

Eating disorders among an online sample of Canadian and American boys and men

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ABSTRACT

There is a continued need to identify the prevalence and sociodemographic correlates of eating disorders, particularly among the under-researched group of boys and men, to inform prevention and intervention efforts. Data from The Study of Boys and Men, a sample of 1553 boys and men aged between 15 and 35 years in Canada and the United States, were analyzed in 2024. Probable eating disorder diagnoses were identified using a previously established algorithm based on current diagnostic criteria. A multivariable logistic regression analysis was used to determine the sociodemographic correlates of meeting the criteria for any probable eating disorder diagnosis. The prevalence of meeting the criteria for any probable eating disorder diagnosis was 21.3 % (95 % confidence interval [CI] 18.7–24.1), while meeting criteria for a probable bulimia nervosa diagnosis had the highest prevalence (5.8 %, 95 % CI 4.6–7.1) and anorexia nervosa had the lowest prevalence (0.34 %, 95 % CI 0.1–0.8). Boys and men who identified as gay (adjusted odds ratio [AOR] 2.28, 95 % CI 1.35–3.85) or bisexual (AOR 2.22, 95 % CI 1.23–3.99) had higher odds of meeting criteria for any probable eating disorder diagnosis, compared to those who did not. Finally, boys and men who had a higher body mass index (BMI) (AOR 1.18, 95 % CI 1.14–1.23) had greater odds of meeting criteria for any probable eating disorder diagnosis. Findings add to the growing understanding of eating disorders among boys and men. Targeted and tailored prevention and intervention programming is needed for sexual minority boys and men, and those with higher BMIs.

1. Introduction

Eating disorders, such as anorexia nervosa, bulimia nervosa, and binge-eating disorder, are pernicious mental health conditions that can have detrimental effects on nearly every system of the body (American Psychiatric Association, 2022; Nagata & Golden, 2018; Westmoreland, Krantz, & Mehler, 2016) and are associated with high psychiatric comorbidity (Hambleton et al., 2022) and mortality (Arcelus, Mitchell, Wales, & Nielsen, 2011; Iwajomo et al., 2021). Eating disorders have typically been misunderstood as “female disorders”, which has led to a primary focus of research on this population (Murray et al., 2017).

However, research on eating disorders among boys and men has been growing within the past 10 years, revealing that eating disorders are a serious concern among these populations (Brown & Keel, 2023). For example, it is estimated that 1 in 7 males by the age of 40 years will experience a full syndrome eating disorder, with the highest estimated prevalence at 21 years (Ward, Rodriguez, Wright, Austin, & Long, 2019). Additionally, evidence suggests that eating disorder hospitalizations among boys have increased 416 % between 2002 and 2019 (Smith et al., 2023), underscoring the need for continued research on these conditions among this population.

There is a need for updated and accurate prevalence estimates of

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eating disorders among boys and men, which will inform prevention, assessment, and intervention efforts. Generally, the prevalence of anorexia nervosa is lower than both bulimia nervosa and binge-eating disorder, while binge-eating disorder is typically the most common eating disorder among boys and men (Brown & Keel, 2023). However, there is evidence that the two residual eating disorder diagnoses (e.g., other specified feeding and eating disorders, unspecified feeding and eating disorders) occur at a markedly higher prevalence than anorexia nervosa, bulimia nervosa, and binge-eating disorder (Hay et al., 2017). This is in part due to the fact that these latter diagnoses are based on symptom criteria that were primarily devised based on research primarily among girls and women, which may have neglected to reflect the considerations of eating disorder symptoms among boys and men (Mitchison & Mond, 2015; Murray et al., 2017). Therefore, prevalence estimates are needed for eating disorders beyond the three primary diagnoses.

Prevalence estimates of eating disorders vary depending on sample characteristics, measurement, including diagnostic criteria utilized, study location, and research design. Twelve-month or point prevalence range from 0.0 to 0.2 % for anorexia nervosa, 0.1–1.8 % for bulimia nervosa, and 0.0–1.5 % for binge-eating disorder among boys and men (Allen, Byrne, Oddy, & Crosby, 2013; Chua, Fitzsimmons-Craft, Austin, Wilfley, & Taylor, 2022; Flament et al., 2015; Hammerle, Huss, Ernst, & Bürger, 2016; Mitchison et al., 2020; Swanson, Crow, Le Grange, Swendsen, & Merikangas, 2011; Udo & Grilo, 2018). Fewer data exists for the residual eating disorders among boys and men. However, from these data, 12-month or point prevalence of atypical anorexia nervosa ranges from 0.0 to 1.7 % (Allen et al., 2013; Chua et al., 2022; Hammerle et al., 2016; Mitchison et al., 2020), 0.0–12.2 % for subthreshold bulimia nervosa (Chua et al., 2022; Hammerle et al., 2016; Mitchison et al., 2020), 0.0–1.6 % for purging disorder (Allen et al., 2013; Chua et al., 2022; Hammerle et al., 2016; Mitchison et al., 2020), and is 0.0 % for subthreshold binge-eating disorder (Chua et al., 2022; Hammerle et al., 2016; Mitchison et al., 2020) and 4.9 % for unspecified feeding and eating disorder (UFED) (Mitchison et al., 2020). It is important to underscore that the conceptualization of eating disorders has largely focused on the female experience (e.g., drive for thinness and related behaviors) and have, therefore, neglected to consider the unique body image and behavioral experiences of boys and men, such as the muscular body ideal, muscularity-oriented disordered eating, and drive for muscularity (Eschrich, Halbeisen, Steins-Loeber, Timmesfeld, & Paslakis, 2025; Murray et al., 2017; Nagata, Ganson, & Murray, 2020). This gendered conceptualization of eating disorders may, in part, explain the low prevalence of these conditions among boys and men.

Beyond prevalence estimates, it is critical to understand the socio-demographic identifiers that are associated with eating disorders among boys and men. Such social epidemiology assists with understanding health disparities, as well as provide insight into targeted prevention and intervention efforts (Kawachi & Subramanian, 2018; Krieger, 2001). It is well documented that eating disorders typically onset between 15 and 21 years (Solmi et al., 2021; Volpe et al., 2016; Ward et al., 2019), marking adolescence and young adulthood critical for eating disorder prevention and intervention. Additionally, prior research has documented that sexual and gender minorities experience greater eating disorder psychopathology compared to their heterosexual and cisgender peers (Burke et al., 2022; Hallward, Nagata, Rodgers, & Ganson, 2022; Hazzard et al., 2020; Nagata, Ganson, & Austin, 2020), which may be in part due to minority stressors (Calzo, Blashill, Brown, & Argenal, 2017; Santoniccolo & Rollè, 2024) and self-objectification (Nowicki, Marchwinski, O'Flynn, Griffiths, & Rodgers, 2022; Tylka & Andorka, 2012). There is also evidence that racial and ethnic minorities experience greater eating disorder psychopathology compared to their white peers (Beccia et al., 2019; Burke et al., 2022; Simone, Telke, Anderson, Eisenberg, & Neumark-Sztainer, 2022).

Conversely, there are mixed findings related to education level being correlated with eating disorders, whereby some studies suggest no

association between educational attainment and eating disorders, while other studies suggest that both lower and higher educational attainment are risk factors (Mitchison & Hay, 2014). Finally, there is ample evidence that body mass index (BMI), particularly higher BMI, is associated with greater risk of developing an eating disorder (Flament et al., 2015; Mitchison et al., 2020; Udo & Grilo, 2018). While BMI has many limitations (i.e., conflating fat and muscle mass) and contributes to the perpetuation of the notion that certain body weights (i.e., lower) and sizes (i.e., thinner) are correlated with health (Gutin, 2018), it is a potential marker of experiencing weight stigma (Nagata et al., 2024), which is also a risk factor for eating disorder psychopathology (Levinson, Kinkel-Ram, Myers, & Hunger, 2024; Vartanian & Porter, 2016).

Overall, there remains a need to specifically investigate the prevalence and sociodemographic correlates of eating disorders among diverse samples of boys and men. Such information would add to the contemporary understanding of eating disorders among this population, as well as inform prevention and intervention programming. Therefore, this study aimed to report the prevalence and sociodemographic correlates of eating disorder diagnoses among a large, diverse sample of boys and men from Canada and the United States.

2. Methods

The data for this analysis were from The Study of Boys and Men, an online survey distributed via Qualtrics, aimed at investigating the body image experiences of boys and men across Canada and the United States. Participant recruitment occurred between March and April 2024 using Instagram and Snapchat advertisements, targeting males between 15 and 35 years old and without additional filters. The survey included a wide variety of validated measures and researcher-developed items to capture the psychological, social, and behavioral experiences of boys and men. Advertisements were generic in nature to recruit a broad range of participants (i.e., “Don't miss your chance to make your voice heard! Participate today in: The Study of Boys and Men, an international research study of the contemporary lives of boys and men.”). To ensure data quality, several recommended anti-bot measures were employed, including honeypot questions, open-response options, attention checks, restrictions on multiple submissions, and reCAPTCHA verification (Xu et al., 2022). Data validation involved screening for issues such as straight-lining, incomplete responses, and nonsensical entries in open-response questions. From an initial sample of 1791 respondents, exclusions were made for a range of reasons: incorrect responses to attention checks ($n = 1$), skipping attention checks ($n = 11$), leaving $>50\%$ of the survey unanswered ($n = 4$), completing the survey in under 10 min ($n = 6$), failing reCAPTCHA ($n = 212$), and submitting duplicate responses ($n = 4$). The final dataset consisted of 1553 participants after these exclusions. All respondents provided informed consent via checkbox, and the study was approved by the Health Sciences Research Ethics Board at the University of Toronto (Protocol #45880).

2.1. Measures

2.1.1. Eating disorders

Probable eating disorder diagnoses were operationalized based on a previously outlined algorithm (Mitchison et al., 2020) designed to capture the diagnostic criteria from the *Diagnostic and Statistical Manual of Mental Disorders*, 5th Edition (DSM-5) (American Psychiatric Association, 2022). The majority of symptoms, including attitudes and behaviors, were measured using the Eating Disorder Examination Questionnaire (EDE-Q) 6.0 (Fairburn & Beglin, 2008). The EDE-Q has been previously validated among boys and men across genders and sexual orientations (Lavender, De Young, & Anderson, 2010; Nagata et al., 2020; Nagata et al., 2021; Reas, Øverås, & Øyvind, 2012). Behavioral items from the EDE-Q, including the frequency of fasting, self-induced vomiting, laxative misuse, driven exercise, and binge

eating, were used to measure eating disorder behaviors. The original research team also developed items to measure the frequency of other extreme weight control behaviors, including strict dieting, engaging in detoxes, insulin misuse, and other drug/diet pill use for weight loss, that mirror the EDE-Q items. Researcher-developed items also focused on distress associated with binge eating and binge-eating features (e.g., eating faster than usual, eating alone due to embarrassment) (Mitchison et al., 2020). Additionally, fear of weight gain and feeling fat were measured using the Likert-scale items from the weight and shape concern subscales. A combined weight and shape concern subscale was also created (to measure extreme weight and shape concerns). Internal consistency using Cronbach's alpha for the combined weight and shape concern subscale was excellent ($\alpha = 0.93$) in the current study. Self-reported weight loss was also assessed to account for atypical anorexia nervosa criterion (DSM-5 criteria identifies recent weight loss, despite the individual's weight being within the "normal" or "above normal" range). Finally, participants reported their current height and weight, which was converted to body mass index (BMI; kg/m^2). See Supplemental Table 1 for full details on the operationalization and algorithm of probable eating disorders, including all measures and items included that map onto the DSM-5 eating disorder diagnostic criteria. Given that participants did not complete a formal diagnostic interview, we refer to participants who met criteria for an eating disorder as operationalized in this study as having a "probable" eating disorder.

2.1.2. Eating disorder examination questionnaire

The Eating Disorder Examination Questionnaire (EDE-Q) 6.0 Global Score (Fairburn & Beglin, 2008) was utilized to assess eating disorder attitudes and behaviors. The EDE-Q is a commonly used self-report questionnaire that examines disordered eating attitudes and behaviors within the past 28 days. The EDE-Q is comprised of four subscale (Restraint: 5 items, Eating Concern: 5 items, Shape Concern: 8 items, and Weight Concern: 5 items) and a Global score. Higher mean scores indicate greater eating-related psychopathology. Internal consistency in the current study using Cronbach's alpha were 0.94 for Global Score, 0.81 for Restraint, 0.81 for Eating Concern, 0.90 for Shape Concern, and 0.81 for Weight Concern.

2.1.3. Sociodemographic variables

Sociodemographic variables included self-reported age, race/ethnicity (Asian, Black, Latin American, multi-racial, other race/ethnicity, and White), sexual orientation (heterosexual, gay, bisexual, queer, questioning, and other), highest completed education (high school diploma or less, college or undergraduate degree, and master's degree or higher), annual personal income ($< \$25,000$, $\$25,000$ – $\$49,000$, $\$50,000$ – $\$75,000$, $\geq \$75,000$), relationship status (in a relationship, not in a relationship), and country of residence (Canada, United States [based on provided zip codes and postal codes]). Gender was determined based on self-reported sex assigned at birth and current gender identity (cisgender boy/man, transgender boy/man, gender diverse and other).

2.2. Statistical analyses

Prevalence estimates were determined using frequencies (percentages) and 95 % confidence intervals (CI). Prevalence estimates were conducted among the overall sample and by gender and age. Mean scores on the EDE-Q and frequencies (percentages) of eating disorder behaviors, among the overall sample and by probable eating disorder diagnosis, were also calculated. A multivariable logistic regression analysis was conducted to determine the sociodemographic correlates of meeting criteria for any probable eating disorder diagnosis (due to small cell sizes across the diagnoses). Listwise deletion was used to account for missing data given that the sample size was relatively large, raising minimal issues with statistical power (Allison, 2002; Parent, 2013). Statistical significance was determined $p < .05$ and all analyses were

conducted using Stata 18MP (StataCorp, 2024).

3. Results

The majority of participants were between the ages 18–24 years (44.0 %), identified as a cisgender boy or man (82.0 %), and White (65.7 %). Nearly half (48.0 %) identified as heterosexual and 44.1 % had completed a high school diploma or less. The mean BMI was 25.3 (SD = 6.2) and 58.2 % of participants resided in Canada. See Table 1 for full demographic characteristics.

Table 2 reports the prevalence estimates of meeting criteria for probable eating disorder diagnoses among the overall sample, and by gender and age. Among the overall sample, the prevalence of meeting the criteria for any probable eating disorder diagnosis was 21.3 % (95 % CI 18.7–24.1). Meeting criteria for a probable bulimia nervosa diagnosis had the highest prevalence among the sample (5.8 %, 95 % CI 4.6–7.1) and anorexia nervosa had the lowest prevalence (0.3 %, 95 % CI 0.1–0.8). Nearly a quarter (23.9 %) of gender expansive or other gender identifying participants, 21.6 % of cisgender boys and men, and 17.9 % of transgender boys and men met criteria for any probable eating disorder diagnosis. Finally, over a quarter (27.2 %) of participants between the ages of 30–35, 22.2 % of participants between the ages of 15–17, 20.0 % of participants between the ages of 18–24, and 18.3 % of participants between the ages of 25–29 met criteria for any probable eating disorder diagnosis. Mean scores on the EDE-Q by probable eating disorder diagnoses are displayed in Fig. 1. For example, the mean Global EDE-Q score for those with any probable eating disorder diagnosis was

Table 1
Descriptive characteristics of a sample of boys and men from Canada and the United States ($N = 1553$).

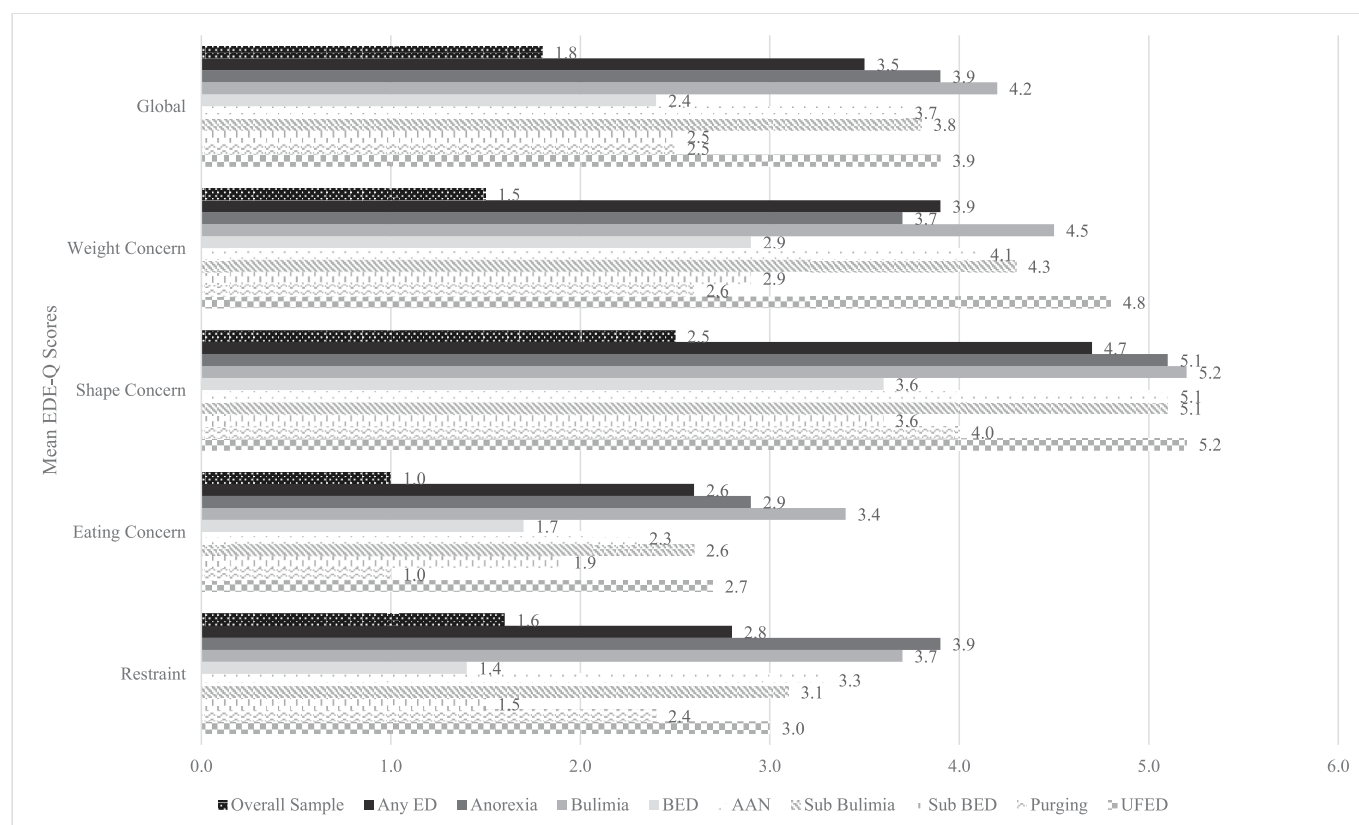
	% (n)
Age	
15–17	12.5 (193)
18–24	44.0 (682)
25–29	22.9 (355)
30–35	20.6 (319)
Gender	
Cisgender Boy/Man	82.0 (1246)
Transgender Boy/Man	7.7 (117)
Gender Diverse and Other	10.3 (157)
Race/Ethnicity	
Asian	10.8 (158)
Black	3.1 (45)
Latin American	4.1 (60)
Multi-Racial	12.9 (189)
Other	3.5 (51)
White	65.7 (965)
Sexual Orientation	
Heterosexual	48.0 (704)
Gay	19.6 (288)
Bisexual	13.9 (204)
Queer	8.0 (118)
Questioning and Other	10.4 (152)
Highest Completed Education	
High School Diploma or Less	44.1 (649)
College or Undergraduate Degree	39.9 (586)
Master's Degree or Higher	16.0 (235)
Body Mass Index (M [SD])	25.3 (6.2)
Annual Personal Income	
$< \$25,000$	51.1 (717)
$\$25,000$ – $\$49,000$	17.6 (247)
$\$50,000$ – $\$74,000$	14.0 (197)
$\geq \$75,000$	17.3 (243)
Relationship Status	
Single	55.3 (819)
In a Relationship	44.7 (662)
Country	
Canada	58.2 (784)
United States	41.8 (563)

M = Mean; SD = Standard deviation.

Table 2

Prevalence of probable eating disorder diagnoses, overall, and by gender and age, among a sample of boys and men from Canada and the United States (N = 1553).

	Total Prevalence		Prevalence by Gender			Prevalence by Age			
	n	% (95 % CI)	Cisgender Boy/ Man (n = 1246)	Trans Boy/Man (n = 117)	Gender Expansive/Other (n = 157)	15–17 (n = 193)	18–24 (n = 682)	25–29 (n = 355)	30–35 (n = 319)
			% (n)	% (n)	% (n)	% (n)	% (n)	% (n)	% (n)
Anorexia Nervosa	4	0.34 (0.09–0.85)	0.40 (4)	0.00 (0)	0.00 (0)	1.32 (2)	0.19 (1)	0.00 (0)	0.42 (1)
Bulimia Nervosa	84	5.78 (4.64–7.11)	6.44 (75)	5.36 (6)	1.37 (2)	5.11 (9)	6.23 (40)	5.09 (17)	6.06 (18)
Binge-Eating Disorder	38	3.25 (2.31–4.43)	3.49 (33)	2.13 (2)	2.91 (3)	4.23 (6)	2.46 (13)	3.62 (10)	4.07 (9)
Atypical Anorexia Nervosa	34	2.85 (2.00–3.96)	2.80 (28)	3.06 (3)	1.47 (1)	1.32 (2)	3.02 (16)	1.49 (4)	5.00 (12)
Subthreshold Bulimia Nervosa	30	2.07 (1.40–2.94)	2.24 (26)	1.80 (2)	0.68 (1)	2.27 (4)	2.65 (17)	0.30 (1)	2.70 (8)
Subthreshold Binge- Eating Disorder	19	1.63 (1.00–2.52)	1.37 (13)	3.19 (3)	2.91 (3)	2.11 (3)	1.32 (7)	2.17 (6)	1.36 (3)
Purging Disorder	8	0.53 (0.23–1.04)	0.49 (6)	0.86 (1)	0.65 (1)	1.08 (2)	0.60 (4)	0.00 (0)	0.64 (2)
Unspecified Feeding or Eating Disorder	11	0.76 (0.38–1.36)	0.87 (10)	0.90 (1)	0.00 (0)	0.57 (1)	0.63 (4)	0.90 (3)	1.02 (3)
Any Eating Disorder	195	21.26 (18.66–24.06)	21.63 (167)	17.95 (11)	23.91 (11)	22.22 (26)	20.05 (84)	18.27 (38)	27.17 (47)

**Fig. 1.** Mean EDE-Q scores among the overall sample and by probable eating disorder diagnoses.

EDE-Q = Eating Disorder Examination Questionnaire, ED = Eating disorder, BED = Binge-eating disorder, AAN = Atypical anorexia nervosa, FED = Unspecified feeding and eating disorder.

3.5 (SD = 1.1), while Global scores were 3.9 (SD = 0.6) for anorexia nervosa, 4.2 (SD = 0.7) for bulimia nervosa, and 2.4 (SD = 0.2) for binge-eating disorder. Additionally, the frequencies of eating disorder behaviors among the overall sample are displayed in Supplementary Table 2.

Results from multivariable logistic regression analysis (Table 3) revealed several significant sociodemographic correlates of meeting

criteria for any probable eating disorder diagnosis. Specifically, those who identified as gay (adjusted odds ratio [AOR] 2.28, 95 % CI 1.35–3.85) or bisexual (AOR 2.22, 95 % CI 1.23–3.99), compared to heterosexual, had over 2-fold greater odds of meeting criteria for any probable eating disorder diagnosis. Additionally, higher BMI (AOR 1.18, 95 % CI 1.14–1.23) was associated with greater odds of meeting criteria for any probable eating disorder diagnosis. Specifically, for every kg/m²

Table 3

Sociodemographic predictors of meeting criteria for any probable eating disorder diagnosis among a sample of boys and men from Canada and the United States (N = 1553).

	AOR (95 % CI)	p
Age		
15–17	Ref.	Ref.
18–24	0.90 (0.43–1.88)	0.784
25–29	0.57 (0.22–1.44)	0.232
30–35	0.76 (0.28–2.03)	0.581
Gender		
Cisgender Boy/Man	Ref.	Ref.
Transgender Boy/Man	0.60 (0.27–1.34)	0.216
Gender Diverse and Other	0.76 (0.30–2.07)	0.633
Race/Ethnicity		
White	Ref.	Ref.
Asian	1.64 (0.83–3.23)	0.151
Black	0.23 (0.05–1.19)	0.079
Latin American	1.47 (0.56–3.86)	0.432
Multi-Racial	1.49 (0.85–2.62)	0.164
Other	1.46 (0.53–4.04)	0.464
Sexual Orientation		
Heterosexual	Ref.	Ref.
Gay	2.28 (1.35–3.85)	0.002
Bisexual	2.22 (1.23–3.99)	0.008
Queer	1.29 (0.57–2.89)	0.541
Questioning and Other	1.78 (0.90–3.55)	0.099
Highest Completed Education		
High School Diploma or Less	Ref.	Ref.
College or Undergraduate Degree	0.75 (0.44–1.29)	0.297
Master's Degree or Higher	0.49 (0.22–1.08)	0.078
Body Mass Index	1.18 (1.14–1.23)	< 0.001
Annual Personal Income		
< \$25,000	Ref.	Ref.
\$25,000–\$49,000	1.00 (0.56–1.79)	0.994
\$50,000–\$74,000	0.87 (0.44–1.74)	0.700
≥ \$75,000	1.32 (0.69–2.50)	0.397
Relationship Status		
Single	Ref.	Ref.
In a Relationship	1.29 (0.85–1.98)	0.233
Country		
Canada	Ref.	Ref.
United States	0.83 (0.55–1.26)	0.383

Note: This table presents the full model outputs of one multivariable logistic regression analysis with meeting criteria for any probable eating disorder diagnosis as the dependent variable and age, gender, race/ethnicity, sexual orientation, highest completed education, body mass index, annual personal income, relationship status, and country as the independent variables.

Boldface indicates statistical significance $p < .05$.

AOR = Adjusted odds ratio; CI = Confidence interval.

unit increase in BMI, there was an 18 % higher odds of meeting criteria for an eating disorder. There were no other sociodemographic correlates (e.g., age, gender, race/ethnicity, education) of meeting criteria for any probable eating disorder diagnosis among boys and young men.

4. Discussion

Among a demographically diverse sample of boys and men across Canada and the United States, over 1 in 5 met clinical criteria for any probable eating disorder diagnosis. This finding is higher than prior research among adolescent boys (12.5 %) that utilized the same eating disorder operationalization (Mitchison et al., 2020). Among the overall sample, meeting criteria for a probable bulimia nervosa diagnosis was the most common eating disorder diagnosis, followed by binge-eating disorder, which aligns with prior research that has shown these two disorders are more common than anorexia nervosa among boys and men (Brown & Keel, 2023). Overall, our prevalence estimates for bulimia nervosa, binge-eating disorder, atypical anorexia nervosa, and sub-threshold binge-eating disorder were higher than prior research, while the prevalence estimates for anorexia nervosa, subthreshold bulimia nervosa, purging disorder, and UFED were within the range of prior

research (Allen et al., 2013; Chua et al., 2022; Flament et al., 2015; Hammerle et al., 2016; Mitchison et al., 2020; Swanson et al., 2011; Udo & Grilo, 2018). The varying prevalence estimates are likely due to differences in recruitment methodology across these studies, as well as the inclusion of two countries, a broader age range, and greater demographic diversity within the current sample.

Notably, we found minimal differences across sociodemographic identifiers for meeting criteria for any probable eating disorder diagnosis. Specifically, identifying as gay or bisexual was associated with over 2-fold greater odds of meeting criteria for any probable eating disorder diagnosis when compared to heterosexual peers. This finding aligns with prior research that has consistently underscored that sexual minority boys and men are at greater risk for eating disorder psychopathology (Burke et al., 2022; Hallward et al., 2022; Hazzard et al., 2020; Nagata, Ganson, & Austin, 2020), which is in part due to minority stressors (i.e., discrimination, stigma) that may be linked with eating disorders due to negative affect, shame, and social isolation (Calzo et al., 2017; Santoniccolo & Rollè, 2024), as well as unique dynamics within sexual minority communities related to objectification and internalization of body ideals (Nowicki et al., 2022; Tylka & Andorka, 2012). Additionally, we found that higher BMI was associated with greater odds of meeting criteria for any probable eating disorder diagnosis. This finding is consistent with prior research (Flament et al., 2015; Mitchison et al., 2020; Udo & Grilo, 2018; Vo, Lau, & Rubinstein, 2016) and is possibly due to a combination of weight stigma, self-objectification, and body dissatisfaction (Tylka, 2021).

Indeed, these findings underscore the need for continued targeted prevention and intervention programming for sexual minority boys and men and those in larger bodies. Specifically, prior research has documented the effectiveness of dissonance-based prevention programming for gay and bisexual men (Almeida et al., 2024; Brown & Keel, 2015), which may indicate the need for adaptation to gay and bisexual boys. Additionally, the findings may provide further evidence for the continued development and efficacy testing of tailored eating disorder interventions for sexual minority boys and men (Brown et al., 2024). There is also a need for improved public policy, research, and clinical training to address the implications of BMI as a consistent correlate of eating disorders. Namely, addressing weight stigma and the inappropriate linking of body weight and size as a marker of health is critical and may reduce the prevalence of eating disorders among boys and men.

Notably, and contrary to prior research, we did not find any meaningful differences in meeting criteria for any probable eating disorder diagnosis across genders (e.g., cisgender boys/men, transgender boys/men, gender diverse) (Hallward et al., 2022; Nagata, Ganson, & Austin, 2020), races or ethnicities (Beccia et al., 2019; Burke et al., 2022; Simone et al., 2022), ages (Solmi et al., 2021; Volpe et al., 2016; Ward et al., 2019), and education levels (Mitchison & Hay, 2014). Indeed, such null findings underscore that eating disorders may present at similar prevalence across these sociodemographic identifiers and, thus, prevention and intervention efforts should be inclusive of these various groups.

The findings from this study, contextualized by prior research, have important implications for clinical practice. The assessment of eating disorders among boys and men should include a focus on muscularity concerns, drive for muscularity, muscularity-oriented eating behaviors, and use of appearance- and performance-enhancing drugs and substances (e.g., anabolic-androgenic steroids). Current research on the eating disorder experiences of boys and men underscores the relevancy of these unique presentations among this population (Eschrich et al., 2025; Murray et al., 2017; Nagata, Ganson, & Murray, 2020; Zaiser et al., 2024). Relatedly, assessment measures, such as the EDE-Q, may need to be adapted to fully measure these concerns, motivations, and behaviors (Laskowski, Halbeisen, Braks, Huber, & Paslakis, 2023b). It is also important to consider issues related to stigma that many boys and men with eating disorders experience (Griffiths et al., 2015; Räisänen & Hunt, 2014), as it is a major factor preventing treatment utilization

among this population (Bomben, Robertson, & Allan, 2022; Lehe, Halbeisen, Steins-Loeber, & Paslakis, 2024). Indeed, creating more inclusive sociocultural understandings and narratives of eating disorders may reduce stigma among boys and men with eating disorders. Additionally, eating disorder treatment programs should consider the unique needs of boys and men with eating disorders to improve care and ensure a positive long-term prognosis. These needs may include same-gender representation in clinical staff (Ganson & Bunnell, 2024), greater gender diversity among clients (Richardson & Paslakis, 2021), and adapted treatment to address the unique needs of boys and men (e.g., male gender role socialization) (Bunnell, 2021). Importantly, despite the potential gaps in eating disorder treatment for boys and men, there is some evidence that suggests boys and men with eating disorders may have greater improvements in treatment (e.g., decreased eating disorder psychopathology) compared to girls and women with eating disorders (Brandt, Halbeisen, Braks, Huber, & Paslakis, 2023; Coelho et al., 2021; Halbeisen, Braks, Huber, & Paslakis, 2022); however, there is also evidence showing no differences in improvements (Baker et al., 2024; Gorrell et al., 2022).

There are limitations to this study that should be noted. The sample was recruited through non-probability sampling techniques, which may limit the generalizability of the findings due to potential self-selection bias of people responding to social media advertisements of a study on boys and men. Although this could restrict broader application, it is noteworthy that the sample displayed considerable diversity. Participants represented various sociodemographic backgrounds, including differences in age, education level, gender, and sexual orientation, and were sourced from all 13 Canadian provinces and territories, as well as across the 10 zip code regions (i.e., major geographic areas) in the United States. This wide representation adds some strength to the study's sample scope and the findings. A further limitation is the lack of clinical interviews to identify eating disorder diagnoses, which could have offered more detailed diagnostic information. Instead, the study used DSM-5-defined criteria and incorporated both standardized assessments and custom-designed items (Mitchison et al., 2020). This method improved the reliability of the findings and was cost-effective for a large-scale study; however, this method has not been formally validated. Furthermore, prior research using other language versions of the EDE-Q (e.g., German version) has reported that the EDE-Q may not fully represent the body concerns and body dissatisfaction experienced by boys and men with eating disorders (Laskowski et al., 2023b), and the original factor structure of the EDE-Q (German version) may not be applicable among women with eating disorders (Laskowski, Halbeisen, Braks, Huber, & Paslakis, 2023a). Future research would benefit from further corroboration of the results in this study, as well as validation of the eating disorder operationalizations used in this study. Additionally, it may be relevant to adapt or add items to standard measures of eating disorder psychopathology (e.g., EDE-Q) to account for the drive to increase body mass and muscularity common among boys and men with eating disorders. Future research should also consider investigating other sociodemographic correlates, such as housing situation, number of children, and social support, as these characteristics may be relevant among men with eating disorders (Traut, Halbeisen, Braks, Huber, & Paslakis, 2023).

5. Conclusion

Among a diverse sample of boys and men in Canada and the United States, 1 in 5 participants met criteria for any probable eating disorder diagnosis, with probable bulimia nervosa being most common among the sample. Gay and bisexual boys and men, as well as those with higher BMIs, had greater odds of meeting criteria for any probable eating disorder diagnosis, underscoring the need for prevention and intervention efforts to address these groups.

CRedit authorship contribution statement

Kyle T. Ganson: Writing – review & editing, Writing – original draft, Visualization, Validation, Software, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Deborah Mitchison:** Writing – review & editing, Conceptualization. **Rachel F. Rodgers:** Writing – review & editing, Conceptualization. **Stuart B. Murray:** Writing – review & editing, Conceptualization. **Alexander Testa:** Writing – review & editing, Conceptualization. **Jason M. Nagata:** Writing – review & editing, Conceptualization.

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Declaration of competing interest

All authors declare none.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.eatbeh.2025.101980>.

Data availability

Data may be made available upon reasonable request.

References

- Allen, K. L., Byrne, S. M., Oddy, W. H., & Crosby, R. D. (2013). DSM-IV-TR and DSM-5 eating disorders in adolescents: Prevalence, stability, and psychosocial correlates in a population-based sample of male and female adolescents. *Journal of Abnormal Psychology*, 122(3), 720–732. <https://doi.org/10.1037/a0034004>
- Allison, P. D. (2002). *Missing data*. SAGE Publications, Inc.
- Almeida, M., Santos, C. G., De Oliveira Júnior, M. L., Resende, T. R. O., Blashill, A. J., Brown, T. A., & De Carvalho, P. H. B. (2024). Dissonance-based eating disorder prevention for body-dissatisfied Brazilian cisgender gay and bisexual men: A randomized controlled trial with a 1-year follow-up. *International Journal of Eating Disorders*, 57(9), 1924–1935. <https://doi.org/10.1002/eat.24246>
- American Psychiatric Association. (2022). *Diagnostic and Statistical Manual of Mental Disorders*. <https://doi.org/10.1176/appi.books.9780890425787>
- Arcelus, J., Mitchell, A. J., Wales, J., & Nielsen, S. (2011). Mortality rates in patients with anorexia nervosa and other eating disorders: A meta-analysis of 36 studies. *Archives of General Psychiatry*, 68(7), 724–731. <https://doi.org/10.1001/archgenpsychiatry.2011.74>
- Baker, J. H., Freestone, D., Cai, K., Silverstein, S., Urban, B., & Steinberg, D. (2024). Eating disorder clinical presentation and treatment outcomes by gender identity among children, adolescents, and young adults. *Journal of Adolescent Health*, 75(2), 254–260. <https://doi.org/10.1016/j.jadohealth.2023.11.015>
- Beccia, A. L., Baek, J., Jesdale, W. M., Austin, S. B., Forrester, S., Curtin, C., & Lapane, K. L. (2019). Risk of disordered eating at the intersection of gender and racial/ethnic identity among U.S. high school students. *Eating Behaviors*, 34(March), Article 101299. <https://doi.org/10.1016/j.eatbeh.2019.05.002>
- Bomben, R., Robertson, N., & Allan, S. (2022). Barriers to help-seeking for eating disorders in men: A mixed-methods systematic review. *Psychology of Men & Masculinities*, 23(2), 183–196. <https://doi.org/10.1037/men0000382>
- Brandt, G., Halbeisen, G., Braks, K., Huber, T. J., & Paslakis, G. (2023). Gender differences in individuals with obesity and binge eating disorder: A retrospective comparison of phenotypical features and treatment outcomes. *European Eating Disorders Review*, 31(3), 413–424. <https://doi.org/10.1002/erv.2972>
- Brown, T. A., & Keel, P. K. (2015). A randomized controlled trial of a peer co-led dissonance-based eating disorder prevention program for gay men. *Behaviour Research and Therapy*, 74, 1–10. <https://doi.org/10.1016/j.brat.2015.08.008>
- Brown, T. A., & Keel, P. K. (2023). Eating disorders in boys and men. *Annual Review of Clinical Psychology*, 19, 177–205.
- Brown, T. A., Klimek-Johnson, P., Siegel, J. A., Convertino, A. D., Douglas, V. J., Pachankis, J., & Blashill, A. J. (2024). Promoting resilience to improve disordered eating: A case series of an eating disorder treatment for sexual minority individuals. *International Journal of Eating Disorders*, 57(3), 648–660. <https://doi.org/10.1002/eat.24150>
- Bunnell, D. W. (2021). Psychotherapy with men with eating disorders: The influence of gender socialization and masculine gender norms on engagement and treatment. In J. M. Nagata, T. A. Brown, S. B. Murray, & J. M. Lavender (Eds.), *Eating disorders in boys and men*. Springer. https://doi.org/10.1007/978-3-030-67127-3_14

- Burke, N. L., Hazzard, V. M., Schaefer, L. M., Simone, M., O'Flynn, J. L., & Rodgers, R. F. (2022). Socioeconomic status and eating disorder prevalence: At the intersections of gender identity, sexual orientation, and race/ethnicity. *Psychological Medicine*, 1–11. <https://doi.org/10.1017/s0033291722001015>
- Calzo, J. P., Blashill, A. J., Brown, T. A., & Argental, R. L. (2017). Eating disorders and disordered weight and shape control behaviors in sexual minority populations. *Current Psychiatry Reports*, 19(8), 49. <https://doi.org/10.1007/s11920-017-0801-y>
- Chua, S. N., Fitzsimmons-Craft, E. E., Austin, S. B., Wilfley, D. E., & Taylor, C. B. (2022). Estimated prevalence of eating disorders in Malaysia based on a diagnostic screen. *International Journal of Eating Disorders*, 55(6), 763–775. <https://doi.org/10.1002/eat.23711>
- Coelho, J. S., Suen, J., Marshall, S., Burns, A., Geller, J., & Lam, P.-Y. (2021). Gender differences in symptom presentation and treatment outcome in children and youths with eating disorders. *Journal of Eating Disorders*, 9(1), 113. <https://doi.org/10.1186/s40337-021-00468-8>
- Eschrich, R. L., Halbeisen, G., Steins-Loeber, S., Timmesfeld, N., & Paslakis, G. (2025). Investigating the structure of disordered eating symptoms in adult men: A network analysis. *European Eating Disorders Review*, 33(1), 80–94. <https://doi.org/10.1002/erv.3131>
- Fairburn, C. G., & Beglin, S. (2008). Eating disorder examination questionnaire. In C. G. Fairburn (Ed.), *Cognitive behavior therapy and eating disorders* (pp. 309–313). New York: Guilford Press.
- Flament, M. F., Henderson, K., Buchholz, A., Obeid, N., Nguyen, H. N. T., Birmingham, M., & Goldfield, G. (2015). Weight status and DSM-5 diagnoses of eating disorders in adolescents from the community. *Journal of the American Academy of Child & Adolescent Psychiatry*, 54(5), 403–411.e2. <https://doi.org/10.1016/j.jaac.2015.01.020>
- Ganson, K. T., & Bunnell, D. W. (2024). Building the representation of male mental health professionals in eating disorder treatment. *Eating Disorders*, 1–12. <https://doi.org/10.1080/10640266.2024.2405291>
- Gorrell, S., Hughes, E. K., Sawyer, S. M., Roberts, S. R., Nagata, J. M., Yeo, M., ... Le Grange, D. (2022). Gender-based clinical differences in evidence-based treatment for adolescent anorexia nervosa: Analysis of aggregated randomized controlled trials. *Eating and Weight Disorders - Studies on Anorexia, Bulimia and Obesity*, 27(3), 1123–1130. <https://doi.org/10.1007/s40519-021-01257-7>
- Griffiths, S., Mond, J. M., Li, Z., Gunatilake, S., Murray, S. B., Sheffield, J., & Touyz, S. (2015). Self-stigma of seeking treatment and being male predict an increased likelihood of having an undiagnosed eating disorder. *International Journal of Eating Disorders*, 48(6), 775–778. <https://doi.org/10.1002/eat.22413>
- Gutin, I. (2018). In BMI we trust: Reframing the body mass index as a measure of health. *Social Theory & Health*, 16(3), 256–271. <https://doi.org/10.1057/s41285-017-0055-0>
- Halbeisen, G., Braks, K., Huber, T. J., & Paslakis, G. (2022). Gender differences in treatment outcomes for eating disorders: A case-matched, retrospective pre-post comparison. *Nutrients*, 14(11), 2240. doi:10.3390/nu14112240.
- Hallward, L., Nagata, J. M., Rodgers, R. F., & Ganson, K. T. (2022). Examination of eating disorder psychopathology across sexual and gender identities among a Canadian sample (pp. 1–12). August: International Journal of Eating Disorders. <https://doi.org/10.1002/eat.23872>
- Hambleton, A., Pepin, G., Le, A., Maloney, D., National Eating Disorder Research Consortium, Aouad, P., Barakat, S., Boakes, R., Brennan, L., Bryant, E., Byrne, S., Caldwell, B., Calvert, S., Carroll, B., Castle, D., Catteron, L., Chelius, B., Chiem, L., Clarke, S., ... Maguire, S. (2022). Psychiatric and medical comorbidities of eating disorders: Findings from a rapid review of the literature. *Journal of Eating Disorders*, 10(1), 132. <https://doi.org/10.1186/s40337-022-00654-2>
- Hammerle, F., Huss, M., Ernst, V., & Bürger, A. (2016). Thinking dimensional: Prevalence of DSM-5 early adolescent full syndrome, partial and subthreshold eating disorders in a cross-sectional survey in German schools. *BMJ Open*, 6(5), Article e010843. <https://doi.org/10.1136/bmjopen-2015-010843>
- Hay, P., Mitchison, D., Collado, A. E. L., González-Chica, D. A., Stocks, N., & Touyz, S. (2017). Burden and health-related quality of life of eating disorders, including Avoidant/Restrictive Food Intake Disorder (ARFID), in the Australian population. *Journal of Eating Disorders*, 5(1), 21. <https://doi.org/10.1186/s40337-017-0149-z>
- Hazzard, V. M., Simone, M., Borg, S. L., Borton, K. A., Sonnevile, K. R., Calzo, J. P., & Lipson, S. K. (2020). Disparities in eating disorder risk and diagnosis among sexual minority college students: Findings from the national healthy minds study. *International Journal of Eating Disorders*, 53(9), 1563–1568. <https://doi.org/10.1002/eat.23304>
- Iwajomo, T., Bondy, S. J., de Oliveira, C., Colton, P., Trottier, K., & Kurdyak, P. (2021). Excess mortality associated with eating disorders: Population-based cohort study. *The British Journal of Psychiatry*, 219(3), 487–493. <https://doi.org/10.1192/bjp.2020.197>
- Kawachi, I., & Subramanian, S. V. (2018). Social epidemiology for the 21st century. *Social Science & Medicine*, 196, 240–245. <https://doi.org/10.1016/j.socscimed.2017.10.034>
- Krieger, N. (2001). Theories for social epidemiology in the 21st century: An ecosocial perspective. *International Journal of Epidemiology*, 30(4), 668–677. <https://doi.org/10.1093/ije/30.4.668>
- Laskowski, N. M., Halbeisen, G., Braks, K., Huber, T. J., & Paslakis, G. (2023a). Exploratory graph analysis (EGA) of the dimensional structure of the eating disorder examination-questionnaire (EDE-Q) in women with eating disorders. *Journal of Psychiatric Research*, 163, 254–261. <https://doi.org/10.1016/j.jpsychires.2023.05.063>
- Laskowski, N. M., Halbeisen, G., Braks, K., Huber, T. J., & Paslakis, G. (2023b). Factor structure of the Eating Disorder Examination-Questionnaire (EDE-Q) in adult men with eating disorders. *Journal of Eating Disorders*, 11(1), 34. <https://doi.org/10.1186/s40337-023-00757-4>
- Lavender, J. M., De Young, K. P., & Anderson, D. A. (2010). Eating Disorder Examination Questionnaire (EDE-Q): Norms for undergraduate men. *Eating Behaviors*, 11(2), 119–121. <https://doi.org/10.1016/j.eatbeh.2009.09.005>
- Lehe, M. S., Halbeisen, G., Steins-Loeber, S., & Paslakis, G. (2024). Invisible walls? Stigma-related perceptions are associated with reduced help-seeking intentions for disordered eating in men. *Journal of Eating Disorders*, 12(1), 200. <https://doi.org/10.1186/s40337-024-01152-3>
- Levinson, J. A., Kinkel-Ram, S., Myers, B., & Hunger, J. M. (2024). A systematic review of weight stigma and disordered eating cognitions and behaviors. *Body Image*, 48, Article 101678. <https://doi.org/10.1016/j.bodyim.2023.101678>
- Mitchison, D., & Hay, P. J. (2014). The epidemiology of eating disorders: Genetic, environmental, and societal factors. *Clinical Epidemiology*, 6(1), 89–97. <https://doi.org/10.2147/CLEP.S40841>
- Mitchison, D., & Mond, J. (2015). Epidemiology of eating disorders, eating disordered behaviour, and body image disturbance in males: A narrative review. *Journal of Eating Disorders*, 3(1), 1–9. <https://doi.org/10.1186/s40337-015-0058-y>
- Mitchison, D., Mond, J., Bussey, K., Griffiths, S., Trompeter, N., Loneragan, A., ... Hay, P. (2020). DSM-5 full syndrome, other specified, and unspecified eating disorders in Australian adolescents: Prevalence and clinical significance. *Psychological Medicine*, 50(6), 981–990. <https://doi.org/10.1017/S0033291719000898>
- Murray, S. B., Nagata, J. M., Griffiths, S., Calzo, J. P., Brown, T. A., Mitchison, D., ... Mond, J. M. (2017). The enigma of male eating disorders: A critical review and synthesis. *Clinical Psychology Review*, 57(August), 1–11. <https://doi.org/10.1016/j.cpr.2017.08.001>
- Nagata, J. M., Compton, E. J., Murray, S. B., Schauer, R., Pak, E., Flentje, A., ... Obedin-Maliver, J. (2021). Community norms for the eating disorder examination questionnaire (EDE-Q) among cisgender bisexual plus women and men. *Eating and Weight Disorders*, 26(7), 2227–2239. <https://doi.org/10.1007/s40519-020-01070-8>
- Nagata, J. M., Ganson, K. T., & Austin, S. B. (2020). Emerging trends in eating disorders among sexual and gender minorities. *Current Opinion in Psychiatry*, 33(6), 562–567. <https://doi.org/10.1097/YCO.0000000000000645>
- Nagata, J. M., Ganson, K. T., & Murray, S. B. (2020). Eating disorders in adolescent boys and young men: An update. *Current Opinion in Pediatrics*. <https://doi.org/10.1097/MOP.0000000000000911>
- Nagata, J. M., & Golden, N. H. (2018). Sex differences in eating disorders. *Adolescent Medicine: State of the Art Reviews*, 29(2), 245–259.
- Nagata, J. M., Helmer, C. K., Wong, J. H., Domingue, S. K., Shim, J. E., & Al-shoabi, A. A. (2024). Prevalence and sociodemographic associations with weight discrimination in early adolescents. *Preventive Medicine Reports*, 47, Article 102892. <https://doi.org/10.1016/j.pmedr.2024.102892>
- Nagata, J. M., Murray, S. B., Compton, E. J., Pak, E. H., Schauer, R., Flentje, A., ... Obedin-Maliver, J. (2020). Community norms for the Eating Disorder Examination Questionnaire (EDE-Q) among transgender men and women. *Eating Behaviors*, 37 (October 2019), Article 101381. <https://doi.org/10.1016/j.eatbeh.2020.101381>
- Nowicki, G. P., Marchewski, B. R., O'Flynn, J. L., Griffiths, S., & Rodgers, R. F. (2022). Body image and associated factors among sexual minority men: A systematic review. *Body Image*, 43, 154–169. <https://doi.org/10.1016/j.bodyim.2022.08.006>
- Parent, M. C. (2013). Handling item-level missing data: Simpler is just as good. *The Counseling Psychologist*, 41(4), 568–600. <https://doi.org/10.1177/0011000012445176>
- Räisänen, U., & Hunt, K. (2014). The role of gendered constructions of eating disorders in delayed help-seeking in men: A qualitative interview study. *BMJ Open*, 4(4). <https://doi.org/10.1136/bmjopen-2013-004342>
- Reas, D. L., Øverås, M., & Øyvind, R. (2012). Norms for the Eating Disorder Examination Questionnaire (EDE-Q) among high school and university men. *Eating Disorders*, 20 (5), 437–443. <https://doi.org/10.1080/10640266.2012.715523>
- Richardson, C., & Paslakis, G. (2021). Men's experiences of eating disorder treatment: A qualitative systematic review of men-only studies. *Journal of Psychiatric and Mental Health Nursing*, 28(2), 237–250. <https://doi.org/10.1111/jpm.12670>
- Santonico, F., & Rollé, L. (2024). The role of minority stress in disordered eating: A systematic review of the literature. *Eating and Weight Disorders - Studies on Anorexia, Bulimia and Obesity*, 29(1), 41. <https://doi.org/10.1007/s40519-024-01671-7>
- Simone, M., Telke, S., Anderson, L. M., Eisenberg, M., & Neumark-Sztainer, D. (2022). Ethnic/racial and gender differences in disordered eating behavior prevalence trajectories among women and men from adolescence into adulthood. *Social Science & Medicine*, 294, Article 114720. <https://doi.org/10.1016/j.socscimed.2022.114720>
- Smith, S., Charach, A., To, T., Toulany, A., Fung, K., & Saunders, N. (2023). Pediatric patients hospitalized with eating disorders in Ontario, Canada, over time. *JAMA Network Open*, 6(12), Article e2346012. <https://doi.org/10.1001/jamanetworkopen.2023.46012>
- Solmi, M., Radua, J., Olivola, M., Croce, E., Soardo, L., Salazar de Pablo, G., ... Fusar-Poli, P. (2021). Age at onset of mental disorders worldwide: Large-scale meta-analysis of 192 epidemiological studies. *Molecular Psychiatry*. <https://doi.org/10.1038/s41380-021-01161-7>
- StataCorp, L. L. C. (2024). Stata 18 [computer software]. <http://www.stata.com>.
- Swanson, S. A., Crow, S. J., Le Grange, D., Swendsen, J., & Merikangas, K. R. (2011). Prevalence and correlates of eating disorders in adolescents: Results from the national comorbidity survey replication adolescent supplement. *Archives of General Psychiatry*, 68(7), 714–723. <https://doi.org/10.1001/archgenpsychiatry.2011.22>
- Traut, P., Halbeisen, G., Braks, K., Huber, T. J., & Paslakis, G. (2023). Sociodemographic and clinical features of men and women with eating disorders: A diagnosis-matched, retrospective comparison among inpatients. *Frontiers in Psychiatry*, 14, 1192693. <https://doi.org/10.3389/fpsy.2023.1192693>

- Tylka, T. L. (2021). Models of body image for boys and men. In J. M. Nagata, T. A. Brown, S. B. Murray, & J. M. Lavender (Eds.), *Eating disorders in boys and men* (pp. 7–20). Springer International Publishing. https://doi.org/10.1007/978-3-030-67127-3_2.
- Tylka, T. L., & Andorka, M. J. (2012). Support for an expanded tripartite influence model with gay men. *Body Image*, 9(1), 57–67. <https://doi.org/10.1016/j.bodyim.2011.09.006>
- Udo, T., & Grilo, C. M. (2018). Prevalence and correlates of DSM-5-defined eating disorders in a nationally representative sample of U.S. adults. *Biological Psychiatry*, 84(5), 345–354. <https://doi.org/10.1016/j.biopsych.2018.03.014>
- Vartanian, L. R., & Porter, A. M. (2016). Weight stigma and eating behavior: A review of the literature. *Appetite*, 102, 3–14. <https://doi.org/10.1016/j.appet.2016.01.034>
- Vo, M., Lau, J., & Rubinstein, M. (2016). Eating disorders in adolescent and young adult males: Presenting characteristics. *Journal of Adolescent Health*, 59(4), 397–400. <https://doi.org/10.1016/j.jadohealth.2016.04.005>
- Volpe, U., Tortorella, A., Manchia, M., Monteleone, A. M., Albert, U., & Monteleone, P. (2016). Eating disorders: What age at onset? *Psychiatry Research*, 238, 225–227. <https://doi.org/10.1016/j.psychres.2016.02.048>
- Ward, Z. J., Rodriguez, P., Wright, D. R., Austin, S. B., & Long, M. W. (2019). Estimation of eating disorders prevalence by age and associations with mortality in a simulated nationally representative US cohort. *JAMA Network Open*, 2(10), Article e1912925. <https://doi.org/10.1001/jamanetworkopen.2019.12925>
- Westmoreland, P., Krantz, M. J., & Mehler, P. S. (2016). Medical complications of anorexia nervosa and bulimia. *American Journal of Medicine*, 129(1), 30–37. <https://doi.org/10.1016/j.amjmed.2015.06.031>
- Xu, Y., Pace, S., Kim, J., Iachini, A., King, L. B., Harrison, T., ... Simone, M. (2022). Threats to online surveys: Recognizing, detecting, and preventing survey bots. *Social Work Research*, 1–8. <https://doi.org/10.1093/swr/svac023>
- Zaiser, C., Laskowski, N. M., Müller, R., Abdulla, K., Sabel, L., Ballero Reque, C., ... Paslakis, G. (2024). The relationship between anabolic androgenic steroid use and body image, eating behavior, and physical activity by gender: A systematic review. *Neuroscience & Biobehavioral Reviews*, 163, Article 105772. <https://doi.org/10.1016/j.neubiorev.2024.105772>