

Panic disorder and coping

- *Panic disorder—recurrent, unexpected panic attacks—is more common among women than men.*
- *The disorder typically strikes younger people, with an average age of onset of 25.*
- *Several negative behaviours are associated with panic disorder, including withdrawing from people, smoking more than usual, drinking to cope with stress, or using illicit drugs.*

Abstract

Objectives

This article presents prevalence estimates of panic disorder in the household population aged 15 or older. Associations between panic disorder and measures of physical and mental health, work status and coping behaviour are examined.

Data source

Data are from the 2002 Canadian Community Health Survey: Mental Health and Well-being.

Analytical techniques

2002 prevalence rates are presented for people with a history of panic disorder. Characteristics associated with current and past panic disorder are examined. Multiple logistic regression models are used to examine work status and coping behaviour, and chronic physical and other mental health problems.

Main results

In 2002, an estimated 1.5% of the population had current panic disorder, and 2.1%, a past history. Average age of onset was 25. People with panic disorder (current and past) were less likely to work and more likely to be permanently unable to work, compared with those who had never had the condition. Negative coping behaviours, including alcohol or drug use and smoking, were more common among those with panic disorder.

Key words

age of onset, agoraphobia, comorbidity, coping behaviour, health status indicators, mental health, prevalence, panic attacks

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All people experience various levels of anxiety as they go through life. Usually an individual's anxiety level shifts almost imperceptibly as he or she copes with a potentially difficult, fearful, or even dangerous situation.¹ Anxiety is a typical and normal reaction to stress, and a certain amount of it may often be appropriate. Anxiety may be considered normal, but panic attacks—discrete periods of intense fear that occur in the absence of any real danger—are not. Panic attacks are accompanied by symptoms such as chest pain, sweating, trembling, shortness of breath and palpitations. During attacks people may feel that they are choking, losing control or “going crazy.” They may express a fear of dying and feel the urge to escape. The attacks occur suddenly, usually peak within 10 minutes and may occur at night, waking the individual from sleep.²

Methods

Data source

The data used for this analysis are from the 2002 Canadian Community Health Survey (CCHS) cycle 1.2: Mental Health and Well-being, which began in May 2002 and was conducted over eight months. Residents of institutions, Indian reserves and certain remote areas, the three territories, as well as full-time members of the Canadian Armed Forces, were excluded.

The CCHS 1.2 sample was selected using the area frame designed for the Canadian Labour Force Survey. A multi-stage stratified cluster design was used to sample dwellings within this area frame. One person aged 15 or older was randomly selected from the sampled households. Individual respondents were selected to over-represent young people (15 to 24) and seniors (65 or older), thus ensuring adequate sample sizes for these age groups. More detailed descriptions of the design, sample and interview procedures can be found in other reports and on Statistics Canada's Web site.^{3,4}

All interviews were conducted using a computer-assisted application. Most (86%) were conducted in person; the remainder, by telephone. Selected respondents were required to provide their own information as proxy responses were not accepted. The responding sample comprised 36,894 persons aged 15 or older, and the response rate was 77%.

For the CCHS, panic disorder was measured using the World Mental Health version of the Composite International Diagnostic Interview (WMH-CIDI), an instrument created to assess mental disorders based on the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (DSM-IV®-TR).² The CIDI was designed to measure prevalence of mental disorders at the community level, and it can be administered by lay interviewers. The questions and algorithms used to measure panic attacks and panic disorder in the CCHS are presented in the *Annex*. The CCHS 1.2 questionnaire is available on Statistics Canada's Web site @ www.statcan.ca.⁴

Analytical techniques

Prevalence rates of panic disorder according to selected socio-demographic variables were calculated. Comparisons were made between these characteristics, within the current and past panic disorder groups. Age of onset and the means were estimated by examining cumulative incidence by age.

Prevalence rates and logistic regression models were used to compare people with panic disorder with the rest of the population in relation to physical and mental health, work status, and coping behaviour. Four mutually exclusive and exhaustive groups were created: those with current panic disorder (met the criteria for panic disorder in the 12 months before the CCHS interview); those with a past history (panic disorder in the past, but not in the last 12 months); those who did not meet the criteria for panic disorder (reference group); and those whose panic disorder status was "unknown." The final group was retained for analysis because of its appreciable size (see *Limitations*), but the results are not shown. When examining gender differences for lifetime agoraphobia, as well as certain coping behaviours (use of alcohol and withdrawing), only respondents with panic disorder (current and past) were selected for analysis.

Odds ratios were estimated using multiple logistic regression analysis. Two sets of models were used. In model 1, the following control variables were introduced: sex, age, marital status, and education or household income. These variables were retained for model 2, in addition to chronic physical conditions and other mental disorders: agoraphobia, social anxiety disorder, major depressive episode, and post-traumatic stress disorder (in past 12 months only). A comparison of results between models—differences in the odds ratios—permits an assessment of the contribution of panic disorder on two selected outcomes: work status and coping.

The analysis was based on a weighted sample representing the total population aged 15 or older in the 10 provinces in 2002. Variance for prevalence rate estimates, differences between rates, and odds ratios was calculated using the bootstrap technique in order to account for the survey design effect.^{3,9-11}

Panic disorder, which is characterized by recurrent, unexpected panic attacks, can be chronic and disabling.^{2,5,6} It most commonly begins in adolescence or early adulthood,⁷ prime years for completing education, entering the job market and forming relationships. The stress and disruption that may result from panic disorder can have long-lasting personal, social and economic consequences.⁶⁻⁸

This article focuses on panic disorder and is based on recent data from the Canadian Community Health Survey: Mental Health and Well-being (CCHS) cycle

1.2, conducted among the household population in 2002 (see *Methods, Definitions and Limitations*). Prevalence rates are presented for respondents who had panic disorder in the year before the survey interview (current), who did not currently have the disorder, but had a history (past), and those who had both (lifetime) (see *Annex*). The analysis presents selected characteristics of individuals with current or past panic disorder, comparing them with people who had never had the disorder. The article then examines the occurrence of other mental and physical health

problems in people with panic disorder, and assesses the independent contribution of panic disorder to work status and coping behaviours.

People with panic disorder may have other conditions such as agoraphobia, depression, social anxiety disorder, and obsessive compulsive disorder.^{8,12-16} In this study, agoraphobia is included as a comorbid condition because the relatively small number of cases identified in the CCHS prevented the more usual comparison of panic disorder with agoraphobia, panic disorder without agoraphobia, and agoraphobia without a history of panic disorder.

Panic attacks

Panic attacks are discrete periods of intense fear that occur in the absence of any real danger (see *Definitions and Annex*). According to the 2002 CCHS, over 5 million people in Canada, or 21% of the population aged 15 or older, had had a panic attack at some point during their lives (data not shown). Almost 2 million, or 8%, reported having had an attack in the year before their survey interview (Table 1). Women were more likely than men to be affected (10% versus 6%). Panic attacks were more common at younger ages; for example, 12% of 15- to 24-year-olds had had a panic attack in the past 12 months, compared with 4% of people aged 55 or older.

Table 1
Prevalence of panic attack in past 12 months, by age group and sex, household population aged 15 or older, Canada excluding territories, 2002

	Both sexes	Men	Women
	%	%	%
Total	8.0	6.0	9.9 [†]
Age group			
15-24	11.8*	7.4*	16.4*
25-34	10.3*	7.2*	13.3*
35-44	8.6*	6.8*	10.4*
45-54	7.6*	5.8*	9.2*
55 or older [†]	4.2	3.9	4.4

Data source: 2002 Canadian Community Health Survey: Mental Health and Well-being

[†] Reference category

* Significantly different from estimate for reference category ($p < 0.05$)

‡ Significantly different from estimate for men ($p < 0.05$)

Panic disorder more common among women

According to the CCHS, 3.7% of the Canadian population aged 15 or older have suffered from panic disorder—recurrent, unexpected panic attacks—at some point during their lives. This rate is higher than expected based on other international community surveys.^{7,17} Because the CCHS did not apply the exclusion criteria outlined in the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV®-TR)*² (see *Limitations*), the rates may be inflated. In 2002, the lifetime prevalence of panic disorder was higher for women (4.6%) than men (2.8%) (Table 2), a finding consistent with other studies.^{6,7,18,19} In the CCHS, the female-to-male ratio was 1.7. An estimated 1.5% of Canadians had panic disorder in 2002 (current); another 2.1% had a past history of the disorder.

Table 2
Prevalence of panic disorder, by selected socio-demographic characteristics, household population aged 15 or older, Canada excluding territories, 2002

	Lifetime	Current (past 12 months)	Past (excluding current)
	%	%	%
Total	3.7	1.5	2.1
Men [†]	2.8	1.0	1.7
Women	4.6*	2.0*	2.5*
Age group			
15-24	2.9	1.8*	1.1* ^{E1}
25-34	3.9*	1.8*	2.1
35-44	4.5*	2.0*	2.4*
45-54	5.1*	1.5*	3.5*
55 or older [†]	2.5	0.8	1.6
Marital status[†]			
Married/Common-law [†]	3.9	1.4	2.5
Widowed	6.4 ^{E2}	F	F
Divorced/Separated	7.2*	3.2*	3.6*
Never married	4.8	2.3*	2.4
Education[†]			
Less than secondary education	5.1	1.9	3.0
Secondary graduation	4.9	2.3*	2.5
Some postsecondary/Postsecondary graduation [†]	4.0	1.5	2.5
Household income			
Low/Lower-middle	5.7*	3.1*	2.3
Middle	3.5	1.8	1.7*
Upper-middle/High [†]	3.7	1.3	2.3

Data source: 2002 Canadian Community Health Survey: Mental Health and Well-being

Note: A "missing" category for household income was included, but prevalence is not shown.

[†] Reference category

‡ For people aged 25 to 64

* Significantly different from estimate for reference category ($p < 0.05$)

E1 Coefficient of variation between 16.6% and 25.0%

E2 Coefficient of variation between 25.1% and 33.3%

F Coefficient of variation greater than 33.3%

Definitions

To be classified as having *panic disorder*, Canadian Community Health Survey (CCHS) cycle 1.2: Mental Health and Well-being respondents must have first met the diagnostic criteria for *panic attacks*. See the *Annex* for the full definitions, questions and algorithms used in the CCHS.

There are three types of *panic attacks*. *Unexpected attacks*—characteristic of *panic disorder*—seem to occur “out of the blue”; that is, they do not appear to be related to a particular event or set of circumstances. *Situationally bound attacks* are predictable, in that they happen when the person is in a certain situation (public speaking, for example) or is anticipating that situation. *Situationally predisposed panic attacks* are similar, except they do not always occur in the given set of circumstances, or if they do, it is not immediately after the exposure.²

Age of onset for panic disorder was defined as the age of the respondent when the first panic attack occurred.

Respondents were placed into the following age groups for this analysis: 15 to 24, 25 to 34, 35 to 44, 45 to 54, 55 or older. Some analyses were restricted to certain groups (25 to 64 for marital status and education, for example). Age was entered into logistic regression models as a continuous variable.

Marital status at the time of the interview was used: married/common-law; widowed; divorced or separated; and never married.

Education was grouped as follows: less than secondary graduation, secondary graduation, some postsecondary, and postsecondary graduation.

Household income was based on the number of people in the household and total household income from all sources in the 12 months before the 2002 interview.

Household income group	People in household	Total household income
Low	1 to 4	Less than \$10,000
	5 or more	Less than \$15,000
Lower-middle	1 or 2	\$10,000 to \$14,999
	3 or 4	\$10,000 to \$19,999
	5 or more	\$15,000 to \$29,999
Middle	1 or 2	\$15,000 to \$29,999
	3 or 4	\$20,000 to \$39,999
	5 or more	\$30,000 to \$59,999
Upper-middle	1 or 2	\$30,000 to \$59,999
	3 or 4	\$40,000 to \$79,999
	5 or more	\$60,000 to \$79,999
High	1 or 2	\$60,000 or more
	3 or more	\$80,000 or more

The presence of *at least one chronic condition* was determined by asking respondents if they had “any long-term health conditions that are expected to last or have already lasted six months or more and that have been diagnosed by a health professional.” The interviewer then read a checklist of conditions. The 18 self-reported conditions considered in this analysis were: asthma, fibromyalgia, arthritis/rheumatism, back problems excluding fibromyalgia and arthritis, high blood pressure, migraine, diabetes, epilepsy, heart disease, cancer, stomach or intestinal ulcers, effects of a stroke, bowel disorder/Crohn’s disease or colitis, thyroid condition, chronic fatigue syndrome, multiple chemical sensitivities, chronic bronchitis, and emphysema or chronic obstructive pulmonary disease.

Respondents who met the 12-month criteria for agoraphobia, social anxiety disorder or major depressive episode or who said they suffered from post-traumatic stress disorder were considered to have a *concurrent mental health disorder*. (See the *Annex* for detailed descriptions of social anxiety disorder and major depressive disorder.)

Respondents who met the lifetime criteria for agoraphobia, social anxiety disorder or major depressive episode, but who had not had these conditions in the year before the survey were coded as having *other past mental disorders*. Post-traumatic stress disorder was not included in this definition because it was evaluated only as a current chronic condition.

To establish *work status*, respondents were asked if they had worked at a job or business in the past 12 months. Those who indicated “no” were coded “1” for this dichotomous variable. Responses of “yes” were coded “0.”

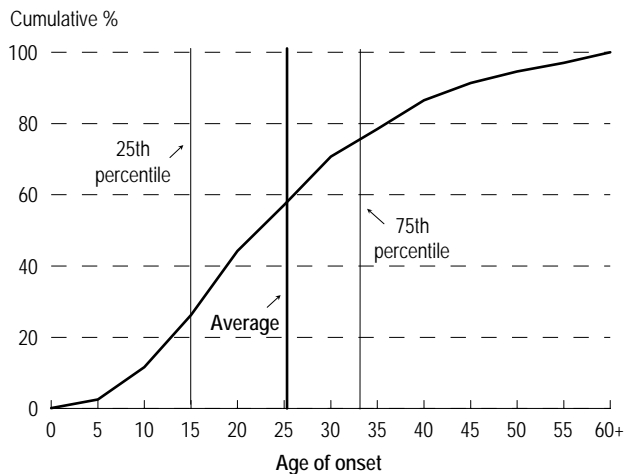
The CCHS also asked about working in the last week: “Last week, did you work at a job or a business?”. A dichotomous variable was created; those who reported they were permanently unable to work were coded “1.” Those who responded “yes” or “no” to this question were coded “0.”

Based on residential postal code and 1996 Census geography, respondents were categorized as living in an *urban* or *rural* area.

Mid-twenties onset

As seen in other studies,^{2,7,14} panic disorder first appears most often in the younger age groups. The CCHS results show that people younger than 55 were more likely to have current panic disorder than those aged 55 or older (Table 2). The average age of onset for lifetime panic disorder was 25; for 75% of those with the disorder, it had begun by age 33 (Chart 1).

Chart 1
Cumulative incidence of panic disorder, by age of onset, household population aged 15 or older with lifetime history of panic disorder, Canada excluding territories, 2002



Data source: 2002 Canadian Community Health Survey: Mental Health and Well-being

Marital status, education and income

In 2002, panic disorder (current and past) was more common among individuals who were separated or divorced than among those who were married (Table 2), a finding consistent with other research.⁷ The higher prevalence among this group may reflect an association between stressful life events and the development of panic disorder.²⁰ For example, a review that focussed specifically on panic disorder with agoraphobia concluded that major life events—including marital and interpersonal problems—tend to occur in the period preceding the disorder.²¹

Lower education and income levels were also associated with the presence of panic disorder. The prevalence of current panic disorder was higher among individuals whose education had ended with secondary graduation, compared with those who had postsecondary education. People with less than secondary graduation were no more likely to have current or past panic disorder than those with postsecondary graduation, in contrast to previous research.⁷

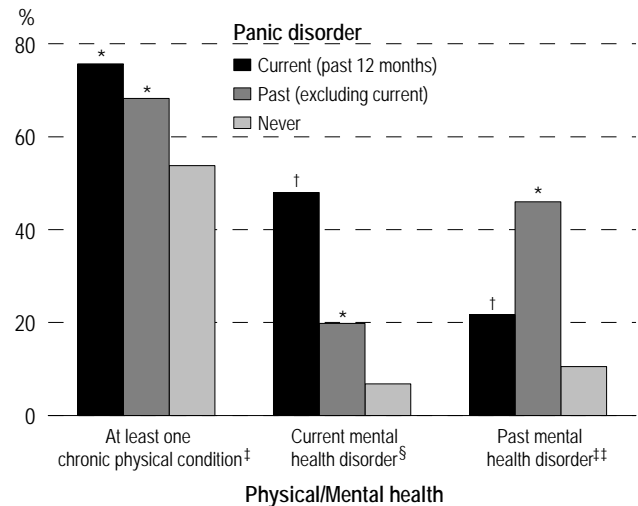
People in lower household income groups were more likely to have current panic disorder than were those at higher income levels. It is possible that lower income is indicative of other stressful circumstances that contribute to the illness, or that the disorder itself leads to reduced income when people with panic disorder are unable to work. Although it has been suggested that panic disorder is most prevalent in urban areas,⁷ this was not the case in the CCHS.

Other physical and mental illnesses

Among those with current panic disorder, three-quarters (76%) reported at least one diagnosed chronic condition (Chart 2). Among people with past panic disorder, the proportion with at least one such illness was slightly lower (68%), yet it exceeded the figure for those who had never had panic disorder (54%).

The presence of other mental disorders is fairly common among people who have experienced panic disorder.^{13,22-24} Almost half of those with current panic disorder (48%) had also had agoraphobia, social anxiety disorder, post-traumatic stress disorder, or a

Chart 2
Percentage of people with chronic condition(s) and other mental health disorders, by history of panic disorder, household population aged 15 or older, Canada excluding territories, 2002



Data source: 2002 Canadian Community Health Survey: Mental Health and Well-being

[†] Significantly different from estimate for "never" and "past" ($p < 0.05$)

[‡] See Definitions for list of 18 self-reported diagnosed chronic conditions

[§] Agoraphobia, social anxiety disorder, post-traumatic stress disorder, major depressive episode

^{‡‡} Agoraphobia, social anxiety disorder, major depressive episode

* Significantly higher than estimate for "never" ($p < 0.05$)

major depressive episode in the preceding 12 months. This is significantly more than the 20% of people with past panic disorder. Both groups were more likely to have had one of these mental illnesses in the past year than the rest of the population (7%).

Although many people with current panic disorder did not have another mental disorder in the year before the survey interview, they may have had one or more in the past: 22% had a history of agoraphobia, social anxiety disorder, or a major depressive episode (see *Limitations*). Among people with a history of panic disorder, 46% had an accompanying history of at least one of these other mental disorders.

Less likely to work

People aged 25 to 64 who had panic disorder in the 12 months before the CCHS interview were less likely to have worked at a job or business during that time (72%) than those who had panic disorder in the past (82%) or who had never had the condition (84%) (data not shown). Individuals with current panic disorder were also more likely to be permanently unable to work: 11% compared with 2% for those with past panic disorder or who never had the condition. When socio-demographic factors were taken into account, individuals with current panic disorder had higher odds of being permanently unable to work than those who had never had the disorder (Table 3, Appendix Tables A and B). And even when other physical and mental

health problems were also considered, these relationships held.

By contrast, there was no difference in work status—not working in the past year or being permanently unable to work—between those with a history of panic disorder and those who had never had the disorder. In other words, the work status of people who experience remission for a year or more and those with no history of panic disorder appears to be similar.

Negative ways of coping

The frequent use of negative coping behaviour has been documented for people suffering from panic disorder: avoidance, self-blame and wishful thinking (as opposed to a problem-solving approach), for example.²⁵⁻²⁷ Analysis of results from the 2002 CCHS also indicated that people with current or past panic disorder had odds that were around two to three times higher than those with no history of the disorder to withdraw from people, to blame themselves, and to wish problems away (Table 4). They were also less likely to look on the “bright side” of things (see *Coping behaviours*).

The odds of drinking to cope with stress, and of smoking more than usual, were approximately twice as high for those with current and past panic disorder in comparison with people who had never had the condition. According to the CCHS (data not shown), 18% of people with panic disorder said they coped

Table 3
Adjusted odds ratios relating panic disorder to work status, without and with controlling for physical and other mental health problems, household population aged 25 to 64, Canada excluding territories, 2002

Work status	Panic disorder	Model 1		Model 2	
		Controlling for socio-demographic factors [†]		Controlling for socio-demographic factors and physical and other mental health problems [‡]	
		Odds ratio	95% confidence interval	Odds ratio	95% confidence interval
Did not work at job or business in past 12 months	Current (past 12 months)	2.0*	1.5, 2.7	1.6*	1.1, 2.2
	Past (excluding current)	0.9	0.7, 1.2	0.9	0.7, 1.1
	Never [§]	1.0	...	1.0	...
Permanently unable to work	Current (past 12 months)	6.4*	3.9, 10.5	3.2*	1.8, 5.8
	Past (excluding current)	1.1	0.7, 1.7	0.9	0.5, 1.4
	Never [§]	1.0	...	1.0	...

Date source: 2002 Canadian Community Health Survey: Mental Health and Well-being

Note: Summarizes results of 4 separate regression models; complete results can be found in Appendix Tables A and B.

[†] Sex, age, marital status and education

[‡] At least one of 18 self-reported diagnosed chronic conditions (see Definitions): agoraphobia, social anxiety disorder, major depressive episode, and post-traumatic stress disorder (past year only)

[§] Reference category

* Significantly different from estimate for reference category ($p < 0.05$)

... Not applicable

Table 4

Adjusted odds ratios relating panic disorder to selected behaviours, without and with controlling for physical and other mental health problems, household population aged 15 or older, Canada excluding territories, 2002

Behaviour	Panic disorder	Model 1		Model 2	
		Controlling for socio-demographic factors [†]		Controlling for socio-demographic factors and physical and other mental health problems [‡]	
		Odds ratio	95% confidence interval	Odds ratio	95% confidence interval
Withdrawing from people	Current (past 12 months)	3.0*	2.2, 3.9	1.8*	1.4, 2.5
	Past (excluding current)	2.1*	1.7, 2.7	1.6*	1.2, 2.0
	Never [§]	1.0	...	1.0	...
Drinking alcohol to cope	Current (past 12 months)	1.8*	1.4, 2.4	1.2	0.9, 1.6
	Past (excluding current)	1.9*	1.4, 2.6	1.4*	1.0, 2.0
	Never [§]	1.0	...	1.0	...
Smoking more than usual	Current (past 12 months)	2.6*	1.8, 3.7	1.7*	1.2, 2.5
	Past (excluding current)	2.2*	1.6, 3.1	1.7*	1.2, 2.5
	Never [§]	1.0	...	1.0	...
Blaming oneself	Current (past 12 months)	2.6*	2.0, 3.4	1.7*	1.3, 2.2
	Past (excluding current)	2.3*	1.8, 3.1	1.7*	1.3, 2.3
	Never [§]	1.0	...	1.0	...
Wishing problem would go away	Current (past 12 months)	2.8*	1.9, 4.0	1.9*	1.3, 2.8
	Past (excluding current)	2.0*	1.2, 3.2	1.6	1.0, 2.6
	Never [§]	1.0	...	1.0	...
Praying/Seeking spiritual help	Current (past 12 months)	1.3*	1.1, 1.7	1.2	0.9, 1.5
	Past (excluding current)	1.5*	1.2, 1.9	1.3*	1.0, 1.7
	Never [§]	1.0	...	1.0	...
Looking on the bright side	Current (past 12 months)	0.4*	0.3, 0.5	0.7*	0.5, 0.9
	Past (excluding current)	0.8	0.5, 1.1	1.0	0.7, 1.5
	Never [§]	1.0	...	1.0	...
Lifetime illicit drug use excluding one-time cannabis use	Current (past 12 months)	2.1*	1.7, 2.8	1.5*	1.1, 2.0
	Past (excluding current)	2.5*	1.9, 3.2	1.9*	1.4, 2.4
	Never [§]	1.0	...	1.0	...

Date source: 2002 Canadian Community Health Survey: Mental Health and Well-being

Note: Summarizes results for 16 separate regression models; complete results available on request.

[†] Sex, age, marital status and household income

[‡] At least one of 18 self-reported diagnosed chronic conditions (see Definitions): agoraphobia, social anxiety disorder, major depressive episode, and post-traumatic stress disorder (past year only)

[§] Reference category

* Significantly different from estimate for reference category ($p < 0.05$)

... Not applicable

with stress by consuming alcohol, significantly more than among people who had never had the condition (11%). Of those with either current or past panic disorder, men were more likely to handle their stress by drinking (24%) than were women (14%). Even when socio-economic factors, as well as other mental and physical conditions were taken into account, men had higher odds of drinking as a way of coping. Similar differences in alcohol use rates have been noted in other studies.^{5,28,29}

Some studies have reported gender differences among people with panic disorder in relation to agoraphobia and agoraphobic avoidance.^{5,28,29} But other research has found no such differences,³⁰ consistent with analysis of CCHS data for these behaviours by sex. Among men and women with panic disorder, there were no significant differences for coping with stress by withdrawing or in the presence of lifetime agoraphobia (data not shown).

Coping behaviours

In the 2002 Canadian Community Health Survey (CCHS), all respondents were asked about *coping with stress*. *Withdrawing* indicates respondents who “often” or “sometimes” coped by avoiding being with people, sleeping more than usual, or by “rarely” or “never” talking to others. Respondents were also asked how often they used/did each of the following when dealing with stress:

- try to feel better by drinking alcohol
- try to feel better by smoking more cigarettes than usual
- blame yourself
- wish the situation would go away or somehow be finished
- pray or seek spiritual help
- try to look on the bright side of things

Responses were grouped as often/sometimes versus rarely/never.

Lifetime illicit drug use, excluding one-time cannabis use, was derived from a series of questions asking respondents if they had ever used or tried:

- marijuana, cannabis or hashish
- cocaine or crack
- speed (amphetamines)
- ecstasy (MDMA) or other similar drugs
- hallucinogens, PCP or LSD (acid)
- heroin
- steroids, such as testosterone, dianabol or growth hormones, to increase your performance in a sport or activity or to change your physical appearance
- [sniffing] glue, gasoline or other solvents

Illicit drug use

Other research has concluded that substance use, including cannabis, is associated with panic disorder,^{13,31} a finding consistent with results from the CCHS: 62% of people with current panic disorder and 60% of those with a history had used illicit drugs at some point (data not shown). By contrast, 41% of people with no history of the disorder had tried illicit drugs (see *Definitions*). When those who reported trying cannabis only once were excluded, the rates of lifetime illicit drug use fell to 52% for those with current panic disorder, 51% for those with past panic disorder, and 33% for everyone else. Regardless of the direction of the relationship, which cannot be established with the CCHS cross-sectional data, it is clear that people with panic disorder were more likely to have used illicit drugs than were those who had never had the disorder.

Seeking help

It has been reported that a high proportion of people with panic disorder use medical services,^{18,20,32-34} a finding supported by results from the CCHS. All CCHS respondents were asked if they had ever seen or talked on the telephone to a professional about their emotions, mental health or use of alcohol or drugs. About 70% of those with panic disorder (current or past) had consulted a medical professional (psychiatrist, family doctor, other medical doctor, or psychologist) about these concerns, compared with 18% of people who had never had panic disorder (Table 5). Almost half (48%) of the people who currently had panic disorder had had a consultation in the past year. Even after demographic and other mental and physical health characteristics were taken into account, people with panic disorder had almost six times the odds of having consulted a medical professional about their mental health compared with people without the disorder (Appendix Table C).

CCHS respondents who had experienced two or more unexpected panic attacks were specifically asked if they had consulted a medical doctor or other professional about their attacks (data not shown). The term “professional” was used more broadly in this question to include social workers, counsellors, spiritual advisors, homeopaths, acupuncturists and self-help groups. About 73% of people with panic disorder (past or current) reported such a consultation. Women were significantly more likely than men to have sought help: 77% compared with 65%.

Table 5
Percentage of people who consulted a medical professional about emotions, mental health, or use of alcohol or drugs, by panic disorder status, household population aged 15 or older, Canada excluding territories, 2002

	Panic disorder	%
Ever seen or talked to medical professional	Current (past 12 months)	71.8*
	Past (excluding current)	69.7*
	Never†	18.1
Seen or talked to medical professional in past 12 months	Current (past 12 months)	48.4‡
	Past (excluding current)	20.9*
	Never†	6.1

Date source: 2002 Canadian Community Health Survey: Mental Health and Well-being

Note: Medical professional includes psychiatrist, family doctor or general practitioner, other medical doctor such as cardiologist, gynaecologist or urologist, and psychologist.

† Reference category

* Significantly different from estimate for reference category ($p < 0.05$)

‡ Significantly different from estimate for reference category and past panic disorder ($p < 0.05$)

... Not applicable

Those who had sought help for their attacks were asked if they had ever received helpful or effective treatment. Seven out of ten answered positively. However, this means that, overall, just half of the people with current or past panic disorder received effective help. Some lack of satisfaction may result if the panic attacks remain undiagnosed or are misdiagnosed. Other studies have concluded that many people with panic disorder seek help at emergency departments where their disorder remains unrecognized or misdiagnosed.³³⁻³⁷

The high proportion of people with panic disorder who seek medical help is not surprising given the physical symptoms that may accompany attacks (shortness of breath, chest pain or palpitations, for example).³⁸ Previous research has determined that those with panic disorder are likely to seek treatment in the year of onset.³⁹ The CCHS asked respondents how old they were at the time of their first panic attack and their age when they first consulted a professional about the attacks. For most of them (68%), the difference was one year or less, although some waited

Limitations

Studies of panic disorder often compare three mutually exclusive groups: people with panic disorder, those with agoraphobia, and people who have both. This was not possible using data from the Canadian Community Health Survey (CCHS), given the small sample size for each category. The high proportion of "unknown" cases in the panic disorder module contributed to the small sample. A total of 1,397 people met the criteria for lifetime panic disorder, 34,711 did not, and a further 876 respondents could not be classified. Most of the unknown cases (497) were "lost" in the 16-question/14-symptom checklist for panic attacks due to non-response (see *Annex*). A further 282 cases became "unknown" after a non-response to the question about the number of unexpected attacks a person had experienced during his or her lifetime. Of the remaining unknown cases, 64 were lost due to a non-response to the screening questions; 33 others were lost due to non-response to other questions.

For this study, two separate analyses were undertaken to evaluate the impact of omitting cases with unknown panic disorder status. In these analyses, the unknown cases were retained and were grouped separately in an "unknown" category. Then, in a "worst case scenario," all unknown cases were coded as having current panic disorder. Results were compared and for the most part the direction and significance of relationships remained unaltered. Thus while the number of unknown cases for panic disorder may lower the prevalence estimates, it should not affect associations between variables.

To meet the criteria for panic attacks and panic disorder, respondents must have reported at least 4 symptoms out of a possible 14. In the CCHS, 16 questions were used to assess the 14 symptoms. The questions, "Did you feel dizzy or faint?" and "Were you afraid that you may pass out?", both contributed to the

symptom "Feeling dizzy, faint, unsteady or light-headed." To reduce respondent burden, respondents were "skipped out" of the module once they met the criteria with 4 positive responses. However, due to a programming error in the computer-assisted interviewing application, respondents were skipped out even if their 4 responses included the 2 questions that contributed to a single symptom. These respondents then failed to meet the criteria requiring 4 symptoms. These people were coded as not having panic attacks or panic disorder (and were therefore included in the denominator). For the most part, their status as non-cases was confirmed when they failed to meet other criteria for the disorder further on in the questionnaire. However, it is possible that a small number of cases were misclassified, resulting in a possible underestimation of the prevalence of panic disorder.

In the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision*,² people are excluded from a diagnosis of panic disorder if their panic attacks are due to a general medical condition (e.g., hyperthyroidism) or are the physiological consequence of a substance (e.g., caffeine). Based on advice to Statistics Canada from clinicians, these exclusion criteria were not applied, which may have resulted in an overestimation of prevalence; therefore, the estimates may be higher than expected.

It is not uncommon for obsessive-compulsive disorder to occur with panic disorder. Because of a translation error between English and French, data for this variable were suppressed; therefore, obsessive-compulsive disorder could not be assessed or controlled for in the multivariate models.

CCHS respondents were identified as "having panic disorder" based solely on their responses to the questionnaire, and the presence or absence of the disorder was not clinically confirmed. This may have contributed to higher rates.

longer. For 17%, the gap between onset of attacks and professional help was at least 10 years.

Concluding remarks

According to the 2002 Canadian Community Health Survey on mental health and well-being, almost 1 million Canadians either had panic disorder in the year before the survey interview, or they had had the condition at some point in their lives. Symptoms usually began appearing in early adulthood—at age 25, on average.

Health care utilization was fairly common among people with panic disorder. The physical sensations of panic attacks often lead people to seek medical treatment, as they may fear a heart attack or other catastrophic illness.³¹ About 7 in 10 Canadians with panic disorder had consulted a psychiatrist, family or other doctor, or a psychologist, about their emotions or mental health. And when asked specifically about

medical consultations for their panic attacks, nearly the same proportion reported seeking such help.

The findings presented in this article highlight the complex of problems that people with panic disorder typically have. For example, they are more likely to have a chronic physical condition or another mental health disorder. They may also have problems with working, and may even be permanently unable to work. After a year or more of remission from panic disorder, however, their work status resembled that of people who had never had the condition.

Those with current or past panic disorder tended to cope with stress by withdrawing, blaming themselves, or wishing their problems would simply disappear. Negative health behaviours—drinking to cope with stress, smoking more than usual, and illicit drug use—were also fairly common among people with panic disorder. ■

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Appendix

Table A

Adjusted odds ratios relating panic disorder to not working at job or business in past 12 months, without and with controlling for physical and other mental health problems, household population aged 25 to 64, Canada excluding territories, 2002

	Model 1		Model 2	
	Controlling for socio-demographic factors [†]		Controlling for socio-demographic factors [†] and physical and other mental health problems [‡]	
	Odds ratio	95% confidence interval	Odds ratio	95% confidence interval
Panic disorder				
Current (past 12 months)	2.0*	1.5, 2.7	1.6*	1.1, 2.2
Past (excluding current)	0.9	0.7, 1.2	0.9	0.7, 1.1
Never [§]	1.0	...	1.0	...
Sex				
Men	0.3*	0.3, 0.4	0.4*	0.3, 0.4
Women [§]	1.0	...	1.0	...
Age				
	1.1*	1.1, 1.1	1.1*	1.1, 1.1
Marital status				
Married [§]	1.0	...	1.0	...
Widowed	1.6*	1.1, 2.2	1.5*	1.1, 2.1
Separated/Divorced	1.0	0.8, 1.1	0.9	0.8, 1.1
Never married	1.3*	1.2, 1.6	1.3*	1.1, 1.5
Education				
Less than secondary graduation	2.8*	2.5, 3.2	2.8*	2.4, 3.2
Secondary graduation	1.4*	1.2, 1.6	1.4*	1.2, 1.6
Some postsecondary	1.4*	1.2, 1.7	1.3*	1.1, 1.6
Postsecondary graduation [§]	1.0	...	1.0	...
Other mental health disorder(s)				
Current (past 12 months)			1.5*	1.3, 1.8
Past (excluding current)			0.9	0.8, 1.1
Never [§]			1.0	...
Chronic conditions				
Yes			1.4*	1.2, 1.5
No [§]			1.0	...

Data source: 2002 Canadian Community Health Survey: Mental Health and Well-being

Notes: The multivariate analysis is based on 23,573 persons aged 25 to 64 for Model 1 and 23,140 persons for Model 2 who provided information on all variables in the model. A "missing" category for panic disorder was included in the models to maximize sample size, but the odds ratios are not shown.

[†] Sex, age, marital status and education

[‡] At least one of 18 self-reported diagnosed chronic conditions (see Definitions): agoraphobia, social anxiety disorder, major depressive episode, and post-traumatic stress disorder (past year only)

[§] Reference category

* Significantly different from estimate for reference category ($p < 0.05$)

... Not applicable

Table B

Adjusted odds ratios relating panic disorder to being permanently unable to work, without and with controlling for physical and other mental health problems, household population aged 25 to 64, Canada excluding territories, 2002

	Model 1		Model 2	
	Controlling for socio-demographic factors [†]		Controlling for socio-demographic factors [†] and physical and other mental health problems [‡]	
	Odds ratio	95% confidence interval	Odds ratio	95% confidence interval
Panic disorder				
Current (past 12 months)	6.4*	3.9, 10.5	3.2*	1.8, 5.8
Past (excluding current)	1.1	0.7, 1.7	0.9	0.5, 1.4
Never [§]	1.0	...	1.0	...
Sex				
Men	1.1	0.9, 1.3	1.2	1.0, 1.5
Women [§]	1.0	...	1.0	...
Age				
	1.1*	1.1, 1.1	1.1*	1.1, 1.1
Marital status				
Married [§]	1.0	...	1.0	...
Widowed	1.6	1.0, 2.5	1.5	0.9, 2.4
Separated/Divorced	2.8*	2.2, 3.6	2.5*	1.9, 3.2
Never married	3.5*	2.7, 4.5	3.4*	2.6, 4.5
Education				
Less than secondary graduation	3.7*	2.9, 4.7	3.5*	2.7, 4.4
Secondary graduation	1.8*	1.3, 2.4	1.6*	1.2, 2.3
Some postsecondary	2.0*	1.3, 3.1	1.7*	1.1, 2.6
Postsecondary graduation [§]	1.0	...	1.0	...
Other mental health disorder(s)				
Current (past 12 months)			2.2*	1.6, 2.9
Past (excluding current)			1.1	0.8, 1.5
Never [§]			1.0	...
Chronic conditions				
Yes			5.3*	3.7, 7.5
No [§]			1.0	...

Data source: 2002 Canadian Community Health Survey: Mental Health and Well-being

Notes: The multivariate analysis is based on 23,440 persons aged 25 to 64 for Model 1 and 23,019 persons for Model 2 who provided information on all variables in the model. A "missing" category for panic disorder was included in the models to maximize sample size, but the odds ratios are not shown.

[†] Sex, age, marital status and education

[‡] At least one of 18 self-reported diagnosed chronic conditions (see Definitions): agoraphobia, social anxiety disorder, major depressive episode, and post-traumatic stress disorder (past year only)

[§] Reference category

* Significantly different from estimate for reference category ($p < 0.05$)

... Not applicable

Table C
Adjusted odds ratios relating panic disorder to having ever seen or talked on telephone to medical professional about emotions, mental health, or use of alcohol or drugs, without and with controlling for physical and other mental health problems, household population aged 15 or older, Canada excluding territories, 2002

	<i>Model 1</i>		<i>Model 2</i>	
	Controlling for socio-demographic factors [†]		Controlling for socio-demographic factors [†] and physical and other mental health problems [‡]	
	Odds ratio	95% confidence interval	Odds ratio	95% confidence interval
Panic disorder				
Current (past 12 months)	10.3*	7.9, 13.6	5.7*	4.2, 7.7
Past (excluding current)	10.1*	7.9, 13.0	5.9*	4.4, 7.9
Never [§]	1.0	...	1.0	...
Sex				
Men	0.5*	0.5, 0.6	0.6*	0.5, 0.7
Women [§]	1.0	...	1.0	...
Age	1.0	1.0, 1.0	1.0	1.0, 1.0
Marital status				
Married [§]	1.0	...	1.0	...
Widowed	0.6*	0.5, 0.8	0.7*	0.5, 0.8
Separated/Divorced	2.4*	2.1, 2.6	1.9*	1.7, 2.2
Never married	1.1	1.0, 1.3	1.1	0.9, 1.2
Household income				
Low	1.3*	1.1, 1.6	1.0	0.8, 1.3
Lower-middle	0.9	0.8, 1.1	0.8*	0.6, 1.0
Middle	0.8*	0.7, 0.9	0.7*	0.6, 0.8
Upper-middle	0.9	0.8, 1.0	0.9*	0.8, 1.0
High [§]	1.0	...	1.0	...
Other mental health disorder(s)				
Current (past 12 months)			7.4*	6.4, 8.5
Past (excluding current)			6.4*	5.7, 7.3
Never [§]			1.0	...
Chronic conditions				
Yes			1.8*	1.6, 1.9
No [§]			1.0	...

Data source: 2002 Canadian Community Health Survey: Mental Health and Well-being

Notes: Medical professional includes psychiatrist, family doctor or general practitioner, other medical doctor such as cardiologist, gynaecologist or urologist, and psychologist. The multivariate analysis is based on 36,846 persons aged 15 or older for Model 1 and 36,159 persons for Model 2 who provided information on all variables in the model. "Missing" categories for panic disorder and household income were included in the models to maximize sample size, but the odds ratios are not shown.

[†] Sex, age, marital status and household income

[‡] At least one of 18 self-reported diagnosed chronic conditions (see Definitions): agoraphobia, social anxiety disorder, major depressive episode, and post-traumatic stress disorder (past year only)

[§] Reference category

* Significantly different from estimate for reference category ($p < 0.05$)

... Not applicable

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Annex



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Definitions of mental disorders in the Canadian Community Health Survey: Mental Health and Well-being

The Canadian Community Health Survey (CCHS) cycle 1.2: Mental Health and Well-being was conducted in the 10 provinces in 2002. The survey used the World Mental Health version of the Composite International Diagnostic Interview (WMH-CIDI) to estimate the prevalence of various mental disorders in the Canadian household population aged 15 or older. The WMH-CIDI was designed to be administered by lay interviewers and is generally based on diagnostic criteria outlined in the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (DSM-IV®-TR).¹ Based on the advice of experts in the field of mental health, the WMH-CIDI and the algorithms used to identify mental disorders were revised over a period of time. The questionnaire used for the CCHS is available at www.statcan.ca/English/concepts/health/cycle1.2/index.htm. This Annex provides the details of the specific algorithms used to define mental disorders for the CCHS.

For some disorders, a set of screening questions was asked to determine if it would be appropriate to ask the respondent the more detailed questions designed to assess a particular disorder. This was done to reduce the number of questions posed to respondents without mental disorders. In some cases, these screening questions were also used in the algorithm to categorize respondents as having a disorder.

Alcohol dependence

Alcohol dependence, past 12 months

Alcohol dependence was determined using a *short-form measure* containing a series of questions measuring seven different symptoms. CCHS respondents who had *five or more drinks during one occasion at least once a month during the past 12 months* were asked the following seven questions to determine how their drinking affected everyday activities:

“During the past 12 months:

- have you ever been drunk or hung-over while at work, school or while taking care of children?”
- were you ever in a situation while drunk or hung-over which increased your chances of getting hurt? (for example, driving a boat, using guns, crossing against traffic, or during sports)?”
- have you had any emotional or psychological problems because of alcohol use, such as feeling uninterested in things, depressed or suspicious of people?”

- have you had such a strong desire or urge to drink alcohol that you could not resist it or could not think of anything else?”
- have you had a period of a month or more when you spent a great deal of time getting drunk or being hung-over?”
- did you ever drink much more or for a longer period of time than you intended?”
- did you ever find that you had to drink more alcohol than usual to get the same effect or that the same amount of alcohol had less effect on you than usual?”

This short-form was developed to reproduce a measure that operationalized both Criteria A and B of the DSM-III-R diagnosis for psychoactive substance use disorder.² Respondents who reported three or more symptoms were considered to have **alcohol dependence**.³

Bipolar I disorder

Screening questions:

Respondents were “screened in” before they were asked detailed questions about **bipolar I disorder**. To be screened in, the following responses were required:

YES to: Question 1

“Some people have periods lasting several days or longer when they feel much more excited and full of energy than usual. Their minds go too fast. They talk a lot. They are very restless or unable to sit still and they sometimes do things that are unusual for them. For example, they may drive too fast or spend too much money. During your life, have you ever had a period like this lasting several days or longer?”

OR

YES to: Question 2

“Have you ever had a period lasting several days or longer when most of the time you were very irritable, grumpy or in a bad mood?”

AND

Question 3

“Have you ever had a period lasting several days or longer when most of the time you were so irritable that you either started arguments, shouted at people or hit people?”

Respondents who answered “yes” to Question 1 or “yes” to Questions 2 and 3 were asked the more detailed questions in the “mania” section of the questionnaire.

Manic episode, lifetime history

Criterion 1, lifetime

To meet the criteria for **lifetime manic episode**, respondents must have had: (1A) a distinct period of abnormally and persistently elevated, expansive or irritable mood lasting at least one week; (1B) three or more of seven symptoms (or four or more if mood is irritable only) present during the mood disturbance; and (1C) marked impairment in normal daily activities, occupational functioning or usual social activities or relationships with others (1Ci), or mood disturbance

including psychotic features (1Cii), or mood disturbance serious enough to require hospitalization (1Ciii).

1A

Respondents who answered “yes” to Screening Question 1 were asked:

“Earlier you mentioned having a period lasting several days or longer when you felt much more excited and full of energy than usual. During this same period, your mind also went too fast. People who have periods like this often have changes in their thinking and behaviour at the same time, like being more talkative, needing very little sleep, being very restless, going on buying sprees, and behaving in ways they would normally think are inappropriate. Tell me, did you ever have any of these changes during the period when you were excited and full of energy?”

Respondents who answered “no” were not asked any more questions in the mania section, regardless of their response to Screening Questions 2 and 3.

Those who said “no” to Screening Question 1, but “yes” to Screening Questions 2 and 3 were asked:

“Earlier you mentioned having a period lasting several days or longer when you became so irritable or grouchy that you either started arguments, shouted at people or hit people. People who have periods of irritability like this often have changes in their thinking and behaviour at the same time, like being more talkative, needing very little sleep, being very restless, going on buying sprees, and behaving in ways they would normally think are inappropriate. Tell me, did you ever have any of these changes during the periods when you were very irritable or grouchy?”

Respondents who answered “no” were not asked any more questions in the mania section.

For both questions in 1A, duration of at least one week was established by asking: “How long did that episode last (in terms of hours, days, weeks, months or years)?”

1B

At least three of the following seven symptoms were required to meet this criterion (or at least four of seven if mood was irritable/grouchy only):

1. *Inflated self-esteem or sense of grandiosity*
 - “Did you have a greatly exaggerated sense of self-confidence or believe that you could do things that you really couldn’t do?”

or

 - “Did you have the idea that you were actually someone else, or that you had a special connection with a famous person that you really didn’t have?”
2. *Decreased need for sleep*
 - “Did you sleep far less than usual and still not get tired or sleepy?”
3. *More talkative than usual or pressure to keep talking*
 - “Did you talk a lot more than usual or feel a need to keep talking all the time?”
4. *Flight of ideas or subjective experience that thoughts are racing*
 - “Did your thoughts seem to jump from one thing to another or race through your head so fast that you couldn’t keep track of them?”
5. *Distractibility*
 - “Did you constantly keep changing your plans or activities?”

or

 - “Were you so easily distracted that any little interruption could get your thinking ‘off track’?”
6. *Increase in goal-oriented activity or psychomotor agitation*
 - “Did you become so restless or fidgety that you paced up and down or couldn’t stand still?”
 - “Did you become overly friendly or outgoing with people?”
 - “Were you a lot more interested in sex than usual, or did you want to have

sexual encounters with people you wouldn’t ordinarily be interested in?”

- “Did you try to do things that were impossible to do, like taking on large amounts of work?”

7. *Excessive involvement in pleasurable activities that have a high potential for painful consequences*

- “Did you get involved in foolish investments or schemes for making money?”

or

- “Did you spend so much more money than usual that it caused you to have financial trouble?”

or

- “Were you interested in seeking pleasure in ways that you would usually consider risky, like having casual or unsafe sex, going on buying sprees or driving recklessly?”

1C

There were three ways to meet this sub-criterion: 1Ci, 1Cii or 1Ciii.

1Ci: *To be considered as having marked impairment in normal activities, occupational functioning or usual social activities or relationships with others, respondents had to meet one of the following:*

- “You just mentioned that you had an episode/ episodes when you were very excited and full of energy/irritable or grouchy . . . How much did that episode/these episodes ever interfere with either your work, your social life or your personal relationships?”

Respondents who answered “not at all,” or “a little” were asked no further questions in the mania section. Those who replied with “a lot” or “extremely” were considered to meet this criterion.

or

- “During that episode/these episodes, how often were you unable to carry out your normal daily activities?”

Response categories were: “often,” “sometimes,” “rarely” and “never”; responses of “often” or “sometimes” met this criterion.

or

- A high level of interference with activities (a score between 7 and 10):
 - “How much did your episode interfere with your home responsibilities, like cleaning, shopping and taking care of the house or apartment?”
 - “How much did your episode interfere with your ability to attend school?”
 - “How much did it interfere with your ability to work at a job?”
 - “Again thinking about that period of time lasting one month or longer when your episode(s) was/were most severe, how much did it/they interfere with your ability to form and maintain close relationships with other people?”
 - “How much did it/they interfere with your social life?”

Scores had to fall in the 7-to-10 range, scored on an 11-point scale, with 0 representing “no interference” and 10, “very severe interference.”

or

Respondents who gave a number between 5 and 365 in response to, “In the past 12 months, about how many days out of 365 were you totally unable to work or carry out your normal activities because of your episode(s) of being very excited and full of energy/irritable or grouchy?” were considered to have marked impairment in occupational functioning.

or

A response of “yes” to: “Did you ever in your life see, or talk on the telephone to, a medical doctor or other professional about your episode(s) of being very excited and full of energy/irritable or grouchy? (By other professional, we mean psychologists, psychiatrists, social workers, counsellors, spiritual advisors, homeopaths, acupuncturists, self-help groups or other health professionals.)

1Cii: *A “yes” response to: “Did you have the idea that you were actually someone else, or that you had a special connection with a famous person that you really didn’t have?” established a psychotic feature.*

1Ciii: *To establish mood disturbance severe enough to require hospitalization, an answer of “yes” to “Were you ever hospitalized overnight for your episode(s) of being very excited and full of energy/irritable or grouchy?”*

Illicit drug dependence

Illicit drug dependence, past 12 months

The CCHS 1.2 asked about use of the following illicit drugs: cannabis, cocaine, speed (amphetamines), ecstasy (MDMA) or other similar drugs, hallucinogens, heroin, and sniffing solvents such as gasoline or glue. Follow-up questions measuring symptoms of dependence were posed to respondents who had used such illicit drugs at least monthly in the past year.

Individuals were considered to have an ***illicit drug dependence*** if they experienced at least three symptoms related to aspects of tolerance, withdrawal, loss of control and social or physical problems related to their illicit drug use in the past 12 months. Six symptoms were measured:

1. *Tolerance, meaning a need for markedly increased amounts of the drug to achieve intoxication or desired effect or by markedly diminished effect with continued use of the same amount of drug.*
 - “During the past 12 months, did you ever need to use more drugs than usual in order to get high, or did you ever find that you could no longer get high on the amount you usually took?”
2. *Withdrawal manifested by withdrawal syndrome or by taking the same (or a closely related) substance to relieve or avoid withdrawal symptoms.*

Interviewers read the following:

- “People who cut down their substance use or stop using drugs altogether may not feel well if they have been using steadily for some time. These feelings are more intense and can last longer than the usual hangover.”

Then respondents were asked:

- “During the past 12 months, did you ever have times when you stopped, cut down or went without drugs and then experienced symptoms like fatigue, headaches, diarrhea, the shakes or emotional problems?”

or

- “During the past 12 months, did you ever have times when you used drugs to keep from having such symptoms?”
3. *The drug is often taken in larger amounts or over a longer period than was intended, or drugs are used even though respondent promised not to use them.*

- “During the past 12 months, did you ever have times when you used drugs even though you promised yourself you wouldn’t, or times when you used a lot more drugs than you intended?”

and

- “During the past 12 months, were there ever times when you used drugs more frequently, or for more days in a row than you intended?”
4. *A great deal of time is spent obtaining the drug (for example, visiting multiple doctors or driving long distances), using the drug, or recovering from its effects.*
 - “During the past 12 months, did you ever have periods of several days or more when you spent so much time using drugs or recovering from the effects of using drugs that you had little time for anything else?”
 5. *Important social, occupational, or recreational activities are given up because of drug use.*
 - “During the past 12 months, did you ever have periods of a month or longer when you gave up or greatly reduced important activities because of your use of drugs?”
 6. *Drug use continues despite recognizing a persistent or recurrent physical or psychological problem likely caused or exacerbated by the drug.*
 - “During the past 12 months, did you ever continue to use drugs when you knew you had a serious physical or emotional problem that might have been caused by or made worse by your use?”

Major depressive disorder

Screening questions:

Respondents were “screened in” to (or out of) the module on **major depressive disorder** based on their replies to the following three questions. At least one “yes” response was required:

Yes to: Question 1

“Have you ever in your life had a period lasting several days or longer when most of the day you felt sad, empty or depressed?”

OR

Question 2

“Have you ever had a period lasting several days or longer when most of the day you were very discouraged about how things were going in your life?”

OR

Question 3

“Have you ever had a period lasting several days or longer when you lost interest in most things you usually enjoy, like work, hobbies and personal relationships.”

CCHS respondents were accepted for the module as soon as they answered “yes” to a question in this series.

Major depressive disorder, lifetime history

Criterion 1, lifetime

To meet this criterion, respondents must have had the following symptoms during the same two-week period: depressed mood or loss of interest or pleasure in most things usually enjoyed (1A) and five of nine additional symptoms associated with depression that represented a change from previous functioning (1B).

1A

Note: The questions asked in this section depended on how the screening questions were answered.

At least one “yes” to the following series of questions:

1. “Earlier, you mentioned having periods that lasted several days or longer when you lost interest in most things like work, hobbies or other things you usually enjoy. Did you ever have such a period that lasted for most of the day, nearly every day, for two weeks or longer?”

2. “Did you ever have a period of being sad or discouraged that lasted for most of the day, nearly every day, for two weeks or longer?”
3. “Did you feel sad, empty or depressed most of the day, nearly every day, during that period of two weeks?”
4. “Nearly every day, did you feel so sad that nothing could cheer you up?”
5. “During that period of two weeks, did you feel discouraged most of the day, nearly every day, about how things were going in your life?”
6. “Did you feel hopeless about the future nearly every day?”
7. “During that period of two weeks, did you lose interest in almost all things like work, hobbies and things you like to do for fun?”
8. “Did you feel like nothing was fun even when good things were happening?”

1B

Five of nine symptoms were required to meet this criterion:

1. Depressed mood

- “Did you feel sad, empty or depressed most of the day, nearly every day, during that period of two weeks?”
- “Nearly every day, did you feel so sad that nothing could cheer you up?”
- “During that period of two weeks, did you feel discouraged most of the day, nearly every day, about how things were going in your life?”
- “Did you feel hopeless about the future nearly every day?”

2. Diminished interest/pleasure in most activities

- “During that period of two weeks, did you lose interest in almost all things like work, hobbies and things you like to do for fun?”
- “Did you feel like nothing was fun even when good things were happening?”

3. *Significant weight loss/gain or change in appetite*

- “During that period of two weeks, did you, nearly every day, have a *much smaller* appetite than usual?”
- “Did you have a *much larger* appetite than usual nearly every day?”
- “During that period of two weeks, did you gain weight without trying to?”
- “Was this weight gain due to a physical growth or a pregnancy?”
- “Did you *lose* weight without trying to?”
- “Was this weight loss a result of a diet or a physical illness?”
- “How much did you lose?”

4. *Insomnia/Hypersomnia*

- “During that period of two weeks, did you have a lot more trouble than usual either falling asleep, staying asleep or waking up too early *nearly every night*?”
- “During that period of two weeks, did you sleep a lot more than usual *nearly every night*?”

5. *Psychomotor agitation/retardation*

- “Did you talk or move more slowly than is normal for you nearly every day?”
- “Did anyone else notice that you were talking or moving slowly?”
- “Were you so restless or jittery nearly every day that you paced up and down or couldn’t sit still?”
- “Did anyone else notice that you were restless?”

6. *Fatigue/Loss of energy*

- “During that period of two weeks, did you feel tired or low in energy nearly every day, even when you had not been working very hard?”

7. *Feelings of worthlessness*

- “Did you feel totally worthless nearly every day?”

8. *Diminished ability to think/concentrate*

- “During that period of two weeks, did your thoughts come much more slowly than usual or seem mixed up nearly every day?”

- “Nearly every day, did you have a lot more trouble concentrating than is normal for you?”
- “Were you unable to make up your mind about things you ordinarily have no trouble deciding about?”

9. *Recurrent thoughts of death*

- “During that period, did you ever think that it would be better if you were dead?”
- “Three experiences are listed, EXPERIENCE A, B and C. Think of the period of *two weeks or longer* [when your feelings of being sad or discouraged or when you lost interest in most things you usually enjoy] and other problems were most severe and frequent. During that time, did Experience A happen to you? (You seriously thought about committing suicide or taking your own life.) Now, look at the second experience on the list, Experience B. Did Experience B happen to you? (You made a plan for committing suicide.) Now, look at the third experience on the list, Experience C. During that period of *two weeks or longer*, did Experience C happen to you? (You attempted suicide or tried to take your own life.)”

Criterion 2, lifetime

Respondents were asked four questions to establish that their lifetime depressive symptoms caused clinically significant distress. This criterion was fulfilled by meeting one of these four items (2A or 2B or 2C or 2D).

2A

A response of “moderate,” “severe” or “very severe” to: “During those periods, how severe was your emotional distress?”

2B

A response of “often” or “sometimes” to: “During those periods, how often was your emotional distress so severe that nothing could cheer you up?”

2C

A response of “often” or “sometimes” to: “During those periods, how often was your emotional distress so severe that you could not carry out your daily activities?”

2D

A “yes” to: “Nearly every day, did you feel so sad that nothing could cheer you up?”

Criterion 3, lifetime

To meet this final criterion, the lifetime depressive episodes were *not* always accounted for by bereavement (i.e., preceded by the death of someone close), as established by a “no” response to 3A or 3B.

3A

A “no” to: “Did your episodes of feeling sad or discouraged ever occur just after someone close to you died?”

3B

A “no” to: “Did your episodes of feeling a loss of interest in most things you usually enjoy always occur just after someone close to you died?”

Major depressive disorder, Current (past 12 months)

The following three criteria were used to assess **current major depressive episode**; that is, whether the respondent had had symptoms in the 12 months before the CCHS interview. All three had to be met for a respondent to be categorized as having a major depressive episode in the past year.

Criterion 1, current

The respondent had to meet the criteria for a lifetime history of major depressive disorder.

Criterion 2, current

A report of a major depressive episode within the past 12 months was required.

Criterion 3, current

This criterion assessed clinically significant distress or impairment in social, occupational or other important areas of functioning. Respondents were asked to think about a period *during the past 12 months* when their feelings of being sad or discouraged or losing interest in things usually enjoyed were *most severe and frequent*. They were then asked a series of questions:

“During this period [two weeks or longer], how often:

- did you feel cheerful?”
- did you feel as if you were slowed down?”
- could you enjoy a good book or radio or TV program?”

Response options: often, sometimes, occasionally, never; at least one response of “occasionally” or “never” required.

“During this period [two weeks or longer], how often:

- did you still enjoy the things you used to enjoy?”
- could you laugh and see the bright side of things?”
- did you take interest in your physical appearance?”
- did you look forward to enjoying things?”

Response options: as much as usual, not quite as much as usual, only a little, not at all; at least one response of “only a little” or “not at all” required.

“Please tell me what number best describes how much these feelings interfered with each of the following activities [period of one month or longer]:

- your home responsibilities, like cleaning, shopping and taking care of the house or apartment?”
- your ability to attend school?”
- your ability to work at a job?”
- your ability to form and maintain *close* relationships with other people?”
- your social life?”

Responses: 0 = no interference; 10 = very severe interference. A score in the 4-to-10 range was required.

“How many days out of 365 were you totally unable to work or carry out your normal activities because of your feelings?”

Response: Any number between 0 and 365; a reply between 5 and 365 required.

“During the past 12 months, did you receive professional treatment for your feelings?”

Response: A “yes” response was required.

Panic disorder

Screening questions:

CCHS respondents were either “screened in” to (or out of) the **panic disorder** module of the questionnaire based on their replies to the following two questions:

YES to: “During your life, have you ever had an attack of fear or panic when all of a sudden you felt very frightened, anxious or uneasy?”

OR

“Have you ever had an attack when all of a sudden, you became very uncomfortable, you either became short of breath, dizzy, nauseous or your heart pounded, or you thought that you might lose control, die or go crazy?”

These questions established the presence of **panic attacks**; that is, whether respondents had ever experienced a discrete period of intense fear or discomfort. Those who answered “yes” to one of them were then asked the more detailed questions in the panic disorder module about the symptoms they experienced during their attacks of fear or panic.

1. Heart pounding/racing

- “Did your heart pound or race?”

2. Shortness of breath

- “Were you short of breath?”

3. Nauseous/Abdominal distress

- “Did you feel nauseous or sick to your stomach?”

4. Dizzy, unsteady, light-headed or faint

- “Did you feel dizzy or faint?”
- “Were you afraid that you might pass out?”

5. Sweating

- “Did you sweat?”

6. Trembling/Shaking

- “Did you tremble or shake?”

7. Dry mouth

- “Did you have a dry mouth?”

8. Feeling of choking

- “Did you feel like you were choking?”

9. Chest pain/discomfort

- “Did you have pain or discomfort in your chest?”

10. Fear of losing control/going crazy

- “Were you afraid that you might lose control of yourself or go crazy?”

11. Derealization/Depersonalization

- “Did you feel that you were ‘not really there’, like you were watching a movie of yourself?”
- “Did you feel that things around you were not real or like a dream?”

12. Fear of dying

- “Were you afraid that you might die?”

13. Hot flushes/Chills

- “Did you have hot flushes or chills?”

14. Numbness/Tingling sensations

- “Did you feel numbness or have tingling sensations?”

Respondents who had at least four “yes” responses and four symptoms were then asked if the symptoms they identified began suddenly and reached their peak within 10 minutes after the attack(s) began. If they said “yes,” they were considered to meet the criteria for **lifetime panic attacks**.

Panic disorder, lifetime history

Respondents who were screened in and met the more detailed criteria for lifetime panic attacks were further assessed to determine if they met the following two criteria, establishing a **lifetime history of panic disorder**.

Criterion 1

To meet this criterion, a respondent must have had at least four recurrent and unexpected panic attacks. Respondents who had stated that their attacks began suddenly and peaked within 10 minutes (criterion 3

for panic attacks) were asked how many of these sudden attacks they had had in their “entire lifetime.” Those who had had at least four were then asked if they ever had “an attack that occurred unexpectedly, ‘out of the blue’.” If they said “yes,” they were asked about the number of such attacks.

Criterion 2

Respondents were asked a series of questions about worrying, behaviour changes, and physical associations related to attacks. Either 1A or 1B was required to meet this criterion for lifetime panic disorder.

1A

At least one “yes” response when asked if, after one of these attacks, “you ever had any of the following experiences”:

- “A *month or more* when you often worried that you might have another attack?”
- “A *month or more* when you worried that something terrible might happen because of the attacks, like having a car accident, having a heart attack, or losing control?”
- “A *month or more* when you changed your everyday activities because of the attacks?”
- “A *month or more* when you avoided certain situations because of fear about having another attack?”

1B

A “yes” response to: “In the *past 12 months*, did you get upset by any physical sensations that reminded you of your attacks?”

and

A response of “all of the time” or “most of the time” to: “In the *past 12 months*, how often did you avoid situations or activities that might cause these physical sensations?”

Panic disorder, current (past 12 months)

The following three criteria were used to assess ***current panic disorder***; that is, whether the respondent had had symptoms in the 12 months before the CCHS interview. All three had to be met for a respondent to be categorized as having panic disorder in the past year.

Criterion 1

The respondent had to meet the criteria for a lifetime history of panic disorder.

Criterion 2

Respondents who said they had had a sudden and unexpected panic attack that peaked within 10 minutes “at any time in the *past 12 months*”

or

who said their age at the time of their first or most recent panic attack was the same as their age at the time of the interview met this criterion.

Criterion 3

For this criterion, respondents were asked to think about an attack during the past 12 months and define the level of emotional distress they experienced. Responses of “moderate,” “severe” or “so severe that you were unable to concentrate and had to stop what you were doing” met this third criterion.

Social anxiety disorder

Screening questions:

Respondents were “screened in” to (or out of) the **social anxiety disorder** module of the CCHS based on their replies to the following five “yes”/“no” questions:

YES to: Question 1

“Was there ever a time in your life when you felt very afraid or *really, really* shy with people; for example, meeting new people, going to parties, going on a date or using a public bathroom?”

OR

Question 2

“Was there *ever* a time in your life when you felt very afraid or uncomfortable when you had to do something in front of a group of people, like giving a speech or speaking in class?”

AND

YES to: Question 3

“Was there *ever* a time in your life when you became *very upset or nervous* whenever you were in social situations or when you had to do something in front of a group?”

AND

YES to: Question 4

“Because of your fear, did you *ever* stay away from social situations or situations where you had to do something in front of a group whenever you could?”

OR

Question 5

“Do you think your fear was *ever* much stronger than it should have been?”

Respondents who answered “yes” to Questions 1 or 2 and then “yes” to 3 and “yes” to 4 or 5 were asked the questions in the **social anxiety disorder** section of the questionnaire. Otherwise, they were defined as having no history of social anxiety disorder.

Social anxiety disorder, lifetime history

Respondents who met the screening criteria and met all six of the following criteria were considered to have a **lifetime history of social anxiety disorder**.

Criterion 1, lifetime

Criteria 1A and 1B indicate a marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others. The respondent fears that he or she will act in a way (or show anxiety symptoms) that will be humiliating or embarrassing. In the CCHS, both 1A and 1B were required.

1A

At least one “yes” when respondents were asked if there was ever a time in their life when they felt “very shy, afraid or uncomfortable” with the following situations:

1. Meeting new people.
2. Talking to people in authority.
3. Speaking up in a meeting or class.
4. Going to parties or other social gatherings.
5. Performing or giving a talk in front of an audience.
6. Taking an important exam or interviewing for a job, even though you were well prepared.
7. Working while someone watches you.
8. Entering a room when others are already present.
9. Talking with people you don’t know very well.
10. Expressing disagreement to people you don’t know very well.
11. Writing, eating or drinking while someone watches.
12. Using a public bathroom or a bathroom away from home.
13. When going on a date.
14. In any *other* social or performance situation where you could be the centre of attention or where something *embarrassing* might happen.

1B

At least one “yes” response to the following:

1. “When you were in this/these situation(s), were you afraid you might do something *embarrassing or humiliating*?”
2. “Were you afraid that you might embarrass other people?”
3. “Were you afraid that people might *look* at you, *talk* about you or think negative things about you?”
4. “Were you afraid that you might be the focus of attention?”

Criterion 2, lifetime

A “yes” response to: “Was there ever a time in your life when you became *very upset or nervous* whenever you were in social situations or when you had to do something in front of a group?” (Screening Question 3.)

Criterion 3, lifetime

A “yes” response to: “Do you think your fear was ever much stronger than it should have been?” (Screening Question 5.)

Criterion 4, lifetime

At least one of the following requirements—4A, 4B, 4C, 4D or 4E must have been met:

4A

A “yes” response to: “Because of your fear, did you ever stay away from social situations or situations where you had to do something in front of a group whenever you could?” (Screening Question 4.)

4B

A response of “all of the time,” “most of the time” or “sometimes” to: “During the *past 12 months*, how often did you avoid any of these situations?”

4C

A “yes” response to at least two of the following reactions when faced with feared situations:

1. “Did your heart ever pound or race?”
2. “Did you sweat?”
3. “Did you tremble?”
4. “Did you feel sick to your stomach?”
5. “Did you have a dry mouth?”
6. “Did you have hot flushes or chills?”
7. “Did you feel numbness or have tingling sensations?”
8. “Did you have trouble breathing normally?”
9. “Did you feel like you were choking?”
10. “Did you have pain or discomfort in your chest?”
11. “Did you feel dizzy or faint?”
12. “Were you afraid that you might die?”
13. “Did you ever fear that you might lose control, go crazy or pass out?”
14. “Did you feel like you were “not really there,” like you were watching a movie of yourself or did you feel that things around you were not real or like a dream?”

4D

A response of “severe” or “very severe” to: “What if you were faced with *this/one of these situation(s) today*—how strong would your fear be?”

4E

A “yes” response to: “When you were in this/these situation(s), were you ever afraid that you might have a panic attack?”

Criterion 5, lifetime

This criterion stipulates that the fear or avoidance of social or performance situations must interfere significantly with the individual’s normal routine, occupational or academic functioning, or social activities or relationships. At least one of four conditions—5A, 5B, 5C or 5D—had to be true.

5A

Respondents who had experienced symptoms in the past 12 months were asked to indicate how much their fear or avoidance of situations had interfered with various activities. They were asked to think about the period of time over the last year that had lasted one *month or longer* when their fear or avoidance of social or performance situations was most severe. Responses were coded on an 11-point scale, with 0 meaning “no interference” and 10, “very severe interference.” A score of 5 or higher for at least one of these situations was required:

1. “How much did your fear or avoidance of social or performance situations interfere with your home responsibilities, like cleaning, shopping and taking care of the house or apartment?”
2. “How much did it interfere with your ability to attend school?”
3. “How much did it interfere with your ability to work at a job?”
4. “How much did this fear or avoidance interfere with your ability to form and maintain *close* relationships with other people?”
5. “How much did it interfere with your social life?”

5B

A response of “some,” “a lot” or “extremely” when respondents were asked how much their fear or avoidance of social or performance situations ever interfered with their work, social life or personal relationships.

5C

A response of five or more days when asked: “In the past 12 months, about how many days out of 365 were

you totally unable to work or carry out normal activities because of your fear or avoidance of situations?”

5D

A “yes” response to: “Did you ever in your life see, or talk on the telephone to, a medical doctor or other professional about your fear or avoidance of social or performance situations?”

Note: Respondents were told that “other professional” meant psychologist, psychiatrist, social worker, counsellor, spiritual advisor, homeopath, acupuncturist, self-help group or other health professionals.

Criterion 6

For people younger than 18 or for people whose symptoms all occurred before they were 18, symptoms must have persisted for at least six months. There is no minimum duration for respondents who experienced symptoms after age 18. Duration of symptoms was calculated by subtracting the age at which the respondent reported strongly fearing or avoiding social or performance situations for the first time from the age this last occurred (or current age for those who still had the disorder).

Social anxiety disorder, current (past 12 months)

Three criteria were used to assess **current social anxiety disorder**; that is, whether the respondent had had symptoms in the 12 months before the survey interview. All three had to be met for a respondent to be categorized as having social anxiety disorder in the past year.

Criterion 1, current

The respondent had to meet the criteria for a lifetime history of social anxiety disorder.

Criterion 2, current

Respondents who said that the last time they had strongly feared or avoided social or performance situations occurred in the 12 months before the survey interview. Respondents were also asked the ages at which they first and last had fear of or avoided a social or performance situation. If they reported their age at the time of the interview, this was also accepted as evidence of the disorder in the past year.

Criterion 3, current

The fear or avoidance of social or performance situations must have interfered significantly with the individual’s normal routine, occupational or academic

functioning, or social activities or relationships in the 12 months before the interview. (This criterion is quite similar to criterion 5 for lifetime and, in some cases, exactly the same conditions were used; i.e., the conditions involving items with a 12-month reference period.) At least one of the four conditions considered (3A, 3B, 3C or 3D) had to be true.

3A

(Identical to criterion 5A, lifetime.)

Respondents who had experienced symptoms in the past 12 months were asked to indicate how much their fear or avoidance of situations interfered with five separate activities. They were asked to think about the period of time over the last year that lasted *one month or longer* when their fear or avoidance of social and performance situations was most severe. Responses were coded on an 11-point scale, with 0 meaning “no interference,” and 10, “very severe interference.”

1. “How much did your fear or avoidance of social or performance situations interfere with your home responsibilities, like cleaning, shopping and taking care of the house or apartment?”
2. “How much did it interfere with your ability to attend school?”
3. “How much did it interfere with your ability to work at a job?”
4. “How much did this fear or avoidance interfere with your ability to form and maintain close relationships with other people?”
5. “How much did it interfere with your social life?”

A score of 5 or higher for at least one of these situations was required, indicating that symptoms of social anxiety disorder interfered with activities over the past 12 months.

3B

A response of “all of the time,” “most of the time” or “sometimes” when respondents were asked how often they avoided social or performance situations *in the past 12 months*.

3C

(Identical to criterion 5C, lifetime.)

A response of “five or more days” when asked: “In the past 12 months, about how many days out of 365 were you totally unable to work or carry out normal activities because of your fear or avoidance of situations?”

3D

A “yes” response to: “At any time in the *past 12 months*, did you receive professional treatment for your fear?”

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