

Substance Use among Young People

Excerpts from PREVENTING SUBSTANCE USE PROBLEMS AMONG YOUNG PEOPLE - A COMPENDIUM OF BEST PRACTICES

Recent Trends in Use

The most commonly used substances among youth are alcohol, tobacco and cannabis (marijuana, hash, hash oil). Ontario's Addiction Research Foundation (now the Centre for Addiction and Mental Health) has sponsored the longest ongoing Canadian survey of youth substance use. This series of surveys has shown that, after peaking in 1979, use of most substances by young people declined steadily until the early 1990s. Since then, the use of legal and illegal drugs by students has generally been on an upward trend.

Findings from the 1999 Ontario Student Survey on Drug Use (OSDUS) indicate that most drug use levels (with the notable exceptions of alcohol and tobacco, which have shown an overall decline) are now similar to those of the late 1970s - historically the peak period for use.²¹ Increases in cannabis use over the 1990s have been found in Newfoundland and Labrador, Nova Scotia, Ontario, Manitoba and British Columbia^{22,23,24,25,26} and have also been reported in a recent national survey.²⁷ Notably, the 1999 estimate for use of hallucinogens other than LSD, (e.g., psilocybin, mescaline) and methamphetamine among Ontario students is significantly higher than at any other time in the past 20 years, including 1979 (14% vs. 5% and 5.3% vs. 3.6% respectively). Nova Scotia has also seen an increase in hallucinogen use during the 1990s. Nationally, among Grade 10 students, use of a number of substances - cannabis, LSD, amphetamines, cocaine and inhalants - increased between 1990 and 1998.²⁸

During all periods studied, less than 10% of the general high school populations surveyed in any of the jurisdictions were current users (i.e., any use in the past year) of stimulants, inhalants, cocaine, methamphetamines, Ecstasy, "ice" (crystal methamphetamine), tranquillizers, PCP, or opiates (e.g., heroin, fentanyl). However, past year Ecstasy use increased eight fold (from .6% to 4.8%) between 1993 and 1999 among Ontario students surveyed. It is also important to bear in mind that particular sub-groups - for example, older male students - are more likely to use most of these substances and have exceeded these rates in most cases. Other substances used by less than 10% of students are amphetamines, barbiturates and benzodiazepines - legal medications that are used non-medically. There is concern about the abuse of these drugs, but not where they are prescribed by a physician and used as directed.

Generally, the first use of alcohol, tobacco and cannabis by students appears to be occurring at a later age now than in the past. To illustrate, 13% of 7th graders in 1999 drank alcohol for the first time by Grade 4, compared with 17% of 7th graders in 1981. Similarly, 2% of 7th graders in 1999 used cannabis by Grade 6, compared with 8% in 1981.²⁹

However, attitudes have become generally more tolerant of use, with fewer students expressing moral disapproval or perceiving a risk of harm in experimenting with various substances.

Between 1991 and 1999, the percentage of students in Ontario strongly disapproving of the use of cocaine once or twice dropped from 55% to 42%; and strong disapproval of using cannabis once or twice dropped from 43% to 26%. The percentage of these students attaching great risk to trying cannabis once or twice declined from 31% to 18%. The same trend in attitudes has been found in the United States.³⁰

Reports of problem use have risen in recent years. Since the early 1990s, there has been a general increase in the percentage of students reporting current use of more than one substance, including use of multiple illicit substances. For example, the percentage of Ontario students reporting current use of four or more substances more than doubled between 1993 and 1999 (from 8% to 17.4%). In Newfoundland and Labrador, the number of students using alcohol, tobacco, and cannabis increased from 1996 to 1998. The percentage of Nova Scotia students who consider themselves current users of these three substances doubled (from 12.4% to 24.9%) between 1991 and 1998. There tends to be a strong association between cigarette and cannabis use, with most who smoke cannabis also being cigarette users.

Significantly, since 1993, there has also been an increase in the percentage of Ontario students who engage in heavy drinking episodes (five or more drinks per occasion) from 30% to 42% in 1999. This pattern also occurred in British Columbia where the percentage of youth drinkers that reported heavy drinking episodes in the past month increased from 36% in 1992 to 44% in 1999.

As well, most indications point to an increase in the amount of frequent drinking during the 1990s. For example, in Ontario, the number of drinkers consuming alcohol at least once a week has increased from 14% in 1993 to 20% in 1999. Between 1991 and 1998 in Nova Scotia, the percentage of students who consume alcohol more often than once a month increased by 30% (from 25% to 33%).

Frequency of cannabis use has generally increased across the country during the past decade. To illustrate, the percentage of students in Nova Scotia who use cannabis more often than once a month tripled between 1991 and 1998 (from 4% to 13%).

An exception to this pattern of rising problematic substance use among students is the prevalence of driving after drinking, which, for example, has declined significantly between 1977 and 1999 (from 58% to 16%) in Ontario.

It is difficult to identify general trends in use of substances by out-of-the-mainstream youth because this population is quite fluid and information is incomplete. Toronto investigators reported a decrease in drug use, including injection drug use, among Toronto youth between 1990 and 1992.³¹ However, these young people continue to be at risk for an array of health problems, particularly HIV, and hepatitis B and C as a result of injection drug use and needle sharing.

Current Patterns of Use

General Prevalence

In the late 1990s, on average, one-third to one-quarter of Canadian high school students (i.e., age 12-19) used no drug (including alcohol or tobacco) in the previous year (i.e., "current use"). Alcohol is the most commonly used substance by youth, with about two-thirds of all junior and senior high school students having consumed alcohol in the past year. The next most used substances are tobacco and cannabis, with roughly one-in-three students using these substances (40% use cannabis in British Columbia).³² The fourth most commonly used drug class is hallucinogens, used by between 9% and 14% of students, depending on the province (with LSD used by 6% to 11%).

Fewer Canadian students use other substances, with between 5% and 10% reporting use of inhalants, stimulants (both medical and non-medical), and typically fewer than 5% reporting use of cocaine, methamphetamine, heroin, PCP and non-medical use of other medications. Non-medical use of stimulants, tranquilizers and barbiturates is an issue, with roughly 3% to 10% of students considered current users of these substances in recent Canadian surveys. It is important to note

these figures represent averages for the full junior and senior high school population and that prevalence of substance use increases with age.

The use of "club drugs", such as Ecstasy, methamphetamine, Rohypnol, GHB and Ketamine, has come to public attention. The Ontario student survey provides the only province-wide indication of Ecstasy use in Canada, with 4.4% of all students (ranging from 0.6% of Grade 7 to 9.8% of Grade 11 students) reporting past year use. This represents a significant increase from 1993 when 0.6% of students reported use. There is no Canadian information on the prevalence of other club drug use.

Limited information is available on injection drug use by students. Analysis of the 1999 Ontario survey found 2.5% of students reporting injection drug use,³³ while approximately 2% of students injected drugs in Nova Scotia and PEI.³⁴

Substance use is just one of many problems faced by street youth. For these youth, substance use differs in that it serves more as a way of coping with negative experiences (both before and after going to the street) and has less of a recreational purpose.

Prevalence and patterns of substance use by urban street youth in Canada vary from city to city, but according to the limited information available, appear much higher than student use. A 1992 study of Toronto street youth found that only 11% surveyed did not use any drug in the year prior to the study.³⁵ The study determined that 83% of these youth used cannabis in the past year. A 1995 survey of street youth in Montreal found that around 80% of street youth report having consumed alcohol and cannabis in the past month.³⁶ The Halifax study (1993) found that 66% of the sample used cannabis.³⁷

The use of hallucinogens is more common among street youth than among students. In Toronto, 59% used LSD in 1992, nearly half of Montreal street youth used these drugs (1995), and 63% reported using LSD in Halifax (1993).

Similarly, the prevalence of crack and cocaine use by street youth in various cities is much higher than student use, estimated at 31% for both crack and cocaine in Toronto in 1992,³⁸ 20% and 33%, respectively, in Halifax (1993)³⁹ and 85% for cocaine in Vancouver (1994).⁴⁰

Compared with student populations, the use of injection drugs among out-of-the-mainstream youth is also considerably higher. A study conducted with street youth in Montreal found that 36% had used injection drugs in their lifetime, and 23% had injected in the previous six months.^{41,42} In Toronto, 28% reported having injected drugs at some time in their lives,⁴³ 17% in Halifax,⁴⁴ and in Vancouver 48% of males and 32% of females reported lifetime drug injection.⁴⁵ In a recent study conducted in seven major Canadian cities with street youth who identified their ethnic origin as Aboriginal, 21% of participants had injected drugs.⁴⁶

There is evidence to suggest that rural or smaller town street youth use substances for the same reasons as their urban counterparts, but use alcohol predominantly, and other drugs to a lesser extent.⁴⁷

Age at First Use

Early onset of alcohol and tobacco use has been associated with later substance use problems. For example, a recent large US study found that age at onset is a powerful predictor of later alcohol abuse and dependence. The study found that 40% of those who began drinking alcohol at 14 years of age or younger experienced alcohol dependence at some point in their lives, in contrast to roughly 10% of those who began drinking at age 20 or older.⁴⁸

Most people begin smoking tobacco in pre- or early adolescence (only 14% begin after 20 years of age) and the risks associated with early onset of smoking are clear. The earlier young people begin smoking daily - an indication of dependency - the more cigarettes they are likely to smoke, the less likely they are to quit and the more likely they are to be heavy smokers as adults. ⁴⁹

Age at first use of alcohol appears to vary considerably from region to region; ^{50,51} however, it appears that a significant minority of young people have at least experimented with alcohol use by Grade 7. First use of cannabis occurs for a significant number of Canadian youth in Grades 8 and 9. First use of other substances typically occurs in subsequent years.

There is limited information available on the average age at which individuals start to inject drugs. In the Montreal study of street youth, females tended to start injecting at a younger age than males (16 years vs. 17.3 years).^{52,53} Surveys of adults involved in injection drug use provide further information on age at onset. Research conducted in Nova Scotia,⁵⁴ Winnipeg ⁵⁵ and Calgary ⁵⁶ have reported overall mean age of first injection to be 21 or 22 years.

Initial use of inhalants appears to generally occur in the pre-adolescent years among those that ever use these substances. Alcohol and tobacco are generally the next substances used, with the average age of first use reported to be age 12 in Ontario.⁵⁷ One national study showed two-thirds of Grade 6 students having tried alcohol. ⁵⁸ Initial use of cannabis appears to occur in the 13-14 year age range.

Age Differences

With the exception of inhalants, prevalence of substance use increases with age through adolescence. For example, the percentage of alcohol users increases sharply (in Ontario, from 40% to 84%) between ages 12 to 19, with the percentage of heavy users increasing similarly. The percentage of cannabis users rises dramatically with age, from under 5% among 12-year-olds to around 40% of 18 to 19-year-olds. Inhalants are the only type of substance where use is found to decrease with age: the percentage of inhalant users is highest among the youngest students and declines in subsequent grades.

This pattern of increased prevalence of use with age is clearly related to adolescent psychological development, during which independence and peer relationships assume greater importance.⁵⁹ Also, it is known that transition between school levels represents a point of vulnerability for some students. Consequently, it is possible that consumption rates may be affected by the differing points of transition between the traditional

elementary (Gr. 1-6), junior high (Gr. 7-9), and high school (Gr. 10-12) breakdown and the now more common breakdown of elementary (Gr. 1-5), middle school (Gr. 6-8), and high school (Gr. 9-12). The latter breakdown places Grade 9 students in the same environment as older youth and also brings a point of vulnerability down by a year.

Some users of alcohol and tobacco will go on to use cannabis; some of these will, in turn, go on to use other illegal substances. However, these and other studies show that progression to these other substances is far from inevitable. To illustrate: analysis of the most recent Ontario student survey data showed that about 90% of current cannabis users have not used cocaine.⁶⁰

The prevalence of "riskier" substance use and problems associated with this use tend to increase with age. Consuming five or more drinks at a sitting and the likelihood of having been drunk increases with age, as does driving after drinking. Students are more likely to have one or more alcohol- or other drug-related problem as they get older and progress through high school.

Older out-of-the-mainstream youth in Halifax (those 18 and older) tended to use more alcohol than their younger counterparts. Heavy drinking increased markedly with age. This same pattern was evident with other substances, when, for example, 70% of the older group used cannabis heavily (once a week or more), while less than half (44%) of the younger group used at that level. In the Toronto study of street youth, youth aged 19 years and older were more likely to have engaged in injection drug use than younger youth (33% vs. 17%).⁶¹ In the study with Montreal youth, injection drug use was equally prevalent among youth aged 12 to 15, compared with 16- to 19-year-olds.^{62,63}

Peak Use

Given the age differences noted, it is not surprising that the peak period for substance use, with the exception of inhalants, occurs in the last years of high school. Prevalence of alcohol use by Nova Scotia students (1998), for example, increased from 21% in Grade 7 to a peak of 80% in Grade 12. The Ontario student surveys, which in the past sampled Grades 7, 9, 11 and 13 and now survey all grades, generally find that use of many substances peaks during Grade 11. In the 1999 survey, for example, prevalence of cannabis use increased from 4% in Grade 7 to 48% in Grade 11, declining to 43% in Grade 13 (the year in which some Ontario students pursue Ontario Academic Credits or OACs, for university entrance -to be phased out in the 2002-03 school year).

Gender Differences

When discussing differences in consumption between males and females, it is important to note that women have a lower threshold to the effects of alcohol. Nevertheless, gender appears to be a significant factor in student substance use. In the Ontario study (1999), male use was higher on 9 of 20 substances. The Atlantic Provinces surveys (1998) found males more likely to use most substances. To illustrate: 33% of male students used cannabis in New Brunswick (1998) compared with 28% of females. In Nova Scotia (1998), more males than females used LSD (12.7% vs. 7.6%). A common exception to this pattern is smoking, where in several jurisdictions, female smokers outnumber males.^{64,65,66,67} Recent surveys have also shown a higher percentage of females using non-medical stimulants (e.g., diet pills).^{68,69} An exception to this pattern was recently reported in a study of Quebec adolescents that found women to be more likely than males to have ever used alcohol and every other substance, and as likely as males to have ever used alcohol or an illegal substance more than five times.⁷⁰

Males are also more likely to engage in "riskier" forms of substance use. For example, males are almost twice as likely as females to drink at hazardous levels in Ontario and to use cannabis regularly in Nova Scotia. In both Nova Scotia, and Newfoundland and Labrador, males were twice as likely as females to drive after drinking.

Among out-of-the-mainstream youth in Halifax, males were more likely to drink, drink often, and drink heavily per occasion. With respect to other drugs, the gender differences were fewer.

Minimal attention has been given to the gender differences of young users of injection drugs. In the Toronto study of street youth, 30% of males reported lifetime injection drug use, compared with 23% of females.⁷¹ However, in a study of youth in British Columbia correctional facilities, more young females (10.2%) than males (3.4%) reported injection drug use.⁷²

Heavy Use

Significant numbers of Canadian youth engage in heavy substance use and, as already noted, these numbers appear to be increasing. Approximately one-third of high school students report having consumed five or more drinks on an occasion (considered heavy drinking) at least once in the past

month. About 1 in 10 students drank alcohol once a week or more often. Heavy cannabis use (once a week or more) was reported by 1 in 4 users, with close to 1 in 10 reporting daily use. Daily cigarette smoking varies considerably from 1 in 10 in British Columbia to 1 in 5 students in Ontario. Estimates of rates of heavy use of other substances are generally not available.

Among street youth, there are indications that heavy substance use is common. Youth on the street are more likely to use substances with the intent of becoming intoxicated.⁷³ A Toronto study (1992) found that 63% of street youth consumed five or more drinks per occasion at least once in the previous month, with a significant portion of them (23%) drinking this amount on five or more occasions within that period. A similar proportion (65%) of a sample of Halifax out-of-the-mainstream youth reported consuming five or more drinks on days when they drank (1993).

Regarding drugs other than alcohol, 58% and 25%, respectively, of out-of-the-mainstream youth in the Halifax study were classified as heavy users of cannabis and LSD (i.e., once a week or more). Thirty-nine per cent of these youth were considered heavy users of cocaine (44% crack) with a significant proportion using these substances daily. In Montreal, 5% of street youth report using heroin every day (1995).⁷⁴

Harmful Effects and Particular Risks Reported

Although a study of Quebec youth suggests a different pattern among youth in that province, alcohol problems are more likely to be reported by students than problems with other substances. In Ontario, more than 1 in 10 report drinking at what authorities consider a "hazardous level." Significant numbers of students report problems associated with drinking or other drug use. For example, nearly half of Newfoundland and Labrador students who drink report at least one problem associated with their drinking (1998). In Ontario (1999), 6% of all students reported experiencing two or more alcohol problems, while close to 4% reported two or more drug-related problems. Nationally (1994), around 1 in 4 15- to 19-year-olds report some type of harm connected to their drinking - more than twice the number for the population as a whole.⁷⁵

A recent study of problem substance use among Quebec adolescents (between 14 and 17 years old) found that among the youth who had used an illegal substance more than five times (one third of the sample), a strikingly high percentage reported problematic use; for example, 80% of males and 70% of females had attended school drugged or high; 68% of males and 56% of females had used illegal drugs in the morning; and 75% of males and 53% of females had played a sport while under the influence of an illegal substance. It appears that while two-thirds of the sample either did not use an illegal substance or had used experimentally, problematic use is the norm among the remainder of the youth.⁷⁶

In the case of both students and out-of-the-mainstream youth, heavy users tend to use more than one substance, incurring risks for various problems due to the additive or synergistic effects of combining different drugs. In Newfoundland and Labrador (1998), 23% of students were current users of alcohol, tobacco and cannabis. Ninety per cent of Grade 10 daily smokers in a national study had also used cannabis.⁷⁷

Causing damage to property and causing injury to oneself, are among the most common problems associated with substance use reported by students. Sexual activity associated with substance use has significant implications. Among sexually active students in Prince Edward Island, (the only jurisdiction reporting on this issue) over half engaged in unplanned sex while under the influence of alcohol or other drugs. About 1% of students report having been in treatment for alcohol or drug problems in the past year.^{78,79}

Because heavier use is more common among out-of-the-mainstream youth, more problems can be expected. Half of the youth in the Toronto study of street youth (1992) reported at least one alcohol problem and one drug problem. Twenty-five per cent of the Halifax sample (1993) felt they had a problem involving alcohol and/or other drugs. Among those acknowledging a problem, 59% indicated they had attempted to get help. In the case of the Toronto sample, 46% had received some form of treatment.

Injection drug use is prevalent among street youth. A Montreal study (1998) found the percentage of injection drug users among a sample of close to 1,000 street youth to be very high (36%).⁸⁰ Injection drug use and the practice of sharing needles place youth at risk of infection with HIV and other bloodborne viruses such as hepatitis C. In the Montreal study, needle sharing was common and seemed to occur soon after initiation of injection drug use. In a BC study of young offenders, injection drug use was a strong predictor of other high-risk behaviours such as trading sex for money or drugs and sex with other injection drug users.⁸¹