxiety

The results of the analysis are shown in table 54 below. From the table below, at least seven variables are significant predictors of total anxiety in this group of students, namely:

1. Seriously considered attempting suicide (no/yes) -q150a
2. Satisfaction with self (disagree (no)/agree (yes) - q159a
3. Being Bullied (no/yes) – q90
4. Gender (boys/girl) -
5. Engaging in self harming behaviour (no/yes) - q152a
6. Physical abuse (no/yes) - q153
7. Grade level (9^{th}, 10^{th}, and 11^{th})
8. Family history of alcohol and drug problem (no/yes) - q80

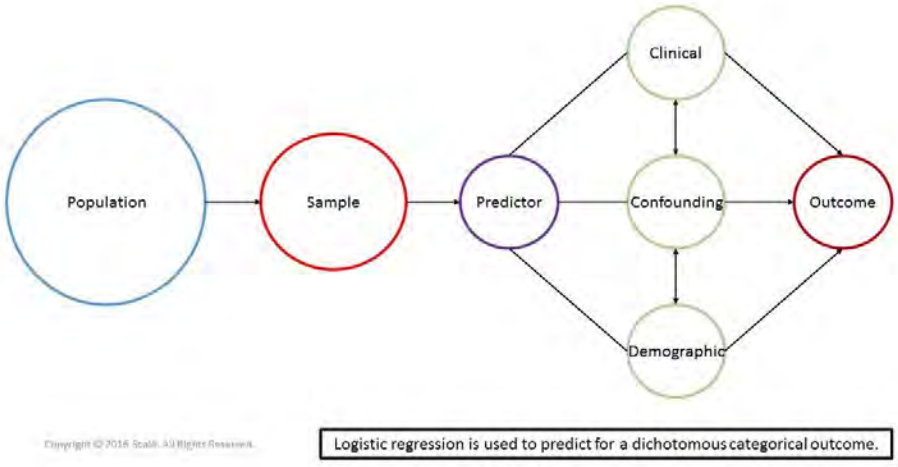
Table 54: Model Summary for Linear Regression - Total Anxiety

Model Summary	Adjusted R^2	F Change	Sig. F
a. Predictors: (Constant), Q150a	.250	564.944	.000
b. Predictors: (Constant), Q150a, satisfaction with self	.327	196.971	.000
c. Predictors: (Constant), Q150a, satisfaction with self, Q90	.360	87.711	.000
d. Predictors: (Constant), Q150a, satisfaction with self, Q90, sex	.384	65.413	.000
e. Predictors: (Constant), Q150a, satisfaction with self, Q90, sex, Q152a	.397	39.123	.000
f. Predictors: (Constant), Q150a, satisfaction with self, Q90, sex, Q152a, Q153	.404	18.892	.000
g. Predictors: (Constant), Q150a, satisfaction with self, Q90, sex, Q152a, Q153, grade 10	.406	8.368	.004
h. Predictors: (Constant), Q150a, satisfaction with self, Q90, sex, Q152a, Q153, grade, Q80	.408	6.946	.008

Dependent variable – total anxiety

Multiple Logistic Regression

Logistic regression generates adjusted odds ratios with 95% confidence intervals. Logistic regression is published often in the medical literature and provides a measure of strength of relationship to a dichotomous categorical outcome when controlling for other variables. An odds ratio (OR) is a measure of association between an exposure and an outcome. The OR represents the odds that an outcome will occur given a particular exposure, compared to the odds of the outcome occurring in the absence of that exposure. Odds ratios are used to compare the relative odds of the occurrence of the outcome of interest (e.g. disease or disorder), given exposure to the variable of interest (e.g. health characteristic, aspect of medical history). The odds ratio can also be used to determine whether a particular exposure is a risk factor for a particular outcome, and to compare the magnitude of various risk factors for that outcome.



Predicting Suicide – Actually Attempted Suicide

Logistic regression analysis was conducted to predict the odds of a student actually attempting suicide. Recall that a total of 244 students or 13% of grades 8 through 12 (n-1879) indicated that they had actually attempted suicide. The 15 variables of interest in this prediction model were as follows:

1. Q90 – ever been bullied
2. qQ150A – seriously considered attempting suicide
3. qQ152A – engaging in self harming behaviour
4. qQ153 – physical abuse
5. qQ154 – sexually abuse
6. any abuse (whether physical or sexual
7. binge drinking – five or more drinks on one occasion
8. qQ160A – student diagnosed with mental health issue
9. qQ101 – parents having mental health issue
10. qQ159 – being satisfied with self
11. qQ95 – being threatened /injured with a weapon
12. qQ80 – anyone in family with alcohol or drug problem
13. gender – boys
14. gender – girls
15. grade levels – 8th, 9th, 10th, 11th, and 12th

The results of the analysis are shown in table 55 below. From the table below, at least six variables are significant predictors of attempting suicide in this group of students, namely:

1. ***Been bullied***
2. ***Seriously considered attempting suicide***
3. ***Engaging in self harming behaviour***
4. ***Sexually abuse***
5. ***Having been diagnosed with a mental health issue***
6. ***Grade level***

The odds ratio can also be used to determine whether a particular exposure is a risk factor for a particular outcome, and to compare the magnitude of various risk factors for that outcome. For example, from the results:

- Students who seriously considered attempting suicide (the exposure) are 18 times more likely to actually attempt suicide (the outcome).
- Students who reported sexual abuse (the exposure) are 2.5 times more likely to actually attempt suicide (the outcome) compared to those who did not report sexual abuse.

Students who reported being bullied (the exposure) are 2.2 times more likely to actually attempt suicide (the outcome) compared to those who did not report being bullied.

Students who reported self-harming behaviour (the exposure) are 4.5 times more likely to actually attempt suicide (the outcome) compared to those who did not report self-harming.

Students who reported being diagnosed with mental health issue (the exposure) are 2.3 times more likely to actually attempt suicide (the outcome) compared to those who did not report student diagnosed with mental health issue.

Table 55: Predicting Suicide – Actually Attempted Suicide

	Sig. (p value)	Exp(B) (odds Ratio)	95% C.I. for EXP(B)	
			Lower	Upper
qQ90 - ever been bullied	.014	2.176	1.167	4.056
qQ150A - seriously considered attempting suicide	.000	17.893	8.210	38.997
qQ152A– engaging in self harming behaviour	.000	4.865	2.700	8.764
qQ153– physical abuse	.231	1.910	.663	5.501
qQ154 – sexually abuse	.043	2.467	1.027	5.926
Any abuse (whether physical or sexual)	.586	.713	.211	2.409
binge drinking – five or more drinks on one occasion	.200	1.391	.839	2.303
qQ160A– student diagnosed with mental health issue	.015	2.305	1.174	4.526
qQ101– parents having mental health issue	.165	.551	.238	1.277
qQ159– being satisfied with self	.062	1.183	.991	1.413
qQ95– being threatened /injured with a weapon	.209	1.420	.822	2.452
qQ80– anyone in family with alcohol or drug problem	.446	.820	.493	1.365
Sex (boy)	.918	.910	.152	5.434
Sex (girl)	.788	.787	.137	4.534
grade8	.049	3.215	1.004	10.298
grade9	.047	3.153	1.015	9.790
grade10	.006	4.528	1.544	13.281
grade11	.012	4.003	1.350	11.868
Constant	.000	.001		

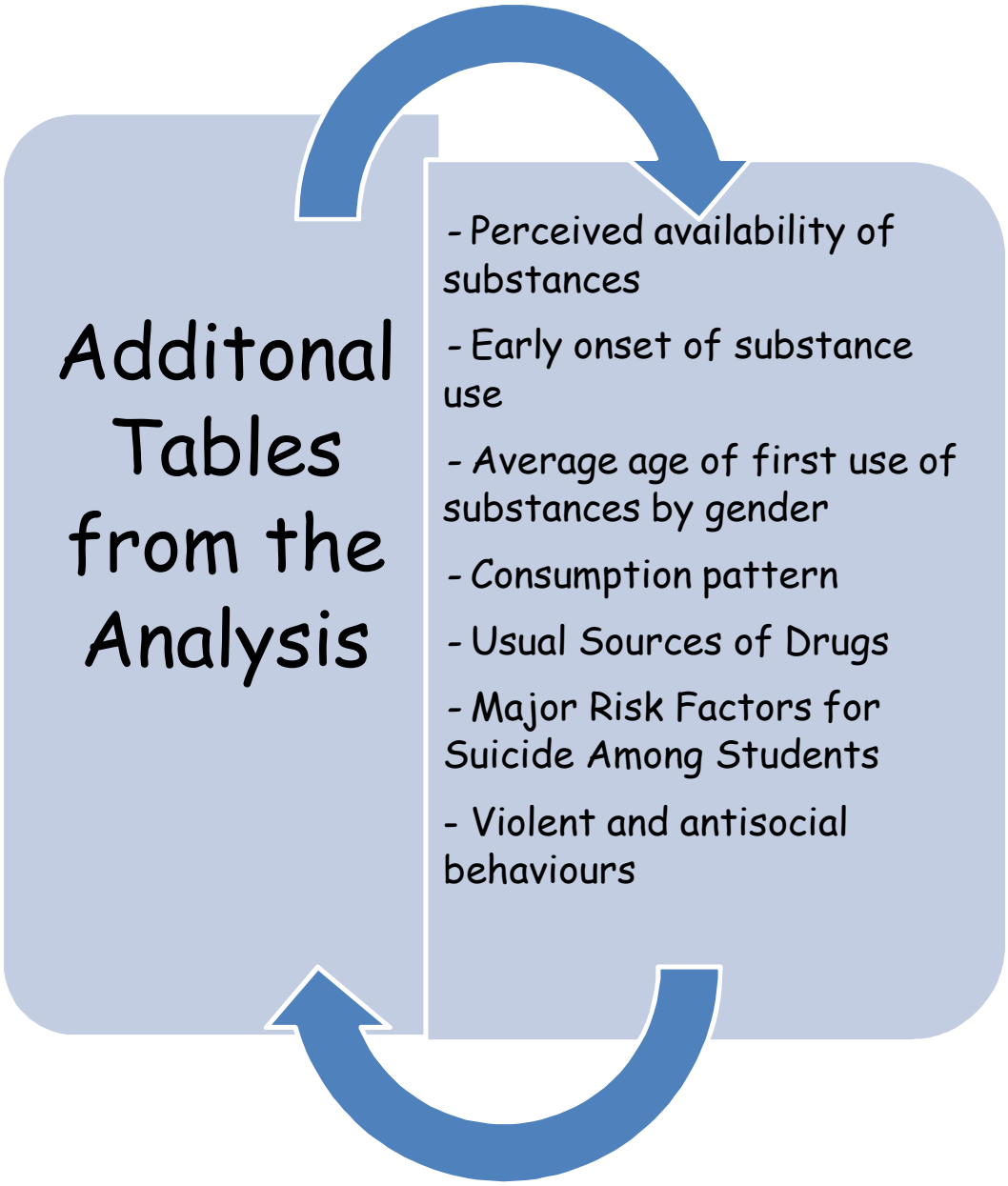

Additonal Tables from the Analysis
- Perceived availability of substances
- Early onset of substance use
- Average age of first use of substances by gender
- Consumption pattern
- Usual Sources of Drugs
- Major Risk Factors for Suicide Among Students
- Violent and antisocial behaviours

Table 56: Percentage Distribution of Demographic Variables (%)– Gender

	Overall	Boys	Girls		Overall	Boys	Girls
Gender				**Who presented ATOD**			
Boys 1585 (48.5)				Didn't have classes	1022 (31.3)	31.3	31.1
Girls 1616 (49.4)				NDC representative	737 (22.5)	21.7	23.6
Unknown 69 (2.1)				Teacher(s)	1278 (8.0	37.9	40.0
				Counsellor	137 (4.2)	8.3	8.0
Age							
10/11 years	347 (10.7)	11.0	10.6	**Talking to about ATOD**			
12 years	600 (18.4)	17.9	18.9	Teachers	244 (7.8)	8.5	7.0
13 years	578 (17.7)	17.1	18.3	Counsellors	236 (7.2)	4.9	9.4
14 years	511 (15.7)	15.7	15.1	Coaches	23 (0.70	1.1	0.4
15 years	465 (14.3)	15.2	13.1	Police Officers	66 (2.1)	2.5	1.8
16 years	440 (13.5)	13.0	14.2	Older Students	103 (3.3)	3.1	3.4
17 years	247 (7.6)	7.8	7.4	Security Guards	10 (0.3)	0.5	0.1
18/19 years	75 (2.3)	2.1	2.6	Pastor/Priest/Church	26 (0.8)	1.1	0.5
				Parents	1120 (35.7)	38.5	33.5
Year/Grade				Peers	930 (29.7)	27.0	32.5
Year 7 / Grade 6	604 (18.5)	19.4	17.8	All of the above	206 (6.6)	3.8	6.4
Year 8 / Grade 7	599 (18.3)	17.7	19.0	Other	180 (5.7)	5.9	5.4
Year 9 / Grade 8	514 (15.7)	15.8	15.6				
Year 10 / Grade 9	513 (15.7)	16.3	14.4	**School has counsellor**			
Year 11 / Grade 10	482 (14.7)	14.9	14.8	Yes	2833 (88.6)	88.4	92.5
Year 12 / Grade 11	408 (12.5)	11.3	13.7	Missing	135 (4.1)		
Year 13 / Grade 12	150 (4.6)	4.5	4.7				
				Access to counsellor			
District				Yes	2586 (79.1)	88.5	91.8
Cayman Brac	147 (4.5)			Missing	399 (12.2)		
Bodden Town	931 (28.5)						
East End	96 (2.9)			**Is the counsellor**			
George Town	1240 (37.9)			Easily accessible	1150 (35.2)	46.3	42.0
North Side	94 (2.9)			Somewhat accessible	1279 (39.1)	46.2	51.0
West Bay	762 (23.3)			Difficult to access	191 (5.8)	7.5	6.9
				Unknown	650 (19.9)		
ATOD classes attended							
No classes	887 (26.5)	26.2	26.9	**Why no use if „„„**			
1 - 5 classes	1384 (42.3)	39.9	44.8	Limited access		11.3	11.0
6 - 10 classes	154 (4.7)	6.4	3.2	I am embarrassed		7.1	10.0
10 or more classes	68 (2.1)	2.0	2.0	There is a wait list		6.5	7.8
I don't know	768 (23.5)	24.1	22.6	Fear of judgment		10.2	17.3
Unknown	29 (0.9)			don't have time		27.4	27.5
				Don't know if ..helpful		23.7	29.5
Helpful for counselling				Confidentiality		13.8	21.2
Counselling 'app'		22.3	24.9	Other		20.3	22.2
Buddy system -partner		34.6	44.2				
Know „is confidential		28.3	42.4				
Counselling website		14.0	13.1				
Telephone hotline		7.3	7.9				
Interactive online chat		10.7	11.0				
On social media		14.7	13.4				
Family support group		14.1	16.8				
Text line		12.6	15.4				
Brochures/pamphlets		6.8	8.3				
Newsletter		9.3	12.2				

Perceived availability of substances

Table 57: Perceived availability of substances by gender and district location (%)

Percentage of students rating a substance as either 'somewhat easy', 'easy' or 'very easy' to obtain							
		Districts					
	Survey average	Cayman Brac	Bodden Town	East End	George Town	North Side	West Bay
Cigarette							
Boys	13.8	11.7	16.0	18.4	11.8	16.7	13.8
Girls	12.9	15.4	12.1	19.6	12.8	6.8	13.4
E-cigarettes							
Boys	25.0	20.8	28.7	36.8	24.9	29.2	19.9
Girls	20.9	12.3	23.2	25.0	20.0	15.9	21.1
Alcohol							
Boys	28.0	21.1	27.2	21.1	30.9	29.2	26.0
Girls	32.5	20.0	35.3	32.1	34.4	29.5	28.9
Marijuana							
Boys	13.1	13.0	16.0	18.4	11.5	12.5	11.9
Girls	14.0	12.3	15.2	14.3	14.1	15.9	12.6
Crack cocaine							
Boys	0.7	1.3	0.9	2.6	1.0	-	0.8
Girls	0.9	-	0.4	-	0.7	-	0.5
Cocaine powder							
Boys	0.9	1.3	1.3	2.6	1.0	-	1.1
Girls	1.1	-	0.6	-	0.3	-	1.0
Ecstasy							
Boys	1.6	2.6	2.1	2.6	1.6	-	1.9
Girls	0.8	-	0.9	-	0.8	-	1.0
LSD							
Boys	1.6	1.3	2.2	2.6	1.5	-	1.4
Girls	0.7	-	0.6	-	0.8	-	0.8
Tranquilizers							
Boys	1.6	2.6	2.2	2.6	1.5	-	1.1
Girls	1.2	-	0.9	-	1.5	4.5	1.3
Pain Killers							
Boys	3.4	2.6	4.5	2.6	3.1	-	3.3
Girls	5.6	6.2	4.8	1.6	6.3	9.1	5.7

Table 58: Perceived availability of substances

Perceived availability of substances - overall responses						
	Very difficult	Difficult	Somewhat difficult	Somewhat easy	Easy	Very easy
Cigarette	4.7	1.7	2.3	3.5	3.8	6.2
E-cigarette	4.1	2.5	4.5	7.5	7.0	8.6
Alcohol	7.2	3.3	5.6	10.9	7.9	11.4
Marijuana	4.6	1.7	2.0	4.0	3.5	6.0
Crack cocaine	1.9	0.5	0.5	0.2	0.2	0.3
Cocaine powder	1.9	0.5	0.6	0.3	0.2	0.4
Ecstasy	1.6	0.5	0.7	0.5	0.4	0.3
LSD	1.6	0.6	0.4	0.4	0.4	0.4
Tranquilizers	1.8	0.4	0.5	0.3	0.7	0.4
Pain killers	0.7	0.2	0.2	0.7	1.0	1.8

Early onset of substance use

Table 59: Early onset of substance use

Percentage of students using a substance at age of 13 years or younger							
		Districts					
	Survey average	Cayman Brac	Bodden Town	East End	George Town	North Side	West Bay
Cigarette	7.3						
Boys	8.4	7.8	10.9	10.5	7.5	2.1	7.5
Girls	6.2	10.8	7.6	8.9	5.3	4.5	5.2
E-cigarettes	16.3						
Boys	17.6	16.9	22.5	23.7	15.5	16.7	14.6
Girls	14.7	10.8	18.2	25.0	11.8	18.2	13.7
Alcohol	28.2						
Boys	26.4	20.8	25.8	26.3	28.6	22.9	25.1
Girls	29.3	33.8	31.6	32.1	29.0	29.5	25.8
Marijuana	7.2						
Boys	7.7	3.9	10.2	13.2	7.2	8.3	5.5
Girls	6.4	6.2	7.6	5.4	5.5	13.6	5.9
Tranquilizers	0.3						
Boys	0.3	-	0.9	-	0.2	-	-
Girls	0.3	-	0.4	-	0.3	-	0.3
Pain Killers	1.8						
Boys	1.1	-	1.3	-	1.5	-	0.8
Girls	2.5	3.1	2.2	1.8	2.5	4.5	2.8
Survey average		9.5	9.2	9.4	6.4	3.2	6.3

Table 60: Average Age (yrs) Of First Use Of Substances By Gender

Substances	Survey Average	Average Age of First Use of	
		Boys	Girls
Cigarette	12.8	12.3	13.3
E-cigarette	13.2	13.1	13.3
Alcohol	12.0	11.9	12.2
Marijuana	13.3	13.0	13.5
Crack cocaine	13.5	13.5	-
Cocaine powder	14.2	13.1	16.7
Ecstasy	14.9	14.6	15.8
LSD	15.2	14.8	16.3
Tranquilizers	14.2	14.0	14.4
Pain killers	13.0	13.6	12.5

Usual Sources of Drugs

Table 61: Usual Sources of Drugs- Alcohol, Cigarettes, e-Cigarettes and Marijuana

	Cigarettes	e-cigarettes	Alcohol	Marijuana
Home	2.0	-	-	-
From parents with permission	0.7	3.3	40.4	3.3
Brothers/sisters	0.8	9.5	3.9	6.1
Other relatives with permission	1.8	7.6	9.4	6.5
My friends	6.4	62.6	24.2	62.4
Gas station	2.8	1.6	3.4	-
The corner store	2.4	0.6	1.0	-
The grocery store	0.7	0.3	5.3	-
Online	-	1.8	-	-
Family members without permission	-	4.4	8.6	5.3
Dealer	-	-	-	10.0
Other sources	4.2	8.5	3.8	6.2

Consumption pattern - Location

Percentage of students reporting use of cigarettes, e-cigarettes, alcohol, marijuana and other illicit drugs for lifetime, past year and last 30 days]

Table 62: Consumption pattern by gender and district location (%)

Percentage of students reporting use of various substances							
		Districts					
	Survey average	Cayman Brac	Bodden Town	East End	George Town	North Side	West Bay
Lifetime							
Cigarette	16.4						
Boys	16.8	10.4	20.5	18.4	10.4	16.7	17.7
Girls	15.4	23.1	15.8	19.6	14.3	15.9	14.7
E-cigarettes	32.8						
Boys	35.1	20.8	43.0	42.1	33.2	43.8	29.6
Girls	30.0	23.1	32.9	42.9	28.8	31.5	28.1
Alcohol	54.4						
Boys	52.9	41.6	53.7	47.4	54.7	47.9	52.5
Girls	55.8	46.2	57.4	58.9	56.6	54.5	53.9
Marijuana	29.8						
Boys	29.9	28.6	34.3	36.8	27.5	43.8	26.2
Girls	29.5	24.6	32.9	46.4	27.6	31.8	26.5
Tranquilizers	2.5						
Boys	2.9	2.2	3.5	3.9	3.2	-	2.2
Girls	0.4	-	2.0	2.9	1.5	7.1	3.0
Pain Killers	8.2						
Boys	6.8	2.2	9.0	3.4	6.3	3.4	6.6
Girls	97	11.4	8.4	2.9	9.3	14.3	12.2
Last 30 days or current							
Cigarette	3.7						
Boys	3.7	1.5	5.1	3.3	2.6	6.2	3.9
Girls	3.5	3.1	2.4	3.6	4.2	4.5	3.6
E-cigarettes	12.4						
Boys	15.4	14.3	19.6	21.1	14.1	10.4	12.2
Girls	9.4	10.8	8.0	7.1	9.5	13.6	10.6
Alcohol	31.3						
Boys	29.0	16.9	32.7	23.7	29.6	25.0	26.8
Girls	33.4	26.2	32.0	46.4	34.8	34.1	32.0
Marijuana	14.6						
Boys	14.8	9.1	19.6	18.4	13.4	14.6	11.9
Girls	14.4	12.3	15.2	21.4	13.8	20.5	12.9
Tranquilizers	0.5						
Boys	0.6	-	0.7	-	0.8	-	0.4
Girls	0.4	-	0.3	-	-	-	1.3
Pain Killers	2.6						
Boys	1.7	-	2.4	-	1.3	-	2.2h
Girls	3.6	-	2.0	-	4.0	7.1	5.70

Consumption pattern – Grade Level

Table 63: Prevalence of lifetime, past year and last 30 days: Gender and Grade Level (%)

	Percentage of students reporting use of various substances									
	Survey %	Gender		Year/grade level						
		Boys	Girls	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13
Cigarette										
Lifetime	16.4	16.8	3.4	7.3	10.0	14.4	16.8	23.7	28.4	27.3
Past year	6.7	6.8	6.6	1.7	1.8	4.7	8.6	11.0	13.5	15.3
Last 30 days	3.7	3.7	3.7	1.3	1.2	2.9	3.9	6.6	7.4	6.7
e-cigarette										
Lifetime	32.8	35.1	30.0	14.6	21.7	28.8	36.6	51.0	48.3	49.3
Past year	22.0	25.0	18.9	6.8	12.9	17.7	26.5	37.8	32.8	38.0
Last 30 days	12.4	15.3	9.4	3.0	6.3	11.5	14.4	22.4	18.4	22.7
Alcohol										
Lifetime	54.4	52.9	55.8	31.5	45.6	49.4	57.5	72.2	73.0	81.3
Past year	45.1	42.3	47.7	15.7	26.9	42.4	52.2	69.9	68.4	78.0
Last 30 days	31.3	29.0	33.4	11.8	19.9	23.0	35.7	49.6	48.3	64.0
Marijuana										
Lifetime	29.8	29.9	29.5	21.9	22.9	23.9	29.0	43.2	40.9	39.3
Past year	22.2	21.9	22.9	13.6	14.4	15.6	22.6	34.6	35.3	34.0
Last 30 days	14.4	14.8	14.4	0.5	1.5	10.5	17.3	30.7	32.1	29.3
Crack cocaine										
Lifetime	0.7	1.3	0.1			0.2	0.8	0.6	0.7	2.7
Past year	0.3	0.6	-			0.2	0.6	0.0	0.2	1.3
Last 30 days	0.1	0.2	-			0.0	0.4	0.0	0.0	0.0
Cocaine powder										
Lifetime	1.2	1.8	0.5			0.4	1.0	1.2	1.2	4.0
Past year	0.6	0.8	0.4			0.2	0.6	0.6	0.7	1.3
Last 30 days	0.1	0.3	-			0.2	0.4	0.0	0.2	0.0
Ecstasy										
Lifetime	2.8	4.2	1.3			1.9	1.8	3.5	3.2	5.3
Past year	1.9	3.0	0.9			1.8	1.6	2.1	2.2	2.7
Last 30 days	0.5	1.0	0.1			0.2	0.6	1.0	0.5	0.0
LSD										
Lifetime	1.7	2.5	0.9			1.4	1.2	1.5	2.9	2.0
Past year	1.2	1.8	0.6			0.8	1.0	1.0	2.0	1.3
Last 30 days	0.5	0.9	0.2			0.2	0.6	0.6	1.0	0.0

Violent and Antisocial Behaviours

Table 64: Frequency Distribution - Violent and antisocial behaviours (%) – Overall and by Gender

Frequency Distribution - Violent and antisocial behaviours (%) – Overall and by Gender			
	Overall	Boys	Girls
Have you ever been bullied	54.0	44.1	62.9
Have you been bullied in the past 12 months	40.9	37.3	44.0
Have you been bullied in the past 30 days	23.8	21.5	25.7
Have you bullied others at school or community	21.7	18.9	24.0
Have you ever carried a weapon	67.2	67.2	65.1
Being threatened or injured with a weapon	8.8	11.5	6.5
Been arrested	5.1	6.5	3.6
Attacked someone with intention of serious harm	10.0	11.9	8.2
Been drunk at school	3.9	3.4	4.4
Got suspended because of violence	9.8	12.3	7.4
Belonged to a gang or crew	5.6	7.6	3.7
Being in a fight - fought	64.0	76.4	51.2

Major Risk Factors for Suicide Among Students

Table 65: Risk for Suicide Among Students

Risk for Suicide Among Students				
	Attempted suicide [n (%)]		Odds ratio	Confidence interval CI
Factors	No	Yes		
Physical Abuse				
No	1387 (90.4)	148 (9.6)	3.967	2.944 – 5.344
Yes	215 (70.3)	91 (29.7)		
Sexual Abuse				
No	1498 (90.1)	165 (9.9)	6.025	4.302 – 8.737
Yes	215 (70.3)	73 (39.9)		
Any Abuse				
No	1329 (91.5)	123 (8.5)	4.405	3.318 – 5.848
Yes	287 (71.0)	117 (29.0)		
Ever Bullied				
No	787 (95.6)	36 (4.4)	5.641	3.903 – 8.152
Yes	779 (79.5)	201 (20.5)		
Binge Drinking				
No	472 (83.1)	96 (16.9)	1.563	1.130 – 2.161
Yes	280 (75.9)	89 (24.1)		
Self-harming				
No	1235 (96.5)	45 (3.5)	16.930	11.953 – 23.979
Yes	308 (61.8)	190 (38.2)		

Table 66: Percentage Responses to Questions in the RCAD

Percentage Responses to Questions in the RCAD					
	Never	Sometimes	Often	Always	Cumulative (yes)
Worry about things	11.5	36.6	27.0	29.9	88.5
Feel sad or empty	26.5	39.6	21.0	12.8	73.5
When I have a problem, I get a funny feeling in my stomach	39.9	32.5	14.5	13.1	60.1
I worry when I have done poorly at something	15.7	33.9	23.1	27.4	84.3
Nothing is much fun anymore	43.8	37.4	11.7	7.1	56.2
Feel scared when I have to take a test	23.2	42.7	16.6	17.5	76.8
Have trouble sleeping	39.3	36.3	15.2	9.3	60.7
Worry about my school work	16.5	37.9	23.0	22.6	83.5
Worry that something awful will happen to someone in my family or to me	29.5	35.2	15.2	20.1	70.5
Suddenly feel as if I can't breathe when there is no reason for this feeling	65.2	18.8	9.2	6.7	34.8
Have problems with my appetite	59.0	25.0	9.1	6.9	41.0
Feeling scared if I have to sleep on my own	76.6	16.2	3.9	3.4	23.4
Have trouble going to school in the mornings because I feel nervous or afraid	78.2	14.8	4.1	2.9	21.8
Have no energy to do things	37.7	41.5	13.5	7.3	62.3
Worry I might look foolish	40.4	35.5	13.7	10.3	59.6
Get tired a lot	28.6	36.6	18.7	16.1	71.4
Have bad or silly thoughts in my head	34.5	38.1	15.2	12.2	65.5
When I have a problem, my heart beats faster	32.7	35.8	16.6	14.8	67.3
I can't think clearly	39.8	40.5	12.5	7.2	60.2
Suddenly start to tremble or shake for no reason	67.7	20.0	7.4	5.0	30.3
Feel negative about myself	42.2	31.6	12.9	13.3	57.8
Worry about making mistakes	17.5	43.3	21.8	17.4	82.5
Worry what other people think of me	32.4	35.0	15.1	17.5	67.6
Feel afraid of being in crowded places	60.1	25.9	6.9	7.2	39.9
Suddenly I feel really scared for no reason at all	71.9	18.9	5.0	4.2	28.1
Think about death	39.3	35.2	12.9	12.7	60.7
Afraid if I have to talk in front of my class	40.0	35.3	11.6	13.1	60.0
Heart suddenly starts to beat too quickly for no reason	72.4	17.9	5.1	4.6	27.6
Feel like I don't want to move physically	55.8	29.5	9.0	5.4	44.2
Feel restless (unable to rest or relax)	50.0	32.0	10.7	7.3	50.0

Discussion Chapter

Discussion

Student drug use surveys provide essential information about the prevalence and harms associated with substance **use** among youth who attend school. Surveys are **used** to monitor emerging trends and to inform decision making about policies, programs and services to improve the health outcomes of children and youth. The primary purpose of this type of school survey is to collect comprehensive, accurate, and reliable information about attitudes towards and usage trends regarding student drug use and substance abuse. While adolescents are certainly not the only demographic group to face issues of substance use and abuse, "data repeatedly shows that students and youth more commonly use alcohol and drugs than any other age group[8]. This prevalence is highly problematic for a number of reasons.

First, a large body of research has identified a negative correlation between drug use and school performance[9] [10]. Additionally, students under the influence of cognitively impairing substances are less able to effectively learn and are at risk of long-term and permanent impairment of memory and cognitive ability[11]. Finally, student drug use is "correlated with antisocial and violent behavior, such as bringing guns and knives to school, as well as other risk-taking behaviors[12].

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[8] Student Drug Use. Canadian Centre on Substance Abuse. Retrieved from http://www.ccsa.ca/Eng/topics/Monitoring-Trends/Student-Drug-Use/Pages/default.aspx

[9] Sanders CE, Field TM, Diego MA. Adolescents' academic expectations and achievement. Adolescence. 2001; 36:795– 802

[10] Rivers WL. Is there a relationship between drug use and academic achievement? J Sch Health. 1981; 51:171– 173

[11] Goode E. Drug use and grades in college. Nature. 1971; 234:225– 227.

[12] The Role of Schools in Combating Illicit Substance Abuse. December 2007. Council on School Health and Committee on Substance Abuse. American Academy of Pediatrics. Retrieved from http://pediatrics.aappublications.org/content/120/6/1379

Perceived Availability of Substances

Ease of access to substances has been shown to have a direct and significant relationship with substance use for school-aged children. Given the magnitude of substance use behaviours and the perceived ease of access to alcohol, tobacco, and illicit drugs among middle and high school students, researchers have begun to explore sources of access and other factors that may impact ease of access to substances among students in order to better inform prevention and intervention efforts[13].

In terms of sources of access, research consistently demonstrates that the most reported source by which adolescents perceive that they could gain access to substances is through friends and/or social networks. In this survey the main sources identified by students for obtaining drugs were friends (62.6% for e-cigarettes,62.4% for marijuana, and 24.2% for alcohol) or from parents with permission as was the case with alcohol (40%) or from family members.

Other factors that have been shown to increase adolescents' perceived ease of access include: the adolescent's age (i.e., perceived ease of access increases with age; the prevalence of the use (i.e., more widely used substances are perceived to be easier to access; the physical availability of substances in one's community; and the social availability of substances (i.e., the perceptions of substance use norm, prevalence of use, and support for use amongst one's peers, parents, school, and community.

Aspects of all these factors were explored in this survey and findings were similar. For example, in the case of cigarettes: 13.5% of students perceived it was easy to obtain; boys and girls' perception of availability was not that dis-similar (13.8 and 12.9% respectively); the usual source for obtaining cigarettes was from a friend (as was the case for all other drugs); 4% of students saying that their parents allow them to smoke cigarettes at home.

[13] Jacob C. Warren, K. Bryant Smalley, and K. Nikki Barefoot Perceived Ease of Access to Alcohol, Tobacco, and Other Substances in Rural and Urban US Students.

Perceived Ease of Access to Alcohol, Cigarettes, and Other Substances

Given the high rates of substance use among students as reported in this survey (current use prevalence of 15% for marijuana, 31% for alcohol and 12% for e-cigarettes), it appears that cigarettes, alcohol, and other drugs may be readily available and easily accessible to many students. In fact, the ease of access to cigarettes, alcohol, and certain illicit drugs has been recognized as one of the main underlying causes of the current substance use epidemic among students surveyed in the Caribbean, with adolescents' perceptions of the ease of access to alcohol, cigarettes, and drugs being shown to significantly increase their risk for use as reported in this survey.

Given that geographic location in general (i.e., urban or rural, town or "country") has been associated with distinct cultural factors that can have a significant impact on one's attitudes/beliefs, behaviour, and experiences, living in and attending school in these locations likely has a significant impact on adolescents' perceptions of the ease of access to alcohol, cigarettes, and other drugs. In comparing locations even among students, some may perceive that illicit drugs are easier to access due to the higher prevalence of use and greater availability of these substances in areas closer to the city centre (especially "street drugs" such as marijuana, cocaine, ecstasy, and hallucinogens such as LSD.

In contrast, "rural" or isolated populations have been shown to have more relaxed attitudes and beliefs about adolescent alcohol and cigarette, especially when used at home and/or in social settings (i.e., more likely to supply adolescents with and/or not restrict access to alcohol and cigarette.

This survey showed that perceived availability of marijuana and e-cigarette was notable higher in Bodden Town and East End while for alcohol it was higher for George Town with higher prevalence for cigarette in East End. One is forced to conclude that there is a subculture in East End that heightens the perception of availability for certain substances among students/adolescents.

Age of First Use and Early Onset of Substance Use

Age of first use (initial experimentation) appears to be an important factor in the clinical trajectory of drug abuse or dependence for specific substances. Thus, experimentation in subjects in their teens is associated with greater long-term vulnerability, for specific drugs. Therefore, prevention and management strategies should address subjects before their adolescence, specifically before 13 years of age[14].

Second, the perception of risk related to substance experimentation is decreasing at all grade levels while the perception of drug availability is increasing. In this survey for example, 8% of Year 9 students found it easy to access marijuana. Additionally, 15% of Year10, 27% of Year 11 and 12 and 29% of Year 13 students also reported easy access to marijuana. These factors, along with perceived levels of parental acceptance for drug use at home and peer disapproval, are among the best predictors of future levels of drug use

Several factors are being examined for their potential contribution to the early onset of substance experimentation:

1. Decreased perception of risk among young people regarding the potential harm of ATOD use;
2. Decreased perception of parental and peer disapproval of ATOD use;
3. Decreased supervision of children and adolescents;
4. Intergenerational transmission of early onset male drinking; and
5. Targeting of young people by licit and illicit drug industries.

The precocious onset of substance use in children signals vulnerability for the development of other problems (conduct disorder, attention disorders and affective disorders, among others) and behaviours that pose risks to the individual child and others. These other problems have a complex interaction with substance use and can precede, co-occur, or follow substance initiation. Intervening in these other problems and behaviours constitutes a crucial prevention or early intervention strategy for substance-related problems, just

[14] White, W., Godley, M. & Dennis, M. (2003) Early onset of substance abuse: Implications for student assistance programs. Student Assistance Journal, 16(1), 22-25.

as proactive intervention into early substance use serves the same functions for these other problems.

Substance abuse programmes can play an important role in lowering the short- and long-term risks to individuals, families and communities by postponing substance use initiation as long as possible, and by recognizing developmental windows of vulnerability and opportunity in the transitions from early drug experimentation to chronic drug dependence.

More specifically, substance abuse programmes can:

1. ***Enhance protective factors (pro-social values, skills and family and peer relationships) prior to the developmental period (ages 9 to12) of greatest vulnerability for drug use initiation and related problems;***
2. ***Deliver focused support to children at risk for the development of substance use problems (family history of alcohol and other drug problems, parental detachment, access to alcohol and/or other drugs at home, academic struggle/failure, emotional distress, involvement in drug-oriented peer cultures, behavioural problems, involvement in criminal justice system, and atypical drug sequencing (use of marijuana before alcohol and use of other illicit drugs before marijuana)***
3. ***Prevent or slow the movement from initial to regular drug use;***
4. ***Intervene before the transition from single to multiple drug experimentation;***
5. ***Interrupt the progression from regular drug use to drug-related problems and drug dependence;***
6. ***Prevent an expanded repertoire of high risk, health-threatening behaviours, for example, unprotected sex with multiple partners, high risk behaviour in vehicles, crime, and violence; and***
7. ***Intervene with those experiencing substance use disorders to restore personal health and diminish problem contagion within the school and community.***

Young people are developing life-impairing and life-threatening problems with alcohol, tobacco and other drugs who would not have developed these problems if their initial exposure to these substances could have been postponed[15]. ATOD-related problems resulting from early age of onset are among the most preventable causes of death and disability.

Consumption Pattern – Prevalence of Substance Use

Alcohol, e-cigarettes and marijuana are the main substances used in this survey cycle. Prevalence is relatively high but there is substantial variability within location (districts) and among boys and girls. Cigarettes lifetime prevalence was also notable high (16.4%) but decreased considerably for current use (3.7%). The evidence suggests that cigarette use is mainly for the purposes of experimentation, given that current use rates are very low. What is interesting is the comparison of use of cigarettes versus marijuana—past year marijuana prevalence (22.2%) surpassed past year cigarette prevalence (6.7%) by a factor of three times and past month prevalence for marijuana (14.6%) was also notably higher than past month cigarette use (3.7%).

As in other CICDUS surveys, alcohol is the most prevalent used substance and marijuana the most prevalence illicit substance. Significant gender differences were noted with respect to consumption of various substances in the survey. Most interesting was the case of e-cigarettes smoking.

Overall lifetime prevalence of e-cigarettes was 32.8% - about one in three students reported having tried e-cigarettes. The average lifetime prevalence of e-cigarette smoking was significantly different by gender: boys (35.1%) and girls (30%). Additionally, the gender rates also varied considerably in most districts and last 30 days or current prevalence difference for boys (15.3%) and girls (9.4%) was statistically significant. However, 148/345 (42.2%) of those who said there was no risk of harm were also currently smoking e-cigarettes compared to only 6.6% who felt there was great risk of harm. Important to note

[15] Chou, S. P., & Pickering, R. P. (1992). Early onset of drinking as a risk factor for lifetime alcohol related problems. British Journal of Addiction, 87, 1199-1204. https://pdfs.semanticscholar.org/3891/af682853acf77ea5f60ee63743ca73fc08d6.pdf

that 77/122 (60.7%) of current cigarettes smokers were also smoking e-cigarettes.

It is important to pay attention to the high prevalence of e-cigarettes use reported in this survey. E-cigarettes produce an aerosol by heating a liquid that usually contains nicotine—the addictive drug in regular cigarettes, cigars, and other tobacco products—flavourings, and other chemicals that help to make the aerosol. Users inhale this aerosol into their lungs. Bystanders can also breathe in this aerosol when the user exhales into the air. It is difficult for consumers to know what e-cigarette products contain. For example, some e-cigarettes marketed as containing zero percent nicotine have been found to contain nicotine[16]. E-cigarette aerosol can contain chemicals that are harmful to the lungs and youth e-cigarette use is associated with the use of other tobacco products, including cigarettes.

Teachers and parents need to be familiar with the new innovations in how e-cigarettes are sold. For example, there is now available a USB stick e-cigarette (see notations below) and to note that E-cigarettes are now the most commonly used tobacco product among youth.

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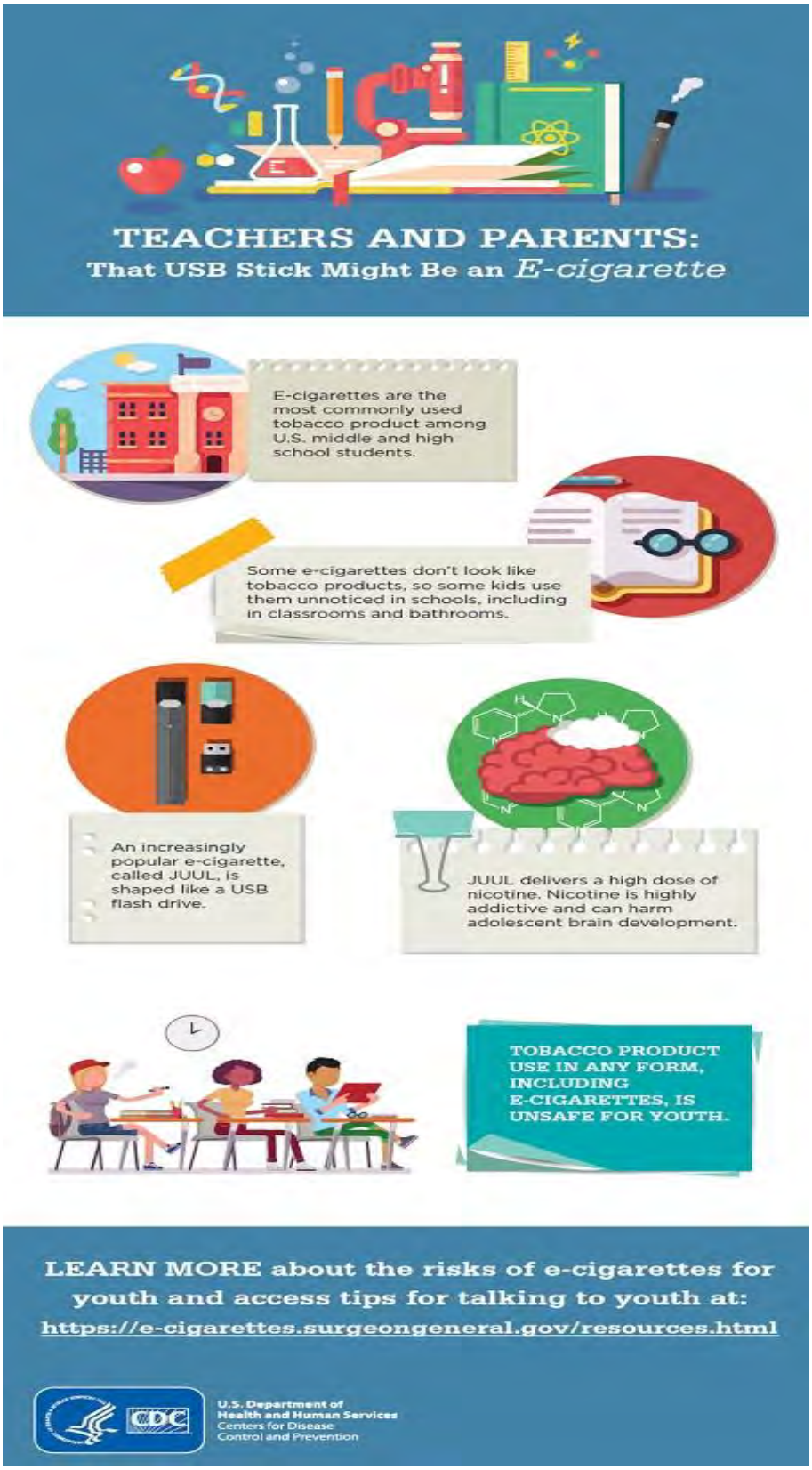
[16] US Department of Health and Human Services. E-cigarette use among youth and young adults: a report of the Surgeon General [PDF–8.47 MB]. Atlanta, GA: US Department of Health and Human Services, CDC; 2016.


TEACHERS AND PARENTS:
That USB Stick Might Be an E-cigarette
E-cigarettes are the most commonly used tobacco product among U.S. middle and high school students.
Some e-cigarettes don't look like tobacco products, so some kids use them unnoticed in schools, including in classrooms and bathrooms.
An increasingly popular e-cigarette, called JUUL, is shaped like a USB flash drive.
JUUL delivers a high dose of nicotine. Nicotine is highly addictive and can harm adolescent brain development.
TOBACCO PRODUCT USE IN ANY FORM, INCLUDING E-CIGARETTES, IS UNSAFE FOR YOUTH.
LEARN MORE about the risks of e-cigarettes for youth and access tips for talking to youth at:
https://e-cigarettes.surgeongeneral.gov/resources.html
U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Pharmaceutical Use

The growing non-medical use of prescription drugs is a global health concern. Such usage can be defined as the taking of prescription drugs, whether obtained by prescription or otherwise, other than in the manner or for the reasons or time period prescribed, or by a person for whom the drug was not prescribed.

The real scale of the problem is unknown, due partly to lack of data on the non-medical use of prescription drugs, and partly to the existence of many gaps in the monitoring of their legal use for medical purposes as prescribed by health-care professionals (which creates opportunities for the diversion of these drugs to people to whom they were not prescribed). Most studies on and monitoring instruments for substance abuse pertain to the use of illegal drugs, or alcohol and tobacco. However, the non-medical use of prescription drugs is a unique category of substance use in number of ways and requires attention at different levels.

What is not known by most of these young people is the risk they are taking by consuming these highly potent and mind-altering drugs. Long-term use of painkillers can lead to dependence, even for people who are prescribed them to relieve a medical condition but eventually fall into the trap of abuse and addiction. Survey data show that almost 50% of teens believe that taking prescription drugs is much safer than using illegal street drugs[17].

Studies on risk factors for and the prevalence of non-medical use of prescription drugs seem to indicate that women and young girls are more likely to use prescription drugs for non-medical purposes.

Nowadays, there seems to be broad environmental accessibility to and availability and acceptance of the use of prescription drugs. A "pill-popping culture", where many life issues are seen as problems and treated with medication is becoming more common in the United States and there are

[17] https://www.drugfreeworld.org/drugfacts/painkillers.html

concerns that the non-medical use of prescription drugs will also become a cultural norm in other countries.

The non-medical use of prescription drugs particularly endangers children and young people and they may face additional factors that put them at an elevated risk of using prescription drugs non-medically. The trends of increased non-medical use of prescription drugs in adolescents are particularly problematic, because adolescence is the period of greatest risk, not only for drug experimentation, but also for developing addiction.

In addition, at this stage, the brain is still developing and exposure to drugs could interfere with these developmental changes. The last part of the brain to fully mature is the prefrontal cortex, a region that governs judgment and decision-making functions. This may help to explain why adolescents are prone to taking risks.

In addition, adolescents lack life experience and reliable information about risks linked to using prescription drugs non-medically. The physical and psychosocial changes experienced during these transition years leave adolescents feeling insecure about themselves, which results in their seeking out a peer group as a way of developing a sense of identity.

Adolescents who report using prescription drugs non-medically are more likely to engage in other types of risk behaviour, such as skipping school, bringing drugs to school, getting high at parties, having friends who use marijuana, driving after binge drinking, and engaging in risky sexual behaviour when high on prescription medication, which increases the chances of contracting HIV.

Considering the foregoing, it would seem wise to embed prevention interventions for the non-medical use of prescription drugs within effective mainstream prevention programmes for addressing risk and protective factors of young people and other vulnerable groups in a variety of settings (family, school, workplace and community).

Alcohol Use Among Students

Alcohol use is an excellent place to start screening for risky health behaviours for two main reasons. First, whether parents or teachers, talking with adolescents about alcohol has the potential to save lives. Drinking is associated with three top causes of death among adolescents, the first being unintentional injury, usually by car crashes, followed by homicide and suicide (CDC, 2008). Second, starting with questions about drinking can help you determine whether asking questions about other risk behaviours is a high priority. Alcohol is the drug used by the greatest number of students in this survey and for many young people it is also the first substance they try (have access to). Youth who don't use alcohol are unlikely to use any other substances, whereas youth who are heavily involved with alcohol are at increased risk for using other substances and for other risk-taking behaviours[18].

What kinds of alcohol are kids drinking these days? All kinds: beer, coolers, liquor, wine, and "flavoured alcohol beverages." Generally similar to beer in percent alcohol, flavoured alcohol beverages include wine coolers and sweetened malt-based drinks that often derive their alcohol content from spirits. In this survey the preferred beverage choices consumed in the last 30 days, were liquor (40%) and coolers (36%). This means that distilled spirits are gaining on or overtaking beer and flavoured alcohol beverages in popularity with youth and that wine is less preferred.

Young people are also drinking alcohol mixed with caffeine, either in premixed drinks or by adding liquor to energy drinks. With this dangerous combination, drinkers may feel somewhat less drunk than if they'd had alcohol alone, but they are just as impaired in motor coordination and visual reaction time. They

[18] https://pubs.niaaa.nih.gov/publications/Practitioner/YouthGuide/YouthGuide.pdf. Alcohol Screening and Brief Intervention for Youth: A Practioner's Guide. National Institute on Alcohol Abuse and Alcoholism (NIAAA)

are more likely to drink heavily, to be injured or taken advantage of sexually, and to ride with an intoxicated driver[19].

Alcohol Audit –Dependence versus Alcohol-related Problems

It is important to ask the question, Is alcohol screening and brief intervention effective for youth? The evidence is clear that brief interventions are effective for adults. In fact, in 2004, the U.S. Preventive Services Task Force "recommended screening and behavioural counselling interventions to reduce alcohol misuse by adults" (USPSTF, 2004)[20].

At that time, the evidence was inconclusive about the effectiveness of alcohol brief interventions for adolescents. Since then, however, evidence has been accumulating on the effectiveness of brief interventions for adolescents. ***In addition, in its policy statement "Alcohol Use by Youth and Adolescents: A Paediatric Concern," the American Academy of Pediatrics recommends that clinicians who work with children and adolescents regularly screen for current alcohol use and use brief intervention techniques during office visits[21].***

Why are we asking about past-year drinking instead of past-month drinking, when we know kids have bad memories? All queries about past alcohol use are fallible in one way or another. Even so, responses to these queries can provide us with useful information about how children and adolescents are drinking. While data relating to past-month drinking may be more precise, data on past-year use helps to identify more youth who drink, since drinking by young

[19] O'Brien MC. McCoy TP. Rhodes SD. Wagoner A. Wolfson M. Caffeinated cocktails: energy drink consumption, high-risk drinking, and alcohol-related consequences among college students. Acad Emerg Med. 2008;15:453–460. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3621311/

20 Screening and behavioral counseling interventions in primary care to reduce alcohol misuse: U.S. preventive services task force recommendation statement.

21 Alcohol Screening and Brief Intervention for Youth: A Practitioner's Guide. https://www.niaaa.nih.gov/publications/clinical-guides-and-manuals/alcohol-screening-and-brief-intervention-youth.

people is often sporadic. When asked if they have had a drink in the past month, many youths may be able to answer "no" even though they have had alcohol at other times during the year. Additionally, research shows that responses on past-year use are predictive of alcohol-related problems. We ask children about their past-year use not because we know their answers are completely accurate, but because their responses can help predict symptoms and problems.

Energy Drinks Phenomena

High amounts of caffeine often coupled with other natural stimulants that enhance caffeine's effects, are the main ingredients of energy drinks. Increase mental concentration as well as physical performance is purported by beverages marketed as energy drinks. Despite this, energy drinks are a source of excess sugar that can increase obesity risk but unfortunately this is not well documented. These sports drinks and caffeinated energy drinks (CED) are commonly consumed by youth. Both sports drinks and CEDs pose potential risks for the health of children and adolescents and may contribute to obesity.

Sports drinks are generally unnecessary for children engaged in routine or play-based physical activity while CEDs may affect children and adolescents more than adults because they weigh less and thus experience greater exposure to stimulant ingredients per kilogram of body weight. Paediatricians need to recognize and educate patients and families on the differences between sport drinks and CEDs. Screening for the consumption of CEDs, especially when mixed with alcohol, should be done routinely[22]. The combination of CEDs and alcohol may be a marker for higher risk of substance use or abuse and for other health-compromising behaviours.

[22] "Adolescent Consumption of Sports and Energy Drinks: Linkages to Higher Physical Activity, Unhealthy Beverage Patterns, Cigarette Smoking, and Screen Media Use," by Nicole Larson, PhD, MPH, RDN; Jessica DeWolfe, MPH; Mary Story, PhD, RD; Dianne Neumark-Sztainer, PhD, MPH, RD (DOI: http://dx.doi.org/10.1016/j.jneb.2014.02.008), Journal of Nutrition Education and Behavior, Volume 46/Issue 3 (May/June 2014), published by Elsevier.

The reasons for concern are based on the results of this survey. The results obtained clearly show a high proportion of students in Cayman Islands are consuming sports drinks. Lifetime consumption of energy drinks was reported to be 70.5% overall (table 21). The consumption was significant higher among boys (74.9%) as compared to girls (66.1%). Of those who had ever consumed an energy drink, 13.4% reported that they had mixed alcohol in an energy drink for consumption— (13.3% each for boys and girls).

In addition, the main reason given for use of energy drinks was in relation to before or after sporting activities (46.4% or every fourth student). Far more boys (50.3%) than girls 41.7%) reported using energy drinks in relation to sporting activities. The next most prevalent reason given (from the options) was 'while hanging out' (22.9%) and the least prevalent was while studying (7.2%).

The results also showed that about a half of the respondents who drink sports drinks claim to drink them socially. This is likely to be linked to the fact that consumer independence is well developed and the fact that the influence of peers (whilst socializing) is particularly strong for this age-group. This has implications for dental and wider public health, in terms of dental caries, dental erosion and obesity.

The American Academy of Paediatrics recommends that sports drinks should be consumed by adolescents only after vigorous, prolonged activity, and that energy drinks should not be consumed because they offer no benefit and increase risks for overstimulation of the nervous system.

When Friends Use Substances

Among the most important factors in the development of substance use is an adolescent's peers[23]. Indeed, it is well established that adolescents who have

[23] Steven A. Branstetter, Ph.D., Sabina Low, Ph.D., and Wyndol Furman, Ph.D. The Influence of Parents and Friends on Adolescent Substance Use: A Multidimensional Approach. J Subst Use. 2011 Apr; 16(2): 150–160.

drug-using friends are more likely to use drugs themselves. Friends not only provide immediate access to substances, but also model drug using behaviour and help shape beliefs and positive attitudes toward the use of drugs. Friends' substance use is also likely to influence perceptions of how normative substance use is among peers. Adolescents are significantly more likely to use substances if they believe close friends are using and that substance use is common among their larger group of peers.

This survey found that students who had friends who use any drug were more likely to report earlier onset of cigarettes use, perceived marijuana to be easy to obtain, had a higher prevalence of daily alcoholic beverage consumption, reported three-time higher prevalence of current cigarettes use and almost two times higher prevalence of past year alcohol use

When friends use drugs, the issues multiply into a complex of signs and symptoms and warning signals may be apparent for peers. These include,

- Drinking frequency (>24 days in past year = highest risk for alcohol-related problems)
- The more drinking friends = more risk
- Friends who binge drink heightens concerns
- Risk may be compounded by factors such as the level of family support, drinking and smoking habits of parents, school functioning, etc.
- What other problems the user experiences/or risk taken
- What other types of substances are being used to get high

Perception of Harm

Historically, an individual's perception of the risks associated with substance use has been an important determinant of whether he or she engages in substance use24. For example, youths who perceive high risk of harm are less

[24] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2012). *Monitoring the Future national survey results on drug use, 1975-2011: Volume I, Secondary school students*. Ann Arbor: Institute for Social Research, The University of Michigan. Retrieved from http://monitoringthefuture.org/pubs/monographs/mtf-vol1_2011.pdf

likely to use drugs than youths who perceive low risk of harm. Thus, providing young adults with credible, accurate, and relevant information about the harm associated with substance use is a key component in prevention programming.

Many students in this survey are aware of the risks associated with substance use. As shown in table 27, a notable high proportion of students reported great risk of harm for smoking one or more packs of cigarettes daily (69%), drinking alcohol daily (51.8%) and regularly smoking marijuana (28.2%). However, fewer students perceived great risk of harm from using marijuana once or twice (15.7%) and smoking e-cigarettes (12.5%).

The results presented in this report indicate that many students are aware of the risks of substance use; however, a large percentage still did not believe that they would have great risk of harm from substance use. For example, perception of no risk of harm related to the use of the substances indicated ranged from a low of 6.1% for drinking alcohol daily to a high of 40.8% for using marijuana once or twice. Some 6.9% of students did not see any risk of harm for smoking one or more packs of cigarettes daily, while 28.3% said there was no risk to smoking e-cigarettes and 23% said no risk for regularly smoking marijuana.

It is important to note that students who perceive no risk were significantly more likely to be current users. The results (Table 28) show that for students who said there was no risk of harm from smoking cigarettes, 21.9% were current smokers while for those who said there was great risk, only 8.2% were also current smokers.

Additionally, there were significant differences in the perceptions of risk of harm among boys and girls. As it relates to perception of no risk, significantly more boys felt that there was no risk of harm within all five categories of substance use when compared to girls. For example, twice as many boys (30.9%) compared to girls (15.4%) felt there was no risk of harm related to smoking marijuana regularly.

Suicidal Behaviour

Major Risk Factors for Suicide Among Adolescents include,

- A previous suicide attempt
- A psychiatric disorder, especially major depressive disorder, bipolar disorder, conduct disorder, and substance (alcohol and drug) use disorders
- Psychiatric comorbidity, especially the combination of mood, disruptive, and substance abuse disorders
- Personality disorders (especially cluster B disorders: antisocial, borderline, histrionic, narcissistic)
- Impulsive aggression (the tendency to react to frustration or provocation with hostility or aggression)
- Availability of lethal means
- Feelings of hopelessness and worthlessness that often accompany depression
- A family history of depression or suicide
- Loss of a parent to death or divorce
- Family discord
- Physical and/or sexual abuse
- Lack of a support network, poor relationships with parents or peers and feelings of social isolation
- Dealing with homosexuality in an unsupportive family or community or hostile school environment

The suicide rate among children and adolescents in the U.S. has increased dramatically in recent years and has been accompanied by substantial changes in the leading methods of youth suicide, especially among young girls. Much work is currently underway to elucidate the relationships between psychopathology, substance use, child abuse, bullying, internet use, and youth suicidal behaviour. Recent evidence also suggests sex-specific and moderating roles of gender in influencing risk for suicide and suicidal behaviour.

It is well established that rates of suicide and suicide-related behaviours increase with age and a gender paradox exists about youth suicidal behaviour: i.e., while suicide rates are higher among boys than girls, girls have higher rates of suicidal ideation and attempted suicide. Numerous risk factors are associated with youth suicide (see above). Psychiatric disorder is present in up to 80-90% of adolescent suicide victims and attempters from both community

and clinical settings[25]. Both in completed and attempted suicide, the most common psychiatric conditions are mood, anxiety, conduct, and substance abuse (alcohol and drug) disorders.

This survey found that one in three students (34.2%) reported that they had seriously considered attempting suicide (n=664) – significantly more girls (45.5%) compared to boys (21.6%) Table 45 and figure 7). The prevalence of actual attempted suicide was 13% overall (n=244). Again, girls (18.2%) were significantly more likely to report this compared to boys (7.1%). About 5% reported that their suicide attempt had to be treated by a doctor or nurse (n=90) - (7.1% among girls and 2.9% among boys).

This survey also found that the following risk factors contribute substantially to the self-reported suicide attempts, especially in the older cohort: physical and sexual abuse (4-6 times greater risk), being bullied (5.6 times greater risk), binge drinking (i.e., heavy episodic drinking) -1.5 times greater risk, and self-harming (i.e., cutting, scratching and burning the body) – 16.9 times greater risk).

The above findings constitute grounds for an immediate public campaign targeting suicide prevention. Significant resources are available online and this should be a priority programme for the Public Health Ministry. The goal of the campaign should be to educate and empower all Caymanians, so they can be proactive in preventing suicide. Youth should be particularly encouraged to get involved because even a simple gesture or a question of concern can make a difference and save someone's life.

Mental Health

The data show a similar pattern to the international figures, where the literature shows that about 20% of adolescents may experience a mental health problem in any given year and 50% of mental health problems are established by age 14 and 75% by age 24. Our data showed a similar age pattern—grade 10

[25] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2885157/

and above showing more clinical threshold. The data show that girls experience higher clinical threshold than boys meaning that our services need to be targeting girl's mental health.

Data regarding mental health education in the community indicated that over half of the young people had not been taught about mental health in school and 23.6% of the student show dissatisfaction to themselves and nearly 10% has a diagnosis of mental health difficulties. Meaning that community education about mental health is needed. Positive sign is that over 84.4% of the student have sought help regarding their difficulties.

Take Home Message

Because heightened peer influence and a tendency towards risk taking are normal developmental changes in adolescence, experimentation with substances during this period is common. However, using drugs and alcohol at a young age increases the risk of dependency and addiction, and early onset of drinking increases the likelihood of alcohol-related injuries, motor vehicle crash involvement, unprotected intercourse, and interpersonal violence. The more risk an adolescent is exposed to, the more likely it is he or she will abuse substances. Some risk factors, such as peer/friend's influence, may be more powerful during adolescence, and likewise some protective factors, such as a strong sense of school belonging and a meaningful positive adult presence, can have a greater positive impact during this period. An important goal of substance abuse prevention is to reduce risk and increase protective factors in the lives of all adolescents.

Recommendations

1. Initiate public awareness campaigns to inform both youth and adults, particularly parents, of the risks of substance use. Many adolescents gain access to substances through parents and other adults, and prevention messages from sources outside of school may help to highlight risks.

2. Provide funding to inform and support parents at the community level. Family-focused prevention programs have decreased the use of alcohol and drugs in older children and improved effectiveness of parenting skills that favourably affected their children's risk factors.

3. Provide more school-based extracurricular activity opportunities. Adolescents aged 12 to 17 who participated in extracurricular activities are less likely to have used alcohol, cigarettes, and illicit drugs in the past month.

4. Ensure confidential access to mental health services and substance use treatment for adolescents. Removing barriers to care will help adolescents get treatment earlier and avoid substance-use disorders/mental health disorders.

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Appendix 1

The Risk and Protective Factor Model of Prevention[26]

Risk factors are characteristics of school, community, and family environments, as well as characteristics of students and their peer groups that are known to predict increased likelihood of drug use, delinquency, school dropout, teen pregnancy, and violent behavior among youth. Dr. J. David Hawkins, Dr. Richard F. Catalano and their colleagues at the University of Washington, Social Development Research Group have investigated the relationship between risk and protective factors and youth problem behavior. For example, they have found that children who live in families with high levels of conflict are more likely to become involved in problem behaviors such as delinquency and drug use than children who live in families with low levels of family conflict.

Protective factors exert a positive influence or buffer against the negative influence of risk, thus reducing the likelihood that adolescents will engage in problem behaviors. Protective factors identified through research reviewed by Drs. Hawkins and Catalano include social bonding to family, school, community and peers; healthy beliefs and clear standards for behavior; and individual characteristics. For bonding to serve as a protective influence, it must occur through involvement with peers and adults who communicate healthy values and set clear standards for behavior.

Research on risk and protective factors has important implications for prevention efforts. The premise of the risk and protective factor model is that in order to promote positive youth development and prevent problem behaviors, it is necessary to address those factors that predict the problem behaviors. By measuring risk and protective factors in a population, prevention programs can be implemented that will reduce the elevated risk factors and increase the protective factors. For example, if academic failure is identified as an elevated risk factor in a community, then mentoring, tutoring and increased opportunities and rewards for classroom participation can be provided to improve academic performance.

[26] http://www.wnyunited.org/uploads/2/6/3/2/26328288/risk_and_protective_factors.pdf

Risk and Protective Factor Scale Definitions

Community Domain Risk Factors	
Community and Personal Transitions & Mobility	Neighborhoods with high rates of residential mobility have been shown to have higher rates of juvenile crime and drug selling, while children who experience frequent residential moves and stressful life transitions have been shown to have higher risk for school failure, delinquency, and drug use.
Community Disorganization	Research has shown that neighborhoods with high population density, lack of natural surveillance of public places, physical deterioration, and high rates of adult crime also have higher rates of juvenile crime and drug selling.
Low Neighborhood Attachment	A low level of bonding to the neighborhood is related to higher levels of juvenile crime and drug selling.
Laws and Norms Favorable Toward Drug Use	Research has shown that legal restrictions on alcohol and tobacco use, such as raising the legal drinking age, restricting smoking in public places, and increased taxation have been followed by decreases in consumption. Moreover, national surveys of high school seniors have shown that shifts in normative attitudes toward drug use have preceded changes in prevalence of use.
Perceived Availability of Drugs and Handguns	The availability of cigarettes, alcohol, marijuana, and other illegal drugs has been related to the use of these substances by adolescents. The availability of handguns is also related to a higher risk of crime and substance use by adolescents.
Community Domain Protective Factors	
Opportunities for Prosocial Involvement	When opportunities are available in a community for positive participation, children are less likely to engage in substance use and other problem behaviors.
Rewards for Prosocial Involvement	Rewards for positive participation in activities helps children bond to the community, thus lowering their risk for substance use.
Family Domain Risk Factors	
Family History of Antisocial Behavior	When children are raised in a family with a history of problem behaviors (e.g., violence or ATOD use), the children are more likely to engage in these behaviors.
Family Conflict	Children raised in families high in conflict, whether or not the child is directly involved in the conflict, appear at risk for both delinquency and drug use.
Parental Attitudes Favorable Toward Antisocial Behavior & Drugs	In families where parents use illegal drugs, are heavy users of alcohol, or are tolerant of childrenôs use, children are more likely to become drug abusers during adolescence. The risk is further increased if parents involve children in their own drug (or alcohol) using behavior, for example, asking the child to light the parentôs cigarette or get the parent a beer from the refrigerator.
Poor Family Management	Parentsôuse of inconsistent and/or unusually harsh or severe punishment with their children places them at higher risk for substance use and other problem behaviors. Also, Parentsôfailure to provide clear expectations and to monitor their childrenôs behavior makes it more likely that they will engage in drug abuse whether or not there are family drug problems.
Family Domain Protective Factors	
Family Attachment	Young people who feel that they are a valued part of their family are less likely to engage in substance use and other problem behaviors.
Opportunities for Prosocial Involvement	Young people who are exposed to more opportunities to participate meaningfully in the responsibilities and activities of the family are less likely to engage in drug use and other problem behaviors.
Rewards for Prosocial Involvement	When parents, siblings, and other family members praise, encourage, and attend to things done well by their child, children are less likely to engage in substance use and problem behaviors.
School Domain Risk Factors	
Academic Failure	Beginning in the late elementary grades (grades 4-6) academic failure increases the risk of both drug abuse and delinquency. It appears that the experience of failure itself, for whatever reasons, increases the risk of problem behaviors.

Risk and Protective Factor Scale Definitions (Continued)	
Low Commitment to School	Surveys of high school seniors have shown that the use of hallucinogens, cocaine, heroin, stimulants, and sedatives or non-medically prescribed tranquilizers is significantly lower among students who expect to attend college than among those who do not. Factors such as liking school, spending time on homework, and perceiving the coursework as relevant are also negatively related to drug use.
School Domain Protective Factors	
Opportunities for Prosocial Involvement	When young people are given more opportunities to participate meaningfully in important activities at school, they are less likely to engage in drug use and other problem behaviors.
Rewards for Prosocial Involvement	When young people are recognized and rewarded for their contributions at school, they are less likely to be involved in substance use and other problem behaviors
Peer-Individual Risk Factors	
Attitudes Favorable Toward Antisocial Behavior and Drug Use	Initiation of use of any substance is preceded by values favorable to its use. During the elementary school years, most children express anti-drug, anti-crime, and pro-social attitudes and have difficulty imagining why people use drugs. However, in middle school, as more youth are exposed to others who use drugs, their attitudes often shift toward greater acceptance of these behaviors. Youth who express positive attitudes toward drug use are at higher risk for subsequent drug use. Young people who accept or condone antisocial behavior are more likely to engage in a variety of problem behaviors, including drug use.
Early Initiation of Problem Behavior	Early onset of drug use predicts misuse of drugs. The earlier the onset of any drug use, the greater the involvement in other drug use and the greater frequency of use. Onset of drug use prior to the age of 15 is a consistent predictor of drug abuse, and a later age of onset of drug use has been shown to predict lower drug involvement and a greater probability of discontinuation of use.
Friends' Use of Drugs	Young people who associate with peers who engage in alcohol or substance abuse are much more likely to engage in the same behavior. Peer drug use has consistently been found to be among the strongest predictors of substance use among youth. Even when young people come from well-managed families and do not experience other risk factors, spending time with friends who use drugs greatly increases the risk of that problem developing.
Interaction with Antisocial Peers	Young people who associate with peers who engage in problem behaviors are at higher risk for engaging in antisocial behavior themselves.
Perceived Risk of Drug Use	Young people who do not perceive drug use to be risky are far more likely to engage in drug use.
Rewards for Antisocial Behavior	Young people who receive rewards for their antisocial behavior are at higher risk for engaging further in antisocial behavior and substance use.
Rebelliousness	Young people who do not feel part of society, are not bound by rules, donôt believe in trying to be successful or responsible, or who take an active rebellious stance toward society, are at higher risk of abusing drugs. In addition, high tolerance for deviance, a strong need for independence, and normlessness have all been linked with drug use.
Sensation Seeking	Young people who seek out opportunities for dangerous, risky behavior in general are at higher risk for participating in drug use and other problem behaviors.
Gang Involvement	Youth who belong to gangs are more at risk for antisocial behavior and drug use.
Peer-Individual Protective Factors	
Religiosity	Young people who regularly attend religious services are less likely to engage in problem behaviors.
Social Skills	Young people who are socially competent and engage in positive interpersonal relations with their peers are less likely to use drugs and engage in other problem behaviors.
Belief in the Moral Order	Young people who have a belief in what is ñrightòor ñwrongòare less likely to use drugs.