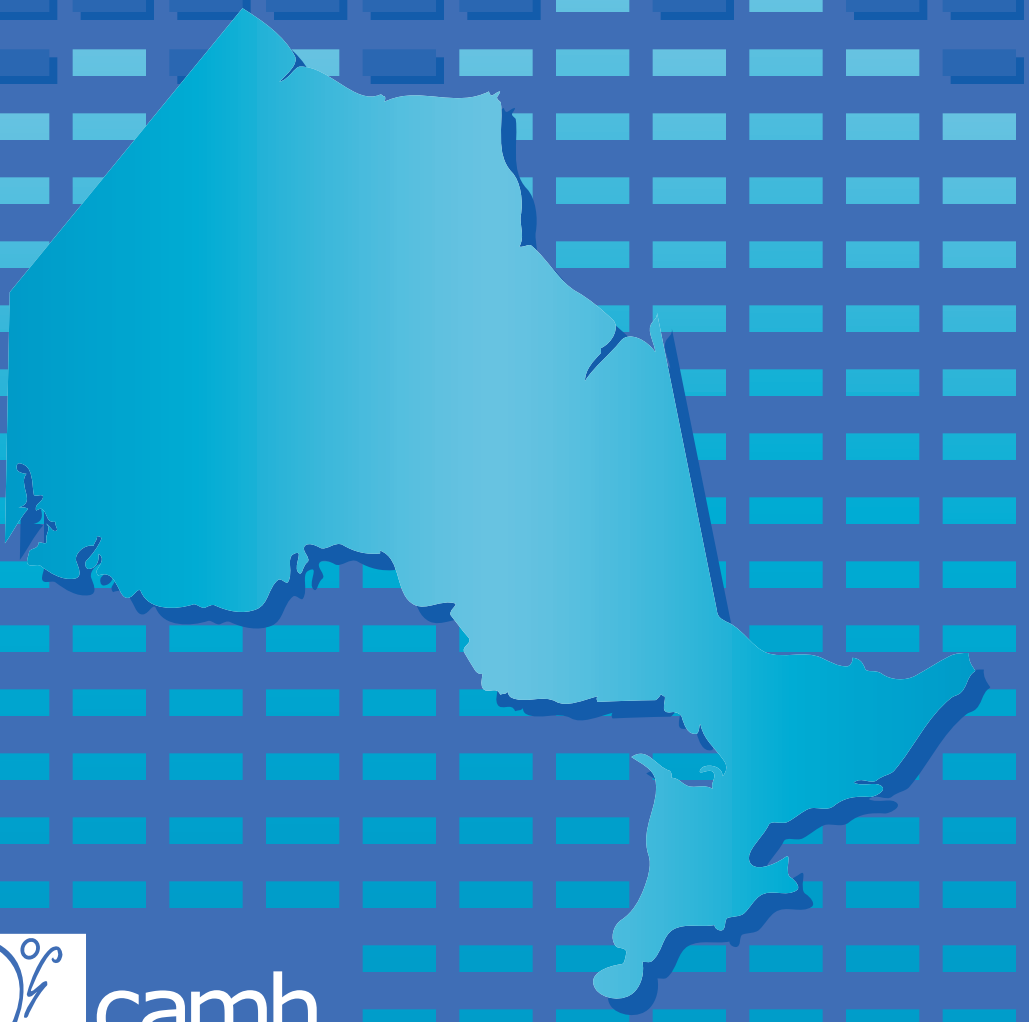
OSDUS HIGHLIGHTS

The Mental Health and Well-Being of Ontario Students



1991 - 2005

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The Mental Health and Well-Being of Ontario Students 1991-2005

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No. 19

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The Mental Health and Well-Being of Ontario Students 1991-2005

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INTRODUCTION

The purpose of the *Ontario Student Drug Use Survey (OSDUS)* is to examine epidemiological trends in student substance use, mental health (e.g., depression), physical health, and risk behaviours (e.g., violence, gambling), as well as identifying risk and protective factors. In its entirety, the *OSDUS* now spans twenty-seven years, and is the longest systematic health study among a youthful population in Canada.

In this *Highlights Report,* we summarize the current extent and patterns of physical and mental health indicators and risky behaviour among Ontario students enrolled in grades 7 to 12 using data from the 2005 *OSDUS*. The mental health indicators are divided into internalizing and externalizing indicators. By internalizing indicators we mean emotional health problems such as depression and self-esteem. By externalizing indicators we mean overt behaviours such as aggression and drug use. Also examined are potential determinants of these problems, such as the family and school experiences. Further, the findings incorporate trend data spanning back to 1991 where possible.

It is important to note that the mental health indicators in the *OSDUS* generally assess moderate functional impairment, rather than psychiatric disorders based on clinical criteria. Restricting attention to those experiencing current psychiatric disorders would underestimate the extent of mental health problems, since a sizeable percentage experience impaired functioning without meeting the clinical criteria for a diagnosis. Moreover, restricting attention to psychiatric disorders would overlook the fact that mental well-being exists as a continuum, spanning optimum mental health to mental illness to severe disorders. Finally, screening and monitoring broad mental health indicators provides more useful information to service planners and providers.

A more comprehensive analysis of the mental health and well-being findings presented here, as well as a complete description of methodology, may be found in the detailed report "The Mental Health and Well-Being of Ontario Students, 1991-2005: Detailed *OSDUS* Findings" (available in PDF format at: http://www.camh.net/research/osdus.html).

The 2005 *OSDUS* Detailed Mental Health and Well-Being report includes new material on the following issues:

- school suspensions,
- family's involvement with Children's Aid Society,
- use of a telephone crisis helpline, and
- fire setting behaviour.

We also examined the overlap between substance use problems, mental health problems, and delinquent behaviour.

History of the OSDUS

The Ontario Student Drug Use Survey is the longest ongoing school survey in Canada. In 1967, several Toronto school boards approached the Addiction Research Foundation for assistance in determining the extent of drug use among their students. Under the direction of Reginald Smart, four surveys from 1968 to 1974 monitored the extent of alcohol, tobacco and other drug use among Toronto students in grades 7, 9, 11 and 13. In 1977, the study was expanded to include students throughout the province of Ontario. In 1999, the OSDUS was again expanded to include students in grades 7 to 13 (OAC). In 2003, the OSDUS excluded grade 13 (OAC), therefore representing students in grades 7 to 12, and increased the number of classes surveyed in secondary schools.

Since 1977, the study has surveyed about 4,000 students every two years, and to date, has interviewed over 65,000 students.

METHOD

Sampling Design

For each of the 15 *OSDUS* surveys, the target population was all students enrolled in the public or Catholic regular school systems. Thus it excludes 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 (a total of about 7% of Ontario students).

Like the cycles between 1999 and 2003, the 2005 *OSDUS* employed a two-stage (school, class), stratified (region and school type) cluster sample design, and oversampled students in Northern Ontario.

However, the 2003 and 2005 *OSDUS* cycles differ from the previous cycles in several ways:

- Students in grades 7 through 12 were surveyed. Grade 13 (OAC) students were excluded, given that this grade no longer exists in Ontario schools.

- Four classes were selected in each secondary school, one for each grade between 9 and 12. Prior surveys selected only three classes in secondary schools, regardless of grade.

- The sample of schools was based on a longitudinal sample commencing in 2001. This feature of overlapping schools provides more efficient estimates of change over time. Thirty-seven (27%) schools in the 2005 survey also participated in the 2003 and 2001 surveys. Forty-eight (35%) schools were new in 2005 – that is, did not participate in either the 2003 or the 2001 survey.

The sample selection occurred as follows:

a) For the 2001 sample, schools were drawn from the Ministry of Education's 1996/1997 enrolment data, and were stratified according to the four regions used in previous surveys.

b) Within each regional strata, a random selection of schools was chosen with probability proportional to size. In 2005, these same schools were re-contacted.

c) Within each school, classes were randomly selected. In elementary/middle schools, two classes were randomly selected – one 7th-grade and one 8th-grade. In secondary schools, four classes were randomly selected, one in each grade between 9 and 12.

Procedures

Students who returned a signed active parental consent form completed the self-administered questionnaires in their classrooms, between January and June 2005. Participation was voluntary and anonymous. All students recorded their responses directly on the questionnaires.

We employed two questionnaires, Form A and Form B. In each classroom, half the students were randomly assigned either Form A or B. On average, the questionnaire took about 30 minutes to complete. Questionnaires are available at www.camh.net/research/osdus.html.

The final sample size for the 2005 survey was 7,726 7th- to 12th-graders (72% of selected students; 95% of selected schools) from 42 school boards, 137 schools and 445 classes. This sample represents about 975,200 Ontario students in grades 7 to 12.

All survey estimates were weighted, and variance and statistical tests were corrected for the sampling design. The statistical significance of subgroup differences in 2005 was assessed at the $p<.05$ level, whereas the significance of differences between years was assessed at the $p<.01$ level.

Throughout this report, results are presented for the total sample of students, as well as by sex, grade and public health planning region of Ontario. Please see page 19 for a description of the 7 public health planning regions.

RESULTS

Physical Health

Self-Rated Health

One of the more frequently used indicators of a person's current mental and physical health is perceived or self-rated health. Despite its simplicity, this global assessment of health has been shown to be a reliable indicator of health problems, health care utilization, and longevity.

From 1991 to 2005, self-rated health was measured with the following question: "*How would you rate your physical health?*" The response options are: poor, fair, good, very good, or excellent. We use the term "poor health" to reflect responses of fair or poor.

2005 (Grades 7 to 12):

- Over half (54%) of students perceive their health as excellent (21%) or very good (33%). At the risk end, about one-in-eight (13%) report poor health.

- Reported poor health is significantly higher among females (16%) than males (10%).

- Poor health significantly varies by grade: 7th-graders (6%) are the least likely to report poor health, whereas 11th-graders (19%) are the most likely.

- Reports of poor health do not significantly vary among the public health regions.

Physical Inactivity

Regular physical activity offers short-term physical and mental health benefits, such as reducing the risk of obesity and stress, and improving self-esteem. Moreover, an active lifestyle established during adolescence is likely to extend into adulthood.

Starting in 1997, the *OSDUS* asked students about their participation in physical activity, both in and outside of school. Students indicated on how many days they exercised or played sports "for at least 20 minutes that made you sweat and breathe hard" during the past seven days, as well as in physical education classes during the five school days prior to the survey.

2005 (Grades 7 to 12):

- About one-in-six (18%) students did not participate in any form of physical activity at least once during the seven days before the survey. On average, students exercised three and one-half days out of seven. Half (50%) of all students were physically inactive at school during the previous five school days.

- Females were more likely to be inactive during the past seven days compared to males (20% vs 16%). Similarly, females were more likely than males to be inactive at school during the past five days (53% vs 46%).

- Only school-based physical activity varies by grade: older students are more likely to be inactive at school, ranging from 26% of 7th-graders to 68% of 12th-graders.

- There are no significant regional differences regarding inactivity.

2010 Health Objectives: Physical Activity

The Ontario government has set a target to increase the percentage of Ontarians engaging in daily physical activity (30 minutes a day) to 55% by the year 2010.

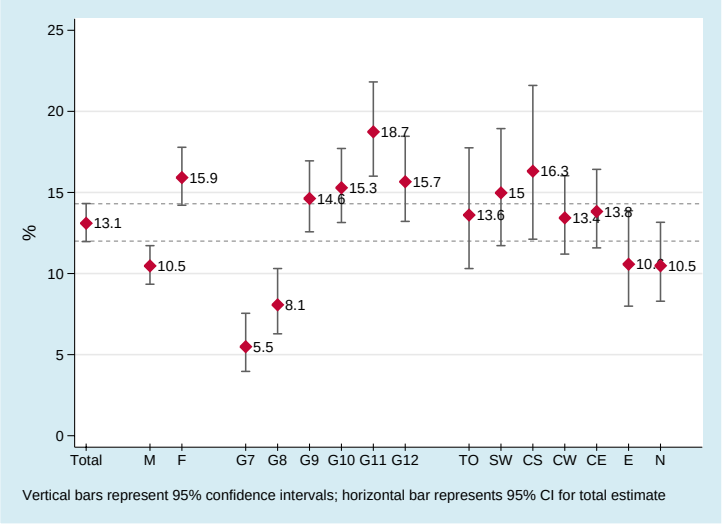
- In 2005, the percentage of Ontario students who report daily physical activity was only 17%.

- Daily activity significantly varies by sex, with males (22%) more likely to be active than females (11%).

- There are significant grade differences, with younger grades most likely to engage in physical activity on a daily basis (ranging from about 20% among 7th- and 8th-graders to 12% among 12th-graders).

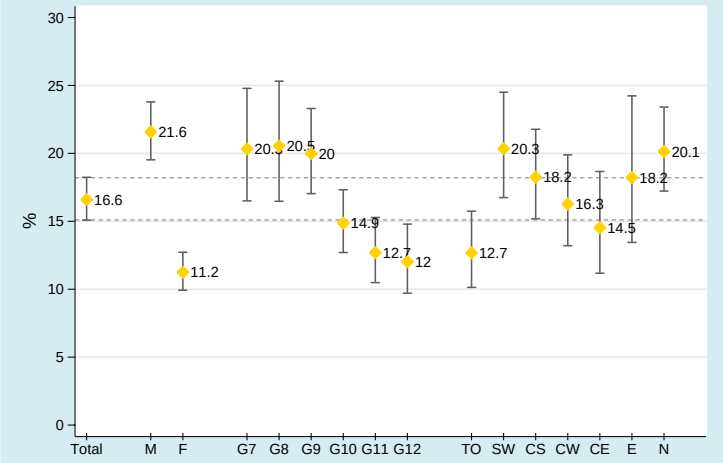
Recent health objectives in the United States have established that, by the year 2010, the target percentage of adolescents engaging in 20 minutes of vigorous physical activity three or more days per week should be 85%. The percentage of Ontario students reporting this level of activity in 2005 is only 61%. Thus, over one-third (39%) do not meet the minimal health recommendation of engaging in at least 20 minutes of vigorous exercise at least 3 times weekly.

Figure 1
Percentage Reporting Poor Health by Sex, Grade and Public Health Region, *OSDUS* 2005



Vertical bars represent 95% confidence intervals; horizontal bar represents 95% CI for total estimate

Figure 2
Percentage Reporting Daily Physical Activity by Sex, Grade and Public Health Region, *OSDUS* 2005



Vertical bars represent 95% confidence intervals; horizontal bar represents 95% CI for total estimate

Health Care Utilization

Starting in 1999, the *OSDUS* asked students about visits to physical and mental health care professionals during the 12 months before the survey. This provides another snapshot of students' health status. Students were asked: "*...how many times have you seen a doctor about your physical health or for a check-up?"* and *"...how often have you seen a doctor, nurse or counsellor about your emotional or mental health*?"

Doctor Visits

2005 (Grades 7 to 12):

- During the 12 months before the survey, 61% of students visited a doctor for their physical health at least once.

- Compared to males, females are significantly more likely to visit a doctor (66% vs 57%, respectively).

- There are significant grade differences, with 7th- and 8th-graders least likely to report a visit.

- Significant regional differences were found: students in the South West (54%) and the North (51%) region are the least likely to seek physical health care.

Mental Health Care Visits

2005 (Grades 7 to 12):

- Among all students, 12% reported at least one visit to a mental health professional during the 12 months before the survey.

- Females are more likely to report a mental health visit compared to males (15% vs 9%, respectively).

- Mental health care visits do not significantly vary by grade, or by public health region.

Treated for a Physical Injury

Starting in 2003, the *OSDUS* asked students about physical injuries during the past year. The question was: "*In the last 12 months, how many times were you hurt or injured, and had to be treated by a doctor or nurse?*"

2005 (Grades 7 to 12):

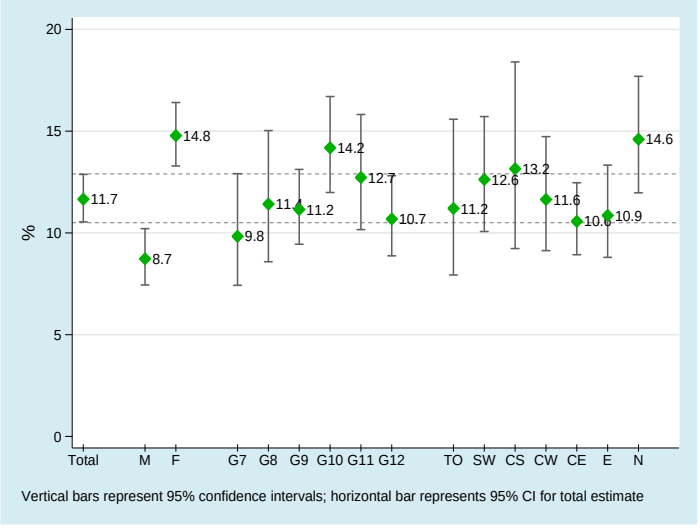
- Among the total sample, 34% were treated for an injury at least once in the 12 months before the survey. This represents about 323,800 students across Ontario. More specifically, 20% were treated just once, 8% were treated twice, 3% were treated three times, and 3% were treated four or more times.

- Males are more likely than females to report being treated for a physical injury at least once in the past year (38% vs 30%, respectively).

- There is no significant grade variation.

- There is significant regional variation, with students in the Toronto (27%) public health region least likely to be treated for an injury, and those in the Central-South (41%) and North (39%) regions most likely.

Figure 3
Percentage Reporting At Least One Mental Health Care Visit During the Past Year by Sex, Grade and Public Health Region, *OSDUS* 2005



Vertical bars represent 95% confidence intervals; horizontal bar represents 95% CI for total estimate

Medical Drug Use

Spanning back to 1977, the *OSDUS* asked students about their use of certain drugs that were prescribed or advised by a doctor. Specifically, they were asked how often during the 12 months before the survey they had used prescribed barbiturates, stimulants, and tranquillizers. A question about the use of prescribed Ritalin was asked in more recent years.

2005 (Grades 7 to 12):

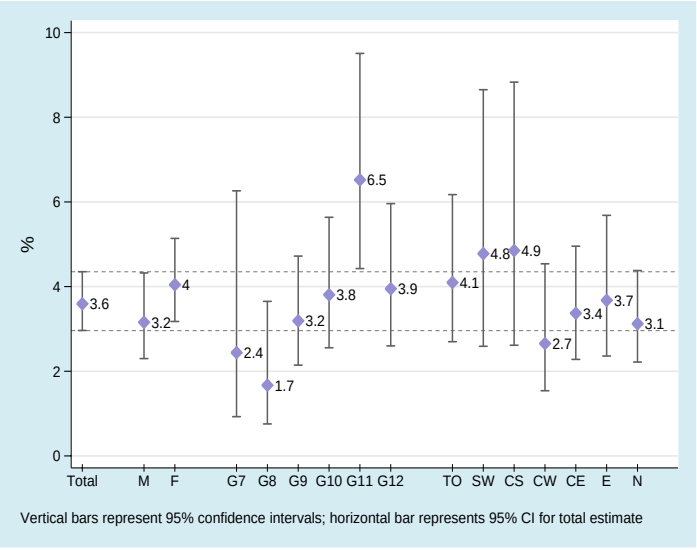
- Among the total sample, about 3% used barbiturates medically (about 30,900 students), 4% used stimulants medically (about 45,300 students), 2% used tranquillizers (about 22,300), and 2% used Ritalin (about 22,800 students).

- Among these four drugs, only Ritalin showed a significant sex difference: males are more like than females to use Ritalin medically (3% vs 1%, respectively).

- There are no significant grade differences in the use of any of these medical drugs.

- There are no significant differences in the use of any of these medical drugs among the seven public health regions.

Figure 4
Percentage Reporting Having Been Prescribed Medication to Treat Either Depression, Anxiety, or Both During the Past Year by Sex, Grade and Public Health Region, *OSDUS* 2005



Vertical bars represent 95% confidence intervals; horizontal bar represents 95% CI for total estimate

Prescription Medication to Treat Depression or Anxiety

Starting in 2001, the *OSDUS* asked about prescription medication for depression or anxiety. The question was *"In the last 12 months, have you been prescribed medicine to treat anxiety or depression?"* The four response options were: yes for anxiety only; yes for depression only; yes for both; or no.

2005 (Grades 7 to 12):

- About 1% of students (about 13,000 across Ontario) report that they had been prescribed medication to treat anxiety in the past year. A similar proportion (1%; about 12,000 students) were prescribed medication for depression. Another 1% (about 11,300) were prescribed medication for both their depression and anxiety.

- Combining these responses, 4% (about 36,300 students) report they were prescribed medication to treat either depression, or anxiety, or both of these problems.

- Compared to males, females are significantly more likely to be prescribed medication to treat depression (1% vs 2%, respectively). There is no significant sex difference regarding reports of being prescribed medication to treat anxiety.

- Students in grade 11 (6.5%) most likely to be prescribed medication to treat one or both of these problems.

- There is no significant variation by region.

Use of a Telephone Crisis Helpline

For the first time in 2005, the *OSDUS* asked students whether they have used any telephone crisis helpline. Specifically, the question used was "*In the last 12 months, have you phoned any telephone crisis helpline (for example, Kids Help Phone) because you needed to talk to someone about a problem?"* Response options were yes or no.

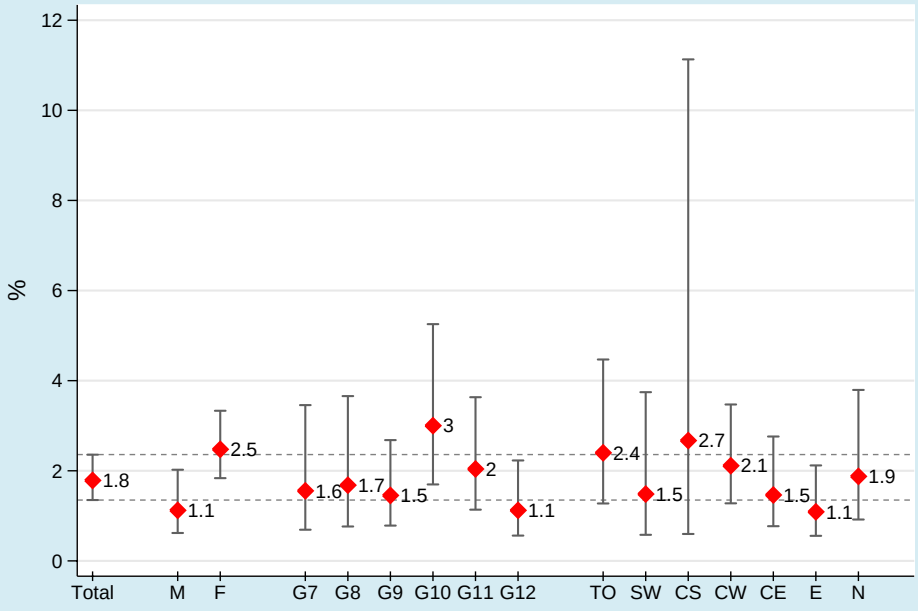
2005 (Grades 7 to 12):

- Among all students, about 2% report using a crisis helpline to discuss a problem during the past year. This percentage represents about 18,200 students across Ontario.

- Females are more likely than males to use a crisis helpline (2.5% vs 1%).

- There are no significant grade or region differences in the use of a crisis helpline.

Figure 5
Percentage Reporting the Use of a Telephone Crisis Helpline at Least Once During the Past Year by Sex, Grade and Public Health Region, *OSDUS* 2005



Vertical bars represent 95% confidence intervals; horizontal bar represents 95% CI for total estimate

Internalizing Indicators

Low Self-Esteem

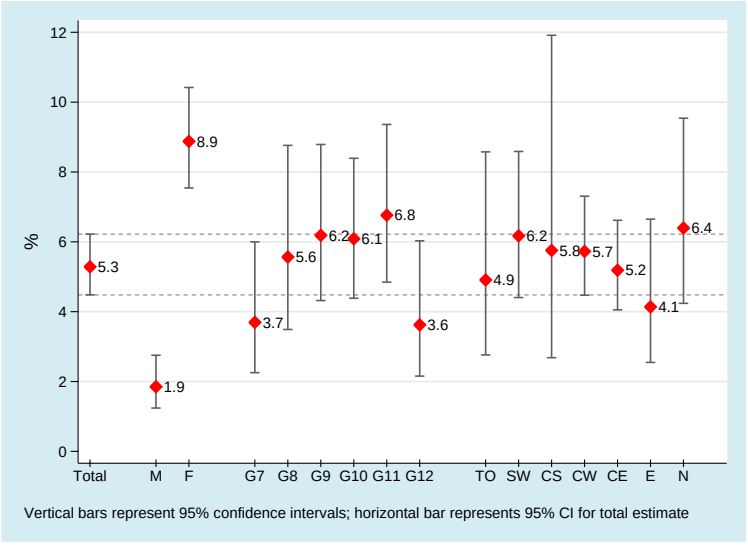
Low self-esteem, or self-worth, has been shown to be associated not only with risky health behaviours such as illicit drug use, but also with poor physical and mental health outcomes, and poor school and personal achievement.

Since 1993, the *OSDUS* has used 6 items to measure self-esteem, adapted items from the Rosenberg Self-Esteem Scale. An overall indicator for low self-esteem was defined as responding negatively (lower esteem) to at least 3 of the 6 items.

2005 (Grades 7 to 12):

- About 10% of students indicate low self-esteem.
- Females are significantly more likely to indicate low self-esteem than are males (11% vs 8%, respectively).
- There is no significant grade variation on low self-esteem, nor is there significant region variation.

Figure 6
Percentage at Elevated Risk for Depression by Sex, Grade and Public Health Region, *OSDUS* 2005



Vertical bars represent 95% confidence intervals; horizontal bar represents 95% CI for total estimate

Depressive Symptoms

Depressed mood is not a rare occurrence during adolescence and is characterized by pervasive feelings of sadness and worthlessness, loss of interest in activities, and disturbances in sleep, appetite, and concentration. Depression can range from mild to severe, and can adversely affect all areas of life. Typically, the onset of clinical depression occurs during adolescence, affecting more females than males.

The Center for Epidemiologic Studies Depression Scale (CES-D) is a self-report scale used to screen for depressive symptomatology in the general population. The scale does not make a clinical diagnosis, but it does identify those at risk for a depressive disorder. The *OSDUS* used a shortened version of the CES-D, containing 4 items measuring the frequency of experiencing symptoms during the past 7 days. We provide a measure of elevated risk for depression, indicated by reporting a high frequency of experiencing each of the 4 symptoms.

2005 (Grades 7 to 12):

- One-in-twenty (5%) students are at risk for depression (this represents about 54,100 Ontario students).
- Females are more likely to be at risk for depression, compared to males (9% vs 2%).
- There are no significant grade differences or region differences.

Elevated Psychological Distress

The General Health Questionnaire (GHQ) is a screening instrument used to detect current psychological distress. The GHQ-12 uses twelve items to screen for three overarching problems: depressed mood, anxiety, and problems with social functioning. Note that this instrument is used as a screener and not for clinical diagnoses. A summary measure was calculated to estimate the percentage experiencing elevated psychological distress, defined as reporting at least 3 of the 12 symptoms (positive statements were reverse-coded). The GHQ was first used in the *OSDUS* in 1999.

2005 (Grades 7 to 12):

- Elevated psychological distress is reported by just under one-third (30%) of students. This represents about 303,500 Ontario students.

- The most common symptom experienced by students is the feeling of being constantly under stress (36%), followed by losing sleep because of worrying (26%). The least reported symptom is feeling incapable of making decisions (7%).

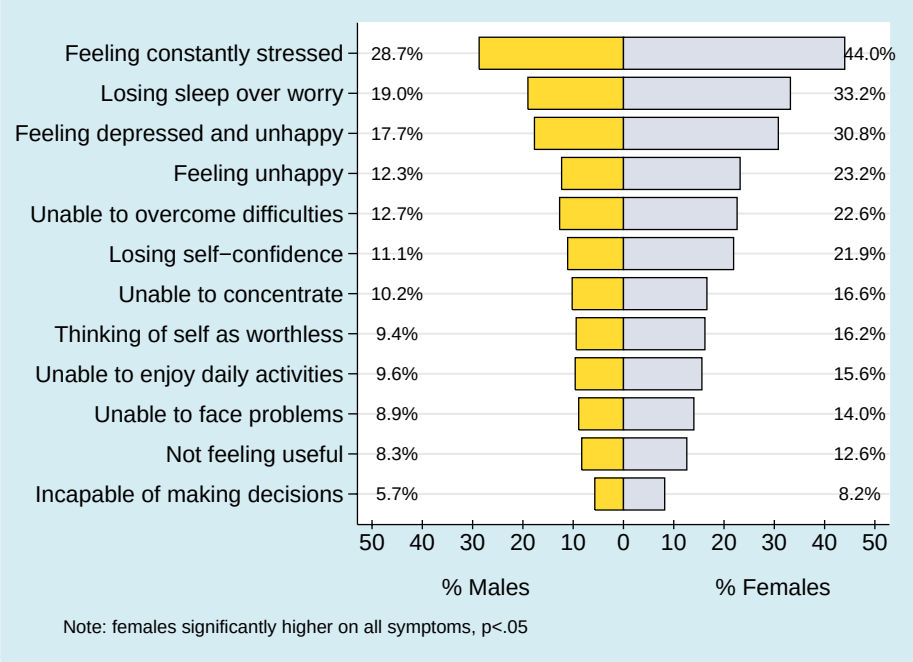
- Females are more likely to report elevated psychological distress compared to males (37% vs 22%, respectively). Indeed, females are significantly more likely to report each of the 12 symptoms.

- Psychological distress significantly increases with grade, peaking in 12th-grade (38%).

- There is substantial grade variation on 7 of the 12 symptoms, generally showing inferior mental health with increasing grade. For example, constantly feeling stressed increases dramatically with grade, with only 22% of 7th-graders reporting so versus 48% of 12th-graders. Symptoms that do not significantly differ by grade are: not feeling like one is playing a useful part in things; incapable of making decisions; unable to face problems; losing self-confidence; and thinking of oneself as a worthless person.

- There are no significant regional differences on these distress measures.

Figure 7
Percentage Reporting 12 Psychological Distress Symptoms (GHQ) over the Past Few Weeks by Sex, *OSDUS* 2005



Note: females significantly higher on all symptoms, p<.05

Suicide Ideation

Starting in 2001, the *OSDUS* included a question about suicide. Specifically, students were asked "*During the last 12 months, did you ever seriously consider attempting suicide?"*

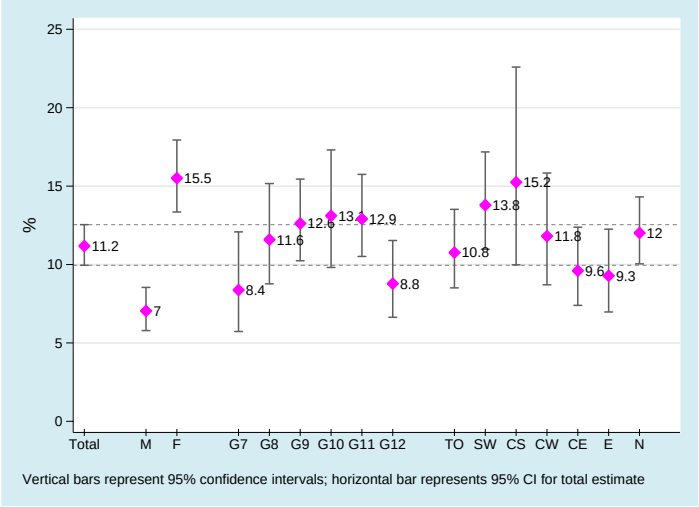
2005 (Grades 7 to 12):

- About 11% of students reported that they had seriously considered suicide during the past year. This percentage represents about 113,800 Ontario students.

- Females are significantly more likely to think about suicide than males (16% vs 7%, respectively).

- There is no significant association with grade or region.

Figure 8
Percentage Reporting Suicide Ideation During the Past Year by Sex, Grade and Public Health Region, *OSDUS* 2005



Vertical bars represent 95% confidence intervals; horizontal bar represents 95% CI for total estimate

Body Image

Starting in 2001, the *OSDUS* included questions concerning beliefs about personal weight and desired change in weight. Students were asked two questions: one about perceived body weight, and the second about what they are doing about their weight, if anything.

2005 (Grades 7 to 12):

- Over two-thirds (70%) of all students are satisfied with their weight. One-fifth (19%) feel they are too fat, while one-tenth (11%) feel they are too thin.

- Over one-third (37%) of students are not trying to do anything about their weight. Another 29% are trying to lose weight; 22% want to keep from gaining weight, and 12% want to gain weight

- Females are significantly more likely to believe that they are too fat, compared to males (25% vs 14%, respectively), whereas males are more likely to believe that they are too thin compared to females (15% vs 6%).

- Significantly more females than males want to lose weight (38% vs 21%, respectively), whereas more males want to gain weight (18% vs 5%).

- As grade increases, so does the desire to change one's weight: reports of trying to lose weight increase with grade, from 25% of 7th-graders up to about 32% of 12th-graders.

- There are no significant regional differences for these two items.

Externalizing Indicators

This section deals with externalizing indicators that are acting-out behaviours such as delinquency, violence and gambling. Delinquency and violent activities are not only a social problem, but a public health issue as well. Indeed, not only is violence related to physical injury, but having been a victim of violence or threatened with violence can also negatively impact a person's mental health.

Delinquent Behaviour

Since 1991, the *OSDUS* has asked students about their involvement in 11 delinquent acts. Eight of the 11 items refer to non-violent acts (e.g., vandalism, theft, joyriding), and the remaining 3 refer to violent acts (assault, weapon carrying, and gang fighting). In addition, the 2005 survey included a new question about carrying a handgun in the past 12 months. See Figure 10 for a list of the delinquent acts.

A global measure of delinquency was created, based on the 11 items used since 1991 (this excludes carried a handgun). Overall "delinquent behaviour" is defined as participating in 3 or more of the 11 acts, during the past year.

2005 (Grades 7 to 12):

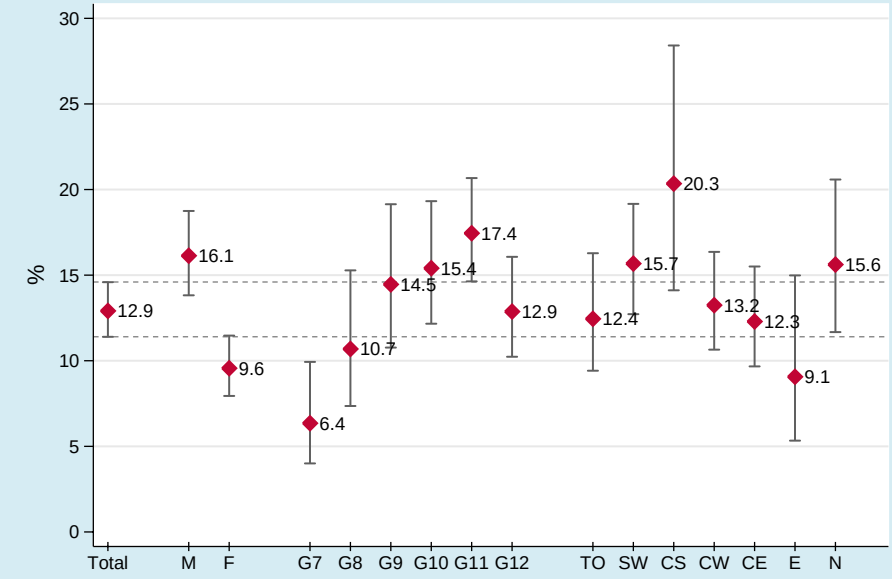
- Among all 12 acts asked about in 2005, the 3 most common were: vandalism (15%), theft under $50 (15%), and beating up someone (12%). The least reported activity was carrying a handgun (2%). Males are significantly more likely to report each of the 12 acts compared to females.

- Overall, 13% of students engage in delinquent behaviour (defined as 3 or more of 11 acts). Males are more likely to engage in delinquent behaviour than females (16% vs 10%, respectively).

- Among the grades, 11th-graders (17%) are the most likely to engage in delinquent behaviour.

- There are no significant regional differences regarding overall delinquent behaviour.

Figure 9
Percentage Reporting 3+ (of 11) Delinquent Acts at Least Once During the Past Year by Sex, Grade and Public Health Region, *OSDUS* 2005



Vertical bars represent 95% confidence intervals; horizontal bar represents 95% CI for total estimate

Violent Behaviour

Assault, 2005 (Grades 7 to 12):

- Among all students, 12% (about 117,000 in Ontario) assaulted someone at least once during the 12 months before the survey, with more males than females reporting doing so (16% vs 7%).

- Assault is significantly associated with grade, with students in grades 8, 9, and 10 most likely to report engaging in this act (about 12%-14%).

- There are no significant differences among the seven public health regions.

Gang Fighting, 2005 (Grades 7 to 12):

- Among all students, 6% (about 58,100) report gang fighting at least once during the past 12 months.

- Gang fighting is more prevalent among males than females (9% vs 3%).

- There are no significant differences among the grades, or among the regions.

Weapon Carrying, 2005 (Grades 7 to 12):

- Overall, 10% of students (about 95,200) report carrying a weapon, such as a knife or gun, during the 12 months before the survey.

- Males are significantly more likely than females to report carrying a weapon (15% vs 4%).

- Weapon carrying significantly varies by grade, with 9th-, 10th- and 11th-graders most likely to report this act (about 11%-13%).

- There are no significant regional differences.

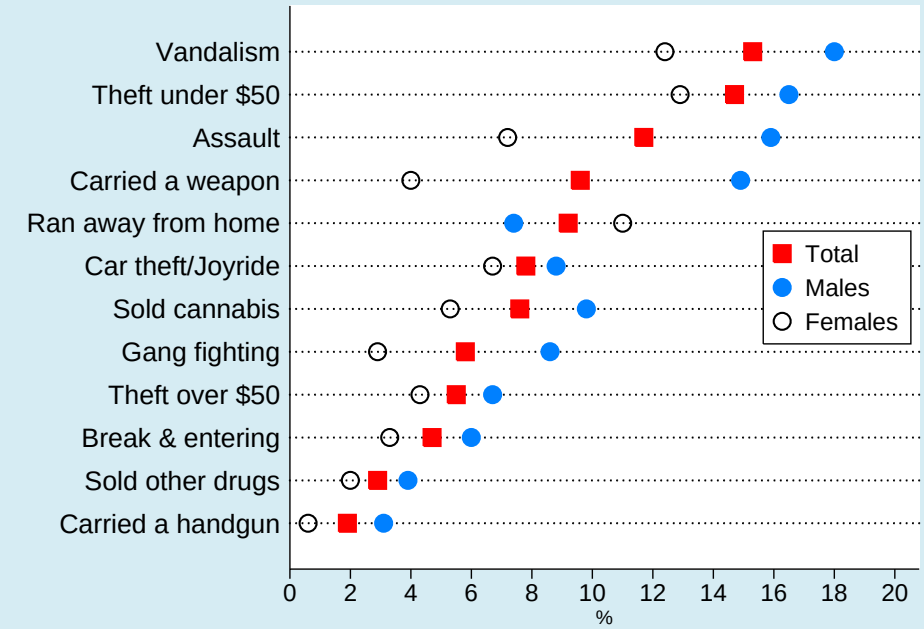
Carrying a Handgun, 2005 (Grades 7 to 12):

- About 2% of students (about 18,900) report carrying a handgun at least once during the 12 months before the survey.

- Males are significantly more likely than females to report carrying a weapon (3% vs 1%).

- There are no significant differences among the grades, or among the regions in reports of carrying a handgun in the past year.

Figure 10
Percentage Reporting Engaging in Delinquent Acts at Least Once During the Past Year, by Sex, *OSDUS* 2005



Note: significant sex difference for all acts, p<.05

Fire Setting

Fire setting among children and youth is a behaviour that carries significant health, social, and economic costs. It is also a symptom of current and future conduct and emotional problems.

Starting in 2005, the *OSDUS* asked students about setting fires. Specifically, the question used was *"In the last 12 months, how many times have you set something on fire that you weren't supposed to?"* Students entered the number of times. In this section, we focus on the percentage reporting this behaviour at least once in the past 12 months.

2005 (Grades 7 to 12):

- Among all students, 27% reported setting something on fire at least once during the 12 months before the survey. This percentage represents about 271,800 students in Ontario.

- Males are significantly more likely to set something on fire compared to females (34% vs 20%, respectively).

- There is significant grade variation, showing that fire setting behaviour peaks in grades 9 and 10 (about 33%-35%).

- There is significant regional variation, with students in Toronto and the East public health regions least likely to set fires (about 23%), and those in the Central-South region most likely (40%).

Violence on School Property

Starting in 2001, the *OSDUS* included a question about fighting on school property. In 2003, the *OSDUS* began asking students about being threatened with a weapon on school property. This section presents reports of experiencing each at least once during the 12 months before the survey.

Physical Fighting at School, 2005 (Grades 7 to 12):

- Among the total sample, 18% (about 181,600 of students in Ontario) report fighting on school property at least once in the past 12 months.

- There is a significant sex difference, with males much more likely to report fighting than females (27% vs 9%, respectively).

- There is significant variation by grade: 7th-graders (30%) are the most likely to fight at school, whereas 12th-graders are the least likely (11%).

- There are no significant differences among the public health regions.

Threatened or Injured with a Weapon at School, 2005 (Grades 7 to 12):

- Among all students, 8% (about 82,800 students) report having been threatened or injured with a weapon on school property at least once in the past 12 months.

- Males are significantly more likely than females to report being threatened or injured with a weapon at school (12% vs 5%, respectively).

- There are no significant differences among the grades, or among the regions.

Bullying at School

Beginning in 2003, the *OSDUS* included four questions about bullying. Bullying was defined in the questionnaire as "...when one or more people tease, hurt or upset a weaker person on purpose, again and again. It is also bullying when someone is left out of things on purpose." Note that the last sentence was added in 2005.

Students were asked about the typical way they were bullied at school, and the typical way they bullied others, if at all. The questions were: *"In what way were you bullied the most at school?"* and *"In what way did you bully other students the most at school?"* For each of these questions, students were asked to choose only one of the following four response options: was not involved in bullying at school; physical attacks (for example, beat up, pushed or kicked), verbal attacks (for example, teased, threatened, spread rumours), or stole or damaged possessions. The prevalence rates for bullying victim and perpetrator are based on these modal questions.

Students were also asked about the frequency of bullying with the questions: *"Since September, how often have you been bullied at school?"* and *"Since September, how often have you taken part in bullying other students at school?"*. For this report, we combined responses into three categories: daily or weekly, monthly or less often, and not since September.

Bullying Victims, 2005 (Grades 7 to 12):

- Among all students in grades 7 to 12, 31% report being bullied at school since September. This represents about 311,000 students in Ontario.

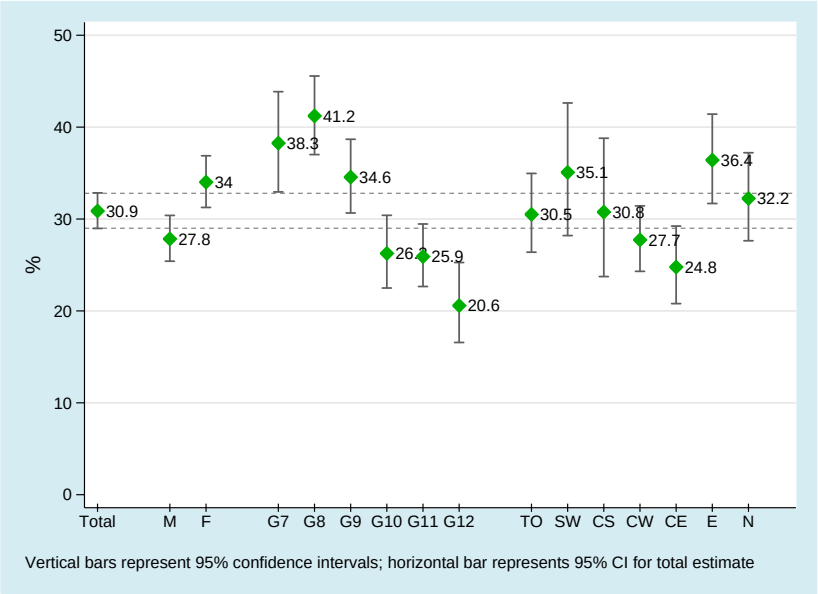
- The most prevalent form of victimization is verbal (25%), while 4% are mainly bullied physically, and 2.5% are mainly victims of theft or vandalism.

- About 10% of students report being bullied on a daily or weekly basis, and about 20% are bullied monthly or less often.

- Significantly more females are bullied than males (34% vs 28%, respectively). Females are more likely to be bullied verbally than males (30% vs 19%), while males are more likely to be bullied physically than are females (6% vs 2%). Both are equally likely to be victims of theft or vandalism (2% for females, 3% for males).

- There is significant grade variation, with 7th- an 8th-graders most likely to be bullied (about 40%) and 12th-graders (21%) the least likely. Seventh graders are the most likely to be bullied physically (8%). Eight graders are most likely to be bullied verbally (36%). These youngest grades are also most likely to be bullied on a daily/weekly basis (about 14%).

Figure 11
Percentage Reporting Being Bullied at School Since September by Sex, Grade and Public Health Region, *OSDUS* 2005



Bullying Perpetrators, 2005 (Grades 7 to 12):

- Among all students, 27% report bullying others at school. This represents about 275,000 students in Ontario.

- The most prevalent form of bullying is through verbal attacks (22%), followed by physical attacks (4%). Theft or damage to others' property is a rare event (les than 1%).

- About 6% of students report bullying someone on a daily or weekly basis, and 22% do so monthly or less often.

- Males are more likely to report bullying others than are females (29% vs 25%, respectively).

- Despite some variation, there are no significant differences in reports of bullying someone among the grades.

Gambling Activity

Starting in 2001, the *OSDUS* included questions about gambling activity during the past year. Students were asked *"How often (if ever) in the last 12 months have you done each of the following?"* The 10 activities listed below were asked about in 2003 and 2005, while only 7 were asked in 2001.

2005 (Grades 7 to 12):

- Among all students, the 10 activities ranked in the following manner, from most to least prevalent:

Cards	33%
Gambled in other ways	24%
Lottery tickets	18%
Sports pools	17%
Dice	15%
Bingo	9%
Sports lottery tickets	7%
Video gambling machines	6%
Internet gambling	2%
Ontario casinos	1%

- Among all students, about 6% gambled at 5 or more of the 10 activities during the past 12 months, and this group can be considered to be heavy gamblers. The percentage represents about 58,800 students across Ontario.

- All, but one, of the 10 gambling behaviours significantly vary by sex. Males are significantly more likely than females to play cards for money; play dice; bet in sports pools; buy sports lottery tickets; play video gambling machines or slots; bet money in a casino; bet over the Internet; and to gamble in other ways not listed. The only activity that does not differ by sex is buying lottery tickets. Males are also more likely to report heavy gambling activity than females (9% vs 3%, respectively).

- There are significant grade differences for 5 activities: playing cards for money, sports pools, sports lottery tickets, other lottery tickets, and casino gambling. These activities gradually increase with grade and peak in grade 12. Heavy gambling activity significantly varies by grade, peaking in grade 12 (8%).

- Four gambling activities significantly vary by public health region. Playing bingo for money is most likely to occur among students in the Central-South and North regions (at 17% each). Similarly, buying lottery tickets is most likely in the Central-South (32%) and the North (26%). Northern students are most likely to gamble at video gambling machines (14%). Central-south students are most likely to bet at a casino in Ontario (4%). There is significant regional variation in heavy gambling activity, with students in the Central-South (14%) most likely to engage in this level, and students in the East (4%) least likely.

Gambling Problem

Starting in 1999, the *OSDUS* asked students about gambling problems using the South Oaks Gambling Screen Revised for Adolescents (SOGS-RA). This enables us to assess the percentage of students who are at risk for a gambling problem, as defined by answering positive to 2 or more of the 6 SOGS-RA items used in the 2005 *OSDUS*.

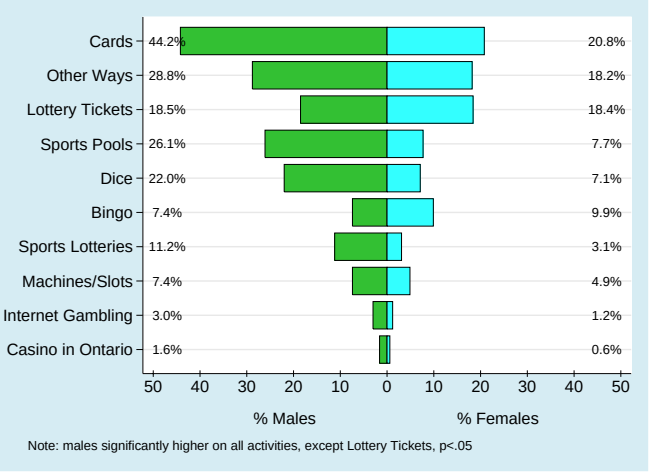
2005 (Grades 7 to 12):

- Overall, 4.5% may have a gambling problem. This percentage represents about 45,800 Ontario students.

- Males are more likely than females to be at risk for a gambling problem (7% vs 2%).

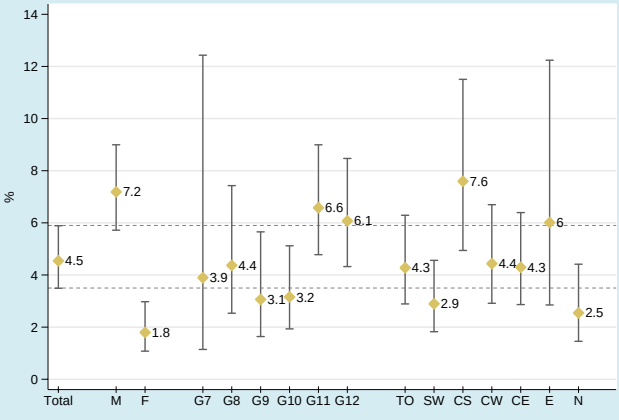
- Despite some variation, there are no significant grade differences, or region differences.

Figure 12
Percentage Reporting Gambling Activities in the Past Year, by Sex, *OSDUS* 2005



Note: males significantly higher on all activities, except Lottery Tickets, p<.05

Figure 13
Percentage of All Students at Risk for a Gambling Problem by Sex, Grade, and Public Health Region, *OSDUS* 2005



Vertical bars represent 95% confidence intervals; horizontal bar represents 95% CI for total estimate

Co-Existing Problems

This section examines the overlap between substance use, mental health, and delinquent behaviour. Given the potential array of mental health and substance use problems, it is important to consider the co-occurrence of problems experienced by students.

Research on co-existing substance use and mental disorders among clinical samples indicate that this problem is not uncommon. Epidemiological estimates, however, are less conclusive mainly due to the lack of general population surveys on adolescents in Canada and the United States. Much is yet to be understood about the prevalence of co-existing disorders, the pattern of age of onset, and about the specific combinations of substances and mental health problems.

Configurations of Risk

This section presents the degree of overlap among the following 4 problems: (1) elevated psychological distress (as indicated by a score of 3 or more on the GHQ-12 screener); (2) hazardous drinking (indicated by a score of 8 or more on the AUDIT screener); (3) a drug problem (indicated by a score of 2 or more on the CRAFFT-D screener)*; and (4) delinquent behaviour (indicated by engaging in 3 or more of 11 delinquent acts). We examine the nature of the overlap, and the group of students who report 3 or all 4 of these problems.

2005 (Grades 7 to 12):

- Overall, the majority (55%) of students report none of these 4 problems. About 27% report 1 problem, 10% report 2 problems, 6% report 3 problems, and 2% report all 4 problems.

- By far, the most prevalent configuration is psychological distress only, reported by 19% of students. The remaining configurations, such as hazardous drinking only or drug problem only, are reported by 3% or less.

- The percentage reporting 3 or all 4 problems is 8%. This represents about 86,200 students across Ontario.

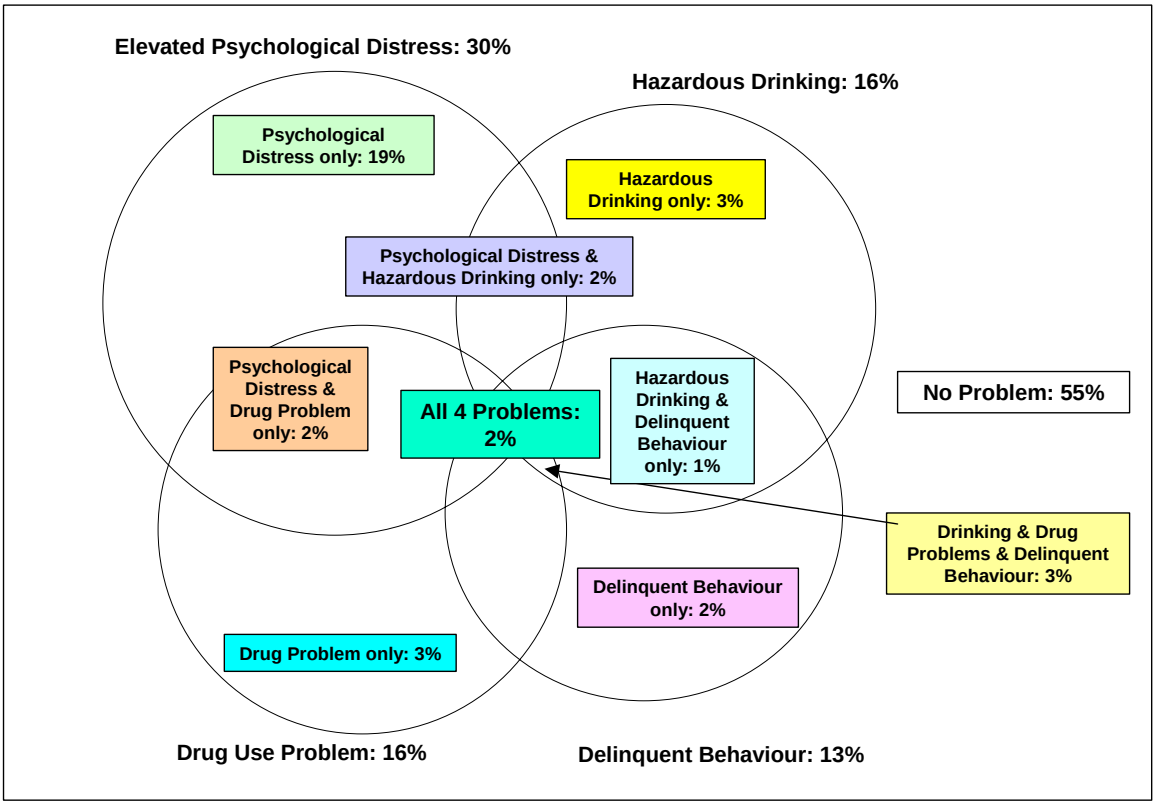
- There is no significant sex difference in reports of 3 or all 4 of these co-existing problems (8% for females, 9% for males).

- There is significant grade variation, with 11th-graders and 12th-graders most likely to experience 3 or all 4 of these problems (about 12% each).

- There is significant variation among the public health regions. Students in the South-West and Central-South regions most likely to report 3 or all 4 problems (about 14% each).

* Details on the AUDIT and CRAFFT-D screeners can be found in the companion OSDUS drug report *"Drug Use Among Ontario Students, 1977-2005: Detailed OSDUS Findings"* available on our website: http://www.camh.net/research/osdus.html

Figure 14
Co-existing Problems: Elevated Psychological Distress, Hazardous Drinking, Drug Use Problem, and Delinquent Behaviour, Grades 7 to 12, *OSDUS* 2005



Note: based on a random half sample (N=4078)

Public Health Planning Regions

This section provides an overview of results for Ontario Ministry of Health's seven public health planning regions. The seven regions are delineated as such:

Toronto

Southwest
- Essex, Kent, Lambton
- Elgin, Oxford, Middlesex
- Bruce, Grey, Perth, Huron

Central South
- Niagara, Hamilton-Wentworth
- Brant, Haldimand-Norfolk

Central West
- Halton, Peel
- Wellington, Dufferin, Waterloo

Central East
- Northumberland & Victoria
- Haliburton, Peterborough
- Durham, York, Simcoe

East
- Ottawa-Carleton, Renfrew
- Prescott & Russell, Stormont
- Dundas & Glengarry, Lanark
- Leeds & Grenville, Hastings, Prince Edward
- Frontenac, Lennox & Addington

North
- Algoma, Cochrane, Manitoulin
- Sudbury (R.M.), Sudbury (T.D.)
- Muskoka, Parry Sound
- Nipissing, Timiskaming
- Thunder Bay, Kenora, Rainy River

Table 1. Selected Outcomes by Public Health Planning Region (Percentages & 95% CIs), *OSDUS* 2005

	Toronto	South-West	Central-South	Central-West	Central-East	East	North	Ontario
(N=)	(1172)	(821)	(373)	(1671)	(1215)	(1229)	(1245)	(7726)
Poor Self-Rated Health	13.6 (10.3-17.8)	15.0 (11.7-18.9)	16.3 (12.1-21.6)	13.4 (11.2-16.0)	13.8 (11.6-16.4)	10.6 (8.0-13.9)	10.5* (8.3-13.2)	13.1 (12.0-14.3)
1+ Physical Health Doctor Visit	63.9 (58.9-68.5)	54.1* (49.1-59.0)	60.3 (53.4-66.8)	60.4 (57.1-63.6)	61.7 (57.2-66.0)	67.3** (61.6-72.6)	50.7** (45.2-56.2)	61.1 (59.2-63.0)
Treated for a Physical Injury	26.7** (22.7-31.1)	36.9 (34.2-39.6)	41.0* (35.3-46.9)	30.4** (27.2-33.8)	34.8 (31.4-38.3)	38.4* (35.5-41.4)	39.1* (35.7-42.7)	33.8 (32.2-35.5)
Inactive Past 7 Days	21.7* (18.1-25.8)	14.3* (12.0-16.9)	18.2 (13.2-24.4)	18.2 (15.4-21.3)	18.7 (14.6-23.5)	18.5 (12.1-27.1)	14.9 (10.4-21.0)	18.3 (16.4-20.3)
1+ Mental Health Visit	11.2 (7.9-15.6)	12.6 (10.1-15.7)	13.2 (9.2-18.4)	11.6 (9.1-14.7)	10.6 (8.9-12.5)	10.9 (8.8-13.3)	14.6* (12.0-17.7)	11.7 (10.5-12.9)
Used a Telephone Crisis Helpline	2.4 (1.3-4.5)	1.5 (0.6-3.7)	2.7 (0.6-11.1)	2.1 (1.3-3.5)	1.5 (0.8-2.8)	1.1 (0.6-2.1)	1.9 (0.9-3.8)	1.8 (1.4-2.4)
Low Self-Esteem	11.7 (8.1-16.6)	6.3** (4.7-8.3)	9.3 (5.8-14.6)	10.1 (7.8-13.0)	8.5 (6.4-11.4)	9.9 (8..0-12.3)	9.7 (7.3-12.8)	9.6 (8.5-10.8)
High Risk for Depression	4.9 (2.8-8.6)	6.2 (4.4-8.5)	5.8 (2.7-11.9)	5.7 (4.5-7.3)	5.2 (4.0-6.6)	4.1 (2.5-6.6)	6.4 (4.2-9.5)	5.3 (4.5-6.2)
Elevated Psychological Distress	31.7 (28.4-35.1)	29.2 (25.8-32.9)	29.0 (21.7-37.6)	31.5 (28.0-35.2)	27.7 (23.1-32.7)	27.5 (22.3-33.3)	29.3 (23.7-35.6)	29.6 (27.8-31.4)
Suicide Ideation	10.8 (8.5-13.5)	13.8 (11.0-17.2)	15.2 (10.0-22.6)	11.8 (8.7-15.8)	9.6 (7.4-12.4)	9.3 (7.0-12.2)	12.0 (10.0-14.3)	11.2 (10.0-12.5)
3+ Delinquent Acts	12.4 (9.4-16.3)	15.7 (12.7-19.2)	20.3* (14.1-28.4)	13.2 (10.6-16.4)	12.3 (9.7-15.5)	9.1 (5.3-15.0)	15.6 (11.7-20.6)	12.9 (11.4-14.6)
Fire Setting	23.2* (18.7-28.5)	29.6 (24.6-35.0)	40.4** (32.8-48.6)	26.8 (23.3-30.5)	30.7 (26.9-34.8)	23.6* (19.3-28.5)	28.1 (24.6-32.0)	27.2 (25.3-29.2)
1+ Fights at School	21.1 (15.9-27.4)	16.7 (11.4-23.6)	24.2 (16.9-33.5)	18.3 (16.0-20.8)	17.4 (13.5-22.1)	15.8 (12.9-19.2)	16.8 (14.8-19.0)	18.1 (16.5-19.7)
Threatened/Injured with Weapon at School	9.6 (7.0-13.0)	7.8 (5.4-11.2)	10.3 (5.3-19.0)	7.8 (5.9-10.2)	6.1 (4.1-9.0)	9.7 (5.7-16.0)	6.4 (4.0-10.0)	8.2 (6.9-9.8)
Been Bullied	30.5 (26.4-35.0)	35.1 (28.2-42.6)	30.8 (23.7-38.8)	27.7 (24.3-31.4)	24.8** (20.8-29.2)	36.4* (31.7-41.4)	32.2 (27.6-37.2)	30.9 (29.0-32.8)
Bullied Someone	27.9 (24.0-32.1)	31.0 (25.8-36.7)	35.8 (26.5-46.2)	25.9 (22.9-29.2)	26.4 (21.8-31.5)	25.4 (19.3-32.7)	26.6 (22.7-31.0)	27.3 (25.2-29.5)
Heavy Gambling Activity	5.2 (3.0-9.0)	5.8 (3.8-8.9)	14.1** (9.7-20.0)	5.8 (4.3-7.8)	4.7 (2.8-7.7)	3.9 (1.6-9.2)	9.6* (7.1-12.9)	5.9 (4.8-7.1)
At risk for a Gambling Problem	4.3 (2.9-6.3)	2.9 (1.8-4.6)	7.6** (4.9-11.5)	4.4 (2.9-6.7)	4.3 (2.9-6.4)	6.0 (2.8-12.2)	2.5* (1.4-4.4)	4.5 (3.5-5.9)
3 or All 4 Co-existing Problems†	6.3* (4.3-9.0)	14.1* (9.3-20.6)	14.5* (9.3-21.7)	6.8 (4.9-9.2)	8.5 (6.4-11.1)	6.6 (4.2-10.3)	10.2 (7.4-13.7)	8.4 (7.2-9.8)

Notes: (1) entries in brackets are 95% confidence intervals; (2) † refers to reporting 3 or all problems among: psychological distress, hazardous drinking, drug problem, and delinquent behaviour; (3) some items asked of a random half sample; (4) *p<.05, **p<.01 significant difference, public health region versus Ontario.

Source: *OSDUS*, Centre for Addiction and Mental Health

Multiple Outcomes, Multiple Influences

In this section we examine the relationship between certain risk factors and 9 of the mental health problems and behaviours discussed in the report (see Appendix Table A3 for definitions):

- risk for depression
- psychological distress
- suicide ideation
- non-violent delinquent behaviour
- violent behaviour
- risk for a gambling problem
- hazardous drinking
- illicit drug use, excluding cannabis
- 3 or all 4 co-existing problems.

In addition to demographics, we examined the influence of family and school-related risk factors, for example, the strength of the parent-child relationship and the level of attachment to school (see Appendix Table A3 for risk factor definitions). The impact of each risk factor is assessed, taking other factors into account, using adjusted logistic regression analyses.

It should be noted that because these data were collected at one point in time, no causal statements can be made and we can only suggest correlational relationships. For example, we cannot determine whether low school marks cause poor mental health or whether poor mental health causes low marks.

The results of the logistic regressions (see Table A4 for an overview) showed that the factors most consistently associated with the 9 outcomes are ordered as follows:

- the parent-child relationship; parental monitoring; sensation seeking (8 of 9 outcomes)
- school marks (7 of 9 outcomes)
- sex; grade (6 of 9)
- family immigrant status (5 of 9)
- perceived school safety (4 of 9)
- region (3 of 9)
- family structure; school attachment (2 of 9)
- parents' education (0 of 9)

Parent-Child Relationship
Compared to students who report a good relationship with their parents, students with a poor relationship with their parents are more likely to be at risk for depression, report psychological distress, and thoughts about suicide, even after controlling for other factors. They are also more likely to report non-violent and violent delinquent behaviour, hazardous drinking, to use an illicit drug, and to report experiencing co-existing problems.

Parental Monitoring
Students who report that their parents usually do not know their whereabouts are more likely to report all outcomes, except for a gambling problem.

Sensation Seeking
Compared to students who have low to moderate levels, those with a high level of sensation seeking are likely to report all outcomes except for depression.

School Marks
Compared to students who achieve an A or B average, students with poor marks (C average or below) are more likely to report suicide ideation. They are also more likely to report all outcomes except for depression and psychological distress.

Sex
Females are at greater risk for experiencing the internalizing problems of depression, elevated psychological distress and suicide ideation.

Males are more likely to report non-violent delinquent behaviour, violent behaviour, and are at risk for a gambling problem. Interestingly, after accounting for other factors, there is no difference between males and females in hazardous drinking, illicit drug use, and co-existing problems.

Grade
After accounting for the other factors, grade (age) is related to six of the nine outcomes.

- Between grade 7 and grade 8, the likelihood of violent and non-violent delinquent behaviour increases, as does the likelihood of using an illicit drug, and experiencing co-existing problems.
- Between grade 9 and grade 10, the likelihood of hazardous drinking and experiencing co-existing problems increases.
- Compared to 10th-graders, 11th-graders are more likely to be at risk for a gambling problem and drink hazardously, but are less likely to engage in violent behaviour.

Family Immigrant Status

First-generation immigrant students (those who were born outside of Canada, as were their parents) are less likely to have thoughts of suicide, engage in non-violent delinquent behaviour, drink hazardously, use an illicit drug, and experience co-existing problems, compared to native students (those born in Canada, as well as their parents).

Second-generation immigrant students (those who were born in Canada, but one or both parents were born outside Canada) are less likely to drink hazardously and to use an illicit drug, compared to native students.

School Safety

Students who do not feel safe at school are more likely to report all three internalizing problems, as well as be at risk for a gambling problem.

Public Health Region

After controlling for other factors, compared to the province as a whole,

- Toronto students are less likely to drink hazardously.
- Central-South students are more likely to engage in violent behaviour, drink hazardously, and use an illicit drug.
- Central-West students are less likely to drink hazardously.

Family Structure

Compared to students in a two-parent family, those in a stepfamily are more likely to use an illicit drug. Compared to those in a two-parent family, those in a non-two parent family are more likely to report psychological distress

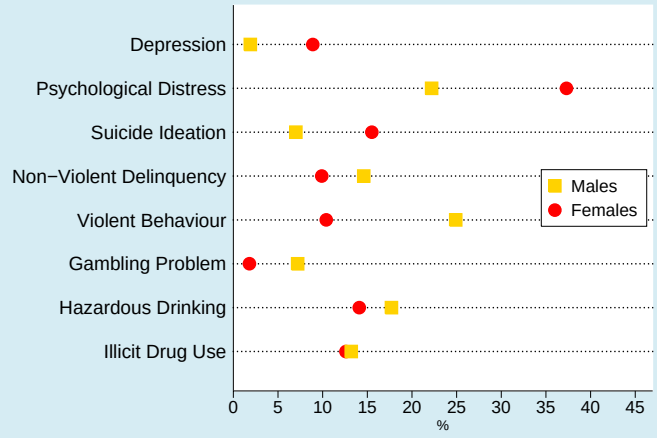
School Attachment

Compared to those who feel very attached to their school, those students who feel low attachment – that is, they feel disconnected to their school – are more likely to report psychological distress and suicide ideation.

Parents' Education

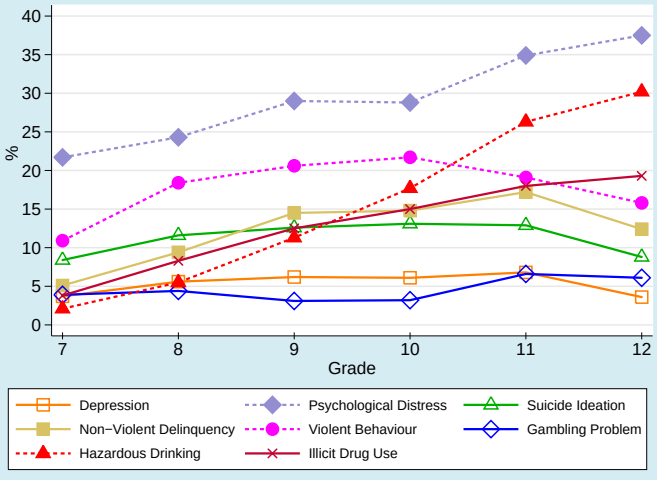
After controlling for other factors, parents' level of education is not related to any outcome.

Figure 15
Percentage Reporting Internalizing and Externalizing Problems, by Sex, *OSDUS* 2005



Note: significant (p<.05) sex difference for all except hazardous drinking and illicit drug use

Figure 16
Percentage Reporting Internalizing and Externalizing Problems, by Grade, *OSDUS* 2005



Overview of Short-Term and Long-Term Trends[1]

Short-Term Trends, 1999-2005 (Grades 7 to 12)

Long-Term Trends, 1991-2005 (Grades 7, 9, and 11 only)

Physical Health

- Students in 2005 (13%) are significantly more likely to report fair or poor health compared to students in 2001 (10%) and 1999 (9%).

- Between 1999 and 2005, there was no significant change in the percentage of students who were inactive during the past 7 days – hovering between 14% and 18%.

- Self-reports of fair or poor health were lowest in 1991, at 6%. Poor health has significantly increased to an all-time high in 2005, at 13%.

- Compared to their counterparts in 1997, students in 2005 are more likely to be inactive (14% vs 18%, respectively).

Health Care Utilization

- Over the short-term, there has been a significant decline in the percentage of students who saw a doctor at least once in the past year, from 70% in 1999 down to 61% in 2005.

- Between 1999 and 2005, there was no change in the percentage of students who saw a mental health care professional.

- Significantly fewer students in 2005 (3%) report medical barbiturate use than in 1999 (13%).

- Compared to 1999, fewer students in 2005 report medical use of stimulants (from 7% down to 4%).

- There are no significant changes over the short-term in the medical use of tranquillizers.

- Medical Ritalin use is significantly lower in 2005 (2%) compared to use in 1999 (4%).

- Between 2001 and 2005, there was no significant change in reports of prescriptions to treat anxiety, or depression, or both.

- Over the long-term, the medical use of barbiturates declined between 1977 to 1997, spiked in 1999, but has since been declining.

- The medical use of stimulants declined between 1977 and 1991, steadily increased until 1999, and has declined again in 2005.

- Between 1977 and 1995, the medical use of tranquillizers declined, and then increased slightly until 1999. Since that time, use has remained stable.

[1] Trends refer to changes among the total samples surveyed in the given years. No subgroup trends are presented.

Short-Term Trends, 1999-2005 (Grades 7 to 12)	*Long-Term Trends, 1991-2005 (Grades 7, 9, and 11 only)*

Internalizing Indicators

- Low self-esteem remained stable between 1999 and 2005 (around 10%).
- Between 1999 and 2005, there was no significant change in elevated risk for depression (around 5%).
- Elevated psychological distress remained stable between 1999 (30%) and 2005 (30%), with the exception of a short-lived dip in 2001 (26%).
- Between 2001 and 2005, there was no significant change in the percentage of students who contemplated suicide (around 11%).
- Between 2001 and 2005, there was no significant change regarding body image or the desire to change one's weight.
- There was no significant change in reports of low self-esteem between 1995 and 2005.
- There was no significant change in elevated risk for depression between 1997 and 2005.

Externalizing Indicators

- Overall delinquent behaviour significantly declined between 1999 (18%) and 2005 (13%).
- The percentage reporting assaulting someone significantly declined between 1999 and 2001 (from 20% to 13%), and remains stable in 2005 at 12%.
- The percentage reporting weapon carrying is significantly lower in 2005 (10%) compared to the 1999 estimate (14%).
- No significant short-term changes were found for gang fighting.
- No significant short-term changes were found regarding fights at school or being threatened or injured with a weapon at school.
- Between 2003 and 2005, gambling at card games significantly increased, from 24% to 33%.
- The percentage at risk for a gambling problem in 2005 (4.5%) is similar to estimates in 2003 (3.5%) and 1999 (6%).
- Compared to rates found in 1993 (17%) and 1995 (18%), delinquent behaviour is significantly lower in 2005 (13%).
- Assault peaked in 1997 (22%), subsequently declined to 12% in 2001, and remains stable in 2005 at 11%.
- Compared to their counterparts in 1993, students today are less likely to carry a weapon (16% in 1993 vs 9% in 2005).
- Gang fighting remained stable between 1991 and 2005, hovering between 5% and 7%.
- The percentage reporting selling cannabis is significantly higher in 2005 (7%) compared to a decade ago (3% in 1991).

Table 2. Overview of Selected Trends in Mental Health and Well-Being Indicators among the Total Sample of Ontario Students

Indicator	Period	Among Grades	Change
% fair or poor health (current)	1991-2005	G7, G9, G11	Increased from 6% to 13%
% physically inactive (past 7 days)	1997-2005	G7, G9, G11	Increased from 14% to 18%
% reporting 1+ physical health care visits (past year)	1999-2005	G7 to G12	Decreased from 70% to 61%
% used Ritalin medically (past year)	1999-2005	G7 to G12	Decreased from 4% to 2%
% used barbiturates medically (past year)	1999-2005	G7 to G12	Decreased from 13% to 3%
% used stimulants medically (past year)	1999-2005	G7 to G12	Decreased from 7% to 4%
% used tranquillizers medically (past year)	1999-2005	G7 to G12	Stable
% reporting 1+ mental health care visits (past year)	1999-2005	G7 to G12	Stable
% low self-esteem (current)	1995-2005	G7, G9, G11	Stable
% at elevated risk for depression (past 7 days)	1997-2005	G7, G9, G11	Stable
% psychological distress (past few weeks)	1999-2005	G7 to G12	Stable
% suicide ideation (past year)	2001-2005	G7 to G12	Stable
% gambling at card games (past year)	2003-2005	G7 to G12	Increased from 24% to 33%
% heavy gambling (past year)	2003-2005	G7 to 12	Stable
% gambling problem (past year)	1999-2005	G7 to G12	Currently stable at 4.5%
% overall delinquent behaviour (past year)	1993-2005	G7, G9, G11	Peaked in 1995 (18%), decreased to 13% in recent years (2001-2005)
% carrying a weapon (past year)	1993-2005	G7, G9, G11	Peaked in 1993 (16%), steadily decreased to 9% in 2001, and stable in 2005 (9%)
% assaulting someone (past year)	1991-2005	G7, G9, G11	Peaked in 1997 (22%), decreased to about 12% in recent years (2001-2005)
% gang fighting (past year)	1991-2005	G7, G9, G11	Stable
% selling cannabis (past year)	1991-2005	G7, G9, G11	Increased from 3% to 7%
% bullied (since September)	2003-2005	G7 to 12	Stable
% bullying (since September)	2003-2005	G7 to 12	Stable

Notes: the changes presented are based on the total sample of students in the grades shown; subgroup changes are not presented.

SUMMARY

The Public Health Approach Towards Mental Health and Risk Behaviour Problems

Designating mental health problems and risky behaviours as public health issues enables health professionals from various disciplines to work together on prevention. Preventing problems from occurring, or at least reducing the risk, is preferable over treating problems, both on an individual and a societal level.

The public health approach involves: identifying the pervasiveness of a given problem among the general population; identifying its timing and pattern during the life course; tracking trends in the prevalence and incidence over time; identifying risk and protective factors; designing preventive programs and active health promotion programs; and disseminating findings to the general public.

Some Encouraging Findings

There are many findings in this report that should be viewed as encouraging. Indeed, the majority of students:

- rate their health as excellent or very good;
- are satisfied with their weight;
- get along very well with their parents;
- report a positive school climate – that is, a feeling of connectedness to their school, feeling that the teachers are excellent, and feeling safe at school;
- do not report internalizing problems (e.g., depressive symptoms) or externalizing problems (e.g., violent behaviour).

In addition, we found several improvements in well-being:

- Compared to 1999, fewer students today report medical Ritalin use, medical barbiturates, or medical stimulant use.
- Reports of assaulting someone have declined since 1997.
- Fewer students today report carrying a weapon compared to their counterparts in 1993.

Some Public Health Flags

Although the majority of students do not report a problem, a considerable minority report some form of impaired well-being or functioning:

About one-in-three students report…
- receiving treatment for one or more physical injuries in the past year
- elevated psychological distress
- being bullied at school
- bullying someone at school
- setting something on fire.

About one-in-five students report…
- no physical activity
- fighting at school.

About one-in-eight students report…
- visiting a mental health professional
- fair or poor health
- delinquent behaviour
- assaulting someone
- concern about personal safety at school.

About one-in-ten students report…
- being threatened or injured with a weapon at school
- carrying a weapon
- low self-esteem
- suicide ideation
- co-existing problems.

About one-in-twenty students …

- use prescribed medication to treat depression, anxiety, or both problems
- use a telephone crisis helpline
- are at risk for depression
- take part in gang fighting
- are heavy gamblers
- show signs of a gambling problem.

In addition, some findings point to potentially disturbing trends:

- Self-rated poor health has increased over the past decade and is currently at an all-time high at about 13%.

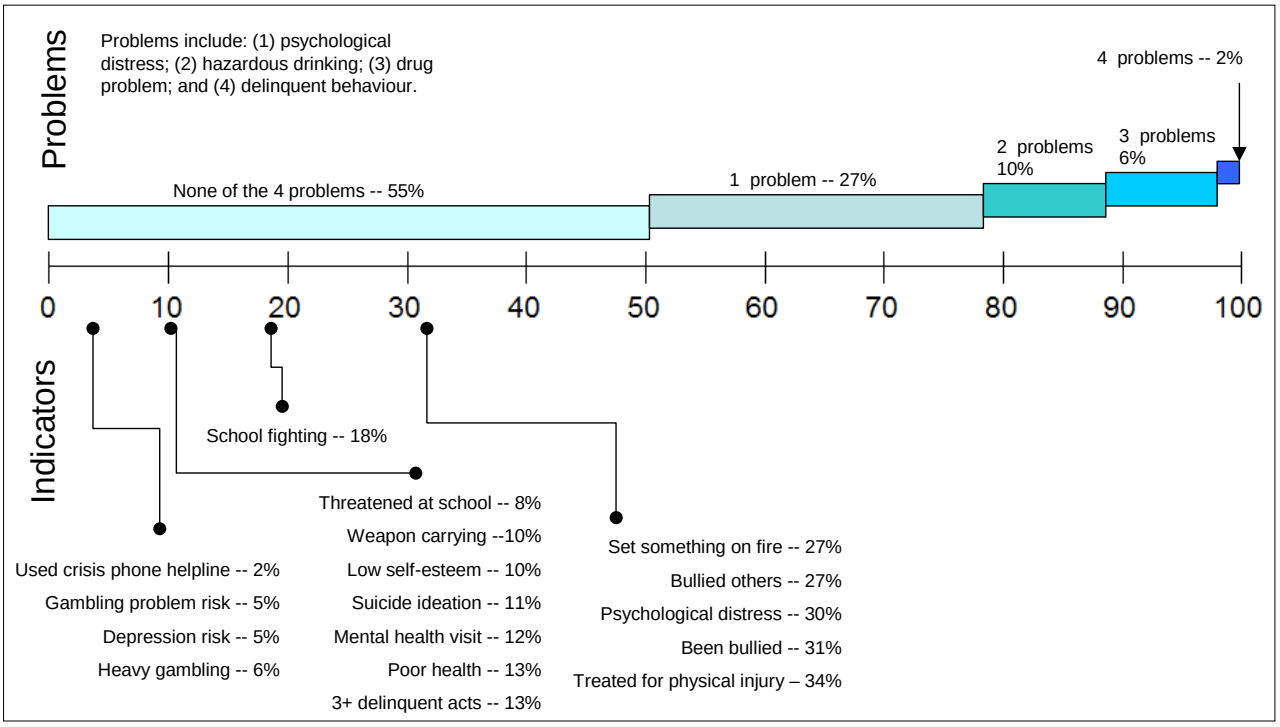
- The percentage of students reporting selling cannabis is higher today than it was in 1991.

Important Factors Related to Adolescent Mental Health and Well-Being

The present report found that well-being varies greatly depending on sex, even after controlling for other factors. One general pattern is that females are more likely to experience internalizing problems (such as depression, psychological distress, and suicide ideation), whereas males exhibit risky or externalizing behaviours (such as delinquent acts).

Age is also significantly related to mental health and well-being. The general pattern found is that poor health, psychological distress, delinquent behaviour, and co-existing problems increase with grade and tend to peak in late adolescence. Bullying behaviour and fighting at school peak in early adolescence and subside as grade increases.

Figure 17
Overview of Mental Health Indicators and Problems, Grades 7 to 12, *OSDUS* 2005



Other significant risk factors that are not static, and thus can be addressed by interventions, relate to the family and school settings. Specifically, the quality of the parent-child relationship and the level of parental monitoring show consistent associations with both internalizing and externalizing problems.

Being an immigrant or having immigrant parents seems to be a protective factor against suicide ideation, delinquent behaviour, hazardous drinking, illicit drug use, and co-existing problems, even after controlling for other variables such as parental supervision. This finding is consistent with other Canadian and American research showing that immigrants have improved mental health and physical health compared to those who are native-born. Researchers posit that this improvement may be due to better lifestyle habits, increased religiosity, or increased social support experienced by recent immigrants.

School marks and school climate factors – such as the degree of connectedness, concern over personal safety – are associated with well-being. Students who do not do well academically are likely to engage in risky behaviours. Students who do not feel connected to their school, and those who feel that their personal safety is threatened, are likely to experience internalizing problems. We cannot know from our data, however, whether school connectedness influences problems, or vice versa.

Future OSDUS Monitoring

In order to assess the public health implications of some of our findings, careful monitoring of the following is necessary:

- the level of physical inactivity and self-rated health, and
- cannabis selling.

Further, given the expansion of legalized gambling in Ontario, another indicator worthy of continued monitoring is the rate of gambling and related problems among adolescents – who tend to display more problems than adults. The significant increase in betting money in card games found in the 2005 survey must also be monitored.

The purpose of this report was to provide a snapshot of Ontario students' well-being and to assess whether such indicators have changed over time. A major strength of these data is that they are not based on a selective sample of adolescents already experiencing emotional or other difficulties – they are based on a large representative sample of the population. Consequently, our findings should be highly generalizable.

Our findings are consistent with many expectations of the adolescent period. The majority of students report positive indicators of well-being and a minority report negative indicators. However, this minority can be sizeable – over one-in-ten students (about 113,800) report suicide ideation and just under one-in-three (about 303,500) report elevated distress. These large magnitudes should remind us of the vulnerability of this age group. Although several recent initiatives have been made in the area of early intervention programs with infants and children (e.g., Healthy Babies, Healthy Children, a prevention/early intervention initiative funded by the Ontario government), few widespread programs have been directed toward early adolescence, a period known for the increasing onset of emotional difficulties and psychological disorders. Indeed, health professionals have also commented on the relative lack of research on adolescent psychopathology compared to children and adults.

Regarding trends over time, our data pointed to some potentially encouraging results. However, many of these changes occurred only in recent years; consequently, it is too early to know with confidence whether these changes represent the beginning of a new trend or the existence of a brief downward episode. It is only with continued monitoring that these questions can be addressed.

APPENDIX TABLES

Table A1. Percentage Reporting Various Mental Health and Well-Being Indicators for the Total Sample (N=7,726), and by Sex, 2005 *OSDUS*

Indicator	Estimated Number	Total % (95% CI)		Males	Females	
% fair or poor health (current)	**126,900**	**13.1**	**(12.0-14.3)**	10.5	15.9	*
% physically inactive (past 7 days)	**175,500**	**18.3**	**(16.4-20.3)**	16.4	20.2	*
% daily physical activity (past 7 days)	**159,600**	**16.6**	**(15.1-18.2)**	21.6	11.3	*
% treated for a physical injury (past year)	**323,800**	**33.8**	**(32.2-35.5)**	37.9	29.5	*
% used Ritalin medically (past year)	**22,800**	**2.4**	**(1.9-2.9)**	3.3	1.3	*
% reporting 1+ mental health care visits (past year)	**110,800**	**11.7**	**(10.5-12.9)**	8.7	14.8	*
% used telephone crisis helpline (past year)	**18,200**	**1.8**	**(1.4-2.4)**	1.1	2.5	*
% low self-esteem (current)	**97,500**	**9.6**	**(8.5-10.8)**	8.2	11.0	*
% at elevated risk for depression (past 7 days)	**54,100**	**5.3**	**(4.5-6.2)**	1.9	8.9	*
% psychological distress (past few weeks)	**303,500**	**29.6**	**(27.8-31.4)**	22.2	37.3	*
% suicide ideation (past year)	**113,800**	**11.2**	**(10.0-12.5)**	7.0	15.5	*
% overall delinquent behaviour (past year)	**129,900**	**12.9**	**(11.4-14.6)**	16.1	9.6	*
% carrying a weapon (past year)	**95,200**	**9.6**	**(8.2-11.0)**	14.9	4.0	*
% carrying a handgun (past year)	**18,900**	**1.9**	**(1.3-2.6)**	3.1	0.6	*
% setting something on fire (past year)	**271,800**	**27.2**	**(25.3-29.2)**	33.8	20.4	*
% fighting at school (past year)	**181,600**	**18.1**	**(16.6-19.7)**	27.1	8.7	*
% threatened/injured with weapon at school (past year)	**82,800**	**8.2**	**(6.9-9.8)**	11.6	4.8	*
% been bullied (since September)	**311,000**	**30.9**	**(29.0-32.8)**	27.8	34.0	*
% bullied others (since September)	**275,000**	**27.3**	**(25.2-29.5)**	29.4	25.2	*
% heavy gambling (past year)	**58,800**	**5.9**	**(4.8-7.1)**	9.1	2.6	*
% at risk for a gambling problem	**45,800**	**4.5**	**(3.5-5.9)**	7.2	1.8	*
% reporting 3 or all 4 co-existing problems	**86,200**	**8.4**	**(7.2-9.8)**	8.7	8.0	

Notes: the estimated number of students is based on a student population of about 975,200; * indicates a significant sex difference ($p<.05$), *not* controlling for other factors.

Table A2. Percentage Reporting Various Mental Health and Well-Being Indicators by Grade, 2005 *OSDUS*

Indicator	G7	G8	G9	G10	G11	G12	
% fair or poor health (current)	5.5	8.1	14.6	15.3	18.7	15.7	*
% physically inactive (past 7 days)	18.9	18.8	15.4	18.8	20.9	17.0	
% daily physical activity (past 7 days)	20.3	20.5	20.0	14.9	12.7	12.0	*
% treated for a physical injury (past year)	29.6	35.3	35.1	33.3	33.1	36.0	
% used Ritalin medically (past year)	2.9	2.7	2.3	2.8	1.6	2.0	
% reporting 1+ mental health care visits (past year)	9.8	11.4	11.2	14.2	12.7	10.7	
% used telephone crisis helpline (past year)	1.6	1.7	1.5	3.0	2.0	1.1	
% low self-esteem (current)	10.8	9.9	11.8	9.9	10.0	5.6	
% at elevated risk for depression (past 7 days)	3.7	5.6	6.2	6.1	6.8	3.6	
% psychological distress (past few weeks)	21.7	24.3	29.0	28.8	34.9	37.5	*
% suicide ideation (past year)	8.4	11.6	12.6	13.1	12.9	8.8	
% overall delinquent behaviour (past year)	6.4	10.7	14.5	15.4	17.4	12.9	*
% carrying a weapon (past year)	4.4	8.6	11.5	12.6	11.3	8.7	*
% carrying a handgun (past year)	1.0	1.6	1.8	2.7	2.2	2.1	
% setting something on fire (past year)	17.3	25.8	32.7	35.6	30.5	21.4	*
% fighting at school (past year)	30.2	23.4	16.5	15.4	13.0	11.4	*
% threatened/injured with weapon at school (past year)	7.0	8.5	9.2	9.2	9.6	6.1	
% been bullied (since September)	38.3	41.2	34.6	26.2	25.9	20.6	*
% bullied others (since September)	26.1	30.3	29.3	26.4	30.1	22.2	
% heavy gambling (past year)	1.8	5.6	6.0	6.1	6.8	8.5	*
% at risk for a gambling problem	3.9	4.4	3.1	3.2	6.6	6.1	
% reporting 3 or all 4 co-existing problems	1.9	4.8	7.4	10.6	12.1	12.6	*

* indicates a significant grade difference (p<.05), *not* controlling for other factors.

Table A3. Terminology for Outcomes and Predictors in Logistic Regression Analyses

Outcome	Definition
Risk for Depression	Reporting "often" or "always" experiencing all 4 symptoms on the Centre for Epidemiological Studies Depression (CES-D) Scale during the past 7 days.
Elevated Psychological Distress	Reporting at least 3 of the 12 symptoms on the General Health Questionnaire (GHQ), which measures three overarching problems: depressed mood, anxiety, and problems with social functioning over the past few weeks.
Suicide Ideation	Reporting having seriously considered suicide during the past 12 months.
Non-Violent Delinquent Behaviour	Reporting at least 3 of the following 9 delinquent behaviours during the past 12 months: vandalized property, theft of good under $50, theft of goods worth $50 or more, stole a car, break and entering, sold cannabis, sold other drugs, ran away from home, set something on fire.
Violent Behaviour	Reporting at least 1 of the following 4 violent behaviours during the past 12 months: assaulted someone, gang fighting, carried a weapon, carried a handgun.
Risk for a Gambling Problem	Reporting at least 2 of 6 items from the South-Oaks Gambling Screen Revised for Adolescents (SOGS-RA), which measures gambling problems during the past 12 months.
Hazardous Drinking	Reporting a score of at least 8 out of 40 on the AUDIT screen, which measures heavy drinking and alcohol-related problems during the past 12 months.
Any Illicit Drug Use, excluding Cannabis	Reporting use of any one of the following 13 drugs during the past 12 months: barbiturates, stimulants, tranquillizers, cocaine, crack, methamphetamine, LSD, other hallucinogens, PCP, heroin, ecstasy, non-medical Ritalin and OxyContin. This estimate excludes the use of glue, solvents, and prescription drugs.
3 or all 4 Co-existing Problems	Reporting three or all four of the following problems: elevated psychological distress, hazardous drinking, drug use problem, and overall delinquent behaviour.

Predictor	%	Subgroup Categories
1) Sex		Male; Female
2) Grade		7, 8, 9, 10, 11, 12
3) Sensation Seeking	(80%)	Low-Moderate
	(20%)	High
4) Family Structure	(72%)	Biological Family (lives with two biological or adoptive parents)
	(8%)	Step Parent Family (lives with one biological parent and one stepparent)
	(20%)	Non-Two Parent Family (i.e., single parent, shared custody, foster home)
5) Family Immigrant Status	(51%)	Native (student and parents born in Canada)
	(32%)	Second Generation Immigrant (student born in Canada, 1+ parents born outside Canada)
	(17%)	First Generation Immigrant (student and parents born outside Canada)
6) Parents' Education	(22%)	High (both parents graduated or attended university)
	(74%)	Moderate (other)
	(4%)	Low (neither parent graduated high school)
7) Parent-Child Relationship	(95%)	Good (get along very well or "ok" with parents)
	(5%)	Poor (not getting along with parents)
8) Parental Monitoring	(86%)	High (parents always/usually know whereabouts)
	(14%)	Low (parents sometimes/seldom/never know whereabouts)
9) School Marks	(85%)	Overall As or Bs
	(15%)	Overall Cs or below
10) Perception of Personal Safety at School	(86%)	Moderate-High
	(14%)	Low
11) School Attachment	(82%)	Moderate-High
	(18%)	Low
12) Public Health Planning Region	(18%)	Toronto (TO)
	(12%)	South-West (SW)
	(5%)	Central-South (CS)
	(25%)	Central-West (CW)
	(14%)	Central-East (CE)
	(19%)	East (E)
	(7%)	North (N)

Table A4. Summary of Multivariate Analysis (Adjusted Logistic Regressions) for 9 Outcomes

	Internalizing			*Externalizing*					
Risk Factors	***Risk for Depression***	***Elevated Psychological Distress***	***Suicide Ideation***	***Non-Violent Delinquent Behaviour***	***Violent Behaviour***	***Risk for a Gambling Problem***	***Hazardous Drinking***	***Any Illicit Drug Use (excl. Cannabis)***	***3+ Co-Existing Problems***
Individual									
Sex	F	F	F	M	M	M	·	·	·
Grade	·	·	·	8 ↑ 7	8 ↑ 7 11 ↓ 10	11 ↑ 10	10 ↑ 9 11 ↑ 10	8 ↑ 7	8 ↑ 7 10 ↑ 9
High Sensation Seeking	·	+	+	+	+	+	+	+	+
Family									
Step Family	·	·	·	·	·	·	·	+	·
Non-Two Parent Family	·	+	·	·	·	·	·	·	·
First Generation Immigrant	·	·	—	—	·	·	—	—	—
2nd Generation Immigrant	·	·	·	·	·	·	—	—	·
Low Parent Education	·	·	·	·	·	·	·	·	·
Poor Parent-Child Relationship	+	+	+	+	+	·	+	+	+
Low Parental Monitoring	+	+	+	+	+	·	+	+	+
School/Community									
Poor Marks (Cs or less)	·	·	+	+	+	+	+	+	+
Perceive School as Unsafe	+	+	+	·	·	+	·	·	·
Low School Attachment	·	+	+	·	·	·	·	·	·
Public Health Region (vs Ontario)	·	·	·	·	CS ↑ Ont	·	TO ↓ Ont CS ↑ Ont CW ↓ Ont	CS ↑ Ont	·

+ outcome is significantly more likely — outcome is significantly less likely · no significant effect on outcome

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