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Eating-Disorder Symptoms and Syndromes in a Sample of Urban-Dwelling Canadian Women: Contributions Toward a Population Health Perspective

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Abstract

Objective—We estimated the prevalence of eating disorders and maladaptive eating behaviors in a population-based sample and examined the association of maladaptive eating with self-rated physical and mental health.

Method—A sample of 1,501 women (mean age = 31.2 years, SD = 6.2) were recruited using random-digit dialing to participate in a 20-min telephone interview about eating behaviors.

Results—Weighted frequency analysis showed the prevalence of frequent binge-eating to be 4.1%, that of regular purging to be 1.1%, and that of frequent compensation to be 8.7%. Although we found none of the women to meet full criteria for anorexia nervosa, 0.6% met criteria for bulimia nervosa, 3.8% provisional criteria for binge eating disorder, and 0.6% criteria for a newly proposed entity, purging disorder. As many as 14.9% fell into a residual category representing subthreshold, but potentially problematic variants of eating disturbances. Logistic regression analyses showed that clinical-level maladaptive eating attitudes and behaviors predicted self-rated physical- and mental-health problems after sociodemographic factors were controlled.

Discussion—This population-based survey provides prevalence estimates of BN, BED, and purging disorder that are compatible with those of recent epidemiological studies and shows that maladaptive eating attitudes and behaviors represent a substantial population burden.

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Keywords

eating disorders; bulimia nervosa; binge-eating disorder; prevalence studies

Introduction

Anorexia nervosa (AN), bulimia nervosa (BN), and related eating disorders (EDs) described in the Diagnostic and Statistical Manual, Fourth Edition, Revised¹ are complex syndromes, characterized by intense preoccupations with eating, weight and body-image, abnormal and often-dangerous eating behaviors (e.g., massive food intake, systematic food refusal, or recurrent vomiting, laxative or diuretic abuse), and serious concurrent psychiatric symptoms (e.g., depression, anxiety problems, parasuicidality, substance abuse, etc.). The DSM-IV TR classification subdivides AN into restricting and binge-purge subtypes and BN into purging and nonpurging subtypes.

Across diverse geographical regions, strictly defined AN is estimated to afflict from 0.5 to 1.0% of young (school-aged) females.^{2–4} Age cohort effects suggest that the syndrome reaches peak prevalence in women in the late 20s, but then becomes less common in older samples.⁵ Point prevalence estimates obtained for BN in young-adult females range between 1 and 2%.^{4,6–8} “Sub-threshold” ED variants, diagnosed as EDNOS, are thought to occur in substantial numbers.^{4,6,7,9} Absence of accepted criteria impedes development of meaningful prevalence estimates, but it is realistic to assume that 10 to 15% of females suffer a significant eating disturbance that may be classifiable in this fashion. Fairly formal (albeit provisional) diagnostic criteria do exist, however, for one proposed EDNOS variant, binge eating disorder (BED), defined by recurrent binge episodes in the absence of compensatory behaviors. Community surveys based on samples including people of both sexes suggest that point prevalence estimates for BED range from 2 to 5%.^{10–14} Another proposed EDNOS variant, purging disorder (PD), defined by recurrent purging without binge-eating in normal-weight individuals, shows some syndromic distinctiveness.¹⁵ Prevalence of PD is not well-established, but the syndrome has been thought to afflict from 1.1 to 5.3% of young-adult women in their lifetimes.¹⁶ Finally, given the observation by Hay et al.¹⁷ that there has been a statistically significant twofold increase in the point prevalence of binge eating, purging, and strict dieting or fasting, there is evidence of secular trends in the prevalence of eating disorders. These findings suggest the need for ongoing population surveillance of prevalence of both maladaptive eating behaviors and eating disorders.

Findings from available studies are limited in several ways. Prevalence estimates are often based on samples of teenaged females—with fewer studies addressing adult women.¹⁸ Second, many studies have used samples of convenience rather than ones that are truly representative of the population.¹⁹ Third, past investigations have often applied a two-stage screening approach wherein a large number of women are asked to respond to a screening questionnaire, and then those with selected characteristics participate in a face-to-face interview to examine the extent to which they meet diagnostic criteria for an eating disorder. The two-stage strategy is based on the assumption that screening tests have adequate sensitivity and specificity, an assumption which is not always upheld in some community

surveys where positive predictive values only reach about 50%. Furthermore, although the two-stage approach results in the collection of rich information on eating-disorder symptomatology in a small subsample—providing much needed information for medical and psychotherapeutic intervention—the approach gathers little information about the association of symptoms and syndromes with various exposure variables and overall health status. Availability of such information is of interest, as it would allow for further assessment of the societal burden of maladaptive eating behaviors and clinical eating syndromes.

The present study estimated the prevalence of threshold and subthreshold eating disorders using a single-stage telephone interview, an accepted and well-validated diagnostic tool, and recruitment from a large population-based sample of women aged 20 to 40 years. In addition, we estimated the direction and magnitude of associations between maladaptive eating and self-rated physical and self-rated mental health. The latter analyses were designed to clarify the population burden of maladaptive eating.

Method

Recruitment of Sample

A sample of women residing in Montreal, Quebec, Canada was recruited between November 2002 and May 2003 using random-digit dialing procedures conducted by a recognized polling firm. Montreal is the second largest urban center in Canada with 1,812,723 inhabitants and 3,507,400 inhabitants in the overall Census metropolitan area according to the 2001 Canadian census. At about \$52,100 per annum (Canadian dollars), the average family income in Montreal is slightly below the national average. Women were invited to participate in a 20-min telephone interview about several lifestyle habits, including eating behaviors, selected residential neighborhood characteristics (not reported here), and overall health status by a trained female interviewer. The study was approved by the Human Research Ethics Board of the Faculty of Medicine of the Université de Montréal.

Measures

Maladaptive Eating Attitudes and Behaviors—Participants responded to an adapted Eating Disorders Examination questionnaire,¹⁹ derived from the Eating Disorders Examination (EDE) interview.²⁰ The EDE is an “industry standard” interview assessing anorexic and bulimic symptoms, with solid discriminant validity and internal consistency (Cronbach’s alpha ranging from 0.67 to 0.90). Derived from the EDE, the EDE-Q uses 38 forced choice self-report questions to generate a global score and four subscale scores (dietary restraint, eating concerns, weight concerns, shape concerns) with internal consistency of .88 to .93, and test-retest reliability of $r = .81-.94$.²¹ Available validity indices for the EDE-Q are very good,^{21,22} and good correspondence between EDE and EDE-Q indices is reported.²³ A telephone-based EDE-Q evaluation has been successfully utilized in previous epidemiological studies.^{23,24} Through the application of algorithms corresponding to various DSM-IV eating disorder diagnostic criteria, EDE-Q data can be used to establish likely presence of a clinical ED diagnosis. The recall period for eating behaviors in our telephone interview was limited to the previous 28 days.

Based on responses to the EDE telephone interview, we identified participants who met individual ED diagnostic criteria and then, working up from these, full criteria for a syndromic ED diagnoses. The “symptom” criteria explored included (1) *clinical-level binge eating*: women indicating that they had (a) binged 6 days or more in the previous month; or (b) had at least 8 binge episodes in the previous month. (2) *Subclinical-level binge eating*: women indicating that they had (a) binged between 1 and 5 days in the previous month; or (b) had between 1 and 7 binge episodes in the previous month. (3) *Clinical-level purging*: women reporting at least 8 episodes, either alone or in combination, of vomiting, laxative use, or diuretic use in the previous month were categorized as purging at clinical levels. (4) *Subclinical-level purging*: women reporting between 1 and 7 episodes of vomiting, laxative use, or diuretic use (either alone or in combination) in the previous month were categorized as purging at subclinical levels. (5) *Clinical level compensation*: women reporting (a) at least 8 episodes of exercising hard to influence their weight or shape in the previous month; or (b) restricting their food intake on at least 13 days to influence their weight or shape in the previous month. (6) *Subclinical compensation*: women reporting between (a) 1 and 7 episodes of exercising hard to influence their weight or shape in the previous month; or (b) 1 and 12 days of restricted food intake to influence their weight or shape in the previous month. (7) *Clinical level of undue influence of weight or shape on self*: women indicating that their self-image had been markedly influenced in the previous month by either their weight or shape. (8) *Subclinical level of undue influence of weight or shape on self*: women indicating that their self-image had been at all influenced in the previous month by their weight or shape. (9) *Clinical levels of fear of weight gain*: women who indicated that on at least 13 days in the previous month they had experienced excessive fear of gaining weight. (10) *Weight status*: whether or not the participant’s body mass index was smaller than or equal to 20.0 kg/m². (11) *Menstrual status*: whether or not the participant had had at least one menstrual period in the previous 3 months in the absence of pregnancy.

As for “syndromes,” we identified the following: (1) *Anorexia nervosa (binge-purge subtype)*: (a) BMI lower than or equal to 20.0; (b) definite fear of gaining weight or becoming fat on at least 13 days in previous 28 days; (c) no menstrual period in previous 3 months but not pregnant; (d) bingeing at clinical levels; (e) purging at least at subclinical levels. (2) *Anorexia nervosa (restricting subtype)*: (a) BMI lower than or equal to 20.0, (b) clinical-range fear of gaining weight or becoming fat (c) no menstrual period in previous 3 months when not pregnant; (d) absence of bingeing or bingeing at subclinical levels; (e) absence of purging; (f) compensation at subclinical or clinical levels. (3) *Bulimia nervosa (purging subtype)*: (a) bingeing at clinical levels; (b) purging at subclinical or clinical levels; (c) clinical levels of undue influence on self-image of shape or weight; (d) no concurrent AN. (4) *Bulimia nervosa (nonpurge subtype)*: (a) bingeing at clinical levels; (b) absence of purging; (c) compensation at subclinical or clinical levels; (d) clinical levels of undue influence on self-image of shape or weight; (f) no concurrent AN or BN purging-subtype. For BED we used the following criteria: (a) bingeing at clinical levels, (b) no concurrent AN or BN. Finally, we created an eating disorder not otherwise specified category using the following criteria: (a) either bingeing or purging at subclinical levels; (b) no concurrent AN, BN, or BED.

Self-Perceptions of Physical/Mental Health—Self-perceptions were assessed with the following question: “In general, would you say that your physical health is excellent, very good, good, average, or bad.” A parallel question addressed mental health. These questions are used extensively in population-based research as global indicators of physical and mental health that show strong concurrent validity with other measures of physical or mental status.^{25,26} Given the distribution of scores, participants were categorized as reporting either excellent, very good, or good health vs. reporting average, or bad physical health and mental health.

Sociodemographic Characteristics and Weight Status—Women were asked about their age (i.e., recategorized into 20 to 29 vs. 30 to 40 years old), marital status (i.e., living with a partner, single, divorced, widowed), education (i.e., having completed less than high school, high school, trade school or college, university), their employment status (i.e., full-time worker, part-time, unemployed, at-home, student), their average annual family income (i.e., less than \$20,000, \$20,000, to \$39,999, \$40,000 to \$59,999, \$60,000 to \$79,999 or \$80,000 and over per annum), language spoken at home (French, English vs. other), and country where one was born (i.e., Canada vs. elsewhere). Women also reported their height and weight, from which body mass index (weight in kg divided by the squared value of height in meters) was estimated.

Procedures

Before data collection, all polling firm interviewers were trained by the investigative team. All interviewers were female. The training included an explanation of the purposes of the study and a detailed examination of every question. The telephone interview unfolded in the following manner. When a person answered the telephone, the interviewer asked to speak to a woman aged 20 to 40 years. Once a female respondent in that age group was identified, she was informed about the purposes of the study and informed consent was obtained. In addition, there was a verification of the postal code and whether this had been the person's residence for at least 12 months. If the person was available, then the interview continued. If she was not available, then an alternate, more convenient time was scheduled. The survey then unfolded. People identified as meeting eating-disorder criteria were informed that their responses corresponded to answers provided by individuals with an eating-disorder profile and were provided information about community eating-disorder resources. Calls were monitored for adherence to protocol by members of the investigative team throughout data collection. All data were collected between November 2002 and March 2003.

Data Analytic Strategy

We computed a series of descriptive statistics regarding the sample using the SPSS version 14.0 software program. Prevalence estimates of maladaptive attitudes and behaviors and ED diagnoses were estimated using weighted frequency analysis and subsequent computation of 95% confidence intervals. Weights were created as follows: based on census data available from Statistics Canada, we established how many women aged 20 to 40 years resided within the territory delimited by the first three digits of the postal code (referred to as forward sortation areas). The polling firm also developed response rates for each forward sortation area. Then, using response rates and differential distribution in that area, we created a

sampling weight. Through use of the weight, we estimated both the proportion (and 95% confidence intervals) of women and the number of women on the Island of Montreal in the target population (estimated to be about 260,000 women) that were estimated to evince maladaptive attitudes and behaviors or eating disorders.

To estimate the direction and magnitude of associations between self-rated physical and mental health, on the one hand, and maladaptive eating behaviors or eating disorders, on the other, we conducted logistic regression analyses. We predicted dichotomized self-rated physical and mental health status (bad or average vs. good, very good, or excellent) using maladaptive attitudes and behaviors first without controls (i.e., bivariate analysis) and then controlling for sociodemographics characteristics (marital status, country of birth, education attainment, family income, and employment status). A separate analysis was performed for each maladaptive attitude, behavior, or syndrome that had an estimated prevalence above 3% to insure sufficient power for estimation of associations.

Results

From a list of 21,032 telephone numbers, 13,046 (62.02%) were found either to be nonresidential or to include dwellers who did not meet eligibility requirements. Calls to the first 3,697 of the remaining 7,986 telephone numbers resulted in 1,501 respondents (40.6%) participating in the interview. This response rate is commensurate with responses rates observed in telephone surveys which range between 22 and 44%.^{27,28} A subsample of 117 (7.8%) women reported being pregnant and another two did not report gestational status. These 119 women were deleted from further analyses. After listwise deletion due to incomplete or missing responses regarding eating attitudes and behaviors data from 1,310 (94.8% of 1,382) participants were analyzed for prevalence.

Sample characteristics are shown in Table 1. As can be seen, the sample was composed about equally of women in their 20s and 30s. A large proportion was Canadian-born, married, nonsmoking, and with college or university education. Participants were about evenly distributed across income brackets. About 90% of participants reported being in excellent/very good/good physical health and mental health.

Weighted frequency analysis (see Table 2) shows that the prevalence of bingeing at clinical levels was 4.1% (95%CI: 4.0, 4.2), a number representing about 11,000 women living in the area of study, namely the Island of Montreal. Purging at clinical levels occurred in a smaller proportion of women (1.1%, 95%CI: 1.06, 1.14), whereas compensation occurred in 18.2% (95%CI: 18.1, 18.3) of the sample and weight or shape unduly influenced evaluations of the self in about 7.2% (95%CI: 7.1, 7.3) of participants. No cases of anorexia nervosa were observed. However, 0.2% (95%CI: 0.18, 0.22) of the sample met criteria for BN, purge subtype and 0.4% (95%CI: 0.38, 0.42) for BN, nonpurge subtype. Another 3.8% (95%CI: 3.7, 3.9) of the sample met criteria for BED, 14.9% (95%CI: 14.8, 15.0) for a global EDNOS category (that excluded BED), and 0.6% (95%CI: 0.57, 0.63) for purging disorder.

Results of logistic regression analyses (see Table 3) showed both “maladaptive eating” and “eating disorders” to be associated with poorer self-rated physical and mental health in

unadjusted models and in models adjusted for sociodemographic characteristics. The magnitude of the associations were moderate for self-rated physical health (ranging from 1.99 for undue influence of weight or shape to 3.75 for bingeing) and were also moderate to large for self-rated mental health (ranging from 2.58 for fear of weight gain to 5.06 and 5.07 for bingeing and subclinical compensation).

Discussion

The goal of this article was to estimate the prevalence of eating disorders and maladaptive eating behaviors using a single-stage telephone interview and a largely accepted diagnostic tool in a large population-based sample of women aged 20 to 40 years. A secondary goal was to estimate the population burden of maladaptive eating and eating disorders by examining their association with self-rated physical- and mental-health problems. Data from this population-based survey showed prevalence estimates of bulimia-spectrum disorders (BN, BED, and the provisional diagnosis, PD) to be very comparable to those obtained in similar studies from various geographical areas. Specifically, the point prevalence of BN obtained here (0.6%) coincides closely with values reported in recent epidemiological estimates.^{4,19} However this value is lower than that reported by Garfinkel et al. over 10 years ago⁷ (1.1%) when examining lifetime (rather than point prevalence) BN. The point prevalence for BED (3.8%) is almost identical to that reported in a recent US population survey for BED.⁵ Likewise, we obtain a prevalence estimate for the so-called PD (0.6%) that is comparable to that reported elsewhere in the literature.¹⁶ Treating BN, BED, and PD as formal eating syndromes, these results indicate that a sizable proportion of adult women (in the range of 5%) may display fully syndromic eating disorders. Of course, based on prevalence estimates provided by other surveys in an adult population, our failure to identify any cases of AN is unexpected, but not altogether inconsistent with previous community surveys that have indicated either absence or scarcity of cases of AN.^{3,4,8} In addition, our finding can perhaps be explained as a combination of the likelihood that prevalence of this syndrome drops off in the 20 to 40-year-old age group, and that some sampling error, especially for detection of a low-frequency entity, may have occurred in a sample of the size applied here. Alternatively, it is possible that true cases of AN may be hidden within the EDNOS syndromes (or subthreshold symptoms) we isolated, many of which suggest marked fears of weight gain or excessive dietary restraint.

Our findings suggest that subthreshold variants of EDs, which we have classified here into a single EDNOS category, affect a disturbingly large number of individuals. Although it remains necessary to establish the health impact of such subthreshold eating disturbances, available data on this question have tended to suggest that EDNOS variants have consequences that compare to those of their full-blown, clinical ED counterparts.^{29–31} Such findings suggest that eating disorders, as well as maladaptive eating behaviors and attitudes, represent a significant population health issue.

Related to the preceding point, our findings also suggest that maladaptive eating attitudes and behaviors predicted were consistently associated with self-rated physical and mental health (above and beyond sociodemographic variables known to be associated with such health ratings). This aspect of our findings suggests that maladaptive eating represents an

important determinant of population health. Further research into the societal and material conditions that are associated with maladaptive eating in population-based samples thus seems to be warranted, and promises to inform population-based intervention strategies.

Limitations

The present findings need to be interpreted in light of several limitations. First, practical concerns (surrounding interview brevity) led us to use an interview protocol that was not fully standardized—with the result that misclassification error is possible. However, it should be noted that the interview protocol represented only a minor variation upon the EDE-Q, which has been found to be a valid and reliable method of ascertaining eating disturbances in large samples. We are thus encouraged to believe that misclassification of clinical cases is minimal, and that prevalence estimates are valid. Second, although criteria employed to assess clinical symptoms were derived from DSM-IV TR, symptoms were assessed over a 28-day rather than 3-month recall period. A possible consequence could be misclassification (and in particular overestimation) of the prevalence of eating disorder syndromes. Future investigations examining risk of such misclassifications (given a 28-day probe) are necessary. Nonetheless, we note that relative to rates obtained in other recent studies, our study seems not to have produced overestimates. Third, response rates to the telephone survey were somewhat low. We note, however, that rates obtained were typical of other telephone surveys, which have proven not to be unduly biased if appropriate weightings (as were used in the current investigation) are applied.^{28,29}

Conclusion

The current effort shows that it is possible to administer a well-known diagnostic tool to a large sample of women over the telephone. Demonstration that it is feasible to use a “gold-standard” questionnaire for the assessment of eating disorders in the context of a large-scale population survey opens various potentials: It becomes possible to conduct systematic searches for exposure to environmental stimuli that might transform latent individual vulnerabilities into eating disorders and symptoms.^{32,33} For example, careful epidemiological surveys that systematically assess eating disorders and symptoms as a function of exposure to specific environmental risks may be helpful in further specifying the etiology of eating disorders and understanding their distribution in the population. In addition, as noted by other authors,³⁴ our data suggest that a substantial proportion of the population displays maladaptive eating patterns. Further research on the resources required to address this important public health issue is warranted to estimate the burden of such patterns of behavior and their physical and mental health consequences.

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TABLE 1

Characteristics of the final 1,310 participants

Variable	Levels	Proportion (%)	Ns
Age (years)	Between 20 and 29.9	41.8	547
	Over 30	57.3	750
	Not reported	1.0	13
Body mass index (kg/m ²)	Below 20	14.2	186
	Between 20 and 25	55.5	727
	Between 25.1 and 29.9	19.5	255
	Above 30	8.5	112
	Not reported	2.3	30
Immigrant status	Born in Canada	73.1	957
	Born elsewhere	21.6	284
	Not reported	5.3	69
Language spoken in home	French	69.2	906
	English	18.8	246
	Other	12.0	157
	Not reported	0.1	1
Living arrangements	Married or common law	57.2	749
	Divorced	2.1	27
	Separated	2.4	32
	Single	38.2	501
	Not reported	0.1	1
Educational achievement	Less than high school	0.5	7
	High school	19.0	249
	Trade school or college	29.9	392
	University	50.2	657
	Not reported	0.4	5
Employment	Full-time employed	57.7	756
	Part-time employed	11.8	154
	Unemployed	4.4	57
	At-home	9.0	118
	Student	16.8	220
	Not reported	0.4	5
Average family income	Less than 20 K	11.4	149
	Between 20 and 39.9 K	24.7	323
	Between 40 and 59.9 K	21.8	285
	Between 60 and 79.9 K	12.0	157
	Above 80 K	17.8	233
	Not reported	12.4	163
Physical health	Excellent/very good/good	89.2	1169
	Average/poor	10.8	141

Variable	Levels	Proportion (%)	Ns
Mental health	Excellent/very good/good	94.4	1236
	Average/poor	5.6	74

TABLE 2

Observed proportions, observed frequencies [95% confidence intervals (CI)], weighted prevalence estimates (95% CIs), and estimated number of women on the Island of Montreal affected by various eating disorder symptoms and syndromes

Eating Disorder Condition or Symptom	Indicator	Observed Proportion (95% CI)	Observed Number of Cases	Weighted Prevalence Estimate (95% CI)	Estimated Number of Women in Population of the Island of Montreal
Disordered eating symptoms and attitudes					
Excessive fear of weight gain	Yes	9.3 (7.7, 10.9)	122	9.3 (9.2, 9.4)	24,000
	No	90.7 (89.1, 92.3)	1,188	90.7 (90.6, 90.8)	236,000
BMI below 20	Yes	14.7 (12.8, 16.6)	203	15.0 (14.9, 15.1)	41,000
	No	85.3 (83.4, 87.2)	1,107	85.0 (84.9, 85.1)	219,000
Binging	None	82.4 (80.3, 84.5)	1,080	81.8 (81.7, 82.0)	213,000
	Subclinical	13.7 (11.8, 15.6)	179	13.8 (13.7, 13.9)	36,000
	Clinical	3.9 (2.9, 5.0)	51	4.1 (4.0, 4.2)	11,000
Purging	None	96.9 (96.0, 97.8)	1,269	96.7 (96.6, 96.8)	251,000
	Subclinical	2.1 (1.3, 2.9)	27	2.2 (2.14, 2.26)	6,000
	Clinical	1.1 (0.5, 1.7)	14	1.1 (1.06, 1.14)	3,000
Compensation	None	82.4 (80.3, 84.5)	1,080	81.8 (81.6, 82.0)	213,000
	Subclinical	9.1 (7.5, 10.7)	119	9.5 (9.4, 9.6)	25,000
	Clinical	8.5 (7.0, 10.0)		8.7 (8.6, 8.8)	23,000
Undue influence on self of	None	33.5 (30.9, 36.1)	439	33.7 (33.5, 33.9)	88,000
	Subclinical	59.5 (56.8, 62.2)	780	59.0 (58.8, 59.2)	153,000
	Clinical	6.9 (5.5, 8.3)	91	7.2 (7.1, 7.3)	19,000
Eating disorders					
AN-Binge-purge subtype	Yes	<0.1	0	<0.1	<500
	No	≈ 99.9	1,310	≈ 99.9	≈ 259,500
AN-Restricting subtype	Yes	<0.1	0	<0.1	<500
	No	≈ 99.9	1,310	≈ 99.9	≈ 259,500
BN-Purge subtype	Yes	0.2 (0.0, 0.4)	2	0.2 (0.18, 0.22)	<1,000
	No	≈ 99.9 (99.6, 100)	1,310	≈ 99.9 (99.89, 99.99)	≈ 259,500
BN-Non purge subtype	Yes	0.4 (0.06, 0.7)	5	0.4 (0.38, 0.42)	≈ 1,000
	No	99.6 (99.3, 99.9)	1,305	99.6 (99.58, 99.62)	≈ 259,000

Eating Disorder Condition or Symptom	Indicator	Observed Proportion (95% CI)	Observed Number of Cases	Weighted Prevalence Estimate (95% CI)	Estimated Number of Women in Population of the Island of Montreal
Binge eating disorder	Yes	3.4 (2.4, 4.4)	44	3.8 (3.7, 3.9)	10,000
	No	96.6 (95.6, 97.6)	1,266	96.2 (96.1, 96.3)	250,000
EDNOS—eating disorder not otherwise specified	Yes	14.6 (12.7, 16.5)	191	14.9 (14.8, 15.0)	39,000
	No	85.4 (83.5, 87.3)	1,119	85.1 (85.0, 85.2)	221,000
Purging disorder	Yes	0.5 (0.1, 0.9)	6	0.6 (0.57, 0.63)	≈ 1,000
	No	99.5 (99.1, 99.9)	1304	99.4 (99.3, 99.5)	≈ 259,000
Eating disorder of any kind	Yes	18.9 (16.8, 21.0)	248	19.8 (19.7, 20.0)	51,000
	No	81.1 (79.0, 83.2)	1,062	80.2 (80.1, 80.3)	209,000

TABLE 3
Results of unadjusted and adjusted logistic regression models predicting self-rated physical health ($n = 1,232$) and self-rated mental health ($n = 1,230$) from maladaptive attitudes and eating in a sample of urban-dwelling Canadian women aged 20 to 40 years

	Self-Rated Physical Health ($n = 1,232$)				Self-Rated Mental Health ($n = 1,230$)			
	Bivariate ^a		Control for Sociodemographic ^b		Bivariate ^a		Control for Sociodemographic ^b	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Excessive fear of weight gain								
Absent	1.00	—	1.00	—	1.00	—	1.00	—
Present	2.24 [*]	1.35–3.71	1.86 ^{**}	1.10–3.14	2.58 [*]	1.36–4.90	2.13 ^{**}	1.09–4.14
Binging								
None	1.00	—	1.00	—	1.00	—	1.00	—
Subclinical	2.06 [*]	1.30–3.27	1.97 [*]	1.23–3.15	3.44 [*]	1.95–6.07	3.78 ^{***}	1.89–6.04
Clinic	3.75 ^{***}	1.92–7.34	3.36 [*]	1.68–6.73	5.06 ^{***}	2.19–11.40	4.04 ^{***}	1.73–9.45
Purging								
None	1.00	—	1.00	—	1.00	—	1.00	—
Subclinical	2.32 [†]	.85–6.30	2.29	.82–6.42	.78	.10–5.86	.69	.09–5.32
Clinic	2.40	.66–8.71	2.06	.55–7.76	2.99	.65–13.63	2.27	.47–11.10
Compensation								
None	1.00	—	1.00	—	1.00	—	1.00	—
Subclinical	2.34 [*]	1.37–3.97	2.09 [*]	1.22–3.60	5.07 ^{***}	2.78–9.24	4.34 ^{***}	2.35–8.02
Clinic	2.48 ^{***}	1.47–4.19	2.45 ^{***}	1.43–4.19	2.59 [*]	1.25–5.35	2.67 [*]	1.27–5.61
Self unduly influenced by weight								
None	1.00	—	1.00	—	1.00	—	1.00	—
Subclinical	1.34	.88–2.03	1.31	.85–2.60	1.15	.65–2.05	1.12	.62–2.02
Clinic	1.99 ^{**}	1.00–3.95	1.97 [†]	.98–3.96	3.37 [*]	1.53–7.45	3.04 [*]	1.35–6.83
Binge eating disorder								
Absent	1.00	—	1.00	—	1.00	—	1.00	—
Present	3.51 ^{***}	1.76–7.03	3.03 [*]	1.48–6.22	3.72 [*]	1.59–8.71	2.97 ^{**}	1.23–7.15
Eating disorder not otherwise specified								

Self-Rated Physical Health (<i>n</i> = 1,232)				Self-Rated Mental Health (<i>n</i> = 1,230)			
Bivariate ^a		Control for Sociodemographic ^b		Bivariate ^a		Control for Sociodemographic ^b	
OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Absent	1.00	—	1.00	1.00	—	1.00	—
Present	1.92 *	1.23–2.99	1.84 *	2.75 ***	1.58–4.77	2.68 ***	1.52–4.70
Some Eating Disorder or Syndrome							
Absent	1.00	—	1.00	1.00	—	1.00	—
Present	2.56 ***	1.73–3.79	2.42 ***	3.43 ***	2.06–5.71	3.17 ***	1.88–5.34

^aUnadjusted models include only variables operationalizing maladaptive attitudes and eating as main exposure variables.

^bAdjusted models include variables operationalizing maladaptive attitudes and eating as main exposure variables and control for: marital status (ref: married or common law vs. others), country of origin (ref: born in Canada vs. born elsewhere), education attainment (ref: more than high school vs. less than high school education), family income (ref: above \$80K vs. between \$20K and \$80K, below \$20K, and missing), employment status (ref: full-time or part-time employed vs. homemaker, unemployed, or student).

* *p* .01.
** *p* .05.
*** *p* .001.
† *p* .10.