OSDUHS HIGHLIGHTS

The Mental Health and Well-Being of Ontario Students

1991 - 2007

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Centre for Addiction and Mental Health
Centre de toxicomanie et de santé mentale

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INTRODUCTION

The purpose of the *Ontario Student Drug Use and Health Survey (OSDUHS)* 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 *OSDUHS* now spans thirty 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 2007 *OSDUHS*. The mental health indicators are divided into internalizing and externalizing indicators. By internalizing indicators we mean emotional health problems such as depression and low self-esteem. By externalizing indicators we mean aggressive behaviours, or conduct problems such as theft and fire-setting. 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 *OSDUHS* 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 of the population 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, 1991-2007: Detailed *OSDUHS* Findings" (available in PDF at: www.camh.net/research/osdus.html).

The 2007 *OSDUHS* Mental Health and Well-Being report includes new material on the following issues:

- participation in the "choking game";
- self-rated mental health and suicide attempt;
- gang membership;
- gambling money at Internet poker; and
- video gaming problems.

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

From OSDUS to OSDUHS

To better reflect the nature and scope of this study, we have re-named the Ontario Student Drug Use Survey (OSDUS) as the *Ontario Student Drug Use and Health Survey* (OSDUHS).

The OSDUHS 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 study was again expanded to include students in grades 7 to 13 (OAC). In 2003, the OSDUHS 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 71,000 students.

METHOD

Sampling Design

For each of the 16 *OSDUHS* 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 8% of Ontario students).

Like the cycles between 1999 and 2005, the 2007 *OSDUHS* employed a two-stage (school, class), stratified (region and school type) cluster sample design, and over-sampled students in Northern Ontario.

However, the cycles since 2003 (inclusive) differ from the previous cycles in several ways:

- 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.

The sample selection occurred as follows:

a) To select 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 (thus, larger schools have a greater probability of being selected). In 2007, these same schools were re-contacted. If a school could not participate, a replacement school from the same region was selected.

Also included in the 2007 sample was a selection based on brand new schools in the province. The sampling frame for replacement schools and brand new schools was based on the Ministry of Education and Training's 2004/2005 enrolment data.

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.

For all *OSDUHS* surveys, Ontario is divided into four regions based on the following boundaries: **Toronto**, schools within the former Metropolitan Toronto; **Northern** Ontario, schools within the North Bay and Sudbury areas and farther north; **Eastern** Ontario, schools within York Region district and farther east; and **Western** Ontario, schools west of, and including, Peel Region. (See Table 1 for results according to the Local Health Integration Networks.)

Procedures

Students who returned a signed active parental consent form completed the self-administered questionnaires in their classrooms within a 30-40 minute session, between November 2006 and June 2007. Participation was voluntary and anonymous. All students recorded their responses directly on the questionnaires, which were then entered and partially-verified by data entry staff.

To cover as many content areas as possible in a fixed time period, 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 in 2007 was **6,323** 7th- to 12th-graders (68% of selected students) from 43 school boards, 119 schools and 385 classes. This sample represents about 1,011,200 Ontario students in grades 7 to 12. All survey estimates were weighted, and variance and statistical tests were corrected for the sampling design.

RESULTS

School Climate

School climate is a complex construct, usually referring to the physical, organizational, and cultural elements of a school. Examples of school climate characteristics include school size, policies and enforcement, teaching quality, level of student misconduct, and level of attachment to school. School climate can influence not only academic performance, but also skill development, social behaviour, and emotional health.

Starting in 1999, the *OSDUHS* asked students to indicate their level of agreement (ranging from strongly agree to strongly disagree) with the following statements:

- I feel close to people at this school.
- I feel like I am part of this school.
- I feel safe in my school.
- Most teachers in my school are excellent.
- Most classes offered in my school are challenging.

In addition, students were asked "*At school, how worried are you that someone will harm you, threaten you, or take something from you*?" (response options: very worried, somewhat worried, not very worried, not worried at all).

2007 (Grades 7 to 12):

School Attachment

- A majority of students feel close to people at their school (90%), and feel like they are part of their school (87%).

School Academic Rating

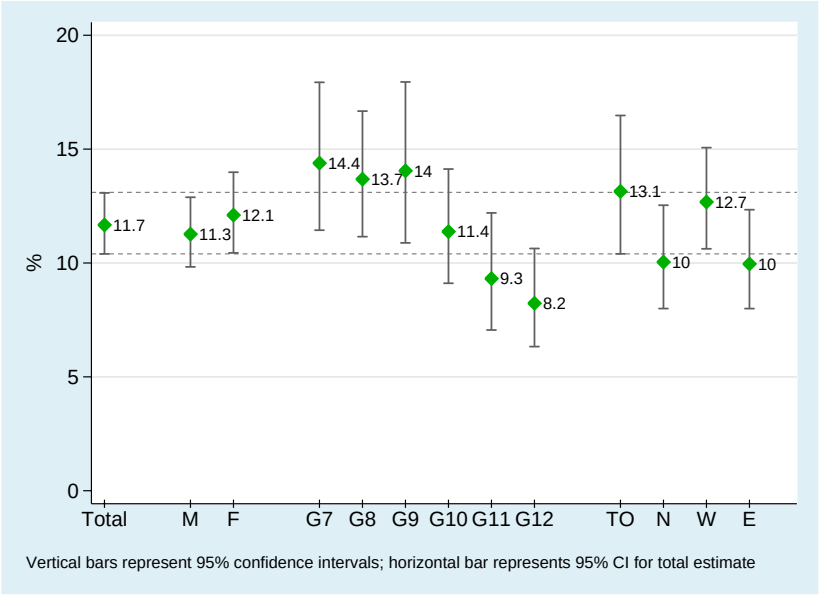
- Overall, 81% of students rate their teachers as excellent, and 72% feel that the classes offered are challenging.

School Safety

- An overwhelming majority (93%) of students feel safe in their school. However, 12% are worried about being harmed or threatened at school.

- Males (11%) and females (12%) are equally likely to be worried about their personal safety at school. Students in the younger grades are more likely to be worried than the older grades (e.g., 14% of 7th-graders vs 8% of 12th-graders). Despite some variation, there are no significant differences among the four regions.

Figure 1
Percentage Reporting Worry About Being Harmed or Threatened at School by Sex, Grade and Region, 2007 OSDUHS



Physical Health

Self-Rated Physical 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 2007, 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.

2007 (Grades 7 to 12):

- Over half of students perceive their health as excellent (22%) or very good (34%). At the risk end, over one-in-ten (13%) report poor health.

- Reported poor health is significantly higher among females (17%) than males (10%).

- Poor health significantly varies by grade: 7th-graders (4%) are the least likely to report poor health, whereas 11th- and 12th-graders (about 19%) are the most likely.

- Reports of poor health do not significantly vary by region.

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 *OSDUHS* 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.

2007 (Grades 7 to 12):

- About one-in-eight (13%) students did not participate in any form of physical activity at least once during the seven days before the survey. On average, students exercised on three and one-half days out of seven. Just under half (44%) of all students were physically inactive at school during the previous five school days.

- Males (12%) and females (14%) were equally likely to be inactive during the past seven days. Females were more likely than males to be inactive at school during the past five days (49% vs 41%, respectively).

- Students in grades 11 (16%) and 12 (15%) were most likely to be inactive in the past seven days. Inactivity at school in the past five days also varies by grade, ranging from a low of 22% among 7th-graders to 62% among 12th-graders.

- Inactivity does not significantly vary by region.

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 2007, the percentage of Ontario students who report daily physical activity, for at least 20 minutes, was 21%.

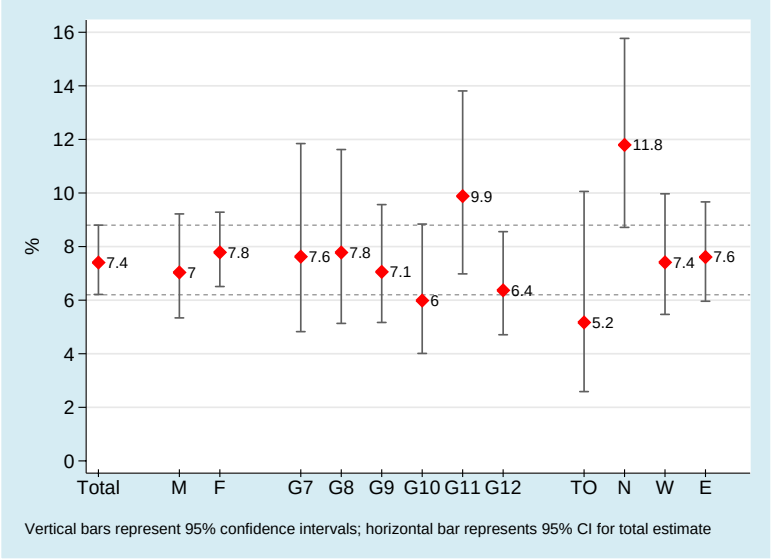
- Daily activity is significantly more likely among males (27%) than females (15%).

- There are significant grade differences, with younger grades most likely to engage in physical activity on a daily basis (ranging from about 30% among 7th- and 8th-graders down to 13% among 12th-graders).

- Daily physical activity does not significantly vary by region.

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 2007 is 68%. Thus, one-third (32%) of students do not meet the minimal health recommendation of engaging in at least 20 minutes of vigorous exercise at least 3 days per week.

Figure 2
Percentage Reporting Ever Participating in the "Choking Game" by Sex, Grade and Region, 2007 OSDUHS



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

The "Choking Game"

Self-asphyxiation among children and adolescents for the purpose of a euphoric feeling (or "a high"), commonly referred to as "the choking game," has recently become recognized as a cause for concern as media reports increase. Acting alone or with friends, the goal is to use belts, cords, ties or bare hands to choke oneself or others and constrict blood flow enough to nearly pass out, and then release. The reduced blood flow and lack of oxygen to the brain causes light-headedness and the release allows a surge of blood back to the brain, which causes a "rush." This is a worrisome behaviour because it can lead to brain damage or death.

For the first time in 2007, the *OSDUHS* asked a random half sample of students whether they had ever engaged in this behaviour. Specifically, the question used was: "*Sometimes kids do risky things to 'get high' or to seek thrills. Have you ever been choked by someone or tried to choke yourself on purpose (like with a belt, your hands) for a short time in order to 'get high' or feel dizzy*?"

2007 (Grades 7 to 12):

- Overall, about 7% of students report that they had participated in the choking game at least once in their lifetime. This estimate represents about 79,000 Ontario students.

- Males (7%) and females (8%) are equally likely to report ever participating in the choking game.

- Despite some variation, there are no significant differences among the grades regarding the likelihood of participating in the choking game.

- Similarly, the regional differences are not statistically significant.

Health Care Utilization

Starting in 1999, the *OSDUHS* 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

2007 (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 (67% vs 55%, respectively).
- There are significant grade differences, with students in grades 7, 8, and 9 least likely to report a visit.
- No significant regional differences were found.

Mental Health Care Visits

2007 (Grades 7 to 12):

- Among all students, 21% 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 (23% vs 20%, respectively).
- Mental health care visits do not significantly vary by grade, or by region.

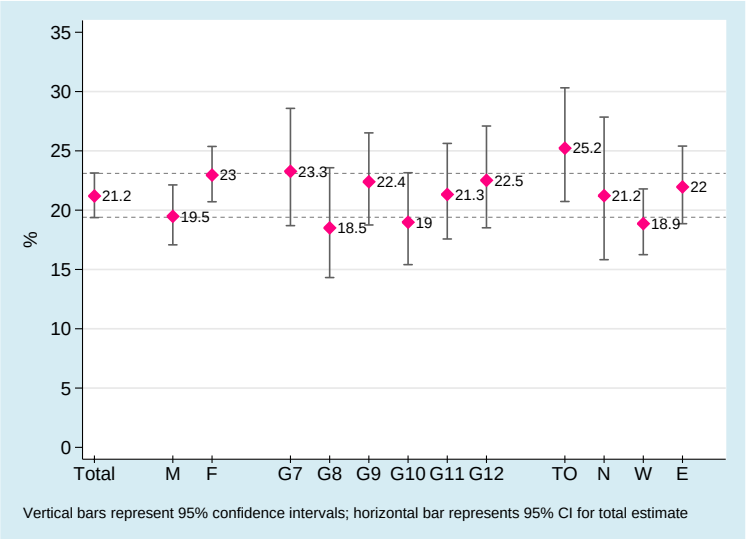
Treated for a Physical Injury

Starting in 2003, the *OSDUHS* 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?*"

2007 (Grades 7 to 12):

- Among the total sample, 37% were treated for an injury at least once in the 12 months before the survey. This represents about 342,000 students across Ontario. More specifically, 20% were treated just once, 10% were treated twice, 4% were treated three times, and 3% were treated four or more times.
- Males (39%) and females (35%) are equally likely to report being treated for a physical injury at least once in the past 12 months.
- There is significant grade variation, ranging from a low of about 31% among 7th- and 8th-graders to a high of 43% among 12th-graders.
- There is no significant regional variation.

Figure 3
Percentage Reporting At Least One Mental Health Care Visit During the Past Year by Sex, Grade and Region, 2007 OSDUHS



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

Medical Drug Use

This section presents the past year prevalence rates for three types of prescription drug classes: opioid pain relievers, drugs to treat Attention Deficit Hyperactivity Disorder (ADHD), and tranquillizers/sedatives. The first two drug classes are new to the *OSDUHS* in 2007, whereas medical tranquillizer use spans back to 1977.

2007 (Grades 7 to 12):

- Among the total sample, about 41% used prescription opioid pain relievers medically at least once in the past 12 months (representing about 406,000 students); about 2% used an ADHD drug medically (about 23,000 students); and about 4% used tranquillizers/sedatives medically (about 48,000).

- Females are significantly more likely than males to report using opioid pain relievers medically (46% vs 36%, respectively), and to report using tranquillizers medically (6% vs 3%). Males are significantly more likely than females to report using ADHD drugs medically (3% vs 1%).

- Students in grades 7 and 8 are less likely to use opioid pain relievers medically compared to older students. Medical tranquillizer/sedative use also significantly varies by grade, ranging from a low of 3% among 7th-graders to a high of 7% among 12th-graders. Despite some variation, medical ADHD drug use does not significantly vary by grade.

- Only medical tranquillizer/sedative use significantly varies by region, with students in the East (6%) most likely to use, compared to students in the other three regions (about 3%-4%).

Prescription Medication to Treat Depression or Anxiety

Starting in 2001, the *OSDUHS* 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.

2007 (Grades 7 to 12):

- Less than 1% of students report that they had been prescribed medication to treat anxiety in the past year. About 1% of students were prescribed medication to treat depression. Another 1.5% was prescribed medication for both depression and anxiety.

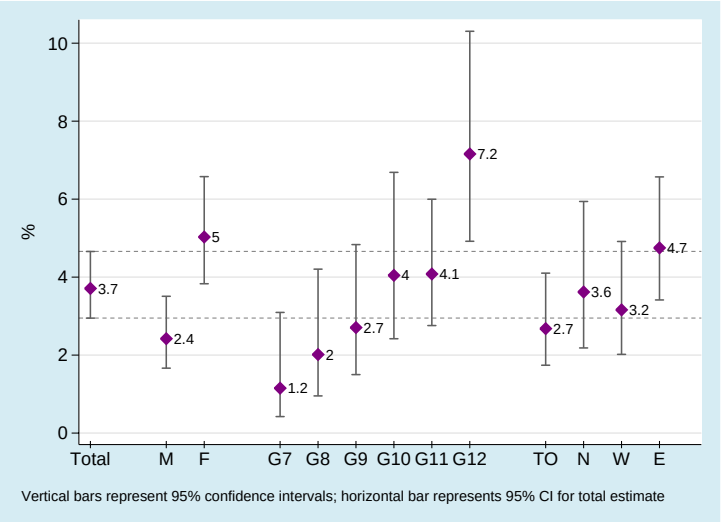
- Combining the responses, about 4% report they were prescribed medication to treat either depression, or anxiety, or both of these problems. This percentage represents about 39,000 students.

- Females are more likely than males to report being prescribed medication to treat anxiety, depression, or both problems (5% vs 2%).

- There is significant grade variation, ranging from a low of 1% among 7th-graders to a high of 7% among 12th-graders.

- There is no significant variation by region.

Figure 4
Percentage Reporting Having Been Prescribed Medication to Treat Either Depression, Anxiety, or Both During the Past Year by Sex, Grade and Region, 2007 OSDUHS



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

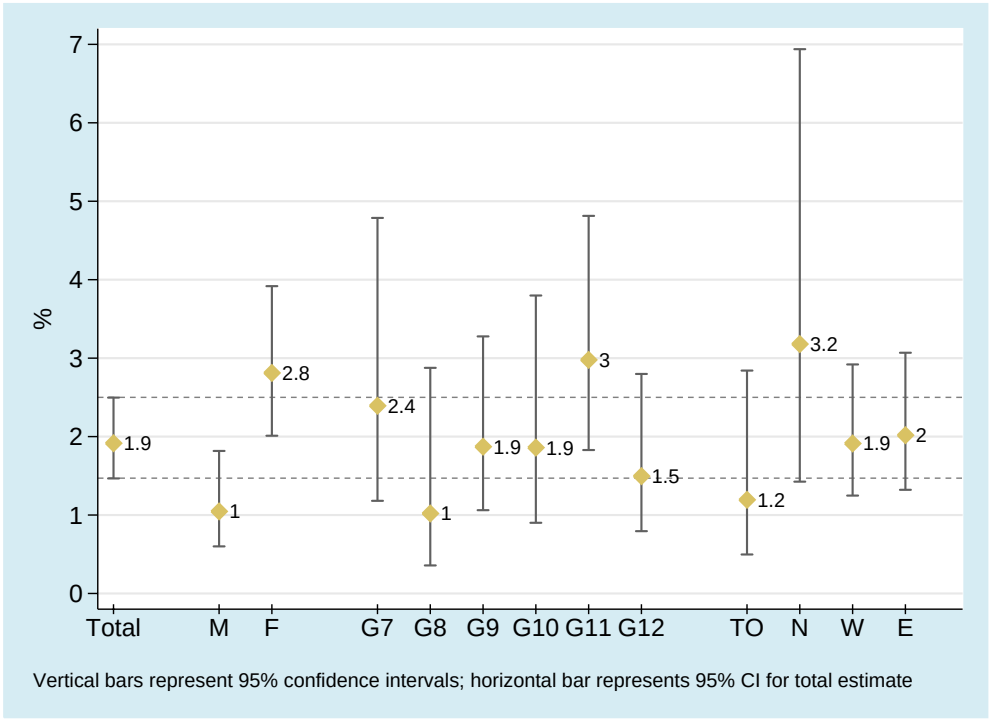
Use of a Telephone Crisis Helpline

Starting in 2005, the *OSDUHS* 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.

2007 (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 20,000 students across Ontario.
- Females are more likely than males to use a crisis helpline (3% vs 1%).
- There are no significant grade or region differences in using 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 Region, 2007 OSDUHS



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

Internalizing Indicators

Internalizing mental health indicators are emotional states or psychological traits that can adversely affect all life areas. Some examples are low self-esteem, depression and anxiety.

Self-Rated Mental Health

Starting in 2007, we asked students to rate their mental health using the question: "*How would you rate your emotional or mental health*?" Response options were: poor, fair, good, very good, excellent. We use the term "poor mental health" to reflect responses of poor or fair.

2007 (Grades 7 to 12):

- About 11% of students report poor mental health. This estimate represents about 121,000 students in Ontario.
- Females are more likely than males to report poor mental health (16% vs 7%, respectively).
- Reports of poor mental health increase incrementally with grade, ranging from a low of 6% among 7th-graders to a high of 14% among 12th-graders.
- There is no significant regional variation.

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

2007 (Grades 7 to 12):

- About 9% of students indicate low self-esteem.
- Females are significantly more likely to indicate low self-esteem than are males (11% vs 6%, respectively).
- There is no significant grade variation on low self-esteem, nor is there significant region variation.

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 *OSDUHS* used a shortened version of the CES-D, containing 4 items measuring the frequency of experiencing symptoms (e.g., crying, loneliness) during the past seven days. We provide a measure of high risk for depression, indicated by those responding "often" or "always" on all 4 symptoms.

2007 (Grades 7 to 12):

- About one-in-twenty (5%) students are at risk for depression (this represents about 56,000 Ontario students).
- Females are more likely to be at risk for depression, compared to males (8% vs 2%, respectively).
- 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 12 items to screen for three overarching problems: depressed mood, anxiety, and problems with social functioning. 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 *OSDUHS* in 1999.

2007 (Grades 7 to 12):

- Elevated psychological distress is reported by just under one-third (31%) of students. This represents about 329,000 Ontario students.

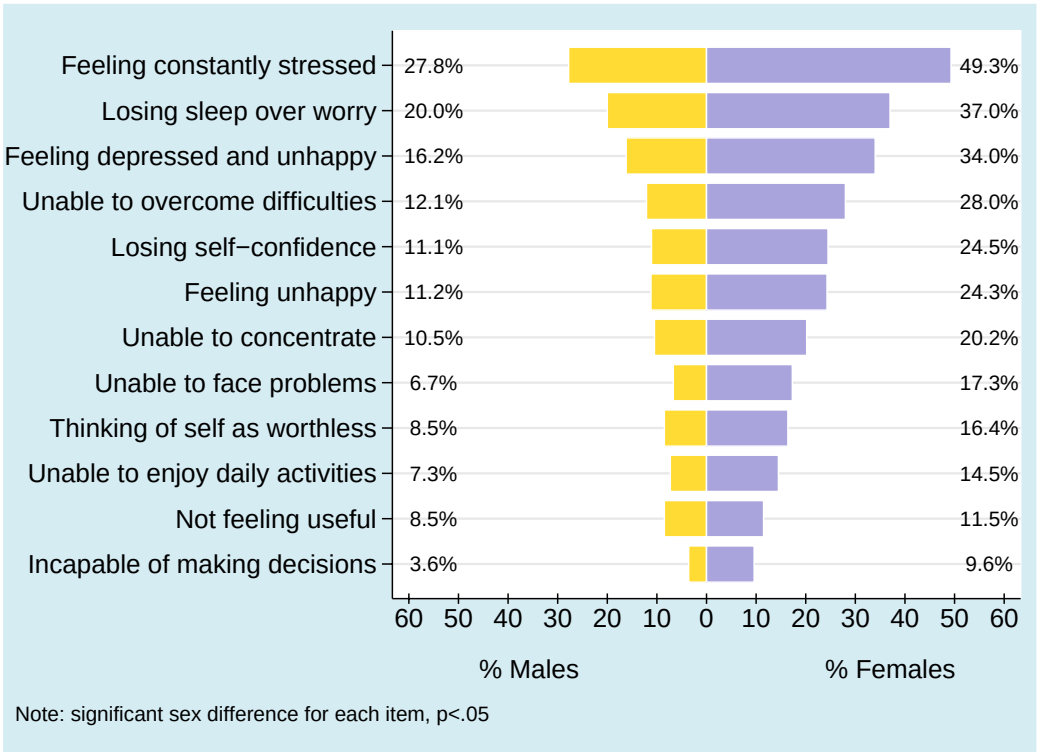
- The most common symptom experienced by students is the feeling of being constantly under stress (38%), followed by losing sleep because of worrying (28%). The least reported symptom is feeling incapable of making decisions (7%).

- Females are more likely to report elevated psychological distress compared to males (42% vs 20%, respectively). Indeed, females are significantly more likely to report each of the 12 symptoms.

- Psychological distress significantly increases with grade, ranging from a low of 19% among 7th-graders and increasing incrementally to a peak of 41% among 12th-graders.

- There are significant regional differences, with students in the North (36%) most likely to indicate elevated psychological distress, whereas students in Toronto and the West are least likely (about 27%-29%).

Figure 6
Percentage Reporting 12 Psychological Distress Symptoms (GHQ) Over the Past Few Weeks, by Sex, 2007 OSDUHS



Note: significant sex difference for each item, p<.05

Suicide Ideation and Attempt

Starting in 2001, the *OSDUHS* included a question about suicide. Specifically, students were asked: "*During the last 12 months, did you ever seriously consider attempting suicide?"* Starting in 2007, students were also asked about attempts: "*In the last 12 months, did you actually attempt suicide?*" Response options for both questions were yes or no.

2007 (Grades 7 to 12):

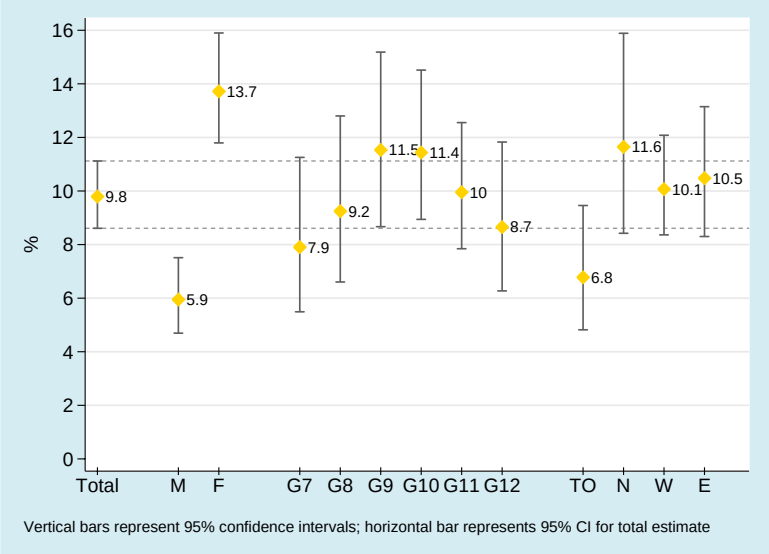
- About 10% of students reported that they had seriously considered suicide during the past year. This percentage represents about 103,000 Ontario students. About 3% of students report attempting suicide in the past year. This represents about 35,000 students.

- Females are significantly more likely to report contemplating suicide than males (14% vs 6%, respectively). Females are also significantly more likely to report a suicide attempt compared to males (5% vs 2%, respectively).

- Neither of these two measures significantly varies by grade.

- Among the regions, only the percentage reporting a suicide attempt significantly varies, with students in Toronto (1%) least likely to report a suicide attempt compared to students in the other regions (about 4%).

Figure 7
Percentage Reporting Suicide Ideation During the Past Year by Sex, Grade and Region, 2007 OSDUHS



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

Body Image

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

2007 (Grades 7 to 12):

- Over two-thirds (70%) of all students are satisfied with their weight. One-fifth (20%) feel they are too fat, while one-tenth (10%) feel they are too thin.

- Over one-third (36%) of students are not trying to do anything about their weight. Another 28% are trying to lose weight; 23% want to keep from gaining weight, and 13% want to gain weight

- Females are significantly more likely to believe that they are too fat, compared to males (25% vs 15%, respectively), whereas males are more likely to believe that they are too thin compared to females (13% vs 7%, respectively).

- Significantly more females than males want to lose weight (37% vs 20%, respectively), whereas more males want to gain weight (20% vs 6%, respectively).

- Reports of trying to gain weight increase with grade, from about 8% of 7th- and 8th-graders up to about 17%-19% of 11th- and 12th-graders. However, further analysis that controlled for sex, showed that this grade effect is only evident for males, not females.

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

Externalizing Indicators

This section examines externalizing indicators that are risky behaviours, or conduct problems, such as delinquency, violence and bullying. These behaviours have a negative impact not only on the individuals involved, but also on society as a whole.

Delinquent Behaviour

Since 1991, the *OSDUHS* has asked students about their involvement in 12 violent and non-violent delinquent behaviours. See Figure 9 for a list of the behaviours.

A global measure of delinquency is also presented, based on the 11 items used since 1991 (this measure excludes carrying a handgun, which was first asked about in 2005). Overall "delinquent behaviour" is defined as participating in 3 or more of the 11 acts, during the past year.

2007 (Grades 7 to 12):

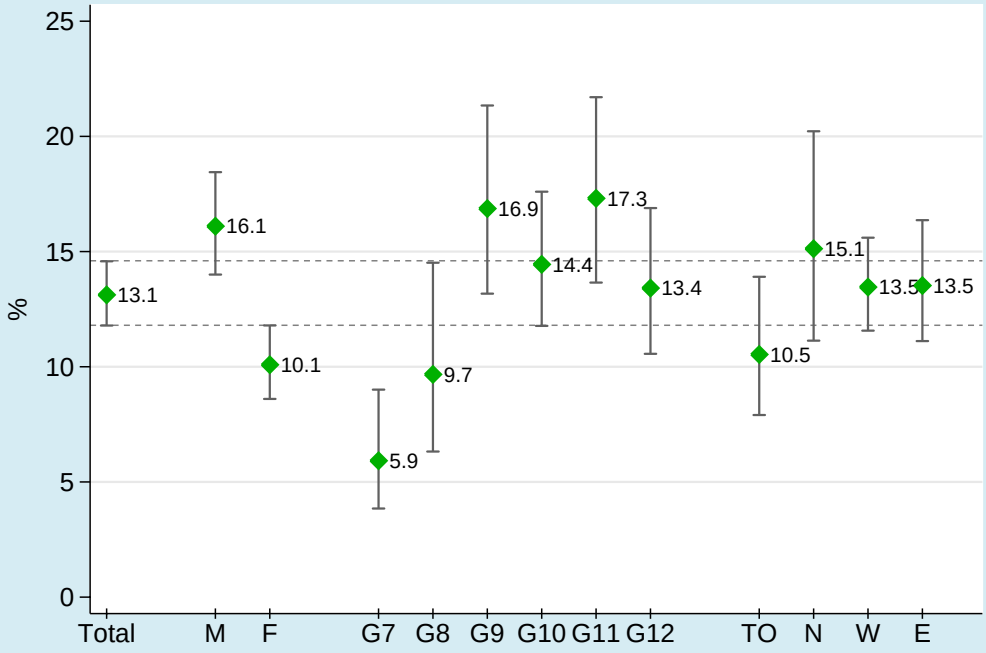
- Among all 12 acts asked about in 2007, the 3 most common are: vandalism (16%), theft of goods worth less than $50 (14%), and assaulting someone (11%). The least reported behaviour was carrying a handgun (1.5%). Males are significantly more likely than females to report 11 of the 12 behaviours, the exception being "ran away from home," which is more likely among 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 in overall delinquent behaviour.

Figure 8
Percentage Reporting 3+ (of 11) Delinquent Acts at Least Once During the Past Year by Sex, Grade and Region, 2007 OSDUHS



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

Violent Behaviour

Assault, 2007 (Grades 7 to 12):

- Among all students, 11% assaulted someone at least once during the 12 months before the survey, with more males than females reporting so (14% vs 7%, respectively).

- Assault does not significantly vary by grade, or by region.

Gang Fighting, 2007 (Grades 7 to 12):

- Among all students, 5% (about 50,000 Ontario students) report gang fighting at least once during the past 12 months.

- Gang fighting is more prevalent among males than females (7% vs 2%, respectively).

- Gang fighting does not significantly vary by grade, or by region.

Weapon Carrying, 2007 (Grades 7 to 12):

- Overall, 9% of students (about 90,000) 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 (13% vs 4%).

- Weapon carrying significantly varies by grade, with students in grades 8 to 11 most likely to report this act (about 9%-11%).

- There are no significant regional differences.

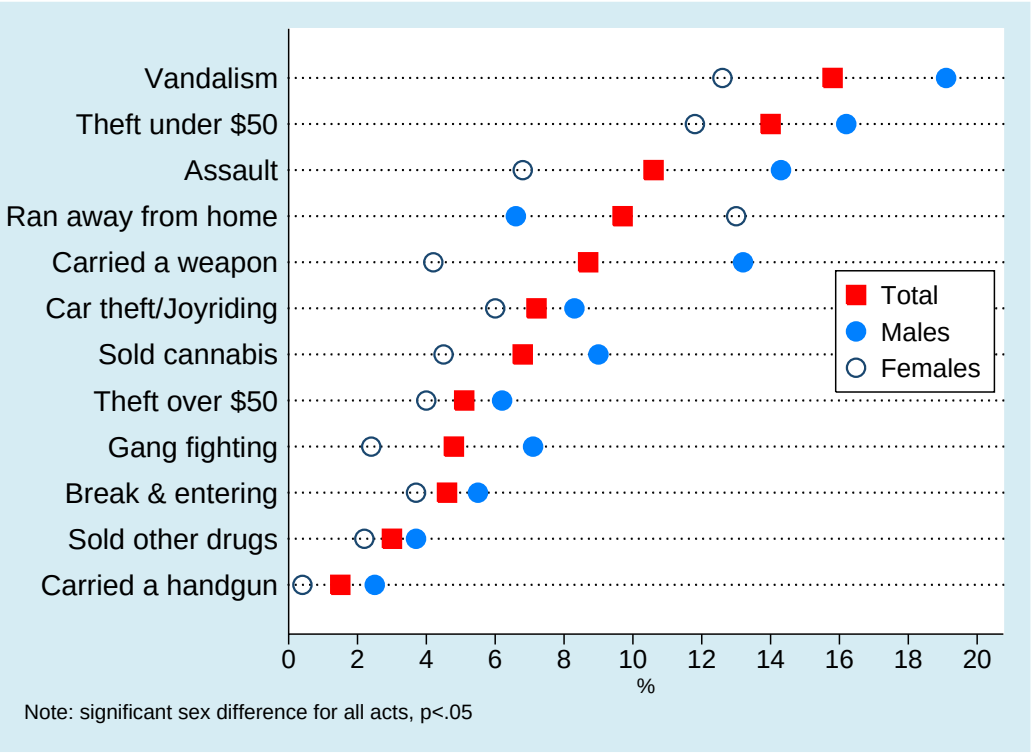
Carrying a Handgun, 2007 (Grades 7 to 12):

- About 1.5% of students (about 15,000) 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 handgun (2.5% vs less than 0.5%, respectively).

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

Figure 9
Percentage Reporting Engaging in Delinquent Behaviours at Least Once During the Past Year, by Sex, 2007 OSDUHS



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

Gang Membership

For the first time in 2007, the *OSDUHS* asked students about gang membership by using the question: "*Do you belong to a gang right now?*" The response options were yes or no.

2007 (Grades 7 to 12):

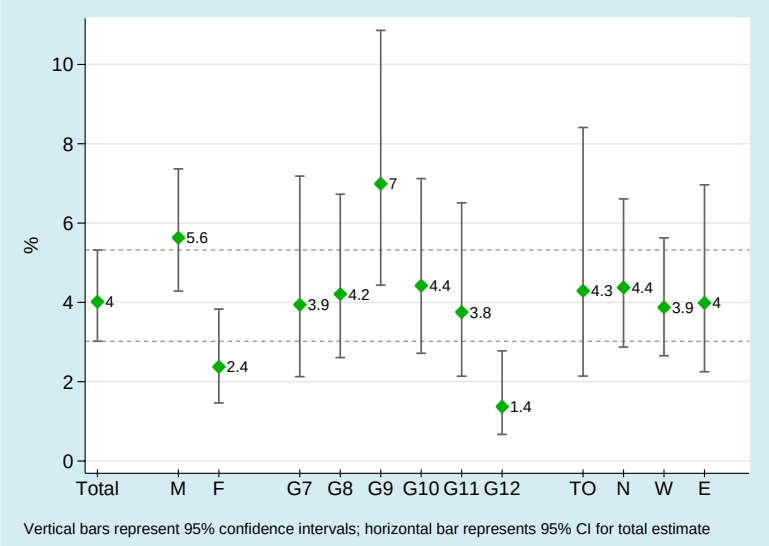
- Among all students, 4% report that they do belong to a gang of some type. This estimate represents about 41,000 students in Ontario.

- Males are significantly more likely than females to report belonging to a gang (6% vs 2%, respectively).

- There is a significant grade effect, with gang membership most likely among 9th-graders (7%) and least likely among 12th-graders (1%).

- There are no significant differences among the four regions.

Figure 10
Percentage Reporting Belonging to a "Gang" by Sex, Grade and Region, 2007 OSDUHS



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

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.

The *OSDUHS* asked students about setting fires with the question: *"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.

2007 (Grades 7 to 12):

- Among all students, 16% reported setting something on fire at least once during the 12 months before the survey. This percentage represents about 166,000 students in Ontario. More specifically, 6% report setting something on fire once, 3% report setting something on fire twice, and 7% report three or more times.

- Males are significantly more likely to set something on fire compared to females (20% vs 12%, respectively).

- There is significant grade variation, showing that fire setting behaviour jumps between grades 7 and 8 (from 6% to 15%) and again in grade 9 (peaking at 24%).

- There is no significant regional variation.

Violence on School Property

Starting in 2001, the *OSDUHS* included a question about fighting on school property. In 2003, we 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, 2007 (Grades 7 to 12):

- Among the total sample, 16% (about 166,000 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 more likely to report fighting than females (24% vs 8%, respectively).

- Fighting at school significantly decreases with grade. Students in grades 7 and 8 (about 23%-26%) are most likely to report fighting at school, whereas 12th-graders are the least likely (7%).

- There are no significant differences among the regions.

Threatened or Injured with a Weapon at School, 2007 (Grades 7 to 12):

- Among all students, 9% (about 90,000 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 (11% vs 6%, respectively).

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

Bullying at School

Beginning in 2003, the *OSDUHS* 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, 2007 (Grades 7 to 12):

- Among all students in grades 7 to 12, 30% report being bullied at school since September. This represents about 315,000 students in Ontario.

- The most prevalent form of victimization is verbal or non-physical (23%), while 4% are mainly bullied physically, and 3% are mainly victims of theft or vandalism.

- About 9% of students report being bullied on a daily or weekly basis, and about 19% are bullied monthly or less often.

- Significantly more females are bullied in any manner compared to males (32% vs 28%, respectively). Females are more likely to be bullied verbally than males (28% vs 18%), 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 students in grades 7 to 10 (about one-third) most likely to be bullied in any manner and 12th-graders (19%) are the least likely. Grades 7 to 9 are the most likely to be bullied physically and verbally. These youngest grades are also most likely to be bullied on a daily/weekly basis (about 10%-14%).

- Among the regions, Toronto students (23%) are the least likely to be bullied in any manner, compared to the other three regions (about 30%).

Bullying Perpetrators, 2007 (Grades 7 to 12):

- Among all students, 25% report bullying others at school. This represents about 261,000 students in Ontario.

- The most prevalent form of bullying is verbal/non-physical (20%), followed by physical attacks (4%). About 1% report stealing or damaging others' property.

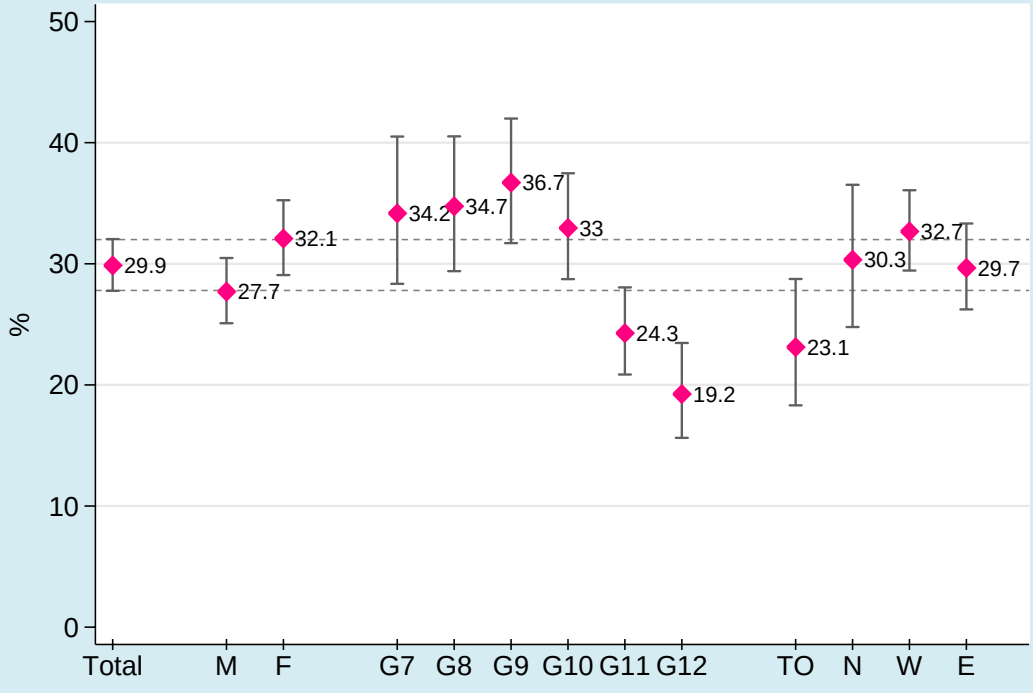
- About 6% of students report bullying someone on a daily or weekly basis, and 20% do so monthly or less often.

- Males and females are equally likely to report bullying others (26% of males, 23% of females).

- There is significant grade variation in reports of bullying others, with 8th-graders most likely (30%).

- There are no significant regional differences.

Figure 11
Percentage Reporting Being Bullied at School Since September (in any manner) by Sex, Grade and Region, 2007 OSDUHS



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

Gambling and Video Gaming

Gambling Activity

Starting in 2001, the *OSDUHS* 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 11 activities listed below were asked about in 2007. Playing poker over the Internet was first asked about in 2007. In this section, we present the percentage reporting gambling money on each activity at least once in the past 12 months.

2007 (Grades 7 to 12):

- Among all students, the 11 activities ranked in the following manner, from most to least prevalent:

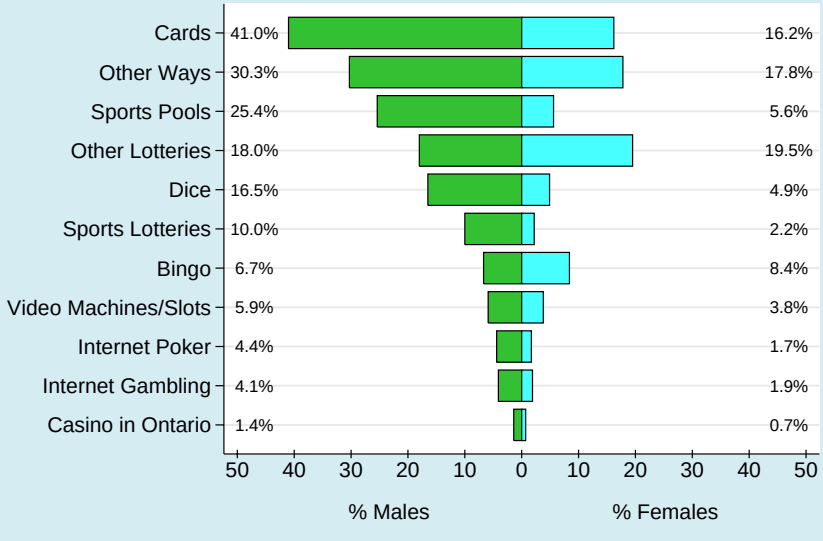
Cards……....29%
Gambled in other ways……24%
Lottery tickets……..19%
Sports pools ……....16%
Dice……11%
Bingo……8%
Sports lottery tickets……...6%
Video gambling machines/slots…… 5%
Any Internet gambling……....3%
Internet Poker……3%
Ontario casinos……...1%

- Nine of the 11 gambling activities significantly vary by sex. Males are significantly more likely than females to gamble on: cards games; dice; sports pools; sports lottery tickets; video gambling machines or slots; a casino; any Internet game; Internet poker; and to gamble in other ways not listed. The activities that do not differ by sex are playing bingo and buying lottery tickets.

- There are significant grade differences for 8 of the 11 activities: cards games, sports pools, sports lottery tickets, other lottery tickets, casino gambling, Internet gambling, playing dice, and gambling in other ways not listed. Generally, these activities increase with grade and peak in grade 12.

- Three gambling activities significantly vary by region. Northern student are most likely to report gambling on card games (38%) and sports pools (20%). Toronto students are most likely to gamble on dice games (17%).

Figure 12
Percentage Reporting Gambling Activities in the Past Year, by Sex, 2007 OSDUHS



Note: significant sex difference (p<.05) on each activity except Bingo and Other Lotteries

Heavy Gambling Activity

2007 (Grades 7 to 12):

- Among all students, about 5% gambled on 5 or more of the 10 activities (excluding Internet Poker) during the past 12 months, and this group can be considered to be heavy gamblers. The percentage represents about 49,000 students across Ontario.

- Males are also more likely to report heavy gambling activity than females (8% vs 2%, respectively).

- Heavy gambling activity significantly varies by grade, ranging from a low of 1% among 7th-graders and peaking in grade 12 (9%).

- Despite some variation, there are no significant differences among the four regions.

Potential Gambling Problem

Starting in 1999, the *OSDUHS* 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 *OSDUHS*. The screener measures the dimensions of loss of control, problems with family/friends due to gambling, and disruption to school.

2007 (Grades 7 to 12):

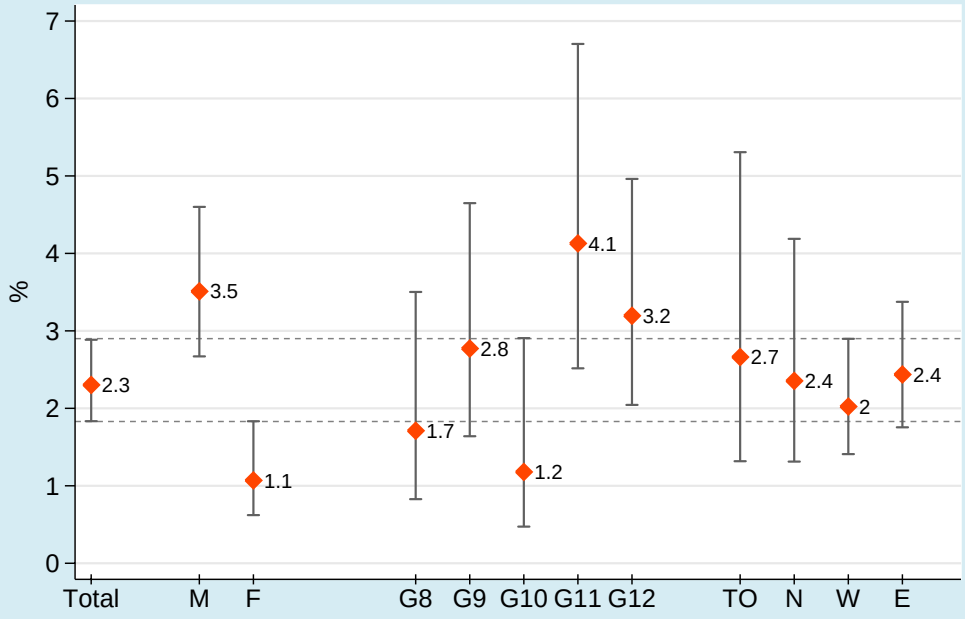
- Overall, 2% of students may have a gambling problem. This percentage represents about 24,000 Ontario students.

- Males are more likely than females to be at risk for a gambling problem (4% vs 1%).

- The likelihood of a gambling problem significantly varies by grade, peaking among 11th-graders (4%).

- There is no significant variation by region.

Figure 13
Percentage of All Students at Risk for a Gambling Problem (SOGS-RA) by Sex, Grade, and Region, 2007 OSDUHS



Notes: estimate for G7 suppressed; vertical bars represent 95% confidence intervals; horizontal bar represents 95% CI for total estimate

Video Game Playing and Problems

Starting in 2007, the *OSDUHS* included questions about video game playing (either on a computer, TV, or in an arcade) and related problems. Eight items from the "Problem Video Playing (PVP)" scale were used. The scale measures the dimensions of preoccupation, tolerance, loss of control, withdrawal, escape, disregard for consequences, and disruption to family and school due to video game playing. For this report, a sum score of reporting 5 or more of the 8 problems was used to indicate a potential video gaming problem.

2007 (Grades 7 to 12):

- Overall, 14% of students report that they do not play video games; 30% report playing about 3 times a month or less often; 9% play once a week; 17% play 2 to 3 times a week; 12% play 4 to 5 times a week; and 18% play daily or almost daily.

- Males are significantly more likely than females to play video games daily (30% vs. 5%, respectively).

- Despite some variation, there are no significant differences among the grades in the percentage playing video games daily (ranging from 14% of 12th-graders up to about 21% of 7th- and 8th-graders.)

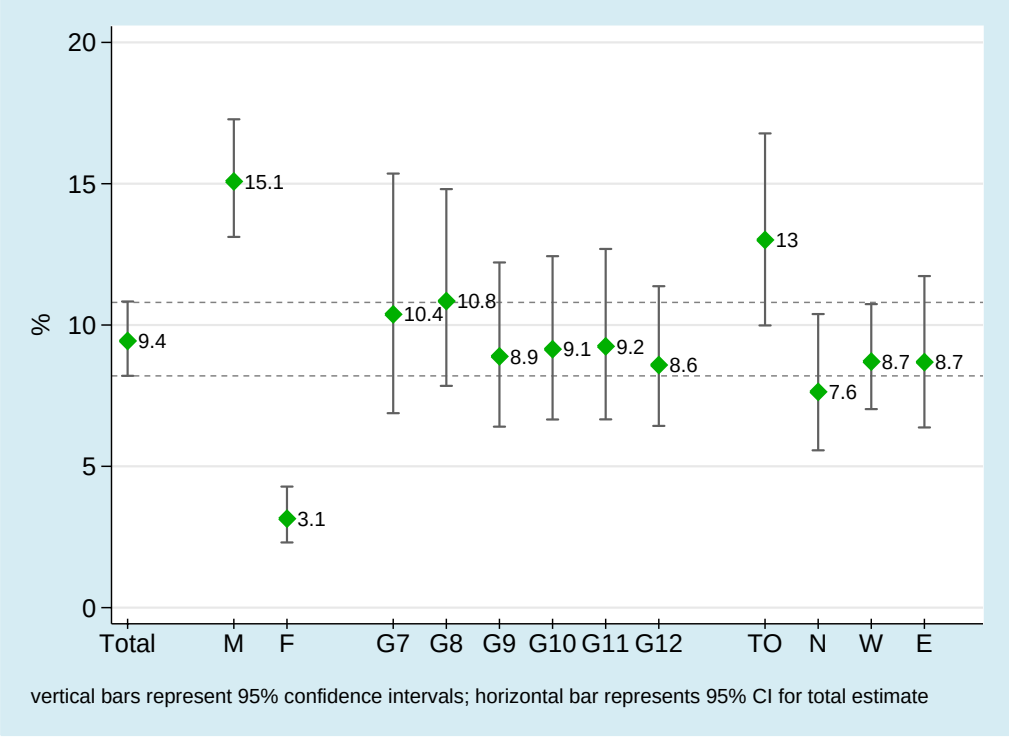
- Among the total sample of students, 9% may have a video gaming problem. This represents about 86,000 students.

- Males are significantly more likely than females to indicate a potential problem with video gaming (15% vs 3%, respectively).

- Despite some fluctuation, there is no significant grade variation.

- Toronto students (13%) are most likely to indicate a video gaming problem, compared to students in the other three regions (about 8%).

Figure 14
Percentage of All Students at Risk for a Video Gaming Problem by Sex, Grade, and Region, 2007 OSDUHS



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 problems, mental health problems, 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 or harmful drinking (indicated by a score of 8 or more on the AUDIT screener); (3) a potential drug use 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.

2007 (Grades 7 to 12):

- Overall, the majority (54%) of students report none of these 4 problems. About 28% report 1 problem, 10% report 2 problems, 6% report 3 problems, and 3% report all 4 problems.

- By far, the most prevalent configuration is psychological distress only, reported by 18% of students. The remaining configurations, such as hazardous/harmful drinking only or drug problem only, are reported by 4% or less of students.

- The percentage reporting 3 or all 4 problems is 9%, representing about 97,000 students across Ontario.

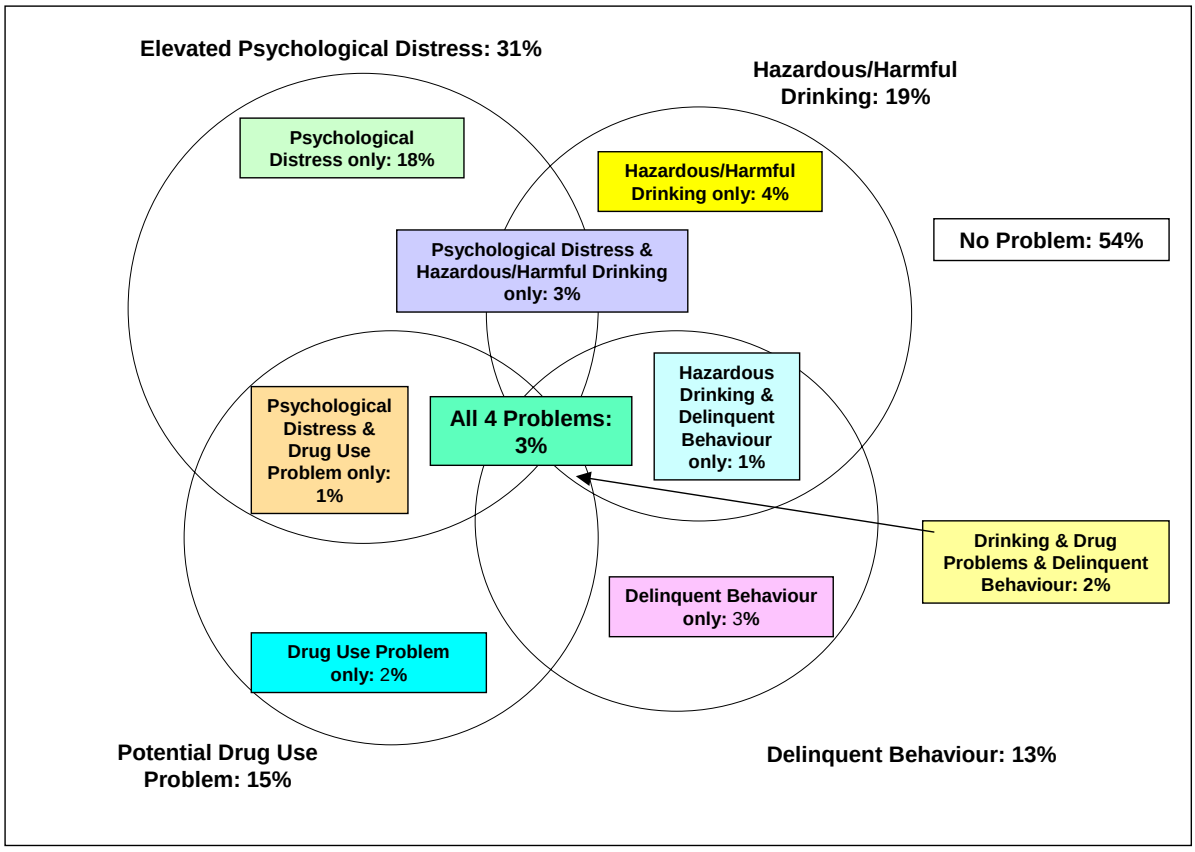
- There is no significant sex difference in the likelihood of experiencing 3 or all 4 of these problems (10% for females, 8% for males).

- There is significant grade variation, with 12th-graders (15%) most likely to indicate 3 or all 4 of these problems.

- There is significant variation among the regions, with Toronto (5%) students least likely to indicate co-existing problems while Northern (14%) students are most likely.

* Details on the AUDIT and CRAFFT-D screeners can be found in the companion OSDUHS drug use report *"Drug Use Among Ontario Students, 1977-2007: Detailed OSDUHS Findings"* available on our website: http://www.camh.net/research/osdus.html

Figure 15
Co-existing Problems: Elevated Psychological Distress, Hazardous/Harmful Drinking, Potential Drug Use Problem, and Delinquent Behaviour, 2007 OSDUHS (Grades 7 to 12)



Notes: (1) based on a random half sample (N=3,388); (2) not all combinations are shown

Overview by Ontario's Local Health Integration Networks

This section provides the 2007 estimates for selected mental health and well-being indicators **among high school students only** (grade 9 to 12) according to Ontario's Local Health Integration Networks (LHINs). In 2006, the province designated 14 geographic areas each to function as health systems that plan, integrate and fund local health services (please see http://www.lhins.on.ca).

In the *OSDUHS*, the LHINs were assigned to students using the six-digit postal code of the school. Due to small sample sizes, some adjacent LHINs were merged. The 12 LHIN areas presented are:

- Erie St. Clair
- South West
- Waterloo Wellington
- Hamilton Niagara Haldimand Brant
- Central West
- Mississauga Halton
- Toronto Central
- Central
- Central East & South East (merged)
- Champlain
- North Simcoe Muskoka
- North East & North West (merged)

Table 1. Percentage of Secondary School Students (Grades 9 to 12) Reporting Mental Health and Well-Being Indicators, by Ontario Local Health Integration Network, 2007 OSDUHS

Indicator	Erie St. Clair	South West	Waterloo Wellington	Hamilton Niagara Haldimand Brant	Central West	Mississauga Halton	Toronto Central	Central	C. East + S. East	Champlain	North Simcoe Muskoka	N. East + N. West	Ont.
(Student N)	*(210)*	*(187)*	*(429)*	*(561)*	*(382)*	*(430)*	*(174)*	*(461)*	*(563)*	*(675)*	*(134)*	*(628)*	*(4834)*
(School N)	*(3)*	*(3)*	*(6)*	*(11)*	*(6)*	*(7)*	*(3)*	*(7)*	*(8)*	*(8)*	*(2)*	*(13)*	*(77)*
Poor Self-Rated Physical Health	**14.7** (9.0-23.1)	**15.5** (12.9-18.4)	**21.6** (13.2-33.4)	**12.6** (9.4-16.5)	**17.6** (13.3-22.9)	**19.3*** (17.0-21.7)	**18.7** (12.0-27.9)	**15.2** (11.4-20.0)	**14.1** (9.6-20.3)	**13.6** (11.4-16.2)	†	**19.2** (15.2-24.0)	**15.9** (14.4-17.6)
Inactive (past week)	**15.5** (9.8-23.8)	**11.5** (5.2-23.3)	**18.0** (13.0-24.3)	**10.7** (7.1-15.8)	**17.5*** (15.3-19.9)	**13.8** (10.0-18.6)	**13.7** (11.0-16.8)	**12.8** (9.1-17.8)	**14.0** (11.2-17.3)	**14.9** (9.6-22.4)	**17.9** (9.3-31.8)	**16.2** (11.9-21.8)	**14.4** (12.8-16.1)
Injury (Treated)	**46.5** (27.7-66.4)	**35.0** (29.8-40.7)	**39.9** (32.6-47.6)	**44.3** (37.8-51.1)	**38.8** (33.6-44.3)	**40.1** (31.2-49.6)	**34.3** (24.1-46.2)	**30.2**** (24.2-36.8)	**47.9**** (41.2-54.7)	**41.6** (37.1-46.1)	**39.5** (35.2-44.0)	**39.2** (32.6-46.2)	**40.0** (37.3-42.7)
1+ Physical Health Doctor Visit	**63.6** (52.0-73.7)	**58.4** (47.0-68.9)	**62.0** (53.6-69.8)	**55.2** (46.2-64.0)	**59.7** (55.5-63.7)	**68.6** (60.6-75.7)	**69.1*** (62.7-74.9)	**64.7** (57.1-71.7)	**63.7** (58.6-68.4)	**73.8**** (67.4-79.4)	**51.2** (34.6-67.4)	**55.2*** (47.6-62.6)	**62.7** (60.1-65.2)
Choking Game	**12.4** (4.6-29.5)	†	**8.7** (5.1-14.7)	**7.2** (5.0-10.2)	**5.1** (1.6-14.4)	†	**11.0** (5.7-20.2)	**5.9** (3.3-10.6)	**9.3** (6.4-13.4)	**5.0** (3.3-7.4)	†	**12.1**** (8.5-17.0)	**7.3** (6.0-8.8)
Medical Use of Tranqs/Sedatives	†	†	**7.9**** (5.2-11.8)	**4.1** (1.8-9.2)	†	†	†	**4.7** (1.6-13.0)	**6.8**** (5.4-8.6)	**6.9**** (5.1-9.2)	†	**3.8** (2.3-6.2)	**5.0** (4.1-6.1)
1+ Mental Health Visit	**16.5** (11.3-23.4)	**14.4** (7.9-24.6)	**25.7** (18.5-34.4)	**19.0** (13.4-26.3)	**18.4** (12.3-26.6)	**16.5** (12.6-21.4)	**19.3** (12.6-28.5)	**24.4** (19.2-30.4)	**26.0*** (21.3-31.4)	**20.8** (15.1-28.0)	**24.6** (16.4-35.1)	**23.4** (16.2-32.4)	**21.4** (19.2-23.7)
Used Telephone Crisis Helpline	†	†	†	†	†	†	†	†	†	†	†	**3.9**** (1.6-9.4)	**2.0** (1.5-2.7)
Poor Self-Rated Mental Health	**8.3** (4.8-14.1)	**10.4** (7.2-14.9)	**15.9** (12.3-20.4)	**12.5** (7.9-19.3)	**16.0*** (12.7-20.0)	**9.0** (6.4-12.4)	**12.8** (9.6-17.0)	**8.8** (5.4-14.1)	**18.6** (11.6-28.4)	**10.3** (6.5-15.8)	†	**17.7*** (12.2-25.0)	**13.0** (11.2-15.1)
High Risk for Depression	†	†	†	**6.0**	†	**4.3** (1.7-10.5)	†	**4.0** (2.1-7.4)	**8.6**** (6.5-11.4)	**4.6** (2.0-10.3)	†	**6.9** (3.5-13.2)	**5.2** (4.2-6.5)
Psychological Distress	**31.1** (20.1-44.8)	**23.1** (13.6-36.5)	**35.4** (28.3-43.2)	**32.2** (27.3-37.6)	**37.1** (31.8-42.8)	**29.7** (24.5-35.5)	**31.7** (26.4-37.6)	**32.1** (25.5-39.5)	**41.5*** (34.6-48.8)	**38.3** (30.2-47.1)	**31.4** (24.1-39.7)	**40.6*** (34.8-46.6)	**35.2** (32.8-37.7)
Suicide Ideation	**13.1** (7.1-23.0)	†	**17.3**** (11.4-25.5)	**7.6** (4.7-12.1)	**8.9** (6.5-12.0)	**8.8** (5.2-14.5)	†	**8.8** (6.7-11.4)	**14.8**** (10.9-19.7)	**9.0** (5.6-13.9)	†	**11.6** (7.3-17.9)	**10.3** (8.8-12.0)
Suicide Attempt	†	†	†	†	†	†	†	†	**6.3*** (3.7-10.6)	†	†	**3.0** (1.6-5.5)	**3.5** (2.6-4.7)
3+ Delinquent Acts (of 11)	**18.1** (9.6-31.5)	**13.2** (6.4-25.5)	**17.9** (13.2-23.8)	**12.7** (10.0-16.1)	**17.6**** (15.6-19.8)	**15.7** (13.4-18.3)	**15.1** (9.7-2.7)	**11.9** (8.9-15.8)	**19.7*** (15.0-25.5)	**14.0** (11.6-16.7)	†	**18.0** (12.4-25.4)	**15.4** (13.9-17.0)
Carried a Weapon (gun or knife)	**10.6** (6.3-17.2)	†	**12.1**** (9.9-14.8)	**7.6** (5.0-11.2)	**12.1** (7.6-18.8)	**7.9** (5.2-11.7)	**11.8** (6.4-20.8)	**6.5** (3.5-11.8)	**12.2*** (8.3-17.6)	**6.8** (5.3-8.5)	†	**14.0*** (8.3-22.6)	**9.2** (7.8-10.8)
Fire Setting	**25.2** (13.1-43.2)	**15.0** (10.2-21.5)	**24.8** (17.2-34.3)	**15.5** (10.8-21.7)	**17.0** (11.4-24.7)	**18.2** (12.8-25.3)	**13.8** (8.8-20.9)	**16.7** (10.9-24.6)	**22.9** (17.0-30.0)	**14.4** (8.8-22.7)	**20.1** (10.6-34.8)	**18.1** (13.0-24.7)	**18.1** (15.9-20.6)
1+ School Fights	**8.8** (5.9-13.1)	**9.6** (7.4-12.3)	**14.3** (9.4-21.2)	**13.7** (8.0-22.4)	**20.5**** (15.9-26.0)	**11.8** (8.6-15.9)	**11.9** (10.6-13.4)	**13.5** (7.8-22.3)	**10.8** (8.5-13.8)	**8.6** (6.2-11.8)	†	**9.5** (6.3-14.2)	**12.0** (10.4-13.9)

(Continued…)

Indicator	Erie St. Clair	South West	Waterloo Wellington	Hamilton Niagara Haldimand Brant	Central West	Mississauga Halton	Toronto Central	Central	C. East + S. East	Champlain	North Simcoe Muskoka	N. East + N. West	Ont.
(Student N)	*(210)*	*(187)*	*(429)*	*(561)*	*(382)*	*(430)*	*(174)*	*(461)*	*(563)*	*(675)*	*(134)*	*(628)*	*(4834)*
(School N)	*(3)*	*(3)*	*(6)*	*(11)*	*(6)*	*(7)*	*(3)*	*(7)*	*(8)*	*(8)*	*(2)*	*(13)*	*(77)*
Threatened/Injured with Weapon -School	**10.0** (7.4-13.4)	†	**12.7**** (10.4-15.5)	**8.2** (5.8-11.4)	**9.2** (5.3-15.5)	**9.9** (6.2-15.4)	†	**7.2** (4.4-11.6)	**9.6** (6.6-13.7)	**4.7**** (3.3-6.6)	†	**6.7** (4.0-11.2)	**8.1** (6.9-9.4)
Been Bullied	**24.5** (13.8-39.8)	**34.2** (24.0-46.0)	**36.6** (23.4-52.2)	**28.9** (24.2-34.2)	**27.8** (21.5-35.2)	**32.4** (27.1-38.1)	**19.4** (10.1-34.2)	**25.4** (21.9-29.3)	**25.6** (19.8-32.6)	**25.9** (21.4-31.0)	**31.4** (17.8-49.2)	**28.8** (24.2-33.9)	**27.8** (25.6-30.2)
Bullied Others	**28.3** (16.8-43.4)	**32.4** (18.5-50.4)	**35.4*** (25.7-46.4)	**20.7** (15.6-26.9)	**27.6** (22.0-34.0)	**27.3** (19.7-36.6)	**18.6** (8.2-37.0)	**28.1** (24.5-32.0)	**23.0** (18.4-28.4)	**21.8** (16.8-27.8)	**16.8** (16.2-17.5)	**24.9** (18.3-33.0)	**25.0** (22.8-27.4)
Heavy Gambling Activity	†	†	**5.3** (2.8-9.7)	**4.1** (2.3-7.4)	**9.7** (6.7-13.9)	**6.7** (3.8-11.5)	†	**4.8** (3.2-7.2)	**6.9** (3.0-15.0)	**5.5** (3.6-8.5)	†	**7.5** (4.6-11.8)	**5.9** (4.7-7.4)
Potential Gambling Problem	†	†	**2.8** (1.4-5.8)	†	†	†	†	†	**4.4** (2.2-8.6)	†	†	**3.4** (1.9-6.0)	**2.8** (2.2-3.6)
Potential Video Gaming Problem	†	†	**13.6**** (10.1-18.1)	**4.1*** (2.4-6.7)	**9.9** (5.9-16.1)	**6.6** (3.6-11.5)	**12.0** (6.8-20.4)	**12.9**** (8.7-18.6)	**10.8*** (7.8-14.7)	**9.0** (5.9-13.6)	†	**7.6** (5.0-11.4)	**8.9** (7.6-10.5)
3 or All 4 Co-existing Problems	**13.9** (5.0-33.0)	**10.0** (2.4-33.3)	**18.5**** (13.0-25.7)	**12.4** (9.4-16.1)	**11.2** (8.8-14.0)	**7.6** (4.6-12.4)	**11.1** (7.7-15.8)	**6.0*** (3.2-11.1)	**14.1** (11.0-17.9)	**13.0** (9.7-17.3)	†	**18.2*** (12.3-26.0)	**12.1** (10.6-13.8)

Notes: (1) due to small sample sizes, the Central East (n=515) and South East (n=48) LHINs were merged, and the North East (n=587) and North West (n=41) LHINs were merged; (2) entries in brackets are 95% confidence intervals; (3) † estimate suppressed due to unreliability; (4) see individual chapters for definitions of the indicators; (5) many of the indicators are based on a random half-sample; (6) *p<.05, **p<.01 significant difference, LHIN vs. Ontario.

Source: *OSDUHS*, Centre for Addiction & Mental Health

Multiple Problems, Multiple Influences

In this section we examine the relationship between certain risk factors and 10 of the mental health problems and risky behaviours discussed in this report (see Appendix Table A3 for definitions):

- high risk for depression
- elevated psychological distress
- suicide ideation
- overall delinquent behaviour
- violent behaviour
- fire setting behaviour
- a potential gambling problem
- hazardous/harmful drinking
- a potential drug use problem, and
- 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 A4 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 a poor relationship with parents causes poor mental health or whether poor mental health causes a poor relationship with parents.

The results of the logistic regressions (see Table A5 for an overview) showed that the factors most consistently associated with the 10 outcomes are ordered as follows:

- parental monitoring (all 10 problems)
- the parent-child relationship; sensation seeking (8 of 10 problems)
- school attachment; sex; grade (7 of 10)
- school marks (6 of 10)
- family immigrant status (4 of 10)
- perceived school safety; region (3 of 10)
- family structure (1 of 10)
- parents' education (0 of 10).

Parental Monitoring
Students who report that their parents usually do not know their whereabouts are more likely to report all problems, even when taking into account all other predictor variables.

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 delinquent behaviour, be at risk for a gambling problem, hazardous/harmful drinking, a drug use problem, and to report co-existing problems.

Sensation Seeking
Compared to students who have low to moderate levels, those with a high level of sensation seeking are likely to report all problems except for depression and 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 depressive symptoms, psychological distress, and suicide ideation. Students with low school attachment are also more likely to report violent behaviour, fire setting, a drug use problem, and co-existing problems.

Sex
As seen in Figure 16, females are at greater risk for experiencing the internalizing problems of depression, elevated psychological distress and suicide ideation.

Males are more likely to report delinquent behaviour, violent behaviour, fire setting, and are at higher risk for a gambling problem. Interestingly, after accounting for other factors, there is no difference between males and females

in hazardous/harmful drinking, a drug use problem, and co-existing problems.

Grade
After accounting for the other factors, grade (age) is related to 7 problems (also see Figure 17).

- Between 7th-grade and 8th-grade, the likelihood of fire setting behaviour significantly increases.

- Between 8th-grade and 9th-grade, the likelihood of elevated psychological distress, delinquent and fire setting behaviour, hazardous/harmful drinking, reporting a drug use problem, and co-existing problems increases.

- Between 9th-grade and 10th-grade, the likelihood of fire setting decreases.

- Compared to 10th-graders, 11th-graders are more likely to be at risk for a gambling problem and drink hazardously/harmfully.

- Compared to 11th-graders, 12th-graders are more likely to report psychological distress and a drug use problem, but less likely to report fire setting.

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 all the externalizing indicators, except for violent behaviour. They are also more likely to report co-existing problems.

Family Immigrant Status
First-generation immigrant students (those who were born outside of Canada, as were their parents) are less likely to engage in fire setting, drink hazardously/harmfully, have a drug use problem, 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/harmfully compared to native students.

School Safety
Students who do not feel safe at school are more likely to report all three internalizing indicators.

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

- Toronto students are less likely to report elevated psychological distress, suicide ideation, and co-existing problems.

- Northern students are more likely to report elevated psychological distress.

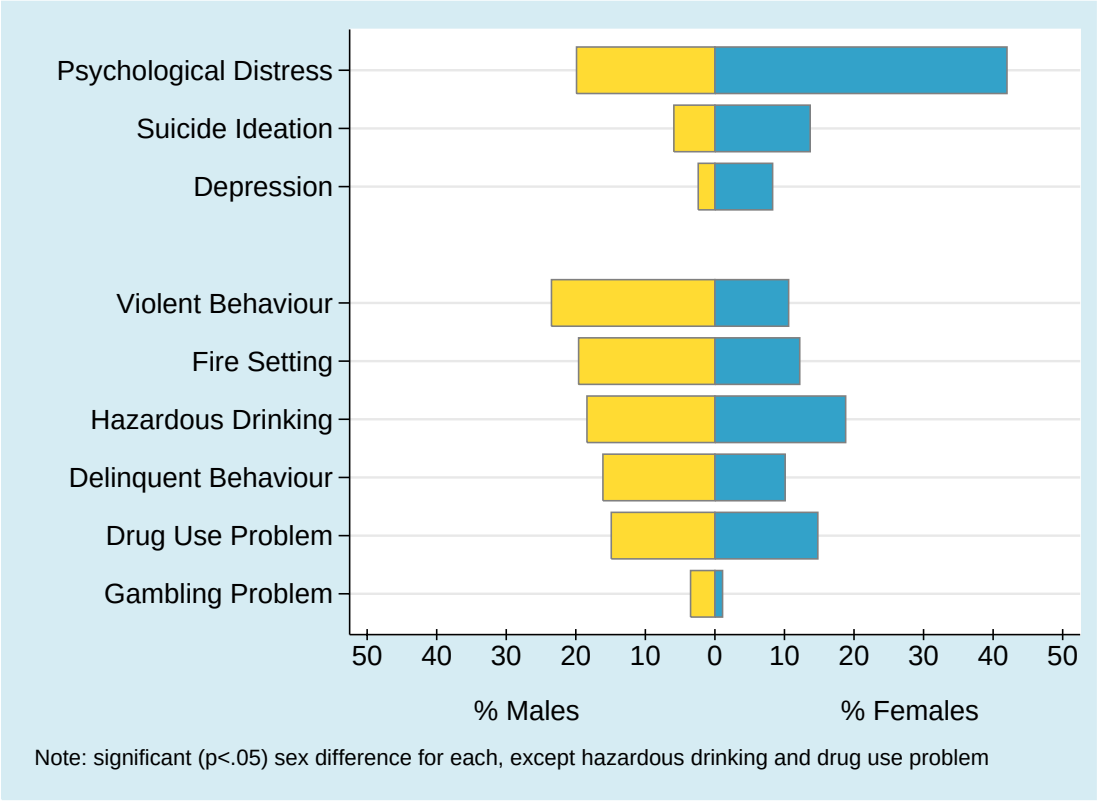
- Eastern students are more likely to report elevated psychological distress.

- Western students do not significantly differ from the provincial average on any of the ten problems.

Family Structure
Compared to students in a two-parent family, those not in a two-parent family are more likely to report suicide ideation.

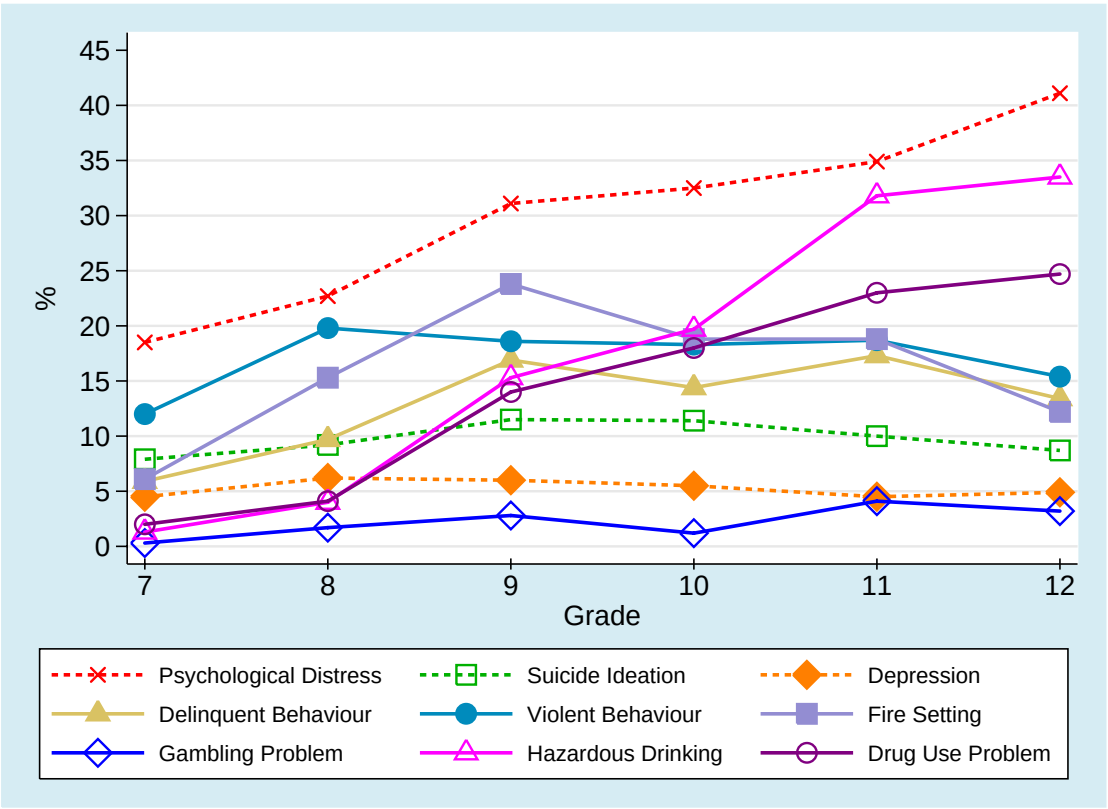
Parents' Education
After controlling for other factors, parents' level of education is not related to any problem.

Figure 16
Percentage Reporting Internalizing and Externalizing Indicators, by Sex, 2007 OSDUHS (Grades 7 to 12)



Note: significant (p<.05) sex difference for each, except hazardous drinking and drug use problem

Figure 17
Percentage Reporting Internalizing and Externalizing Indicators, by Grade, 2007 OSDUHS



Overview of Selected Short-Term and Long-Term Trends[‡]

Short-Term Trends, 1999-2007 (Grades 7 to 12)

Long-Term Trends, 1991-2007 (Grades 7, 9, and 11 only)

Physical Health

- Students in 2007 (13%) are significantly more likely to report poor health compared to their counterparts in 1999 (9%).
- Rates of physical inactivity increased between 1999 (15%) and 2005 (18%), but since then the rate has significantly decreased, down to 13% in 2007.
- Reported daily physical activity significantly increased between 2005 (17%) and 2007 (21%).

- Self-reports of poor health were lowest in 1991. Poor health has significantly increased to an all-time high in 2005 and remains stable in 2007.
- Students in 2007 were as inactive as their counterparts in 1997.

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 2007.
- Between 1999 and 2005, there was no change in the percentage of students who saw a mental health care professional (at about 12%), but there was a significant increase in 2007 (21%).
- There was a significant increase in the percentage reporting being treated for a physical injury between 2005 (34%) and 2007 (37%).
- Medical use of tranquillizers/sedatives remained stable between 1999 (3%) and 2005 (2%), followed by a significant increase in 2007 (4.5%). (However, caution is warranted when interpreting this trend due to a slight wording change to the question in 2007.)
- Between 2001 and 2007, there was no significant change in reports of prescription medication to treat anxiety, or depression, or both.

- Over the long-term (1977 in this case), the medical use of tranquillizers/sedatives peaked in the late 1970s, declined throughout the 1980s, stabilized in the 1990s, and recently increased between 2005 and 2007.

Internalizing Indicators

- Low self-esteem remained stable between 1999 and 2007 (around 10%).
- Between 1999 and 2007, there was no significant change in the risk for depression indicator (around 5%).

- There was no significant change in reports of low self-esteem between 1995 and 2007.
- There was no significant change in the percentage at risk for depression between 1997 and 2007.

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

Short-Term Trends, 1999-2007 (Grades 7 to 12)	Long-Term Trends, 1991-2007 (Grades 7, 9, and 11 only)

Internalizing Indicators (cont'd)

- Elevated psychological distress has generally remained stable since 1999 (around 30%).
- Between 2001 and 2007, there was no significant change in reports of suicide ideation (around 10%).
- Between 2001 and 2007, there was no significant change regarding body image or the desire to change one's weight.

Externalizing Indicators

- Overall delinquent behaviour significantly declined between 1999 (18%) and 2005 (13%) and remains at this level in 2007.
- The percentage reporting assaulting someone significantly declined between 1999 and 2001 (from 20% to 13%), and remains stable in 2007 at 11%.
- Gang fighting is significantly lower in 2007 (5%) compared to the estimate found in 1999 (8%).
- The percentage reporting weapon carrying (i.e., knife or gun) is significantly lower in 2007 (9%) compared to the 1999 estimate (14%).
- No significant short-term changes were found regarding fights at school, or being threatened or injured with a weapon at school.
- Delinquent behaviour among students in 2007 is significantly lower than the rates among their counterparts in 1993 and 1995.
- Assault peaked in 1997, subsequently declined in 2001, and remains stable in 2007.
- Despite some fluctuation over the long-term, gang fighting remained stable between 1991 and 2007 (among grades 7, 9, 11 only).
- Carrying a weapon (i.e., knife or gun) peaked in 1993, steadily decreased up until 2001, and remains stable in 2007.
- The percentage reporting selling cannabis is significantly higher in 2007 compared to 1991.

Gambling

- The only gambling activity that showed a significant increase over time is card playing, increasing from 25% in 2001 to 29% in 2007.
- Some gambling activities showed significant decreases over the short-term: bingo, sports pools, sports lottery tickets, and dice playing. Activities that remained stable are: any Internet gambling, casino gambling, lottery tickets, and video gambling machines/slots.
- Heavy gambling activity (5 or more in the past year) remained stable between 2003 and 2007.
- The percentage of students indicating a potential gambling problem in 2007 (2%) is significantly lower than the estimate from 2005 (4.5%) and that from 1999 (6%).

SUMMARY

The Public Health Approach Toward 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 and evaluating prevention 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:

- The percentage of students reporting daily physical activity significantly increased since the last survey in 2005. Similarly, the percentage reporting no activity at all decreased.
- Compared to 1999, fewer students today report vandalism, assaulting someone, and gang fighting.
- Over the long-term (since the early 1990s), reports of overall delinquent behaviour and carrying a weapon significantly declined.
- Some gambling activities show declines over the past few years: bingo; gambling at sports pools, sports lottery tickets, and playing dice.
- The percentage of students at risk for a gambling problem significantly declined between 1999 and 2007.

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…
- they were treated for one or more physical injuries in the past year
- elevated psychological distress
- they were bullied at school.

About one-in-five students report…
- visiting a mental health professional
- fighting at school
- setting something on fire.

About one-in-eight students report…
- poor physical health
- no physical activity
- delinquent behaviour
- concern about personal safety at school.

About one-in-ten students report…

- participating in the "choking game"
- being threatened or injured at school with a weapon
- carrying a weapon
- assaulting someone
- a potential video gaming problem
- low self-esteem
- suicide ideation
- co-existing problems.

About one-in-twenty students …

- use prescribed medication to treat depression, anxiety, or both problems
- use prescribed tranquillizers/sedatives
- use a prescribed ADHD drug
- use a crisis telephone helpline
- report depressive symptoms
- report a suicide attempt
- take part in gang fighting
- are heavy gamblers
- may have a gambling problem.

In addition, some findings point to potentially <u>disturbing trends</u>:

- Self-rated poor physical health has increased over the past decade and currently remains elevated.

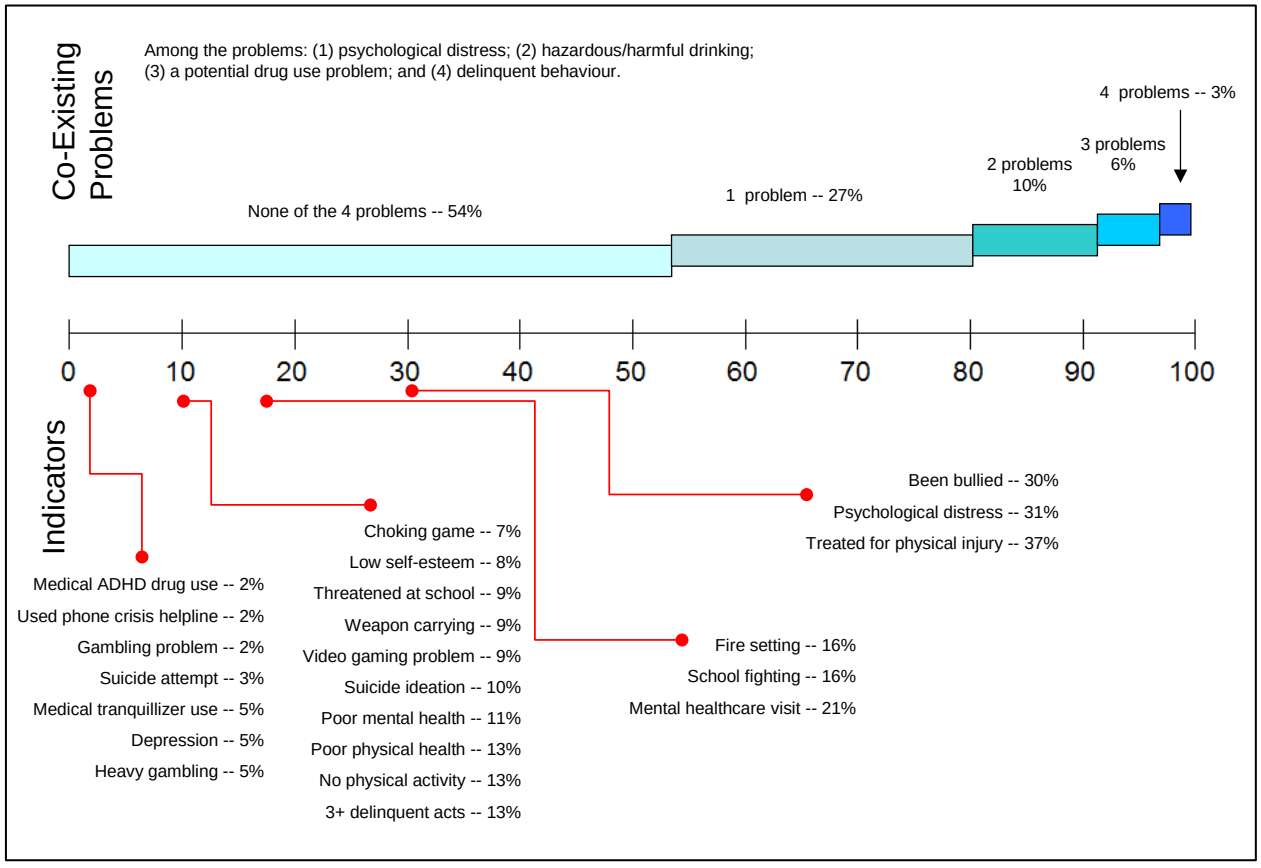
- Reports of physical injuries that required treatment increased between 2005 and 2007.

- Medical tranquillizer/sedative use significantly increased between 2005 and 2007. However, caution is warranted in interpreting this change because of question wording modification. Future monitoring should elucidate this finding.

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

- Gambling on card games is more prevalent today than it was in 2001.

Figure 18
Overview of Physical and Mental Health Problem Indicators, 2007 OSDUHS (Grades 7 to 12)



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. The general pattern found shows that females are more likely to experience internalizing problems (such as depression, psychological distress, and suicide ideation), whereas males are more likely to exhibit risky or externalizing behaviours (such as delinquent acts).

Age/grade is also significantly related to mental health and well-being. Generally, the likelihood of reporting poor physical health (e.g., inactivity, injuries), internalizing problems (e.g., medications for depression/anxiety, psychological distress), delinquent behaviour, gambling problems, and co-existing problems increases with grade and tends to peak in late adolescence. Bullying behaviour, fighting at school, and fire setting behaviour peak in early adolescence and subside over time.

Our data also show that being an immigrant youth may reduce the likelihood of externalizing problem indicators such as fire setting behaviour, drinking hazardously/harmfully, a drug use problem, and co-existing problems, even after controlling for other variables such as parental supervision. These findings are consistent with other research showing that immigrant youth are less likely to use substances and engage in delinquent activities. However, our lack significant findings between immigrant status and internalizing problem indicators conflicts with other studies showing that immigrant youth have improved mental health compared to those who are native-born.

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

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 whether the reverse holds.

Future OSDUHS Monitoring

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 – about one-in-ten students (representing about 103,000) report suicide ideation and one-in-twenty (about 56,000) report symptoms of depression. These large magnitudes should remind us of the vulnerability of this age group. Although several recent government initiatives have been made in the area of targeted intervention programs with infants and children (e.g., Better Beginnings, Better Futures; Healthy Babies, Healthy Children), few universal 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. A further difficulty is that Canadian public health policy does not prioritize prevention programs that focus on the spectrum of mental disorders among adolescents.

The 2007 *OSDUHS* found increases in self-rated poor health, injuries requiring treatment, the use of prescribed tranquillizers/sedatives, cannabis selling, and gambling at card games. Future survey cycles will carefully monitor these indicators to

assess the robustness of the trends. The 2007 survey also provides the first Canadian epidemiological estimate of adolescents who participated in the "choking game," and further monitoring of this very dangerous behaviour is warranted. Similarly, the survey provides the first estimate of video gaming problems among Ontario students and we will continue to study this phenomenon, especially given its ubiquity in youth culture.

Our data pointed to some encouraging improvements in adolescent health over time. 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.

For other *OSDUHS* reports, as well as questionnaires used, please visit our web site at:

www.camh.net/research/osdus.html

APPENDIX TABLES

Table A1. Percentage Reporting Selected Mental Health and Well-Being Indicators for the Total Sample (N=6,323), and by Sex, 2007 *OSDUHS* (Grades 7 to 12)

Indicator	Estimated Number	Total % (95% CI)	Males %	Females %	
% self-rated poor physical health (current)	**129,000**	**12.9 (11.8-14.2)**	9.6	16.6	*
% physically inactive (past week)	**129,000**	**13.1 (11.8-14.6)**	12.1	14.2	
% daily physical activity (past week)	**207.000**	**21.1 (19.4-22.9)**	26.5	15.3	*
% treated for a physical injury (past year)	**342,000**	**37.4 (35.2-39.6)**	39.4	35.2	
% ever participated in the "choking game" (lifetime)	**79,000**	**7.4 (6.2-8.8)**	7.0	7.8	
% used tranquillizers/sedatives medically (past year)	**48,000**	**4.5 (3.7-5.3)**	3.2	5.8	*
% used an ADHD drug medically (past year)	**23,000**	**2.3 (1.9-2.9)**	3.2	1.3	*
% 1+ mental health care visits (past year)	**224,000**	**21.2 (19.4-23.1)**	19.5	23.0	*
% prescribed medication for depression/anxiety/both	**39,000**	**3.7 (2.9-4.6)**	2.4	5.0	*
% used telephone crisis helpline (past year)	**20,000**	**1.9 (1.5-2.5)**	1.0	2.8	*
% self-rated poor mental health (current)	**121,000**	**11.4 (10.0-13.0)**	7.1	15.8	*
% low self-esteem (current)	**90,000**	**8.5 (7.3-9.9)**	6.2	10.9	*
% high risk for depression (past week)	**56,000**	**5.3 (4.4-6.3)**	2.4	8.3	*
% elevated psychological distress (past few weeks)	**329,000**	**30.8 (28.8-32.8)**	19.9	42.0	*
% suicide ideation (past year)	**103,000**	**9.8 (8.6-11.1)**	5.9	13.7	*
% suicide attempt (past year)	**35,000**	**3.3 (2.6-4.2)**	1.8	4.9	*
% overall measure of delinquent behaviour (past year)	**138,000**	**13.1 (11.8-14.6)**	16.1	10.1	*
% gang fighting (past year)	**50,000**	**4.8 (3.9-5.9)**	7.1	2.4	*
% currently belong to a gang	**41,000**	**4.0 (3.0-5.3)**	5.6	2.4	*
% carried a weapon (past year)	**90,000**	**8.7 (7.5-10.0)**	13.2	4.2	*
% carried a handgun (past year)	**15,000**	**1.5 (1.0-2.1)**	2.5	s	*
% set something on fire (past year)	**166,000**	**15.9 (14.1-17.9)**	19.6	12.2	*
% fought at school (past year)	**166,000**	**15.8 (14.2-17.7)**	24.0	7.5	*
% threatened/injured with weapon at school (past year)	**90,000**	**8.6 (7.5-9.8)**	11.0	6.0	*
% been bullied at school (since September)	**315,000**	**29.9 (27.8-32.0)**	27.7	32.1	*
% bullied others at school (since September)	**261,000**	**24.7 (22.8-26.7)**	26.0	23.4	*
% heavy gambling activity (past year)	**49,000**	**4.7 (3.8-5.8)**	7.5	1.8	*
% potential gambling problem	**24,000**	**2.3 (1.8-2.9)**	3.5	1.1	*
% potential video gaming problem	**86,000**	**9.4 (8.2-10.8)**	15.1	3.1	*
% reporting 3 or all 4 co-existing problems†	**96,000**	**9.0 (7.9-10.2)**	8.4	9.6	

Notes: the estimated number of students is based on a student population of about 1,011,200; * indicates a significant sex difference ($p<.05$), *not* controlling for other factors; 's' indicates estimate suppressed (less than 0.5%); †among the problems: elevated psychological distress, hazardous/harmful drinking, a potential drug use problem, and delinquent behaviour.

Table A2. Percentage Reporting Selected Mental Health and Well-Being Indicators by Grade, 2007 *OSDUHS*

Indicator	G7	G8	G9	G10	G11	G12	
% self-rated poor physical health (current)	4.1	7.8	11.7	14.1	18.9	18.6	*
% physically inactive (past week)	11.3	9.3	11.7	14.3	16.0	15.4	*
% daily physical activity (past week)	28.1	29.6	22.4	20.7	15.4	13.1	*
% treated for a physical injury (past year)	31.3	31.4	39.9	37.7	38.9	42.7	*
% ever participated in the "choking game" (lifetime)	7.6	7.8	7.1	6.0	9.9	6.4	
% used tranquillizers/sedatives medically (past year)	2.7	3.7	3.4	4.0	5.1	7.1	*
% used an ADHD drug medically (past year)	3.4	1.7	3.0	2.2	1.7	2.1	
% 1+ mental health care visits (past year)	23.3	18.5	22.4	19.0	21.3	22.5	
% prescribed medication for depression/anxiety/both	1.2	2.0	2.7	4.0	4.1	7.2	*
% used telephone crisis helpline (past year)	2.4	1.0	1.9	1.9	3.0	1.5	
% self-rated poor mental health (current)	6.1	9.1	12.4	12.3	12.5	14.5	*
% low self-esteem (current)	7.6	8.7	10.0	8.6	8.1	8.0	
% high risk for depression (past week)	4.5	6.2	6.0	5.5	4.5	4.9	
% elevated psychological distress (past few weeks)	18.5	22.7	31.1	32.5	34.9	41.1	*
% suicide ideation (past year)	7.9	9.2	11.5	11.4	10.0	8.7	
% suicide attempt (past year)	2.7	3.0	3.2	5.5	3.1	2.5	
% overall measure of delinquent behaviour (past year)	5.9	9.7	16.9	14.4	17.3	13.4	*
% gang fighting (past year)	4.3	5.3	6.3	4.1	6.4	2.9	
% currently belong to gang	3.9	4.2	7.0	4.4	3.8	1.4	*
% carried a weapon (past year)	4.8	10.2	11.3	8.6	10.1	7.1	
% carried a handgun (past year)	s	s	2.2	1.5	2.6	1.0	
% set something on fire (past year)	6.1	15.3	23.8	18.8	18.8	12.2	*
% fought at school (past year)	22.9	26.2	18.1	11.6	12.1	7.4	*
% threatened/injured with weapon at school (past year)	9.3	10.1	10.8	8.2	8.6	5.2	
% been bullied at school (since September)	34.2	34.7	36.7	33.0	24.3	19.2	*
% bullied others at school (since September)	17.2	30.4	25.9	27.8	24.7	22.2	*
% heavy gambling activity (past year)	1.3	2.5	4.6	4.1	6.0	8.5	*
% potential gambling problem	s	1.7	2.8	1.2	4.1	3.2	*
% potential video gaming problem	10.4	10.8	8.9	9.1	9.2	8.6	
% reporting 3 or all 4 co-existing problems†	1.3	2.7	9.6	10.0	13.6	14.7	*

Notes: entries are percentages; * indicates a significant grade difference ($p<.05$), *not* controlling for other factors; 's' indicates estimate suppressed (less than 0.5%); †among the problems: elevated psychological distress, hazardous/harmful drinking, a potential drug use problem, and delinquent behaviour.

Table A3. Terminology for Outcomes in the Logistic Regression Analyses

Problem	Definition
High Risk for Depression	Reporting "often" or "always" experiencing all 4 symptoms on the Centre for Epidemiological Studies Depression (CES-D) screener 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.
Delinquent Behaviour	Reporting at least 3 of the following 11 delinquent behaviours during the past 12 months: vandalized property, theft of goods worth less than $50, theft of goods worth $50 or more, stole a car/joyriding, break and entering, sold cannabis, sold other drugs, ran away from home, assaulted someone, gang fighting, carried a weapon.
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.
Fire Setting Behaviour	Reporting setting something on fire (that they were not supposed to) at least once during the past 12 months.
Potential 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/Harmful Drinking	Reporting a score of 8 or more out of 40 on the AUDIT screener, which measures heavy drinking and alcohol-related problems during the past 12 months.
Potential Drug Use Problem	Reporting at least 2 or more symptoms on the CRAFFT-D screener, which measures a potential drug use problem among adolescents.
3 or all 4 Co-existing Problems	Reporting three or all four of the following problems: elevated psychological distress, hazardous/harmful drinking problem, potential drug use problem, and overall delinquent behaviour.

Table A4. Predictors Used in the Logistic Regression Analyses

Predictor	%	Subgroup Categories
Sex		Male; Female
Grade		7, 8, 9, 10, 11, 12
Sensation Seeking	(83%) (17%)	Low-Moderate High
Family Structure	(78%) (22%)	Two-Parent Family (biological, step, adoptive) Non-Two Parent Family (i.e., single parent, shared custody, foster parent, lives with no parent)
Family Immigrant Status	(57%) (29%) (14%)	Native (student and parents born in Canada) Second Generation Immigrant (student born in Canada, 1+ parents not born in Canada) First Generation Immigrant (student and parents not born in Canada)
Parents' Education	(23%) (74%) (3%)	High (both parents graduated or attended university) Moderate (other) Low (neither parent graduated high school)
Parent-Child Relationship	(96%) (4%)	Good (get along very well or "ok" with parents) Poor (not getting along with parents)
Parental Monitoring	(87%) (13%)	High (parents always/usually know whereabouts) Low (parents sometimes/seldom/never know whereabouts)
School Marks	(89%) (11%)	Overall As or Bs Overall Cs or below
Perception of Personal Safety at School	(87%) (13%)	Moderate-High Low
School Attachment	(84%) (16%)	Moderate-High Low
Region	(16%) (6%) (40%) (38%)	Toronto (TO) North (N) West (W) East (E)

Table A5. Summary of Multivariate Analysis (Adjusted Logistic Regressions) for 10 Outcomes

	Internalizing			Externalizing						
Risk Factors	**Risk for Depression**	**Elevated Psychological Distress**	**Suicide Ideation**	**Delinquent Behaviour**	**Violent Behaviour**	**Fire Setting**	**Gambling Problem**	**Hazardous/ Harmful Drinking**	**Potential Drug Use Problem**	**3+ Co-Existing Problems**
Individual										
Sex	F	F	F	M	M	M	M	·	·	·
Grade	·	9 ↑ 8 12 ↑ 11	·	9 ↑ 8	·	8 ↑ 7 9 ↑ 8 10 ↓ 9 12 ↓ 11	11 ↑ 10	9 ↑ 8 11 ↑ 10	9 ↑ 8 12 ↑ 11	9 ↑ 8
High Sensation Seeking	·	·	+	+	+	+	+	+	+	+
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	+	+	+	·	+	+	·	·	+	+
Region (vs Ontario)	·	TO ↓ Ont N ↑ Ont E ↑ Ont	TO ↓Ont	·	·	·	·	·	·	TO ↓Ont

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

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