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The Relationship Between Body and Appearance-Related Self-conscious Emotions and Disordered Eating: The Mediating Role of Symptoms of Depression and Anxiety

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Abstract

Over the last decade, several studies have highlighted the role that certain emotional variables play in eating disorders. However, body and appearance-related self-conscious emotions have hardly been studied at all in relation to eating disorders. This cross-sectional study was therefore conducted with two aims: 1) to analyze the differences between those at risk of developing an eating disorder and those not at risk, in relation to body and appearance-related self-conscious emotions and, 2) to analyze the mediating role of symptoms of depression and anxiety in the relationship between body and appearance-related self-conscious emotions and disordered eating. Participants were 196 adult women aged between 18 and 35 who completed the *Eating Attitudes Test*, the *Body and Appearance Self-Conscious Emotions Scale* and the *General Health Questionnaire*. The results showed that women at risk scored higher for body shame and body guilt and lower for authentic body pride and hubristic body pride. In most cases, symptoms of depression and anxiety were found to be mediating variables. In conclusion, this study highlights the relevant role played not only by negative emotions (e.g., body shame and body guilt), but also by positive ones (e.g., authentic and hubristic body pride). Our study will help develop more effective preventive and therapeutic strategies.
Key words: disordered eating, self-conscious emotions, depression, anxiety, appearance.

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Novelty and Significance

What is already known about the topic?

- Emotional variables play a fundamental role in the development and maintenance of eating disorders.
- Body shame is associated with disordered eating, especially in teenage samples.

What this paper adds?

- This study analyzes the role of some emotional variables which have hardly been studied at all in relation to disordered eating, such as body guilt and body pride.
- It is the first study that analyzes the two types of body pride (authentic and hubristic) in relation to disordered eating.
- Most studies conducted so far have used adolescent samples; this one, however, uses a sample of adults.

There has recently been growing concern over the rising numbers of people suffering from Eating Disorders (EDs), particularly in Western societies, where the prevailing ideal of female beauty is linked to an image of increasingly extreme and unattainable thinness (Pidgeon & Harker, 2013). According to data published by the National Eating Disorder Association (NEDA), today, approximately 70 million people currently have a diagnosed ED, with the majority of sufferers being young adults. However, over recent years there has been a rise in the percentage of adults developing this kind of disorder (Gagne *et alia*, 2012).

Many studies have shown that certain emotions and emotional variables play a key role in both the development and maintenance of EDs (Dingemans, Danner, &

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Parks, 2017; Pascual, Etxebarria, Cruz Sáez, & Echeburúa, 2011). Nevertheless, the role played by body and appearance-related self-conscious emotions in EDs has received very little attention to date, and although important progress has been made recently, there are still very few studies that focus on this particular area.

Self-conscious emotions are those which stem from a positive or negative assessment of the self (Tangney & Tracy, 2012). If the assessment is negative, then this may result in unpleasant emotions such as shame and guilt; positive assessments, on the other hand, may give rise to pride (Etxebarria, 2003; Lewis, 2000).

Body shame occurs when the individual believes they fail to comply with the aesthetic ideal established by society. The causes that generate general shame in general are external, uncontrollable and global (Tracy & Robins, 2004). For its part, body guilt refers to feelings of self-reproach over having or not having engaged in a specific behavior linked to physical appearance and/or diet (Calogero & Pina, 2011). In the case of general shame, the action tendency is to flee or hide (Tangney & Tracy, 2012), while with general guilt it is usually to make reparation (Tangney, Miller, Flicker, & Barlow, 1996). Finally, body pride occurs when the individual has positive feelings or thoughts about different aspects of their body or appearance. There are two types of body pride: authentic body pride ("I feel proud about having lost weight") and hubristic body pride ("I feel proud about being attractive"). The first refers to specific, controllable behaviors and achievements, whereas the second is linked to uncontrollable and global aspects of the self, which may in turn be related to feelings of superiority (Castonguay, Gilchrist, Mack, & Sabiston, 2013; Tracy & Robins, 2007). General pride is linked to a tendency to repeat the behaviors that elicit this emotion (Castonguay *et alia*, 2013).

The relationship between body and appearance-related self-conscious emotions and the emergence and symptoms of disordered eating can be explained in accordance with Self-objectification Theory (Fredrickson & Roberts, 1997). This theory posits that since women's bodies are subject to external criticism and observation, women themselves are often only valued for their physical appearance. This in turn prompts them to pay more attention to their physical appearance, and comparisons between their body and the ideal aesthetic model lead to discrepancies between their real and ideal selves, discrepancies which may foster the emergence of negative body-related emotions (body shame, body guilt, etc.). Finally, to redress this situation, women often have recourse to disordered eating behaviors, such as restrictive food intake or self-induced vomiting.

Very few studies to date have sought to analyze the role played by body and appearance-related self-conscious emotions in EDs, and most of those have focused solely on body shame. Findings reveal that high levels of body shame may not only increase the risk of developing an ED (Ferreira, Pinto Gouveia, & Duarte, 2013; Iannaccone, D'Olimpio, Cella, & Cotrufo, 2016; Mustapic, Marcinko, & Vargek, 2016; Troop & Redshaw, 2012), they are also associated with the seriousness of the symptoms (Doran & Lewis, 2012).

As mentioned above, body shame occurs when an individual feels that their body fails to coincide with the dominant aesthetic ideal, which is not difficult considering that reaching that aesthetic ideal has become an almost impossible goal (Bessenoff & Snow, 2006). Faced with this emotion, individuals often have recourse to maladaptive eating behaviors, which they use to try to change those physical characteristics perceived as unattractive, while at the same time alleviating their emotional distress and attaining greater support or acceptance by others (Duarte, Pinto Gouveia, Ferreira, & Batista, 2015; Fitzsimmons-Craft, Bardone-Cone, & Kelly, 2011).

Studies which have analyzed the role of general shame and body shame together have found that while body shame may be associated with EDs, general shame is not (Burney & Irwin, 2000). More specifically, in a longitudinal study, Troop and Redshaw (2012) observed that body shame predicted symptoms of anorexia but not bulimia. However, other studies have found a positive and significant association between body shame and binge eating (Dakanalis *et alia*, 2015).

As regards the role of body guilt and body pride in EDs, very little research currently exists. Those studies which have analyzed the role of body guilt in the development of EDs concluded that high levels of this emotion may be associated with the development of disordered eating (Gupta, Zachary Rosenthal, Mancini, Cheavens, & Lynch, 2008), specifically the characteristic symptoms of binge eating (Conradt et alia, 2007).

In relation to body pride, the few studies which have focused on this emotion suggest that low levels of body pride may increase the risk of developing EDs among both adolescent girls (French *et alia*, 1997) and adult men and women (French, Story, Downes, Resnick, & Blum, 1995).

Nevertheless, body and appearance-related self-conscious emotions are not the only emotional risk factors for eating disorders. Other emotional variables have also been found to play a key role in the development of these disorders (Dingemans *et alia*, 2017; Pascual *et alia*, 2011). Of these, symptoms of depression and anxiety are two of those which have received the most attention. Studies analyzing the relationship between these two variables and the development of EDs have found that those experiencing symptoms of depression and anxiety may be more vulnerable to EDs (Boujut & Gana, 2014). More specifically, they found that those experiencing symptoms of depression and anxiety are more likely to engage in maladaptive eating behaviors (dietary restraint, purging, etc.) to regulate their negative mood (Goldschmidt, Wall, Loth, Le Grange, & Neumark-Sztainer, 2012; Lavender *et alia*, 2013).

When analyzing the relationship between body and appearance-related self-conscious emotions and disordered eating, it is important to question the mechanisms through which said relationship can be explained. Although to date, no study has attempted to analyze the mediating role of key emotional variables, such as symptoms of depression and anxiety, in the relationship between body and appearance-related self-conscious emotions and disordered eating, some similar studies have been conducted in relation to other predictor variables, and, in some cases, in relation to other mediator variables. Thus, several authors have found that both self-esteem and symptoms of depression and anxiety may mediate the relationship between body dissatisfaction and disordered eating (Brechan & Kvalem, 2015; Cruz Sáez, Pascual, Wlodarczyk, & Echeburúa, 2018), and other studies have reported that symptoms of depression and anxiety may mediate the relationship between perfectionism and disordered eating (Drieberg, McEvoy, Hoyles, Shu, & Egan, 2019). Furthermore, some authors report that body shame may mediate the relationship between body dissatisfaction and disordered eating (Mustapic, Marcinko, & Vargek, 2015).

It is important to note that the majority of studies analyzing the emotional factors associated with the risk of EDs have used adolescent samples. However, a growing percentage of people who develop EDs are adults, which is why it is worth asking (among other things) whether the conclusions reached by research into emotional risk factors among adolescents can be extrapolated to the adult population. The scarcity of studies carried out with adult samples and, more specifically, the need to respond to this

question, prompted us to establish the following aims in relation to a sample of young adults: 1) to analyze the relationships which exist among body and appearance-related self-conscious emotions, symptoms of depression, symptoms of anxiety and disordered eating; 2) to analyze the differences between those at risk of developing an ED and those not at risk, in relation to body and appearance-related self-conscious emotions; and 3) to determine whether symptoms of depression and anxiety may sequentially mediate the relationship between body shame and disordered eating and the relationship between body guilt and disordered eating.

Based on previous studies and our own observations, we established the following hypotheses: First, body shame, body guilt and authentic body pride (the body pride linked to specific behaviors) will be positively associated with disordered eating, while hubristic body pride (the body pride linked to the self) will be negatively associated with disordered eating. Although the findings of previous studies on the role of body pride in the development of EDs are inconclusive, we posited a specific hypothesis. We believe that since this particular type of pride (authentic pride) is centered around specific behaviors which are frequently engaged in by people with disordered eating, it may be stronger among this group. As part of this hypothesis, we also expected symptoms of anxiety and depression to be positively associated with disordered eating, body shame and body guilt, and negatively associated with authentic body pride and hubristic body pride. Second, those at risk will score higher for body shame and body guilt and lower for hubristic body pride than those not at risk. As regards authentic body pride, we expected those at risk to score higher for this variable, since these individuals are more likely to engage in behavior aimed at modifying their body shape (Schaumberg & Anderson, 2016). Finally, symptoms of depression and anxiety will mediate the relationship between body shame and disordered eating, as well as the relationship between body guilt and disordered eating.

Method

Design and Participants

The design was cross-sectional with a non-probabilistic sample. Although the instruments were completed by both women and men, the male sample was not sufficiently representative and only the answers given by female respondents were used in the study. The final sample comprised 196 Spanish and Latin American women aged between 18 and 35 years (M= 25.84; SD= 5.36), recruited through the social media. A total of 89 women complied with the criteria established for the at risk group (EAT-26 ≥20) and 109 complied with those established for the not at risk group (EAT-26 ≤19). Of the 196 women who participated, 24 (12.24%) were underweight, 117 (59.69%) normal weight, 34 (17.34%) overweight and 19 (9.69%) obese; two participants (1.02%) failed to provide data in this respect. The exclusion criteria were being a man, not being in the established age range and having a past or current diagnosis of an ED. Data on this last criterion was gathered through self-reported questions ("Have you ever been diagnosed with an ED?" and "Do you currently have an ED?"). No financial remuneration was offered in exchange for participation. The study was approved by the Committee for Research with Humans (CEISH) and was conducted in accordance with the Helsinki Declaration. Before participating in the study, participants gave their informed consent and were assured that their responses would be both anonymous and confidential.

Instruments

Sociodemographic Data. Participants provided self-reported data on their age, sex, nationality, weight and height. BMI was calculated using the Weight/Height^2 (kg/m^2)

formula and participants were classified in accordance with the criteria proposed by the World Health Organization (WHO) (<18.5= Underweight; 18.5-24.9= Normal weight; 25-29.9= Overweight; ≥30= Obese).

Eating Attitudes Test (Garner, Olmsted, Bohr, & Garfinkel, 1982; adapted by Gandarillas, Zorrilla, Sepúlveda, & Muñoz, 2003). This scale comprises 26 items grouped into three dimensions: 1) Dieting, 2) Bulimia and 3) Food preoccupation and Oral control. Respondents state how often they experience that expressed in the items on a 6-point Likert-type scale (0= never, 5= always). Some examples of items are "Have gone on eating binges where I feel that I may not be able to stop" and "Am preoccupied with a desire to be thinner". The scale's cut-off point is 20, with those scoring 20 or over being considered at risk of developing an ED. In this study, the overall scale obtained an internal consistency coefficient (Cronbach's alpha) of .91.

General Health Questionnaire (Goldberg & Hillier, 1979; adapted by Lobo, Pérez-Echeverría, & Artal, 1986). This questionnaire comprises 28 items referring to four subscales: Somatic symptoms, Anxiety and Insomnia, Social Dysfunction and Severe Depression, which are rated on a 4-point response scale (from 0 to 3). In this study, only the Anxiety and Insomnia and Severe Depression subscales were used. Higher scores indicate greater psychological distress. Respondents are asked to indicate items which reflect how they have felt over the last month. Some examples of items are "Have you recently felt constantly under strain?" and "Have you recently been thinking of yourself as a worthless person?" In this study, the Cronbach's alphas obtained for the Anxiety and Insomnia and Severe Depression subscales were .91 and .95 respectively.

Body and Appearance Self-Conscious Emotions Scale (Castonguay, Sabiston, Croker, & Mack, 2014; adapted by Alcaraz Ibáñez & Sicilia, 2019). This scale comprises 15 items grouped into four subscales: Body shame (item example: "Ashamed of my appearance"), Body guilt (item example: "Guilty that I do not do enough to improve the way I look"), Authentic body pride (item example: "Proud about my effort to improve the way I look") and Hubristic body pride (item example: "Proud that I am great looking person"). Items are rated on a 5-point Likert-type response scale (1= never and 5= always) and participants are asked to state how often they feel that described in each one. In this study, the internal consistency coefficient (Cronbach's alpha) for each of the different subscales ranged between .85 and .95.

Procedure

Participants were recruited through the social media in May 2019. Several professionals (psychologists, nutritionists, etc.) who work with people suffering from eating disorders, as well as other collaborators, contributed to disseminating the study/questionnaire. Participants gave their informed consent and completed an online survey administered through the Qualtrics XM platform in approximately 10-15 minutes. The researchers were available online to resolve any doubt.

Data Analysis

The statistical analysis was performed using the IBM SPSS 25.0 program. Descriptive analysis (Means and Standard Deviations) were then carried out, along with bivariate Pearson correlations between the study variables. Next, to analyze the differences between the at risk and not at risk groups, *t* tests for independent samples were conducted and the corresponding effect sizes were calculated (Cohen's *d*; Cohen, 1988). Also, using the PROCESS macro for the SPSS statistical program (Hayes, 2017), four simple mediation models were estimated to analyze the extent to which depression and anxiety mediated the relationship between the dependent variable disordered eating and the independent variables body shame, body guilt, authentic body pride and hubristic body pride. Due to the significant and close association observed between each of

the body and appearance-related self-conscious emotions we decided to establish four different models, one for each independent variable. The aim was to avoid canceling the possible effect of these variables on the dependent variable. Model 4 was used to estimate direct and indirect effects, standard errors and confidence intervals (95%), based on the bootstrapping method (5,000 samples). Indirect effects were considered significant when the confidence interval did not include 0 (Hayes & Preacher, 2013), while direct effects were considered significant when the *p* value was lower than .05.

RESULTS

Table 1 shows the results of the descriptive analyses (Means and Standard Deviations) and the correlations between all the variables included in the study. All correlations were statistically significant. As regards their direction and magnitude, most were positive and strong, with the following being particularly worth mentioning: disordered eating was significantly, positively and strongly associated with body shame (r= .79, p= .0001), body guilt (r= .68, p= .0001), symptoms of anxiety (r= .71, p= .0001) and symptoms of depression (r= .65, p= .0001). Nevertheless, this same variable was significantly and negatively associated with authentic body pride (r= -.20, p= .006) and hubristic body pride (r= -.23, p= .001), although in these two cases, the correlation was weak. Symptoms of anxiety and symptoms of depression correlated significantly, positively and strongly with body shame (r= .67, p= .0001 and r= .66, p= .0001, respectively), and moderately with body guilt (r= .60, p= .0001 and r= .55, p= .0001, respectively).

Table 1. Descriptive analyses and relationships between the variables.

	M	*SD*	1	2	3	4	5	6
1. EAT-26	14.90	13.61	-					
2. BS	2.66	1.34	.792**	-				
3. BG	2.91	1.38	.681**	.792**	-			
4. ABP	2.41	0.93	-.197**	-.284**	-.206**	-		
5. HBP	1.85	0.79	-.234**	-.382**	-.245**	.631**	-	
6. AI	1.07	0.79	.707**	.670**	.603**	-.243**	-.217**	-
7. Depression	0.56	0.78	.648**	.659**	.545**	-.259**	-.315v	.736**

Notes: **= p <.01; EAT-26= Eating Attitudes Test; BS= Body Shame; BG= Body Guilt; ABP= Authentic Body Pride; HBP= Hubristic Body Pride; AI= Anxiety and Insomnia.

The *t* test for independent samples carried out between risk and not risk groups revealed statistically significant differences in all variables (see Table 2). Those at risk scored significantly higher than those in not at risk group for body shame and body guilt, and significantly lower for variables considered to be positive, i.e., authentic body pride and hubristic body pride. In general, in accordance with the scales established by Cohen (1988), effect sizes were large and moderate. Specifically, the effect sizes were

Table 2. Differences between those at risk and those not at risk in terms of body and appearance-related self-conscious emotions

	At risk (n= 87)		Not at risk (n= 109)		*t*	*p*	*d*
	M	*SD*	*M*	*SD*			
Body shame	3.85	0.93	1.72	0.71	18.133	.0001	2.62
Body guilt	4.04	1.01	2	0.88	14.887	.0001	2.18
Authentic body pride	2.16	0.87	2.61	0.93	-3.397	.001	0.54
Hubristic body pride	1.63	0.72	2.04	0.79	-3.738	.0001	0.49

2.62 for body shame, 2.18 for body guilt, 0.54 for hubristic body pride and 0.49 for authentic body pride.

Regarding mediation analyses, the results revealed a direct effect of body shame on disordered eating, as well as an indirect effect through symptoms of anxiety, although not through symptoms of depression (see Figure 1).

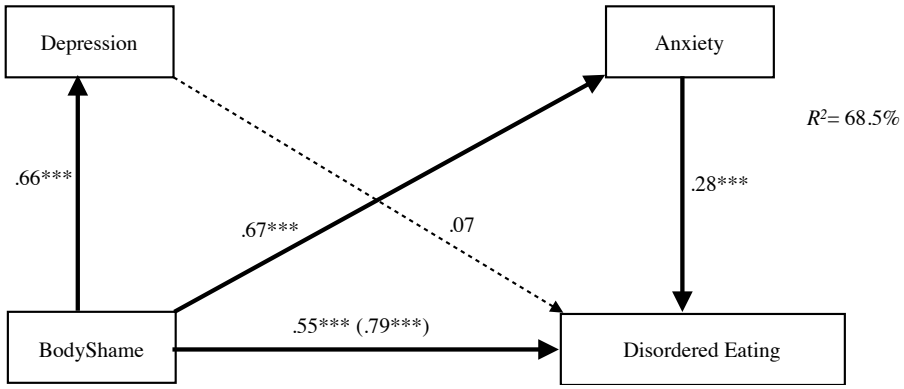

Figure 1. Standardized regression coefficients of the relationship between body shame and disordered eating mediated by depression and anxiety. The total effect of body shame on disordered eating is shown in parentheses. ***= p <.001. Indirect effect of symptoms of depression: 0.0523; Bootstrap 95%*CI*= (-0.0619, 0.1559). Indirect effect of symptoms of anxiety: 0.1854; Bootstrap 95%*CI*= (0.0895, 0.2940).

A direct effect of body guilt on disordered eating was also found. In this case, moreover, both symptoms of depression and symptoms of anxiety were found to be statistically significant mediators of this relationship (see Figure 2).

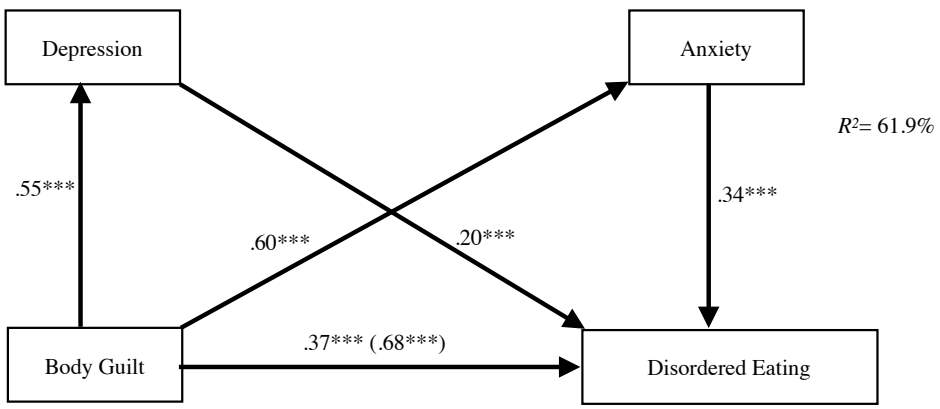

Figure 2. Standardized regression coefficients of the relationship between body guilt and disordered eating mediated by depression and anxiety. The total effect of body guilt on disordered eating is shown in parentheses. ***= p <.001. Indirect effect of symptoms of depression: 0.1080; Bootstrap 95%*CI*= (0.0167, 0.1966). Indirect effect of symptoms of anxiety: 0.2054; Bootstrap 95%*CI*= (0.1118, 0.3106).

Nevertheless, no direct association between authentic body pride and disordered eating was found. However, an indirect effect of this variable on disordered eating was found through both symptoms of depression and symptoms of anxiety (see Figure 3).

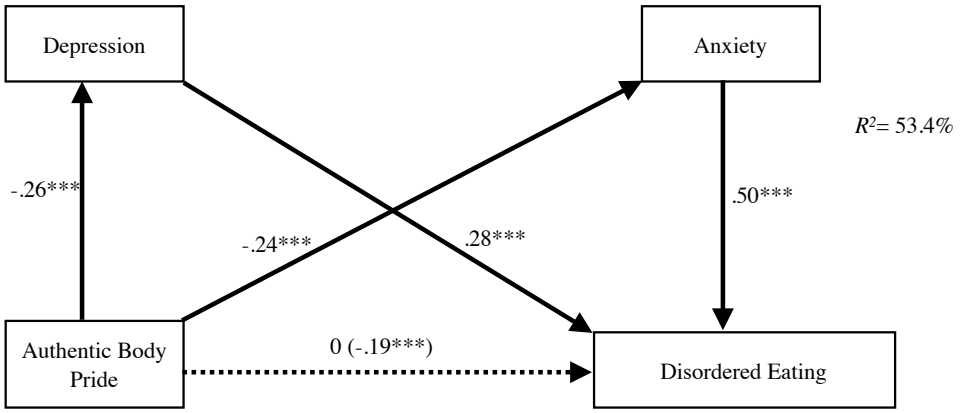

Figure 3. Standardized regression coefficients of the relationship between authentic body pride and disordered eating mediated by depression and anxiety. The total effect of authentic body pride on disordered eating is shown in parentheses. ***= p <.001. Indirect effect of symptoms of depression: -0.0722; Bootstrap 95%CI= (-0.1284, -0.0259). Indirect effect of symptoms of anxiety: -0.1219; Bootstrap 95%CI= (-0.2067, -0.0558).

Finally, as in the previous case, we found no statistically significant direct effect of hubristic pride on disordered eating. However, hubristic body pride had an indirect effect on ED symptoms through both symptoms of depression and anxiety (see Figure 4).

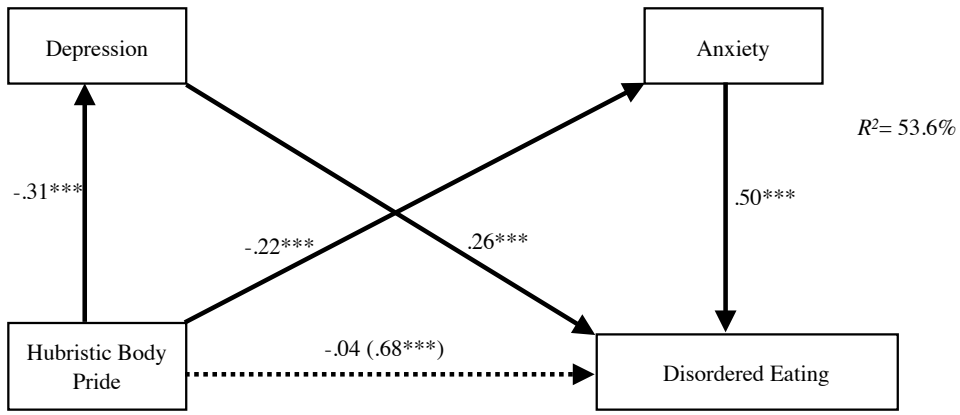

Figure 4. Standardized regression coefficients of the relationship between hubristic body pride and disordered eating mediated by depression and anxiety. The total effect of hubristic body pride on disordered eating is shown in parentheses. ***= p < .001. Indirect effect of symptoms of depression: -0.0836; Bootstrap 95%*CI*= (-0.1524, -0.0279). Indirect effect of symptoms of anxiety: -0.1091; Bootstrap 95%*CI*= (-0.1793, -0.045).

DISCUSSION

The present study aims, firstly, to study the relationships which exist among body and appearance-related self-conscious emotions (body shame, body guilt, authentic body pride and hubristic body pride), symptoms of depression and anxiety and disordered eating. As expected (albeit with one minor exception outlined below), and consistently

with the findings of other studies (Calogero & Pina, 2011; Drieberg *et alia*, 2019; Mendes & Ferreira, 2020; Zheng *et alia*, 2020), disordered eating was positively associated with body shame, body guilt, symptoms of anxiety and depression, and negatively associated with authentic body pride and hubristic body pride. Although we had in fact hypothesized a positive association between disordered eating and authentic body pride, as mentioned above, the results obtained failed to confirm this association. Moreover, as expected, symptoms of depression and anxiety were positively associated with body shame and body guilt, and negatively associated with authentic body pride and hubristic body pride. These results are consistent with those reported by previous studies (Alcaraz Ibáñez & Sicilia, 2018; Chiminazzo, Alcaraz Ibáñez, Sicilia, & Fernandes, 2019).

The second aim of the study was to analyze the differences between those at risk of developing an ED and those not at risk in relation to disordered eating. Consistently with that reported by previous studies (Burney & Irwin, 2000; Doran & Lewis, 2012; Duarte *et alia*, 2015; Ferreira *et alia*, 2013; French *et alia*, 1995; Gupta *et alia*, 2008), the results obtained here indicate that those in the at risk group felt more body shame and body guilt and less authentic body pride and hubristic body pride than their counterparts in the not at risk group. Thus, our hypothesis that those in the at risk group would feel more authentic body pride than those in the not at risk group was not confirmed.

Self-discrepancy theory may offer an explanation of these last findings (Higgins, 1987). According to this theory, when discrepancies occur between an individual's actual and ideal perception of their body image, they are more likely to develop a negative perception of their body image. In turn, this leads to the appearance of negative emotions, such as, for example, body shame, thereby increasing the risk of developing an ED (Bessenoff & Snow, 2006). Furthermore, although we found no studies relating this theory to body guilt, the results would likely be similar. As regards body pride, a study carried out with a sample of adult males found that congruence between actual and ideal perceptions of one's body image may be associated with greater authentic and hubristic body pride, while discrepancy, on the other hand, would be linked to lower levels of both kinds of body pride (Mackowiak, Lucibello, Gilchrist, & Sabiston, 2019). Similar results would be expected for women also. Continuing with the results pertaining to both types of pride, we know that those at risk of EDs are generally very demanding of themselves in terms of weight and body shape (Stoeber & Yang, 2015). This means that no effort related to improving body image is likely to be deemed successful, and would therefore cancel out any positive emotions such as authentic and hubristic body pride.

Finally, we analyzed the mediating role of symptoms of depression and anxiety in both the relationship between body shame and disordered eating and the relationship between body guilt and disordered eating. The results revealed that, as expected, both body shame and body guilt have an indirect effect on disordered eating through both symptoms of depression and anxiety. These results are consistent with the transdiagnostic theory proposed by Fairburn, Cooper, and Shafran (2003), which posits that intolerance of negative emotional states may prompt maladaptive eating behaviors. In other words, these behaviors are used as emotion regulation strategies, activated in response to negative emotions (Brockmeyer, Holtforth, Bents, Herzog, & Friedrich, 2013).

This study makes an important contribution to existing knowledge about the relationship between body and appearance-related self-conscious emotions and disordered eating. Indeed, to the best of our knowledge, this is the first study to analyze the role of authentic body pride and hubristic body pride in relation to disordered eating. It is also the first to analyze the mediating role played by symptoms of depression and anxiety in

the relationship between body shame and disordered eating and the relationship between body guilt and disordered eating.

The findings reported here are of great interest, since they have a series of relevant practical implications. Our results highlight the need to implement cognitive-behavioral therapy, aimed at (among other issues) helping people to accept their body image, reject the ideal aesthetic model and develop adaptive emotion regulation strategies.

Similarly, the results also suggest the importance, during both prevention and treatment, of paying attention not only to body guilt and body shame, but also to other positive emotions related to the body and appearance, such as pride. Indeed, another conclusion that can be drawn from the study is the need to continue researching this positive emotion (pride) in order to clarify its role in relation to disordered eating, since, as mentioned earlier, it has received very little attention to date in this field.

Despite this, however, the results should be interpreted cautiously, since the study has certain limitations. Firstly, the cross-sectional nature of the design precludes the establishment of causal relationships, which is why future research should consider using a longitudinal approach. Furthermore, due to the non-probabilistic sample method used and the fact that the study focused solely on women, the results cannot be generalized. Likewise, given that an increasing number of men are being diagnosed with EDs (Strother, Lemberg, Stanford, & Turberville, 2012), future research should make a concerted effort to include men in the sample, in order to analyze any possible gender differences in the variables studied and to explore how these variables are related to disordered eating among the male population. Moreover, it is worth noting that a low score on the EAT-26 does not necessarily indicate the absence of an ED, since some individuals deny their symptoms or are unaware of their seriousness (Ali et alia, 2017). Finally, the data were collected using self-report instruments, meaning that responses may have been influenced by the social desirability bias.

Future research should focus on including not only male samples but also people diagnosed with an ED and those who have recovered from one. We believe this would expand existing knowledge of factors linked to treatment resistance and relapse, issues which this study was unable to explore. Similarly, it is important to continue analyzing the role of certain emotional variables (difficulty regulating emotions, trait anxiety, trait depression, self-esteem, etc.) in the development of EDs.

This study highlights the important role played by not only body shame and body guilt, but symptoms of depression and anxiety also, in the development of disordered eating. It also draws attention to the role played by two other body and appearance-related self-conscious emotions that have hardly been studied at all -authentic body pride and hubristic body pride- but which, like the other emotions analyzed here, may play a key role in relation to disordered eating.

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