

Article

A Comprehensive Analysis of the Impact of Binge Eating Disorders on Lifestyle in Spain

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Abstract: Background/Objectives: Binge Eating Disorders are severe mental and physical health conditions, closely linked to lifestyle habits. The aims are to describe the prevalence of Binge Eating Disorders and their correlation with nutritional habits and lifestyle factors within the Spanish population. **Methods:** A descriptive, cross-sectional design was employed. Using non-probabilistic snowball sampling, an electronic survey was released. A total of 22,181 Spanish adults were evaluated, excluding those with any pathology or limitation at the time of survey response that could potentially affect their diet, such as hospitalization or confinement. The validated Nutritional and Social Healthy Habits (NutSo-HH) scale was used to collect data on nutrition, lifestyle, health habits, and socio-demographic variables. Descriptive and inferential statistics were used. Non-parametric tests were applied due to non-normal distribution. **Results:** Of the 22,181 sample subject (80.8% female), a total number of 260 individuals reported Binge Eating Disorder. The prevalence of Binge Eating Disorder was higher in women than in men (239 vs. 21 respectfully; 91.9%). Individuals with Binge Eating Disorder exhibited poorer nutritional indices ($p < 0.001$), higher consumption of ultra-processed and fast food ($p < 0.001$), sugary soft drinks ($p = 0.01$), and worse sleep quality ($p < 0.001$). Although time dedicated to physical activity was not different, individuals with Binge Eating Disorder were more sedentary and had lower health status ($p = 0.11$ for sport practice). Behavioral regulation plays a key role in managing BED, highlighting the need for personalized intervention strategies. **Conclusions:** Binge Eating Disorders are associated with lifestyle and health habits and worse quality of life. These data can help design public health programs for early detection and effective treatment.

Keywords: feeding and eating disorders; feeding behavior; binge eating disorder; healthy lifestyle



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1. Introduction

Binge Eating Disorder (BED), also known as compulsive overeating, is a complex condition that is steadily growing in contemporary society, with a global estimated prevalence

ranging from 0.6% to 1.8% in adult women and from 0.3% to 0.7% in adult men [1]. The prevalence of BED peaks during late adolescence [2]; however, only a limited percentage of adolescents affected by BED (11.9%) seek clinical assistance, leading to a “chronicization of the pathology”, extending into adulthood [2,3]. Although causing a significant impact on the quality of life and psychophysical well-being of individuals, BEDs remain frequently undiagnosed and untreated [4,5]. BED is often associated with obesity and concomitant somatic and psychiatric conditions [6], with a multifactorial etiology involving genetic, environmental, neuroendocrinological, and neurobiological factors, revealing impairments in reward processes, inhibitory control, and emotional regulation [5].

Recent studies highlight the growing role of personalized medicine in addressing BED, emphasizing the potential of tailoring treatments to individual biological and behavioral profiles. For example, new research supports the use of integrative-cognitive therapy and behavioral weight loss interventions, with promising results for both binge eating reduction and weight management through the incorporation of tools such as e-mental-health, a crucial component to enhance accessibility and engagement in treatment plans [7–9].

Unlike other eating disorders, such as anorexia nervosa or bulimia nervosa, BED is characterized by recurrent episodes of excessive eating, with intense feelings of loss of control and without compensatory behaviors, such as vomiting or excessive laxative use [10]. These episodes can be triggered by various factors, including stress, anxiety, boredom, or a previous restrictive diet [11]. The feeling of loss of control during these episodes can have a significant impact on patients’ daily lives [12], with consequences extending far beyond the physical sphere. Although physical symptoms such as weight gain, obesity, and cardiovascular complications are risk factors for the development of metabolic syndrome [13], mental and emotional consequences often escape attention.

A precision and personalized medicine approach, integrating neurobiological and behavioral data, has shown promise in personalizing interventions for BED. For instance, studies utilizing advanced imaging technologies like positron emission tomography (PET-MRI) have revealed significant alterations in noradrenaline transporter activity in individuals with BED, particularly in emotion regulation pathways. Smartphone-supported therapies targeting emotion regulation are now being developed to address these neurobiological disruptions, representing a significant step toward personalized and precision care [14]. The importance of behavioral regulation in managing BED is further supported by psychometric tools that assess individuals’ self-regulation in various domains. For instance, recent research highlights the psychometric properties of the Behavioral Regulation in Exercise Questionnaire (BREQ-3), emphasizing its role in understanding how self-regulation influences behavior, including eating patterns, which is crucial for developing effective interventions in BED [15].

In fact, shame, guilt, and social isolation are common among those affected by this clinical condition, fueling a vicious cycle of dysfunctional eating behaviors, self-evaluation, and a series of psychological complications, including depression, anxiety, and low self-esteem [12]. The chronic and debilitating nature of the disorder can compromise overall quality of life and negatively affect personal relationships, work performance, and even prospects [16]. When considering how BED intersects with social habits, lifestyle, diet, sports, and physical and mental well-being, it becomes evident how important it is to address this issue in a comprehensive and multidisciplinary manner [17].

Furthermore, network analysis of symptom interactions has provided a novel framework to identify central symptoms that drive BED pathology. By focusing on these central elements—such as concerns about shape, weight, and eating behaviors, a personalized medical approach involving therapies like cognitive-behavioral therapy (CBT) and interpersonal psychotherapy (IPT) can be used to target the most impactful symptoms, enhancing treatment efficacy [18].

Social pressures related to the ideal body image and diet can contribute to the development and persistence of BED, while a healthy lifestyle and balanced diet can be compromised by this disorder. Social support, psychological therapy, and nutritional intervention are essential in the treatment of BED, along with a compassionate and non-judgmental approach from the community and mental health professionals [19].

However, ongoing research emphasizes the importance of personalized and precision treatments that integrate neurobehavioral and molecular data such as interventions that reduce the hyperactivation of reward-related brain regions or those observed during food cue exposure in individuals with BED [20].

Only by addressing BED in a comprehensive and integrated manner can we hope to alleviate the burden of this disorder for those who suffer from it and promote a culture of well-being that embraces the diversity and complexity of the relationship between body and mind [21]. The social and cultural context in which we are immersed is characterized by pressures related to body image and lifestyle that can profoundly influence eating habits and physical activity. With the increasing prevalence of eating disorders in contemporary society, it becomes fundamental to analyze the impact of habits and lifestyle on people with BEDs. Various studies have examined this relationship across different populations worldwide. However, due to the complexity of eating disorders and the multifactorial nature of their determinants, all these studies emphasize the need for further research to clarify these relationships in more detail [22–24].

The aim of this study is to describe the prevalence of BED in the Spanish population, to study the relationship between BED and different socio-demographic variables, and to evaluate the impact of eating habits, lifestyle, and body mass index (BMI) on the prevalence of this disorder.

2. Materials and Methods

2.1. Research Design

The cross-sectional study conducted following the STROBE Guidelines [25] aimed to investigate the Spanish population aged 18 and above. The study adhered to the Declaration of Helsinki principles and received approval from the Research Ethics Committee of the Catholic University of Valencia (approval code UCV/2019-2020/152, 20 June 2020). Informed consent was obtained from all participants.

2.2. Sampling Methods

The research involved 22,181 Spanish adults and utilized electronic dissemination of a survey, encouraging participants to further share it via the “snowball” method [26]. Individuals were excluded from the study if they had any pathology or limitation at the time of survey response that could potentially affect their diet, such as hospitalization or confinement.

2.3. Instrument

The study employed the Nutritional and Social Healthy Habits (NutSo-HH) scale [27] as data collection instrument, which was developed and validated through rigorous methodological procedures, including psychometric testing. The multifactor NutSo-HH scale is composed of 6 first-order factors (F1: Mediterranean foods, F2: healthy and unhealthy foods, F3: meats and dairy products, F4: eating disorders, F5: rest habits, and F6: alcohol consumption) and two second-order factors NUTRI (comprising factors F2 and F3) and HH (comprising factors F4 and F5). The questionnaire also collects comprehensive data on demographic and health-related factors, including sex, age, birthplace, residence, occupation, education, income, weight, height, and self-perceived health.

It is important to underline that the scale is not intended to diagnose or measure the presence of eating disorders in the population and was not used for that purpose. The validated scale was used to measure the habits of the population. Individuals who participated in the study with BED had been diagnosed in advance by competent professionals and simply indicated in the questionnaire whether or not they suffered from the disorder.

2.4. Data Collection

The questionnaire was distributed online through telematic channels, starting with the Instagram account @elretonutricional and researchers' personal social networks like WhatsApp, LinkedIn, Facebook, and Twitter. Professionals and influencers across Spain were contacted and invited to share the survey with their networks. Preliminary results and participant updates were shared on Instagram to encourage engagement. To reach a broader audience, including those with limited electronic access, physical posters with QR codes were displayed in selected shops, centers, and associations across Spain. Data collection occurred from August 2020 to November 2021.

2.5. Variables

The frequency of food and drink consumption was collected as qualitative variables and used to compute the IASE (Healthy Eating Index for the Spanish population) using a validated condensed version [28]. This index includes variables like "fruit", "vegetables", "meat", "dairy", "cereals", "pulses", and "soft drinks", evaluating the frequency of recommended and occasional food intake, and dietary variety. Scores range up to 73, scores classify nutritional habits as "Healthy" (58.4–73), "Needs changes" (36.5–58.4), or "Unhealthy" (<36.5).

The nutritional variables not covered by the IASE, as well as lifestyle variables, were classified using a 4-point Likert scale (where 1 indicates the lowest frequency of performing a habit and 4 indicates the highest frequency) while for potential eating disorder symptoms, a 6-point Likert scale was applied (where 1 corresponds to never; 2 rarely; 3 occasionally; 4 frequently; 5 very frequently; and 6 always), following the same criteria as previous articles [29,30]. Sports minutes and Body Mass Index (BMI) was recorded as a numerical value. Socio-demographic variables were categorized as follows: gender (men/women), education (basic: those persons who had attained at most a baccalaureate degree /higher: persons with a university degree, a master's degree or a doctorate), and income (low: <2200 EUR/month; medium–high: ≥2200 EUR/month), size of municipality of residence (small < 2000 habitants, medium between 2000 and 10,000 inhabitants, big > 10,000 habitants).

2.6. Statistical Analysis

Data inconsistencies were corrected or deleted, and categorical variables were converted to ordinal ones. Outliers, such as BMI values below 14 and above 40, were excluded. Descriptive and inferential statistical analyses were conducted, presenting discrete variables as percentages and continuous variables with mean and standard deviation. The Lilliefors Test confirmed non-normal data distribution, leading to the use of non-parametric tests for analysis. Post hoc Dunn tests with Bonferroni Correction were applied to identify significant differences. Analyses were performed using Python 3.9.0 and Excel.

3. Results

3.1. Sample Characteristics

The study participants were predominantly female (80.8%), with mean age 34.9; 11.7 years (range: 18–89), similarly distributed between the young (18–30 years) (43.7%) and middle-aged (31–50 years) groups (44.7%). Only 11.6% of the participants were over 50 years old. More details of the total sample characteristics are described in Table 1.

Table 1. Socio-demographic characteristics of total sample (N = 22,181).

	Mean; SD or N (%)
Male	4251 (19.2%)
Female	17,930 (80.8%)
Age (years)	34.9; 11.7 (range: 18–89)
Male Age	36.5; 13.4 (range: 18–84)
Female Age	34.5; 11.2 (range: 18–89)
	Total
Age	N (%)
Young (18–30)	9692 (43.7%)
Middle Age (31–50)	9913 (44.7%)
Adults (>50)	2576 (11.6%)
Level of education	
Basic	7027 (31.7%)
Higher	15,154 (68.3%)
Income level	
Low	9727 (43.8%)
Medium–high	10,616 (47.7%)
Do not know-no answer	1838 (8.3%)
City size	
<2000	1014 (4.6%)
2000–10,000	3587 (16.2%)
>10,000	17,580 (79.3%)

Note: SD = standard deviation.

3.2. BED Sample Characteristics

Of the total respondents (N = 22,181), the majority (n1 = 21,401; 96.5%) reported not having been diagnosed with any type of eating disorder. A small proportion (n2 = 260; 1.2%) indicated a previous diagnosis of Binge Eating Disorder. The remaining participants (n3 = 520; 2.3%) reported other types of eating disorders that are not within the scope of the present study and for that reason have not been considered for the analyses that concerns this article. Table 2 presents the socio-demographic characteristics of people with diagnosed Binge Eating Disorder.

Table 2. Socio-demographic characteristics of BED sample (n2 = 260).

	Mean; SD or n (%)
Male	21 (8.1%)
Female	239 (91.9%)
Age (years)	34.5; 11.7 (range: 18–89)
Age (% N)	
Young (18–30)	97 (37.3%)
Middle Age (31–50)	148 (56.9%)
Adults (>50)	15 (5.8%)
Level of education	
Basic	98 (37.7%)
Higher	162 (62.3%)
Income level	
Low	125 (48.1%)
Medium–high	113 (43.5%)
Don't know-no answer	22 (8.5%)
City size	
<2000	17 (6.5%)
2000–10,000	49 (18.9%)
>10,000	194 (74.6%)

Note: SD = standard deviation.

3.3. Obesophobia, No Control, and Body Image Scores in the Two Samples

The scores of the variables obesophobia, and body image were the highest, with 47.5% of the total population reporting being always, very often, or frequently afraid of gaining weight, and 49.9% reporting being always, very often, or frequently concerned with their own body image (Figure 1). Among individuals diagnosed with BEDs, the distribution of responses to the variables obesophobia, no control, and body image showed that most responses fell within the categories of frequently, very frequently, or always (Figure 2).

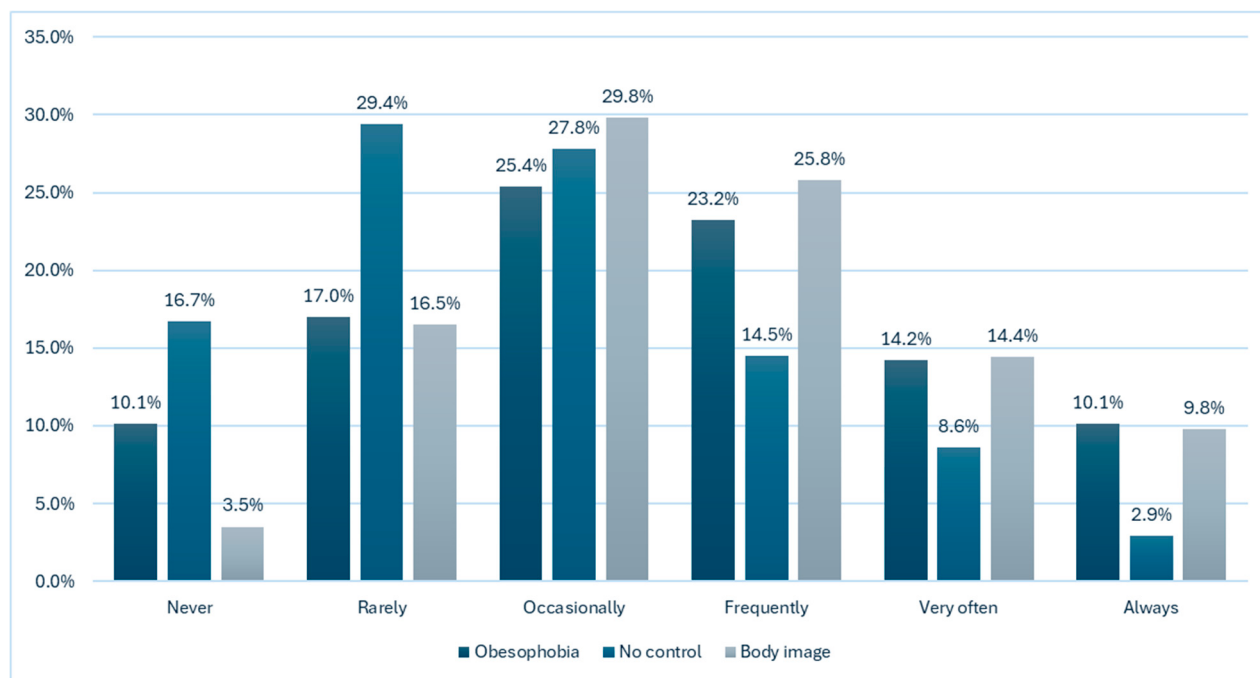


Figure 1. Frequencies of responses for each food disturbance item (total sample, N = 22,181).

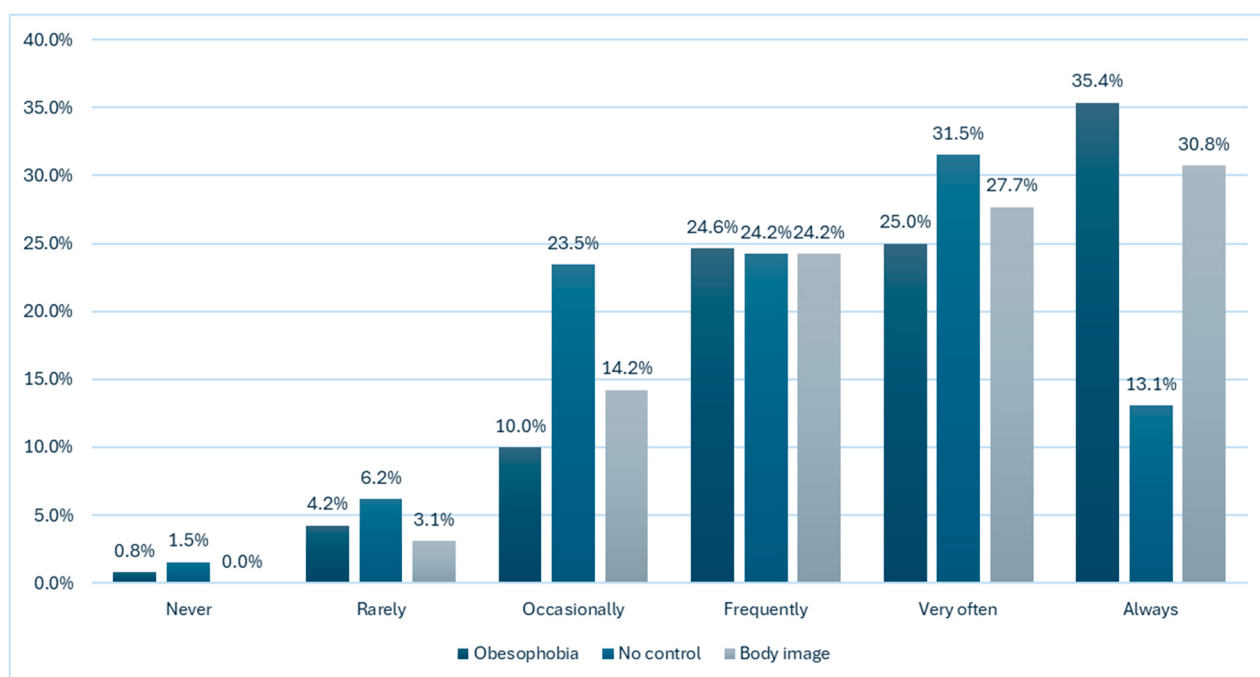


Figure 2. Frequencies of responses for eating disturbance items (respondents who reported diagnoses of Binge Eating Disorder, n2 = 260).

3.4. Prevalence of Eating Disorders in Relation to Socio-Demographic Variables

Gender distribution was significantly different ($p < 0.001$) in people with BED (8.1% men and 91.9% women) than in the healthy population (19.7% men and 80.3% women). The comparison between the socio-demographic variables age, level of education, level of income, and size of municipality of residence among healthy people and those suffering from BED found no statistically significant differences (see Table 3). No differences were found in the distribution of people with BED according to the different Autonomous Communities of Spain residence ($p = 0.45$).

Table 3. Prevalence of eating disorders according to different socio-demographic groups.

	Healthy Population n (%)	Binge Eating Disorders n (%)	p-Value ¶
Men	4210 (19.7%)	21 (8.1%)	<0.001
Women	17,191 (80.3%)	239 (91.9%)	
18–30	9228 (43.4%)	97 (37.3%)	0.13
31–50	9582 (44.8%)	148 (56.9%)	
>50	2531 (11.8%)	15 (5.8%)	
High education	14,671 (68.6%)	162 (62.3%)	0.44
Low education	6730 (31.5%)	98 (37.7%)	
Low income	9340 (47.6%)	125 (52.5%)	0.09
Medium–high Income	10,295 (52.4%)	113 (47.5%)	
Small city	974 (4.6%)	17 (6.5%)	0.60
Medium city	3429 (16.0%)	49 (18.9%)	
Big city	16,998 (79.4%)	194 (74.6%)	

¶ Chi-2 test; Note: percentages per column.

3.5. Analysis of Dietary and Lifestyle Habits in the Two Samples

The study found (as can be seen in Table 4) that individuals with BED had significantly higher BMIs (28.5 kg/m² vs. 23.9 kg/m²) and a worse healthy nutrition index (51.5 vs. 53.9) compared to healthy individuals. They consumed less fried food as French and chicken fries typical of fast food products and fruit juice, but more fried foods, ultra-processed foods, water, and sugary soft drinks. There were no significant differences in fish and coffee consumption. While physical activity levels were similar, people with BED spent more time sitting. Sleep quality and duration were poorer for those with BED, and they reported feeling less rested. Social habits showed significant differences in smoking and alcohol consumption, but not in partying or getting drunk. Overall, people with BED perceived their health as worse than healthy individuals (3.4 vs. 3.8). To better appreciate these differences, the variables with statistically significant differences are shown in Figure 3.

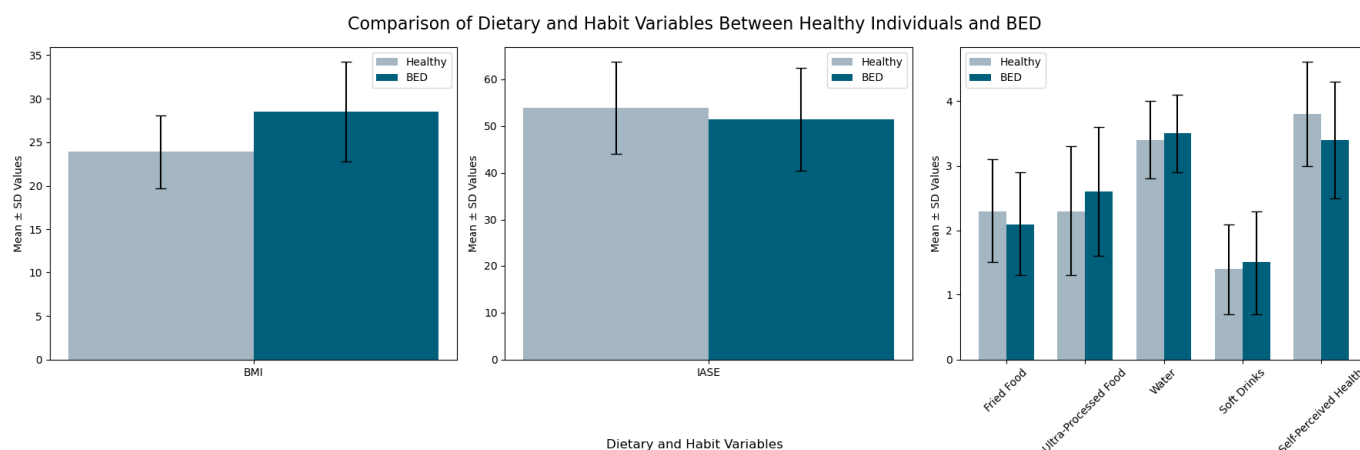


Figure 3. Differences between dietary and habit variables in the two groups (healthy sample and people with binge eating disorders).

Table 4. Differences between habit variables in the two groups (healthy sample and people with binge eating disorders).

Variables	Healthy Population	Binge Eating Disorders	<i>p</i> -Value [§]
BMI	23.9; 4.2	28.5; 5.7	<0.001
IASE	53.9; 9.8	51.5; 11.0	<0.001
Fried food	2.3; 0.8	2.1; 0.8	<0.001
Fast food	2.4; 0.8	2.5; 0.8	0.04
Processed food	2.3; 1.0	2.6; 1.0	<0.001
Fish	1.8; 0.5	1.8; 0.6	0.49 ‡
Water	3.4; 0.6	3.5; 0.6	0.01
Soft drinks	1.4; 0.7	1.5; 0.8	0.01
Juice	1.2; 0.5	1.1; 0.4	0.02
Coffee	1.7; 0.7	1.8; 0.7	0.39 ‡
Sedentary lifestyle	1.6; 0.8	1.7; 0.9	0.03
Self-perc. health	3.8; 0.8	3.4; 0.9	<0.001
Sport	156.5; 175.8	166.6; 186.7	0.11 ‡
Sleeping hours	2.5; 0.7	2.5; 0.8	<0.001
Getting up rested	2.5; 0.6	2.4; 0.6	<0.001
Sleep quality	3.4; 1.0	3.1; 1.0	<0.001
Smoking	1.2; 0.6	1.2; 0.7	<0.001
Alcohol	1.8; 0.9	1.6; 0.8	<0.001
Getting drunk	1.1; 0.3	1.1; 0.3	0.16 ‡
Night outings	1.2; 0.4	1.1; 0.4	0.07 ‡

[§] Kruskal–Wallis test with Bonferroni correction (pairwise comparisons). ‡ Not significant differences between groups.

4. Discussion

This study aimed to describe the prevalence of BED, examine the relationship between BED and various socio-demographic variables, and evaluate the impact of eating habits, lifestyle, and BMI on the prevalence of this disorder, in a nationally representative Spanish sample.

The data collection during the COVID-19 pandemic adds an important contextual layer to the findings, as the isolation measures, mobility restrictions, and lifestyle changes during this period likely influenced eating behaviors, physical activity, and mental health. The increased anxiety and stress, limited access to fresh and healthy foods, and reduced availability of mental health services may have exacerbated binge eating episodes and sedentary behaviors among individuals with BED. These contextual factors could partially explain the higher consumption of ultra-processed foods, lower sleep quality, and increased sedentary time observed in this study. This highlights the need for flexible, accessible interventions, such as online therapies and e-health resources, to effectively manage BED in similar scenarios of restricted mobility or crisis.

Spanish women are more susceptible to developing BED than men, in line with the previous literature both with international [1,31,32] and national samples, such as those collected in Norway [33], USA [34], Italy [35], Portugal [36], Denmark [37], Brazil [38], Sweden [39], and Australia [40]. This trend in gender distribution is also verified in our study. One potential explanation is that the menopausal transition represents a vulnerable period for women, during which there is an increased risk of worsening or new-onset disordered eating behaviors. This is supported by Mangweth-Matzek [41] in a review study of middle-aged and older women, and by Khalil [42] in a cross-sectional study of women aged 40 years and above. This phase is marked by notable comorbidity with various psychological, physical, and sexual symptoms associated with menopause [43]. Similarly, it is conceivable that aging men experience a comparable association with phases of hormonal imbalances [44]. However, Bohon [45] highlights that the incidence of BED in males is higher than that of any other eating disorder, and Yousefi et al. [46] indicate that men are more likely to endorse BED symptoms than female.

In our study, the prevalence of BED appears to be predominant in the middle age (31–50 years), consistent with previous research conducted by Udo and Grilo [34], indicating a mean age of 45.2 years, with a higher prevalence in the age range of 45–59 years, the study by Bagaric et al. [47] showing a higher prevalence for the age range of 45–54 years, the analysis by Santana et al. [40], which indicates a higher prevalence for individuals over 45 years, and the research from Javaras et al. [48] showing a mean age of 47.2 years.

It is important to emphasize that the age of onset of the disorder has not been considered in this study; therefore, we are unaware of the years the participants have been suffering from BED. As the study by Wong and Hay [49] concludes, the age of onset of eating disorder behaviors does not appear to have a significant impact on health-related quality of life measures.

Moreover, we found that individuals affected by BED are dissatisfied with their bodies [50–53], and are more frequently concerned about gaining weight [51,54–56] compared to the general population. Additionally, excessive concern about weight and body shape, as well as body dissatisfaction, are known as risk factors for the development and continuance of the disorder [50,57–59].

The lack of control (LOC) over the food eaten, defined as consuming a quantity of food within a specific period of time that is undeniably larger than what most people would consume under similar circumstances [60], is another characteristic of BED, and our results suggest that a significant percentage of individuals diagnosed with BED may not be aware of this behavior. Those experiencing fear of LOC reported greater distress related to BED compared to those who did not experience it [61]. Therefore, BED not only involves overeating but also a lack of control [62]. Consequently, this lack of control may be more important in diagnosing binge eating than simply focusing on the objectively large amount of food consumed [45].

Regarding the variables related to health and lifestyle, fast food, ultra-processed foods, and sugary soft drinks are confirmed as associated with BED. These findings suggest that adherence to an unhealthy diet pattern may be associated with a higher risk of developing BED, a conclusion also reached in other studies [46,63,64]. Moreover, these types of foods and sugary soft drinks can promote addictive behavior in certain individuals [65], like the way certain addictive substances like cocaine or nicotine do [66]. Additionally, they have wide distribution and reach, are ready to consume, are appealing, and are relatively inexpensive [67]. All these factors lead to a higher BMI, larger waist circumference, and greater body fat, which can result in a higher prevalence of metabolic disorders [68].

In this study, people with BED show a higher BMI (at the upper limit of normal) than the healthy group. A higher BMI indicates obesity and the literature shows that obesity is associated not only with physical diseases such as metabolic syndrome and type 2 diabetes [32,46], but also with mental diseases such as food insecurity [69], anxiety or stress [70–72], gastrointestinal disorders [73], musculoskeletal disorders [74], suicidality [75], and higher rates of depressive disorder [76]. This association between BED and both physical and psychological disorders [45,70] leads to direct health consequences and reduces health-related quality of life, in both young people and adults [77,78]. All this evidence confirms a solid relationship between BED and a higher BMI [79,80]. However, Horvath et al. [81] found no significant differences between measures of weight, BMI, hip circumference, and waist circumference in individuals with and without BED.

Although in our study the time spent practicing sport is not associated with BED, other studies suggest that physical activity can be effective to treat BED symptoms [82,83]. Participants with BED experience lower quality and less restorative sleep compared to the general population. Suzimar et al. [84] found that higher anxiety levels in young adults are associated with a higher binge eating index and poorer sleep quality. Epidemiological

evidence also links reduced sleep duration and quality with obesity [85,86]. Furthermore, anxiety and depression symptoms mediate the relationship between insomnia and binge eating, highlighting the critical role of mood, anxiety, and sleep disturbances in managing BED [87]. Excessive food consumption and persistent changes in eating behavior in individuals with BED may further disrupt the rest–activity circadian rhythm, exacerbating sleep-related issues [88].

Tobacco consumption was higher in the population with BED aligned with previous studies [89,90], which indicate a positive correlation between smoking and BED. Conversely, alcohol consumption is slightly more prevalent in the healthy population than in the sample with BED but equally high in BED, consistent with other studies [91–93]. In summary, these results reveal that socio-demographic, nutritional, environmental, and emotional characteristics of the analyzed sample are significant factors in BED.

The findings of this study regarding lifestyle and health habits among individuals diagnosed with BED and those without the disorder have significant implications for personalized medicine, as they provide a foundation for designing tailored interventions to meet the individual needs of patients. For instance, the differences in the IASE observed in our study could be utilized to develop individualized diets based on the gut microbiome, prioritizing the inclusion of fresh foods and reducing ultra-processed items, in accordance with each patient's dietary preferences and restrictions [94]. Another important intervention would involve integrating personalized cognitive-behavioral therapy to address concerns related to body image, obesophobia, and lack of control during binge episodes [95]. Additionally, as emphasized by Diotaiuti et al. [96], behavioral regulation plays a crucial role in promoting adherence to healthy lifestyle changes. Psychometric tools, such as the Behavioral Regulation in Exercise Questionnaire (BREQ-3), provide valuable insights into self-regulation and its impact on eating behaviors, which could guide more effective interventions for individuals with BED. Cavicchiolo et al. [15] further highlight that structured interventions targeting emotional and behavioral regulation not only enhance the quality of life but also reduce the psychological burden associated with eating disorders. Integrating these approaches into cognitive-behavioral therapy and other personalized strategies could optimize outcomes by addressing both behavioral and emotional factors. The literature also highlights the importance of exploring the use of metabolic or neurochemical biomarkers to guide both pharmacological and behavioral treatments [97,98].

4.1. Strengths and Limitation

This study has several strengths. The large sample size provides an accurate picture of the Spanish population's health behaviors. The exploration of various variables allows for the correlation of nutritional, sports, and lifestyle habits with socio-demographic determinants, offering a comprehensive view. The sample's geographical representativeness, covering all regions of Spain, is another strength.

However, there are limitations. Online data collection may introduce response bias despite efforts to minimize inaccuracies. The survey relied on self-reported binge eating disorder (BED) diagnoses and the sample of respondents with BED is relatively small, consisting of 260 individuals, which limits the generalizability of findings specific to this group.

Another limitation is the use of the snowball sampling method for questionnaire distribution. This approach, while effective for reaching a wide audience, may introduce selection bias by overrepresenting certain social groups or networks. As a result, the findings may not fully represent the diversity of the Spanish population. Additionally, the sample composition, which is predominantly female, poses another constraint. With around 80% of respondents identifying as women, the study's insights into the male population's behaviors and perceptions are limited. Future studies should aim for a more gender-

balanced sample to provide a more comprehensive understanding. A further limitation of our study concerns the method of diagnosis for participants with BED. Although all participants were diagnosed by competent professionals, participation is based on self-report, which may not accurately reflect an official clinical diagnosis. Therefore, there is a potential risk of biases due to discrepancies between the professional diagnosis and the participants' understanding or self-assessment.

Finally, the cross-sectional design of this study restricts its ability to establish causal relationships between variables. Longitudinal research is needed to track changes over time and to better understand the dynamics of sustainable food behaviors and their determinants.

4.2. Future Implication for Clinical Practice

Future research could focus on identifying specific biomarkers associated with BED, such as stress or appetite hormones. Studying these biological predictors will help us better understand the underlying mechanisms of eating disorders, develop more accurate diagnostic tools, and design targeted pharmacological treatments. Longitudinal studies are needed to analyze how lifestyle changes and personalized interventions affect BED progression over time, identifying protective and risk factors that may modulate the course of the disorder in the same way between males and females. Expanding studies to diverse populations is crucial to evaluate how cultural, socioeconomic, and geographical factors influence the development and management of BED, ensuring that personalized interventions are accessible and culturally appropriate.

5. Conclusions

Given the high prevalence, chronicity, and public health burden of eating disorders, investing in personalized assessments and treatment strategies appears essential. This study highlights the significant impact of lifestyle habits on BED in Spain, noting a higher prevalence in women compared to men. Individuals with BED have poorer nutritional indices, consume more ultra-processed foods and sugary beverages, and experience lower sleep quality. Despite similar levels of physical activity, people with BED tend to be more sedentary and perceive their health status as poorer.

These results provide a robust foundation for designing interventions that consider individual characteristics, including demographic, behavioral, psychological, and biomedical factors. Designing personalized strategies that account for patients' specific features, such as nutrigenomics-based nutritional education programs, could substantially improve their quality of life by reducing the emotional and physical burden of the disorder while identifying individual predispositions and guiding healthier dietary choices from early stages.

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References

- Giel, K.E.; Bulik, C.M.; Fernandez-Aranda, F.; Hay, P.; Keski-Rahkonen, A.; Schag, K.; Schmidt, U.; Zipfel, S. Binge eating disorder. *Nat. Rev. Dis. Primers* **2022**, *8*, 16. [\[CrossRef\]](#) [\[PubMed\]](#)
- Nagata, J.M.; Smith-Russack, Z.; Paul, A.; Saldana, G.A.; Shao, I.Y.; Al-Shoaibi, A.A.A.; Chaphekar, A.V.; Downey, A.E.; He, J.; Murray, S.B.; et al. The social epidemiology of binge-eating disorder and behaviors in early adolescents. *J. Eat. Disord.* **2023**, *11*, 182. [\[CrossRef\]](#)
- Wilfred, S.A.; Becker, C.B.; Kanzler, K.E.; Musi, N.; Espinoza, S.E.; Kilpela, L.S. Binge eating among older women: Prevalence rates and health correlates across three independent samples. *J. Eat. Disord.* **2021**, *9*, 132. [\[CrossRef\]](#)
- Dingemans, A.E.; Bruna, M.J.; van Furth, E.F. Binge eating disorder: A review. *Int. J. Obes. Relat. Metab. Disord.* **2002**, *26*, 299–307. [\[CrossRef\]](#)
- Brownley, K.A.; Berkman, N.D.; Peat, C.M.; Lohr, K.N.; Cullen, K.E.; Bann, C.M.; Bulik, C.M. Binge-eating disorder in adults: A systematic review and meta-analysis. *Ann. Intern. Med.* **2016**, *165*, 409–420. [\[CrossRef\]](#)
- Sehm, M.; Warschburger, P. Prospective associations between binge eating and psychological risk factors in adolescence. *J. Clin. Child. Adolesc. Psychol.* **2018**, *47*, 770–784. [\[CrossRef\]](#) [\[PubMed\]](#)
- Hilbert, A. Psychological and medical treatments for binge-eating disorder: A research update. *Physiol. Behav.* **2023**, *269*, 114267. [\[CrossRef\]](#) [\[PubMed\]](#)
- Peterson, C.B.; Engel, S.G.; Crosby, R.D.; Strauman, T.; Smith, T.L.; Klein, M.; Crow, S.J.; Mitchell, J.E.; Erickson, A.; Cao, L.; et al. Comparing integrative cognitive-affective therapy and guided self-help cognitive-behavioral therapy to treat binge-eating disorder using standard and naturalistic momentary outcome measures: A randomized controlled trial. *Int. J. Eat. Disord.* **2020**, *53*, 1418–1427. [\[CrossRef\]](#)
- Anderson, L.M.; Smith, K.M.; Schaefer, L.M.; Crosby, R.D.; Cao, L.; Engel, S.G.; Crow, S.J.; Wonderlich, S.A.; Peterson, C.B. Predictors and moderators of treatment outcome in a randomized clinical trial for binge-eating disorder. *J. Consult. Clin. Psychol.* **2020**, *88*, 631–642. [\[CrossRef\]](#)
- Johnson, J.G.; Spitzer, R.L.; Williams, J.B.W. Health problems, impairment, and illnesses associated with bulimia nervosa and binge eating disorder among primary care and obstetric gynecology patients. *Psychol. Med.* **2001**, *31*, 1455–1466. [\[CrossRef\]](#)
- Olguin, P.; Fuentes, M.; Gabler, G.; Guerdjikova, A.I.; Keck, P.E.; McElroy, S.L. Medical comorbidity of binge eating disorder. *Eat. Weight. Disord.* **2016**, *22*, 13–26. [\[CrossRef\]](#)
- Dingemans, A.; Danner, U.; Parks, M. Emotion regulation in binge eating disorder: A review. *Nutrients* **2017**, *9*, 1274. [\[CrossRef\]](#)
- Fahed, G.; Aoun, L.; Zerdan, M.B.; Allam, S.; Bou Zerdan, M.; Bouferaa, Y.; Assi, H.I. Metabolic syndrome: Updates on pathophysiology and management in 2021. *Int. J. Mol. Sci.* **2022**, *23*, 786. [\[CrossRef\]](#) [\[PubMed\]](#)
- Hesse, S.; Rullmann, M.; Zientek, F.; Schewe, D.; Becker, G.; Patt, M.; Meyer, P.M.; Juarascio, A.S.; Frank, G.K.W.; Sabri, O.; et al. Noradrenergic control of neurobehavior in human binge-eating disorder and obesity (NOBEAD): A smartphone-supported behavioral emotion regulation intervention study protocol integrating molecular brain imaging. *Int. J. Eat. Disord.* **2024**, *57*, 206–220. [\[CrossRef\]](#) [\[PubMed\]](#)
- Cavicchiolo, E.; Sibilio, M.; Lucidi, F.; Cozzolino, M.; Chirico, A.; Girelli, L.; Manganelli, S.; Giancamilli, F.; Galli, F.; Diotaiuti, P.; et al. The Psychometric Properties of the Behavioural Regulation in Exercise Questionnaire (BREQ-3): Factorial Structure, Invariance and Validity in the Italian Context. *Int. J. Environ. Res. Public Health* **2022**, *19*, 1937. [\[CrossRef\]](#) [\[PubMed\]](#)
- Feng, B.; Harms, J.; Chen, E.; Gao, P.; Xu, P.; He, Y. Current discoveries and future implications of eating disorders. *Int. J. Environ. Res. Public Health* **2023**, *20*, 6325. [\[CrossRef\]](#)
- Valdez-Aguilar, M.; Vazquez-Arevalo, R.; López-Aguilar, X.; Ruíz Martínez, A.O.; Rosinska, M.; Mancilla-Díaz, J.M. Online multidisciplinary treatment of binge eating disorder in people with high weight: A case series study. *J. Eat. Disord.* **2023**, *11*, 86. [\[CrossRef\]](#)
- Forrest, L.N.; Franko, D.L.; Thompson-Brenner, H.; Grilo, C.M. Examining changes in binge-eating disorder network centrality and structure in patients treated with cognitive-behavioral therapy versus interpersonal psychotherapy. *Int. J. Eat Disord.* **2023**, *56*, 944–955. [\[CrossRef\]](#)
- Iacovino, J.M.; Gredysa, D.M.; Altman, M.; Wilfley, D.E. Psychological treatments for binge eating disorder. *Curr. Psychiatry Rep.* **2012**, *14*, 432–446. [\[CrossRef\]](#)

20. Chao, A.M.; Agarwal, K.; Zhou, Y.; Grilo, C.M.; Gur, R.C.; Joseph, P.; Shinohara, R.T.; Richmond, T.S.; Wadden, T.A. Neural Responses to Auditory Food Stimuli Following Cognitive Behavioral Therapy for Binge-Eating Disorder. *Int. J. Eat Disord.* **2024**, *57*, 1911–1923. [[CrossRef](#)]
21. Vancampfort, D.; Vanderlinden, J.; Pieters, G.; De Herdt, A.; Schueremans, A.; Adriaens, A.; Van Der Borght, W.; De Hert, M.; Probst, M. The importance of movement-directed interventions in the multidisciplinary treatment of binge eating disorder: An overview. *Tijdschr. Psychiatr.* **2012**, *54*, 719–730. [[PubMed](#)]
22. Mama, S.K.; Schembre, S.M.; O'Connor, D.P.; Kaplan, C.D.; Bode, S.; Lee, R.E. Effectiveness of lifestyle interventions to reduce binge eating symptoms in African American and Hispanic women. *Appetite* **2015**, *95*, 269–274. [[CrossRef](#)] [[PubMed](#)]
23. Cena, H.; Vandoni, M.; Magenes, V.C.; Di Napoli, I.; Marin, L.; Baldassarre, P.; Luzzi, A.; De Pasquale, F.; Zuccotti, G.; Calcaterra, V. Benefits of exercise in multidisciplinary treatment of binge eating disorder in adolescents with obesity. *Int. J. Environ. Res. Public Health* **2022**, *19*, 8300. [[CrossRef](#)] [[PubMed](#)]
24. Galasso, L.; Montaruli, A.; Jankowski, K.S.; Bruno, E.; Castelli, L.; Mulè, A.; Chiorazzo, M.; Ricceri, A.; Erzegovesi, S.; Caumo, A.; et al. Binge eating disorder: What is the role of physical activity associated with dietary and psychological treatment? *Nutrients* **2020**, *12*, 3622. [[CrossRef](#)]
25. von Elm, E.; Altman, D.G.; Egger, M.; Pocock, S.J.; Gøtzsche, P.C.; Vandenbroucke, J.P. The strengthening the reporting of observational studies in epidemiology (STROBE) statement: Guidelines for reporting observational studies. *J. Clin. Epidemiol.* **2008**, *61*, 344–349. [[CrossRef](#)]
26. Biernacki, P.; Waldorf, D. Snowball sampling: Problems and techniques of chain referral sampling. *Sociol. Methods Res.* **1981**, *10*, 141–163. [[CrossRef](#)]
27. Sandri, E.; Piredda, M.; De Maria, M.; Mancin, S.; Sguanci, M.; Cabo, A.; Olmedo, G.C. Development and psychometric testing of the nutritional and social health habits scale (NutSo-HH): A methodological review of existing tools. *MethodsX* **2024**, *12*, 102768. [[CrossRef](#)]
28. Norte Navarro, A.I.; Ortiz Moncada, R. Spanish diet quality according to the healthy eating index. *Nutr. Hosp.* **2011**, *26*, 330–336. (In Spanish)
29. Sandri, E.; Borghesi, D.; Cantín Larumbe, E.; Cerdá Olmedo, G.; Vega-Bello, M.J.; Bernalte Martí, V. Intermittent fasting: Socio-economic profile of Spanish citizens who practice it and the influence of this dietary pattern on the health and lifestyle habits of the population. *Nutrients* **2024**, *16*, 2028. [[CrossRef](#)]
30. Sandri, E.; Sguanci, M.; Cantín Larumbe, E.; Cerdá Olmedo, G.; Werner, L.U.; Piredda, M.; Mancin, S. Plant-based diets versus the Mediterranean dietary pattern and their socio-demographic correlates: A cross-sectional analysis of the Italian population. *Nutrients* **2024**, *16*, 1278. [[CrossRef](#)]
31. Galmiche, M.; Déchelotte, P.; Lambert, G.; Tavalacci, M.P. Prevalence of eating disorders over the 2000–2018 period: A systematic literature review. *Am. J. Clin. Nutr.* **2019**, *109*, 1402–1413. [[CrossRef](#)] [[PubMed](#)]
32. Raevuori, A.; Suokas, J.; Haukka, J.; Gissler, M.; Linna, M.; Grainger, M.; Suvisaari, J. Highly increased risk of type 2 diabetes in patients with binge eating disorder and bulimia nervosa. *Int. J. Eat. Disord.* **2015**, *48*, 555–562. [[CrossRef](#)] [[PubMed](#)]
33. Abebe, D.; Lien, L.; Torgersen, L.; Von Soest, T. Binge eating, purging and non-purging compensatory behaviours decrease from adolescence to adulthood: A population-based, longitudinal study. *BMC Public Health* **2012**, *12*, 32. [[CrossRef](#)]
34. Udo, T.; Grilo, C.M. Prevalence and correlates of DSM-5-defined eating disorders in a nationally representative sample of U.S. adults. *Biol. Psychiatry* **2018**, *84*, 345–354. [[CrossRef](#)] [[PubMed](#)]
35. Carta, M.G.; Preti, A.; Moro, M.F.; Aguglia, E.; Balestrieri, M.; Caraci, F.; Dell'osso, L.; Di Sciascio, G.; Drago, F.; Faravelli, C.; et al. Eating disorders as a public health issue: Prevalence and attributable impairment of quality of life in an Italian community sample. *Int. Rev. Psychiatry* **2014**, *26*, 486–492. [[CrossRef](#)]
36. Conceição, E.M.; Gomes, F.V.S.; Vaz, A.R.; Pinto-Bastos, A.; Machado, P.P.P. Prevalence of eating disorders and picking/nibbling in elderly women. *Int. J. Eat. Disord.* **2017**, *50*, 793–800. [[CrossRef](#)]
37. Gammelmark, C.; Jensen, S.O.; Plessen, K.J.; Skadhede, S.; Larsen, J.T.; Munk-Jørgensen, P. Incidence of eating disorders in Danish psychiatric secondary healthcare 1970–2008. *Aust. N. Z. J. Psychiatry* **2015**, *49*, 724–730. [[CrossRef](#)]
38. Hay, P.; Palavras, M.A.; da Luz, F.Q.; Garnes, S.d.A.; Sainsbury, A.; Touyz, S.; Appolinario, J.C.; Claudino, A.M. Physical and mental health outcomes of an integrated cognitive behavioural and weight management therapy for people with an eating disorder characterized by binge eating and a high body mass index: A randomized controlled trial. *BMC Psychiatry* **2022**, *22*, 355. [[CrossRef](#)]
39. Levallius, J.; Monell, E.; Birgegård, A.; Clinton, D.; Forsén Mantilla, E. Binge eating and addictive-like behaviours in males and females. *Psychol. Rep.* **2022**, *125*, 148–166. [[CrossRef](#)]
40. Santana, D.D.; Mitchison, D.; Mannan, H.; Griffiths, S.; Appolinario, J.C.; da Veiga, G.V.; Touyz, S.; Hay, P. Twenty-year associations between disordered eating behaviors and sociodemographic features in a multiple cross-sectional sample. *Psychol. Med.* **2023**, *53*, 5012–5021. [[CrossRef](#)]

41. Mangweth-Matzek, B.; Kummer, K.K.; Hoek, H.W. Update on the epidemiology and treatment of eating disorders among older people. *Curr. Opin. Psychiatry* **2023**, *36*, 405–411. [[CrossRef](#)] [[PubMed](#)]
42. Khalil, J.; Boutros, S.; Kheir, N.; Kassem, M.; Salameh, P.; Sacre, H.; Akel, M.; Obeid, S.; Hallit, S. Eating disorders and their relationship with menopausal phases among a sample of middle-aged Lebanese women. *BMC Women's Health* **2022**, *22*, 153. [[CrossRef](#)]
43. Mangweth-Matzek, B.; Rupp, C.I.; Vedova, S.; Dunst, V.; Hennecke, P.; Daniaux, M.; Pope, H.G. Disorders of eating and body image during the menopausal transition: Associations with menopausal stage and with menopausal symptomatology. *Eat. Weight. Disord.* **2021**, *26*, 2763–2769. [[CrossRef](#)] [[PubMed](#)]
44. Kummer, K.K.; Mangweth-Matzek, B. Male eating disorders in midlife—Possible links between excessive sports and hormones. *Aging Male*. **2023**, *26*, 2154571. [[CrossRef](#)]
45. Bohon, C. Binge eating disorder in children and adolescents. *Child. Adolesc. Psychiatr. Clin. N. Am.* **2019**, *28*, 549–555. [[CrossRef](#)]
46. Yousefi, R.; Panahi Moghaddam, S.A.; Salahi, H.; Woods, R.; Abolhasani, M.; Eini-Zinab, H.; Saidpour, A. Food addiction and binge eating disorder in relation to dietary patterns and anthropometric measurements: A descriptive-analytic cross-sectional study in Iranian adults with obesity. *Behav. Med.* **2024**, *50*, 37–46. [[CrossRef](#)]
47. Bagaric, M.; Touyz, S.; Heriseanu, A.; Conti, J.; Hay, P. Are bulimia nervosa and binge eating disorder increasing? Results of a population-based study of lifetime prevalence and lifetime prevalence by age in South Australia. *Eur. Eat. Disord. Rev.* **2020**, *28*, 260–268. [[CrossRef](#)]
48. Javaras, K.N.; Runfol, C.D.; Thornton, L.M.; Agerbo, E.; Birgegård, A.; Norring, C.; Yao, S.; Råstam, M.; Larsson, H.; Lichtenstein, P.; et al. Sex- and age-specific incidence of healthcare-register-recorded eating disorders in the complete Swedish 1979–2001 birth cohort. *Int. J. Eat. Disord.* **2015**, *48*, 1070. [[CrossRef](#)] [[PubMed](#)]
49. Wong, M.N.T.; Hay, P. Exploring associations between age of onset and quality of life of people with eating disorder behaviours and weight/shape overvaluation: A general population study. *Australas. Psychiatry* **2020**, *28*, 660–663. [[CrossRef](#)]
50. Krohmer, K.; Naumann, E.; Tuschen-Caffier, B.; Svaldi, J. Taking a closer look at body processing in binge eating disorder—Influence of BMI and eating pathology. *Behav. Res. Ther.* **2022**, *156*, 104106. [[CrossRef](#)]
51. Lewer, M.; Nasrawi, N.; Schroeder, D.; Vocks, S. Body image disturbance in binge eating disorder: A comparison of obese patients with and without binge eating disorder regarding the cognitive, behavioral and perceptual component of body image. *Eat. Weight. Disord.* **2016**, *21*, 115–125. [[CrossRef](#)]
52. Lewer, M.; Bauer, A.; Hartmann, A.S.; Vocks, S. Different facets of body image disturbance in binge eating disorder: A review. *Nutrients* **2017**, *9*, 1294. [[CrossRef](#)] [[PubMed](#)]
53. Vinai, P.; Da Ros, A.; Speciale, M.; Gentile, N.; Tagliabue, A.; Vinai, P.; Bruno, C.; Vinai, L.; Studt, S.; Cardetti, S. Psychopathological characteristics of patients seeking bariatric surgery, either affected or not by binge eating disorder following the criteria of the DSM-IV-TR and of the DSM-5. *Eat. Behav.* **2015**, *16*, 1–4. [[CrossRef](#)]
54. Grilo, C.M.; Ivezaj, V.; White, M.A. Evaluation of the DSM-5 severity indicator for binge-eating disorder in a clinical sample. *Behav. Res. Ther.* **2015**, *71*, 110–114. [[CrossRef](#)] [[PubMed](#)]
55. Harrison, C.; Mond, J.; Rieger, E.; Rodgers, B. Generic and eating disorder-specific impairment in binge eating disorder with and without overvaluation of weight or shape. *Behav. Res. Ther.* **2015**, *72*, 93–99. [[CrossRef](#)] [[PubMed](#)]
56. Becker, D.F.; Grilo, C.M. Comorbidity of mood and substance use disorders in patients with binge-eating disorder: Associations with personality disorder and eating disorder pathology. *J. Psychosom. Res.* **2015**, *79*, 159–164. [[CrossRef](#)]
57. Stice, E.; Presnell, K.; Spangler, D. Risk factors for binge eating onset in adolescent girls: A 2-year prospective investigation. *Health Psychol.* **2002**, *21*, 131–138. [[CrossRef](#)]
58. Coffino, J.A.; Udo, T.; Grilo, C.M. The significance of overvaluation of shape or weight in binge-eating disorder: Results from a national sample of U.S. adults. *Obesity* **2019**, *27*, 1367–1371. [[CrossRef](#)]
59. Wang, S.B.; Jones, P.J.; Dreier, M.; Elliott, H.; Grilo, C.M. Core psychopathology of treatment-seeking patients with binge-eating disorder: A network analysis investigation. *Psychol. Med.* **2019**, *49*, 1923–1928. [[CrossRef](#)]
60. Lydecker, J.A.; Grilo, C.M. Psychiatric comorbidity as predictor and moderator of binge-eating disorder treatment outcomes: An analysis of aggregated randomized controlled trials. *Psychol. Med.* **2021**, *52*, 4085–4093. [[CrossRef](#)]
61. Perelman, H.; Gilbert, K.; Grilo, C.M.; Lydecker, J.A. Loss of control in binge-eating disorder: Fear and resignation. *Int. J. Eat. Disord.* **2023**, *56*, 1199–1206. [[CrossRef](#)] [[PubMed](#)]
62. De Amicis, R.; Galasso, L.; Cavallaro, R.; Mambrini, S.P.; Castelli, L.; Montaruli, A.; Roveda, E.; Esposito, F.; Leone, A.; Foppiani, A.; et al. Sex differences in the relationship between chronotype and eating behaviour: A focus on binge eating and food addiction. *Nutrients* **2023**, *15*, 4580. [[CrossRef](#)] [[PubMed](#)]
63. Ayton, A.; Ibrahim, A.; Dugan, J.; Galvin, E.; Wright, O.W. Ultra-processed foods and binge eating: A retrospective observational study. *Nutrition* **2021**, *84*, 111023. [[CrossRef](#)] [[PubMed](#)]

64. Mason, T.B.; Do, B.; Chu, D.; Belcher, B.R.; Dunton, G.F.; Lopez, N.V. Associations among affect, diet, and activity and binge-eating severity using ecological momentary assessment in a non-clinical sample of middle-aged fathers. *Eat. Weight. Disord.* **2022**, *27*, 543–551. [\[CrossRef\]](#)
65. Finlayson, G. Food addiction and obesity: Unnecessary medicalization of hedonic overeating. *Nat. Rev. Endocrinol.* **2017**, *13*, 493–498. [\[CrossRef\]](#)
66. Kaya Cebioğlu, İ.; Dumlu Bilgin, G.; Kavsara, H.K.; Koyuncu, A.G.; Sarioğlu, A.; Aydin, S.; Keküllüoğlu, M. Food addiction among university students: The effect of mindful eating. *Appetite* **2022**, *177*, 106133. [\[CrossRef\]](#)
67. De Amicis, R.; Mambrini, S.P.; Pellizzari, M.; Foppiani, A.; Bertoli, S.; Battezzati, A.; Leone, A. Ultra-processed foods and obesity and adiposity parameters among children and adolescents: A systematic review. *Eur. J. Nutr.* **2022**, *61*, 2297–2311. [\[CrossRef\]](#)
68. De Amicis, R.; Galasso, L.; Leone, A.; Vignati, L.; De Carlo, G.; Foppiani, A.; Montaruli, A.; Roveda, E.; Cè, E.; Esposito, F.; et al. Is abdominal fat distribution associated with chronotype in adults independently of lifestyle factors? *Nutrients* **2020**, *12*, 592. [\[CrossRef\]](#)
69. Abene, J.A.; Tong, J.; Minuk, J.; Lindenfeldar, G.; Chen, Y.; Chao, A.M. Food insecurity and binge eating: A systematic review and meta-analysis. *Int. J. Eat. Disord.* **2023**, *56*, 1301–1322. [\[CrossRef\]](#)
70. Gardizy, A.; Lindenfeldar, G.; Paul, A.; Chao, A.M. Binge-spectrum eating disorders, mood, and food insecurity in young adults with obesity. *J. Am. Psychiatr. Nurses Assoc.* **2024**, *30*, 603–612. [\[CrossRef\]](#)
71. Udo, T.; Grilo, C.M. Psychiatric and medical correlates of DSM-5 eating disorders in a nationally representative sample of adults in the United States. *Int. J. Eat. Disord.* **2019**, *52*, 42–50. [\[CrossRef\]](#) [\[PubMed\]](#)
72. Ali, K.W.; Alkrad, M.M.; Sankari, S.A.; Alshihab, S.Z.; Aloufi, A.M.; Alrifai, F.M.; Alshehri, A.A. The impact of negative emotions on binge eating and BMI among medical students. *Cureus* **2023**, *15*, e44499. [\[CrossRef\]](#) [\[PubMed\]](#)
73. Hetterich, L.; Mack, I.; Giel, K.E.; Zipfel, S.; Stengel, A. An update on gastrointestinal disturbances in eating disorders. *Mol. Cell. Endocrinol.* **2019**, *497*, 110318. [\[CrossRef\]](#) [\[PubMed\]](#)
74. Wassenaar, E.; Friedman, J.; Mehler, P.S. Medical complications of binge eating disorder. *Psychiatr. Clin. N. Am.* **2019**, *42*, 275–286. [\[CrossRef\]](#)
75. Brown, K.L.; LaRose, J.G.; Mezuk, B. The relationship between body mass index, binge eating disorder, and suicidality. *BMC Psychiatry* **2018**, *18*, 196. [\[CrossRef\]](#)
76. Sonnevile, K.R.; Grilo, C.M.; Richmond, T.K.; Thurston, I.B.; Jernigan, M.; Gianini, L.; Field, A.E. Prospective association between overvaluation of weight and binge eating among overweight adolescent girls. *J. Adolesc. Health* **2015**, *56*, 25–29. [\[CrossRef\]](#)
77. Hart, L.M.; Gordon, A.R.; Sarda, V.; Calzo, J.P.; Sonnevile, K.R.; Samnaliev, M.; Austin, S.B. The association of disordered eating with health-related quality of life in U.S. young adults and effect modification by gender. *Qual. Life Res.* **2020**, *29*, 1203–1215. [\[CrossRef\]](#)
78. Winkler, L.A.D.; Christiansen, E.; Lichtenstein, M.B.; Hansen, N.B.; Bilenberg, N.; Støving, R.K. Quality of life in eating disorders: A meta-analysis. *Psychiatry Res.* **2014**, *219*, 1–9. [\[CrossRef\]](#)
79. Wiss, D.A.; Criscitelli, K.; Gold, M.; Avena, N. Preclinical evidence for the addiction potential of highly palatable foods: Current developments related to maternal influence. *Appetite* **2017**, *115*, 19–27. [\[CrossRef\]](#)
80. Da Luz, F.Q.; Sainsbury, A.; Mannan, H.; Touyz, S.; Mitchison, D.; Hay, P. Prevalence of obesity and comorbid eating disorder behaviors in South Australia from 1995 to 2015. *Int. J. Obes.* **2017**, *41*, 1148–1153. [\[CrossRef\]](#)
81. Horvath, J.D.C.; Kops, N.L.; de Castro, M.L.D.; Friedman, R. Food consumption in patients referred for bariatric surgery with and without binge eating disorder. *Eat. Behav.* **2015**, *19*, 173–176. [\[CrossRef\]](#)
82. Raisi, A.; Zerbini, V.; Piva, T.; Murri, M.B.; Menegatti, E.; Caruso, L.; Masotti, S.; Grazi, G.; Mazzoni, G.; Mandini, S. Treating binge eating disorder with physical exercise: A systematic review and meta-analysis. *J. Nutr. Educ. Behav.* **2023**, *55*, 523–530. [\[CrossRef\]](#) [\[PubMed\]](#)
83. Yamashita, M.; Miyoshi, M.; Iwai, M.; Takeda, R.; Ono, T.; Kabuki, T. *Lactobacillus helveticus* SBT2171 Alleviates Perennial Allergic Rhinitis in Japanese Adults by Suppressing Eosinophils: A Randomized, Double-Blind, Placebo-Controlled Study. *Nutrients* **2020**, *12*, 3620. [\[CrossRef\]](#)
84. De Fátima Benato Fusco, S.; Amancio, S.C.P.; Pancieri, A.P.; Alves, M.V.M.F.F.; Spiri, W.C.; Braga, E.M. Anxiety, sleep quality, and binge eating in overweight or obese adults. *Rev. Esc. Enferm. USP* **2020**, *54*, e03656. [\[CrossRef\]](#)
85. Wu, Y.; Zhai, L.; Zhang, D. Sleep duration and obesity among adults: A meta-analysis of prospective studies. *Sleep Med.* **2014**, *15*, 1456–1462. [\[CrossRef\]](#)
86. Hinz, A.; Glaesmer, H.; Brähler, E.; Löffler, M.; Engel, C.; Enzenbach, C.; Hegerl, U.; Sander, C. Sleep quality in the general population: Psychometric properties of the Pittsburgh Sleep Quality Index, derived from a German community sample of 9284 people. *Sleep Med.* **2017**, *30*, 57–63. [\[CrossRef\]](#) [\[PubMed\]](#)
87. Kenny, T.E.; Van Wijk, M.; Singleton, C.; Carter, J.C. An examination of the relationship between binge eating disorder and insomnia symptoms. *Eur. Eat. Disord. Rev.* **2018**, *26*, 186–196. [\[CrossRef\]](#)

88. Roveda, E.; Montaruli, A.; Galasso, L.; Pesenti, C.; Bruno, E.; Pasanisi, P.; Cortellini, M.; Rampichini, S.; Erzegovesi, S.; Caumo, A.; et al. Rest-activity circadian rhythm and sleep quality in patients with binge eating disorder. *Chronobiol. Int.* **2018**, *35*, 198–207. [\[CrossRef\]](#)
89. Solmi, M.; Veronese, N.; Sergi, G.; Luchini, C.; Favaro, A.; Santonastaso, P.; Vancampfort, D.; Correll, C.U.; Ussher, M.; Thapa-Chhetri, N.; et al. The association between smoking prevalence and eating disorders: A systematic review and meta-analysis. *Addiction* **2016**, *111*, 1914–1922. [\[CrossRef\]](#)
90. Saules, K.K.; Collings, A.S.; Hoodin, F.; Angelella, N.E.; Alschuler, K.; Ivezaj, V.; Saunders-Scott, D.; Wiedemann, A.A. The contributions of weight problem perception, BMI, gender, mood, and smoking status to binge eating among college students. *Eat. Behav.* **2009**, *10*, 1–9. [\[CrossRef\]](#)
91. Azevedo, L.D.S.; de Souza, A.P.L.; Ferreira, I.M.S.; Lima, D.W.C.; Pessa, R.P. Binge eating and alcohol consumption: An integrative review. *Eat. Weight. Disord.* **2021**, *26*, 759–769. [\[CrossRef\]](#)
92. Rolland, B.; Naassila, M.; Duffau, C.; Houchi, H.; Gierski, F.; André, J. Binge eating, but not other disordered eating symptoms, is a significant contributor of binge drinking severity: Findings from a cross-sectional study among French students. *Front. Psychol.* **2017**, *8*, 1878. [\[CrossRef\]](#)
93. Fouladi, F.; Mitchell, J.E.; Crosby, R.D.; Engel, S.G.; Crow, S.; Hill, L.; Le Grange, D.; Powers, P.; Steffen, K.J. Prevalence of alcohol and other substance use in patients with eating disorders. *Eur. Eat. Disord. Rev.* **2015**, *23*, 531–536. [\[CrossRef\]](#) [\[PubMed\]](#)
94. Singh, R.K.; Chang, H.W.; Yan, D.; Lee, K.M.; Ucmak, D.; Wong, K.; Abrouk, M.; Farahnik, B.; Nakamura, M.; Zhu, T.H.; et al. Influence of diet on the gut microbiome and implications for human health. *J. Transl. Med.* **2017**, *15*, 73. [\[CrossRef\]](#) [\[PubMed\]](#)
95. Rozakou-Soumalia, N.; Dârvariu, Ș.; Sjögren, J.M. Dialectical Behaviour Therapy improves emotion dysregulation mainly in binge eating disorder and bulimia nervosa: A systematic review and meta-analysis. *J. Pers. Med.* **2021**, *11*, 931. [\[CrossRef\]](#) [\[PubMed\]](#)
96. Diotaiuti, P.; Girelli, L.; Mancone, S.; Valente, G.; Bellizzi, F.; Misiti, F.; Cavicchiolo, E. Psychometric properties and measurement invariance across gender of the Italian version of the tempest self-regulation questionnaire for eating adapted for young adults. *Front. Psychol.* **2022**, *18*, 13. [\[CrossRef\]](#)
97. Caldiroli, A.; Affaticati, L.M.; Coloccini, S.; Manzo, F.; Scalia, A.; Capuzzi, E.; La Tegola, D.; Colmegna, F.; Dakanalis, A.; Signorelli, M.S.; et al. Clinical factors associated with binge-eating episodes or purging behaviors in patients affected by eating disorders: A cross-sectional study. *J. Pers. Med.* **2024**, *14*, 609. [\[CrossRef\]](#)
98. Wu, Y.K.; Brownley, K.A.; Bardone-Cone, A.M.; Bulik, C.M.; Baker, J.H. Associations of stress and appetite hormones with binge eating in females with anorexia nervosa after weight restoration: A longitudinal study. *J. Pers. Med.* **2021**, *11*, 1020. [\[CrossRef\]](#)

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