



Article

Self-Perception and Self-Acceptance Are Related to Unhealthy Weight Control Behaviors in Catalan Adolescents: A Cross-Sectional Study

Mercè Pollina-Pocallet ^{1,†}, Eva Artigues-Barberà ^{2,3,4,5,†} , Glòria Tort-Nasarre ^{2,6,7}, Joaquim Sol ^{3,4,8} ,
Laura Azlor ⁴, Quintí Foguet-Boreu ^{9,10,11} and Marta Ortega-Bravo ^{3,4,5,12,*}

- ¹ Bellpuig Primary Care Center, Gerència Territorial Lleida, Catalan Health Institute (ICS), Diputació, 5, Bellpuig, 25250 Lleida, Spain; mpollina.lleida.ics@gencat.cat
 - ² Department of Nursing, Faculty of Nursing and Physiotherapy, University of Lleida, Carrer de Montserrat Roig, 25198 Lleida, Spain; eartigues.lleida.ics@gencat.cat (E.A.-B.); gtort.cc.ics@gencat.cat (G.T.-N.)
 - ³ Catalan Health Institute (ICS), Primary Care Lleida, Rambla Ferran, 44, 25007 Lleida, Spain; jsol.lleida.ics@gencat.cat
 - ⁴ Research Support Unit Lleida, Fundació Institut Universitari per a la Recerca a l'Atenció Primària de Salut Jordi Gol i Gurina (IDIAPJGol), Rambla Ferran, 44, 25007 Lleida, Spain; lazlor.lleida.ics@gencat.cat
 - ⁵ Research Group in Therapies in Primary Care (GRETAPS), Rambla Ferran, 44, 25007 Lleida, Spain
 - ⁶ Health Education Research Group (GREPS), Faculty of Nursing and Physiotherapy, University of Lleida, Carrer de Montserrat Roig, 25198 Lleida, Spain
 - ⁷ Calaf Primary Care Center, Gerència Territorial Catalunya Central, Catalan Health Institute (ICS), Cta. Llarga 19, 08280 Calaf, Barcelona, Spain
 - ⁸ Metabolic Physiopathology Group, Department of Experimental Medicine, University of Lleida-IRBLleida, Avinguda Alcalde Rovira Roure, 80, 25198 Lleida, Spain
 - ⁹ Central Research Unit, Fundació Institut Universitari per a la Recerca a l'Atenció Primària de Salut Jordi Gol i Gurina (IDIAPJGol), Gran Via Corts Catalanes, 587, àtic, 08007 Barcelona, Spain; 42292qfb@comb.cat
 - ¹⁰ Department of Psychiatry, Vic University Hospital, Francesc Pla el Vigatà, 1, 08500 Vic (Barcelona), Spain
 - ¹¹ Faculty of Medicine, University of Vic-Central University of Catalonia (UVic-UCC), Vic (Barcelona), 08500 Catalonia, Spain
 - ¹² Faculty of Medicine, University of Lleida, Carrer de Montserrat Roig, 225198 Lleida, Spain
- * Correspondence: m.ortega.lleida.ics@gencat.cat
† These authors contributed equally to this work.



Citation: Pollina-Pocallet, M.; Artigues-Barberà, E.; Tort-Nasarre, G.; Sol, J.; Azlor, L.; Foguet-Boreu, Q.; Ortega-Bravo, M. Self-Perception and Self-Acceptance Are Related to Unhealthy Weight Control Behaviors in Catalan Adolescents: A Cross-Sectional Study. *Int. J. Environ. Res. Public Health* **2021**, *18*, 4976. <https://doi.org/10.3390/ijerph18094976>

Academic Editors: Belchin Kostov, Luis González-de Paz and Antoni Sisó-Almirall

Received: 9 April 2021
Accepted: 4 May 2021
Published: 7 May 2021

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2021 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Abstract: Adolescence is associated with a higher vulnerability that may result in a high dissatisfaction, the practice of unhealthy weight-control behaviors (UWCB) and, eventually, the onset of body image-related mental disorders. These factors are strongly associated with the social context, so it is important to characterize them in local or regional studies. To assess the relationship between body image and UWCB presence, a cross-sectional study was performed among 2496 schooled adolescents from Lleida (Spain) between 2017 and 2019. Their perceived and desired images were evaluated and compared with the real image in order to obtain the body distortion and the body dissatisfaction and relate them with UWCB. The studied individuals perceived themselves thinner than they actually were, with no differences between males and females. However, differences were found regarding body dissatisfaction, showing that females desired to be thinner, while males desired a more corpulent body image. Furthermore, one out of ten individuals reported UWCB, with higher prevalence among females. UWCB was associated with a desire to be thinner and with distorted body images. It is essential to work on self-perception and self-acceptance in early adolescence from an interdisciplinary perspective at educational, social and health levels to promote health in adolescence.

Keywords: adolescence; body image; body dissatisfaction; adolescent behavior

1. Introduction

Adolescence is a transition period between childhood and adult age and can be divided into early (from 10 to 14 years old) and late adolescence (from 15 to 19) [1]. This

period is characterized by important physical, psychological and social changes [2,3]. Several social agents have a strong interaction with the adolescent, such as family, peer groups, educational institutions and media and build a system of values and beliefs that are the basis for the adolescent self-confidence [4]. The quality of these relationships has a key role in the psychosocial development [5]. It does not affect neither male nor female in the same way [6] and could lead to adulthood mental disorders, getting to the estimate that half of these mental disorders start at adolescence [1].

One of the most commonly developed mental disorders at this age is the body dysmorphic disorder (BDD) [7], which is a severe dysfunction related to the obsessive compulsive disorder [8] and characterized by an impaired preoccupation about the appearance [9] that is associated with compulsive behaviors, impairment in social functioning, psychiatric hospitalizations and suicide attempts [10,11].

BDD is strongly related to body image [12], which was firstly described only as a mental representation of the own body [13], but later was considered as a multidimensional construct [14]. It can be divided into three main dimensions that are hierarchically related: the perceptual dimension, related to the precision in body volume perception, the cognitive-affective dimension, referring to those thoughts and feelings related to this perception and the behavioral dimension, which comprises the actions and behaviors derived from the subjective feelings [15]. Affections in the perceptual dimension are related to a distortion by either an overestimation or an underestimation of the body size; affections in the cognitive-affective dimension are related to body dissatisfaction and these could lead to affections in the behavioral dimension, which are associated with unhealthy weight-control behaviors (UWCB), such as unsupervised diets, self-induced vomiting, laxative, diuretic or weight loss products intake and fasting [16], either with or without help of some other factors, such as exercise [17].

Due to sociocultural reasons, preadolescents and adolescents lean toward a certain kind of aesthetic, causing them to show excessive concern for their body, with an 'ideal figure', which was originated in Western societies and has a high influence in Eastern ones [18], where thinness is enhanced. This fact has led them, especially adolescent and young adult females, to have disordered eating habits [19,20]. Perception of beauty, critical appraisal and media literacy, along with other internal factors, such as people's personality and ways of being [21], attitude toward self and toward others [22], as well as one's own cognitive strategies [23], have been associated with self-perception of body image. An inaccurate self-perception of body weight can also increase the risk of weight preoccupations and weight control among normal-weight adolescents [24]. Dissatisfaction with body image during the early stages of adolescence has also been linked to a poorer self-esteem and might advance depressive symptoms, as well as a higher body mass index, a reduction of physical activity, a poorer dietary quality, disordered eating and clinical eating disorders [25]. Previous studies have identified that weight control behaviors may differ according to either socioeconomic [15], or sex [26] and weight status, particularly among those who are overweight or obese [27] and the onset of this behavior at younger ages may even increase that risk [17]. In this sense, rural populations are more likely to be obese and overweight compared to their urban counterparts; probably due to the limited availability of healthy food in households, as well as individual characteristics and preferences [28] and are usually underrepresented in studies [29]. In a 2011 study, Vander observed that low life satisfaction, high negative affectivity and body size dissatisfaction were associated with unhealthy weight control behaviors among boys, just as low life satisfaction was for girls [30]. UWCBs can be related to a risk of developing an eating disorder [31], being the most common between adolescent population nervous anorexia, bulimia and unspecified eating disorders (binge eating) [32].

Due to the importance of addressing these and other health issues at an early age, the Catalan Government initiated the "Health and School Program" in 2004. This program was a collaborative project between the Health Department and the Education Department with the aim to improve the health of the adolescents through the inclusion of health

professionals in the school environment and their active implication in health promotion and prevention [33].

Taking into account these premises and the importance of the social environment in body image, we thought that it would be mandatory to obtain data from adolescents who reflected a mostly rural and disperse community, such as Lleida (Spain). The current study was designed to evaluate the self-perception, body distortion and dissatisfaction among adolescents and assess their relationship with UWCB presence, including self-induced vomiting, laxative, diuretic and/or weight loss products intake and fasting.

2. Materials and Methods

2.1. Study Design and Participants

Cross-sectional study among adolescents (from 12 to 19 years old) from High Schools and vocational schools of Lleida (Spain) between 2017 and 2019. All students in the age range who willingly agreed to participate were included, except those with an intellectual disability or linguistic barriers which prevented them from fulfilling the questionnaire, adding up to a total of 2496 participants. Those schools included in the “Health and School Program” incorporated the study as a part of the program.

2.2. Data Collection and Tests

Data collection was performed in collaboration with the PICA-AD work group (Appendix A). The project was presented to the school boards and fieldwork dates were established with those that wanted to participate. Informed consents were given to the students and they were asked to return them the day before the data collection. Data regarding age, sex and anthropometric measures were collected by trained healthcare professionals. Height and weight were obtained using a Roman scale and a stadiometer, respectively, from participants wearing a layer of underwear and not wearing shoes. The same day, data regarding the three dimensions of the body image were obtained from a self-reported questionnaire. The questionnaires were responded inside the classroom, before the beginning of the class and were supervised by the classroom teacher and the responsible of the data collection. All the students from the same class did them at the same time.

2.2.1. Perceptual and Cognitive-Affective Dimensions

The perceptual dimension (precision in body volume perception) was evaluated in terms of real image, perceived image and body distortion. The cognitive affective dimension (feelings related to the perception) was evaluated in terms of desired image and body dissatisfaction. For this purpose, a validated 13-card scale (13-CS) was used [34]. The scale consists in 13 schematic images representing human figures. The middle image represents the reference population median BMI and the other ones are obtained by stepwise increasing or reducing the reference volume up to $\pm 30\%$, in intervals of 5%. Figure values ranged from -6 to 6 , with the rate 0 assigned to the middle image.

Participants were asked to choose the image they believed best represented them (perceived image) and the one which they would like the more to seem (desired image).

A 13-CS “real image” was assigned to participants according to their age and sex standardized body mass index (BMI) percentiles, which were calculated using the World Health Organization’s growth reference tables [35]. Since the 13-CS images are proportionally distributed, a proportional percentile (in intervals of 7.7%) was assigned to each image.

Body distortion score (distortion) was calculated as the difference of images between the 13-CS perceived image and the real image. Body dissatisfaction score (dissatisfaction) was established as the difference between the perceived image and the desired image. Scores ranged from -12 to 12 . Negative scores meant that the perceived image was lower than the real/desired one, while positive scores indicated that the perceived image was higher than the real/desired one.

2.2.2. Behavioral Dimension

In order to evaluate the behavioral dimension (behaviors derived from the feelings towards the own body), participants were asked about UWCB (self-induced vomiting, laxative or diuretic products and/or weight loss pills intake and fasting) using an adaptation of the Eating and Activity in Teens (EAT) Survey [36], which consisted in five direct questions with dichotomous response (yes/no) about whether the participants had had any of the mentioned behaviors in the last 12 months.

2.3. Statistical Analysis

A statistical description of the study variables was performed, taking into consideration all data, sex and age subsets. Participants were divided into two age groups (early adolescents, <15 years old and late adolescents, ≥ 15 years old) according to the UNICEF classification [1]. This is also the age in which adolescents are no longer attended in pediatric medicine, according to the Primary Care organizational system of the Autonomous Region of Catalonia (Spain). Numerical variables were expressed as mean and standard deviation and categorical variables were expressed as absolute and relative frequencies. One sample Student's T-tests or Mann–Whitney U tests (depending on whether variables were normally distributed or not, respectively, according Shapiro–Wilks test) were performed to all the data and its sex and age subsets regarding their real, perceived and desired images, as well as to dissatisfaction and distortion, in order to determine whether they were significantly different than 0.

For testing differences between sex and age groups regarding the perceptual and cognitive-affective dimensions, Student's T-tests or Mann–Whitney U tests were applied depending on normality of the variables. For testing differences between sex and age groups regarding the behavioral dimension, chi squared tests were applied for the variables "presence of one or more UWCB", "self-induced vomiting", "laxatives intake", "diuretics intake", "weight loss pills intake" and "fasting". The same variables were evaluated using random-intercept mixed effects logistic regressions in order to test whether they were associated either to distortion and/or dissatisfaction. The "school" variable was considered as the cluster variable and body dissatisfaction and body distortion index were used as polynomial predictor variables, altogether with age and sex. The models were adjusted by BMI and interactions between the scores and sex were also considered. Statistical significance was set at $p < 0.05$ without adjustment for multiple comparisons [37]. The analysis was performed using R statistical software, version 3.6.1.

3. Results

A total of 45 out of 66 schools agreed to participate. From the 12,754 students from these schools, 2500 (19.6%) gave their consent to participate. 4 participants were over 19 years old and were, therefore, excluded. Hence, the analysis was performed on the 2496 remaining participants. 51.2% of them were females and 63.8% were early adolescents (Table 1).

Table 1. Descriptive table of the participants.

Item	All Participants (n = 2496)
Age, mean (SD)	14.1 (1.61)
Age group, n (%)	
<15	1593 (63.8%)
≥ 15	903 (36.2%)
Sex, n (%)	
Female	1278 (51.2%)
Male	1218 (48.8%)
Body Mass Index z-score, mean (SD)	0.31 (1.02)

3.1. Perceptual Dimension

The mean real image of the studied population according to the 13-CS images was slightly higher than 0. Taking into account that figures range from −6 to 6 and that the median of the reference population is assigned to figure 0, the mean (SD) value of the population of our study was 1.05 (3.64). Females were thinner than males and late adolescents were also thinner than early adolescents (Table 2, Figure 1).

Table 2. Evaluation of the perceptual, cognitive affective and behavioral dimensions of the participants (*n* = 2496).

Item	All Participants (<i>n</i> = 2496)	Female (<i>n</i> = 1278)	Male (<i>n</i> = 1218)	<i>p</i> -Value (Male vs Female)	<15 (<i>n</i> = 1593)	≥15 (<i>n</i> = 903)	<i>p</i> -Value (<15 vs ≥15)
Perceptual dimension							
Real image (<i>n</i> = 2496)	1.05 (3.64) *	0.82 (3.58) *	1.30 (3.68) *	<0.001	1.35 (3.71) *	0.52 (3.45) *	<0.001
Perceived image (<i>n</i> = 2474)	−2.42 (2.42) *	−2.61 (2.37) *	−2.22 (2.47) *	<0.001	−2.42 (2.42) *	−2.42 (2.43) *	0.834
Body distortion score (<i>n</i> = 2474)	−3.47 (2.92) *	−3.41 (2.88) *	−3.53 (2.97) *	0.161	−3.77 (3.00) *	−2.94 (2.71) *	<0.001
Cognitive-affective dimension							
Desired image (<i>n</i> = 2473)	−2.79 (2.01) *	−3.57 (1.60) *	−1.98 (2.07) *	<0.001	−2.86 (1.95) *	−2.67 (2.10) *	0.053
Body dissatisfaction score (<i>n</i> = 2473)	0.37 (2.22) *	0.96 (1.90) *	−0.25 (2.35) *	<0.001	0.44 (2.26) *	0.25 (2.13) *	0.021
Behavioral dimension							
Presence of unhealthy behavior (<i>n</i> = 2484)	257 (10.3%)	160 (12.6%)	97 (7.98%)	<0.001	161 (10.1%)	96 (10.7%)	0.712
Self-induced vomiting (<i>n</i> = 2489)	65 (2.61%)	43 (3.38%)	22 (1.81%)	0.020	43 (2.70%)	22 (2.45%)	0.803
Laxatives intake (<i>n</i> = 2490)	23 (0.92%)	11 (0.86%)	12 (0.99%)	0.914	17 (1.07%)	6 (0.67%)	0.429
Diuretics intake (<i>n</i> = 2488)	11 (0.44%)	6 (0.47%)	5 (0.41%)	1.000	10 (0.63%)	1 (0.11%)	0.111
Weight loss pills intake (<i>n</i> = 2492)	11 (0.44%)	7 (0.55%)	4 (0.33%)	0.598	8 (0.50%)	3 (0.33%)	0.756
Fasting (<i>n</i> = 2491)	205 (8.23%)	135 (10.6%)	70 (5.75%)	<0.001	122 (7.67%)	83 (9.22%)	0.201

* One-Sample Mann-Whitney U Test *p*-value < 0.05, indicating that the mean of the group is significantly different from 0.

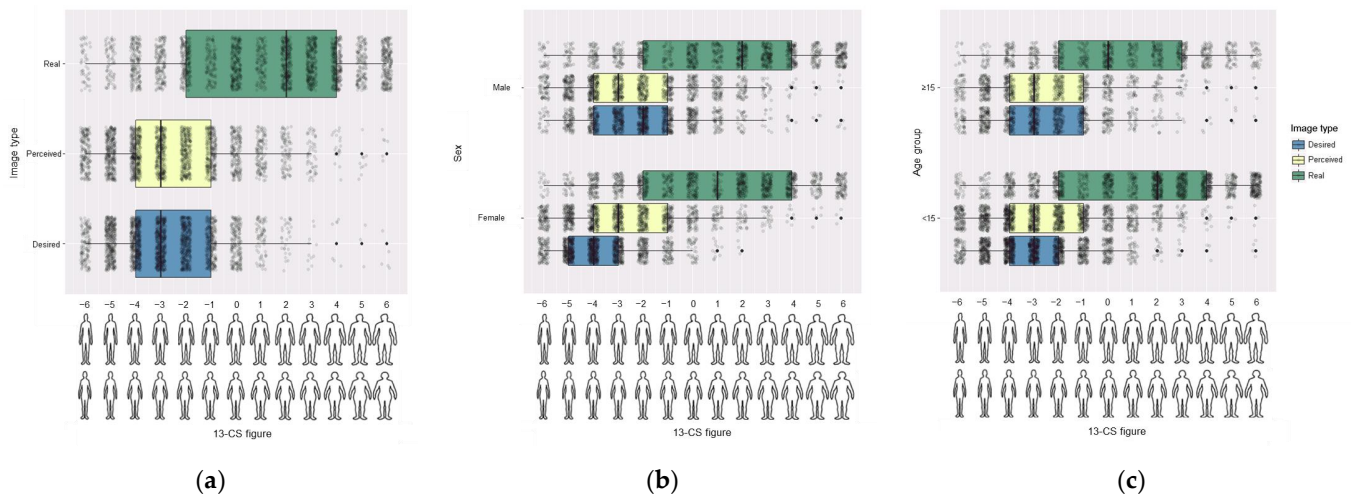


Figure 1. Boxplots of the real, perceived and desired body images according to a 13-Card Scale (13-CS) (a) including all the participants; (b) stratifying by sex; (c) stratifying by age group.

Although the mean real images were higher than 0 in all the data subsets, the means of the reported perceived images were always lower than 0, indicating that students perceived themselves thinner than the median of the reference population. Females perceived themselves thinner than males (Table 2, Figure 1).

When both images were related using the body distortion score, we observed that the participants reported lower perceived images with respect to their real image. In terms of distortion index, the mean (SD) score was −3.47 (2.92). We did not find significant differences between males and females. However, late adolescents had significantly higher distortion indexes, which, in this case, corresponded to more realistic images (Table 2).

3.2. Cognitive-Affective Dimension

In order to explore the cognitive-affective dimension, students reported their desired image and body dissatisfaction scores were calculated. The mean (SD) desired image was -2.79 (2.01), indicating that the studied population desired images are lower than the median BMI of the reference population. This desired image was lower in females (Table 2, Figure 1).

The studied population reported lower desired figures than the perceived ones, resulting in a mean (SD) dissatisfaction score of 0.37 (2.22). Despite the global positive dissatisfaction scores, males obtained significantly lower scores than females, which resulted in negative dissatisfaction scores in males with a mean (SD) of -0.25 (2.35) and positive dissatisfaction scores in females, with a mean (SD) of 0.96 (1.90). This fact indicated that males desired images with higher volumes than the perceived ones, while females desired thinner images. Early adolescents had higher dissatisfaction scores than late adolescents (Table 2).

3.3. Behavioral Dimension

Among all the participants, 10.4% had had one or more UWCB in the last 12 months. 2.61% from the total reported self-induced vomiting, 0.92% reported laxatives intake, 0.44% diuretics intake, 0.44% weight loss pills intake and 8.26% reported fasting. A significantly higher number of females than males reported UWCB and, specifically, this prevalence was higher in self-induced vomiting and fasting. No differences were found between age groups (Table 2).

When analyzing the associations between age, sex and the calculated scores and the presence of UWCB (adjusting by BMI), we found a significant linear association between the presence of UWCB and dissatisfaction score and a quadratic association between the presence of UWCB and the distortion score, indicating that a higher probability of having these behaviors was observed in individuals with higher dissatisfaction scores (desire to be thinner) and with distortion scores further from 0, either positive or negative. Males with high dissatisfaction scores had lower probability of UWCB than females; however, the probability for a score of 0 was the same. No associations were found with age (Table 3, Figure 2).

The associations were also evaluated for the specific UWCB. Similar results were found for self-induced vomiting and fasting. However, there was no association between fasting and the interaction between sex and body dissatisfaction and a positive association was found between fasting and age (Table 3, Figures 3 and 4). No associations were found for laxatives, diuretics or weight-loss pills intake.

Table 3. Association between age, sex, body dissatisfaction and body distortion with unhealthy weight control behaviors ($n = 2496$).

Variable Predictor	Presence of UWCB		Self-Induced Vomiting		Fasting	
	aOR (95% CI)	p-value	aOR (95% CI)	p-value	aOR (95% CI)	p-value
Age	1.070 (0.979–1.170)	0.136	0.977 (0.825–1.148)	0.780	1.154 (1.048–1.269)	0.003
Sex (Male)	0.808 (0.476–1.371)	0.430	1.233 (0.453–3.389)	0.681	0.632 (0.338–1.157)	0.142
Body dissatisfaction (linear component)	1.406 (1.174–1.682)	<0.001	1.965 (1.352–3.021)	0.001	1.291 (1.101–1.565)	0.005
Body dissatisfaction (quadratic component)	1.008 (0.979–1.037)	0.605	0.964 (0.905–1.015)	0.209	1.020 (0.991–1.046)	0.155
Body distortion (linear component)	1.056 (0.919–1.212)	0.443	1.041 (0.837–1.276)	0.709	1.056 (0.907–1.224)	0.471
Body distortion (quadratic component)	1.019 (1.004–1.035)	0.016	1.029 (1.006–1.052)	0.009	1.019 (1.002–1.036)	0.024
Sex (Male): Body dissatisfaction (linear component)	0.804 (0.669–0.967)	0.021	0.538 (0.345–0.797)	0.004	0.868 (0.713–1.029)	0.132
Sex (Male): Body dissatisfaction (quadratic component)	1.025 (0.994–1.058)	0.119	1.048 (0.984–1.122)	0.154	1.018 (0.989–1.052)	0.249
Sex (Male): Body distortion (linear component)	0.991 (0.829–1.184)	0.918	1.000 (0.772–1.278)	0.998	0.968 (0.790–1.182)	0.750
Sex (Male): Body distortion (quadratic component)	0.997 (0.975–1.019)	0.781	0.996 (0.965–1.028)	0.815	0.993 (0.969–1.018)	0.592

UWCB: Unhealthy weight control behaviors; aOR: Adjusted Odds Ratio; CI: confidence interval.

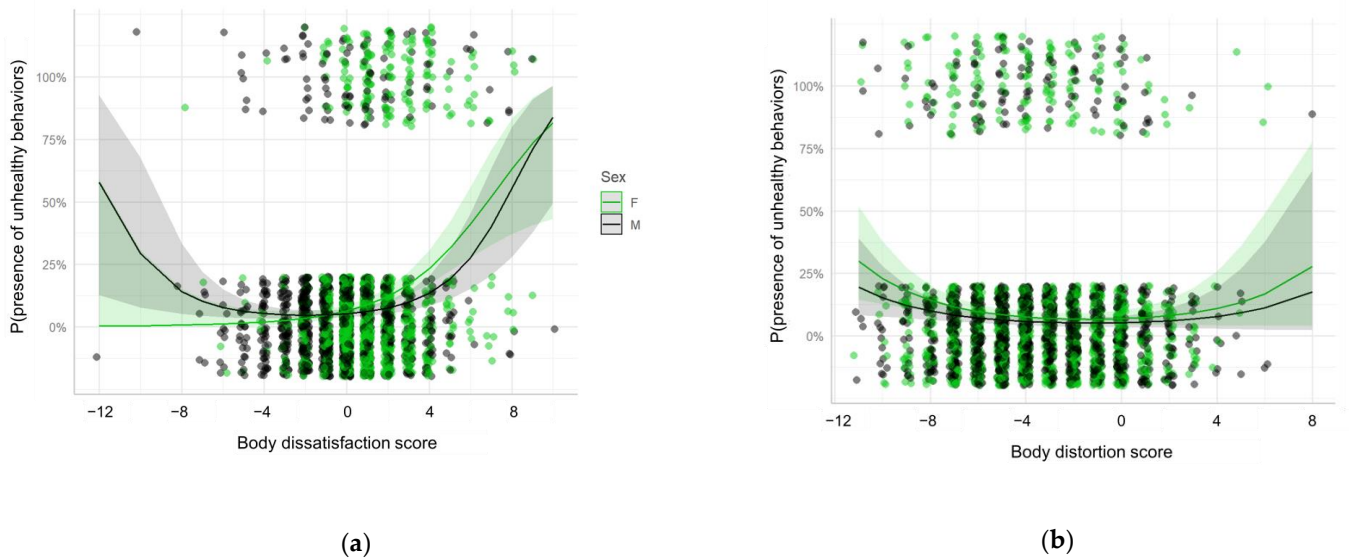


Figure 2. Random-intercept mixed effects logistic regression model for the presence of unhealthy weight control behaviors as a function of (a) Body dissatisfaction score; (b) Body distortion score; and their interaction with sex. Each point represents a participant, the lines represent the fitted model and the shades represent the 95% confidence interval. The points are slightly jittered in order to avoid overplotting. F: Female; M: Male.

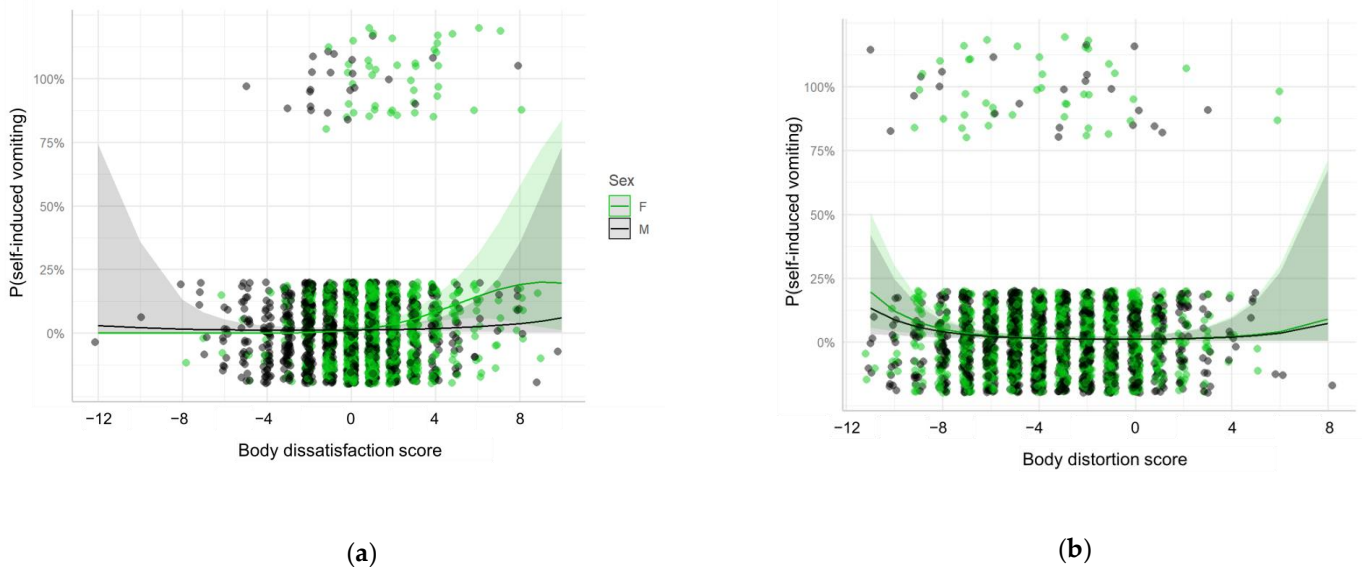


Figure 3. Random-intercept mixed effects logistic regression model for the presence of self-induced vomiting as a function of (a) Body dissatisfaction score; (b) Body distortion score; and their interaction with sex. Each point represents a participant, the lines represent the fitted model and the shades represent the 95% confidence interval. The points are slightly jittered in order to avoid overplotting. F: Female; M: Male.

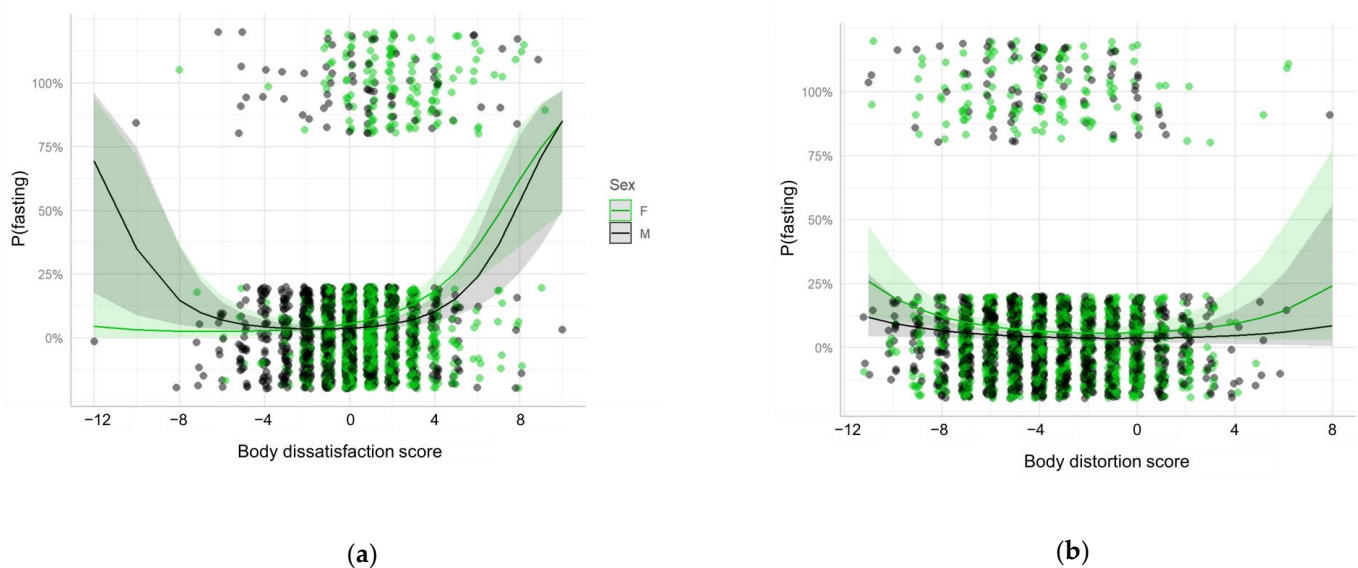


Figure 4. Random-intercept mixed effects logistic regression model for the presence of fasting as a function of (a) Body dissatisfaction score; (b) Body distortion score; and their interaction with sex. Each point represents a participant, the lines represent the fitted model and the shades represent the 95% confidence interval. The points are slightly jittered in order to avoid overplotting. F: Female; M: Male.

4. Discussion

Eating disorders are a recurrent issue between adolescents and are related to affections in the body perception and the presence of unhealthy weight control behaviors. In order to address this issue, different studies have been performed in Spain [38–42], but they are mainly located in urban areas, focused on dieting and physical exercise and use diverse methodologies. Therefore, different results are obtained. To the best of our knowledge, this is the first study of these dimensions performed in a Spanish rural area, which may have higher risk of UWCB due to the expected higher prevalence of overweight and obesity [28].

The present study describes a high prevalence of UWCB between adolescents. It also demonstrates that these adolescents tend to underestimate their body size and reports they have a dissatisfaction with the own body. Furthermore, it describes an association between UWCB with the desire of achieving thinner images and with distorted body perceptions, regardless the type of distortion.

A significant amount of the adolescents in the studied region have a distorted perception of their own body. The mean distortion obtained was around -3 , which indicates that the perceived image is 3 figures thinner than the real. Other studies, including a pilot study performed in the region by our research group [43], have also reported an underestimation of the body image [43–45], which could be caused by a tendency to consider oneself in unrealistically positive terms [44] or by the increased prevalence of overweight and obesity, which could lead to an association of this type of figures with normality [46]. However, other studies have obtained opposite [24,47–50] or neutral results [51].

Regarding dissatisfaction, results from our previous pilot study are validated in the current study (females want to have thinner images and males desire more body volume) [43]. Although a desire to be thinner has been historically associated to females, our study reinforces the idea that dissatisfaction is expressed in a different way in males and might be associated with a desire of stronger bodies [52], as other authors report in other environments [40,47]. These patterns correspond to the beauty ideals transmitted by mass media and social networks [53]. In this line, other authors have associated dissatisfaction to the exposure to social networks, magazines or other media related to body image [54–57]. It is noteworthy that although females already underestimate their body size (they perceive themselves thinner than they actually are), they desire even thinner images. Regarding age,

the late adolescent group has less dissatisfaction than the early adolescent one, which may be related to the own maturing process, which would help them to acquire confrontation strategies to neutralize the external pressure and increase their satisfaction in different aspects, such as body image [58].

If we focus on UWCB, one out of twelve teenage boys and one out of eight girls have had at least one of the studied behaviors (vomiting, laxatives, diuretics, pills, or fasting) in the past 12 months. If we contextualize this data in a Spanish class of 30 students [59], three of them (approximately two females and one male) would have an UWCB. Prolonged fasting was the most common UWCB among the studied adolescents, as previously described [30,60], followed by self-induced vomiting. The high prevalence of this type of behaviors is worrisome, as it is directly related to more serious problems such as anorexia, bulimia or other eating and mental disorders [8,61], which are, at the same time, associated with a high mortality and, in females, with future growth problems, anxiety, depression, pregnancy complications and unhealthy behaviors such as smoking or drug use [62,63].

It is noteworthy that males have also a high prevalence of UWCB and only differ from females at high dissatisfaction values. However, many studies have focused on eating disorders in females and it is important to remark that males also have this risk and may suffer from additional stigma due to the association of this disorder with the female sex [64].

An association has been found between dissatisfaction and distortion with UWCB. The likelihood of UWCB increases with high dissatisfaction (desired silhouettes thinner than the perceived ones) and with high distortions (overestimation or underestimation of body image).

Body dissatisfaction and distortions have been previously related to unhealthy habits, especially in adolescents and in several cases these behaviors remain until adulthood [65]. The current “beauty standards” have a high impact into this population because they are continuously being exposed to them in television and social media [66]. This exposure, combined to the vulnerability derived from the physical and mental changes occurring during adolescence, may lead to a need to fit into these standards at any cost [66]. In this sense, concerns about weight, body satisfaction and depressive symptoms have been described as predictors of eating disorders in a person after 10 years [27]. Other studies have also described a short and long-term recurrence of behaviors initiated in adolescence, as well as an increased risk of developing anxiety and depression in adolescents with subclinical conditions [65,67–69]. Thus, the fact that acquired behaviors persist into adulthood is of vital importance, as it reinforces the idea that acquired education and habits are crucial to achieving healthy maturation and aging, both physically and mentally. Therefore, this is a matter of concern and, from our point of view, a matter of public health, given the results of our research in all these areas. On the other hand, the fact that an adequate environment (in both family and school) plays a protective role and promote self-esteem, security and confidence [70], is hopeful and makes it even more important to conduct regional studies like the current one and their subsequent interventions in these environments. In this sense, the “Health and School Program” provides the ideal environment for the implementation of a future intervention regarding self-perception and self-acceptance in order to address these issues.

The study has some limitations. In the first place, dieting was not included as an UWCB because of the difficulty in discerning whether the diet was healthy or not, so we decided to focus on more severe UWCB. Secondly, the dissatisfaction scores were assumed rather than directly asked and the more corpulent images of the scales used might not be associated to fat images. Thirdly, age might be not representative of mental maturity and other measures might have been appropriate in order to complement the results. Finally, participation was voluntary and UWCB were self-declared, which could lead to a selection bias and the results could underestimate the real prevalence. However, this reinforces the severity and magnitude of the obtained results. Furthermore, the study included a large

sample that was representative of a whole territory and obtained similar results as the pilot study, indicating the robustness of the study.

5. Conclusions

The study shows that adolescents are perceived to be thinner than they actually are and that, despite this, females want to be thinner and males more corpulent. The risk of having UWCB has been associated with body dissatisfaction and distortion. It is essential to work on self-perception and self-acceptance in early adolescence from an interdisciplinary perspective at educational, social and health levels to promote health in adolescence and indirectly in adulthood.

Author Contributions: Conceptualization: M.P.-P., E.A.-B., G.T.-N., Q.F.-B., M.O.-B.; Data curation: M.P.-P., J.S., L.A.; Formal analysis: M.P.-P., J.S., L.A.; Funding acquisition: M.P.-P., M.O.-B.; Investigation: M.P.-P.; Methodology: All authors; Project administration: M.P.-P., E.A.-B., M.O.-B.; Resources: M.P.-P., M.O.-B.; Software: J.S., L.A.; Supervision: M.P.-P., E.A.-B., M.O.-B.; Validation: M.P.-P., J.S.; Visualization: M.P.-P., J.S., L.A.; Writing-original draft: M.P.-P.; Writing-review and editing: All authors. All authors have read and agreed to the published version of the manuscript.

Funding: This research project was funded by the Diputació de Lleida (grant number 201800038).

Institutional Review Board Statement: The study was conducted according to the guidelines of the Declaration of Helsinki and approved by the Ethics Committee of the Foundation University Institute for Primary Health Care Research Jordi Gol i Gurina (protocol code P16/002, 8 April 2016). All data were treated with full confidentiality guarantees as established by the National Law and Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study and their legal tutors.

Data Availability Statement: The data is hosted on the research team internal servers and will be provided under reasonable request.

Acknowledgments: M.P.-P. held a predoctoral fellowship “Convocatoria d’Ajuts 2018 de Promoció de la Recerca en Salut - 6a Edició” from Diputació de Lleida/IRBLleida. Data collection would not have been possible without the collaboration of the PICA-AD work group (Appendix A). We would like to thank the Catalan Health Department and the Education Department of Generalitat de Catalunya, the Health and School program members, the Lleida Primary Care management and all the school participants, as well as all the parents and students who agreed to participate.

Conflicts of Interest: The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

Appendix A

List of the PICA-AD Project collaborators:

Lleida: Aida Castelló Corretge, Alberto Seoane Barbosa, Ana Maria Castan Campanera, Antonieta Vidal Tolosa, Araceli Clemente Baules, Aranzazu Nieto Moreno, Blanca Aguarod Salillas, Carlos Gatus Tonda, Carmen Borbón Nadal, Clara Huguet Baldomà, Daniel Gros Esteban, Eduardo Delgado Roche, Elena Duque Navasa, Eva Camats Escoda, Eva Escola Acuña, Eva Maria Suárez Magaña, Gemma Martín Servet, Gemma Terrer Manrique, Iraida Gimeno Pi, Josep Ramon Marsal Mora, Keyko Sole Melero, Laura Seoane Barbosa, Lidia Carulla Canales, M. Montserrat Zaballos Hernandez, M. Antonia Clemente Mirón, Ma. Carmen Martin Anson, Magdalena Riera Veciana, Manuela Milla Ocaña, Maria Carmen Greoles Valls, Maria Isabel Garrido Santiago, Maria Pilar Aguarod Salillas, Maria Rosa Escriba Salvado, Meritxell Regany Rodriguez, Mireia Pascual Rebollo, Monica Roig Farrás, Natalia Bravo Andrés, Natalia Vall Faura, Patricia Aixalá Olivan, Rosa Blanca Guiu Badia,

Silvia Ferraz Sopena, Silvia Prado Muñoz, Silvia Solís Vidal, Susana Pérez Osuna, Teresa Real Llovera, Yolanda Pascual Arrazola.

Rural: Adelina Albana Mola, Albert Romero Gracia, Álvaro Vilela Pájaro, Ana Maria Parra Pérez, Anna Pagés Consul, Anna Pla Moro, Anna Ribé Miró, Anna Torné Cortés, Anna Torres Saladrigues, Annabel Areny Tallarí, Annabel Vidal Cupons, Carme Estela Abad, Carme Florensa Piró, Carme Juni Carnicer, Cristina Garcia Serrano, Cristina Cebrián Aiguadé, David Jordana Ariza, Dolors Segura Querol, Ester Mateus Solé, Estrella Lalueza Lafuente, Evelin Maria Manga Domínguez, Gemma Amat Camats, Gemma Planelles Font, Imma Nadal Creus, Inma Morales Bara, Joana García Hinojosa, Joana Gassó Jordán, Josep M^a Jimenez Ramos, Judit Mari Villagrassa, Laura Pallàs Martín, Lúcia Sanz Borrell, M^a José Freixinet Ayala, Magda Barberà Farré, Magdalena Camí Capell, Maite Puig Solé, Mari Fe Quelle Alonso, Maria Belen Garriga Figueres, Maria Belen Mas Gardo, Maria Jesús Fernández Galán, Maria Teresa Ortiga Pifarré, Marta Farré Bergadà, Marta Pifarré Ortiz, Marta Puig Fitó, Mercè Bellmunt Bonet, Mercè Font Arbó, Mercè Lozano Vergara, Mercè Segura Serra, Meritxell Batlle Bosch, Meritxell Corrales Gomà, Mireia Biosca Pàmies, Mireia Villalta Martí, Míriam Duch Visart, M^a Carme Salgado Valle, M^a Carmen Martínez López, M^a José Lara Tostado, M^a Teresa Palou Solé, M^a José Estadella Servalls, Mònica Carbonell Badia, Mònica Guillen Mesalles, Mònica Martínez Mayoral, Montserrat Junyent Solé, Montserrat Vidal Ballesté, Neus Arola Serra, Neus Piqué Palacín, Núria Huguet Bea, Núria Serra Solans, Olivia Guasch Niubó, Patricia Ferreira Prat, Pilar Serra Solans, Raquel Plasència Atienza, Raúl Rodríguez Flores, Rita Sancho Borot, Rosa Company Marimon, Rosa Puigdemont Fortet, Sandra Farré Prunera, Sara Martí Martí, Sònia Sans Vollmer, Tere Carulla Fusté, Tere Pelegrí Pach, Teresa Guasch Clapés, Teresa Pujol Puyané, Victòria Ruiz Iglesias.

Pirineus: Anna Llusà Parramon, Elena Alcover Bloch, Elisabeth Vila Mirabet, Ester Prat Gallart, Hilda Toscani Paris, Maria del Mar Mata Sáez, Montse Figueroa Piñol, Neus Calvelo Coronado, Núria Gardeñes Llorens, Núria Tomas Bea, Patricia Álvarez García.

References

1. Unicef Nations Children's Fund. *The State of the World's Children 2011: Adolescence—An Age of Opportunity*; Division of Communication, UNICEF: New York, NY, USA, 2011.
2. Parent, A.S.; Teilmann, G.; Juul, A.; Skakkebaek, N.E.; Toppari, J.; Bourguignon, J.P. The timing of normal puberty and the age limits of sexual precocity: Variations around the world, secular trends, and changes after migration. *Endocr. Rev.* **2003**, *24*, 668–693. [[CrossRef](#)] [[PubMed](#)]
3. Rogol, A.D.; Roemmich, J.N.; Clark, P.A. Growth at puberty. *J. Adolesc. Health* **2002**, *31*, 192–200. [[CrossRef](#)]
4. Rosenberg, M. *Society and the Adolescent Self-Image*; American Psychological Association: Washington, DC, USA, 1989.
5. Pinheiro Mota, C.; Mena Matos, P. Parents, teachers and peers: Contributions to self-esteem and coping in adolescents. *An. Psicol.* **2014**, *30*, 656–666. [[CrossRef](#)]
6. Cocca, A.; Blanco, J.R.; Peinado, J.E.; Viciano, J. Actual, social and ideal body image in Mexican adolescents and their relation with body dissatisfaction: Gender differences. *Retos* **2016**, *30*, 189–192. [[CrossRef](#)]
7. Bjornsson, A.S.; Didie, E.R.; Grant, J.E.; Menard, W.; Stalker, E.; Phillips, K.A. Age at onset and clinical correlates in body dysmorphic disorder. *Compr. Psychiatry* **2013**, *54*, 893–903. [[CrossRef](#)] [[PubMed](#)]
8. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*, 5th ed.; American Psychiatric Association: Washington, DC, USA, 2013. [[CrossRef](#)]
9. Phillips, K.A.; Menard, W.; Fay, C.; Pagano, M.E. Psychosocial functioning and quality of life in body dysmorphic disorder. *Compr. Psychiatry* **2005**, *46*, 254–260. [[CrossRef](#)]
10. Albertini, R.S.; Phillips, K.A. Thirty-Three cases of body dysmorphic disorder in children and adolescents. *J. Am. Acad. Child. Adolesc. Psychiatry* **1999**, *38*, 453–459. [[CrossRef](#)]
11. Schneider, S.C.; Turner, C.M.; Mond, J.; Hudson, J.L. Prevalence and correlates of body dysmorphic disorder in a community sample of adolescents. *Aust. N. Z. J. Psychiatry* **2017**, *51*, 595–603. [[CrossRef](#)]
12. Clay, D.; Vignoles, V.L.; Dittmar, H. Body image and self-esteem among adolescent girls: Testing the influence of sociocultural factors. *J. Res. Adolesc.* **2005**, *15*, 451–477. [[CrossRef](#)]
13. Williamson, D.; Davis, C.; Duchman, E.; Watkin, P. *Assessment of Eating Disorders: Obesity, Anorexia & Bulimia Nervosa*; Pergamon Press: New York, NY, USA, 1990.
14. Vitousek, K.B.; Hollon, S.D. The investigation of schematic content and processing in eating disorders. Special Issue: Selfhood processes and emotional disorders. *Cogn. Ther. Res.* **1990**, *14*, 191–214. [[CrossRef](#)]

15. Ramos, P.; Moreno-Maldonado, C.; Moreno, C.; Rivera, F. The role of body image in internalizing mental health problems in Spanish adolescents: An analysis according to sex, age, and socioeconomic status. *Front. Psychol.* **2019**, *10*, 1952. [[CrossRef](#)] [[PubMed](#)]
16. Siemen, J.R.; Warrington, C.A.; Mangano, E.L. Comparison of the millon adolescent personality inventory and the suicide ideation questionnaire—Junior with an adolescent inpatient sample. *Psychol. Rep.* **1994**, *75*, 947–950. [[CrossRef](#)]
17. Vaquero-Cristóbal, R.; Alacid, F.; Muyor, J.M.; López-Miñarro, P.A. Imagen corporal: Revisión bibliográfica. *Nutr. Hosp.* **2013**, *28*, 27–35. [[CrossRef](#)] [[PubMed](#)]
18. Dhillon, M.; Dhawan, P. “But I am fat”: The experiences of weight dissatisfaction in Indian adolescent girls and young women. *Womens Stud. Int. Forum* **2011**, *34*, 539–549. [[CrossRef](#)]
19. López-Guimerà, G.; Levine, M.P.; Sánchez-carracedo, D.; Fauquet, J. Influence of mass media on body image and eating disordered attitudes and behaviors in females: A review of effects and processes. *Media Psychol.* **2010**, *13*, 387–416. [[CrossRef](#)]
20. Añez, E.; Fornieles-Deu, A.; Fauquet-Ars, J.; López-Guimerà, G.; Puntí-Vidal, J.; Sánchez-Carracedo, D. Body image dissatisfaction, physical activity and screen-time in Spanish adolescents. *J. Health Psychol.* **2018**, *23*, 36–47. [[CrossRef](#)]
21. Holmqvist, K.; Frisén, A. “I bet they aren’t that perfect in reality” Appearance ideals viewed from the perspective of adolescents with a positive body image. *Body Image* **2012**, *9*, 388–395. [[CrossRef](#)]
22. Heidelberger, L.; Smith, C. Low-Income, African American and American Indian children’s viewpoints on body image assessment tools and body satisfaction: A mixed methods study. *Matern. Child Health J.* **2018**, *22*, 1327–1338. [[CrossRef](#)]
23. Holmqvist, K.; Frisén, A. From negative to positive body image: Men’s and women’s journeys from early adolescence to emerging adulthood. *Body Image* **2019**, *28*, 53–65. [[CrossRef](#)]
24. Deschamps, V.; Salanave, B.; Chan-Chee, C.; Vernay, M.; Castetbon, K. Body-Weight perception and related preoccupations in a large national sample of adolescents. *Pediatr. Obes.* **2015**, *10*, 15–22. [[CrossRef](#)] [[PubMed](#)]
25. Hart, L.M.; Damiano, S.R.; Cornell, C.; Paxton, S.J. What parents know and want to learn about healthy eating and body image in preschool children: A triangulated qualitative study with parents and early childhood professionals. *BMC Public Health* **2015**, *15*, 1–13. [[CrossRef](#)] [[PubMed](#)]
26. Murray, S.B.; Nagata, J.M.; Griffiths, S.; Calzo, J.P.; Brown, T.A.; Mitchison, D.; Blashill, A.J.; Mond, J.M. The enigma of male eating disorders: A critical review and synthesis. *Clin. Psychol. Rev.* **2017**, *57*, 1–11. [[CrossRef](#)]
27. Loth, K.; Wall, M.; Larson, N.; Neumark-Sztainer, D. Disordered eating and psychological well-being in overweight and nonoverweight adolescents: Secular trends from 1999 to 2010. *Int. J. Eat. Disord.* **2015**, *48*, 323–327. [[CrossRef](#)] [[PubMed](#)]
28. Lenardson, J.D.; Hansen, A.Y.; Hartley, D. Rural and remote food environments and obesity. *Curr. Obes. Rep.* **2015**, *4*, 46–53. [[CrossRef](#)]
29. Jiménez Boraita, R.; Arriscado Alsina, D.; Gargallo Ibor, E.; Dalmau Torres, J.M. Quality of life related to health and habits: Differences between adolescents in rural and urban environments. *An. Pediatr.* **2021**. [[CrossRef](#)]
30. Vander Wal, J.S. Unhealthy weight control behaviors among adolescents. *J. Health Psychol.* **2012**, *17*, 110–120. [[CrossRef](#)] [[PubMed](#)]
31. Martínez, N.B.; Escoto, C.; Bosques, L.E.; Ibarra, J.E.; Juárez Lugo, C.S. Internalization of aesthetic ideals and body concern in males and females gym users. *Rev. Mex. Trastor. Aliment.* **2014**, *5*, 29–38. [[CrossRef](#)]
32. Golden, N.; Katzman, D.; Kreipe, R.; Stevens, S.; Sawyer, S.; Rees, J.; Nicholls, D.; Rome, E.S. Eating disorders in adolescents: position paper of the Society for Adolescent Medicine. *J. Adolesc. Health* **2003**, *33*, 496–503. [[CrossRef](#)]
33. Corominas, P.; Prats, R.; Coll, M. *Health and School Program. Content and Implementation guide*; Departament de Salut, Generalitat de Catalunya: Barcelona, Spain, 2008.
34. Rodríguez Campayo, M.; Beato Fernández, L.; Rodríguez Cano, T.; Martínez-Sánchez, F. Spanish version of the Gardner body image validation scale in patients with eating behavior disorders. *Actas Esp. Psiquiatr.* **2003**, *31*, 59–64. [[PubMed](#)]
35. De Onis, M.; Onyango, A.W.; Borghi, E.; Siyam, A.; Nishida, C.; Siekmann, J. Development of a WHO growth reference for school-aged children and adolescents. *Bull. World Health Organ.* **2007**, *85*, 660–667. [[CrossRef](#)]
36. Cruz Sáez, M.; Pascual Jimeno, A.; Włodarczyk, A.; Polo López, R.; Echeburúa Odriozola, E. Body dissatisfaction and weight control behaviors among overweight adolescent girls: Mediating role of anxiety and depression. *Nutr. Hosp.* **2016**, *33*, 935–940. [[CrossRef](#)]
37. Feise, R.J. Do multiple outcome measures require p-value adjustment? *BMC Med. Res. Methodol.* **2002**, *2*, 1–4. [[CrossRef](#)]
38. López-Guimerà, G.; Neumark-Sztainer, D.; Hannan, P.; Fauquet, J.; Loth, K.; Sánchez-Carracedo, D. Unhealthy weight-control behaviours, dieting and weight status: A cross-cultural comparison between North American and Spanish adolescents. *Eur. Eat. Disord. Rev.* **2013**, *21*, 276–283. [[CrossRef](#)]
39. Cruz-Sáez, S.; Pascual, A.; Salaberria, K.; Etxebarria, I.; Echeburúa, E. Risky eating behaviors and beliefs among adolescent girls. *J. Health Psychol.* **2015**, *20*, 154–163. [[CrossRef](#)] [[PubMed](#)]
40. López Sánchez, G.F.; Suárez, A.D.; Smith, L. Analysis of body image and obesity by Stunkard’s silhouettes in 3- to 18-year-old Spanish children and adolescents. *An. Psicol.* **2018**, *34*, 167–172. [[CrossRef](#)]
41. Gómez Mármol, A.; Sánchez Alcaraz Martínez, B.; María del Pilar Mahedero, N. Insatisfacción y distorsión de la imagen corporal en adolescentes de doce a diecisiete años de edad. *Ágora Educ. Fis. Deport.* **2013**, *15*, 54–63.
42. Ramos, P.; Pérez de Eulate, L.; Liberal, S.; Latorre, M. La imagen corporal en relación con los TCA en adolescentes vascos de 12 a 18 años. *Rev. Psicodidact.* **2003**, *16*, 65–73.
43. Pocallet, M.P.; Ma, E.; Barberà, A.; Clapes, T.G.; Bonet, M.B.; Solé, T.P.; Solans, N.S.; Calvet, E.R.; Mora, J.; Bravo, M.O. Cross-Sectional study on body image and self-esteem among adolescents in Catalonia. *Health Educ. Public Health* **2019**, *2*, 164–169.

44. Mazzeurega, M.; Marisa, J.; Zampini, M.; Pavani, F. Thinner than yourself: Self-Serving bias in body size estimation. *Psychol. Res.* **2018**, *84*, 932–949. [[CrossRef](#)]
45. Dey, R.; Clark, B.R.; Ackermann, N.; Racette, S.B. Weight status perception and weight loss intention among urban youth. *Obes. Res. Clin. Pract.* **2019**, *13*, 391–394. [[CrossRef](#)]
46. Stephen, I.D.; Hunter, K.; Sturman, D.; Mond, J.; Stevenson, R.J.; Brooks, K.R. Experimental manipulation of visual attention affects body size adaptation but not body dissatisfaction. *Int. J. Eat. Disord.* **2019**, *52*, 79–87. [[CrossRef](#)] [[PubMed](#)]
47. Guadarrama Guadarrama, R.; Henández Navor, J.C.; Veytia López, M. “How do I perceive myself and how I would like to be”: A study on the body image of Mexican adolescents. *Rev. Psicol. Clin. Niños Adolesc.* **2018**, *5*, 37–43. [[CrossRef](#)]
48. Ramos Valverde, P.; Rivera de los Santos, F.; Moreno Rodríguez, C. Diferencias de sexo en imagen corporal, control de peso e índice de masa corporal de los adolescentes españoles. *Psicothema* **2010**, *22*, 77–83. [[PubMed](#)]
49. Strauss, R.S. Self-Reported weight status and dieting in a cross-sectional sample of young adolescents. *Arch. Pediatr. Adolesc. Med.* **1999**, *153*, 741. [[CrossRef](#)] [[PubMed](#)]
50. Talamayan, K.S.; Springer, A.E.; Kelder, S.H.; Gorospe, E.C.; Joye, K.A. Prevalence of overweight misperception and weight control behaviors among normal weight adolescents in the United States. *Sci. World J.* **2006**, *6*, 365–373. [[CrossRef](#)]
51. Corno, G.; Serino, S.; Cipresso, P.; Baños, R.M.; Riva, G. Assessing the relationship between attitudinal and perceptual component of body image disturbance using virtual reality. *Cyberpsychol. Behav. Soc. Netw.* **2018**, *21*, 679–686. [[CrossRef](#)] [[PubMed](#)]
52. Pope, H.; Phillips, K.; Olivardia, R. *The Adonis Complex*; Free Press: New York, NY, USA, 2002.
53. Levine, M.; Smolak, L. Cultural influences on body image and eating disorders. In *Oxford Handbook of Eating Disorders*; Agras, W., Ed.; Oxford University Press: New York, NY, USA, 2010; p. 493.
54. Meier, E.P.; Gray, J. Facebook photo activity associated with body image disturbance in adolescent girls. *Cyberpsychol. Behav. Soc. Netw.* **2014**, *17*, 199–206. [[CrossRef](#)] [[PubMed](#)]
55. Tiggemann, M.; Miller, J. The internet and adolescent girls’ weight satisfaction and drive for thinness. *Sex Roles* **2010**, *63*, 79–90. [[CrossRef](#)]
56. Calado, M.; Lameiras, M.; Sepulveda, A.R.; Rodriguez, Y.; Carrera, M.V. The association between exposure to mass media and body dissatisfaction among Spanish adolescents. *Womens Health Issues* **2011**, *21*, 390–399. [[CrossRef](#)]
57. Fardouly, J.; Vartanian, L. Negative comparisons about one’s appearance mediate the relationship between Facebook usage and body image concerns. *Body Image* **2015**, *12*, 82–88. [[CrossRef](#)]
58. Ramos Vidal, I. The role of relationships and life satisfaction on body image perceptual disturbance in a sample of Mexican students. *Arch. Med.* **2019**, *19*, 111–123. [[CrossRef](#)]
59. Ministry of Education. *Royal Decree 132/2010, from February 12th, Establishing the Minimum Requirements of the Centers that Teach the Second Cycle of Childhood Education, Primary Education and Secondary Education*; Ministry of Education: Madrid, Spain, 2010.
60. Chapuis-de-Andrade, S.; de Araujo, R.M.; Lara, D.R. Association of weight control behaviors with body mass index and weight-based self-evaluation. *Rev. Bras. Psiquiatr.* **2017**, *39*, 237–243. [[CrossRef](#)]
61. Stice, E.; Davis, K.; Miller, N.P.; Marti, C.N. Fasting increases risk for onset of binge eating and bulimic pathology: A 5-year prospective study. *J. Abnorm. Psychol.* **2008**, *117*, 941–946. [[CrossRef](#)]
62. O’Brien, K.M.; Whelan, D.R.; Sandler, D.P.; Hall, J.E.; Weinberg, C.R. Predictors and long-term health outcomes of eating disorders. *PLoS ONE* **2017**, *12*, e0181104. [[CrossRef](#)]
63. Smink, F.R.E.; Van Hoeken, D.; Hoek, H.W. Epidemiology, course, and outcome of eating disorders. *Curr. Opin. Psychiatry* **2013**, *26*, 543–548. [[CrossRef](#)] [[PubMed](#)]
64. Raevuori, A.; Keski-Rahkonen, A.; Hoek, H.W. A review of eating disorders in males. *Curr. Opin. Psychiatry* **2014**, *27*, 426–430. [[CrossRef](#)] [[PubMed](#)]
65. Stice, E.; Marti, C.N.; Rohde, P. Prevalence, incidence, impairment, and course of the proposed DSM-5 eating disorder diagnoses in an 8-year prospective community study of young women. *J. Abnorm. Psychol.* **2013**, *122*, 445–457. [[CrossRef](#)]
66. Calado, M.; Lameiras, M.; Sepulveda, A.R.; Rodriguez, Y.; Carrera, M.V. The mass media exposure and disordered eating behaviours in Spanish secondary students. *Eur. Eat. Disord. Rev.* **2010**, *18*, 417–427. [[CrossRef](#)]
67. Essau, C.A.; Lewinsohn, P.M.; Lim, J.X.; Ho, M.R.; Rohde, P. Incidence, recurrence and comorbidity of anxiety disorders in four major developmental stages. *J. Affect. Disord.* **2018**, *228*, 248–253. [[CrossRef](#)] [[PubMed](#)]
68. Burcusa, S.L.; Iacono, W.G. Risk for recurrence in depression. *Clin. Psychol. Rev.* **2007**, *27*, 959–985. [[CrossRef](#)]
69. Bertha, E.A.; Balázs, J. Subthreshold depression in adolescence: A systematic review. *Eur. Child Adolesc. Psychiatry* **2013**, *22*, 589–603. [[CrossRef](#)] [[PubMed](#)]
70. Tort-Nasarre, G.; Pollina Pocallet, M.; Artigues-Barberà, E. The meaning and factors that influence the concept of body image: Systematic review and meta-ethnography from the perspectives of adolescents. *Int. J. Environ. Res. Public Health* **2021**, *18*, 1140. [[CrossRef](#)] [[PubMed](#)]