

**Appendix Table 1. Operationalization in the CIDI of criteria for DSM-IV eating disorders and related entities**

Criteria*	Operationalization from CIDI <sup>1</sup>
<i>Anorexia Nervosa</i>	
<p>A. A refusal to maintain body weight at or above a minimally normal weight for age and height (e.g. weight loss leading to a maintenance of body weight less than 85% of that expected; or failure to make expected weight gain during period of growth, leading to body weight less than 85% of that expected).</p>	<p>Yes on EA1. Was there ever a time in your life when you had a great deal of concern about or strongly feared being too fat or overweight? AND Lowest body weight less than 85% of ideal body weight (by Metropolitan Life tables, mid-point of medium frame) as determined by the following two questions: EA2. What was the lowest body weight you ever purposefully had after the age of twelve? EA3. How tall were you at that time?</p>
<p>B. Intense fear of gaining weight or becoming fat, even though underweight.</p>	<p>Yes on EA6. At the time you weighed (WEIGHT REPORTED IN EA2) were you very afraid that you might gain weight?</p>
<p>C. Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or denial of the seriousness of the current low body weight.</p>	<p>Yes on at least one of the following 4 questions: EA10. Did you feel like you were heavier than you should have been or heavier than you wanted to be? EA10b. Did you think that some parts of your body were too fat? EA10c. Did you feel like your self-esteem or confidence depended on your ability to stay thin or to lose even more weight? EA10d. Did anyone tell you that your low weight was bad for your health?</p>
<p>D. In postmenarchal females, amenorrhea, i.e., the absence of at least three consecutive menstrual cycles. (A woman is considered to have amenorrhea if her periods occur only following hormone, e.g., estrogen, administration.)</p>	<p>For females, Yes on EA9. Around the time you weighed (WEIGHT REPORTED IN EA2 [above]) did you ever have <u>three months</u> or more in a row when you stopped having your menstrual periods?</p>
<i>Bulimia Nervosa</i>	
<p>A. Recurrent episodes of binge eating. An episode of binge eating is characterized by both of the following: (1) eating, in a discrete period of time</p>	<p>Yes on EA16. The next question is about "eating binges" where a person eats a large amount of food during a short period like two hours. By "a large amount" I mean eating so much food that it would be like eating two or more entire meals in one sitting, or eating so much of one particular food – like candy or ice cream—that it would make most people feel sick. With that definition in mind, did you</p>

(e.g., within any 2-hour period), an amount of food that is definitely larger than most people would eat during a similar period of time and under similar circumstances

A (2) a sense of lack of control over eating during the episode (e.g. a feeling that one cannot stop eating or control what or how much one is eating)

B. Recurrent inappropriate compensatory behavior in order to prevent weight gain, such as self-induced vomiting; misuse of laxatives, diuretics, enemas or other medications; fasting; or excessive exercise.

C. The binge eating and inappropriate compensatory behaviors both occur, on average, at least twice a week for 3 months.

D. Self-evaluation is unduly influenced by body shape and weight.

E. The disturbance does not occur exclusively during episodes of Anorexia Nervosa.

ever have a time in your life when you went on eating binges (READ SLOWLY) at least twice a week for several months or longer?

Yes on at least one of the following four questions indicative of loss of control

EA17h. Did you often get upset both during and after binges that your eating was out of your control?

EA17a. Did you usually eat until you felt uncomfortably full?

EA17b. Did you usually continue to eat even when you didn't feel hungry?

EA17c. Did you usually eat alone because you were embarrassed by how much you ate?

Yes on at least one of the following:<sup>2</sup>

EA23a. Did you ever do any of the following things regularly after bingeing in order to control your weight:

Did you fast by not eating at all or only taking liquids for 8 hours or longer?

EA23b. Did you take water pills, diuretics, or weight-control medicines?

EA23c. Did you make yourself vomit?

EA23d. Did you take laxatives or enemas?

EA23e. Did you exercise excessively?

Yes on EA25, assessing compensatory regularity of compensatory behaviors. You (KEY PHRASES FROM "YES" RESPONSES EA23 SERIES<sup>3</sup> [above]). Did you ever do (this/ either of these things/ any of these things) at least two times a week for three months or longer?

Yes on at least one of the following:

EA17e. Around the time you were binge eating, were you very afraid that you would gain weight?

EA17f. Did you feel like your self-esteem and confidence depended on your weight or body shape?

EA1. Was there ever a time in your life when you had a great deal of concern about or strongly feared being too fat or overweight?

In cases that met criteria for anorexia nervosa, as defined above, there was evidence that bulimia nervosa was present at times when anorexia nervosa was absent, as evidenced by:

1. Onset of compensatory behaviors, twice weekly or more associated with binge eating, at least one year prior to onset of anorexia nervosa

2. Most recent compensatory activities twice weekly or more associated with binge eating, at least one year after most recent episode of anorexia nervosa, or

3. total duration of regular compensatory behaviors associated with binge eating that was at least one year longer than the period encompassed by anorexia nervosa.

*Binge Eating Disorder*

A. Same as criterion A for bulimia nervosa (see above)

Same as that corresponding to criterion A for bulimia nervosa (see above)

B. Binge eating episodes are associated with three or more of the following:

Yes on at least three of the following five questions:

(1) Eating much more rapidly than normal

EA17. During the binges did you usually eat much more quickly than usual?

(2) Eating until feeling uncomfortably full

EA17a. Did you usually eat until you felt uncomfortably full?

(3) Eating large amounts of food when not physically hungry

EA17b. Did you usually continue to eat even when you didn't feel hungry?

(4) Eating alone because of being embarrassed by how much one is eating

EA17c. Did you usually eat alone because you were embarrassed by how much you ate?

(5) Feeling disgusted with oneself, depressed, or very guilty after overeating

EA17d. Did you feel guilty, very upset with yourself, or depressed after you binged?

C. Marked distress regarding binge eating is present

Yes on at least one of the following four questions indicative of distress:

EA17d. Did you feel guilty, very upset with yourself, or depressed after you binged?

EA17e. Around the time you were binge eating, were you very afraid that you would gain weight?

EA17g. Did you worry about the long term effects of bingeing on your health, on your weight, or on your body shape?

EA17h. Did you often get upset both during and after binges that your eating was out of your control?

D. Binge eating occurs, on average, at least 2 days a week for six months

Acknowledging that binge eating occurred at least two times a week for at least three months, as reflected by providing of age of onset in EA19a or EA19b.<sup>3</sup>

E. The binge eating is not associated with the regular use of inappropriate compensatory behavior (i.e. purging, excessive exercise, etc.) and does not occur exclusively during the course of bulimia nervosa or anorexia nervosa.

In cases that met criteria for anorexia nervosa or bulimia nervosa, as defined above, there was evidence that binge eating was present at times when anorexia nervosa and bulimia nervosa were absent, as evidenced by:

1. Onset of binge eating twice weekly or more at least one year prior to onset of anorexia nervosa or bulimia nervosa;

2. Most recent binge eating twice weekly or more at least one year after most recent episode of anorexia nervosa or bulimia nervosa; or

3. Total duration of binge eating twice weekly or more that was at least one year longer than the period

encompassed by anorexia nervosa or bulimia nervosa.

*Subthreshold Binge Eating Disorder*

A. Same as criterion A for bulimia nervosa (see above)

Same as that corresponding to criterion A for bulimia nervosa (see above)

B. Binge eating occurs at least two times a week for at least three months

Acknowledging that binge eating occurred at least two times a week for at least three months, as reflected by providing of age of onset in EA19a or EA19b.

C. The binge eating is not associated with the regular use of inappropriate compensatory behavior (i.e. purging, excessive exercise, etc.) and does not occur exclusively during the course of bulimia nervosa or anorexia nervosa.

Same as that corresponding to criterion E for binge eating disorder

D. The binge eating does not occur during the course of binge eating disorder

No lifetime diagnosis of binge eating disorder, as defined above

*Any Binge Eating*

A. Same as criterion A for bulimia nervosa (see above)

Same as that corresponding to criterion A for bulimia nervosa (see above)

B. Binge eating occurs at least two times a week for at least three months

Acknowledging that binge eating occurred at least two times a week for at least three months, as reflected by providing of age of onset in EA19a or EA19b.

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Abbreviations: *CIDI*, *Composite International Diagnostic Interview*.

\* *DSM-IV* criteria for anorexia nervosa, bulimia nervosa, and binge eating disorder; research criteria that we propose in the paper for subthreshold binge eating disorder and any binge eating

<sup>1</sup>*CIDI*, version 3.0, in NCS-R Interview Schedule and Respondent Booklet, Section 24: Eating Disorders

(<http://www.hcp.med.harvard.edu/ncs/replication.php>)

<sup>2</sup>The *CIDI* includes other questions in the 23 series, but only answers to the questions listed here qualify as fulfilling criterion B for bulimia nervosa.

<sup>3</sup>Note that the *CIDI* assesses binge eating twice weekly or more for three months or longer, whereas *DSM-IV* criteria specify binge eating two days a week on average for six months or longer.

**Appendix Table 2. Sensitivity analysis of restriction to the diagnostic algorithm for disorders that include binge eating: Comparison of original definition and alternative definition\* for lifetime and 12-month prevalence of disorders**

	Male				Female				Total			
	Original		Alternative		Original		Alternative		Original		Alternative	
	%	(se)	%	(se)	%	(se)	%	(se)	%	(se)	%	(se)
I. Lifetime prevalence												
Bulimia nervosa	0.5	(0.2)	0.4	(0.2) <sup>1</sup>	1.5	(0.3)	1.4	(0.2) <sup>2</sup>	1.0	(0.2)	0.9	(0.2) <sup>3</sup>
Binge eating disorder	1.9	(0.5)	1.9	(0.5)	3.1	(0.5)	3.1	(0.5)	2.6	(0.3)	2.6	(0.3)
Subthreshold binge eating disorder	1.9	(0.5)	1.9	(0.5)	0.6	(0.1)	0.6	(0.1)	1.2	(0.2)	1.2	(0.2)
Any binge eating	4.0	(0.7)	4.0	(0.7)	4.9	(0.6)	4.9	(0.6)	4.5	(0.4)	4.5	(0.4)
II. Twelve-month prevalence												
Bulimia nervosa	0.1	(0.1)	--	-- <sup>4</sup>	0.5	(0.2)	0.5	(0.2)	0.3	(0.1)	0.3	(0.1)
Binge eating disorder	0.8	(0.3)	0.8	(0.3)	1.6	(0.2)	1.6	(0.2)	1.2	(0.2)	1.3	(0.2) <sup>5</sup>
Subthreshold binge eating disorder	0.8	(0.3)	0.8	(0.3)	0.4 <sup>6</sup>	(0.1)	0.3	(0.1)	0.6	(0.2)	0.6	(0.2)
Any binge eating	1.7	(0.4)	1.7	(0.4)	2.5 <sup>6</sup>	(0.3)	2.4	(0.3)	2.1	(0.2)	2.1	(0.2)

(n)

\*The alternative definition includes both of the following restrictions: 1) deleting EA17c as an item qualifying for criterion A2 for eating binges; and 2) requiring specifically item EA17f for criterion D for bulimia nervosa.

<sup>1</sup>Changed from 0.46% to 0.40%

<sup>2</sup>Changed from 1.49% to 1.39%

<sup>3</sup>Changed from 1.01% to .93%

<sup>4</sup>Changed from .06% to 0%

<sup>5</sup>Changed from 1.23% to 1.25%

<sup>6</sup>If the only change for the alternative definition is to not allow item EA17c to qualify for criterion A2 for eating binges, only the only resulting changes would be: .36% to .34% for subthreshold binge eating disorder and 2.45% to 2.44% for any binge eating.

**Appendix table 3. Cross-sectional socio-demographic profile of respondents with lifetime DSM-IV eating disorders and related entities<sup>1</sup>**

	Anorexia Nervosa		Bulimia Nervosa		Binge Eating Disorder		Subthreshold Binge Eating Disorder		Any Binge Eating Disorder	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
Race-ethnicity										
Non-Hispanic White	1.0	--	1.0	--	1.0	--	1.0	--	1.0	--
Non-Hispanic Black			0.8	(0.3-2.2)	0.7	(0.4-1.4)	1.9	(0.5-7.1)	0.9	(0.4-1.7)
Hispanic	0.1 <sup>2</sup>	(0.0-0.7)	2.0	(0.4-11.1)	1.0	(0.3-3.3)	1.0	(0.2-5.2)	1.0	(0.6-2.1)
Other	0.5	(0.1-3.6)	2.4	(0.9-6.0)	0.5	(0.1-2.4)	0.8	(0.2-3.2)	0.7	(0.3-1.8)
$\chi^2_3$ (p-value)	6.0	(0.050)	4.5	(0.214)	1.7	(0.639)	1.3	(.739)	0.8	(.839)
Education										
Less than high school	0.2	(0.0-2.4)	1.3	(0.4-4.1)	2.0	(0.7-5.3)	1.9	(0.4-10.0)	1.8	(1.0-3.4)
High school graduate	0.9	(0.4-1.8)	0.4*	(0.2-1.0)	0.8	(0.3-2.1)	1.7	(0.5-6.7)	0.9	(0.5-1.6)
Some post-HS education	1.0	(0.3-3.7)	1.3	(0.6-2.7)	1.6	(0.8-3.5)	2.2	(0.7-7.0)	1.5	(0.9-2.4)
College graduate	1.0	--	1.0	--	1.0	--	1.0	--	1.0	--
$\chi^2_3$ (p-value)	2.1	(0.554)	8.0*	(0.047)	12.7*	(0.005)	2.1	(.561)	17.4*	(.001)
Marital status										
Previously married	0.8	(0.2-4.1)	1.8	(0.8-3.9)	0.9	(0.5-1.6)	0.8	(0.3-1.7)	1.0	(0.7-1.6)
Never married	0.2*	(0.0-0.8)	0.2*	(0.1-0.5)	0.9	(0.6-1.4)	0.6	(0.3-1.2)	0.7*	(0.5-0.9)
Married-cohabitating	1.0	--	1.0	--	1.0	--	1.0	--	1.0	--
$\chi^2_2$ (p-value)	6.6*	(0.038)	14.8*	(0.001)	0.3	(0.841)	2.1	(.347)	7.2*	(.027)
Employment status										
Employed	1.0	--	1.0	--	1.0	--	1.0	--	1.0	--
Student	6.9*	(1.1-44.2)	0.6	(0.1-5.3)	1.2	(0.3-5.6)	4.2	(0.7-24.6)	2.0	(0.9-4.3)
Homemaker	4.3*	(1.5-12.9)	1.0	(0.4-2.2)	0.5	(0.1-1.7)	0.7	(0.1-3.2)	0.7	(0.3-1.3)
Retired			7.6	(0.4-143.3)	1.8	(0.2-15.9)	0.2*	(0.0-0.7)	0.8	(0.2-3.6)
Other	0.7 <sup>3</sup>	(0.1-7.6)	2.5*	(1.1-5.7)	1.7	(0.8-3.6)	2.1	(0.6-7.5)	2.1*	(1.4-3.2)
$\chi^2_4$ (p-value)	16.6*	(0.001)	6.9	(0.141)	4.5	(0.338)	9.7*	(.046)	19.9*	(.001)

Abbreviations: CI, confidence interval; OR, odds ratio.

\*Significant at the .05 level, 2-sided test

<sup>1</sup>Controlling for age and sex in every model

<sup>2</sup>Non-Hispanic Blacks and Hispanics were collapsed in this equation because of sparse data.

<sup>3</sup>Variables Retired and Other were collapsed in this equation because of sparse data.

**Appendix table 4. Lifetime prevalence estimates of DSM-IV eating disorders and related entities by age and sex**

	Anorexia Nervosa		Bulimia Nervosa		Binge Eating Disorder		Subthreshold Binge Eating Disorder		Any Binge Eating		(n)
	%	(se)	%	(se)	%	(se)	%	(se)	%	(se)	
<b>A. Males</b>											
18-29	0.0	--	0.1	0.1	1.4	0.7	2.7	(1.0)	4.1	(1.2)	(288)
30-44	0.6	0.4	0.1	0.1	2.5	0.8	2.1	(1.0)	4.6	(1.3)	(403)
45-59	0.0	--	1.3	0.9	2.6	1.2	1.6	(0.8)	4.4	(1.6)	(339)
60+	0.0	--	0.3	0.3	0.9	0.5	1.1	(0.9)	2.3	(1.0)	(190)
Total	0.2	0.1	0.5	0.2	1.9	0.5	1.9	(0.5)	4.0	(0.7)	(1220)
$\chi^2_3$ (age)	--		5.2		3.6		1.4		1.9		
<b>B. Females</b>											
18-29	0.9	0.4	2.2	0.5	3.8	0.7	0.8	(0.4)	6.2	(0.9)	(417)
30-44	0.9	0.5	2.0	0.6	3.5	1.0	0.8	(0.3)	5.9	(1.2)	(564)
45-59	0.6	0.3	1.6	0.5	2.7	0.7	0.4	(0.2)	4.4	(0.9)	(462)
60+	0.8	0.8	0.0	--	2.4	1.1	0.5	(0.3)	2.9	(1.1)	(317)
Total	0.8	0.3	1.5	0.3	3.1	0.5	0.6	(0.1)	4.9	(0.6)	(1760)
$\chi^2_3$ (age)	0.5		6.9* <sup>1</sup>		1.1		1.3		3.3		
<b>C. Total</b>											
18-29	0.5	0.2	1.2	0.3	2.7	0.5	1.7	(0.5)	5.2	(0.7)	(705)
30-44	0.8	0.3	1.1	0.3	3.0	0.7	1.4	(0.5)	5.3	(0.9)	(967)
45-59	0.3	0.2	1.4	0.5	2.6	0.5	0.9	(0.4)	4.4	(0.8)	(801)
60+	0.5	0.5	0.1	0.1	1.7	0.7	0.8	(0.4)	2.7	(0.7)	(507)
Total	0.5	0.2	1.0	0.2	2.6	0.3	1.2	(0.2)	4.5	(0.4)	(2980)
$\chi^2_3$ (age)	1.9		5.1		1.6		2.2		5.2		

Abbreviations: SE, standard error.

\*Significant age difference based on a .05 level,  $\chi^2_3$  test.

<sup>1</sup>degrees of freedom = 2

**Appendix table 5. Twelve-month prevalence estimates of DSM-IV eating disorders and related entities by age and sex**

	<b>Bulimia Nervosa</b> % (se)	<b>Binge Eating Disorder</b> % (se)	<b>Subthreshold Binge Eating Disorder</b> % (se)	<b>Any Binge Eating</b> % (se)	<b>(n)</b>
<b>A. Males</b>					
18-29	0.0 --	0.1 (0.1)	0.6 (0.4)	0.7 (0.4)	(288)
30-44	0.0 --	0.9 (0.4)	0.9 (0.4)	1.8 (0.6)	(403)
45-59	0.0 --	1.6 (1.1)	0.9 (0.7)	2.6 (1.3)	(339)
60+	0.3 (0.3)	0.4 (0.4)	0.8 (0.8)	1.5 (0.9)	(190)
Total	0.1 (0.1)	0.8 (0.3)	0.8 (0.3)	1.7 (0.4)	(1220)
$\chi^2_3$ (age)	--	5.7	0.9	4.9	
<b>B. Females</b>					
18-29	0.6 (0.3)	2.4 (0.7)	0.6 (0.4)	3.6 (0.7)	(417)
30-44	0.7 (0.3)	1.3 (0.4)	0.4 (0.2)	2.5 (0.6)	(564)
45-59	0.7 (0.4)	1.5 (0.6)	0.1 (0.1)	2.3 (0.7)	(462)
60+	0.0 --	1.2 (0.6)	0.3 (0.2)	1.5 (0.6)	(317)
Total	0.5 (0.2)	1.6 (0.2)	0.4 (0.1)	2.5 (0.3)	(1760)
$\chi^2_3$ (age)	1.1 <sup>1</sup>	3.1	1.8	4.0	
<b>C. Total</b>					
18-29	0.3 (0.2)	1.4 (0.4)	0.6 (0.3)	2.3 (0.4)	(705)
30-44	0.4 (0.2)	1.1 (0.3)	0.6 (0.2)	2.2 (0.4)	(967)
45-59	0.4 (0.2)	1.5 (0.3)	0.5 (0.4)	2.4 (0.5)	(801)
60+	0.1 (0.1)	0.8 (0.4)	0.5 (0.4)	1.5 (0.5)	(507)
Total	0.3 (0.1)	1.2 (0.2)	0.6 (0.2)	2.1 (0.2)	(2980)
$\chi^2_3$ (age)	0.9	1.6	0.1	1.7	

Abbreviations: SE, standard error.

\*Significant age difference based on a .05 level,  $\chi^2_3$  test.

<sup>1</sup>Degrees of freedom = 2



**Appendix Table 6. Age-of-onset priority of DSM-IV eating disorders and related entities with comorbid DSM-IV disorders**

**Percent where eating disorders or behavior are temporally primary\***

	<b>Anorexia Nervosa</b>			<b>Bulimia Nervosa</b>			<b>Binge Eating Disorder</b>			<b>Subthreshold Binge Eating Disorder</b>			<b>Any Binge Eating</b>		
	<b>%</b>	<b>(se)</b>	<b>(n)</b>	<b>%</b>	<b>(se)</b>	<b>(n)</b>	<b>%</b>	<b>(se)</b>	<b>(n)</b>	<b>%</b>	<b>(se)</b>	<b>(n)</b>	<b>%</b>	<b>(se)</b>	<b>(n)</b>
Anxiety disorders	11.0	(10.6)	(13)	19.7	(9.2)	(41)	7.2	(2.6)	(71)	4.0	(3.8)	(27)	13.0	(3.8)	(127)
Mood disorders	70.1	(14.8)	(14)	70.8	(9.2)	(36)	33.5	(8.6)	(51)	39.6	(13.5)	(20)	48.9	(5.9)	(100)
Impulse-control disorders	0.0	--	(6)	0.0	--	(21)	5.3	(3.6)	(34)	12.5	(7.6)	(15)	5.8	(2.3)	(75)
Substance use disorders	61.8	(16.9)	(9)	71.0	(12.1)	(18)	26.3	(8.2)	(29)	50.0	(14.7)	(17)	52.7	(8.2)	(62)

Abbreviations: SE, standard error.

\*Based on comparison of retrospective age-of-onset reports for eating disorders and the earliest comorbid disorder in the category; percent is among individuals who had both an eating disorder and the comorbid other disorder under consideration.

**Appendix Table 7. Estimated age of onset and persistence of DSM-IV eating disorders by lifetime treatment status**

I. Means	Anorexia Nervosa		Bulimia Nervosa		Binge Eating Disorder	
	Mean	(se)	Mean	(se)	Mean	(se)
A. Treated						
Age of onset	17.8	(1.3)	20.0	(1.1)	25.2	(1.1)
Years with episode	5.0	(2.6)	16.2*	(1.4)	16.7*	(1.7)
B. Untreated						
Age of onset	19.7	(0.9)	17.8	(1.0)	25.7	(1.2)
Years with episode	2.2	(0.4)	12.1*	(2.1)	7.8*	(0.8)
C. Total						
Age of onset	19.1	(0.4)	18.8	(1.0)	25.5	(0.9)
Years with episode	3.1	(0.1)	13.9*	(1.5)	11.5*	(1.1)
<b>II. Medians</b>	<b>Median</b>	<b>(IQR)</b>	<b>Median</b>	<b>(IQR)</b>	<b>Median</b>	<b>(IQR)</b>
A. Treated						
Age of onset	15.8	(13.7-21.0)	17.4*	(15.2-22.8)	20.7*	(15.0-29.8)
Years with episode	1.0	(1.0-2.0)	17.9*	(1.8-25.5)	10.5*	(2.6-29.4)
B. Untreated						
Age of onset	19.7	(16.0-21.4)	16.6*	(11.1-19.4)	20.2*	(17.0-33.6)
Years with episode	1.0	(1.0-1.0)	7.8*	(2.9-21.7)	2.8*	(0.0-13.3)
C. Total						
Age of onset	19.2	(15.2-21.3)	16.9	(13.8-20.0)	20.7	(16.6-33.2)
Years with episode	1.0	(1.0-1.1)	10.4*	(2.6-23.8)	6.3*	(0.4-16.6)
(n)	(21)		(52)		(104)	

Abbreviations: SE, standard error.

\*Significantly different from anorexia nervosa based on a .05 level, 2-sided test.

**Appendix table 8. Lifetime and 12-month treatment of DSM-IV eating disorders – FEMALE**

	Anorexia Nervosa	Bulimia Nervosa	Binge Eating Disorder
	% (se)	% (se)	% (se)
I. Lifetime treatment of emotional problem among lifetime cases			
General medical	47.6 (15.2)	49.4 (10.8)	40.8 (7.1)
Mental health specialty	44.9 (14.1)	66.1 (9.0)	58.0 (7.5)
Human services	15.7 (9.7)	16.3 (6.5)	22.7 (6.8)
Complementary-alternative medicine	21.5 (10.8)	24.8 (6.9)	25.2 (6.0)
Any	69.8 (12.2)	74.5 (9.1)	78.3 (5.9)
(n)	18	45	74
II. Twelve-month treatment of emotional problems among 12-month cases			
General medical		28.2 (15.1)	26.6 (7.8)
Mental health		9.7 (5.8)	24.9 (8.3)
Human services		14.5 (10.8)	8.5 (6.7)
Complementary-alternative medicine		0.0 (0.0)	16.8 (7.6)
Any		37.0 (16.5)	50.1 (8.5)
(n)		15	38
III. Treatment of eating disorder			
Lifetime among lifetime cases	32.0 (13.5)	47.0 (8.5)	49.0 (8.0)
Twelve-month among 12-month cases		11.0 (5.4)	10.0 (4.3)

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**Appendix table 9. Lifetime and 12-month treatment of DSM-IV eating disorders – MALE**

	<b>Anorexia Nervosa</b>		<b>Bulimia Nervosa</b>		<b>Binge Eating Disorder</b>	
	<b>%</b>	<b>(se)</b>	<b>%</b>	<b>(se)</b>	<b>%</b>	<b>(se)</b>
<b>I. Lifetime treatment of emotional problem among lifetime cases</b>						
General medical	67.8	(26.7)	22.9	(15.8)	22.8	(7.5)
Mental health specialty	100.0	(0.0)	75.8	(17.0)	56.3	(12.3)
Human services	0.0	(0.0)	9.6	(10.1)	17.4	(7.0)
Complementary-alternative medicine	31.8	(26.6)	9.6	(10.1)	10.3	(5.6)
Any	100.0	(0.0)	82.5	(14.5)	74.4	(9.9)
(n)	3		7		30	
<b>II. Twelve-month treatment of emotional problems among 12-month cases</b>						
General medical			0.0	(0.0)	11.4	(8.8)
Mental health			0.0	(0.0)	26.8	(15.2)
Human services			0.0	(0.0)	5.0	(5.1)
Complementary-alternative medicine			0.0	(0.0)	11.8	(8.5)
Any			0.0	(0.0)	38.2	(16.7)
(n)			1		13	
<b>III. Treatment of eating disorder</b>						
Lifetime among lifetime cases	31.8	(26.6)	29.1	(19.3)	27.5	(9.5)
Twelve-month among 12-month cases			0.0	(0.0)	0.0	(0.0)

**Note:** These appendix tables include a revision of the tables in the paper because in the tables in the original paper did not apply hierarchy between Binge-eating Disorder (BED) and Anorexia. This version of the tables and appendix tables apply that hierarchy to make this paper consistent the US estimates presented in: Kessler, R.C., Shahly, V., Hudson, J.I., Supina, D., Berglund, P.A., Chiu, W.T., Gruber, M., Aguilar-Gaxiola, S., Alonso, J., Andrade, L.H., Benjet, C., Bruffaerts, R., de Girolamo, G., de Graaf, R., Florescu, S.E., Haro, J.M., Murphy, S.D., Posada-Villa, J., Scott, K., Xavier, M. (2014). A comparative analysis of role attainment and impairment in binge-eating disorder and bulimia nervosa: results from the WHO World Mental Health Surveys. *Epidemiology and Psychiatric Sciences* 23(1), 27-41.

**Table 1. Lifetime and 12-month prevalence estimates of DSM-IV eating disorders and related behavior**

	Male		Female		Total	
	%	(se)	%	(se)	%	(se)
I. Lifetime prevalence						
Anorexia Nervosa	0.2*	(0.1)	0.8*	(0.3)	0.5	(0.2)
Bulimia Nervosa	0.5*	(0.2)	1.5*	(0.3)	1.0	(0.2)
Binge-eating Disorder	1.9*	(0.5)	3.1*	(0.5)	2.6	(0.3)
Subthreshold Binge-eating	1.9*	(0.5)	0.6*	(0.1)	1.2	(0.2)
Any binge-eating behavior	4.0	(0.7)	4.9	(0.6)	4.5	(0.4)
II. Twelve-month prevalence <sup>1</sup>						
Bulimia Nervosa	0.1*	(0.1)	0.5*	(0.2)	0.3	(0.1)
Binge-eating Disorder	0.9*	(0.3)	1.5*	(0.3)	1.2	(0.2)
Subthreshold binge-eating	0.8	(0.3)	0.4	(0.1)	0.6	(0.2)
Any binge-eating behavior	1.7	(0.4)	2.5	(0.3)	2.1	(0.2)
(n)	(1220)		(1760)		(2980)	

\*Significant sex difference based on a .05 level, two-sided test.

<sup>1</sup>None of the respondents met criteria for 12-month Anorexia Nervosa.

**Table 2. Estimated age of onset and persistence of *DSM-IV* eating disorders and related entities**

	<b>Anorexia Nervosa</b>		<b>Bulimia Nervosa</b>		<b>Binge Eating Disorder</b>		<b>Subthreshold Binge Eating Disorder</b>		<b>Any Binge Eating</b>	
Age of onset										
Mean (se)	19.1	(0.4)	18.8	(1.0)	25.5	(0.9)	22.7	(1.9)	22.4	(1.1)
Median (IQR)	19.2	(15.2-21.3)	16.9	(13.8-20.0)	20.7	(16.6-33.2)	20.0*	(17.0-27.0)	20.0*	(16.0-27.0)
Years with episode										
Mean (se)	3.1	(0.1)	13.9*	(1.5)	11.5*	(1.1)	7.2*	(2.0)	8.7*	(0.7)
Median (IQR)	1.0	(1.0-1.1)	10.4*	(2.6-23.8)	6.3*	(0.4-16.6)	2.0*	(1.0-10.0)	3.0*	(1.0-13.0)
12-month persistence, % (se)	0.0	(--)	31.1*	(5.3)	46.5*	(4.5)	47.2*	(10.0)	46.9*	(4.1)
(n)	(21)		(52)		(104)		(46)		(192)	

Abbreviations: se, standard error; IQR, interquartile range.

\*Significantly different from anorexia nervosa based on a .05 level, two-sided test.

**Table 3. Inter-Cohort Differences in Lifetime Risk of DSM-IV Eating Disorders and Related Entities**

	<b>Anorexia Nervosa</b>		<b>Bulimia Nervosa</b>		<b>Binge Eating Disorder</b>		<b>Subthreshold Binge Eating Disorder</b>		<b>Any Binge Eating</b>	
	<b>OR</b>	<b>(95% CI)</b>	<b>OR</b>	<b>(95% CI)</b>	<b>OR</b>	<b>(95% CI)</b>	<b>OR</b>	<b>(95% CI)</b>	<b>OR</b>	<b>(95% CI)</b>
Age (year of birth)										
18-29 (1972-83)	2.2	(0.5-9.8)	11.5*	(1.9-71.0)	5.0*	(2.2-11.6)	4.5*	(1.8-11.2)	4.5*	(2.6-8.0)
30-44 (1957-71)	2.6	(0.4-16.0)	8.5*	(1.3-57.1)	3.0*	(1.3-7.0)	2.2	(0.8-6.4)	3.0*	(1.7-5.4)
45-59 (1942-56)	0.9	(0.1-8.8)	11.0*	(1.6-73.6)	1.9	(0.9-4.2)	1.2	(0.3-4.3)	2.0*	(1.1-3.8)
60+ (<=1941)	1.0		1.0		1.0		1.0		1.0	
$\chi^2_3$ (p-value)	7.9*	(0.048)	8.0*	(0.046)	28.0*	(.000)	4.4*	(.009)	11.3*	(.000)

Abbreviations: CI, confidence interval; OR, odds ratio.

\*Significant inter-cohort different based on a 0.05 level, 2-sided test, controlling for sex and race-ethnicity.

**Table 4. Difference in BMI categories at the time of interview in lifetime prevalence of DSM-IV disorders and related behavior**

	<b>Anorexia Nervosa</b>			<b>Bulimia Nervosa</b>			<b>Binge Eating Disorder</b>			<b>Subthreshold Binge Eating Disorder</b>			<b>Any Binge Eating</b>		
	<b>%</b>	<b>OR</b>	<b>(95% CI)</b>	<b>%</b>	<b>OR</b>	<b>(95% CI)</b>	<b>%</b>	<b>OR</b>	<b>(95% CI)</b>	<b>%</b>	<b>OR</b>	<b>(95% CI)</b>	<b>%</b>	<b>OR</b>	<b>(95% CI)</b>
Current BMI															
< 18.5	17.6	5.7*	(1.1-30.0)	3.4	1.0	(0.2-5.2)	0.0			0.0			0.8	0.4	(0.1-1.7)
18.5-29.9	82.4	1.0		66.2	1.0		60.2	1.0 <sup>1</sup>		72.1	1.0 <sup>1</sup>		63.8	1.0	
30-39.9	0.0			20.3	1.0	(0.4-2.6)	25.9	1.5	(0.7-3.1)	24.4	1.1	(0.5-2.8)	24.8	1.3	(0.8-2.3)
> 40	0.0			10.0	2.4	(0.8-6.9)	13.9	4.3*	(1.8-10.3)	3.5	1.0	(0.3-3.9)	10.7	3.1*	(1.6-5.8)
$\chi^2_3$ (p-value)		4.3*	(0.038)		2.6	(0.457)		2161.5*	(<0.001)		0.0	(0.966)		4.7*	(0.007)

\*Significant inter-cohort different based on a .05 level, two-sided test, controlling for age, sex and race-ethnicity.

<sup>1</sup>BMI categories < 18.5 and 18.5-29.9 were collapsed



**Table 5. Impairment in role functioning (Sheehan Disability Scales) associated with 12-month DSM-IV eating disorders and related behavior**

	<b>Bulimia Nervosa</b>		<b>Binge Eating Disorder</b>		<b>Subthreshold Binge Eating Disorder</b>		<b>Any Binge Eating</b>	
	<b>%</b>	<b>(se)</b>	<b>%</b>	<b>(se)</b>	<b>%</b>	<b>(se)</b>	<b>%</b>	<b>(se)</b>
I. Prevalence of any impairment								
Home	43.1	(16.4)	46.1	(7.1)	18.4	(9.7)	38.1	(5.8)
Work	59.2	(14.8)	38.4	(6.8)	16.3	(8.5)	35.5	(6.1)
Personal life	47.2	(12.3)	39.7	(8.8)	15.5	(9.1)	34.3	(6.0)
Social life	54.1	(14.0)	58.8	(7.5)	18.9*	(9.7)	47.3	(6.2)
Any	78.0	(12.4)	62.6	(7.7)	21.8*	(10.3)	53.1	(6.6)
II. Prevalence of severe impairment								
Home	25.9	(15.5)	9.4	(4.2)	2.9	(3.0)	10.1	(3.9)
Work	25.9*	(15.5)	0.0	--	0.0	--	3.8	(2.8)
Personal life	6.6	(4.7)	5.7	(3.6)	1.6	(1.7)	4.7	(2.2)
Social life	31.7	(13.5)	15.9	(6.5)	1.6	(1.7)	14.3	(4.2)
Any	43.9	(16.3)	18.5	(6.8)	4.6	(3.4)	18.4	(5.3)
	(n)	(16)	(51)		(21)		(88)	

\*Significantly difference from Binge-eating Disorder based on a .05 level, two-sided test.

**Table 6. Lifetime Comorbidity (OR) of DSM-IV Eating Disorders with Other Core NCS-R/DSM-IV Disorders and Related Entities<sup>1</sup>**

	Anorexia Nervosa			Bulimia Nervosa			Binge Eating Disorder			Subthreshold Binge Eating Disorder			Any Binge Eating		
	%	OR	(95% CI)	%	OR	(95% CI)	%	OR	(95% CI)	%	OR	(95% CI)	%	OR	(95% CI)
<b>I. Anxiety disorders</b>															
Panic disorder	3.4	0.6	(0.1-3.1)	16.2	2.9*	(1.1-7.8)	11.9	2.6*	(1.4-4.7)	6.6	1.9	(0.7-5.4)	11.8	2.8*	(1.8-4.3)
Agoraphobia without panic	5.2	3.6	(0.6-19.8)	10.8	9.0*	(3.0-26.8)	6.6	5.2*	(1.8-15.2)	6.0	5.8*	(1.5-22.1)	6.2	5.6*	(2.4-12.9)
Specific phobia	23.5	1.7	(0.7-4.0)	50.1	5.4*	(2.6-11.4)	35.9	3.6*	(2.0-6.6)	20.7	2.0	(0.9-4.3)	32.5	3.3*	(2.3-4.7)
Social phobia	27.8	2.4*	(1.0-6.0)	41.3	4.7*	(2.7-8.3)	32.1	3.3*	(2.1-5.2)	26.8	2.5*	(1.5-4.3)	31.0	3.2*	(2.4-4.3)
Generalized anxiety disorder	7.8	1.1	(0.3-3.8)	11.8	1.9	(0.9-4.1)	11.6	2.0*	(1.1-3.6)	9.9	2.3	(0.6-8.6)	11.9	2.2*	(1.5-3.2)
Post-traumatic stress disorder	13.5	1.7	(0.5-5.8)	45.4	10.2*	(5.2-19.8)	25.3	4.9*	(2.5-9.7)	5.6	1.1	(0.4-2.8)	20.2	4.0*	(2.6-6.1)
Obsessive-compulsive disorder <sup>2</sup>	6.1	1.8	(0.1-23.2)	28.1	9.6*	(1.9-49.8)	16.0	7.2*	(1.9-26.6)	0.0	...	...	7.2	4.6*	(1.7-12.9)
Separation anxiety disorder	8.4	1.7	(0.4-6.9)	15.6	3.4*	(1.3-8.9)	10.7	2.8*	(1.3-6.1)	2.6	0.8	(0.2-3.5)	9.7	2.7*	(1.6-4.8)
Any anxiety disorder	47.4	1.7	(0.7-3.8)	80.6	8.6*	(3.4-21.6)	64.9	4.4*	(2.5-7.7)	40.4	2.0	(1.0-4.0)	59.5	3.7*	(2.5-5.5)
<b>II. Mood disorders</b>															
Major depressive disorder	47.3	3.4*	(1.6-7.2)	50.1	4.2*	(1.7-10.4)	31.5	2.1*	(1.2-3.7)	17.7	1.3	(0.6-2.7)	30.9	2.2*	(1.6-3.2)
Dysthymia	14.4	4.6*	(1.2-17.1)	12.7	4.2*	(1.5-12.1)	8.2	3.0*	(1.6-5.7)	5.5	2.9	(0.9-9.0)	9.1	3.8*	(2.4-6.1)
Bipolar disorders (Broad)	3.4	0.8	(0.2-4.2)	17.7	4.4*	(1.9-10.3)	13.6	3.6*	(1.9-6.6)	10.5	3.0	(0.9-9.8)	12.0	3.5*	(2.0-6.1)
Any mood disorder	47.3	2.6*	(1.3-5.6)	70.7	7.5*	(3.5-16.2)	45.2	2.9*	(1.8-4.7)	28.2	1.8	(0.8-3.9)	44.0	3.0*	(2.1-4.3)
<b>III. Impulse-control disorders</b>															
Intermittent explosive disorder	19.6	3.5*	(1.0-11.7)	17.6	2.8*	(1.2-6.2)	16.8	2.7*	(1.5-4.8)	5.4	1.0	(0.2-4.1)	7.2	1.5	(0.8-3.1)
Attention-deficit/hyperactivity disorder <sup>3</sup>	17.8	2.3	(0.5-10.2)	34.9	8.4*	(3.2-22.5)	19.8	3.0*	(1.4-6.3)	10.7	1.3	(0.5-3.8)	19.0	3.0*	(1.7-5.4)
Oppositional-defiant disorder <sup>3</sup>	11.5	1.5	(0.3-8.4)	26.9	5.1*	(2.1-12.5)	17.5	2.6*	(1.2-5.7)	6.9	0.9	(0.2-3.5)	15.6	2.4*	(1.3-4.3)
Conduct disorder <sup>3</sup>	10.8	1.3	(0.2-7.2)	26.5	4.7*	(2.1-10.9)	19.6	2.5*	(1.3-4.7)	7.0	0.5	(0.1-2.2)	17.2	1.9	(1.0-3.8)
Any impulse-control disorder <sup>3</sup>	33.9	1.6	(0.4-5.6)	63.8	6.7*	(3.0-15.2)	40.5	2.2*	(1.2-4.0)	22.3	0.8	(0.4-1.7)	40.2	2.2*	(1.3-3.5)
<b>IV. Substance use disorders</b>															
Alcohol abuse or dependence	27.5	3.4*	(1.4-8.5)	33.7	4.6*	(2.0-10.4)	22.7	2.3*	(1.2-4.4)	30.0	2.3	(1.0-5.6)	25.8	2.6*	(1.9-3.7)
Alcohol dependence	13.8	3.4*	(1.3-8.6)	22.7	6.3*	(2.3-17.3)	12.9	2.8*	(1.1-7.2)	21.4	4.1*	(1.4-11.8)	15.7	3.5*	(2.1-5.8)
Illicit drug abuse or dependence	19.9	3.9*	(1.4-10.3)	26.0	5.3*	(1.6-17.4)	19.8	3.5*	(1.9-6.4)	22.9	2.9*	(1.3-6.4)	20.2	3.4*	(2.2-5.2)
Illicit drug dependence	5.8	2.5	(0.4-15.8)	15.0	8.0*	(1.4-44.5)	11.0	5.1*	(2.2-11.8)	13.5	4.5*	(1.5-13.5)	11.0	4.9*	(2.8-8.7)
Any substance use disorder	30.3	3.5*	(1.4-8.4)	36.8	4.6*	(2.0-10.7)	24.1	2.2*	(1.2-4.1)	35.5	2.8*	(1.2-6.5)	28.7	2.8*	(1.9-3.9)
<b>V. Any disorder</b>															
Any disorder	56.7	1.3	(0.5-3.2)	94.5	17.4*	(4.5-67.8)	79.4	4.4*	(2.2-8.9)	63.6	2.0	(0.8-4.6)	76.5	3.7*	(2.3-6.2)
Exactly one	3.0	0.2	(0.0-1.7)	7.5	3.5	(0.7-16.0)	20.5	2.9*	(1.1-7.6)	9.4	0.7	(0.2-2.5)	15.9	1.9	(1.0-3.8)
Exactly two	15.8	1.5	(0.4-4.8)	21.6	16.8*	(3.6-78.7)	10.2	2.3*	(1.0-5.4)	23.5	3.2*	(1.0-10.0)	15.7	3.2*	(1.6-6.5)
Three or more	37.9	2.4	(0.9-6.0)	65.3	33.6*	(8.7-129.8)	48.7	7.8*	(3.7-16.1)	30.7	2.6*	(1.1-5.9)	45.0	6.4*	(3.9-10.5)

Abbreviations: CI, confidence interval; NCS-R, National Comorbidity Study Replication; OR, odds ratio.

\*Significant at the .05 level, two-sided test.

<sup>1</sup>A separate logistic regression equation was estimated for each comorbid disorder and a single equation was estimated for number of comorbid disorders. Each equation controlled for respondent age (in five-year intervals), sex, and race-ethnicity.

<sup>2</sup>Restricted to a random sub-sample of respondents (n=1139)

<sup>3</sup>Restricted to respondents in the age range 18-44 (n=1672)

**Table 7. Lifetime and 12-month treatment of DSM-IV eating disorders**

	<b>Anorexia Nervosa</b>		<b>Bulimia Nervosa</b>		<b>Binge Eating Disorder</b>	
	<b>%</b>	<b>(se)</b>	<b>%</b>	<b>(se)</b>	<b>%</b>	<b>(se)</b>
<b>I. Lifetime treatment<sup>1</sup> for any emotional problem</b>						
General medical	50.9	(15.1)	43.9	(11.4)	34.5	(6.0)
Other mental health	53.8	(11.9)	68.1	(8.0)	57.4	(6.6)
Human services	13.1	(8.2)	14.9	(5.9)	20.9	(4.5)
CAM	23.2	(11.0)	21.6	(6.0)	20.0	(4.2)
Any lifetime treatment	74.7	(10.7)	76.2	(6.9)	76.9	(5.1)
(n)	21		52		104	
<b>II. Twelve-month treatment<sup>1</sup> for any emotional problem<sup>2</sup></b>						
General medical			25.7	(13.9)	21.4	(7.0)
Other mental health			8.8	(5.4)	25.6	(5.8)
Human services			13.2	(9.8)	7.3	(4.7)
CAM			0.0	--	15.1	(5.6)
Any 12-month treatment			33.8	(15.1)	46.0	(7.6)
(n)			16		51	
<b>III. Treatment of eating disorders</b>						
Lifetime	32.0	(13.3)	43.2	(9.7)	41.5	(6.7)
Twelve-month			10.1	(4.9)	6.5	(3.0)

<sup>1</sup>General medical treatment is treatment by a non-psychiatrist physician or nurse or other medical practitioner who is not a mental health specialist. Psychiatrist treatment is treatment by a psychiatrist. Other mental health treatment is treatment by any mental health specialist other than a psychiatrist (e.g., psychologist, psychiatric social worker). Human services treatment is treatment by a minister, priest, rabbi, or other spiritual advisor or by a caseworker in a social services agency. CAM (Complementary-alternative medical) treatment is treatment in a self-help group or treatment by an alternative medical provider (e.g., massage therapist, chiropractor).

<sup>2</sup>There were no respondents with 12-month Anorexia Nervosa.