



The 2001
Northwestern
Ontario
Student
Drug-Use
Survey

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2001

Student Drug Use in Northwestern Ontario

Results of the Northwestern Ontario Student Drug Use Survey 1997 – 2001

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Red Lake/Ear Falls FOCUS Coalition
Fort Frances SAP Coalition

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1 EXECUTIVE SUMMARY

The purpose of this document is to summarize the prevalence of drug use by students in Northwestern Ontario as reported by students on the Northwestern Ontario Student Drug Use Survey (NWOSDUS). Because it is the second cycle of the NWOSDUS, we are able to describe trends and patterns in student drug use since 1997. Moreover, because the NWOSDUS uses the same instrument as the Ontario Student Drug Use Survey (OSDUS), we are able to compare the student drug use patterns in Northwestern Ontario to their provincial counterparts.

Not only does the NWOSDUS contribute to identifying the current patterns in alcohol, tobacco and other drug use, but it also helps us to understand the precipitating factors and the consequent negative personal and social outcomes. This knowledge helps local agencies concerned about student drug use to evaluate the effectiveness of their past prevention and enforcement activities and to design effective interventions for the future.

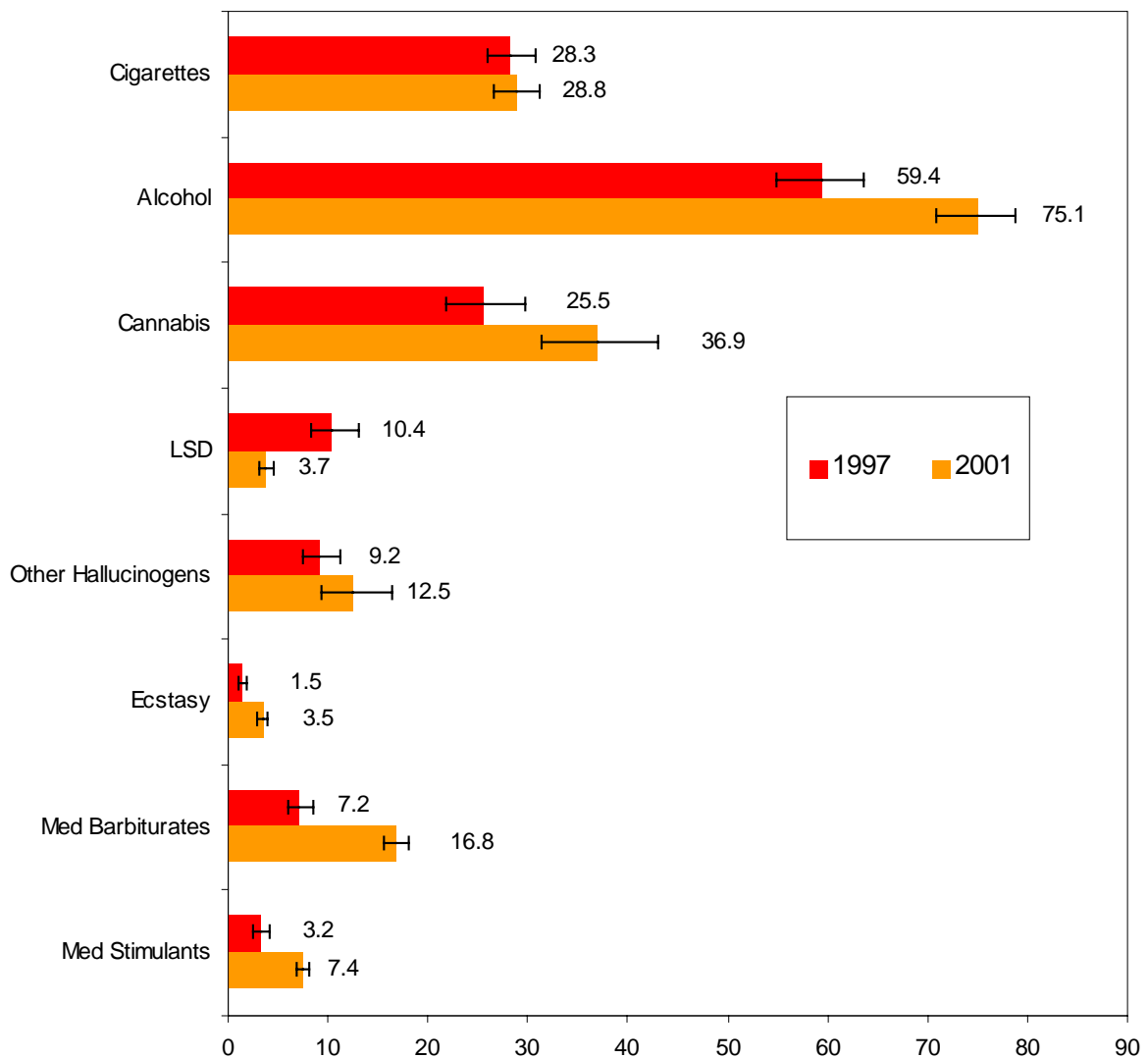
The NWOSDUS is based on the methodology of the biennial province-wide OSDUS conducted by the Centre for Addiction and Mental Health (CAMH). NWOSDUS was first conducted in 1997 in response to the fact that the OSDUS does not have a sufficient sample size to report results at the local level for Northwestern Health Unit or for Thunder Bay District Health Unit. The OSDUS only reports results for the entire “North”, which includes Algoma, Cochrane, Manitoulin, Sudbury (R.M.), Sudbury (T.D.), Muskoka, Parry Sound, Nipissing, Timiskaming,

Thunder Bay, Kenora and Rainy River. In contrast, the NWOSDUS is conducted only in the City of Thunder Bay, District of Thunder Bay and Kenora-Rainy River, allowing us to report reliable results for the three local regional groupings. To put the NWOSDUS in perspective, the OSDUS surveyed 1067 students between Muskoka-Parry Sound and the Manitoba border while the NWOSDUS surveyed 2824 students in just the Thunder Bay and Northwestern Health Units.

The NWOSDUS design is based on a regionally stratified, single-stage cluster sampling with schools as the primary sampling unit. Schools eligible for inclusion in the sample were elementary and secondary schools located within the Ontario Ministry of Health’s Northwestern Ontario Region who were not already chosen for the OSDUS. Excluded were private schools, special education schools (e.g., those institutionalized for correctional or health reasons), and schools on First Nations reserves. Students within those schools in grades 7 through 13 were eligible to complete the NWOSDUS.

A difference exists between the students included in the 1997 and 2001 cycles of the NWOSDUS. In 1997 only grades 7, 9, 11 and 13 were surveyed, whereas in 2001, owing to the upcoming discontinuation of grade 13 (OAC), all grades from 7 through 13 (OAC) were surveyed. However, owing to the way that enrollment numbers were provided by school boards, grades 12 and 13 (OAC) are combined. The next cycle of the NWOSDUS will include all grades from 7 through 12.

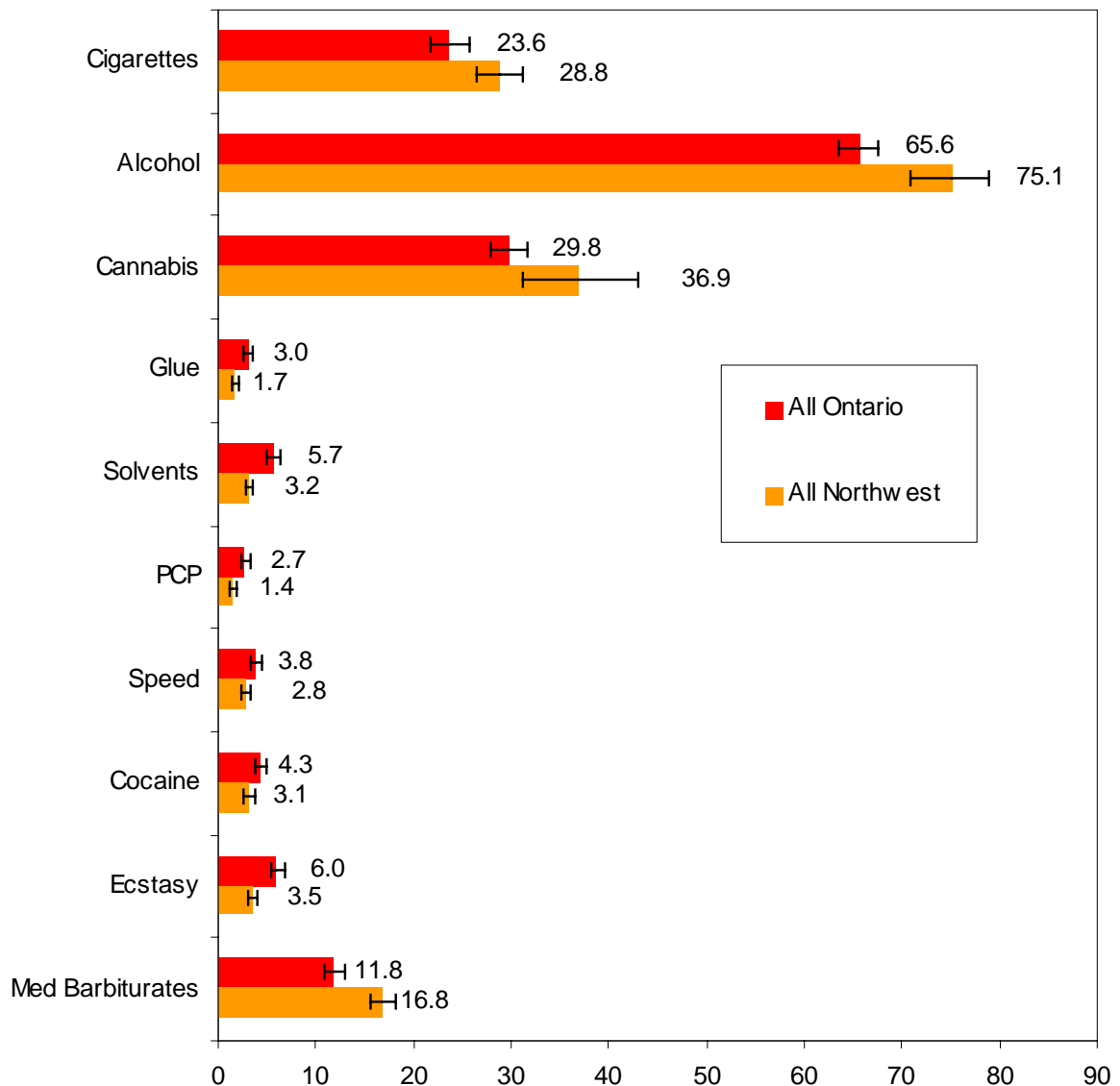
Major Trends In Student Drug Use between 1997 and 2001 in Northwestern Ontario



Overall, tobacco use (defined as having smoked at least one whole cigarette in the past twelve months) remained constant from 1997 to 2000. Alcohol and cannabis use increased substantially (from 59.4% to 75.1% and from 25.5% to 36.9% respectively). The use of barbiturates prescribed by a physician more than doubled from 7.2% to 16.8%, making it the fourth most common drug reported. The use of medical stimulants also approximately doubled (from 3.2%

to 7.4%). The use of LSD dropped significantly from 10.4% in 1997 to 3.7% in 2001, though this may only reflect a low point in a cyclical trend. The use of hallucinogens other than LSD ranks as the fifth most commonly used drug at 12.5%, but the increase noted was not statistically significant. Ecstasy use approximately doubled from 1.5% to 3.5% between 1997 and 2001, although the absolute number of users has remained relatively low.

Major Differences Between Student Drug Use in Northwestern Ontario and the Rest of Ontario



In 2001, there were pronounced differences between student drug use rates in Northwestern Ontario compared to the provincial average (Note: Ontario provincial averages are from the 2001 OSDUS by the Centre for Addiction and Mental Health). Compared with their provincial counterparts, Northwestern Ontario students reported substantially higher cigarette use rates (28.8% vs. 23.6%), alcohol use rates (75.1% vs.

65.6%), and cannabis use rates (36.9% vs. 29.8%). However, they reported statistically significantly lower rates of glue (1.7% vs. 3.0%) and other solvent use (3.2% vs. 5.7%), as well as lower use of “hard drugs” like PCP, speed, and cocaine. Northwestern Ontario students report significantly lower rates of ecstasy use (3.5% vs. 6.0%) compared with the rest of Ontario.

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2 INTRODUCTION

2.1 A Brief History and Rationale for the Northwestern Ontario Student Drug Use Survey

The Northwestern Ontario Student Drug Use Survey (NWOSDUS) was first conducted in 1997, but it draws on the more mature experience of the Ontario Student Drug Use Survey (OSDUS). The OSDUS is the longest running study of youthful alcohol, cigarette, and other drug use in Canada (Adlaf & Paglia, 2001). The history of the OSDUS begins in 1967 when the Centre for Addiction and Mental Health (CAMH), then the Addiction Research Foundation, was asked by several Toronto area school boards to assess the extent of student drug use among their students. In 1977, after four such surveys, the study was expanded to include all of Ontario and the OSDUS was officially born.

Since then, the OSDUS has surveyed approximately 4000 Ontario students biannually, yielding a vast amount of information. The large sample size allows for many sub-group analyses, and the various geographic regions of the province can be fruitfully compared. The OSDUS, however, has the limitation that the number of students surveyed in any particular health unit district (except Toronto) is relatively small. For the purposes of the OSDUS, the “North” is considered a single geographic unit stretching from Muskoka to the Manitoba border. Even with substantial over-sampling, only approximately 1000

students are surveyed in the “North”. While this is adequate from a provincial perspective, it is insufficient for local use.

The NWOSDUS was conceived as a separate study, conducted exclusively in the Thunder Bay District Health Unit (TBDHU) and Northwestern Health Unit (NWHU) public health areas. The NWOSDUS utilizes the OSDUS survey instrument, but has the flexibility to allow for additional questions of local interest. It collects data on a sufficient number of students to be able to distinguish between the City of Thunder Bay, the District of Thunder Bay, and the Kenora/Rainy River District.

Until 1999, both the OSDUS and the NWOSDUS surveyed students in grades seven, nine, eleven, and thirteen/OAC. However, the 1997 Government of Ontario decision to eliminate grade thirteen/OAC by 2003 introduced a change into the OSDUS and the NWOSDUS sampling methodologies. The 1999 and 2001 OSDUSs and the 2001 NWOSDUS surveyed students in all grades from seven through thirteen/OAC. In all subsequent years, owing to the elimination of grade thirteen/OAC, both the OSDUS and NWOSDUS will survey all grades from seven through twelve.

2.2 Why Survey Student Drug Use?

Adolescence is a pivotal developmental stage. The values, habits, and worldviews that are developed in this stage carry through into adulthood. Adolescent drug use can have immediate consequences, but also can have a long-term impact on adult life. For example, most current adult tobacco addicts began their use of tobacco in their teens before they had a full appreciation of the difficulty of quitting or of the long-term health consequences of smoking. Surveying and monitoring student drug use and associated behaviours gives health and social agencies the information required to design programs to prevent drug use and its negative consequences.

While there are many well-known drugs with well-understood patterns of use, there are always newly emerging drugs and new uses for old drugs. Examples include the emergence of crack cocaine as a cheap and deadly alternative to cocaine, the devastating relationship between injection drug use and HIV/AIDS (as well as hepatitis and other blood-borne infections), and the emergence of new “designer” drugs, such as ecstasy. New drugs and drug patterns can emerge even when the size of the drug-using population is stable. The NWOSDUS provides a mechanism for gathering information on new drugs and new patterns of drug use.

Alcohol, tobacco, and other drug use, as well as methods to deal with it are controversial. Public attention is often

focused by highly visible events, such as drug-related arrests and seizures or a particularly tragic death. Media reports are sometimes more sensational than representative. Because the NWOSDUS is a rigorous scientific survey, it can be used as a gold standard to confirm or refute public perceptions. Thus, the NWOSDUS is a tool for informing the public.

Surveying student drug use is also about public accountability. The NWOSDUS provides an opportunity to evaluate the success of public health interventions intended to improve awareness of the negative consequences of drug use and to reduce the use and associated harm. Recent Northwestern Ontario examples of such interventions include the Safe Party and Safe Grad harm reduction program, as well as the “Planning to get Smashed?” social marketing campaign. While these interventions have short-term process indicators that can easily be measured (e.g., number of students who attend presentations, number of schools who sponsor a Safe Grad), the long-term goal is to effect a change in teen attitudes toward alcohol, tobacco, and other drug use. The NWOSDUS is the best, and currently the only, way to obtain systematic, consistent, direct estimates of student drug use, attitudes, and beliefs. Therefore, it is the best way for those who are responsible for substance abuse prevention campaigns to ensure that their programming choices are making a difference.

2.3 Scope and Benefits of the Report

This report describes the findings of the NWOSDUS regarding the use of alcohol, cigarettes, and other drugs in Northwestern Ontario students. It discusses the prevalence of drug use and changes in drug use over time. It compares drug use among the geographic regions of Northwestern Ontario and with the province averages. It shows how drug use varies according to selected demographic characteristics.

The scope of the NWOSDUS is broader than drug use. It also contains questions on mental and general health. These data and their relationship with drug use will be analyzed in a companion report.

The aims of the present report are:

1. To document the extent of student drug use and to compare it across time and place,
2. To assess the extent and nature of problems related to alcohol and other drug use,

3. To identify subgroups at higher risk of drug use and abuse.

The NWOSDUS can provide us with data to evaluate all of these aims. Beyond the scope of NWOSDUS is the extent of drug use in the non-student and adult populations. Also beyond the scope are the drug problems of the street drug scene. Student drug use is very broad and typically overlaps only partially with the street drug scene. Standard indicators the drug problem (arrests, convictions, seizures, treatment, and mortality) are focused on the non-student and adult scene and only capture the fringes of the student drug problem.

Although no single source of data can fully describe student drug use, the strengths of the survey method far outweigh the limitations. Table 2.3.1 summarizes the main strengths and weaknesses of the NWOSDUS.

Table 2.3.1. Strengths and weaknesses of the Northwestern Ontario Student Drug Use Survey (adapted from Adlaf and Paglia, 2001) .

Strengths	Weaknesses
<ul style="list-style-type: none"> ➤ The survey is based on scientific, random sampling methods that result in representative samples in which the sampling error can be calculated. 	<ul style="list-style-type: none"> ➤ The survey is restricted to adolescent students enrolled in regular schools. Excluded by design are groups in which drug use is typically higher such as institutionalized students, dropouts, and street youth.
<ul style="list-style-type: none"> ➤ Drug use surveys are often the only feasible means to measure the size of the drug-using population since no other official source exists. 	<ul style="list-style-type: none"> ➤ Because the reporting of drug use is based on self-reports, there is an unmeasurable potential for the error in the estimation of drug use caused by intentional (i.e., under- or over-reporting) and unintentional errors (e.g., memory errors).
<ul style="list-style-type: none"> ➤ The survey is widely dispersed throughout Northwestern Ontario with representation from the City of Thunder Bay, District of Thunder Bay, and Kenora/Rainy-River. 	<ul style="list-style-type: none"> ➤ The survey is designed to provide precise estimates of drug use for Northwestern Ontario. As the sample is broken up to compare across geographic regions, grades, sexes, etc, the sample may become too small to provide precise estimates.
<ul style="list-style-type: none"> ➤ The survey is administered on a classroom basis. Not only is this cost-effective, but it tends to increase the rate of student participation. 	<ul style="list-style-type: none"> ➤ Highly structured surveys do not allow for the probing of rich qualitative information.
<ul style="list-style-type: none"> ➤ The questionnaire is completed anonymously, which is the most critical factor in reducing the under-reporting of drug use. School administered surveys typically obtain higher reports of drug use than do household surveys. 	
<ul style="list-style-type: none"> ➤ Unlike enforcement data (e.g., arrests, convictions) and treatment data, survey data captures the widest population of drug users, from former to active users. 	
<ul style="list-style-type: none"> ➤ Because surveys are based on individual responses, drug use can be correlated with personal and social characteristics to help identify the characteristics of high-risk groups. 	

3 METHODS

3.1 Sampling Design

The target population was composed of all students from grades seven to thirteen/OAC enrolled in public and Catholic school boards in the TBDHU and NWHU. Exclusions were similar to the OSDUS: those enrolled in private schools, special education classes, those institutionalized for correctional or health reasons, those on Indian reserves and Canadian Forces bases, and those in the far northern regions of Ontario. Also excluded from the NWOSDUS were those schools already selected to participate in the OSDUS.

The NWOSDUS uses a stratified, single-stage cluster probability design selection of schools. The stratification is based on

two criteria: region and school sector. There were three regions (City of Thunder Bay, District of Thunder Bay, and Kenora/Rainy River) and two school sectors (elementary, representing grades seven and eight; secondary, representing grades nine through thirteen/OAC) resulting in six strata. Within each of the six strata, schools were randomly selected based on probability-proportional-to-size sampling (i.e., schools with a greater enrollment had a higher probability of being selected).

Within each selected school, as many classrooms were included as could be successfully recruited.

3.2 Summary of participation

Region	School Type	Number of Schools	Valid Questionnaires
City of Thunder Bay	Elementary	7	398
	Secondary	2	312
District of Thunder Bay	Elementary	3	66
	Secondary	4	649
Kenora-Rainy River	Elementary	4	341
	Secondary	3	937
Total		23	2703

3.3 The Questionnaire

To ensure comparability with the Ontario-wide results, the 2001 NWOSDUS used the OSDUS Form A. It contained 172 questions and took

approximately thirty minutes to complete. In addition, a sheet containing three questions relating to sexual health behaviours associated with alcohol and

drugs was included if the consent of the school administration could be secured.

A copy of the questionnaire is included in Appendix I.

3.4 Data Quality and Response Rate

To improve data quality, several exclusion criteria were implemented. Students were excluded who:

1. failed to provide their age or sex
2. answered that they had taken a fictitious drug
3. were below grade seven (as might occur in a split grade six-seven class)
4. reported using three or more drugs forty times or more during the past year

5. had missing values for all drug items

Of the 2834 returned questionnaires, 130 were excluded leaving a total of 2704 respondents in the final sample used for data analysis.

The average item non-response rate was 2.1%, and 96% responded to all twenty-two drug-specific questions.

3.5 Analytical Method

All data analysis was conducted using the survey data analysis facilities of Stata Release 7 (StataCorp, 2001). Survey-specific facilities are used to account for the characteristics of the survey design. Failure to account for the survey design is likely to result in biased estimates and incorrect standard errors.

There are three aspects of the survey design have been accounted for in the data analysis:

1. *Stratification.* One of the strengths of the NWOSDUS is its ability to give us reliable estimates for each of three major geographical regions in Northwestern Ontario. Those regions are the City of Thunder Bay, the District of Thunder Bay, and the combined Districts of Kenora/Rainy River. To ensure that an adequate number of students are obtained for each of the three regions, we independently sample a pre-

determined number of students from each region. Accounting for stratification usually results in smaller standard errors and narrower confidence intervals.

2. *Clustering.* The NWOSDUS uses the school as its “primary sampling unit”. That is, the sampling scheme is designed to select schools, not individual students. Once a school is selected, all the students in the school are selected. The reason why we account for the clustering of students within schools is that it is reasonable to believe that students within schools are more similar to each other than they are to students from other schools. Most statistical procedures assume that each observation (a student is an “observation” in this case) is independently selected. Clearly, in this sampling design, students are not selected independently, but as a group. Failure to account for this

grouped selection would yield unrealistically small standard errors. Accounting for clustering yields wider, but more honest, confidence intervals.

3. *Weighting.* Drug use varies with age and grade. Tending to increase through the teen years. Therefore, when estimating the rate of drug use it is very important that the proportion of students in each grade in our sample match that in the

actual population of students. Weighting ensures that this is the case. Analyses that account for weights yield approximately unbiased estimates of the full population. In short, weighting ensures that the sample we analyzed is approximately representative of the full population from which we sampled. Table 3.5.1 shows how the weights were calculated.

Table 3.5.1. Sample Characteristics and weighting strategy for 2001 NWOSDUS.

Stratum	Grade	Actual Population		Survey Sample		Weight
		Number	Proportion	Number	Proportion	
City of Thunder Bay	7	1 621	0.082126	220	0.081391	1.00902804
Elementary	8	1 470	0.074476	178	0.065853	1.130941741
City of Thunder Bay	9	1 643	0.08324	89	0.032926	2.528077933
Secondary	10	1 706	0.086432	106	0.039216	2.204022697
	11	2 052	0.103962	84	0.031077	3.345345454
	12/OAC	2 403	0.121745	33	0.012209	9.972010612
District of Thunder Bay	7	301	0.01525	43	0.015908	0.958607762
Elementary	8	301	0.01525	23	0.008509	1.792179728
District of Thunder Bay	9	438	0.022191	199	0.073622	0.301414357
Secondary	10	333	0.016871	113	0.041805	0.403560537
	11	345	0.017479	144	0.053274	0.328094918
	12/OAC	425	0.021532	193	0.071402	0.301560547
Kenora – Rainy River	7	1005	0.050917	164	0.060673	0.839199304
Elementary	8	952	0.048232	177	0.065483	0.736557376
Kenora – Rainy River	9	1 131	0.057301	314	0.116167	0.493259954
Secondary	10	1 175	0.05953	217	0.080281	0.741516866
	11	1 051	0.053248	230	0.085091	0.625774384
	12/OAC	1 386	0.07022	176	0.065113	1.078433732

3.6 Interpreting the Data

The main goal of a sample survey is to estimate from a *sample* the "true" value of a particular characteristic in the *population*. In this case, we sampled over 2,800 grade seven through thirteen/OAC students in Northwestern Ontario in order to generalize about the larger population of almost 20,000 grade seven through thirteen/OAC students in Northwestern Ontario.

In this report, the estimates that are used most often are percentages (e.g., the percentage of students who used alcohol in the preceding twelve months).

3.6.1 Precision and confidence intervals

Precision refers to the margin of error of an estimate and is expressed in this report as a *confidence interval*. A confidence interval is analogous to the "plus-or-minus" caveat that usually accompanies polling results. For example, an opinion poll may indicate that 70% +/- 3% of adults favour a proposed tobacco bylaw. While it is often not stated explicitly, there is also always a degree of confidence associated with the confidence interval. By convention, that level of confidence is set at 95%, although the level is somewhat arbitrary.

To continue the example above, the correct way to report the poll result, including both the margin of error and the confidence level, would be 70% +/- 3%, nineteen times out of twenty (or 95% of the time). This acknowledges that there is a 5% chance that the actual population parameter is outside of the confidence interval (i.e., either greater than 73% or less than 67%). The

equivalent way to express the poll result using a confidence interval would be 70% (95% CI: 67%, 73%), indicating the interval within which the true population percentage lies 95% of the time.

The reason for employing confidence intervals arises from the sampling error inherent in using results obtained from a single sample to draw conclusions about the entire population from which the sample was drawn. If we had surveyed a different group of 2,800 students in Northwestern Ontario, using identical procedures, the results would have differed slightly from those we obtained from our present sample. The confidence interval around the percentage indicates the range of variation that would have been obtained from most (by convention, 95 out of 100) of the other equivalent samples that we might have studied.

Another way to think about the confidence interval is as a range within which we are 95% likely to find the true value we would have obtained if we had studied every member of the target population. In reporting that the percentage of students who had used alcohol in the prior twelve months was 75.1% (95% CI: 68.9, 80.4), we mean that there is a 95% chance that the true percentage of students in the population of Northwestern Ontario students who used alcohol lies between 68.9% and 80.4%.

The confidence intervals convey important information, and are particularly important to consider when comparing drug use percentages. Roughly speaking, when the confidence intervals of two drug use percentages overlap one another, you cannot say with

great certainty that one was above or below the other (i.e. the differences are not statistically significant). Therefore, they are statistically equivalent and it would not be appropriate to rank one above or below the other.

Narrower confidence intervals imply greater precision, or less sampling error. In our case, the size of the interval depends on three factors:

- the number of students interviewed (the larger the sample size the smaller or more precise is the interval)
- the size of the percentage (percentages around 50% have the largest uncertainty while percentages approaching 0% and 100% have less uncertainty)
- design effects (the greater the similarity (or correlation) of responses within schools the wider is the interval)

These dependencies create a reporting situation that may be confusing to some readers. In reading the report, some will notice that the width of the confidence intervals shown in the graphs does not precisely match the confidence intervals shown in the tables. This arises as a result of the first dependency above – the number of students interviewed. The discrepancy is best illustrated by an example.

Suppose that we report separately in a table the percentages of males and females that smoke cigarettes. Moreover, suppose that there are 1,400 males and 1,400 females, and that the confidence intervals are constructed based on those sample sizes. It would be tempting to graph the two percentages side-by-side along with their confidence intervals and assess their statistical significance based

on whether their confidence intervals overlap. This, however, would be incorrect. The reason is that the statistical test to determine if the two percentages are statistically different involves taking into account, among other things, the combined sample size. Thus, when the percentages are no longer in isolation but part of a comparison their confidence intervals are narrower. To put it succinctly, it is more difficult to precisely estimate a population parameter from a sample than it is to determine that two sample estimates are different.

To accommodate this complexity, this report adopts the following convention. Tables contain the usual 95% confidence interval as though the estimate were in isolation. Graphs, on the other hand, depict a confidence interval adjusted for comparative purposes. This allows the reader to visually scan the graphs and easily note statistically significant differences. Readers interested in the distinction are encouraged to consult Agresti & Coull (1998), Brillinger (1986), Goldstein & Healy (1995), and Moses (1987).

3.6.2 Comparisons between the 1997 and 2001 cycles of the NWOSDUS

There are many comparisons made in this report between the results of the 1997 and 2001 cycles of the NWOSDUS. The reader should note that the 1997 and 2001 samples are not strictly equivalent. The 1997 sample included students in grades 7, 9, 11, and 13/OAC. The 2001 sample included those grades as well as the intervening grades 8, 10, and 12. Therefore, while grade-specific comparisons are valid, comparisons of combined-grade results

may, in some cases, be biased. Comparisons between the 1997 and 2001 combined-grade results are unbiased only if the even-numbered grades (8, 10, and 12) are approximately a linear function of the odd-numbered grades. For example, if the values for grades seven, eight, and nine are 10, 15, and 20 respectively, and there were approximately the same number of students in each grade, then combining grades 7 and 9 would be approximately equivalent to combining grades 7, 8, and 9. Based on tests on a sample of questions, we have determined that the magnitude of this potential bias is well within the sampling error reported.

Another issue is that, owing to the fact that school boards did not report separate enrollment figures for grades 12 and 13 in 2001, we had to combine the two grades. Grade 13 students made up only a small proportion (3%) of the total sample, and only 89 of the 402 students in the combined grade 12 and 13 category. A series of comparisons based on a sample of questions revealed that the difference between grade 12 estimates and combined grade 12/13 estimates is less than one percentage point.

3.6.3 Other issues

Finally, the reader should note these further caveats regarding the interpretation of this data.

- The degree of error that we present in this report is restricted to random sampling error as noted above in the discussion on confidence intervals. There are other forms of error, including non-random selection factors, errors of recall among the respondents, under-reporting of drug use, etc. Such biases may lead some to quibble about a particular result. It must be noted, however, that most potential errors would exist reasonably consistently from year to year and from place to place and so do not greatly effect the comparisons reported here.
- Our analysis involves, at least implicitly, a large number of statistical comparisons. The reader must remember that, by definition, for every twenty comparisons made, there will be on average one statistically significant difference that is due solely to chance.
- This report is descriptive and does not attempt to prove causal relationships between factors. For example, if we report that the use of cigarettes among girls is higher than among boys, we are describing a fact, not suggesting that the difference can be attributed intrinsically to gender. Assessing causation is far more difficult than asserting statistical significance.

4 RESULTS

4.1 Overview of Drug Use

(Table 4.1.1, Figure 4.1.1, Figure 4.1.2, Figure 4.1.3)

4.1.1 Highest Prevalence

Five drugs stand out as being particularly prevalent among students in Northwestern Ontario. In order, they are alcohol (75.1%), cannabis (36.9%), cigarettes (28.8%), barbiturates prescribed by a physician (16.8%), and “other hallucinogens” (12.5%). The

“other hallucinogens” category refers mainly to psilocybin (a.k.a. “magic”) mushrooms, but also to mescaline and ketamine which are more rare. With the exception of cigarettes, the use of these five drugs has seen a substantial increase since 1997.

4.1.2 Temporal Changes

From 1997 to 2001, cigarette use remained steady at just over 28%. However, alcohol use jumped significantly from 59% to 75% and cannabis use increased from 26% to 37%. Though not statistically significant, point estimates for “other hallucinogens” increased from 9% to 13%. An emerging issue is the drug MDMA, more commonly known as “ecstasy”. While the proportion of students who use ecstasy is still relatively low, it more

than doubled from 1.5% in 1997 to 3.5% in 2001. The increases in Northwestern Ontario have lagged behind the growth of ecstasy use in the rest of Ontario where use rates are 6% on average. Among the legally prescribed drugs, both medically-prescribed barbiturates and stimulants have increased significantly since 1997 from 7% to 17% (barbiturates) and from 3% to 7% (stimulants).

4.1.3 Sex-based Differences

There were few differences between male and female drug use. The one notable exception is cigarette use: 32.1% of females reported past year cigarette use compared with 26.1% of males ($p < 0.01$). This sex-based difference is unusual insofar as it is inconsistent with both the Ontario-wide results from the OSDUS (Adlaf & Paglia 2001), the Canada-wide estimates from the National Population Health Survey (Statistics Canada 2001), and with results from the United States (U.S.

Centers for Disease Control and Prevention 2002), none of which found a sex-based difference in adolescent smoking rates. This disparity between the NWOSDUS and other surveys begs the question of whether the observed difference is “real” or just a statistical anomaly. Normally, a single statistically significant result in a long list of comparisons could be disregarded as a matter of chance. However, this discrepancy between male and female smoking rates was also evident in the

1997 NWOSDUS. The consistency over time of this observed difference lends support to the hypothesis that there is a

consistent sex-based difference in cigarette smoking rates in Northwestern Ontario.

4.1.4 Northwestern Ontario versus the Ontario Average

Because the NWOSDUS uses the same methodology as the OSDUS, we are able to make valid comparisons with the OSDUS findings.

The prevalence of cigarette smoking (28.8% versus 23.8%) and alcohol consumption (75.1% versus 65.6%) was higher in students in Northwestern Ontario compared with the provincial average. The point estimate for cannabis use was higher in Northwestern Ontario students. However, there was significant variability in use rates from school to school and statistical significance in relation to the provincial average was not achieved. Northwestern Ontario students were also more likely to be prescribed barbiturates by their doctor (16.8% versus 11.8%).

Ecstasy use in Northwestern Ontario at 3.5% was significantly lower than the provincial average of 6.0%. Ecstasy use is a largely urban phenomenon often associated with “rave” parties. Thus, the more rural character of Northwestern Ontario would lead us to expect lower rates of ecstasy use. Nevertheless,

ecstasy use is increasing in Northwestern Ontario and its use will need to be monitored.

A surprising finding was that glue and other solvent use, sometimes considered a northern problem, was actually statistically significantly lower in Northwestern Ontario compared to the provincial average. This finding, however, may be partly attributable to sampling limitations (see section 3.1) – especially given that the absolute differences in the prevalence estimates were small.

Table 4.1.1 and Figure 4.1.1 compare total-sample use rates for twenty-one drugs for 1997 and 2001. As they will throughout this report, asterisks denote drugs wherein student use was significantly different between 1997 and 2001. Figure 4.1.2 compares the total-sample use rates of twenty-one drugs for males versus females. Figure 4.1.3 compares Northwestern Ontario with the all-Ontario sample from the 2001 OSDUS.

Table 4.1.1. Percentage of students reporting past year drug use in Northwestern Ontario, grades 7-13, NWOSDUS 2001.

Year (N)	1997 (2238)	2001 (2704)
Cigarettes	28.3	28.8
(95% CI)	(25.0, 31.9)	(25.5, 32.4)
Alcohol	59.4	75.1 *
	(53.0, 65.5)	(68.9, 80.4)
Cannabis	25.5	36.9 *
	(20.3, 31.5)	(28.9, 45.8)
Glue	2.1	1.7
	(1.4, 3.1)	(1.3, 2.3)
Solvents	5.1	3.2
	(2.9, 8.6)	(2.5, 3.9)
Non-Med Barbiturates	3.2	4.2
	(1.8, 5.5)	(3.0, 5.9)
Non-Med Stimulants	6.2	7.9
	(4.7, 8.3)	(5.8, 10.8)
Non-Med Tranquilizers	2.5	1.6
	(1.4, 4.5)	(1.1, 2.5)
LSD	10.4	3.7 *
	(7.5, 14.3)	(2.8, 5.0)
PCP	2.1	1.4
	(1.3, 3.6)	(1.0, 2.0)
Other Hallucinogens	9.2	12.5
	(6.9, 12.3)	(8.2, 18.5)
Speed	3.7	2.8
	(2.4, 5.7)	(2.3, 3.5)
Ice	0.5	0.8
	(0.2, 0.9)	(0.3, 2.4)
Cocaine	3.5	3.1
	(2.5, 4.8)	(2.3, 4.2)
Crack	2.2	1.8
	(1.6, 3.1)	(1.3, 2.4)
Heroin	1.5	1.3
	(1.0, 2.4)	(0.9, 1.9)
Ecstasy	1.5	3.5 *
	(1.0, 2.2)	(2.8, 4.2)
Med Barbiturates	7.2	16.8 *
	(5.5, 9.2)	(15.0, 18.7)
Med Stimulants	3.2	7.4 *
	(2.3, 4.5)	(6.6, 8.4)
Med Tranquilizers	2.1	3.3
	(1.4, 3.1)	(2.7, 3.9)
Ritalin	2.8	2.8
	(1.7, 4.6)	(2.2, 3.6)

* Difference between 1997 and 2001 significant at $p < 0.05$

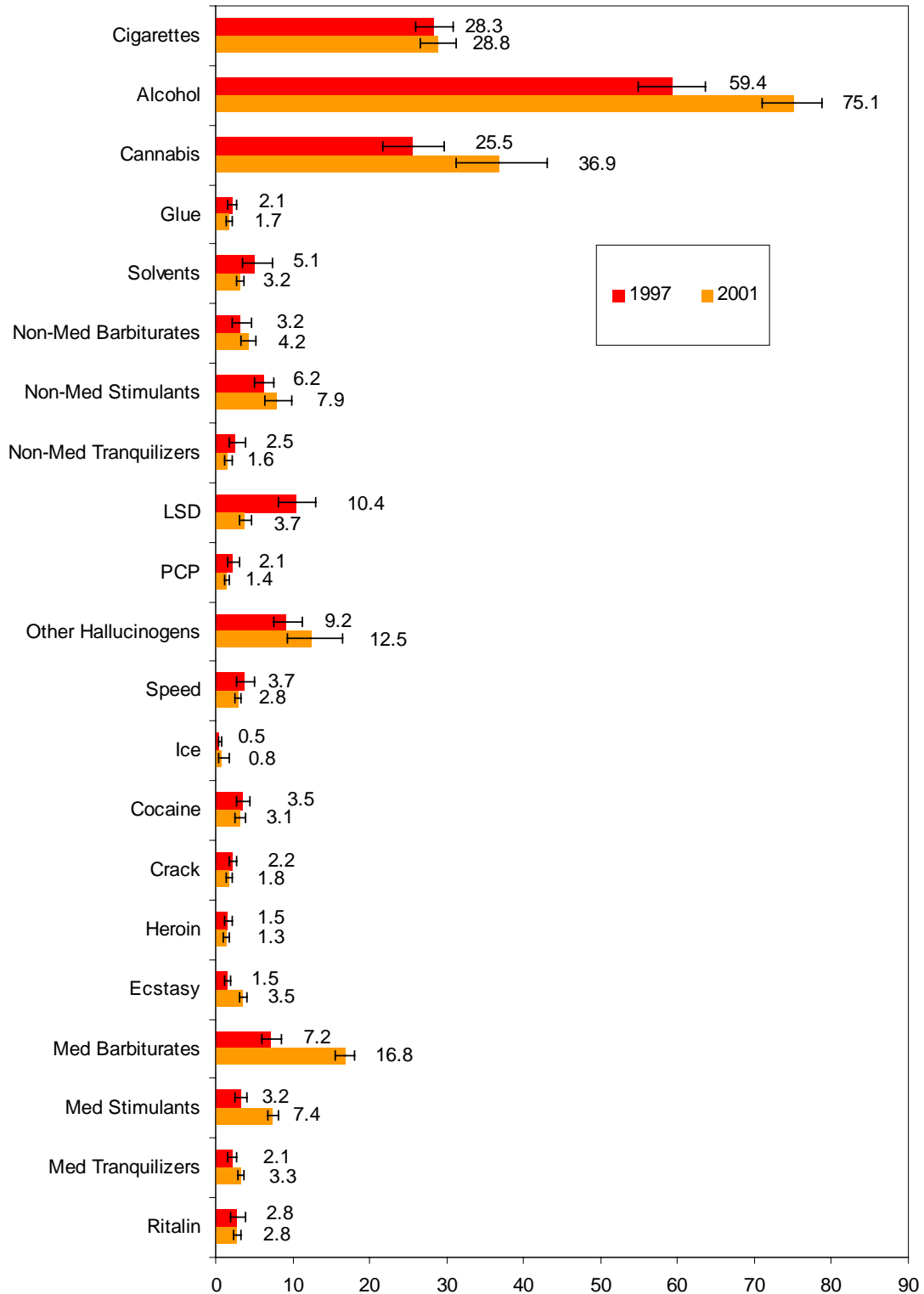


Figure 4.1.1. Percentage of students reporting drug use in past twelve months, 1997 versus 2001, adjusted error bars, NWOSDUS 2001.

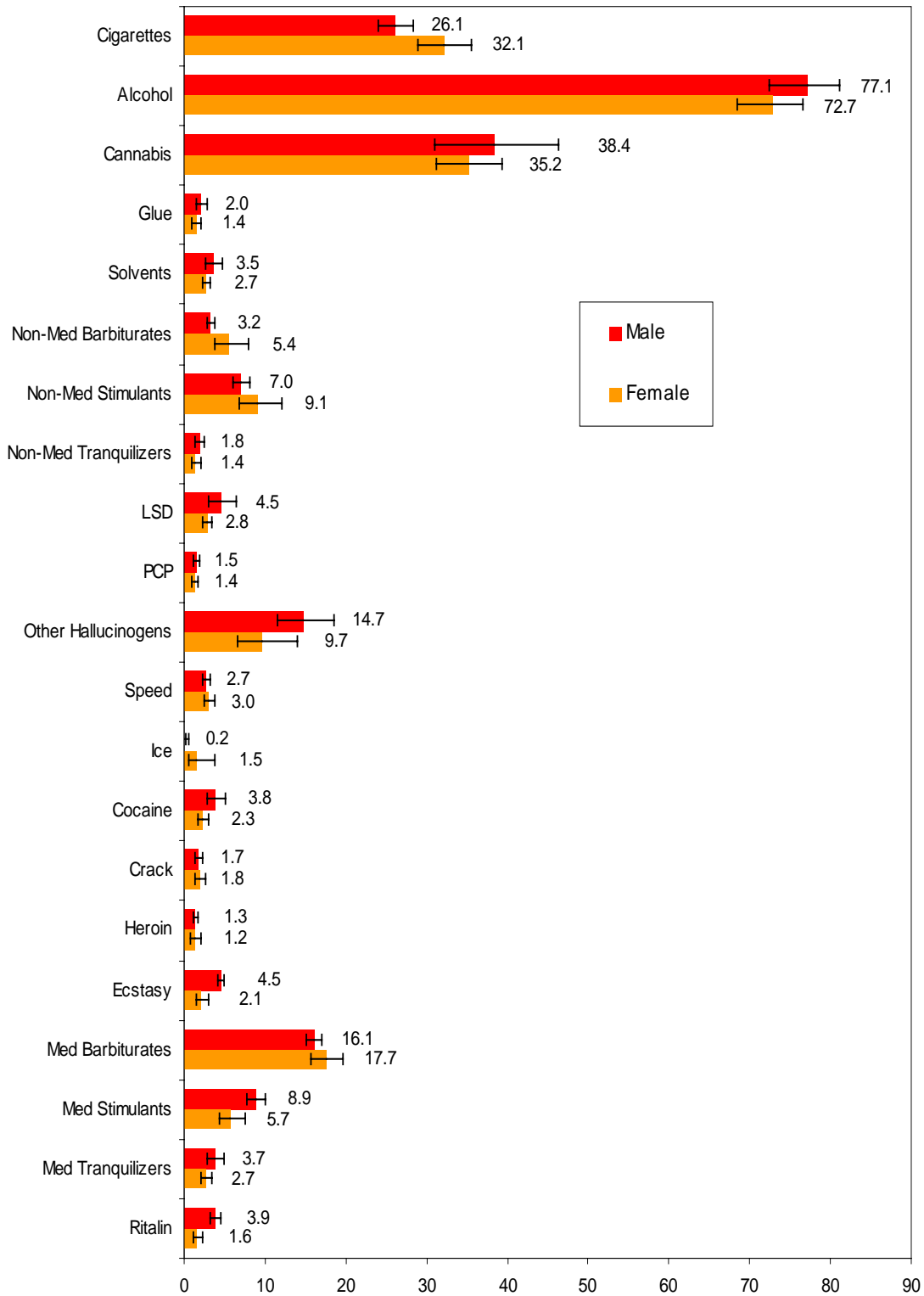


Figure 4.1.2. Percentage of students reporting drug use in past twelve months, by sex, adjusted error bars, NWOSDUS 2001.

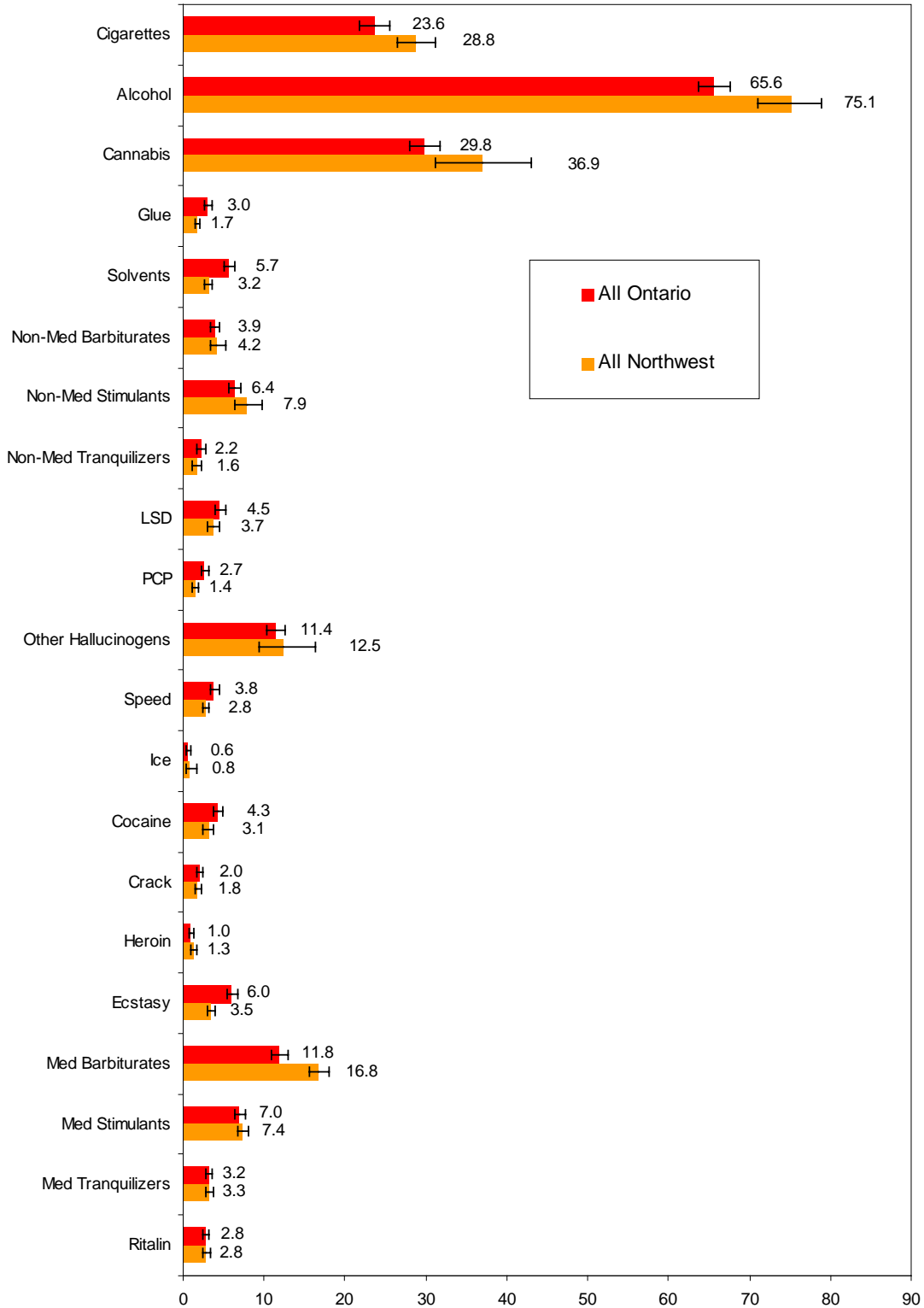


Figure 4.1.3. Percentage of students reporting past year drug use, Northwestern Ontario versus All Ontario, adjusted error bars, NWOSDUS 2001.

4.2 First Time Drug Use

(Figure 4.2.1, Figure 4.2.2, Table 4.2.1)

Early first time drug use is a strong predictor of continued drug use. In other words, those who try a drug at an early age are likely to continue using the drug. The age at which adolescents first use drugs is an important predictor of substance problems later in life. Those who try alcohol, tobacco, and other drugs at an early age are more likely to develop dependence as well as social problems related to substance abuse. Delaying first use among youth is a practical public health goal.

Figure 4.2.1 shows that first time use of cigarettes, alcohol, and illicit drugs aside from cannabis declined significantly since 2001. Declines in first-time use, however, require care in interpretation. A decline could be very positive if it indicates that fewer students are trying the drug. However, a decline could also indicate that students are trying the drug for the first time before grade 7. Additional evidence is required to aid interpretation.

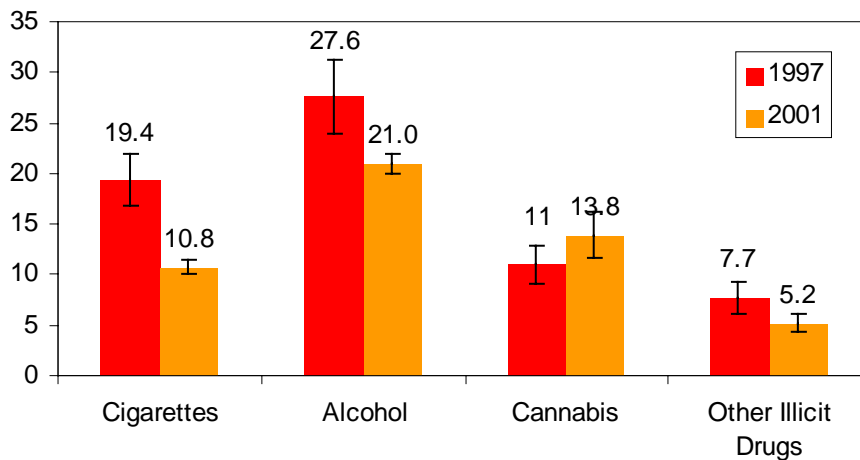


Figure 4.2.1. First Time Drug Use: Changes between 1997 and 2001 in first time use of cigarettes, alcohol, cannabis, and other illicit drugs, NWOSDUS 2001.

In the case of cigarettes, Table 4.1.1 above showed that cigarette use rates remained stable from 1997 to 2001. In that context, the dramatic decline in first time cigarette use may signal a decline in the number of new users (Figure 4.2.1). This is further supported by Figure 4.2.2, which shows that the decrease in first time cigarette use is substantial among younger students.

The reported decline in first-time alcohol use is less easily interpreted for three reasons. First, Northwestern Ontario students actually reported a strong increase in the number of alcohol users from 1997 to 2001 (Figure 4.1.1). Furthermore, Table 4.4.1 in section 4.4 below will show that the increase in alcohol use was consistent across all

grades. And lastly, Table 4.2.1 shows that the age at which grade seven students reported first trying alcohol did not change between 1997 and 2001. In the context of these three additional

pieces of information, it is possible that declining first-time drug use may not foretell a future decline in alcohol use, but rather that students are trying alcohol before grade 7.

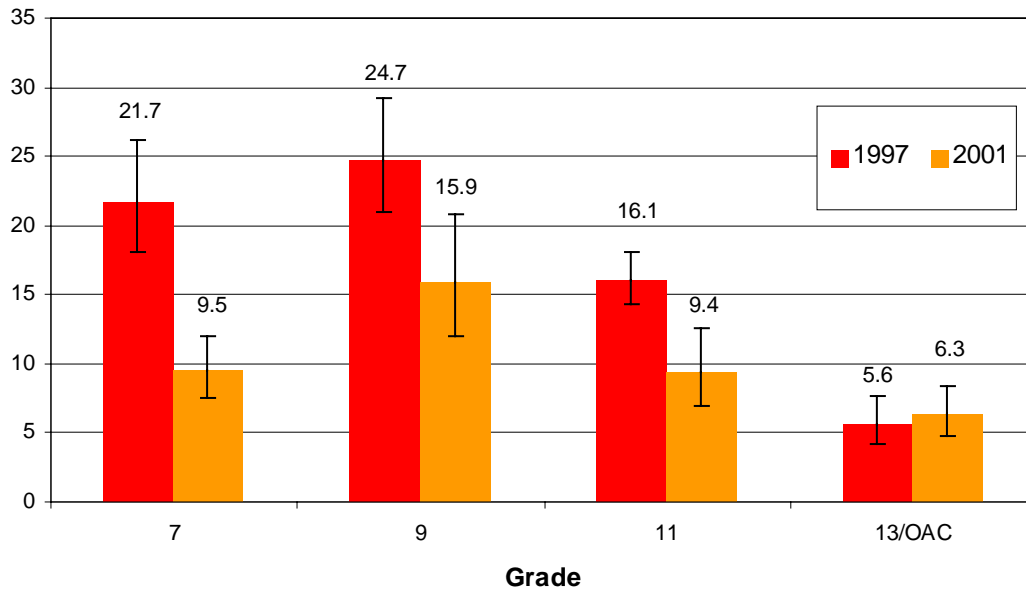


Figure 4.2.2. First Time Drug Use: Changes between 1997 and 2001 in first time use of cigarettes by grade, NWOSDUS 2001.

Table 4.2.1. Grade in which grade seven students reported first trying alcohol, 1997-2001, NWOSDUS 2001.

	1997 (N=713)	2001 (N=418)
Grade 4	17.5 (11.6, 25.5)	18.7 (12.3, 27.3)
Grade 5	13.0 (9.1, 18.2)	13.5 (8.8, 20.2)
Grade 6	23.5 (20.6, 26.8)	20.6 (18.8, 22.5)
Grade 7	11.7 (9.5, 14.4)	13.8 (10.6, 17.9)
Never	34.3 (28.0, 41.2)	33.4 (25.7, 42.2)

First time drug use data can be used to identify grades at which students are most at risk to start using drugs. Figure 4.2.3 shows that first time use of all three of cigarettes, alcohol, and cannabis

peaks in grade nine. This could be a result of the transition from elementary to secondary school and the increased influence of the peer group on personal decision making.

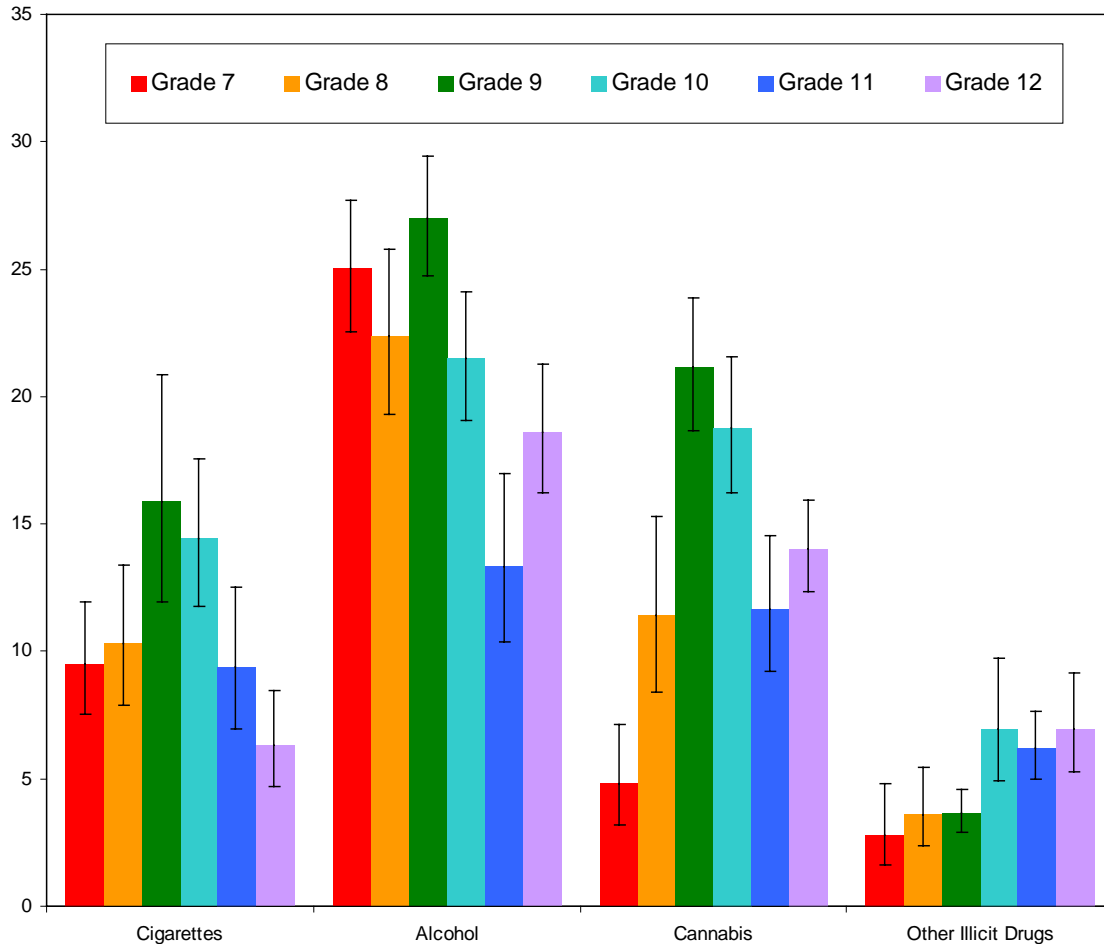


Figure 4.2.3. First Time Drug Use: main trends by grade for cigarettes, alcohol, cannabis, and other illicit drugs.

4.3 Cigarette Use

(Table 4.3.1, Figure 4.3.1, Figure 4.3.2)

Cigarette smoking is one of the most important modifiable risk factors for

chronic disease later in life. Because tobacco is so addictive, youth smoking is

likely to lead to adult smoking. Efforts to reduce the adult smoking rate should begin with preventing initiation of cigarette smoking among youth.

While there are many ways that cigarette use could be expressed, the most basic and commonly reported indicator is the percentage of students who report having smoked at least one whole cigarette in the past year. Those who have smoked less than one whole cigarette fall into the category of “abstainers” as defined by the 1994 Canadian workshop on tobacco monitoring and surveillance (Mills et al 1994). Past year cigarette use as a baseline rate is a good indicator of future addiction. For example, in the Survey of Albertans Regarding Tobacco Use, 77% of those who smoked one whole cigarette went on to smoke at least 100 cigarettes (Alberta Tobacco Reduction Alliance 2000).

Past year cigarette use did not change in Northwestern Ontario from 1997 to 2001, remaining at approximately 28%. This was in contrast to a significant decrease in student cigarette use observed provincially. In Northwestern Ontario, however, there were some encouraging signs within individual age groups. There was a consistent decrease in cigarette use rates in grades seven, nine, and eleven. There was also a significant decrease in the past year cigarette use rate among students in the District of Thunder Bay. Furthermore, Figure 4.3.2 tentatively shows that while the percentage of smokers remained the

same from 1997 to 2001, the percentage who smoke more than fifteen cigarettes per day may have declined somewhat.

Figure 4.3.1 shows that cigarette use varied significantly by grade, climbing steeply from grade seven through to a peak in grade eleven and leveling off afterwards. Students in Northwestern Ontario smoked significantly more than the provincial average.

Interestingly, in Northwestern Ontario, females were significantly more likely to smoke cigarettes than males. This sex-based difference is unusual insofar as it is inconsistent with both the Ontario-wide results from the OSDUS (Adlaf & Paglia 2001), the Canada-wide estimates from the National Population Health Survey (Statistics Canada 2001), and with results from the United States (U.S. Centers for Disease Control and Prevention 2002), none of which have found a sex-based difference in adolescent smoking rates.

This disparity between the NWOSDUS and other surveys begs the question of whether the observed difference is “real” or just a statistical anomaly. A single statistically significant result in a long list of comparisons could be disregarded as a matter of chance. However, this discrepancy between male and female smoking rates was also evident in the 1997 NWOSDUS. The consistency of the finding over time lends support to the hypothesis that there is a significant sex-based difference in cigarette smoking rates in Northwestern Ontario.

Table 4.3.1. Percentage of students reporting past year cigarette use by sex, grade, and region, NWOSDUS 1997-2001.

Year		1997	2001
(N)		(2238)	(2704)
Total		28.3	28.8
<i>(95% CI)</i>		<i>(25.0, 31.9)</i>	<i>(25.5, 32.4)</i>
Sex	Male	22.4	26.1
		<i>(17.9, 27.7)</i>	<i>(23.1, 29.4)</i>
	Female	34.2	32.1
		<i>(30.7, 37.8)</i>	<i>(27.5, 37.1)</i>
Grade	Grade 7	14.0	9.1
		<i>(10.6, 18.4)</i>	<i>(5.8, 14.1)</i>
	Grade 8	--	19.9
		--	<i>(11.8, 31.5)</i>
	Grade 9	37.5	23.5 *
		<i>(29.5, 46.2)</i>	<i>(14.7, 35.4)</i>
	Grade 10	--	30.8
		--	<i>(26.9, 34.9)</i>
	Grade 11	47.4	42.6
	<i>(41.2, 53.7)</i>	<i>(30.3, 55.9)</i>	
Grade 12	--	39.6	
	--	<i>(23.8, 57.9)</i>	
Grade 13	30.3	--	
	<i>(24.6, 36.6)</i>	--	
Region	All Ontario	27.6	23.6 *
		<i>(26.0, 29.2)</i>	<i>(20.9, 26.5)</i>
	City of Thunder Bay	21.5	29.5
		<i>(14.1, 31.4)</i>	<i>(24.8, 34.6)</i>
	District of Thunder Bay	42.4	30.7 *
	<i>(37.7, 47.2)</i>	<i>(21.3, 42.0)</i>	
Kenora-Rainy River	29.8	27.2	
	<i>(24.1, 36.2)</i>	<i>(20.7, 34.8)</i>	

* Difference between 1997 and 2001 significant at $p < 0.05$

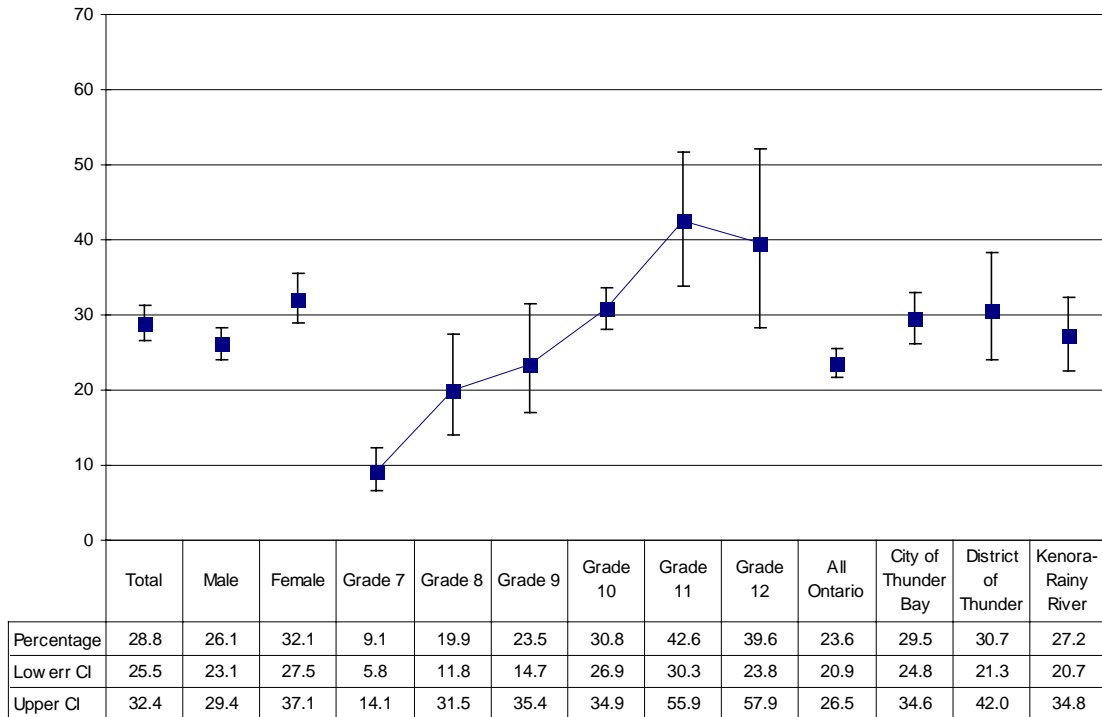


Figure 4.3.1. Past year cigarette use by sex, grade, and region, adjusted error bars, NWOSDUS 2001.

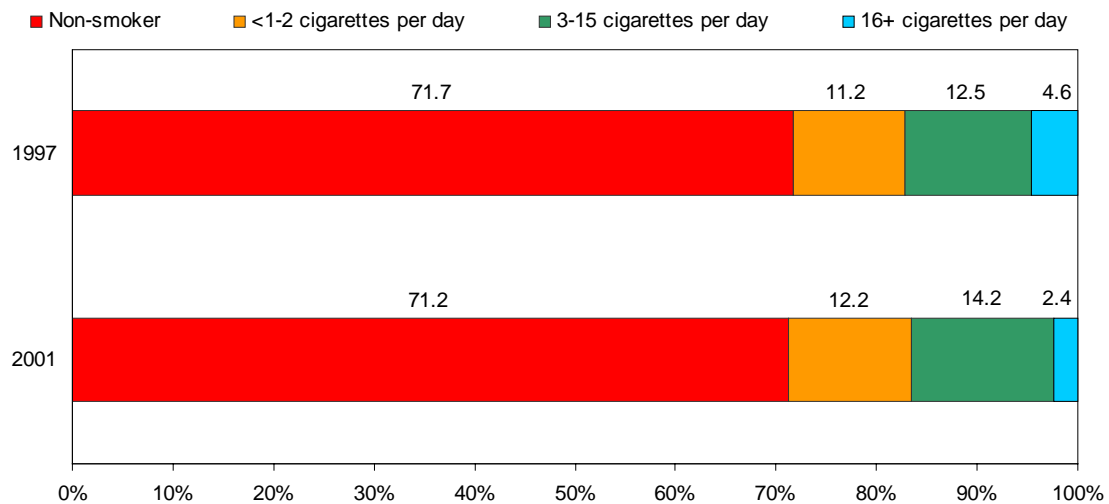


Figure 4.3.2. Percentage of students by usual number of cigarettes smoked per day, 1997 - 2001, NWOSDUS 2001.

4.4 Alcohol Use

(Table 4.4.1, Figure 4.4.1, Figure 4.4.2, Figure 4.4.3)

Alcohol is an addictive drug and it is illegal for anyone under the age of nineteen in Ontario to purchase or to possess it in public. Nevertheless, most adolescents have had experience with alcohol. Adolescent alcohol use can have important health consequences, the most notable of which is alcohol-related injury, especially traffic accidents. In the long-term, those who begin drinking at an early age are more likely to become chronic adult users, which has another set of health consequences including increased risk of liver cirrhosis and heart disease. In addition to health consequences, there is a myriad of personal, social, economic, legal, and family problems associated with alcohol.

Adolescent drinking is on the rise in Northwestern Ontario and in Ontario generally. The 2001 OSDUS found that provincially there was a significant increase from 59.6% to 65.6% between 1997 and 2001 (Adlaf & Paglia 2001). Table 4.4.1 shows that the percentage of Northwestern Ontario students reporting past year alcohol use rose significantly from 59.4% in 1997 to 75.1% in 2001. Drinking among males increased from 57.7% to 77.1%, while drinking among females increased from 61.0% to 72.7%.

While in the 1997 drinking was most prevalent in the District of Thunder Bay,

substantial increases in 2001 in the City of Thunder Bay and Kenora-Rainy River have brought those drinking rates to the District of Thunder Bay level.

Especially troubling is that much of the increase in drinking in Northwestern Ontario is attributable to increases among the younger students. The percentage of students who drink increased significantly from 35.3% in 1997 to 44.2% in 2001 among grade seven students and from 69.0% to 75.6% among grade nine students.

Not only has the percentage of drinking students increased in Northwestern Ontario, but also the frequency of drinking has increased. Figure 4.4.2 shows that the percentage of students who reported engaging in drinking four or more times per month (i.e., once per week or more) over the past twelve months doubled between 1997 and 2001 from 4.4% to 8.3%. In fact, all categories of drinking frequency increased at the expense of the non-drinking category.

Telescoping from twelve months prior to the survey to the four weeks prior (Figure 4.4.3), we see a similar doubling from 9.0% in 1997 to 17.5% in 2001 of those who report drinking once or twice per week in the last four weeks.

Table 4.4.1. Percentage of students reporting past year alcohol use by sex, grade, and region, NWOSDUS 1997-2001.

Year		1997	2001
(N)		(2238)	(2704)
Total		59.4	75.1 *
(95% CI)		(53.0, 65.5)	(68.9, 80.4)
Sex	Male	57.7	77.1 *
		(51.0, 64.1)	(70.2, 82.7)
	Female	61.0	72.7 *
		(54.2, 67.5)	(66.4, 78.2)
Grade	Grade 7	35.3	44.2 *
		(31.8, 39.0)	(38.1, 50.5)
	Grade 8	--	61.7
		--	(56.6, 66.5)
	Grade 9	69.0	75.6 *
		(63.1, 74.3)	(73.7, 77.4)
	Grade 10	--	80.4
		--	(70.4, 87.6)
	Grade 11	88.4	86.6
		(84.9, 91.1)	(81.1, 90.7)
	Grade 12	--	91.5
		--	(90.9, 92.1)
	Grade 13	87.8	--
		(85.5, 89.9)	--
Region	All Ontario	59.6	65.6 *
		(56.8, 62.4)	(62.8, 68.4)
	City of Thunder Bay	49.1	75.1 *
		(34.4, 64.0)	(64.7, 83.3)
	District of Thunder Bay	74.5	73.7
		(68.7, 79.6)	(65.7, 80.5)
	Kenora-Rainy River	64.2	75.4 *
		(55.0, 72.5)	(68.4, 81.3)

* Difference between 1997 and 2001 significant at $p < 0.05$

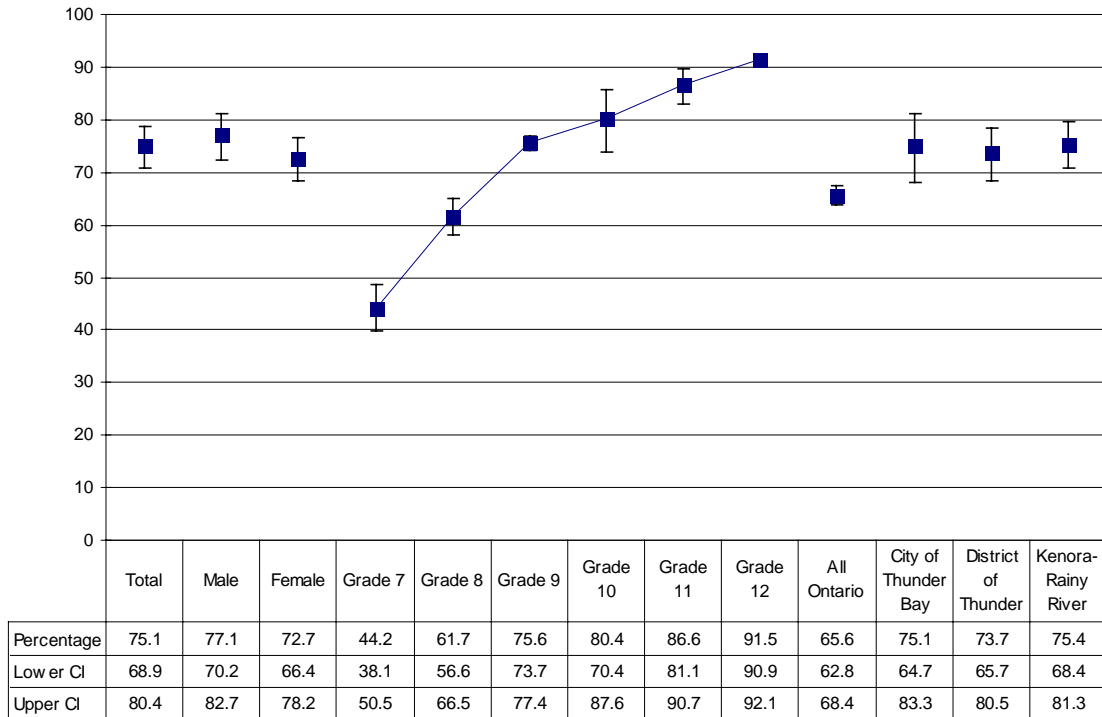


Figure 4.4.1. Past year alcohol use by sex, grade, and region, adjusted error bars, NWOSDUS 2001.

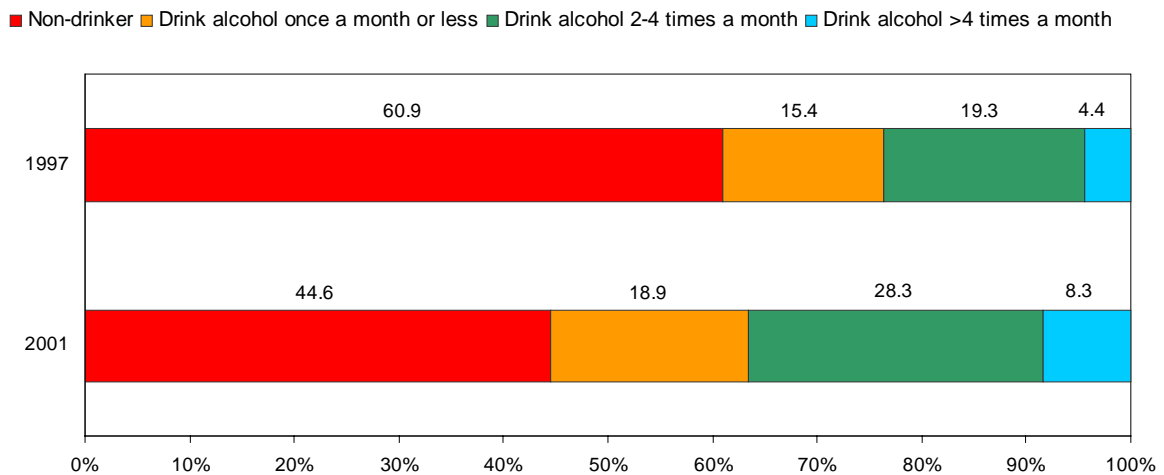


Figure 4.4.2. Percentage of students by usual frequency of drinking per month for the twelve months prior to the survey, 1997 - 2001, NWOSDUS 2001.

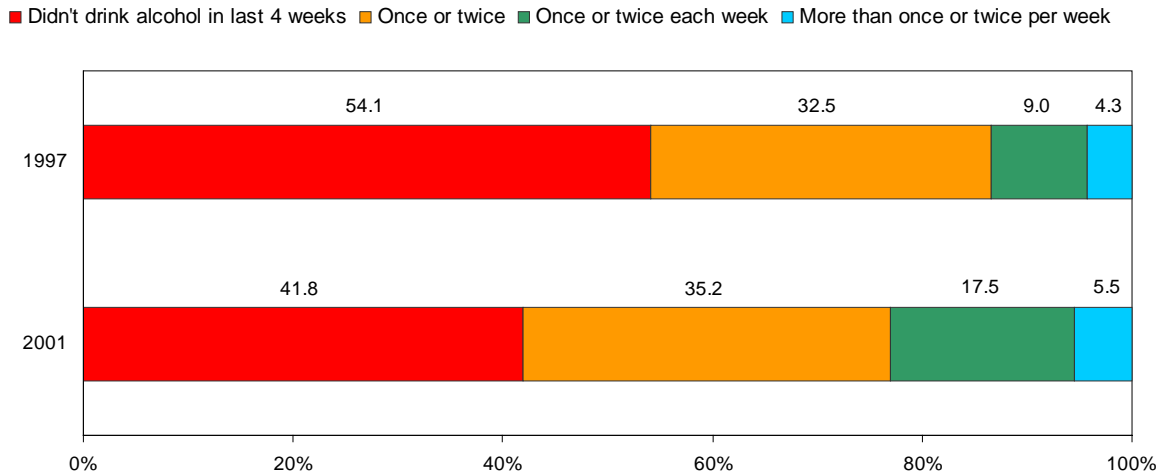


Figure 4.4.3. Percentage of students by frequency of drinking for the four weeks prior to the survey, 1997 - 2001, NWOSDUS 2001.

4.4.1 Number of alcoholic drinks typically consumed at any one time

(Table 4.4.2)

Respondents were asked how many drinks they typically drink and of what kind. Northwestern Ontario students prefer beer and hard liquor to wine, and most new drinkers since 1997 have been beer and hard liquor drinkers. When students do drink wine, they rarely drink more than one to three glasses. In

contrast, 20.7% of students reported that they typically drink seven or more bottles of beer when they are drinking. This represents a 70% increase over 1997. Similarly, 25.5% of students reported typically drinking five or more drinks of hard alcohol when they are drinking, a 67% increase over 1997.

Table 4.4.2. Student preferences in alcoholic beverages and how much they typically consume at any one time, 1997-2001, NWOSDUS 2001.

		1997 (N=2156)	2001 (N=2663)
Beer	Do not drink beer	53.5 (47.6, 59.3)	44.8 * (37.1, 52.7)
	1 to 3 bottles	21.6 (19.3, 24.1)	21.0 (17.2, 25.9)
	4 to 6 bottles	12.7 (9.9, 16.1)	13.5 (9.3, 20.1)
	7 or more bottles	12.2 (9.2, 16.1)	20.7 * (18.3, 23.2)
	Wine	Do not drink wine	60.0 (56.9, 63.0)
	1 to 3 glasses	33.5 (30.8, 36.3)	29.7 (25.5, 34.9)
	4 to 5 glasses	3.0 (2.1, 4.2)	3.3 (2.2, 5.0)
	6 or more glasses	3.5 (2.3, 5.4)	3.9 (2.7, 5.7)
Hard Liquor	Do not drink hard liquor	50.7 (43.5, 57.8)	37.7 * (32.6, 43.0)
	1 to 2 drinks	19.6 (16.4, 23.2)	19.8 (16.9, 23.4)
	3 to 4 drinks	14.5 (11.8, 17.6)	17.0 (14.8, 19.5)
	5 or more drinks	15.3 (12.7, 18.4)	25.5 * (21.0, 31.4)

* Difference between 1997 and 2001 significant at $p < 0.05$

4.4.2 Binge Drinking (consuming five or more drinks of alcohol on one occasion) (Table 4.4.3, Figure 4.4.4, Figure 4.4.5)

While the consumption of small amounts of alcohol may be considered relatively benign, major problems with alcohol occur when drinking is taken to excess. A common measure of excessive drinking is binge drinking, which is the consumption of five or more alcoholic drinks on a single occasion.

Similar to the increase in the overall student drinking rate and the increase in

drinking frequency, Table 4.4.3 and Figure 4.4.3 show that the binge drinking rate has increased very significantly since 1997 from 24.5% to 41.8%. This rate is considerably higher than the provincial average of 27.5%. And, as with the basic student alcohol use rate, much of the increase has been among younger students. Between 1997 and 2001, the binge drinking rate doubled among grade seven students

from 5.2% to 11.2%, and increased significantly among grade nine students from 27.4% to 35.9%. Most of the increase was seen in the City of Thunder Bay and in Kenora-Rainy River, bringing those regions up to the high student binge drinking levels present in the District of Thunder Bay since 1997. Males and females reported binge drinking with approximately the same frequency. The binge drinking rate in Northwestern Ontario was much higher

than the provincial average (41.8% versus 27.5%).

Figure 4.4.5 shows that most of the increase in binge drinking is at the higher frequencies. The percentage of students who reported binge drinking two or more times per month doubled from 18.9% in 1997 to 34.3% in 2001, while the number who did not engage in binge drinking in the past four weeks dropped from 75.5% to 58.2%.

Table 4.4.3. Percentage of students who reported drinking five or more drinks on a single occasion in the last four weeks, 1997-2001, NWOSDUS 2001.

Year (N)		1997 (2238)	2001 (2704)
Total (95% CI)		24.5 (19.4, 30.6)	41.8 * (37.9, 45.7)
Sex	Male	23.6 (17.1, 31.8)	44.8 * (36.9, 53.0)
	Female	25.4 (21.1, 30.2)	38.1 * (34.9, 41.4)
Grade	Grade 7	5.2 (2.8, 9.5)	11.2 * (7.8, 15.8)
	Grade 8	--	21.1 (14.1, 30.4)
	Grade 9	27.4 (19.9, 36.4)	35.9 * (31.0, 41.0)
	Grade 10	--	44.9 (37.1, 53.0)
	Grade 11	51.6 (45.0, 58.1)	52.6 (47.1, 58.1)
	Grade 12	--	69.1 (60.4, 76.6)
	Grade 13	54.2 (49.9, 58.3)	--
Region	All Ontario	24.4 (22.3, 26.6)	27.5 (25.0, 30.2)
	City of Thunder Bay	16.6 (6.6, 36.1)	43.9 * (38.2, 49.8)
	District of Thunder Bay	39.0 (31.0, 47.7)	42.7 (35.2, 50.6)
	Kenora-Rainy River	27.0 (17.5, 39.3)	38.0 * (33.4, 42.9)

* Difference between 1997 and 2001 significant at $p < 0.05$

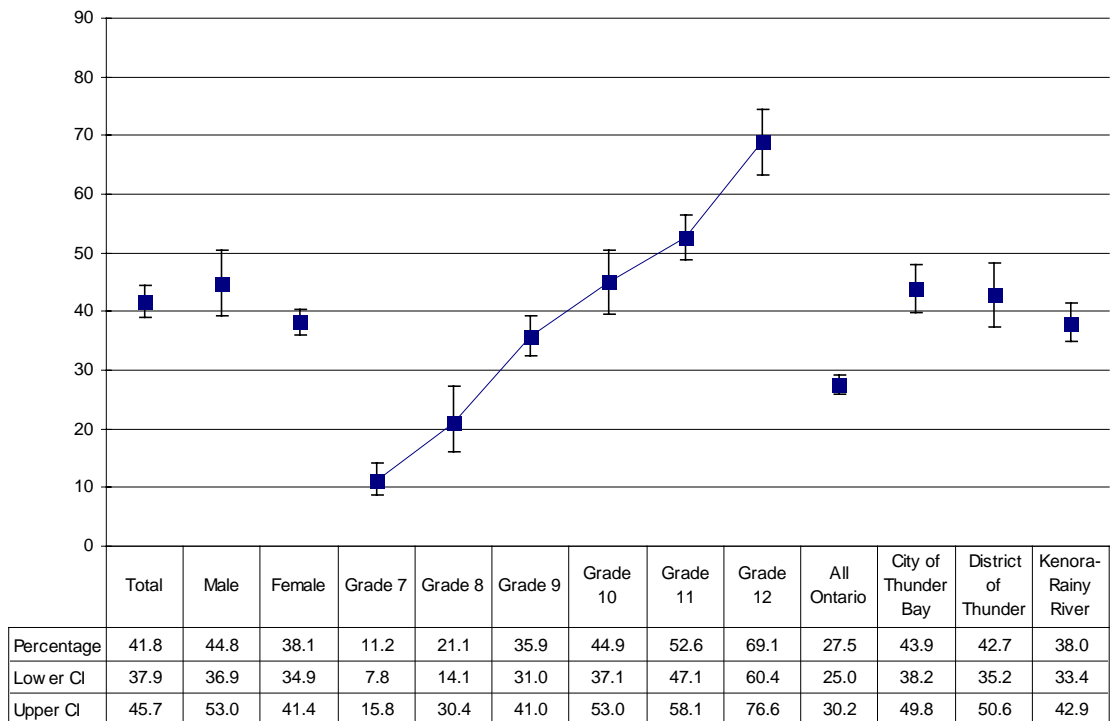


Figure 4.4.4. Percentage of students who reported drinking five or more alcoholic drinks (“binge drinking”) in the last four weeks, by sex, grade, and region, 1997 - 2001, NWOSDUS 2001.

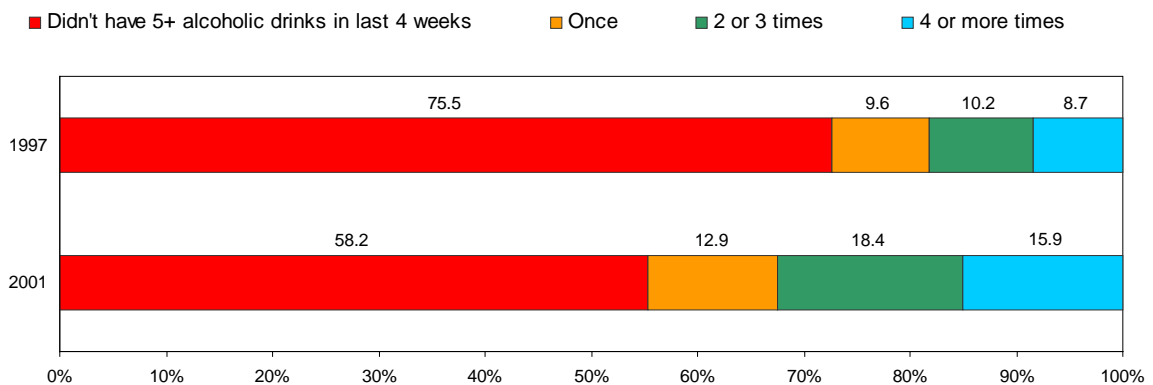


Figure 4.4.5. Frequency of consuming five or more alcoholic drinks on a single occasion (“binge drinking”) in the past four weeks, 1997-2001, NWOSDUS 2001.

4.4.3 Hazardous Drinking – The AUDIT screening tool

(Table 4.4.4, Figure 4.4.6, Table 4.4.5)

The Alcohol Use Disorders Identification Test (AUDIT) is a widely used screening instrument, developed by the World Health Organization, and intended for early identification of harmful drinking (Babor et al 1992). The AUDIT can also detect alcoholism with a high degree of accuracy. The question items were selected to best distinguish light drinkers from harmful drinkers.

We used a slightly modified version of the AUDIT to make it better reflect standard drink sizes in North America. The AUDIT's high volume drinking question ("How often do you have six or more drinks on one occasion?") was changed from a cut-off of six drinks on one occasion to a cut-off of five. This is consistent with the Adolescent Drinking Questionnaire (Jessor & Jessor 1977), Monitoring the Future (Johnston et al 2002), and other adolescent drinking questionnaires (Chung et al 2000).

To facilitate direct comparison with the OSDUS, we used a cut-off of eleven or more (out of forty) on the AUDIT scale to indicate hazardous drinking. This is a conservative cut-off, with another typical cut-off point for adults being eight or more (e.g., Bergman & Kallmen 2002). The use of a higher cut-off ensures that students who score eleven or more on the AUDIT scale have a very high probability of having engaged in hazardous drinking. The trade-off for this high certainty is that the more stringent requirement fails to detect some students who do engage in hazardous drinking. One study (Chung et al 2000) found that when a high cut-off point was used, the AUDIT had very low ability to detect alcohol disorders in

youth. At a cut-off of nine, that study found that the AUDIT only detected 49% of those identified by Diagnostic and Statistical Manual, Fourth Revision (DSM-IV) criteria. Therefore, it is likely that the percentages reported here are minimum rates of hazardous drinking. The true rates are almost surely higher.

The AUDIT questions were not part of the 1997 survey, so no temporal comparisons could be made.

Table 4.4.4 and Figure 4.4.6 express the number of students scoring eleven or higher on the AUDIT both as a percentage of all respondents and as a percentage of current drinkers.

Northwestern Ontario students are approximately twice as likely to engage in hazardous drinking as the average Ontario student, whether expressed as a percentage of all students (18.1% vs. 9.1%) or as percentage of current student drinkers (24.0% vs. 13.9%). This result is very similar to that found by Chung et al (2000), who found that 18% of teens (28% of current teen drinkers) interviewed in a hospital emergency room met criteria for a DSM-IV alcohol diagnosis. Interestingly, however, based on these results, Chung et al recommended an AUDIT score cut-off of four (rather than eleven as used here) to detect alcohol disorders in teens.

Male drinkers were more likely to engage in hazardous drinking than were female drinkers (26.8% versus 20.5%). There were no significant differences in hazardous drinking rates among the three Northwestern Ontario regions.

Examined more closely, Table 4.4.5 indicates that Northwestern Ontario students scored substantially higher than the provincial average on each and every AUDIT question. This indicates that Northwestern Ontario students were much more likely to have crossed the line from social drinking to hazardous and harmful drinking and alcohol dependence.

Some particularly striking findings were:

- almost 40% of Northwestern Ontario student drinkers had experienced an alcohol-related blackout in the last twelve months,
- over 20% reported an injury as a result of their drinking,
- almost 18% reported being unable to stop drinking once they had started.

Table 4.4.4. Percentage of all students and current drinkers scoring 11 or higher on the Alcohol Use Disorder Identification Test (AUDIT), NWOSDUS 2001.

		All respondents (2702)	Current drinkers (1998)
<i>(N)</i>			
Total		18.1	24.0
<i>(95% CI)</i>		<i>(16.0, 20.4)</i>	<i>(22.6, 25.5)</i>
Sex	Male	20.6	26.8
		<i>(18.2, 23.2)</i>	<i>(24.4, 29.2)</i>
	Female	15.0	20.5
		<i>(12.6, 17.7)</i>	<i>(18.5, 22.7)</i>
Grade	Grade 7	1.4	3.1
		<i>(0.6, 3.0)</i>	<i>(1.5, 6.4)</i>
	Grade 8	6.4	10.4
		<i>(3.3, 11.9)</i>	<i>(5.4, 19.0)</i>
	Grade 9	13.6	17.7
		<i>(11.7, 15.8)</i>	<i>(15.2, 20.6)</i>
	Grade 10	18.8	23.3
		<i>(16.7, 21.1)</i>	<i>(20.8, 26.0)</i>
	Grade 11	22.7	26.5
		<i>(19.1, 26.8)</i>	<i>(23.3, 29.9)</i>
	Grade 12	36.2	39.5
		<i>(31.2, 41.5)</i>	<i>(34.1, 45.2)</i>
Region	All Ontario	9.1	13.9
		<i>(7.4, 11.1)</i>	<i>(11.4, 16.7)</i>
	City of Thunder Bay	18.4	24.6
		<i>(15.3, 22.0)</i>	<i>(22.5, 26.8)</i>
	District of Thunder Bay	18.5	25.0
		<i>(14.8, 22.9)</i>	<i>(21.6, 28.7)</i>
	Kenora-Rainy River	17.3	22.8
		<i>(14.1, 21.0)</i>	<i>(20.0, 25.8)</i>

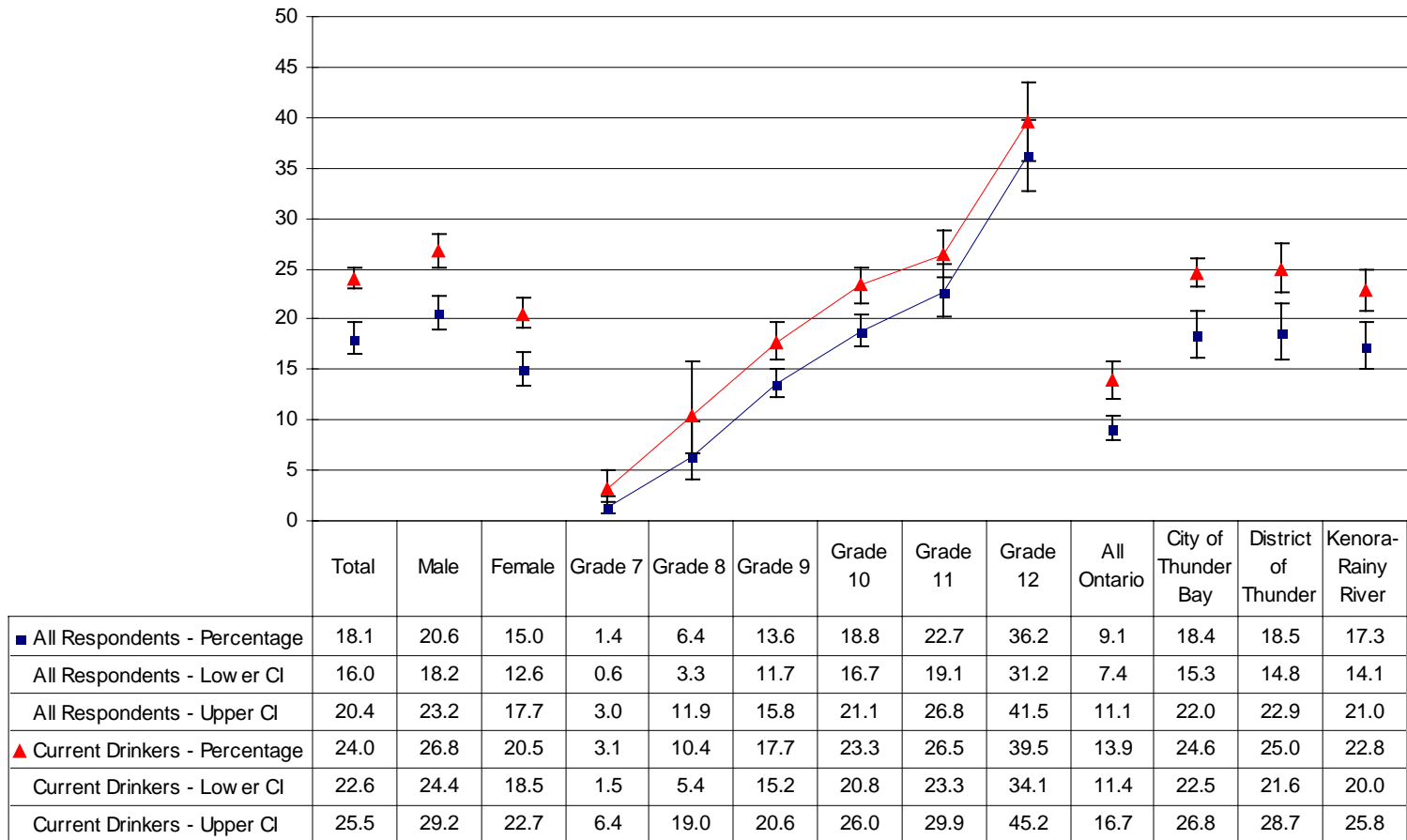


Figure 4.4.6. Percentage of all students and current drinkers scoring eleven or higher on the Alcohol Use Disorder Identification Test (AUDIT), by sex, grade, and region, NWOSDUS 2001.

Table 4.4.5. Responses to the Alcohol Use Disorders Identification Test (AUDIT) questions, expressed as a percentage of all respondents and as a percentage of current drinkers, for Northwestern Ontario (NWODUS 2001) and for All Ontario (OSDUS 2001).

Percent Responding "Yes" to AUDIT questions (N)	Northwestern Ontario (NWODUS 2001)		All Ontario (OSDUS 2001)	
	All respondents (2702)	Current drinkers (1998)	All respondents (2243)	Current drinkers (1460)
1. Consumed alcohol during the past 12 months (95% CI)	75.1 (68.9, 80.4)	100.0	64.7	100.0
2. Number of drinks usually have on typical day when drink (% reporting 3+ drinks)	47.9 (43.3, 52.6)	61.8 (57.2, 66.2)	28.6	42.9
3. Consumed 5 or more drinks on one occasion during the past 12 months	53.4 (47.2, 59.5)	69.0 (65.3, 72.5)	36.4	54.4
4. Were not able to stop drinking once you had started	13.5 (10.0, 17.9)	17.5 (13.8, 21.9)	8.5	12.8
5. Failed to do what was normally expected from you because of drinking	21.4 (17.5, 26.0)	27.6 (24.0, 31.5)	13.2	20.1
6. Needed a first alcoholic drink in the morning to get yourself going after a heavy drinking session	5.7 (4.2, 7.5)	7.0 (5.5, 8.9)	2.0	2.8
7. Had a feeling of guilt or remorse after drinking during past 12 months	17.4 (15.8, 19.0)	21.6 (19.8, 23.6)	9.7	13.9
8. Been unable to remember what happened the night before because you had been drinking during past 12 months	30.3 (26.7, 34.2)	39.5 (36.7, 42.4)	19.6	29.3
9. You or someone else ever been injured as a result of your drinking	17.1 (15.4, 18.8)	21.2 (19.8, 22.7)	11.8	16.5
10. Relative/friend or a doctor/health worker ever been concerned about your drinking or suggested that you cut down	6.4 (5.3, 7.6)	7.8 (6.4, 9.5)	2.6	3.6

4.4.4 Alcohol Acquisition

(Table 4.4.6, Figure 4.4.7)

Over seventy-five percent of Northwestern Ontario students reported that it was easy or very easy to get alcohol when they wanted it, a statistically significant increase over 1997.

Ease of acquisition is an important determinant of whether or not students engage in drinking. Students who reported that alcohol was easy or very easy to acquire were:

- three times more likely to also report drinking in the past twelve months (OR [95% CI]: 3.3 [2.7, 4.1]),
- almost six times more likely to engage in binge drinking (OR [95% CI]: 5.7 [4.2, 7.7]),
- almost six times more likely to have an AUDIT score greater than eleven (OR [95% CI]: 5.7 [3.8, 8.7]),

- almost twice as likely to report an injury as a result of drinking (OR [95% CI]: 1.9 [1.2, 2.7]).

Students can acquire alcohol from a number of sources. Parents can legally offer it to them, friends can buy it for them, they can buy it for themselves, or they can acquire it in some other way (e.g., steal it from their parents). Figure 4.4.7 shows that younger students are most likely to be given alcohol by their parents or to acquire it in some “other” way. The number of students who are able to buy their own alcohol, or who have friends who can acquire alcohol for them, increases with age. Interestingly, 10%-15% of 17 and 18-year-old students are able to purchase alcohol for themselves.

Table 4.4.6. Percentage of students who reported that alcohol is easy or very easy to acquire when they want it, NWOSDUS 2001.

		1997	2001
<i>(N)</i>		<i>(2106)</i>	<i>(2702)</i>
Total		64.8	75.6 *
<i>(95% CI)</i>		<i>(59.4, 69.9)</i>	<i>(70.2, 80.3)</i>
Sex	Male	64.0	76.8 *
		<i>(57.0, 70.4)</i>	<i>(70.6, 82.0)</i>
	Female	65.7	74.1 *
		<i>(59.9, 71.0)</i>	<i>(69.2, 78.4)</i>
Grade	Grade 7	42.8	37.9
		<i>(37.4, 48.3)</i>	<i>(32.6, 43.6)</i>
	Grade 8	--	58.8
			<i>(49.9, 67.2)</i>
	Grade 9	72.5	77.0
		<i>(63.7, 79.9)</i>	<i>(71.8, 81.5)</i>
	Grade 10	--	81.2
			<i>(79.7, 82.7)</i>
	Grade 11	88.0	88.9
		<i>(85.7, 90.1)</i>	<i>(83.8, 92.6)</i>
	Grade 12	--	96.0
			<i>(92.5, 97.8)</i>
	Grade 13	95.8	--
		<i>(93.4, 97.4)</i>	
Region	City of Thunder Bay	56.5	76.8 *
		<i>(41.5, 70.3)</i>	<i>(68.6, 83.3)</i>
	District of Thunder Bay	77.5	72.2
		<i>(71.2, 82.8)</i>	<i>(65.7, 77.9)</i>
	Kenora-Rainy River	68.4	74.7
		<i>(56.9, 77.9)</i>	<i>(66.1, 81.6)</i>

* Difference between 1997 and 2001 significant at $p < 0.05$

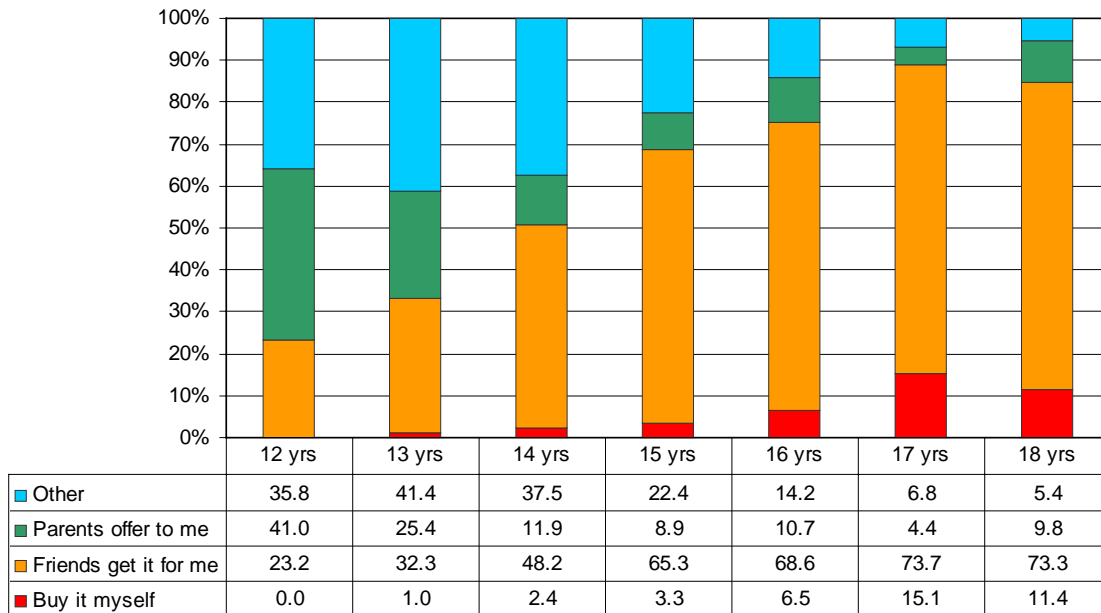


Figure 4.4.7. Students' sources of alcohol, by age, NWOSDUS 2001.

4.5 Cannabis Use

(Table 4.5.1, Figure 4.5.1, Figure 4.5.2)

The main active chemical in marijuana, responsible for its psychoactive effects, is THC (delta-9-tetrahydrocannabinol). Marijuana's effects on the user depend on the amount of THC it contains. The THC potency of marijuana is said to have increased since the 1960s but has been about the same since the mid-1980s.

After tobacco, alcohol, and caffeine, cannabis is the most commonly used psychoactive (mood-altering) drug in Canada. There is much debate over whether cannabis is addictive. It does not appear to be addictive to the degree that nicotine, alcohol, cocaine, or heroin are addictive. However, regular, heavy users seem to exhibit some tolerance and at least psychological if not physical dependence. This is difficult to

determine, however, because withdrawal symptoms are very mild and ill defined.

Many think that marijuana should be legalized for medicinal use. In Canada, the Marijuana Medical Access Regulations (MMAR), which allows some people to gain legal authority to possess and/or grow marijuana for medical purposes, came into force on July 30, 2001, and Health Canada set up the Office of Cannabis Medical Access to administer the new regulations.

The main threat to youth from cannabis use is related to the effect of impaired motor skills, coordination, and judgement on driving. THC, the active ingredient, has been detected in many bodies of fatally injured drivers and

pedestrians in Canada and the United States.

In addition, chronic, heavy use may lead to decreased motivation and interest, as well as difficulties with memory and concentration, which could potentially harm youths' performance at school. In the long term, respiratory damage from smoking marijuana can occur.

Cannabis use is on the rise. In 1994, the most commonly reported illicit drug used on a lifetime and past-year basis was cannabis (23.1% and 7.4%, respectively) (MacNeil & Webster 1997). According to the Ontario Student Drug Use Survey, which has been tracking cannabis use among students since 1977, in any given year as many as 21% to 48% of students report having used cannabis (Adlaf & Paglia 2001, p. 53). Thus, over time, it is likely that one-third to one-half of the population of Ontario will report having used marijuana at some point in their lives. This increase is consistent with American findings from the 1998 National Household Survey on Drug

Abuse, which found more than 72.0 million Americans (33%) 12 years of age and older have tried marijuana at least once in their lifetimes (U.S. National Institute on Drug Abuse 2002e).

According to Table 4.5.1, there was a significant increase in cannabis use in Northwestern Ontario between 1997 and 2001. Overall, the rate of past year cannabis use increased from 25.5% to 36.9%. This increase was consistent for both males and females. In 1997, there was considerable variability in cannabis use among the City of Thunder Bay, the District of Thunder Bay (outside of the City), and Kenora/Rainy River. In 2001, all three regions had approximately equal cannabis use rates (39.2%, 37.1%, and 33.1% respectively). Cannabis use in Northwestern Ontario was not significantly higher than the provincial average.

Figure 4.5.2 shows that the increase in cannabis use has been fairly equal across all of the frequency categories.

Table 4.5.1. Percentage of students reporting past year cannabis use by sex, grade, and region, NWOSDUS 1997-2001.

Year		1997	2001
(N)		(2238)	(2704)
Total		25.5	36.9 *
(95% CI)		(20.3, 31.5)	(28.9, 45.8)
Sex	Male	24.2	38.4 *
		(18.1, 31.5)	(28.0, 49.9)
	Female	26.9	35.2 *
		(21.9, 32.5)	(29.6, 41.3)
Grade	Grade 7	7.4	7.1
		(4.7, 11.5)	(4.3, 11.3)
	Grade 8	--	18.8
		--	(13.3, 26.0)
	Grade 9	34.5	40.8
		(24.1, 46.6)	(34.3, 47.7)
	Grade 10	--	39.8
		--	(35.4, 44.4)
	Grade 11	45.3	50.5
		(38.5, 52.3)	(40.6, 60.3)
	Grade 12	--	53.2
		--	(41.2, 64.7)
	Grade 13	45.9	--
		(35.4, 56.7)	--
Region	All Ontario	24.9	29.8 *
		(23.3, 26.5)	(27.2, 32.6)
	City of Thunder Bay	17.7	39.2 *
		(10.4, 28.5)	(26.6, 53.5)
	District of Thunder Bay	39.9	37.1
		(34.3, 45.7)	(32.6, 41.8)
	Kenora-Rainy River	27.9	33.1
		(17.4, 41.6)	(26.3, 40.8)

* Difference between 1997 and 2001 significant at $p < 0.05$

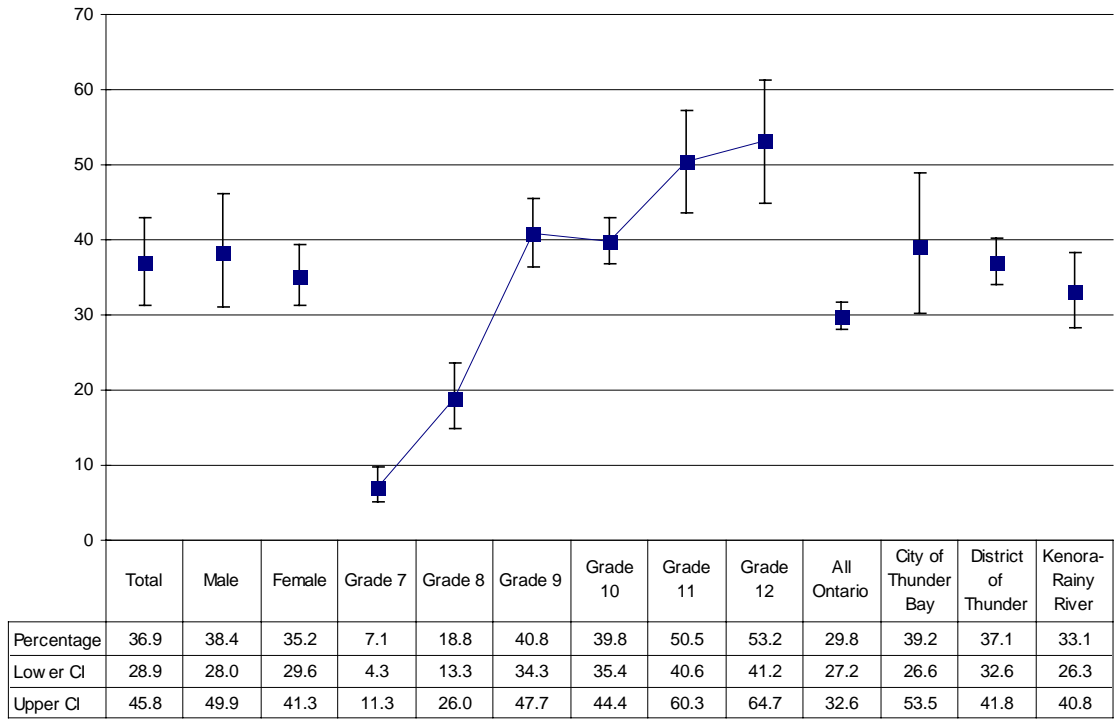


Figure 4.5.1. Past year cannabis use by sex, grade, and region, adjusted error bars, NWOSDUS 2001.

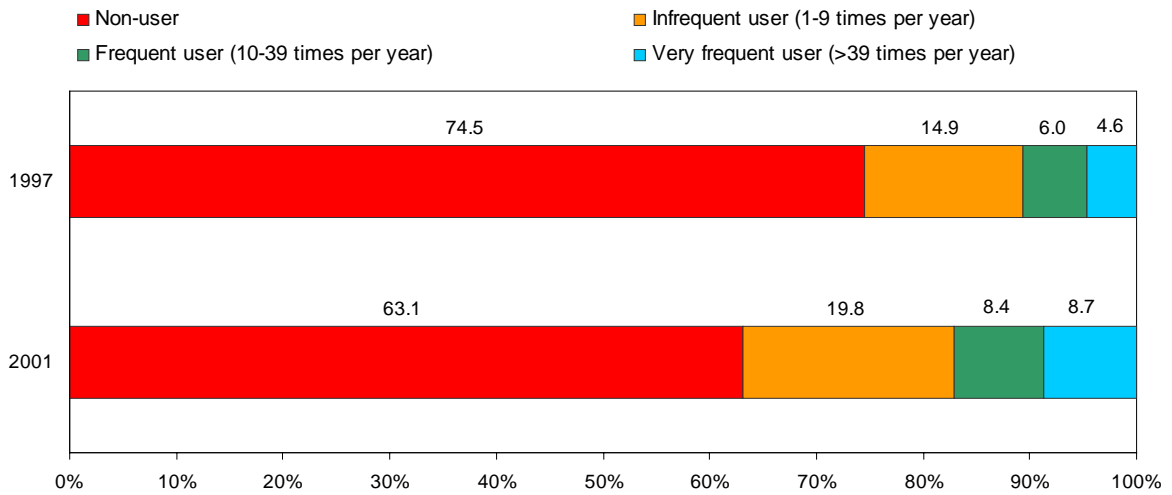


Figure 4.5.2. Frequency of using cannabis in the twelve months prior to the survey, 1997-2001, NWOSDUS 2001.

4.6 Use of Glue and other Solvents

(Table 4.6.1, Figure 4.6.1, Table 4.6.2, Figure 4.6.2)

Glue and other solvents, such as gasoline, hair spray, poppers, paint thinner, etc., are toxic chemicals that are often used as a cheap, accessible substitute for alcohol. When inhaled (“huffed” or “sniffed”), glue and solvents can have major health consequences. Permanent brain damage from sniffing can cause irreversible problems with cognition, movement, vision, and hearing. Inhaling these toxic chemicals can also damage the heart, lungs, liver, and kidneys. Use of inhalants often starts early. Research suggests that chronic or long-term inhalant abusers are among the most difficult to treat and they may experience multiple psychological and social problems.

The sniffing of glue and other solvents has remained constant among Northwestern Ontario students since 1997, while it has increased in the province as a whole, especially in Toronto (Adlaf & Paglia 2001). However, of all of the drugs in this survey, this category may be the most susceptible to bias because of exclusion criteria. Solvent abuse is often considered a northern problem because many remote areas are “dry” and/or inaccessible to those who sell street drugs. Thus, often the only way for

students to get high in very remote communities is to sniff household solvents, glue, or gasoline. Unfortunately, for cost reasons, very remote communities and Indian Reserves were excluded from both the NWOSDUS and the OSDUS (see section 3.1). The results for this category of drug should be considered in that light.

With that caveat, Table 4.6.1 and Table 4.4.3 show that the rate of glue and other solvent use observed by this study was statistically significantly lower than the provincial rate. The Northwestern Ontario glue use rate of 1.7% was about one-half of the provincial rate of 3.0%; and the Northwestern Ontario “other solvent” use rate was 3.2% compared to 5.7% for the province. The Northwestern Ontario rates were steady to decreasing between 1997 and 2001 while the provincial rates were on the increase.

Figure 4.6.1 and Figure 4.6.2 show a definite age-related trend with younger students being far more likely to engage in glue and solvent use. This is likely an access issue, with glue and solvent use decreasing, as other drugs – especially alcohol – become more accessible with increasing age.

4.6.1 Glue

Table 4.6.1. Percentage of students reporting past year glue use by sex, grade, and region, NWOSDUS 1997-2001.

Year		1997	2001
(N)		(2238)	(2704)
Total		2.1	1.7
(95% CI)		(1.4, 3.1)	(1.3, 2.3)
Sex	Male	1.7	2.0
		(1.1, 2.7)	(1.2, 3.2)
	Female	2.4	1.4
		(1.3, 4.4)	(0.9, 2.3)
Grade	Grade 7	3.2	5.2
		(1.9, 5.2)	(3.4, 7.9)
	Grade 8	--	1.6
		--	(0.9, 2.8)
	Grade 9	1.6	1.9
		(0.8, 3.1)	(1.0, 3.5)
	Grade 10	--	1.1
		--	(0.5, 2.6)
	Grade 11	0.8	1.3
		(0.3, 2.1)	(0.5, 3.2)
	Grade 12	--	0.1
		--	(0.0, 1.0)
	Grade 13	0.5	--
		(0.1, 2.6)	--
Region	All Ontario	1.5	3.0 *
		(1.2, 1.8)	(2.4, 3.8)
	City of Thunder Bay	2.7	1.2 *
		(1.5, 5.0)	(0.8, 1.8)
	District of Thunder Bay	2.1	3.5
		(0.9, 4.7)	(1.9, 6.6)
	Kenora-Rainy River	1.3	2.1
		(0.7, 2.6)	(1.4, 3.1)

* Difference between 1997 and 2001 significant at $p < 0.05$

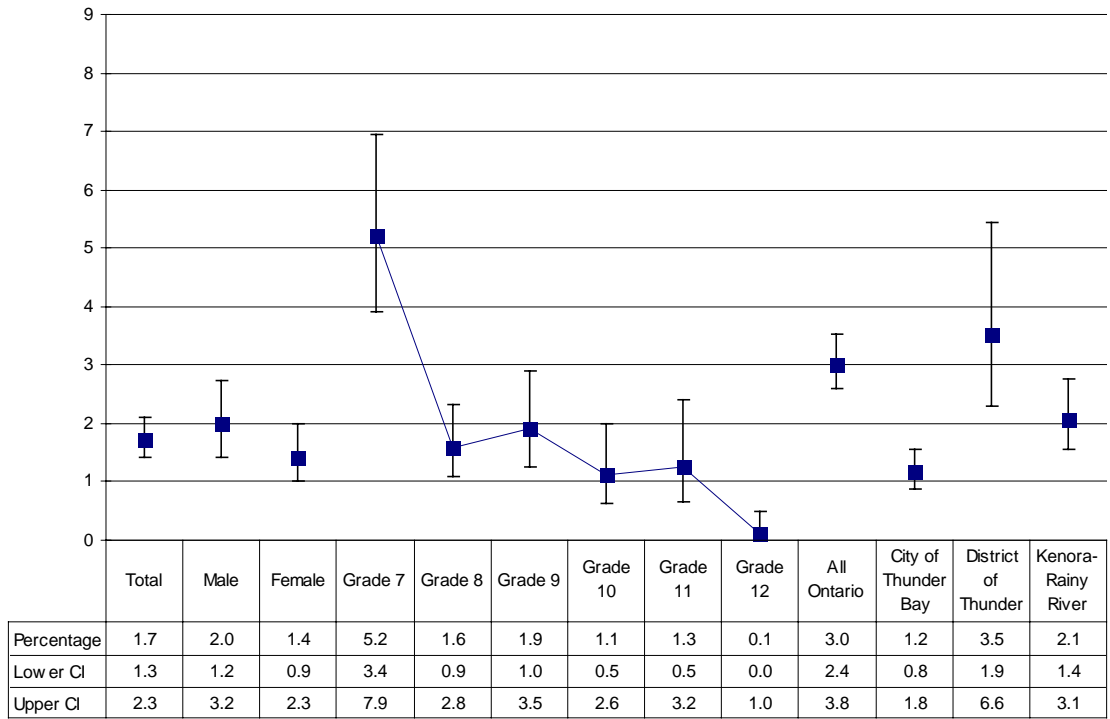


Figure 4.6.1. Past year glue use by sex, grade, and region, NWOSDUS 2001.

4.6.2 Solvents Other Than Glue

Table 4.6.2. Percentage of students reporting past year solvent (other than glue) use by sex, grade, and region, NWOSDUS 1997-2001.

Year		1997	2001
(N)		(2238)	(2704)
Total		5.1	3.2
(95% CI)		(2.9, 8.6)	(2.5, 3.9)
Sex	Male	4.1	3.5
		(2.0, 8.3)	(2.3, 5.3)
	Female	6.0	2.7 *
		(3.7, 9.7)	(2.1, 3.6)
Grade	Grade 7	7.9	7.5
		(3.8, 15.9)	(5.3, 10.6)
	Grade 8	--	3.3
		--	(2.3, 4.8)
	Grade 9	4.6	3.9
		(3.1, 6.7)	(2.5, 6.0)
	Grade 10	--	4.1
		--	(2.2, 7.4)
	Grade 11	1.4	1.3
	(0.9, 2.3)	(0.5, 3.1)	
	Grade 12	--	0.3
		--	(0.1, 1.0)
	Grade 13	0.2	--
		(0.0, 2.4)	--
Region	All Ontario	2.6	5.7 *
		(2.0, 3.2)	(4.8, 6.8)
	City of Thunder Bay	7.4	3.1
		(3.1, 17.0)	(2.3, 4.3)
	District of Thunder Bay	4.2	4.9
	(2.5, 7.1)	(3.2, 7.4)	
	Kenora-Rainy River	2.9	2.6
		(1.6, 5.1)	(1.9, 3.5)

* Difference between 1997 and 2001 significant at $p < 0.05$

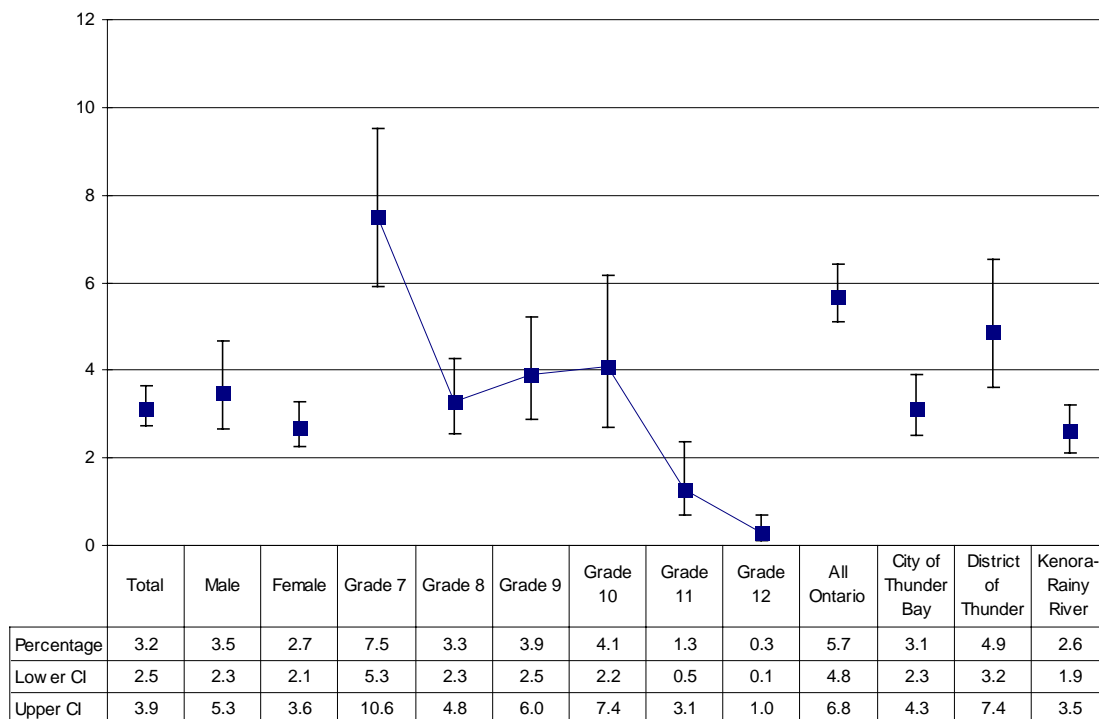


Figure 4.6.2. Past year solvent (other than glue) use by sex, grade, and region, adjusted error bars, NWOSDUS 2001.

4.7 The Illicit Use of Prescription Drugs

Prescription drugs can be obtained illegally and used recreationally by students for their effects on the central nervous system. The 2001 NWOSDUS asked questions about students' illicit use of three major classes of prescription drugs: barbiturates, stimulants other than cocaine, and tranquilizers. Students' legal use of these drugs (i.e., with a doctor's prescription) is discussed in section 4.16.

Each drug class is described in the following sub-sections. However, first it is important to note a few limitations with these questionnaire items. These limitations apply equally to the questionnaire items on licit and illicit prescription drug use. Unlike questions on alcohol, cannabis, or cocaine, which

are well known to students, it is likely that some students were unable to match their experiences with the descriptors on the questionnaire. For example, a doctor may give someone "something to help them sleep" without explaining that the pill is a tranquilizer or a barbiturate. Furthermore, in the question on the illicit use of barbiturates (question 39), we give only Seconal and Amytal as examples, but students may have taken some other barbiturate, such as Nembutal, or the brand name of the drug may be unknown. A student may take medication for attention deficit hyperactivity disorder (ADHD), but not realize that the amphetamine or Ritalin he or she is taking is actually a stimulant. In the questionnaire, we provided synonyms (e.g., "uppers" and

“diet pills” for stimulants; “Valium”, “tranqs”, “5’s”, and “10’s” for tranquilizers) to help students understand the drug classes. However, unlike the better known recreational drugs, there is a greater chance of misunderstanding.

It is interesting to consider in what direction any misunderstanding is likely to push the results. Students who do not recognize a drug item on the questionnaire are vastly more likely to indicate not having used the drug. As a precaution against inflated rates due to false reporting, the small number of students who indicated that they had

used a fictitious drug were eliminated from the analysis at the outset. This precaution makes it unlikely that the students included in the analysis would claim to have taken a drug that they, in fact, had not. Rather, it is more likely that some students, in fact, had used a drug but, failing to recognize the questionnaire’s terminology, did not report it on the questionnaire. Based on that logic, it is likely that the rates of licit and illicit prescription drug use captured by this study are underestimated and, in reality, are somewhat higher than reported here.

4.7.1 Non-Medical Use of Barbiturates (Table 4.7.1, Figure 4.7.1)

The use of legally prescribed barbiturates is described in section 4.16.1. This section describes the use of barbiturates by teens who were not told to do so by a physician.

Barbiturates act to depress the central nervous system and cause drowsiness. In the past, they were commonly used as sedatives and to relieve nervousness or restlessness; however, they have generally been replaced by safer medicines for the treatment of insomnia and daytime nervousness or tension. Barbiturates should not be used for anxiety or tension caused by the stress of everyday life. In higher doses barbiturates increase some types of behaviour, act like a stimulant, and remove inhibitions. However, they can also lead to excessive sedation and cause anaesthesia, coma and death. Two major problems with barbiturates are that they

may lead to tolerance and dependence and that the fatal dose is not much more than the normal therapeutic dose. Barbiturate abusers prefer the short-acting and intermediate-acting drugs such as Nembutal, Seconal and Amytal (U.S. National Library of Medicine 2002c).

The illicit use of barbiturates by students in Northwestern Ontario, and in Ontario generally, is quite low (4.2% and 3.9% respectively). Females were somewhat more likely to use barbiturates than males (5.4% versus 3.2%). Usage in the District of Thunder Bay appears to be considerably higher than either the City of Thunder Bay or Kenora-Rainy River. It is interesting to note that 41% of 2001 NWOSDUS respondents indicated that they did not know what a barbiturate was.

Table 4.7.1. Percentage of students reporting past year non-medical use of barbiturates by sex, grade, and region, NWOSDUS 1997-2001.

Year		1997	2001
(N)		(2238)	(2704)
Total		3.2	4.2
(95% CI)		(1.8, 5.5)	(3.0, 5.9)
Sex	Male	1.4	3.2 *
		(1.0, 1.8)	(2.6, 4.1)
	Female	4.9	5.4
		(2.5, 9.6)	(3.1, 9.3)
Grade	Grade 7	2.6	2.9
		(0.8, 8.0)	(1.9, 4.3)
	Grade 8	--	3.8
		--	(1.8, 8.0)
	Grade 9	4.8	5.8
		(2.4, 9.4)	(4.8, 6.8)
	Grade 10	--	5.4
		--	(3.1, 9.5)
	Grade 11	3.0	4.5
		(1.8, 4.7)	(3.1, 6.5)
	Grade 12	--	3.1
		--	(1.4, 6.8)
	Grade 13	--	--
		(0.4, 3.1)	--
Region	All Ontario	2.5	3.9 *
		(2.0, 3.0)	(3.1, 4.8)
	City of Thunder Bay	3.4	3.5
		(1.3, 8.3)	(1.5, 7.8)
	District of Thunder Bay	5.3	8.4
		(4.2, 6.7)	(5.3, 13.1)
	Kenora-Rainy River	2.1	4.1
		(0.5, 8.0)	(3.2, 5.3)

* Difference between 1997 and 2001 significant at $p < 0.05$

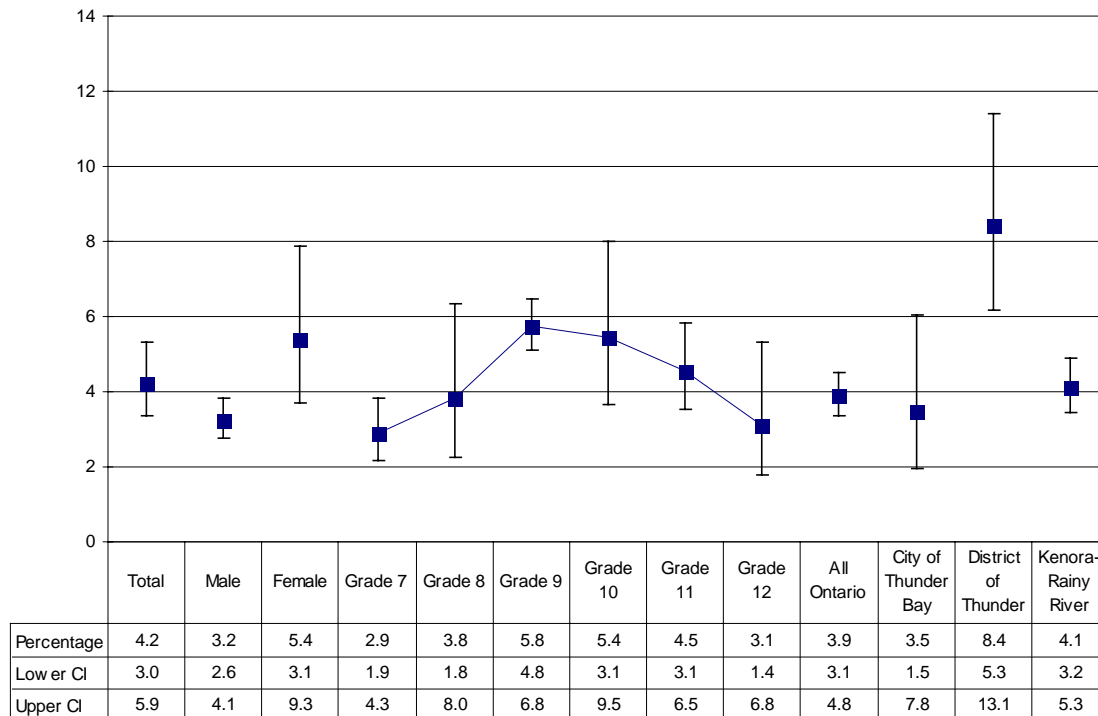


Figure 4.7.1. Past year non-medical use of barbiturates by sex, grade, and region, adjusted error bars, NWOSDUS 2001.

4.7.2 Non-Medical Use of Stimulants

(Table 4.7.2, Figure 4.7.2)

Central nervous system stimulants (“uppers”) are abused for the artificial sense of well being they induce. Prescription stimulants include Ritalin, cocaine, amphetamines, and appetite suppressants. Illicit cocaine use is described separately in section 4.12. Legally prescribed Ritalin use is described in section 4.16.4. The use of other legally prescribed stimulants is described in section 4.16.2. This section describes the use of stimulants by teens who were not told to do so by a physician.

Amphetamines belong to the group of medicines called central nervous system (CNS) stimulants. They are used to treat

attention-deficit hyperactivity disorder (ADHD). Amphetamines increase attention and decrease restlessness in patients who are overactive, unable to concentrate for very long or are easily distracted, and have unstable emotions. Amphetamine and dextroamphetamine are also used in the treatment of narcolepsy (uncontrollable desire for or sudden attacks of deep sleep) (U.S. National Library of Medicine 2002a).

Another use of CNS stimulants is as appetite suppressants (diet pills). In Canada, three prescription appetite suppressants are available: Ionamin (phentermine), Sanorex (mazindol), Tenuate (diethylpropion). However,

illicit appetite suppressant use may also include benzphetamine. These drugs may cause some people to feel a false sense of well being or to become dizzy, lightheaded, drowsy, or less alert than they are normally. Taking stimulants for a long time can result in psychological and physical dependence (U.S. National Library of Medicine 2002b).

The illicit use of stimulants (other than cocaine) by students in Northwestern Ontario at 7.9% in 2001 was unchanged

from 1997. Whereas in 1997, it appeared that girls were more likely to use stimulants than boys, that difference has largely disappeared in 2001. Students in the District of Thunder Bay reported higher use rates than either the City of Thunder Bay or Kenora-Rainy River.

It is possible that many of these students were, in fact, consuming caffeine, ephedrine, and phenylpropanolamine in the form of amphetamine look-alikes.

Table 4.7.2. Percentage of students reporting past year non-medical use of stimulants by sex, grade, and region, NWOSDUS 1997-2001.

Year (N)	1997 (2238)	2001 (2704)
Total (95% CI)	6.2 (4.7, 8.3)	7.9 (5.8, 10.8)
Sex		
Male	4.4 (3.2, 5.9)	7.0 * (5.7, 8.6)
Female	8.1 (5.3, 12.2)	9.1 (5.8, 13.9)
Grade		
Grade 7	1.8 (1.0, 3.3)	2.4 (0.8, 7.2)
Grade 8	--	4.9 (2.8, 8.6)
Grade 9	9.3 (6.1, 13.8)	6.3 (3.7, 10.8)
Grade 10	--	7.3 (6.4, 8.2)
Grade 11	10.4 (6.9, 15.5)	8.3 (4.9, 13.7)
Grade 12	--	15.2 (8.3, 26.0)
Grade 13	10.1 (4.9, 19.8)	--
Region		
All Ontario	6.6 (5.8, 7.4)	6.4 (5.4, 7.5)
City of Thunder Bay	4.2 (2.0, 8.8)	7.5 (4.0, 13.6)
District of Thunder Bay	10.9 (7.5, 15.5)	13.6 (10.9, 16.9)
Kenora-Rainy River	6.5 (3.8, 10.8)	6.9 (4.8, 9.9)

* Difference between 1997 and 2001 significant at $p < 0.05$

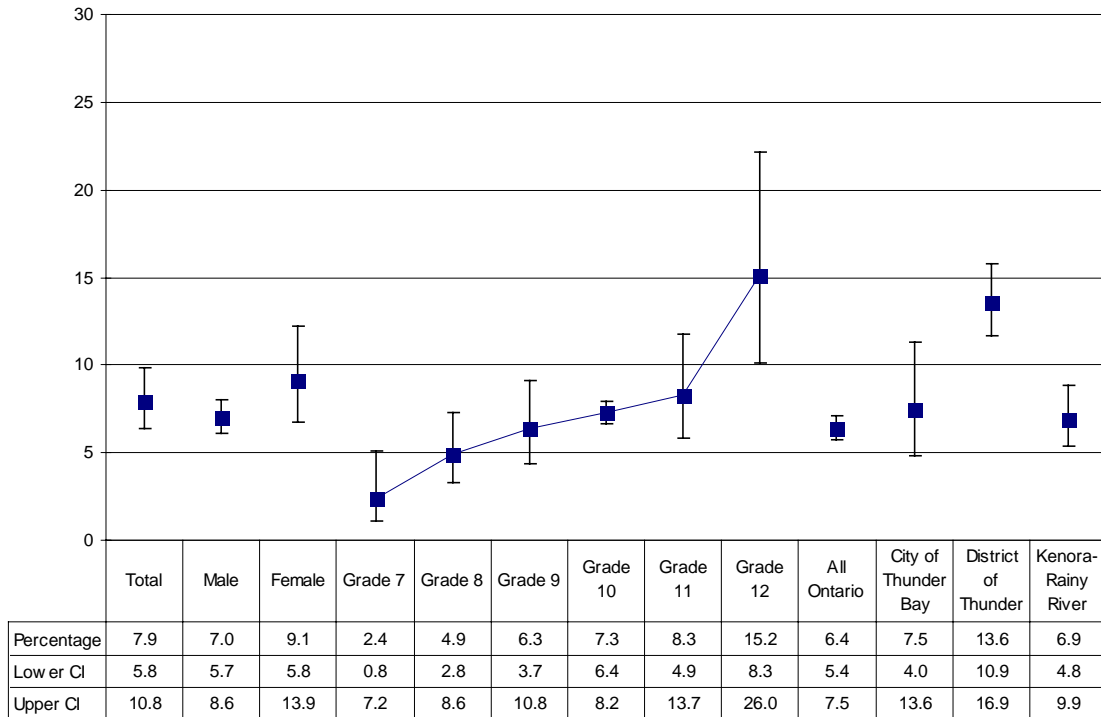


Figure 4.7.2. Past year non-medical use of stimulants by sex, grade, and region, adjusted error bars, NWOSDUS 2001.

4.7.3 Non-Medical Use of Tranquilizers

(Table 4.7.3, Figure 4.7.3)

The use of legally prescribed tranquilizers is described in section 4.16.3. This section describes the use of tranquilizers by teens who were not told to do so by a physician.

Tranquilizers, like barbiturates, belong to the class of central nervous system depressants. Tranquilizers decrease anxiety as well as induce sleep. These drugs belong to a larger group of substances known as the sedative-hypnotics, which slow or "sedate" the central nervous. This affects thinking, feeling, and body movement and function. Diazepam (Valium), lorazepam (Ativan), triazolam (Halcion), and oxazepam (Serax) are examples of tranquilizers.

The short-term effects of tranquilizers in normal doses include relaxation, drowsiness, reduced tension, and feelings of well being. In large doses, tranquilizers can make you become unconscious. Tranquilizer use causes dependence and tolerance.

Table 4.7.3 shows that illegal tranquilizer use reported by students in Northwestern Ontario is low at 1.6%. There was a significant change in females' illegal use of tranquilizers between 1997 and 2001; there were no significant geographical- or gender-based differences in 2001.

Table 4.7.3. Percentage of students reporting past year non-medical use of tranquilizers by sex, grade, and region, NWOSDUS 1997-2001.

Year		1997	2001
(N)		(2238)	(2704)
Total		2.5	1.6
(95% CI)		(1.4, 4.5)	(1.1, 2.5)
Sex	Male	1.1	1.8
		(0.7, 1.7)	(1.1, 2.9)
	Female	4.0	1.4 *
		(2.0, 7.9)	(0.7, 2.6)
Grade	Grade 7	2.0	0.7
		(0.5, 8.2)	(0.2, 3.0)
	Grade 8	--	2.0
		--	(1.5, 2.6)
	Grade 9	4.0	1.5 *
		(2.6, 6.0)	(0.7, 3.0)
	Grade 10	--	2.1
		--	(0.9, 4.6)
	Grade 11	2.2	3.2
		(1.5, 3.2)	(1.9, 5.5)
	Grade 12	--	0.5
		--	(0.1, 1.8)
	Grade 13	1.4	--
		(0.6, 3.5)	--
Region	All Ontario	1.7	2.2
		(1.4, 2.0)	(1.6, 3.0)
	City of Thunder Bay	3.0	1.3
		(1.0, 8.5)	(0.5, 3.0)
	District of Thunder Bay	2.9	3.2
		(1.9, 4.5)	(1.3, 7.6)
	Kenora-Rainy River	1.9	1.7
		(0.7, 4.9)	(0.9, 3.1)

* Difference between 1997 and 2001 significant at $p < 0.05$

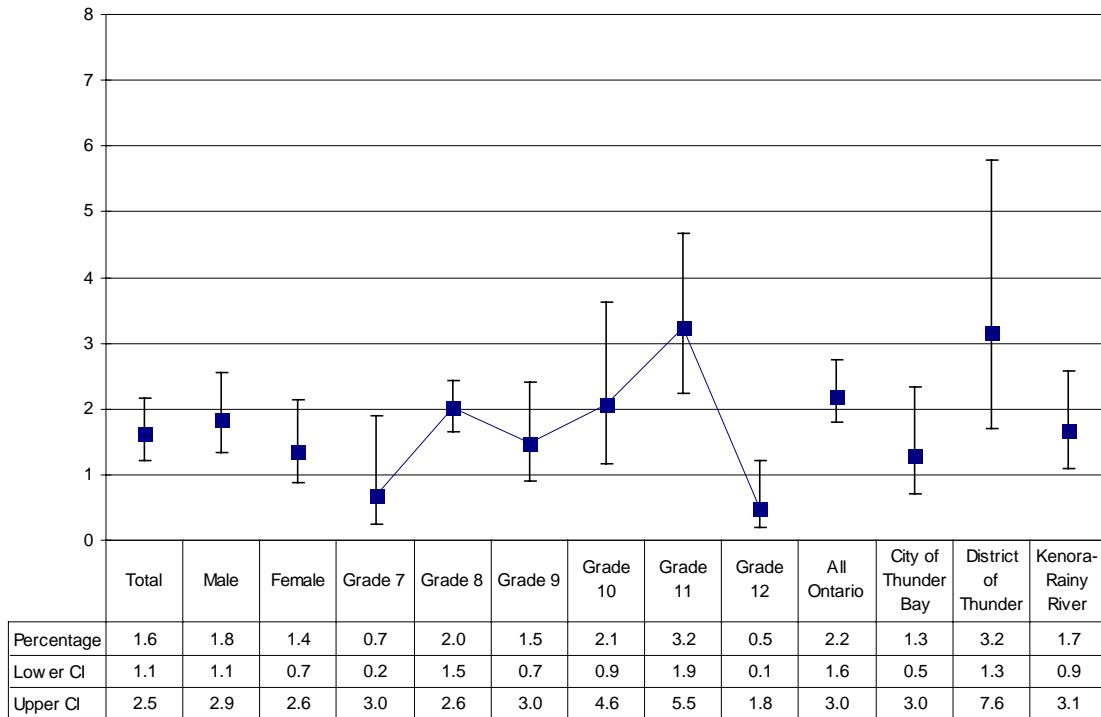


Figure 4.7.3. Past year non-medical use of tranquilizers by sex, grade, and region, adjusted error bars, NWOSDUS 2001.

4.8 LSD Use

(Table 4.8.1, Figure 4.8.1)

Lysergic acid diethylamide (LSD) was discovered in 1938 and has been illegal in Canada since 1969. It causes hallucinations and is one of the most potent mood-altering chemicals known. The effects can be unpredictable and depend greatly on the amount taken as well as the user's personality, mood, and setting. The user's sense of time, place, and self are altered, and emotions are felt more intensely. Users often experience visual hallucinations. In some people the experience is very negative and can produce terrifying thoughts and feelings. Flashbacks and other adverse effects, including psychoses, can occur in healthy people, but are more likely in

those with underlying personality disorders. LSD is not considered an addictive drug since it does not produce physical dependence or compulsive drug-seeking behavior as do cocaine, amphetamine, heroin, alcohol, and nicotine (U.S. National Institute on Drug Abuse 2002d).

The use of LSD in Northwestern Ontario dropped significantly from 10.4% in 1997 to 3.7% in 2001, echoing a similar but less dramatic drop in LSD use Ontario-wide (Table 4.8.1). The drop was reflected across all grades, regions, and both sexes.

Table 4.8.1. Percentage of students reporting past year LSD use by sex, grade, and region, NWOSDUS 1997-2001.

Year (N)		1997 (2238)	2001 (2704)
Total (95% CI)		10.4 (7.5, 14.3)	3.7 * (2.8, 5.0)
Sex	Male	9.2 (6.7, 12.5)	4.5 * (2.6, 7.7)
	Female	11.6 (7.7, 17.1)	2.8 * (2.1, 3.8)
Grade	Grade 7	4.4 (2.0, 9.5)	1.0 * (0.3, 3.1)
	Grade 8	--	2.9 (1.7, 4.9)
	Grade 9	14.4 (7.8, 25.0)	4.1 * (3.3, 5.0)
	Grade 10	--	4.3 (2.9, 6.4)
	Grade 11	18.5 (14.7, 23.1)	3.1 * (1.8, 5.4)
	Grade 12	--	6.0 (2.0, 16.1)
	Grade 13	10.1 (6.9, 14.6)	--
Region	All Ontario	7.6 (6.8, 8.4)	4.5 * (3.6, 5.6)
	City of Thunder Bay	8.6 (4.4, 16.0)	4.2 (2.5, 7.0)
	District of Thunder Bay	13.4 (10.7, 16.6)	4.6 * (2.7, 7.8)
	Kenora-Rainy River	11.1 (5.6, 20.7)	2.6 * (1.9, 3.6)

* Difference between 1997 and 2001 significant at $p < 0.05$

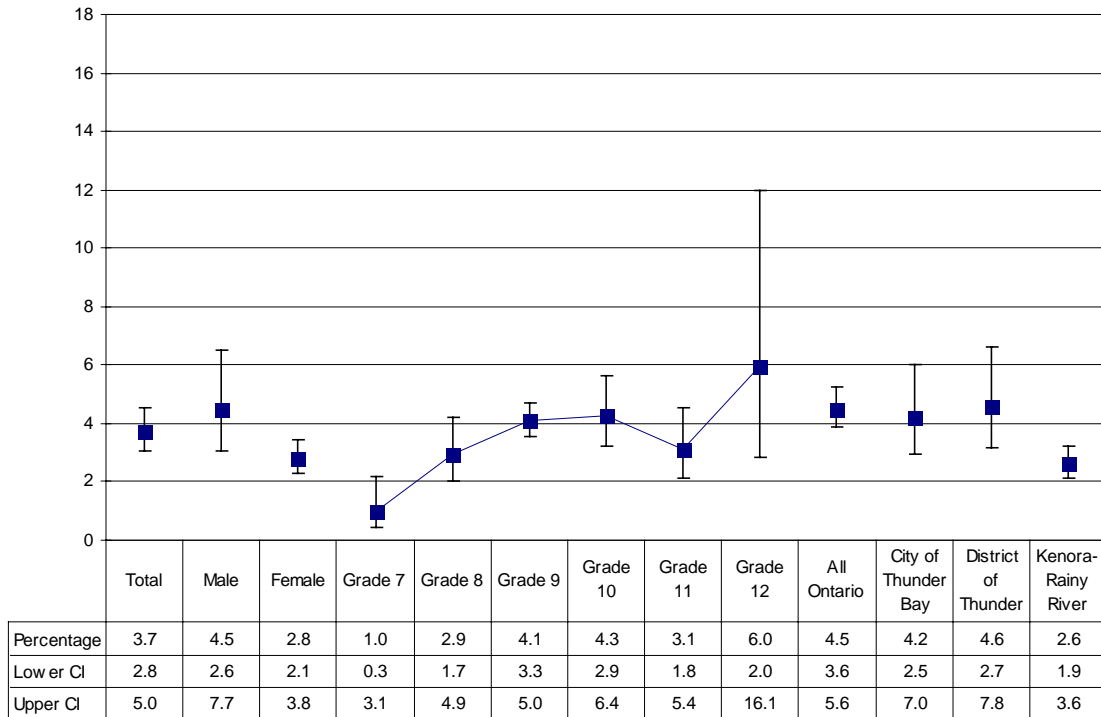


Figure 4.8.1. Past year LSD use by sex, grade, and region, adjusted error bars, NWOSDUS 2001.

4.9 PCP Use

(Table 4.9.1, Figure 4.9.1)

PCP (phencyclidine) was developed in the 1950s as an anaesthetic, but its use in humans was never approved because of its negative psychological effects on patients in clinical trials. PCP is illegally manufactured in laboratories and is sold on the street as powder, tablets, capsules, or mixed with marijuana or leafy herbs like parsley or mint (U.S. National Institute on Drug Abuse 2002g).

PCP is an unpleasant, risky drug. Even at low doses, it has a reputation for causing bad reactions. It can lead to psychological dependence, craving, and compulsive PCP-seeking behavior. PCP can cause effects that mimic the full range of symptoms of schizophrenia,

such as delusions, paranoia, disordered thinking, a sensation of distance from one's environment, and catatonia (U.S. National Institute on Drug Abuse 2002g).

Since 1977, the OSDUS indicates that PCP has never been popular among Ontario students, with past year use rates never exceeding about 3% (Adlaf & Paglia 2001). According to the 2001 NWOSDUS, student use of PCP in Northwestern Ontario was 1.4% (Table 4.9.1). The rate was virtually the same as 1997, and was significantly lower than the overall provincial rate. The 2001 NWOSDUS found no significant age-, regional-, or gender-based differences.

Table 4.9.1. Percentage of students reporting past year PCP use by sex, grade, and region, NWOSDUS 1997-2001.

Year		1997	2001
(N)		(2238)	(2704)
Total		2.1	1.4
(95% CI)		(1.3, 3.6)	(1.0, 2.0)
Sex	Male	2.3	1.5
		(1.2, 4.2)	(1.1, 2.1)
	Female	2.0	1.4
		(1.1, 3.5)	(0.9, 2.0)
Grade	Grade 7	0.6	1.2
		(0.2, 1.8)	(0.4, 3.2)
	Grade 8	--	1.2
		--	(0.7, 2.2)
	Grade 9	3.9	2.3
		(1.9, 7.8)	(1.1, 4.6)
	Grade 10	--	2.1
		--	(1.0, 4.3)
	Grade 11	3.5	1.7
	(1.5, 7.7)	(1.0, 2.7)	
	Grade 12	--	0.5
		--	(0.1, 1.9)
	Grade 13	1.4	--
		(0.9, 2.2)	--
Region	All Ontario	2.0	2.7
		(1.4, 2.6)	(2.1, 3.5)
	City of Thunder Bay	1.6	1.0
		(0.6, 4.1)	(0.5, 2.3)
	District of Thunder Bay	3.1	2.8
	(1.7, 5.7)	(1.5, 5.3)	
	Kenora-Rainy River	2.3	1.6
		(0.8, 6.7)	(1.1, 2.5)

* Difference between 1997 and 2001 significant at $p < 0.05$

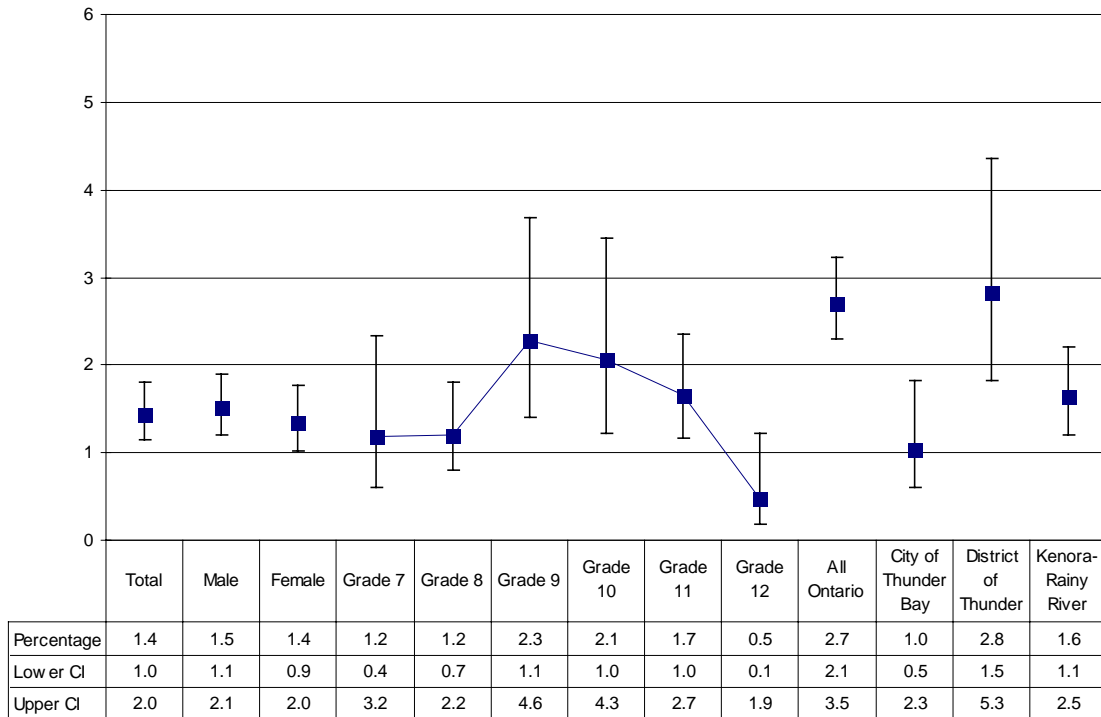


Figure 4.9.1. Past year PCP use by sex, grade, and region, adjusted error bars, NWOSDUS 2001.

4.10 Hallucinogen (Other Than LSD and PCP) Use

(Table 4.10.1, Figure 4.10.1)

There is a variety of other hallucinogens besides PCP and LSD, including psilocybin (“magic”) mushrooms, mescaline, and ketamine (“Special K”, “vitamin K”). Technically, ketamine and PCP are not hallucinogens but rather “dissociative anaesthetics”. However, they are often grouped together for convenience (U.S. National Institute on Drug Abuse 2002i).

While LSD, PCP, and ketamine were only synthesized in the 20th century, cultures from the tropics to the arctic have used plants to induce states of detachment from reality and to precipitate “visions” thought to provide mystical insight. These plants contain chemical compounds, such as mescaline,

psilocybin, that are structurally similar to serotonin, and they produce their effects by disrupting normal functioning of the serotonin system. Ketamine was developed in 1963 as an anaesthetic to replace the failed use of PCP. It is currently used as an anaesthetic in both human and veterinary medicine (U.S. National Institute on Drug Abuse 2002i).

Mescaline and psilocybin mushroom use was popular in North America in the 1960s, but their use declined somewhat until a resurgence in the late 1990s and into the 21st century.

Table 4.10.1 shows that the use of hallucinogens other than LSD and PCP is common in Northwestern Ontario,

with 12.5% of students reporting past year use. While that represents an increase of 3.3 percentage points from 1997, the difference is not statistically significant. There was a statistically significant difference in hallucinogen use rates between elementary and secondary school. Students in grades 7 and 8 reported 2.1% and 4.9%

respectively, followed by a jump to over 13% in grade 9 that sustained itself throughout the high school years (Figure 4.10.1). Regional differences within Northwestern Ontario were not pronounced, and the Northwestern Ontario rate was approximately the same as the provincial rate.

Table 4.10.1. Percentage of students reporting past year hallucinogen (other than LSD and PCP) use by sex, grade, and region, NWOSDUS 1997-2001.

Year		1997	2001
(N)		(2238)	(2704)
Total		9.2	12.5
(95% CI)		(6.9, 12.3)	(8.2, 18.5)
Sex	Male	9.4	14.7
		(6.6, 13.1)	(10.3, 20.5)
	Female	9.1	9.7
		(6.8, 11.9)	(5.5, 16.5)
Grade	Grade 7	1.6	2.1
		(0.6, 4.0)	(1.0, 4.2)
	Grade 8	--	4.9
		--	(2.8, 8.4)
	Grade 9	12.3	13.7
		(7.8, 19.1)	(10.9, 16.9)
	Grade 10	--	13.4
		--	(9.9, 17.9)
	Grade 11	16.3	16.3
		(13.4, 19.5)	(7.4, 32.3)
	Grade 12	--	19.7
		--	(15.3, 24.9)
	Grade 13	22.9	--
		(13.5, 36.2)	--
Region	All Ontario	10.1	11.4
		(8.9, 11.3)	(9.9, 13.0)
	City of Thunder Bay	4.6	12.0
		(2.2, 9.7)	(5.4, 24.7)
	District of Thunder Bay	12.8	15.4
	(8.2, 19.5)	(11.5, 20.4)	
	Kenora-Rainy River	12.6	12.2
		(8.1, 19.3)	(9.3, 15.9)

* Difference between 1997 and 2001 significant at $p < 0.05$

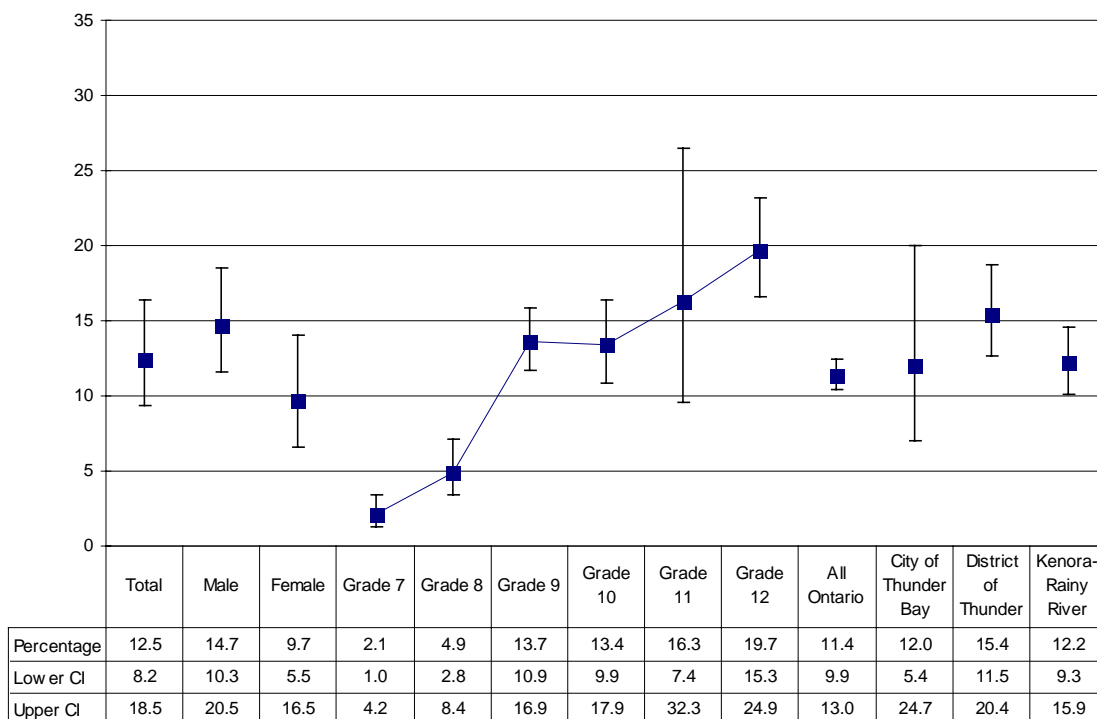


Figure 4.10.1. Past year hallucinogen (other than LSD and PCP) use by sex, grade, and region, adjusted error bars, NWOSDUS 2001.

4.11 Methamphetamine Use (Speed and Ice)

(Table 4.11.1, Ice Use)

Table 4.11.2, Figure 4.11.1, Figure 4.11.2)

Methamphetamine in powder form is called “speed” and is snorted or injected. If it is processed into methamphetamine hydrochloride as a hard crystalline rock, it is called “ice” or “crystal meth” and it is smoked. Regardless of the route of administration, the effect is the same: a powerful central nervous stimulant that causes a sudden, pleasurable, but short-lived “rush”. Effects include increased wakefulness, increased physical activity, decreased appetite, increased respiration, hyperthermia, and euphoria (U.S. National Institute on Drug Abuse 2002f). Although a closely related compound,

dextroamphetamine is licensed in Canada for treatment of attention deficit hyperactivity disorder, methamphetamine has no licensed use. Thus, all use of methamphetamine in Canada is illegal.

Like all amphetamines, speed and ice are highly addictive, producing tolerance and both physical and psychological dependence. Experiments have shown that animals will readily operate pumps that inject them with cocaine or amphetamine and will work hard to get more of the drug. The most common

symptoms of withdrawal among heavy amphetamine users are fatigue, long but troubled sleep, irritability, intense hunger, and moderate to severe depression, which may lead to suicidal behavior.

In Northwestern Ontario, student use of speed (Table 4.11.1) and ice (Table

4.11.2) is quite low at 2.8% and 0.8%, respectively. However, the use of speed in the District of Thunder Bay (6.9%) was a great deal higher than in the City of Thunder Bay (1.9%) or in Kenora-Rainy River (3.0%). The use of ice was uniformly low (1% or less) across the Northwest.

4.11.1 Speed Use

Table 4.11.1. Percentage of students reporting past year speed use by sex, grade, and region, NWOSDUS 1997-2001.

Year (N)		1997 (2238)	2001 (2704)
Total (95% CI)		3.7 (2.4, 5.7)	2.8 (2.3, 3.5)
Sex	Male	3.1 (2.1, 4.5)	2.7 (2.1, 3.4)
	Female	4.3 (2.2, 8.4)	3.0 (2.2, 4.1)
Grade	Grade 7	2.3 (0.6, 8.1)	1.4 (0.7, 2.8)
	Grade 8	--	3.1 (1.3, 7.1)
	Grade 9	5.6 (3.2, 9.5)	4.7 (3.0, 7.4)
	Grade 10	--	3.2 (1.9, 5.3)
	Grade 11	4.1 (2.5, 6.8)	2.9 (1.9, 4.5)
	Grade 12	--	1.8 (1.1, 3.0)
	Grade 13	4.1 (3.0, 5.6)	--
Region	All Ontario	3.6 (3.0, 4.2)	3.8 (3.1, 4.8)
	City of Thunder Bay	3.7 (1.5, 8.9)	1.9 (1.0, 3.8)
	District of Thunder Bay	5.4 (4.4, 6.6)	6.9 (4.9, 9.5)
	Kenora-Rainy River	3.0 (1.3, 7.0)	3.0 (2.3, 4.0)

* Difference between 1997 and 2001 significant at $p < 0.05$

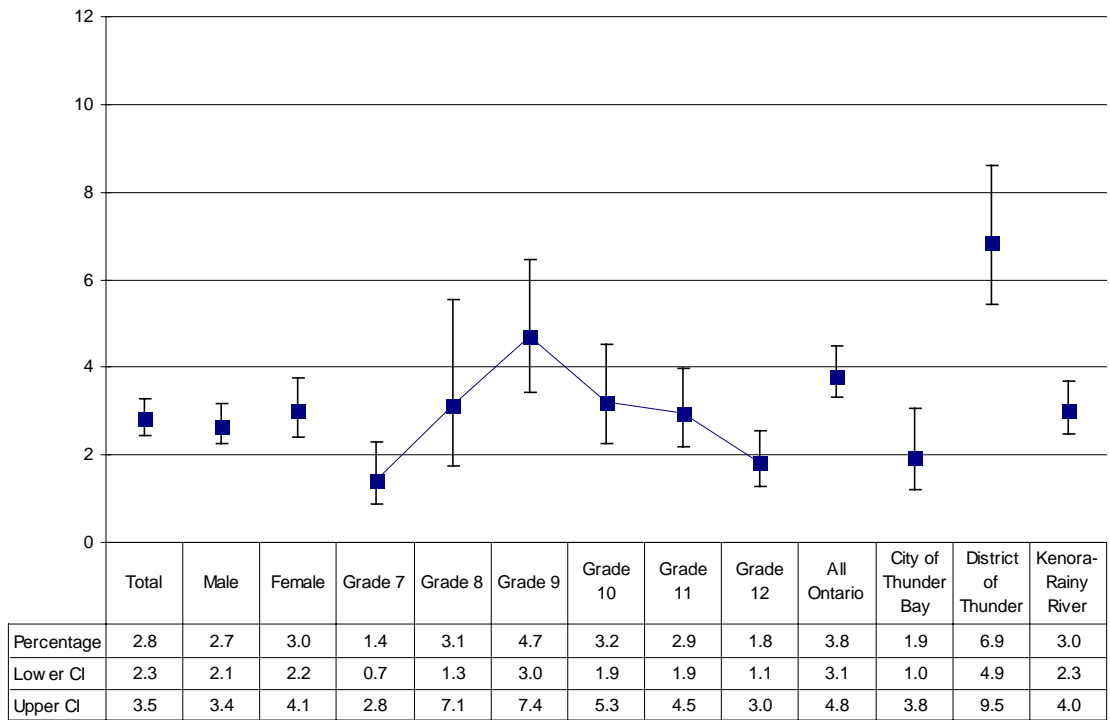


Figure 4.11.1. Past year speed use by sex, grade, and region, adjusted error bars, NWOSDUS 2001.

4.11.2 Ice Use

Table 4.11.2. Percentage of students reporting past year methamphetamine (ice) use by sex, grade, and region, NWOSDUS 1997-2001.

Year		1997	2001
(N)		(2238)	(2704)
Total		0.5	0.8
(95% CI)		(0.2, 0.9)	(0.3, 2.4)
Sex	Male	0.5	0.2
		(0.2, 1.0)	(0.1, 0.7)
	Female	0.5	1.5
		(0.2, 1.0)	(0.4, 5.6)
Grade	Grade 7	0.2	0.7
		(0.0, 0.6)	(0.2, 3.2)
	Grade 8	--	0.2
		--	(0.0, 1.3)
	Grade 9	0.8	0.8
		(0.2, 2.8)	(0.4, 1.6)
	Grade 10	--	0.8
		--	(0.3, 2.3)
	Grade 11	0.8	0.3
		(0.4, 1.6)	(0.1, 0.8)
	Grade 12	--	1.7
		--	(0.3, 9.6)
	Grade 13	0.2	--
		(0.0, 2.4)	--
Region	All Ontario	< 0.5	0.6
		--	(0.3, 1.1)
	City of Thunder Bay	0.5	1.1
		(0.2, 1.7)	(0.3, 3.7)
	District of Thunder Bay	0.9	0.7
	(0.5, 1.7)	(0.2, 2.3)	
	Kenora-Rainy River	0.2	0.3
		(0.1, 0.9)	(0.2, 0.6)

* Difference between 1997 and 2001 significant at $p < 0.05$

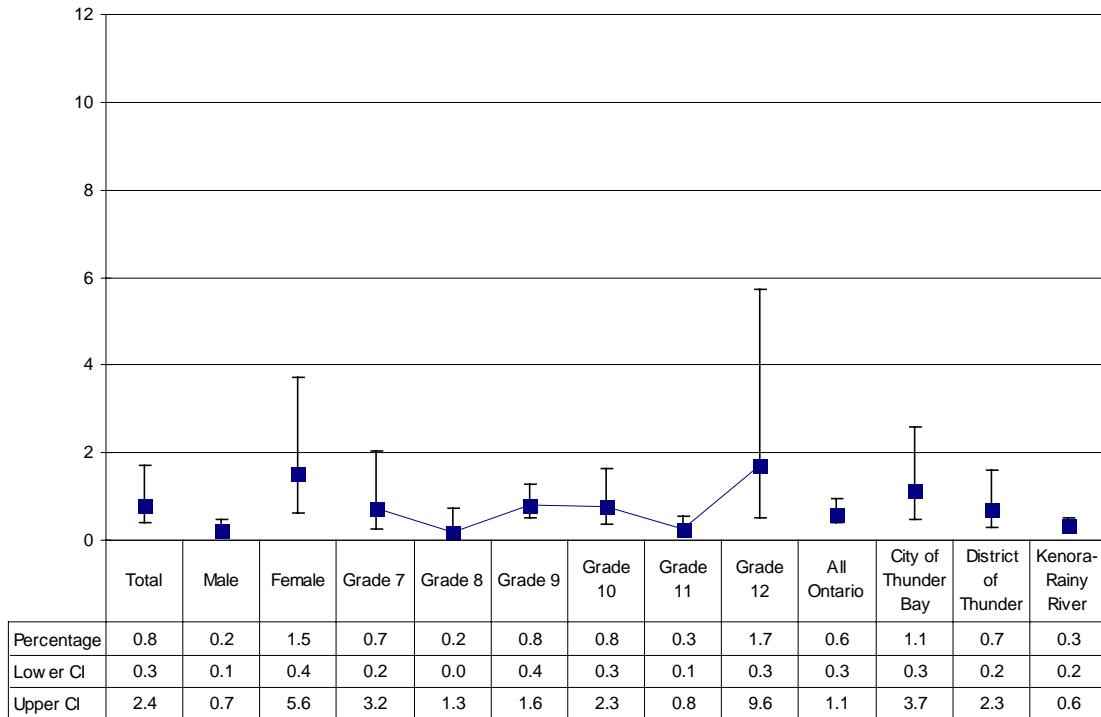


Figure 4.11.2. Past year methamphetamine (ice) use by sex, grade, and region, adjusted error bars, NWOSDUS 2001.

4.12 Cocaine and Crack Use

(Figure 4.12.1, Crack Use

Table 4.12.2, Figure 4.12.1, Figure 4.12.2)

Cocaine is a white powder derived from the leaves of the coca bush. It is usually snorted or injected, but may also be rubbed onto the mucous membranes of the mouth, rectum, or vagina.

Alternatively, cocaine can be purified by processing with ether into “freebase”, which is a crystal that can be smoked. Crack is the name given to cocaine that has been more crudely processed using ammonia or baking soda into a chunky crystal to be smoked.

Cocaine (including crack) is a strong central nervous system stimulant that interferes with the reabsorption process

of dopamine, a chemical messenger associated with pleasure and movement. Cocaine's immediate euphoric effects include hyper-stimulation, reduced fatigue, decreased appetite, and mental clarity. Some people may not experience the euphoric effects every time the drug is used. Cocaine can also cause people to become paranoid, erratic, and even panic-stricken. The high (or low) from snorting may last 15 to 30 minutes, while that from smoking may last 5 to 10 minutes (U.S. National Institute on Drug Abuse 2002b; Centre for Addiction and Mental Health 2002).

Controversy exists as to whether cocaine use causes tolerance. However, there is no argument that it is powerfully addictive, causing both strong physical and psychological dependence. Indeed, experience with human addicts, as well as scientific experiments on animals, suggest that cocaine may be the most powerfully psychologically addictive drug available.

Taking large amounts of cocaine can result in cardiac arrest and death. However, some people die very suddenly from using cocaine in small

doses, sometimes after their first use. The mechanism is unknown, but one theory postulates that the simultaneous use of cocaine and alcohol results in the formation of a third compound, cocaethylene, which may be related to the risk of sudden death (U.S. National Institute on Drug Abuse 2002b).

The use of cocaine (Table 4.12.1) and crack (Table 4.12.2) among Northwestern Ontario students is quite low, at 3.1% and 1.8% respectively, remaining constant since 1997.

4.12.1 Cocaine Use

Table 4.12.1. Percentage of students reporting past year cocaine use by sex, grade, and region, NWOSDUS 1997-2001.

Year		1997	2001
(N)		(2238)	(2704)
Total		3.5	3.1
(95% CI)		(2.5, 4.8)	(2.3, 4.2)
Sex	Male	3.0	3.8
		(2.1, 4.2)	(2.4, 5.8)
	Female	3.9	2.3
		(2.7, 5.6)	(1.5, 3.5)
Grade	Grade 7	1.9	2.5
		(0.9, 3.7)	(1.0, 5.9)
	Grade 8	--	3.5
		--	(2.0, 6.1)
	Grade 9	6.1	1.6 *
		(4.1, 9.1)	(0.5, 5.0)
	Grade 10	--	2.5
		--	(1.4, 4.6)
	Grade 11	4.4	3.0
	(3.0, 6.3)	(2.1, 4.3)	
	Grade 12	--	5.0
		--	(2.8, 8.5)
	Grade 13	1.6	--
		(0.9, 2.8)	--
Region	All Ontario	2.7	4.3 *
		(2.4, 3.0)	(3.5, 5.2)
	City of Thunder Bay	2.5	2.6
		(1.4, 4.5)	(2.0, 3.4)
	District of Thunder Bay	5.7	6.5
	(4.6, 7.0)	(3.9, 10.6)	
	Kenora-Rainy River	3.7	2.9
		(2.0, 6.8)	(1.5, 5.4)

* Difference between 1997 and 2001 significant at $p < 0.05$

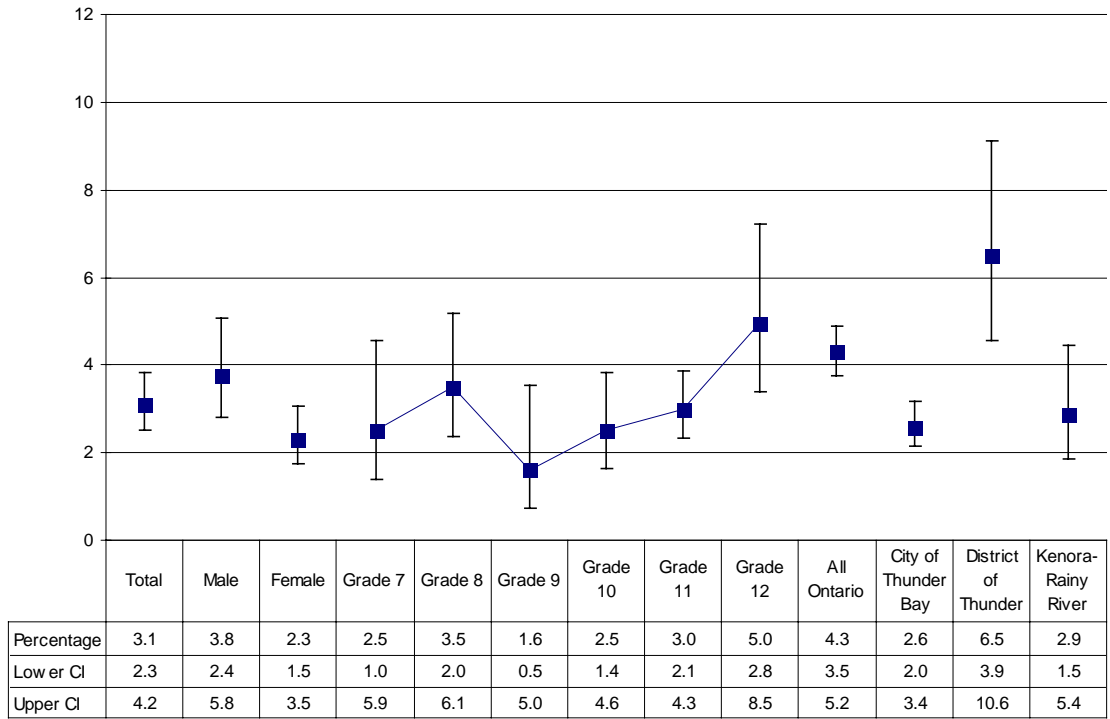


Figure 4.12.1. Past year cocaine use by sex, grade, and region, adjusted error bars, NWOSDUS 2001.

4.12.2 Crack Use

Table 4.12.2. Percentage of students reporting past year crack use by sex, grade, and region, NWOSDUS 1997-2001.

Year		1997	2001
(N)		(2238)	(2704)
Total		2.2	1.8
(95% CI)		(1.6, 3.1)	(1.3, 2.4)
Sex	Male	2.0	1.7
		(1.3, 3.1)	(1.1, 2.6)
	Female	2.4	1.8
		(1.7, 3.5)	(1.1, 3.0)
Grade	Grade 7	1.9	1.6
		(0.9, 4.1)	(0.7, 3.8)
	Grade 8	--	3.0
		--	(1.6, 5.6)
	Grade 9	3.0	2.0
		(2.0, 4.5)	(1.2, 3.3)
	Grade 10	--	0.6
		--	(0.3, 1.2)
	Grade 11	2.2	2.9
		(1.7, 3.0)	(1.5, 5.7)
	Grade 12	--	0.9
		--	(0.3, 2.2)
	Grade 13	1.1	--
		(0.6, 2.0)	--
Region	All Ontario	2.2	2.0
		(1.6, 2.8)	(1.5, 2.6)
	City of Thunder Bay	2.0	1.5
		(0.9, 4.4)	(0.9, 2.7)
	District of Thunder Bay	2.9	3.2
	(2.3, 3.6)	(1.6, 6.5)	
	Kenora-Rainy River	2.2	1.7
		(1.4, 3.3)	(1.1, 2.7)

* Difference between 1997 and 2001 significant at $p < 0.05$

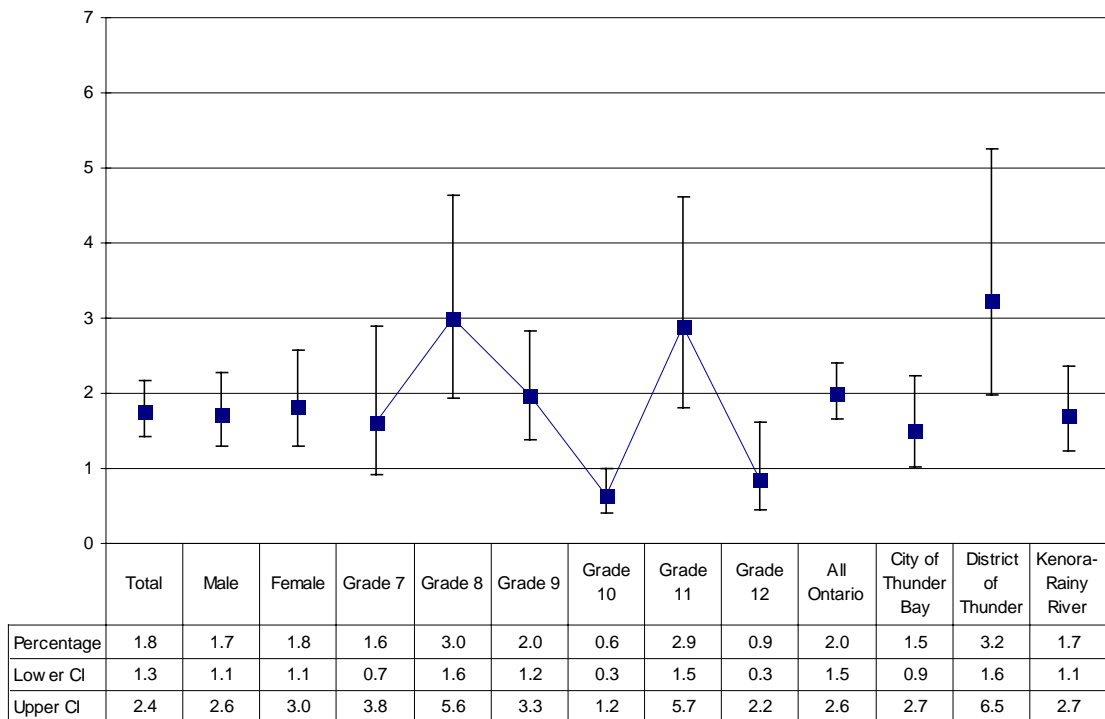


Figure 4.12.2. Past year crack use by sex, grade, and region, adjusted error bars, NWOSDUS 2001.

4.13 Heroin Use

(Table 4.13.1, Figure 4.13.1)

Heroin (diacetylmorphine) is derived from morphine, which in turn is derived from the opium poppy *Papaver somniferum*. Heroin was developed in 1898 as a more effective painkiller and cough suppressant than morphine. It was also promoted as a treatment for morphine addiction. Ironically, however, heroin turned out to be far more addictive than morphine ever was.

Heroin is typically a powder that is dissolved in water and injected. It can also be snorted or smoked. The short-term effects of heroin include a surge of euphoria ("rush") accompanied by flushing of the skin, dry mouth, and heavy extremities. Following this initial

euphoria, the user goes "on the nod," an alternately wakeful and drowsy state.

Other than the addiction itself, with its severe personal and social consequences, and the risk of fatal overdose, most of the physical problems associated with heroin result from the practice of injection. For example, most street heroin has impurities that do not readily dissolve and result in clogging the blood vessels that lead to the lungs, liver, kidneys, or brain. This can cause infection or even death of small patches of cells in vital organs. Other major risks include collapsed veins and infectious diseases, including HIV/AIDS, hepatitis, pneumonia, and heart infections.

Heroin use produces tolerance and dependence, and withdrawal symptoms are severe. Withdrawal may occur within a few hours after the last administration, producing drug craving, restlessness, muscle and bone pain, insomnia, diarrhea and vomiting, cold flashes with goose bumps ("cold turkey"), kicking movements ("kicking the habit"), and other symptoms. Major withdrawal symptoms peak between 48 and 72 hours

after the last dose and subside after about a week. Sudden withdrawal by heavily dependent users who are in poor health is occasionally fatal, although heroin withdrawal is considered much less dangerous than alcohol or barbiturate withdrawal (National Institute on Drug Abuse 2002).

Fortunately, the use of heroin among Northwestern Ontario students is low at 1.3%

Table 4.13.1. Percentage of students reporting past year heroin use by sex, grade, and region, NWOSDUS 1997-2001.

Year (N)		1997 (2238)	2001 (2704)
Total (95% CI)		1.5 (1.0, 2.4)	1.3 (0.9, 1.9)
Sex	Male	1.8 (1.1, 2.8)	1.3 (1.0, 1.9)
	Female	1.3 (0.6, 2.7)	1.2 (0.6, 2.6)
Grade	Grade 7	1.0 (0.4, 2.8)	1.6 (0.6, 4.0)
	Grade 8	--	2.1 (1.1, 4.0)
	Grade 9	2.6 (1.4, 5.0)	2.6 (1.5, 4.6)
	Grade 10	--	0.7 (0.3, 1.5)
	Grade 11	1.7 (1.0, 3.0)	1.3 (0.6, 2.8)
	Grade 12	--	0.0 (0.0, 0.0)
	Grade 13	0.2 (0.0, 2.4)	--
Region	All Ontario	1.8 (1.5, 2.1)	1.0 * (0.7, 1.4)
	City of Thunder Bay	1.3 (0.6, 3.0)	1.1 (0.5, 2.4)
	District of Thunder Bay	1.7 (1.1, 2.8)	1.5 (1.0, 2.2)
	Kenora-Rainy River	1.7 (0.8, 3.6)	1.5 (0.9, 2.6)

* Difference between 1997 and 2001 significant at $p < 0.05$

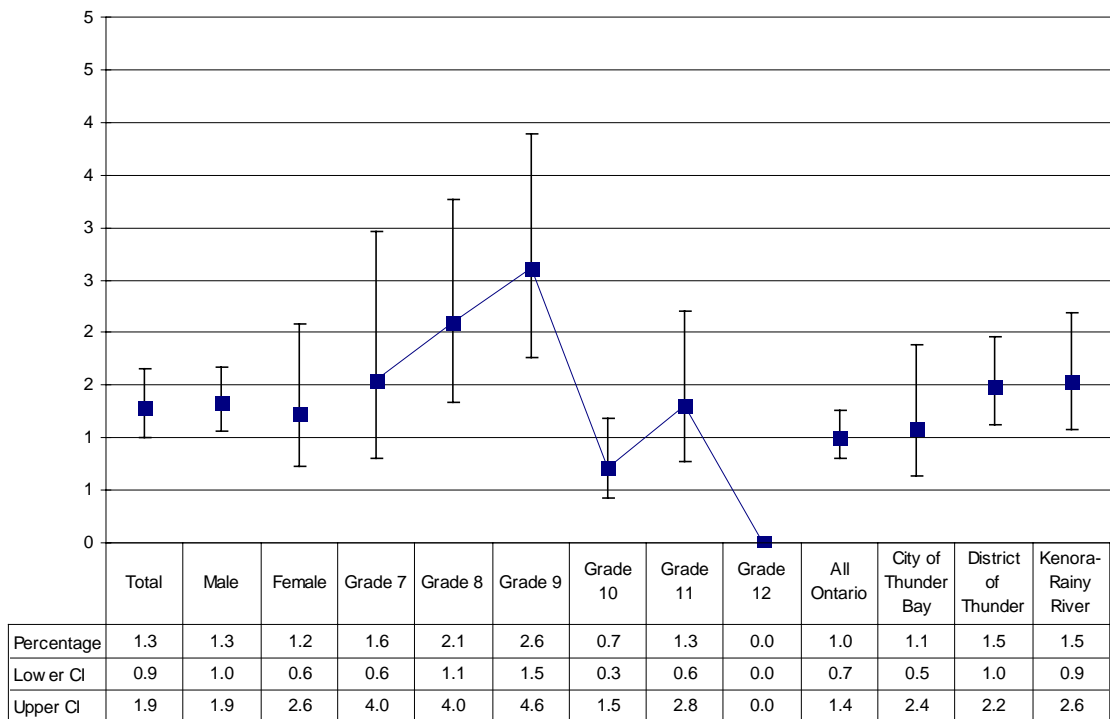


Figure 4.13.1. Past year heroin use by sex, grade, and region, adjusted error bars, NWOSDUS 2001.

4.14 Ecstasy (MDMA) Use

(Table 4.14.1, Figure 4.14.1)

Ecstasy (MDMA or 3,4-methylenedioxymethamphetamine) produces both stimulant and psychedelic effects. Its stimulant effects include an enhanced sense of pleasure and self-confidence and increased energy. The effects it has in common with hallucinogens include feelings of peacefulness, acceptance, and empathy. Users claim they experience feelings of closeness with others and a desire to touch them. (U.S. National Institute on Drug Abuse 1999).

On a “bad” trip, ecstasy can produce confusion, depression, sleep problems, anxiety, and paranoia during, and

sometimes weeks after, taking the drug. Physical effects can include muscle tension, involuntary teeth-clenching, nausea, blurred vision, faintness, and chills or sweating. Increases in heart rate and blood pressure are a special risk for people with circulatory or heart disease. Ecstasy-related fatalities are related to the rave environment. The stimulant effects of the drug, which enable the user to dance for extended periods, combined with the hot, crowded conditions usually found at raves can lead to dehydration, hyperthermia, and heart or kidney failure (U.S. National Institute on Drug Abuse 2002a).

Ecstasy use increased eight fold (from 0.6% to 4.8%) between 1993 and 1999 among Ontario students (Adlaf & Paglia 2001). That upward trend has continued with 6% of Ontario students reporting ecstasy use in 2001. Northwestern Ontario students also reported a doubling in the use of ecstasy from 1.5%

in 1997 to 3.5% in 2001. Male students are more likely to use ecstasy than females (4.5% versus 2.1%).

Northwestern Ontario students, however, reported significantly lower rates of ecstasy use (3.5% vs. 6.0%) compared with the rest of Ontario.

Table 4.14.1. Percentage of students reporting past year ecstasy use by sex, grade, and region, NWOSDUS 1997-2001.

Year		1997	2001
(N)		(2238)	(2704)
Total		1.5	3.5 *
(95% CI)		(1.0, 2.2)	(2.8, 4.2)
Sex	Male	1.2	4.5 *
		(0.7, 2.1)	(4.0, 5.2)
	Female	1.6	2.1
		(1.0, 2.8)	(1.3, 3.7)
Grade	Grade 7	0.6	1.4
		(0.2, 1.7)	(0.5, 3.9)
	Grade 8	--	2.3
		--	(1.6, 3.4)
	Grade 9	2.7	2.2
		(1.4, 5.0)	(1.3, 3.5)
	Grade 10	--	2.1
		--	(0.9, 4.6)
	Grade 11	1.6	3.6
		(0.6, 4.2)	(1.7, 7.5)
	Grade 12	--	7.6
		--	(6.1, 9.5)
	Grade 13	2.3	--
		(1.1, 4.8)	--
Region	All Ontario	3.1	6.0 *
		(1.8, 4.4)	(5.1, 7.2)
	City of Thunder Bay	1.3	3.0 *
		(0.7, 2.6)	(2.4, 3.7)
	District of Thunder Bay	2.0	3.7 *
	(1.4, 2.8)	(2.4, 5.9)	
	Kenora-Rainy River	1.5	4.1 *
		(0.7, 3.1)	(3.0, 5.8)

* Difference between 1997 and 2001 significant at $p < 0.05$

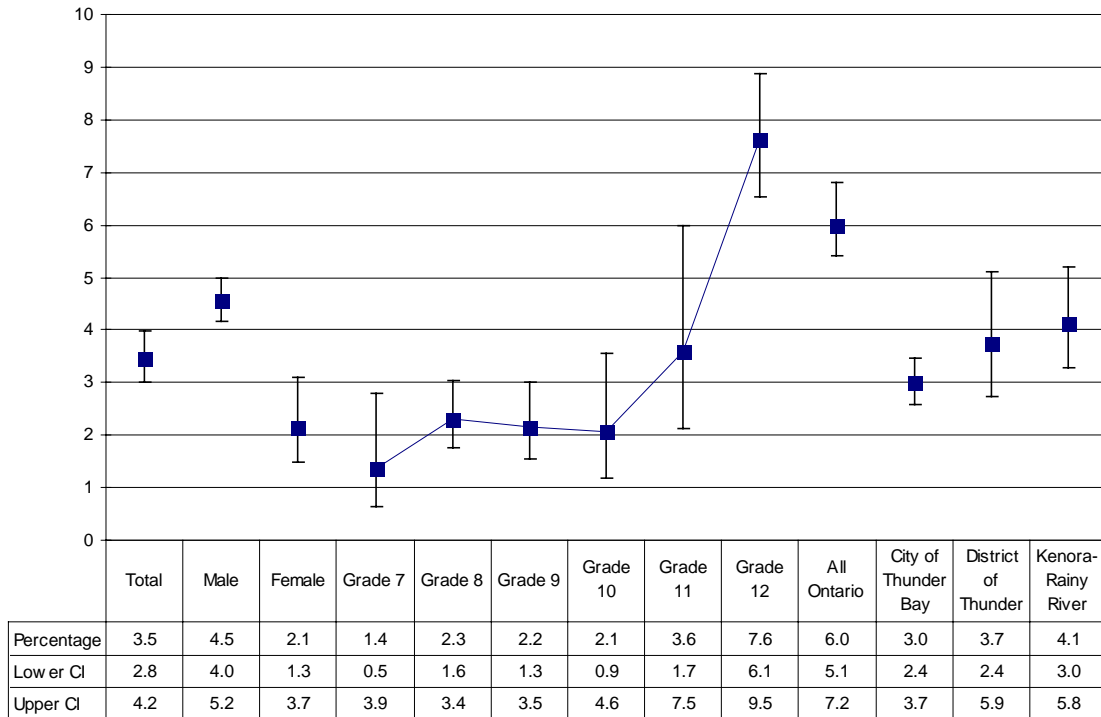


Figure 4.14.1. Past year ecstasy use by sex, grade, and region, adjusted error bars, NWOSDUS 2001.

4.15 Anabolic Steroid Use

(Table 4.15.1, Figure 4.15.1)

Anabolic steroids are a group of chemicals related to male sex hormones (androgens), including testosterone. Their primary medical use is in treating conditions such as AIDS-related body wasting, delayed onset of puberty, impotence, hypogonadism, and other diseases. Anabolic androgens are also used as hormone replacement therapy in older men to improve energy, well-being, and sex drive as well as prevent decreases in muscle mass and bone loss.

However, the most common use of steroids is by body-builders, athletes, and others who wish to increase lean muscle mass, reduce body fat, and improve their physical performance. The

amounts taken for these purposes are up to 100 times the dose used for medical purposes. Very high doses of androgens can cause prostate and fertility problems as well as increase cholesterol, which can lead to heart and liver problems. Use of anabolic steroids by adolescents can be particularly damaging because high levels of sex hormone can signal the body to halt growth prematurely. This means that adolescents risk remaining short the remainder of their lives if they take anabolic steroids before the typical adolescent growth spurt.

The use of anabolic steroids has been increasing in both the United States and Canada. Steroid use in Ontario has

approximately quadrupled from 1% in 1989 to almost 4% in 2001 (Adlaf and Paglia 2001). The 2001 NWOSDUS found a very large increase in steroid use between 1997 and 2001, from 1.4% to

6.2% (Table 4.15.1). Not surprisingly, most use of steroids is in males (9.7% compared to 1.9% in females). Most users are in grade 10 or higher.

Table 4.15.1. Percentage of students reporting past year anabolic steroid use by sex, grade, and region, NWOSDUS 1997-2001.

Year (N)		1997 (2090)	2001 (2671)
Total (95% CI)		1.4 (1.0, 2.2)	6.2 * (3.7, 10.1)
Sex	Male	2.2 (1.5, 3.3)	9.7 * (5.9, 15.6)
	Female	0.7 (0.4, 1.4)	1.9 (0.9, 3.8)
Grade	Grade 7	0.4 (0.1, 1.0)	2.1 * (1.2, 3.4)
	Grade 8	--	2.7 (1.0, 7.3)
	Grade 9	2.7 (1.3, 5.5)	3.5 (2.6, 4.7)
	Grade 10	--	8.2 (5.5, 12.2)
	Grade 11	1.8 (1.2, 2.5)	8.1 * (6.8, 9.6)
	Grade 12	--	10.1 (2.1, 37.6)
	Grade 13	2.3 (1.3, 4.0)	--
Region	All Ontario	1.5 --	3.9 * (3.2, 4.8)
	City of Thunder Bay	0.4 (0.1, 1.6)	6.1 * (2.6, 13.5)
	District of Thunder Bay	2.6 (1.6, 4.2)	5.5 (3.1, 9.7)
	Kenora-Rainy River	2.1 (1.2, 3.6)	6.5 * (3.7, 11.3)

* Difference between 1997 and 2001 significant at $p < 0.05$

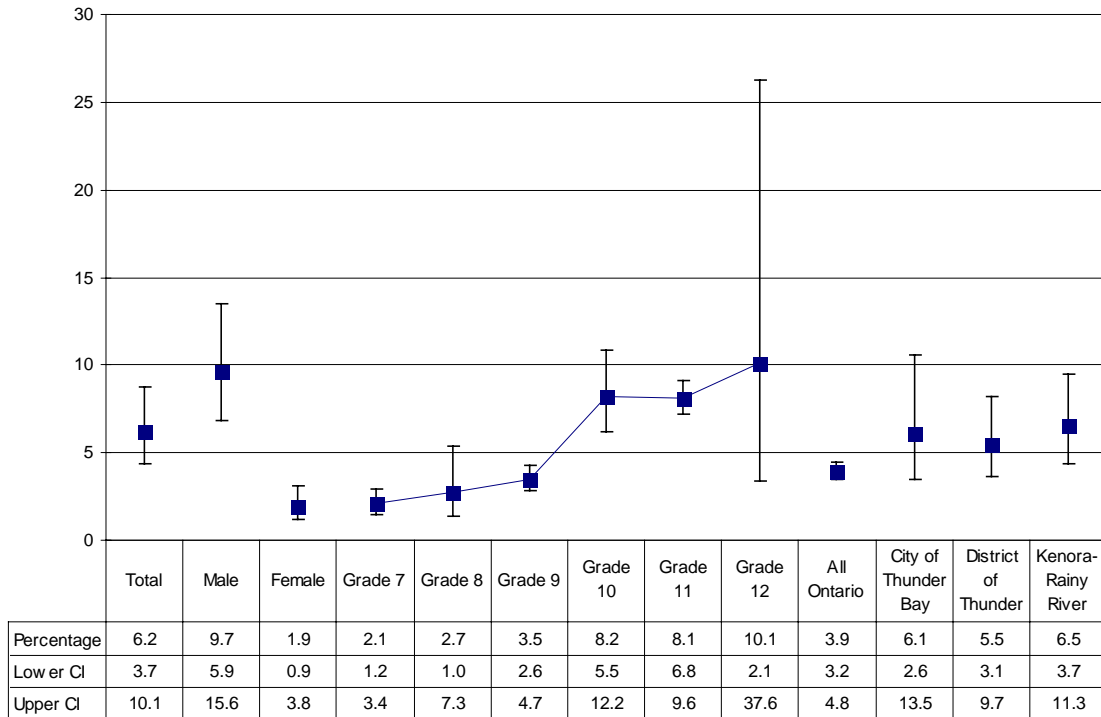


Figure 4.15.1. Past year anabolic steroid use by sex, grade, and region, adjusted error bars, NWOSDUS 2001.

4.16 The Legal (Licit) Use of Prescription Drugs

This section details the legal use of prescription drugs – that is, the use of prescription drugs by Northwestern Ontario under a physician’s supervision. For an account of the illegal use of prescription drugs, see section 4.7. Like section 4.7, this section describes the use of barbiturates, stimulants, and

tranquilizers. However, it also contains information on an additional drug: Ritalin (section 4.16.4). The same cautions noted in section 4.7 with regard to the interpretation of data on prescription drug use among students apply here as well.

4.16.1 Medically Prescribed Barbiturate Use

(Table 4.16.1, Figure 4.16.1)

A description of barbiturates as well as their illicit (non-medical) use among Northwestern Ontario students can be found in section 4.7.1. This section presents student use of barbiturates that are legally prescribed by a physician.

The 2001 NWOSDUS found that the legal use of medically prescribed barbiturates in Northwestern Ontario more than doubled from 7.2% in 1997 to 16.8% in 2001. With this increase,

medically prescribed barbiturates are now ranked as the fourth most common drug among Northwestern Ontario students after alcohol, cigarettes, and cannabis. We should approach this result with caution, however, and some notes on interpretation are worth considering here.

First, as mentioned in section 4.7, there is the possibility of confusion on the part of students as to whether they have ever taken a barbiturate. However, four things seem to mitigate this as an explanation for the reported increase:

- a) the increase detected by the NWOSDUS in Northwestern Ontario was similar to the increase seen across the province in the 2001 OSDUS,
- b) there is no reason to believe that students became any more or less certain about the definition of a barbiturate between 1997 and 2001,
- c) whereas the actual percentage of students who were prescribed barbiturates could itself be disputed on the basis of reporting confusion, point b) above suggests that the *change* in the rate from 1997 to 2001 is less easy to dispute,
- d) the increase was statistically significant across all grades, both sexes, and all three regions of Northwestern Ontario.

Nevertheless, interpretation requires caution. Barbiturates are not as

commonly used as in past years. Tranquilizers have many of the same effects, are safer, and less addictive than barbiturates, and so have replaced them for most applications. There is no reason to believe that Ontario doctors suddenly decided to start prescribing barbiturates to adolescents.

From a statistical point of view, it is also worth bearing in mind that all statistics admit the possibility, generally set to be a 1 in 20 chance, that a statistically significant difference could arise from a study sample purely by chance, and may not represent the population from which the sample was drawn. This, however, does seem unlikely given that a similar increase was noted across the province and not just in the northwest.

In conclusion, then, the increase appears to be “real” in the sense that it appears to be remarkably consistent across age, sex, and geography. Nor does it appear to be entirely attributable to either confusion or to mere chance. Nevertheless, it seems to contradict expected results and we have no explanation for that contradiction at the present time. We will look forward, however, to the 2003 OSDUS for updated Ontario results and to the 2005 NWOSDUS for updated Northwestern Ontario-specific rates. Those results will give further insight into whether this finding is an anomaly or a sustained trend.

Table 4.16.1. Percentage of students reporting past year medically-prescribed barbiturate use by sex, grade, and region, NWOSDUS 1997-2001.

Year		1997	2001
(N)		(2238)	(2704)
Total		7.2	16.8 *
(95% CI)		(5.5, 9.2)	(15.0, 18.7)
Sex	Male	5.2	16.1 *
		(4.0, 6.8)	(14.7, 17.6)
	Female	9.1	17.7 *
		(6.4, 12.9)	(15.0, 20.7)
Grade	Grade 7	6.1	14.4 *
		(3.9, 9.5)	(10.6, 19.2)
	Grade 8	--	14.2
		--	(10.4, 19.3)
	Grade 9	9.5	19.7 *
		(6.8, 13.1)	(17.6, 22.1)
	Grade 10	--	15.0
		--	(10.6, 20.8)
	Grade 11	7.0	15.0 *
	(4.0, 12.1)	(12.4, 18.0)	
	Grade 12	--	20.7
		--	(13.4, 30.5)
	Grade 13	5.2	--
		(2.1, 12.3)	--
Region	All Ontario	6.0	11.8 *
		(4.8, 7.2)	(10.4, 13.4)
	City of Thunder Bay	7.6	17.7 *
		(5.1, 11.3)	(15.4, 20.3)
	District of Thunder Bay	9.7	19.4 *
	(8.1, 11.7)	(13.6, 27.0)	
	Kenora-Rainy River	5.6	14.4 *
		(3.0, 10.2)	(12.7, 16.4)

* Difference between 1997 and 2001 significant at $p < 0.05$

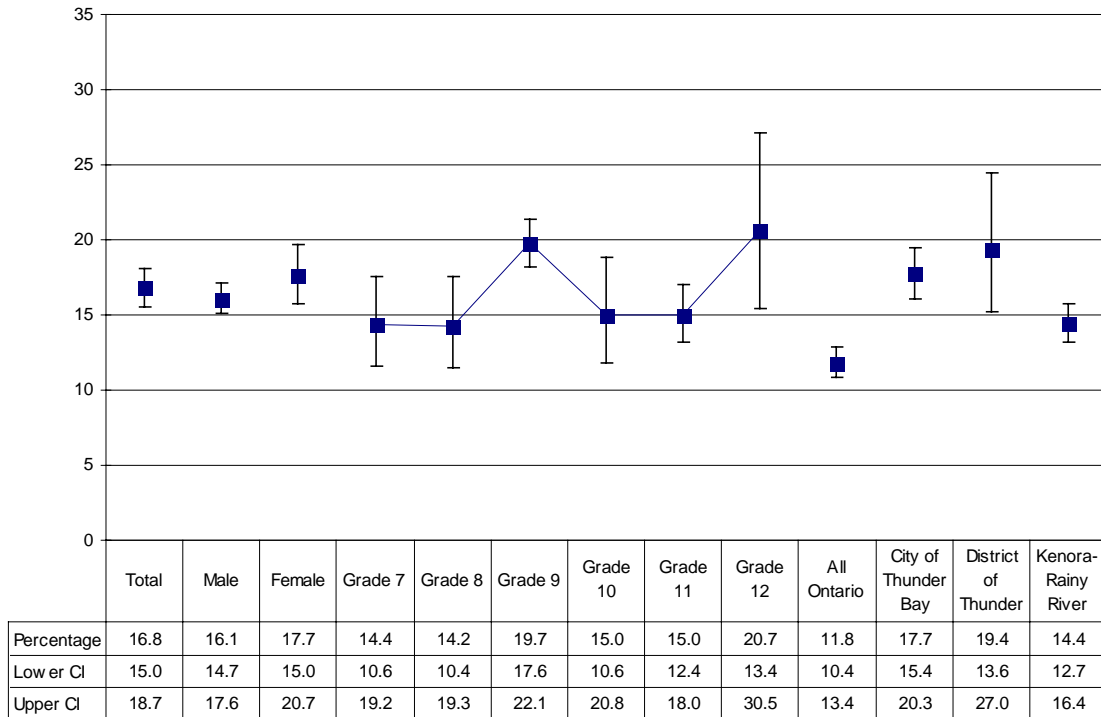


Figure 4.16.1. Past year medically-prescribed barbiturate use by sex, grade, and region, adjusted error bars, NWOSDUS 2001.

4.16.2 Medically-Prescribed Stimulant Use

(Table 4.16.2, Figure 4.16.2)

See section 4.7.2 for a description of stimulants (other than cocaine and amphetamines) and their illicit (non-medical) use among Northwestern Ontario students. This section presents student use of stimulants that are legally prescribed by a physician.

Like the use of legal prescribed barbiturates described above in section

4.16.1, the legal use of prescription stimulants has more than doubled from 3.2% in 1997 to 7.4% in 2001. While this rate is much lower than that of barbiturate use, the rise is also potentially troubling. Readers should note that the cautions on the interpretation of this data are the same as those stated in section 4.16.1 above.

Table 4.16.2. Percentage of students reporting past year medically-prescribed stimulant use by sex, grade, and region, NWOSDUS 1997-2001.

Year		1997	2001
(N)		(2238)	(2704)
Total		3.2	7.4 *
(95% CI)		(2.3, 4.5)	(6.6, 8.4)
Sex	Male	3.0	8.9 *
		(2.2, 4.2)	(7.3, 10.7)
	Female	3.5	5.7
		(2.2, 5.4)	(3.8, 8.5)
Grade	Grade 7	1.4	8.0 *
		(0.8, 2.4)	(5.4, 11.7)
	Grade 8	--	7.4
		--	(4.4, 12.1)
	Grade 9	5.7	8.7
		(3.5, 9.3)	(7.5, 10.0)
	Grade 10	--	9.6
		--	(7.1, 12.9)
	Grade 11	4.6	7.7
	(3.3, 6.4)	(4.6, 12.7)	
	Grade 12	--	4.0
		--	(2.1, 7.5)
	Grade 13	1.8	--
		(0.7, 5.0)	--
Region	All Ontario	3.7	7.0 *
		(2.7, 4.7)	(6.1, 8.1)
	City of Thunder Bay	1.9	7.3 *
		(1.2, 3.1)	(6.1, 8.6)
	District of Thunder Bay	5.5	11.0 *
	(3.6, 8.5)	(7.1, 16.7)	
	Kenora-Rainy River	3.7	6.5 *
		(2.1, 6.6)	(5.5, 7.7)

* Difference between 1997 and 2001 significant at $p < 0.05$

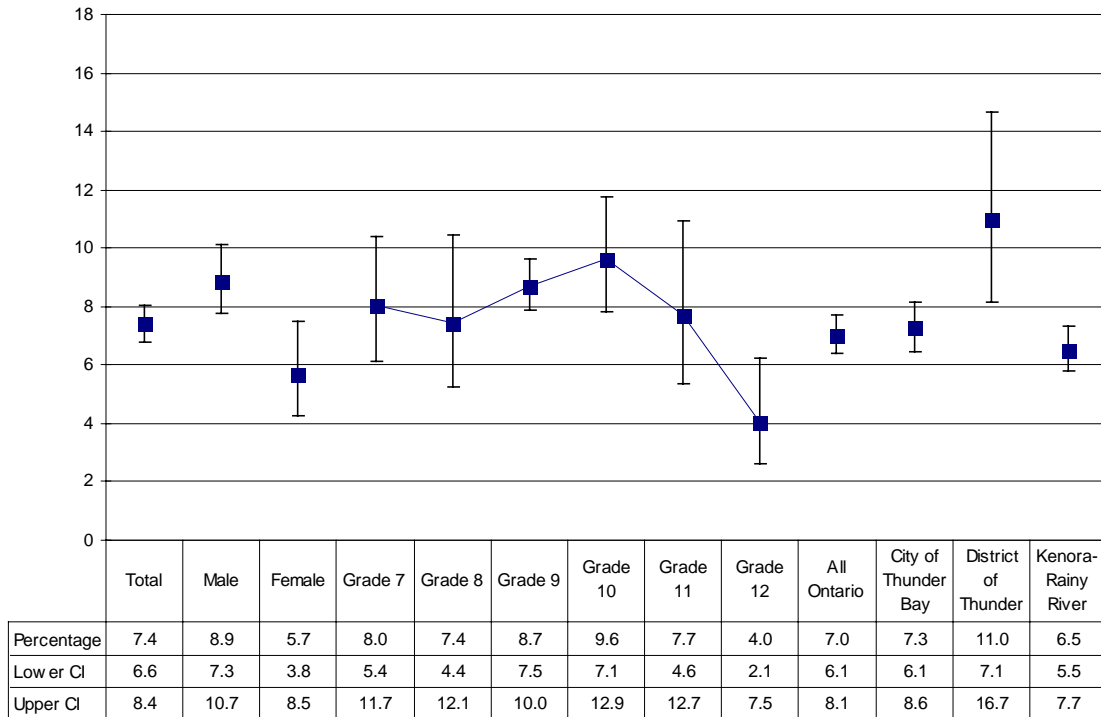


Figure 4.16.2. Past year medically-prescribed stimulant use by sex, grade, and region, adjusted error bars, NWOSDUS 2001.

4.16.3 Medically-Prescribed Tranquilizer Use

(Table 4.16.3, Figure 4.16.3)

See section 4.7.3 for a description of tranquilizers as well as their illicit (non-medical) use among Northwestern Ontario students. This section presents student use of tranquilizers that are legally prescribed by a physician. The reported legal use of tranquilizers by adolescents in Northwestern Ontario

increased slightly, but statistically significantly, between 1997 and 2001, from 2.1% to 3.3%. Tranquilizer use may be confounded with barbiturate use. Readers should note that the cautions on the interpretation of this data are the same as those stated in section 3.15.1 above.

Table 4.16.3. Percentage of students reporting past year medically-prescribed tranquilizer use by sex, grade, and region, NWOSDUS 1997-2001.

Year		1997	2001
(N)		(2238)	(2704)
Total		2.1	3.3 *
(95% CI)		(1.4, 3.1)	(2.7, 3.9)
Sex	Male	1.8	3.7
		(0.8, 4.0)	(2.6, 5.4)
	Female	2.4	2.7
		(1.6, 3.5)	(2.0, 3.7)
Grade	Grade 7	0.9	3.4 *
		(0.4, 2.1)	(1.9, 6.0)
	Grade 8	--	2.3
		--	(1.2, 4.4)
	Grade 9	3.5	3.5
		(1.9, 6.3)	(2.5, 4.9)
	Grade 10	--	1.5
		--	(0.9, 2.4)
	Grade 11	2.7	4.8
	(1.3, 5.8)	(3.0, 7.6)	
	Grade 12	--	3.8
		--	(2.1, 6.7)
	Grade 13	2.6	--
		(1.2, 5.4)	--
Region	All Ontario	2.1	3.2 *
		(1.7, 2.5)	(2.6, 3.8)
	City of Thunder Bay	1.5	2.9 *
		(0.9, 2.4)	(2.0, 4.1)
	District of Thunder Bay	2.8	4.4
	(2.0, 3.8)	(2.3, 8.4)	
	Kenora-Rainy River	2.5	3.6
		(1.3, 4.9)	(2.8, 4.5)

* Difference between 1997 and 2001 significant at $p < 0.05$

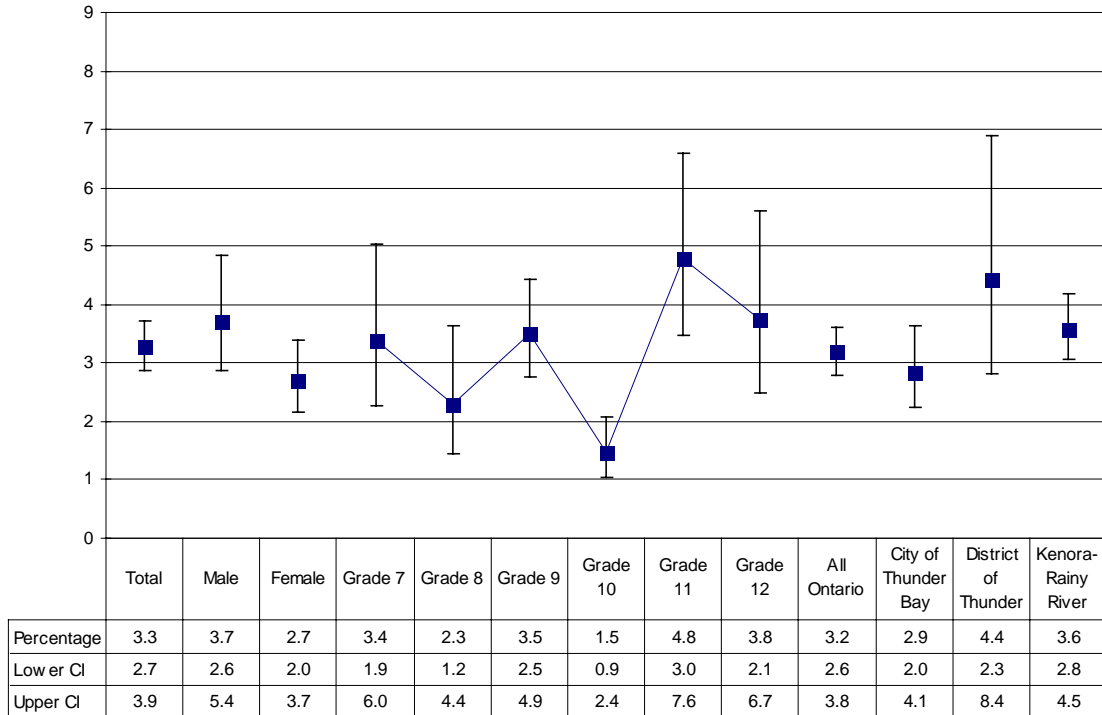


Figure 4.16.3. Past year medically-prescribed tranquilizer use by sex, grade, and region, adjusted error bars, NWOSDUS 2001.

4.16.4 Medically-Prescribed Ritalin Use
(Table 4.16.4, Figure 4.16.4)

Ritalin (methylphenidate) is a medication prescribed for children with attention-deficit hyperactivity disorder (ADHD), which is characterized by agitated behavior and an inability to focus on tasks. Studies since 1980 have revealed prevalence figures from 4% to 12% of the 6- to 12-year-old age group (Anderson et al 1987, Szatmari, Offord, and Boyle 1989, Wolraich 1998). In Ontario, the Ontario Child Health Survey estimated that about 6% of children (3% of girls and 9% of boys) have ADHD (Szatmari, Offord, and Boyle 1989).

Though it may seem counter-intuitive, methylphenidate is a central nervous

system (CNS) stimulant. Yet, it has a calming effect on hyperactive children and improves the ability to focus among those with the inattentive form of ADHD (U.S. National Institute on Mental Health 2002). For those who do not have ADHD, methylphenidate does act as a stimulant, and some people have abused it for that purpose.

Untreated ADHD has been found to be associated with an increased likelihood to abuse drugs and alcohol, an effect that is significantly reduced by treatment with stimulants such as methylphenidate (Biederman et al 1999).

The use of methylphenidate in Northwestern Ontario has remained constant since 1997 and, at 2.8%, falls

within the range expected given the estimates of the number of children with ADHD.

Table 4.16.4. Percentage of students reporting past year ritalin use by sex, grade, and region, NWOSDUS 1997-2001.

Year		1997	2001
(N)		(2238)	(2704)
Total		2.8	2.8
(95% CI)		(1.7, 4.6)	(2.2, 3.6)
Sex	Male	3.0	3.9
		(1.9, 4.7)	(3.1, 4.8)
	Female	2.7	1.6
		(1.0, 7.1)	(0.9, 2.6)
Grade	Grade 7	4.0	4.4
		(2.0, 7.9)	(2.9, 6.5)
	Grade 8	--	4.3
		--	(1.8, 9.9)
	Grade 9	3.1	4.5
		(1.3, 7.3)	(3.8, 5.4)
	Grade 10	--	3.6
		--	(2.2, 5.7)
	Grade 11	0.9	1.0
		(0.5, 1.5)	(0.5, 1.9)
	Grade 12	--	0.5
		--	(0.2, 1.0)
	Grade 13	0.2	--
		(0.0, 2.2)	--
Region	All Ontario	3.4	2.8
		(2.7, 4.1)	(2.2, 3.4)
	City of Thunder Bay	4.4	3.3
		(2.2, 8.4)	(2.4, 4.5)
	District of Thunder Bay	2.5	2.9
		(1.6, 3.8)	(1.9, 4.5)
	Kenora-Rainy River	1.3	2.0
		(0.5, 3.2)	(1.3, 3.2)

* Difference between 1997 and 2001 significant at $p < 0.05$

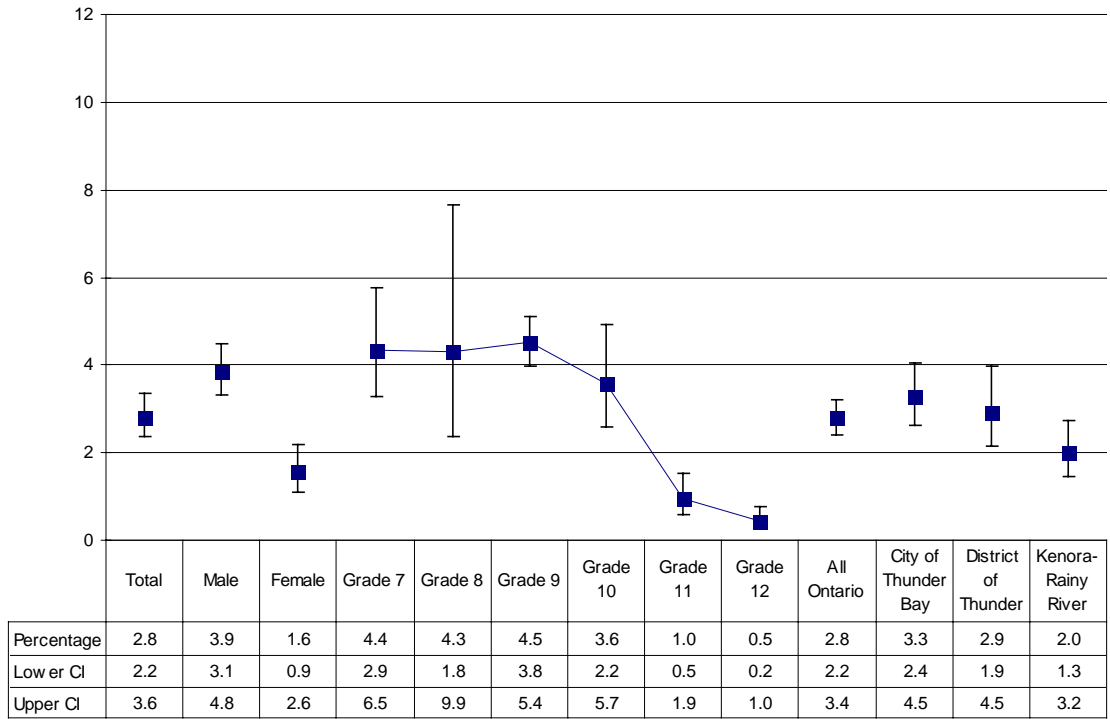


Figure 4.16.4. Past year ritalin use by sex, grade, and region, adjusted error bars, NWOSDUS 2001.

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Centre
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Centre de
toxicomanie et
de santé mentale

STUDENT QUESTIONNAIRE NWOSDUS 2001

These questions are to find out what students, like yourself, know about alcohol and other drugs (for example, tobacco, cannabis, hallucinogens, cocaine, heroin and medical drugs), how you feel about alcohol and other drugs, and what you do about using alcohol and other drugs. **There is no assumption that students who answer the questionnaire have ever used alcohol or other drugs.**

Do not put your name on the questionnaire. The information you give is to be kept completely secret and confidential. We ask you, therefore, to be completely honest and accurate when you answer the questions. If you do not wish to answer a question leave it blank. Also, you may withdraw from the survey at any time. **THANK YOU FOR YOUR HELP.**

INSTRUCTIONS FOR COMPLETING QUESTIONNAIRE

MOST QUESTIONS ARE FOLLOWED BY A LIST OF ANSWERS. PLEASE CHOOSE THE ANSWER THAT IS RIGHT FOR YOU AND INDICATE YOUR CHOICE IN ONE OF THE BOXES TO THE LEFT.

FOR EXAMPLE:

Which of the following best describes the reason you have chosen your subjects while in school?

- 1 I will need them to get into college or university
- 2 They will help me get the sort of job I want
- 3 I like them or find them interesting
- 4 I am good at them
- 5 My friends will be taking them

BEFORE STARTING TO ANSWER THIS SURVEY, PLEASE INDICATE THE CURRENT TIME.

___ ___ : ___ ___ (For example, 10:05)

THE FIRST FEW QUESTIONS ARE ABOUT YOUR BACKGROUND, YOUR SCHOOL, AND HOW YOU SPEND YOUR TIME.

1. How old are you?

- 10 10 years of age or younger
- 11 11 years
- 12 12 years
- 13 13 years
- 14 14 years
- 15 15 years
- 16 16 years
- 17 17 years
- 18 18 years
- 19 19 years
- 20 20 years or older

2. Are you male or female?

- 1 Male
- 2 Female

3. In what grade are you?

- 06 Grade 6
- 07 Grade 7
- 08 Grade 8
- 09 Grade 9
- 10 Grade 10
- 11 Grade 11
- 12 Grade 12
- 13 Grade 13 (OAC)

4. With whom are you currently living?

- 1 Both natural parents
- 2 My natural father
- 3 My natural mother
- 4 One natural parent and one stepparent
- 5 Neither natural parent

5. How many times have you moved to a different home in the last 5 years?

- 1 Never
- 2 Once
- 3 2 or 3 times
- 4 4 or 5 times
- 5 6 to 9 times
- 6 10 times or more

6. Overall, what marks do you usually get in school?

- 1 A B (80% - 100%)
- 2 B B (67% - 79%)
- 3 C B (60% - 66%)
- 4 D B (50% - 59%)
- 5 Less than D B (below 50%)

7. Not everyone expects to go as far in school as they would like. How likely is it that you will stay in school until you graduate?

- 1 Not at all likely
- 2 Not very likely
- 3 Fairly likely
- 4 Very likely

8. How many OAC credits have you completed? (Please write number in space. Write in "0" if you have none.)

_____ OAC credits

99 I am not in high school

9. At school, how worried are you that someone will harm you, threaten you, or take something from you?

- 1 Very worried
- 2 Somewhat worried
- 3 Not very worried
- 4 Not at all worried

For the next five questions, please tell us whether you agree or disagree with the following statements.

10. I feel safe in my school.

- 1 Strongly agree
- 2 Somewhat agree
- 3 Somewhat disagree
- 4 Strongly disagree

11. I feel close to people at this school.

- 1 Strongly agree
- 2 Somewhat agree
- 3 Somewhat disagree
- 4 Strongly disagree

12. I feel like I am part of this school.

- 1 Strongly agree
- 2 Somewhat agree
- 3 Somewhat disagree
- 4 Strongly disagree

13. Most teachers in my school are excellent.

- 1 Strongly agree
- 2 Somewhat agree
- 3 Somewhat disagree
- 4 Strongly disagree

14. Most classes offered in my school are challenging.

- 1 Strongly agree
- 2 Somewhat agree
- 3 Somewhat disagree
- 4 Strongly disagree

15. During the LAST FIVE YEARS, how many times have you changed schools? (Do not include changing from elementary school to high school.)

- 1 Never
- 2 Once
- 3 2 times
- 4 3 times
- 5 4 or more times

16. Since September, how often has either of your parents attended a school meeting? (Do not include parent-teacher meetings.)

- 1 Never
- 2 Once
- 3 2 to 3 times
- 4 4 to 5 times
- 5 6 or more times

17. Since September, how often has either of your parents spoken with any of your teachers?

- 1 Never
- 2 Once
- 3 2 to 3 times
- 4 4 to 5 times
- 5 6 or more times

18. In the LAST FOUR WEEKS (that is, during the last 20 school days), how many days of school did you miss because of your health?

I missed _____ days of school during the last 4 weeks because of my health.

19. During the LAST FOUR WEEKS, how often have you gone to school, but skipped a class when you weren't supposed to?

- 1 Never
- 2 1 or 2 times
- 3 3 to 5 times
- 4 6 to 10 times
- 5 11 to 20 times
- 6 More than 20 times

20. How much money are you usually allowed to spend as you want each week? (Do not include lunch money.)

Each week I can spend \$_____ any way I want.

21. How would you describe your family's financial situation?

- 1 Well-above average
- 2 Somewhat above average
- 3 About average
- 4 Somewhat below average
- 5 Well-below average

22. How far did your father go in school?

- 1 Graduated university
- 2 Attended university
- 3 Graduated college
- 4 Attended college
- 5 Graduated high school
- 6 Attended high school
- 7 Did not attend high school
- 8 Don't know
- 9 No father

23. How far did your mother go in school?

- 1 Graduated university
- 2 Attended university
- 3 Graduated college
- 4 Attended college
- 5 Graduated high school
- 6 Attended high school
- 7 Did not attend high school
- 8 Don't know
- 9 No mother

24. How many parents of your close friends do your parents know well?

- 1 None
- 2 1 parent
- 3 2 to 3 parents
- 4 4 to 6 parents
- 5 7 to 10 parents
- 6 11 or more parents

25. What language do you usually speak at home?

- 1 English
- 2 French
- 3 Other

26. Including stepbrothers and stepsisters, how many brothers and sisters do you have?

____ brothers/sisters (Write in >0' if you have none.)

27. How many automobiles does your family have?

- 1 None
- 2 1
- 3 2 or more

28. How many personal computers (PCs) does your family have at home?

- 1 None
- 2 1
- 3 2 or more

29. Were your parents born in Canada?

- 1 Both parents were born in Canada
- 2 One parent
- 3 Neither parent

30. How well would you say you are getting along with your parents?

- 1 I am getting along very well with my parents
- 2 I am getting along OK with my parents
- 3 I am not getting along well with my parents

31. In your free time away from home how often does your mother or father know where you are?

- 1 Always
- 2 Usually
- 3 Sometimes
- 4 Seldom
- 5 Never

32. On average, how many hours a week do you spend working for pay?

- 1 Don't work
- 2 5 hours or less
- 3 6 to 10 hours
- 4 11 to 15 hours
- 5 16 to 20 hours
- 6 More than 20 hours

33. During an average week, how many afternoons or evenings do you spend doing extra curricular things at or for school?

- 1 No afternoons or evenings
- 2 1 afternoon or evening
- 3 2 afternoons or evenings
- 4 3 afternoons or evenings
- 5 4 afternoons or evenings
- 6 5 or more afternoons or evenings

33a. Raves are large all-night dance parties that are quickly organized and promoted by word-of-mouth. How often in the LAST 12 MONTHS have you been to a rave?

- 1 Never
- 2 Once
- 3 2 times
- 4 3 or more times

THE NEXT SECTION IS ABOUT ALCOHOL AND DRUGS. PLEASE ANSWER ALL QUESTIONS EVEN IF YOU HAVE NEVER TRIED THESE DRUGS.

34. In the LAST 12 MONTHS, how often did you smoke CIGARETTES?

- 01 Tried one cigarette
- 02 Less than 1 cigarette a day
- 03 1 or 2 cigarettes a day
- 04 3 to 5 cigarettes a day
- 05 6 to 10 cigarettes a day
- 06 11 to 15 cigarettes a day
- 07 16 to 20 cigarettes a day
- 08 More than 20 cigarettes a day

- 09 Smoked, but not in the last 12 months
- 10 Never smoked cigarettes in lifetime

35. In the LAST 12 MONTHS, how often have you used ALCOHOL X liquor (rum, whiskey, etc.), wine, beer, coolers?

- 01 Drank only at special events (for example, Christmas or at weddings)
- 02 Had a sip of alcohol to see what it is like
- 03 Once a month or less often
- 04 2 or 3 times a month
- 05 Once a week
- 06 2 or 3 times a week
- 07 4 or 5 times a week
- 08 Almost every day - 6 or 7 times a week

- 09 Drank, but not in the last 12 months
- 10 Never drunk alcohol in lifetime

36. In the LAST 12 MONTHS, how often did you use CANNABIS (also known as Marijuana, "Grass", "Pot", Hashish, "Hash", Hash Oil)?

- 1 1 or 2 times
- 2 3 to 5 times
- 3 6 to 9 times
- 4 10 to 19 times
- 5 20 to 39 times
- 6 40 or more times

- 7 Used, but not in the last 12 months
- 8 Never used in lifetime
- 9 Don=t know what cannabis is

37. In the LAST 12 MONTHS, how often did you sniff GLUE (for example, airplane glue, contact cement, etc.) in order to get high?

- 1 1 or 2 times
- 2 3 to 5 times
- 3 6 to 9 times
- 4 10 to 19 times
- 5 20 to 39 times
- 6 40 or more times

- 7 Sniffed glue, but not in the last 12 months
- 8 Never sniffed glue in lifetime

38. In the LAST 12 MONTHS, how often did you sniff SOLVENTS (such as nail polish remover, paint thinner or gasoline, etc.) in order to get high?

- 1 1 or 2 times
- 2 3 to 5 times
- 3 6 to 9 times
- 4 10 to 19 times
- 5 20 to 39 times
- 6 40 or more times

- 7 Sniffed solvents, but not in the last 12 months
- 8 Never sniffed a solvent in lifetime

39. In the LAST 12 MONTHS, how often did you take BARBITURATES (for example, Seconal, Amytal, etc.) WITHOUT A PRESCRIPTION or without a doctor telling you to take them?

- 1 1 or 2 times
- 2 3 to 5 times
- 3 6 to 9 times
- 4 10 to 19 times
- 5 20 to 39 times
- 6 40 or more times

- 7 Taken non-medically, but not in the last 12 months
- 8 Never taken non-medically in lifetime
- 9 Don=t know what barbiturates are

40. In the LAST 12 MONTHS, how often did you take BARBITURATES WITH A PRESCRIPTION or because a doctor told you to take them?

- 1 1 or 2 times
- 2 3 to 5 times
- 3 6 to 9 times
- 4 10 to 19 times
- 5 20 to 39 times
- 6 40 or more times

- 7 Taken medically, but not in the last 12 months
- 8 Never taken in lifetime
- 9 Don=t know what barbiturates are

41. In the LAST 12 MONTHS, how often did you use HEROIN (also known as "H", "junk", or "smack")?

- 1 1 or 2 times
- 2 3 to 5 times
- 3 6 to 9 times
- 4 10 to 19 times
- 5 20 to 39 times
- 6 40 or more times

- 7 Used, but not in the last 12 months
- 8 Never used in lifetime
- 9 Don=t know what heroin is

42. In the LAST 12 MONTHS, how often did you use METHAMPHETAMINES or "speed"?

- 1 1 or 2 times
- 2 3 to 5 times
- 3 6 to 9 times
- 4 10 to 19 times
- 5 20 to 39 times
- 6 40 or more times

- 7 Used, but not in the last 12 months
- 8 Never used in lifetime
- 9 Don=t know what "speed" is

43. In the LAST 12 MONTHS, how often did you use STIMULANTS other than cocaine (such as "Uppers", Diet Pills, etc.) WITHOUT A PRESCRIPTION or without a doctor telling you to take them?

- 1 1 or 2 times
- 2 3 to 5 times
- 3 6 to 9 times
- 4 10 to 19 times
- 5 20 to 39 times
- 6 40 or more times

- 7 Used non-medically, but not in the last 12 months
- 8 Never used non-medically in lifetime
- 9 Don=t know what stimulant pills are

44. In the LAST 12 MONTHS, how often did you use STIMULANT PILLS WITH A PRESCRIPTION or because a doctor told you to take them?

- 1 1 or 2 times
- 2 3 to 5 times
- 3 6 to 9 times
- 4 10 to 19 times
- 5 20 to 39 times
- 6 40 or more times
- 7 Used medically, but not in the last 12 months
- 8 Never used medically in lifetime
- 9 Don=t know what stimulant pills are

45. In the LAST 12 MONTHS, how often did you use TRANQUILLIZERS (such as Valium, Librium, Serax, "Tranqs", "5's", "10's", etc.) WITHOUT A PRESCRIPTION or without a doctor telling you to take them?

- 1 1 or 2 times
- 2 3 to 5 times
- 3 6 to 9 times
- 4 10 to 19 times
- 5 20 to 39 times
- 6 40 or more times
- 7 Used non-medically, but not in the last 12 months
- 8 Never used non-medically in lifetime
- 9 Don=t know what tranquilizers are

46. In the LAST 12 MONTHS, how often did you use TRANQUILLIZERS WITH A PRESCRIPTION or because a doctor told you to take them?

- 1 1 or 2 times
- 2 3 to 5 times
- 3 6 to 9 times
- 4 10 to 19 times
- 5 20 to 39 times
- 6 40 or more times
- 7 Used medically, but not in the last 12 months
- 8 Never used in lifetime
- 9 Don=t know what tranquilizers are

47. In the LAST 12 MONTHS, how often did you use LSD or "acid"?

- 1 1 or 2 times
- 2 3 to 5 times
- 3 6 to 9 times
- 4 10 to 19 times
- 5 20 to 39 times
- 6 40 or more times
- 7 Used, but not in the last 12 months
- 8 Never used in lifetime
- 9 Don=t know what LSD is

48. In the LAST 12 MONTHS, how often did you use the drug PCP (also known as "Angel Dust", "Dust", "Horse Tranquillizer", etc.)?

- 1 1 or 2 times
- 2 3 to 5 times
- 3 6 to 9 times
- 4 10 to 19 times
- 5 20 to 39 times
- 6 40 or more times
- 7 Used, but not in the last 12 months
- 8 Never used in lifetime
- 9 Don=t know what PCP is

49. In the LAST 12 MONTHS, how often did you use HALLUCINOGENS, OTHER THAN LSD OR PCP (for example, Mescaline and Psilocybin, "Magic Mushrooms", "Mesc", etc.)?

- 1 1 or 2 times
- 2 3 to 5 times
- 3 6 to 9 times
- 4 10 to 19 times
- 5 20 to 39 times
- 6 40 or more times
- 7 Used, but not in the last 12 months
- 8 Never used in lifetime
- 9 Don=t know what hallucinogens are

50. In the LAST 12 MONTHS, how often did you use COCAINE (also known as "Coke", "Snow", "Snort", "Blow", etc.)?

- 1 1 or 2 times
- 2 3 to 5 times
- 3 6 to 9 times
- 4 10 to 19 times
- 5 20 to 39 times
- 6 40 or more times

- 7 Used, but not in the last 12 months
- 8 Never used in lifetime
- 9 Don=t know what cocaine is

51. In the LAST 12 MONTHS, have you used cocaine in the form of "CRACK"?

- 1 1 or 2 times
- 2 3 to 5 times
- 3 6 to 9 times
- 4 10 to 19 times
- 5 20 to 39 times
- 6 40 or more times

- 7 Used, but not in the last 12 months
- 8 Never used in lifetime
- 9 Don=t know what Acrack= is

52. In the LAST 12 MONTHS, how often did you use MDMA OR "ECSTASY"?

- 1 1 or 2 times
- 2 3 to 5 times
- 3 6 to 9 times
- 4 10 to 19 times
- 5 20 to 39 times
- 6 40 or more times

- 7 Used, but not in the last 12 months
- 8 Never used in lifetime
- 9 Don=t know what "ecstasy" is

52a. In the LAST 12 MONTHS, how often did you use methamphetamine in the form of "ICE"?

- 1 1 or 2 times
- 2 3 to 5 times
- 3 6 to 9 times
- 4 10 to 19 times
- 5 20 to 39 times
- 6 40 or more times

- 7 Used, but not in the last 12 months
- 8 Never used in lifetime
- 9 Don=t know what "ice" is

53. In the LAST 12 MONTHS, how often did you use ADRENOCHROMES (also known as "wagon wheels")?

- 1 1 or 2 times
- 2 3 to 5 times
- 3 6 to 9 times
- 4 10 to 19 times
- 5 20 to 39 times
- 6 40 or more times

- 7 Used, but not in the last 12 months
- 8 Never used in lifetime
- 9 Don=t know what adrenochromes are

54. Sometimes doctors give medicine such as Ritalin to students who are hyperactive or have problems concentrating in school. This is sometimes called Attention Deficit Disorder. DURING THE LAST 12 MONTHS, have you taken RITALIN that was prescribed by a doctor?

- 1 Yes
- 2 No

55. During the LAST FOUR WEEKS, how often have you used RITALIN?

- 1 Once or twice
- 2 Once or twice each week
- 3 3 or 4 times each week
- 4 5 or 6 times each week
- 5 Once each day
- 6 More than once each day

- 7 Used, but not in the last four weeks
- 8 Never used in lifetime

Now that you have told us about your drug use during the last 12 months, we would like to know whether you used any of the following drugs FOR THE FIRST TIME during the last 12 months.

56. During the LAST 12 MONTHS, have you smoked one whole cigarette for the VERY FIRST TIME?

- 1 Yes
- 2 No
- 3 Never smoked a whole cigarette in lifetime

57. During the LAST 12 MONTHS, have you tried alcohol (beer, wine or liquor) for the VERY FIRST TIME?

- 1 Yes
- 2 No
- 3 Never tried alcohol in lifetime

58. During the LAST 12 MONTHS, have you tried cannabis (marijuana or hashish) for the VERY FIRST TIME?

- 1 Yes
- 2 No
- 3 Never tried cannabis in lifetime

59. During the LAST 12 MONTHS, have you used any other illegal drug (such as cocaine, heroin, LSD, etc.) for the VERY FIRST TIME?

- 1 Yes
- 2 No
- 3 Never tried an illegal drug in lifetime

60. Have you ever used steroids, body builders/performance builders (e.g., testosterone and other androgens, durabolin, growth hormones, etc.) to increase your performance in some sport or activity and/or to change your physical appearance?

- 1 Yes
- 2 No

61. In the LAST 12 MONTHS have you used any illicit drug by injection or needles?

- 1 Yes
- 2 No

THE NEXT FEW QUESTIONS ARE ABOUT ALCOHOL.

62. When (if ever) did you first drink alcohol?

- 01 Grade 4 or before
- 02 Grade 5
- 03 Grade 6
- 04 Grade 7
- 05 Grade 8
- 06 Grade 9
- 07 Grade 10
- 08 Grade 11
- 09 Grade 12 or 13 (OAC)
- 10 Never used alcohol

63. During the LAST FOUR WEEKS how often did you drink alcohol (liquor, wine, beer, or coolers)?

- 1 Once or twice
- 2 Once or twice each week
- 3 3 or 4 times each week
- 4 5 or 6 times each week
- 5 Once each day
- 6 More than once each day
- 7 Did not drink alcohol in the last four weeks
- 8 Don't drink alcohol

64. How many times in the LAST FOUR WEEKS have you had FIVE OR MORE DRINKS of alcohol on the SAME OCCASION?

- 1 Did not drink any alcohol in the last four weeks
- 2 Did not have five or more drinks of alcohol on the same occasion in the last four weeks
- 3 Once
- 4 2 times
- 5 3 times
- 6 4 times
- 7 5 or more times
- 8 Don't drink alcohol

65. On average, how much beer do you usually drink at any one time?

- 1 1 bottle
- 2 2 bottles
- 3 3 bottles
- 4 4 bottles
- 5 5 bottles
- 6 6 bottles
- 7 7 or more bottles

- 8 Don=t drink beer

66. On average, how much wine do you usually drink at any one time?

- 1 1 glass
- 2 2 glasses
- 3 3 glasses
- 4 4 glasses
- 5 5 glasses
- 6 6 glasses
- 7 7 or more glasses

- 8 Don=t drink wine

67. On average, how much hard liquor (for example, rum, whiskey, vodka, coolers, etc.) do you usually drink at any one time?

- 1 1 drink
- 2 2 drinks
- 3 3 drinks
- 4 4 drinks
- 5 5 drinks
- 6 6 drinks
- 7 7 or more drinks

- 8 Don=t drink hard liquor

67a. How many drinks containing alcohol do you have on a typical day when you are drinking?

- 1 1 to 2 drinks
- 2 3 to 4 drinks
- 3 5 to 6 drinks
- 4 7 to 9 drinks
- 5 10 or more drinks

- 6 Don=t drink

67b. How often do you have five or more drinks on one occasion?

- 1 Never
- 2 Less than once a month
- 3 About once a month
- 4 About once a week
- 5 Daily or almost daily

- 6 Don=t drink

67c. How often during the LAST 12 MONTHS have you found that you were not able to stop drinking once you had started?

- 1 Never
- 2 Less than once a month
- 3 About once a month
- 4 About once a week
- 5 Daily or almost daily

- 6 Don=t drink

67d. How often during the LAST 12 MONTHS have you not done things you were supposed to because of drinking?

- 1 Never
- 2 Less than once a month
- 3 About once a month
- 4 About once a week
- 5 Daily or almost daily

- 6 Don=t drink

67e. How often during the LAST 12 MONTHS have you needed a first drink in the morning to get yourself going after a heavy drinking session?

- 1 Never
- 2 Less than once a month
- 3 About once a month
- 4 About once a week
- 5 Daily or almost daily

- 6 Don=t drink

67f. How often during the LAST 12 MONTHS have you had a feeling of guilt or remorse after drinking?

- 1 Never
- 2 Less than once a month
- 3 About once a month
- 4 About once a week
- 5 Daily or almost daily

- 6 Don't drink

67g. How often during the LAST 12 MONTHS have you been unable to remember what happened the night before because you had been drinking?

- 1 Never
- 2 Less than once a month
- 3 About once a month
- 4 About once a week
- 5 Daily or almost daily

- 6 Don't drink

67h. Have you or someone else been injured as a result of your drinking?

- 1 No
- 2 Yes, but not in the last 12 months
- 3 Yes, during the last 12 months

- 4 Don't drink

67i. Has a relative or friend or a doctor or other health care worker been concerned about your drinking or suggested you cut down?

- 1 No
- 2 Yes, but not in the last 12 months
- 3 Yes, during the last 12 months

- 4 Don't drink

68. Have you ever been warned by the police because of your use of alcohol?

- 1 Yes
- 2 No
- 3 Don't drink alcohol

69. Have you ever seen a doctor or been in a hospital because you had been drinking alcohol?

- 1 Yes
- 2 No
- 3 Don't drink alcohol

70. Have you ever talked to a school counsellor, school nurse or teacher because you had a problem as a result of your use of alcohol?

- 1 Yes
- 2 No
- 3 Don't drink alcohol

70a. During the LAST 12 MONTHS, have you felt you should drink alcohol less?

- 1 Yes
- 2 No
- 3 Don't drink alcohol

70b. During the LAST 12 MONTHS, have others bothered you by complaining about your drinking?

- 1 Yes
- 2 No
- 3 Don't drink alcohol

70c. During the LAST 12 MONTHS, have you felt bad or guilty because of your drinking?

- 1 Yes
- 2 No
- 3 Don't drink alcohol

70d. During the LAST 12 MONTHS, have you drunk in the early morning in order to get rid of a hangover?

- 1 Yes
- 2 No
- 3 Don't drink alcohol

71. Have you been in a treatment program during the LAST 12 MONTHS because of your alcohol or drug use?

- 1 Yes, for alcohol only
- 2 Yes, for drugs only
- 3 Yes, for both alcohol and drugs
- 4 No

72. How easy or difficult would it be for you to get alcohol if you wanted some?

- 1 Impossible
- 2 Very difficult
- 3 Difficult
- 4 Easy
- 5 Very easy

72a. How do you USUALLY get alcohol? (Please choose only one answer.)

- 1 Buy alcohol myself
- 2 Have friends buy alcohol for me
- 3 Have friends who offer alcohol to me
- 4 Buy alcohol myself in restaurants or bars
- 5 Have parents offer alcohol to me
- 6 Get alcohol some other way
- 7 Don't drink alcohol

NOW WE HAVE A FEW QUESTIONS ABOUT DRUGS OTHER THAN ALCOHOL.

73. Have you ever been arrested or warned by the police because of your use of a drug other than alcohol?

- 1 Yes
- 2 No
- 3 Never used drugs

74. Have you ever seen a doctor or been in a hospital because of your use of a drug other than alcohol?

- 1 Yes
- 2 No
- 3 Never used drugs

75. Have you ever talked to a school counsellor, school nurse or teacher because you had a problem as a result of your use of a drug other than alcohol?

- 1 Yes
- 2 No
- 3 Never used drugs

75a. Are you always able to stop using drugs when you want to?

- 1 Yes
- 2 No
- 3 Never used drugs

75b. Have you gone to anyone for help for a drug problem?

- 1 Yes
- 2 No
- 3 Never used drugs

75c. Have you had "blackouts" or "flashbacks" due to your drug use?

- 1 Yes
- 2 No
- 3 Never used drugs

75d. Have you had any medical problems as a result of your drug use?

- 1 Yes
- 2 No
- 3 Never used drugs

75e. How easy or difficult would it be for you to get LSD or "acid" if you wanted some?

- 1 Impossible
- 2 Very difficult
- 3 Difficult
- 5 Easy
- 5 Very easy
- 6 Don't know how easy it would be
- 7 Don't know what LSD is

THE NEXT SECTIONS ARE ABOUT YOUR HEALTH AND FEELINGS.

75f. On how many of the LAST 7 DAYS did you exercise or participate in sports activities for AT LEAST 20 MINUTES THAT MADE YOU SWEAT AND BREATHE HARD? Please include activities such as basketball, jogging, fast dancing, swimming laps, tennis, fast bicycling, or similar aerobic activities (include both school and non-school activities).

- 1 0 days
- 2 1 day
- 3 2 days
- 4 3 days
- 5 4 days
- 6 5 days
- 7 6 days
- 8 7 days

75g. On how many of the LAST 5 SCHOOL DAYS did you participate in physical activity for AT LEAST 20 MINUTES THAT MADE YOU SWEAT AND BREATHE HARD in physical education class in your school?

- 1 0 days
- 2 1 day
- 3 2 days
- 4 3 days
- 5 4 days
- 6 5 days
- 7 Not enrolled in physical education during the current semester

76. How would you rate your physical health?

- 1 Excellent
- 2 Very good
- 3 Good
- 4 Fair
- 5 Poor

77. In the LAST 12 MONTHS, how many times have you seen a doctor about your physical health or for a check-up?

_____ times (Write in '>0' if you have not seen a doctor in the last 12 months.)

78. In the LAST 12 MONTHS, how often have you seen a doctor, nurse or counsellor about your emotional or mental health?

_____ times (Write in '>0' if you have not seen any of the above in the last 12 months.)

In the next few questions we would like to know if you have experienced any medical complaints, and how your health has been in general, over the last few weeks. Think about present and recent complaints, not those that you had in the past.

78.1a. Over the last few weeks, have you been able to concentrate on whatever you're doing?

- 1 Better than usual
- 2 Same as usual
- 3 Less than usual
- 4 Much less than usual

78.1b. Over the last few weeks, have you felt that you are playing a useful part in things?

- 1 More so than usual
- 2 Same as usual
- 3 Less useful than usual
- 4 Much less useful

78.1c. Over the last few weeks, have you felt capable of making decisions about things?

- 1 More so than usual
- 2 Same as usual
- 3 Less so than usual
- 4 Much less capable

78.1d. Over the last few weeks, have you been able to enjoy your normal day-to-day activities?

- 1 More so than usual
- 2 Same as usual
- 3 Less so than usual
- 4 Much less than usual

78.1e. Over the last few weeks, have you been able to face up to your problems?

- 1 More so than usual
- 2 Same as usual
- 3 Less able than usual
- 4 Much less able

78.1f. Over the last few weeks, have you been feeling reasonably happy, all things considered?

- 1 More so than usual
- 2 About same as usual
- 3 Less so than usual
- 4 Much less than usual

78.1g. Over the last few weeks, have you lost much sleep because you were worried about something?

- 1 Not at all
- 2 No more than usual
- 3 Somewhat more than usual
- 4 Much more than usual

78.1h. Over the last few weeks, have you felt constantly under stress?

- 1 Not at all
- 2 No more than usual
- 3 Somewhat more than usual
- 4 Much more than usual

78.1i. Over the last few weeks, have you felt you couldn't overcome difficulties?

- 1 Not at all
- 2 No more than usual
- 3 Somewhat more than usual
- 4 Much more than usual

78.1j. Over the last few weeks, have you been feeling unhappy and depressed?

- 1 Not at all
- 2 No more than usual
- 3 Somewhat more than usual
- 4 Much more than usual

78.1k. Over the last few weeks, have you been losing confidence in yourself?

- 1 Not at all
- 2 No more than usual
- 3 Somewhat more than usual
- 4 Much more than usual

78.1l. Over the last few weeks, have you been thinking of yourself as a worthless person?

- 1 Not at all
- 2 No more than usual
- 3 Somewhat more than usual
- 4 Much more than usual

78.1m. During the LAST 12 MONTHS, did you ever seriously consider attempting suicide?

- 1 Yes
- 2 No

78.2a. During the LAST 7 DAYS, how often have you felt sad?

- 1 Never or rarely
- 2 Sometimes
- 3 Often
- 4 Always

78.2b. During the LAST 7 DAYS, how often have you felt lonely?

- 1 Never or rarely
- 2 Sometimes
- 3 Often
- 4 Always

78.2c. During the LAST 7 DAYS, how often have you felt depressed?

- 1 Never or rarely
- 2 Sometimes
- 3 Often
- 4 Always

78.2d. During the LAST 7 DAYS, how often have you felt like crying?

- 1 Never or rarely
- 2 Sometimes
- 3 Often
- 4 Always

78.2e. In the LAST 12 MONTHS, have you been prescribed medicine to treat anxiety or depression?

- 1 Yes, for anxiety only
- 2 Yes, for depression only
- 3 Yes, for both anxiety and depression
- 4 No

For the next few questions, please indicate how often each of the following statements is true for you.

79. Sometimes I feel that I can't do anything right.

- 1 Almost always true
- 2 Often true
- 3 Sometimes true
- 4 Seldom true
- 5 Never true

80. I feel good about myself.

- 1 Almost always true
- 2 Often true
- 3 Sometimes true
- 4 Seldom true
- 5 Never true

81. I feel I don't have much to be proud of.

- 1 Almost always true
- 2 Often true
- 3 Sometimes true
- 4 Seldom true
- 5 Never true

82. I feel that I'm a person of worth.

- 1 Almost always true
- 2 Often true
- 3 Sometimes true
- 4 Seldom true
- 5 Never true

83. Sometimes I think I am no good at all.

- 1 Almost always true
- 2 Often true
- 3 Sometimes true
- 4 Seldom true
- 5 Never true

84. I am able to do most things as well as other people can.

- 1 Almost always true
- 2 Often true
- 3 Sometimes true
- 4 Seldom true
- 5 Never true

85. About how many close friends do you have in total?

_____ Number of close friends

86. About how many people do you know that you can talk to about your problems?

_____ Number of people you can talk to

87. Among your BEST friends, how many use illegal drugs?

- 1 Almost all
- 2 About half

- 3 Only a few
- 4 None

THE NEXT TWO QUESTIONS ARE ABOUT BULLYING.

Bullying is when one or more people tease, hurt or upset a weaker person on purpose.

87.1a. Since September, how often have you been bullied at school?

- 1 Daily or almost daily
- 2 About once a week
- 3 About once a month
- 4 Less than once a month
- 5 Never

87.1b. Since September, how often have you taken part in bullying other students at school?

- 1 Daily or almost daily
- 2 About once a week
- 3 About once a month
- 4 Less than once a month
- 5 Never

THE FOLLOWING QUESTIONS ARE ABOUT GAMBLING OR BETTING.

87.2a. What is the largest amount of money you have ever gambled in the LAST 12 MONTHS?

- 1 \$1 or less
- 2 \$2 to \$10
- 3 \$11 to \$49
- 4 \$50 to \$99
- 5 \$100 to \$199
- 6 \$200 or more

b. In the LAST 12 MONTHS, how often have you gone back another day to try to win back the money you lost?

- 1 Every time
- 2 Most of the time
- 3 Some of the time
- 4 Never

c. In the LAST 12 MONTHS when you were betting, have you ever told others you were winning money when you really weren't winning?

- 1 Yes
- 2 No

d. Has your betting, in the LAST 12 MONTHS, ever caused any problems for you such as arguments with family and friends, or problems at school or work?

- 1 Yes
- 2 No

e. In the LAST 12 MONTHS, have you ever gambled more than you had planned to?

- 1 Yes
- 2 No

f. In the LAST 12 MONTHS, has anyone criticized your betting or told you that

you had a gambling problem, regardless of whether you thought it was true or not?

- 1 Yes
- 2 No

g. In the LAST 12 MONTHS, have you ever felt bad about the amount you bet, or about what happens when you bet money?

- 1 Yes
- 2 No

h. In the LAST 12 MONTHS, have you ever felt that you would like to stop betting money but didn't think you could?

- 1 Yes
- 2 No

i. In the LAST 12 MONTHS, have you ever hidden any betting slips, IOUs lottery tickets, money that you've won, or other signs of gambling from family or friends?

- 1 Yes
- 2 No

j. In the LAST 12 MONTHS, have you had arguments with family or friends because of the money you spend on gambling?

- 1 Yes
- 2 No

k. In the LAST 12 MONTHS, have you borrowed money to bet and not paid it back?

- 1 Yes
- 2 No

l. In the LAST 12 MONTHS, have you ever skipped or been absent from school or work due to betting activities?

- 1 Yes
- 2 No

m. In the LAST 12 MONTHS, have you borrowed money or stolen something in order to bet or to cover gambling debts?

- 1 Yes
- 2 No

87.3 How often (if ever) in the LAST 12 MONTHS, have you done each of the following? (Write >0= if you have not done it.)

a) Played CARDS for money? _____ times

b) Played BINGO for money? _____ times

c) Bet money in SPORTS POOLS? _____ times

d) Bought SPORTS LOTTERY tickets (such as Sports Select or Proline)? _____ times

e) Bought any other LOTTERY tickets, including instant lottery (such as 6-49, Scratch & Win, pull-tabs)? _____ times

f) Bet money on VIDEO GAMBLING MACHINES, SLOT machines, or any other gambling machines? _____ times

g) Bet money at a CASINO in Ontario? _____ times

87.4. How often (if ever) in the LAST 12 MONTHS have you done each of the following? (Write '0' if you have not done it)

- a)** Taken a car for a ride without the owner's permission? _____ times
- b)** Banged up or damaged something (on purpose) that did not belong to you? _____ times
- c)** Sold marijuana or hashish? _____ times
- d)** Taken things worth \$50 or less that did not belong to you? _____ times
- e)** Taken things worth more than \$50 that did not belong to you? _____ times
- f)** Beat up or hurt anyone (on purpose), not counting fights you may have had with a brother or sister? _____ times
- g)** Broken into a locked building other than your own home? _____ times
- h)** Carried a weapon, such as a gun or knife? _____ times
- i)** Sold drugs other than marijuana or hashish? _____ times
- j)** Taken part in gang fights? _____ times
- k)** Were thrown out of your home (that is, you were told to leave your home when you did not want to leave)? _____ times
- l)** Run away from your home (that is, left home without the permission of one or both of your parents)? _____ times

87.4m. During the LAST 12 MONTHS, how many times were you in a physical fight on school property?

- 1 Never
- 2 Once
- 3 2 or 3 times
- 4 4 or 5 times
- 5 6 or 7 times
- 6 8 or 9 times
- 7 10 or 11 times
- 8 12 or more times

THE NEXT QUESTIONS REFER TO DRIVING A CAR, MOTORCYCLE OR OTHER MOTOR VEHICLES.

88. What type of driver's licence do you have now?

- 1 No driver's licence of any type
- 2 Full graduated licence
- 3 Level One graduated licence (G1)
- 4 Level Two graduated licence (G2)
- 5 Don't know

89. How often in the LAST 12 MONTHS have you driven within an hour of drinking two or more drinks of alcohol?

- 1 Never
- 2 Once
- 3 2 times
- 4 3 times
- 5 4 times
- 6 5 times
- 7 6 times
- 8 7 times
- 9 8 or more times
- 10 No driver's licence of any type

JUST A FEW FINAL QUESTIONS.

90. On the whole, how accurate were your answers in this survey?

- 1 Very accurate
- 2 Mostly accurate
- 3 Mostly inaccurate
- 4 Very inaccurate
- 5 Don't know

91. Overall, how easy did you find the questionnaire to understand?

- 1 Not at all easy
- 2 Not very easy
- 3 Fairly easy
- 4 Very easy

92. What about the length of the questionnaire, did you find it . . .

- 1 Much too long
- 2 A bit too long
- 3 About right
- 4 A bit too short
- 5 Much too short

93. Do you think the questions in this survey make most students . . .

- 1 Very uneasy
- 2 Somewhat uneasy
- 3 Not at all uneasy

94. What are the first three digits of your postal code?

___ ___ ___

Thank you for your participation in this survey!

Please indicate the time you finished this survey.

___ ___ : ___ ___ **(For example, 10:45)**