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Sociocultural influences on body image in female patients with eating disorders: an explanatory model

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PALABRAS CLAVE	RESUMEN
Body image Eating disorders Diagnosis Sociocultural factors	Introduction: sociocultural theories of body image formation suggest that the pressures exerted by certain social agents encourage the internalization of certain patterns and the impulse towards thinness on the part of women. Objective: to analyze a model based on the Tripartite Model of Sociocultural Influence that explains how social pressures contribute to greater body dissatisfaction. Method: the sample consisted of 195 women with an age range of 12 to 30 years ($M = 18.63$, $SD = 2.87$) diagnosed with anorexia nervosa, bulimia nervosa, and unspecified eating disorder. The patients were interviewed for their diagnosis and two psychometric instruments were also applied. Data were analyzed using structural equation modeling techniques. Results: the sociocultural factor that contributed the most to explain body dissatisfaction was the influence of the family. The model had a good fit. Discussion: The evidence obtained suggests that sociocultural factors, and in particular the influence exerted by the family, would contribute to the processes of body image formation in patients with eating disorders. The results of this study can be used by health professionals focused on patients with eating disorders both in the clinical and research fields, mainly in the treatment part of these patients.

Influencias socioculturales sobre la imagen corporal en pacientes mujeres con trastornos alimentarios: un modelo explicativo

KEYWORDS	ABSTRACT
Imagen corporal Trastornos alimentarios Diagnóstico Factores socioculturales	Introducción: las teorías socioculturales de formación de la imagen corporal sugieren que las presiones ejercidas por determinados agentes sociales fomentan la interiorización de ciertos patrones y el impulso hacia la delgadez por parte de la mujer. Objetivo: analizar un modelo basado en el Modelo Tripartito de Influencia Sociocultural que explique cómo las presiones sociales contribuyen a una mayor insatisfacción corporal. Método: la muestra estuvo conformada por 195 mujeres con un rango de edad de 12 a 30 años ($M = 18.63$, $DT = 2.87$) con diagnóstico de anorexia nerviosa, bulimia nerviosa y trastorno de alimentación no especificado. Se entrevistó a las pacientes para su diagnóstico y además se aplicaron dos instrumentos psicométricos. Los datos se analizaron empleando técnicas de modelos de ecuaciones estructurales. Resultados: el factor sociocultural que contribuyó en mayor medida a explicar la insatisfacción corporal fue la influencia de la familia. El modelo tuvo un buen ajuste. Discusión: Las evidencias obtenidas sugieren que los factores socioculturales, y en particular la influencia ejercida por la familia, contribuirían a los procesos de formación de la imagen corporal en pacientes con trastornos alimentarios. Los resultados de este estudio pueden ser utilizados por profesionales de la salud enfocados a pacientes con trastornos alimentarios tanto en el ámbito clínico como de investigación, principalmente en la parte de tratamiento de estas pacientes.

The body aesthetic model in the West is based on the idea that a slim and fit body is synonymous of beauty and attractiveness. This ideal of beauty is widely disseminated through the media and exerts strong pressure on women, especially the younger ones. As a result, many women feel pressured to meet these standards and may resort to harmful behavior to achieve this. Harmful behaviors associated with the pursuit of the perfect body may include restrictive diets, in which food intake is severely limited; excessive exercise, which goes beyond healthy limits; purging behaviors, such as self-induced vomiting or use of laxatives; and in some cases, cosmetic surgeries. These behaviors can have negative consequences for the physical and mental health of the people who carry them out (Seekis & Barker, 2022).

Thinness as an aspiration to pursue can be observed in the mass media and social networks, which overwhelm with images associated with beauty, social prestige, and success (Moradi & Tebbe, 2022; Seekis & Barker, 2022; Thompson et al., 1999), this has been examined in various studies (Hockey et al., 2021; Jankauskiene & Baceviciene, 2021; Papp et al., 2013). For example, in research conducted with 225 adolescents, it was found that body dissatisfaction mediated the relationship between sociocultural influences related to appearance and self-esteem (Papp et al., 2013). In another study, 391 female adolescents from the United States were examined using a structural equation model. The findings explained that peer and media influences are more important than parental pressures (Shroff & Thompson, 2006).

The Tripartite Influence Model explains how these associations occur. This framework postulates that social agents, such as family, friends, and the media, set the ideals of appearance and thinness for women (Thompson et al., 1999; Tylka, 2011).

These social components have been theorized to be risk factors for the development of a negative body image (Thompson et al., 1999). The awareness of these frameworks does not seem to be harmful, but their internalization, which refers to incorporating these ideals as own values on the body, becoming the main goal of a person (Schaefer et al., 2019); can lead to the development of an eating disorder (ED).

The Tripartite Influence Model (Figure 1, Keery et al., 2004, Thompson et al.,1999) predicts that there is a strong relationship between comments associated with appearance (e.g., weight teasing, critical messages about food choices, etc.) and EDs in young women. Other researchers have supported the role of peers and parents as predictors of body dissatisfaction and EDs (Leonidas & Santos, 2015; Tezlaff et al., 2016).

An example of the use of this model (Figure 1) is the research by Keery et al., (2004). In this study, 325 adolescents were evaluated. The components that were analyzed: sociocultural influences (peers, parents, media), and mediation factors (internalization of the ideal of thinness, social comparison), which would predict body dissatisfaction. In addition, it was suggested that body dissatisfaction would have a direct influence on the restriction and bulimic symptoms. The findings indicated that internalizing and social comparison completely mediated the relationship between parental influence and body dissatisfaction and partially mediated the relationship between peer influence and body dissatisfaction. Furthermore, internalizing and comparison partially mediated the relationship between media influence and body dissatisfaction (Keery et al., 2004).

On the other hand, it has been observed that media exposure on body image has a great impact on women. It has been pointed out that body dissatisfaction and the drive for thinness

Figure 1

Hypothetical model based on Keery et al., 2004; Thompson et al., 1999
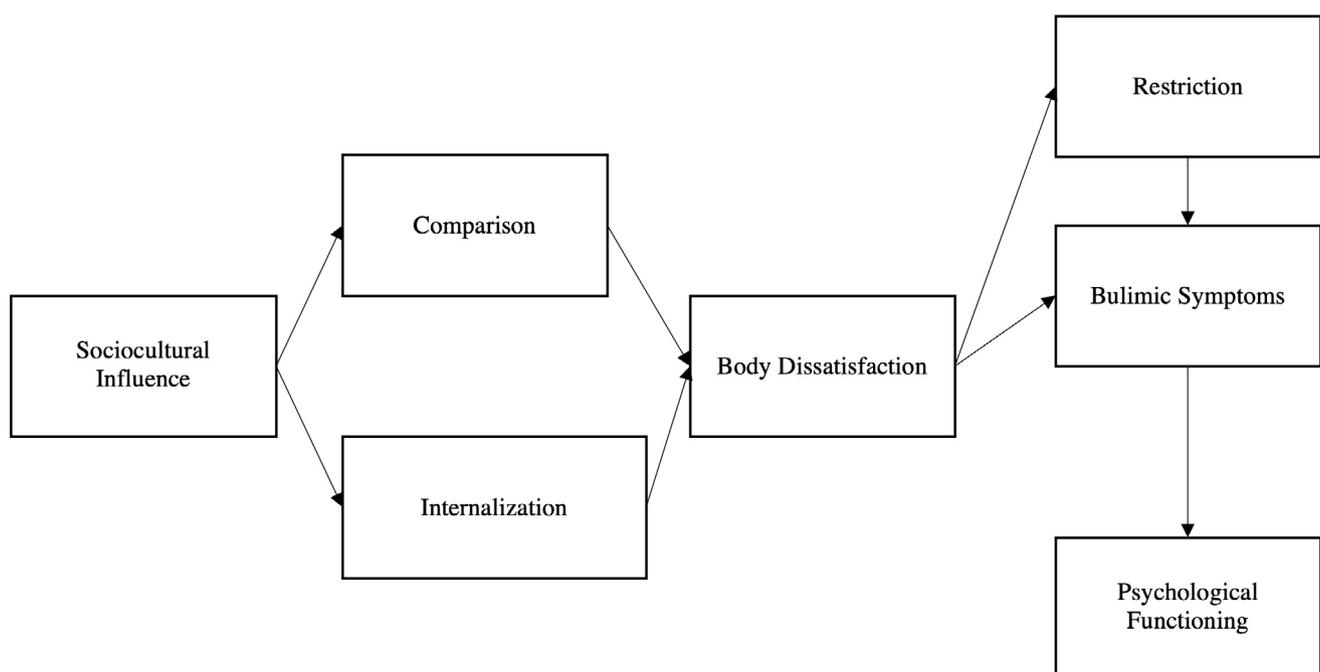
is associated with a greater effect of certain types of television programs (Hrafnkelsdottir et al., 2022). In addition, the boom generated by social networks such as Instagram, Facebook, or TikTok, which offer a highly visual environment (Mabe et al., 2014), has led to greater social pressure on the body image of young women (Sadeh-Sharvit & Hollon, 2020).

Similarly, it has been observed that a risk factor for ED may be family (Burke et al., 2021). In this sense, patients with eating psychopathology generally describe a critical, coercive family environment, without communication, and with high expectations on the part of the parents (Quiles et al., 2013). Women with Bulimia Nervosa (BN) have reported increased intrusiveness, specifically maternal invasion of privacy, jealousy, and mother-daughter competition (Hilbert et al., 2014). In addition, mothers who have a disorder are more dissatisfied with family functioning and are often distressed by their shape and weight (Martínez et al., 2010).

Other studies (Anderson et al., 2021; Cerniglia et al., 2017; Leonidas & Santos, 2015) have mentioned that families, both with an ED and those without it, can transmit eating problems, but such influence may not be sufficient for the appearance of an ED, because an additional vulnerability factor is required, whether biological or experiential (Tetzlaff et al., 2016).

Regarding the impact of peers and friends, various studies (Clark & Tiggemann, 2006; Cortez et al., 2016; Ferguson et al., 2014) have linked comments related to the body and eating symptoms. Peer pressure for thinness is the main predictor of body dissatisfaction in adolescents, particularly with comments made by people of the opposite sex (Jankauskiene & Baceviciene, 2021).

Another study investigated that young women learn attitudes and behaviors (e.g., dieting, purging) from their peers, however, within the evidence it has been observed that friendships do not have such as impact as to develop these shared concerns about food, so it is only one of the factors that are important to consider (Culbert et al., 2015). In this way, it is necessary to focus on the effect that peers have on the aesthetic body and beauty model, especially in young women and that can be a triggering factor for ED.

The present study

Sociocultural theories, including the Tripartite Influence Model (Thompson et al., 1999), have been tested in different samples (Hardit & Hannum, 2012; Jankauskiene & Baceviciene, 2021; Keery et al., 2004; Schaefer et al., 2021). Although the model has gained empirical support in adolescents and young women (Webb et al., 2018), evidence still needs to be developed in female patients with eating psychopathology in Latin America, especially in Mexico.

Therefore, the following hypothesis was raised: is there an influence of sociocultural models (advertising, family, and social situations) on body dissatisfaction in patients with an ED, giving rise to the research question: sociocultural pressures such as the media and social networks, family and peers contribute to greater body dissatisfaction, which would lead to feelings of low self-esteem, fear of gaining weight, and a greater desire to lose weight in patients with eating disorders? So, the objective of the present study was to test an explanatory model which was based on the Tripartite Influence Model (Thompson et al., 1999), in a clinical sample of female patients with EDs (Anorexia Nervosa, Bulimia Nervosa, and unspecified feeding or eating disorder)

Method

Sample

It consisted of 195 female patients from an eating disorder clinic, with an age range of 12 to 30 years ($M = 18.63$, $SD = 2.87$); patients were diagnosed with AN, BN, and unspecified feeding or eating disorder. They were diagnosed through a clinical interview according to the DSM-5 criteria (APA, 2013). Table 1 shows the characteristics of the patients.

Instruments

Diagnostic interview according to the DSM-5 criteria. It is a semi-structured interview that establishes a diagnosis of ED according to the criteria established in the DSM-5. It has been translated and validated in different countries including Mexico (Glasofer, 2015).

Questionnaire of Influences on Body Shape Model (CIMEC, Toro et al., 1994). It was developed and validated in Spain and has been shown to have good psychometric properties with a Cronbach's α value of .93 for the total score, sensitivity of 83.1%, and specificity of 64.4%, in addition to a cut-off point of 17 (Toro et al., 1994). It is an instrument of 26 items that evaluate sociocultural influences such as family, friends, advertising, magazines, and the media that are related to the aesthetic body model in young adolescent women from 12 to 24 years of age. 5 factors are distinguished: (1) Discomfort due to body image, (2) Influence of advertising, (3) Influence of verbal messages, (4) Influence of social models, and (5) Influence of social situations. The items are on a Likert-type scale from 0 = *never* to 2 = *always*, and higher scores reflect a greater influence of the media on the aesthetics of the ideal body. A score above 17 on the total scale would indicate that the person is more sensitive to the influence of sociocultural models. It was validated for Mexico by Pérez et al. (under review). In this study, an adequate internal consistency of the instrument was observed (α = .90). The exploratory factorial analysis showed four factors: (1) Influ-

Table 1

Frequency table of sample participants (n = 195)

Eating Disorder	Frequency (%)
Anorexia Nervosa	57 (29.2)
Bulimia Nervosa	45 (23.2)
UFED	93 (47.6)

Note. UFED = Unspecified Feeding or Eating Disorder.

ence of advertising, (2) Influence of social models, (3) Influence of messages and social situations, (4) Discomfort due to body image. The factors of influence of advertising, influence of social models (family), and influence of social messages and attitudes (social situations) were used to carry out this study.

Body Image Questionnaire (BSQ, Cooper et al., 1987*)*. It was designed to assess concern and dissatisfaction with body image (Cooper et al., 1987). It consists of 34 items under a six-option bipolar scale. The factors it evaluates are: Body dissatisfaction, Fear of gaining weight, Feelings of low self-esteem due to appearance, and Desire to lose weight. This questionnaire was validated for Mexican women proposing a cut-off point of ≥ 110 and obtained a Cronbach's alpha of .92 (Galán, 2004). For the present study, all the factors of the instrument were used. In addition, a Cronbach's alpha reliability of .88 was obtained.

Procedure

This study was approved by the Ethics Committee of the Eating Disorders Clinic. The work was carried out in accordance with the Code of Ethics of the World Health Organization and the Declaration of Helsinki. The research used data from a clinical sample collected between July 2019 and 2022, during the period of the global pandemic situation. The patients came from different parts of the Mexican Republic and met the DSM-5 (APA, 2013) diagnosis for an ED. Their diagnosis was made by the institution's team of psychologists. The assessment and presence of comorbid conditions were made through a clinical interview. The patients included in the study came from different parts of the Mexican Republic.

Regarding data collection, the electronic records of the 250 participants who entered the clinic during the period of 2019-2022 were used. However, 55 patients were excluded from the analysis due to errors in completing the questionnaires (incomplete data) and the presence of other psychopathology. The questionnaires used in the study, CIMEC-26 (Pérez, et al., under review) and the BSQ (Galán et al., 2004), require approximately 20 minutes to complete.

Ethical considerations

The study was approved by the Research Ethics Committee of the Eating Disorders Clinic, Hospital Angeles, Mexico. The project was approved in November 2022. All the patients signed the informed consent where the objectives of the study were specified and that their responses would be used solely for research purposes. In addition, they were informed that their participation was confidential and voluntary.

Statistical analysis

Data analysis was performed using the statistical package SPSS version 25.0 (IBM, 2017). Descriptive analysis was performed to examine the characteristics of the study variables. In addition, a correlation matrix was calculated to explore the relationships between the variables. The presence of multicollinearity was evaluated by analyzing the correlation matrix.

Subsequently, the Structural Equation Model (SEM) was applied to test the explanatory model of the variables studied. SEM is a technique that combines confirmatory factor analysis with multiple linear regression and is used to test models of theoretically postulated causal relationships between observed variables and latent variables. Its objective is to provide a causal structure of theoretical relationships, allowing it to summarize the knowledge of a phenomenon through a logical and rational approach in its study.

The SEM analysis allows to examine and evaluate the validity of the proposed relationships between the study variables, providing a more complete view of how they relate. It is important to highlight that SEM requires an adequate sample and quality data to obtain reliable and meaningful results. In addition, certain assumptions and considerations must be met in the implementation of the model (Pickens et al., 2019).

For the contrast analysis, three indices of absolute goodness of fit were considered: the mean square error of approximation to population values (RMSEA) whose ideal value is ≤ .5. The Joreskog goodness-of-fit index (GFI) is interpreted as a proportion of explained variance analogous to R^2 in multiple regression –the most accepted criterion is ≥ .90–. Joreskog's adjusted goodness index (AGFI) adjusts the GFI considering the degrees of freedom in the model under test. The criterion that is regularly assigned to this indicator is ≥ .90.

Results

Descriptive analysis

The descriptive statistics of the clinical sample are shown in Table 2. It should be noted that the average total score in both instruments was high in the patients analyzed.

Correlation between variables

The bivariate correlation analysis performed on the sample (indicated in Table 3) revealed that all the CIMEC-26 variables (Pérez et al., under review) showed moderate to strong positive significant correlations, ranging from .44 and .90, with the variables of the Body Image Questionnaire (Galán et al., 2004). These results partially support the hypothesis that there is an influence of sociocultural models (advertising, family, and social situations) on body dissatisfaction in patients with an ED because all the predicted variables are related to the factors that measure body image.

Explanatory model based on the Tripartite Influence Model

The theoretical model on which this study was based (Figure 1) revealed a poor fit to the data, $\chi^2(11) = 53.13$, $p < .05$, TLI = .75, CFI = .96, RMSEA = .20. In this way, a second model was developed and tested (Figure 2). Relationships between advertising and sociocultural situations on discom-

fort with body image and its effect on body dissatisfaction in patients with ED were added.

The Lagrange multiplier test (Breusch and Pagan, 1980) indicated that adding several paths would improve model fit. Based on the above, low self-esteem related to weight and figure, fear of gaining weight, and the desire to lose weight were added to this new model, all of which have been observed to affect patients with eating disorders. After the addition of these three dimensions, the chi-square test and the fit indices revealed a good fit, $\chi^2(14) = 22.39$, $p = .001$ TLI = .98, CFI = .99, AGFI = .92 RMSEA = .06. All regression weights were significant (Figure 2).

The fit of the nested models was not formally compared, as appropriate tests were not available for non-normally distributed data within the AMOS statistical analysis package. However, descriptively, the chi-square values indicated that this proposed model with the added "paths" (low self-esteem, fear of

gaining weight, and desire to lose weight) fitted the data better and, therefore, it can be said that the proposed model was good.

Comparing a new theoretical model with existing models is a useful method to determine its usefulness. In this case, Stice's (2001) two-way model has received an extensive evaluation in recent years and proposes that two influences (pressure to be thin and internalization of the thin ideal) lead to body dissatisfaction, which in turn influences diet and low self-esteem, being able to exacerbate eating symptoms (Stice et al., 2017).

Discussion

The objective of this study was to evaluate the Tripartite Model in a sample of women with eating disorders from a clinic in Mexico City. Analyses revealed that the relationships between the influence of advertising, family, and social situations were related to body discomfort, which in turn influ-

Table 2

Descriptive analysis of all measurements (n = 195)

	M	SD	Mín.	Máx.
Questionnaire on Influence on Body Shape Model (CIMEC-26)				
1. Advertising Influence	18.52	4.72	8	24
2. Family inflence	13.19	3.53	7	21
3. Social situations influence	9.45	3.16	5	15
4. Body image dissatisfaction	10.37	3.38	6	18
5. CIMEC TOTAL	51.54	13.18	26	78
Body Shape Questionnaire (BSQ)				
6. Body dissatisfaction	19.1	10.65	7	42
7. Fear of gaining weight	13.51	5.98	4	24
8. Low self-esteem	10.14	4.58	3	18
9. Desire to lose weight	15.81	5.71	4	24
10. BSQ TOTAL	107.16	44.54	34	204

Note. CIMEC = Questionnaire of Influences on Body Shape Model, BSQ = Body Shape Questionnaire.

Table 3

Correlation between all measured variables

Measurement	1	2	3	4	5	6	7	8	9	10
1. Advertising Influence	-									
2. Family inflence	.70*	-								
3. Social situations influence	.68*	.69*	-							
4. Body image dissatisfaction	.72*	.79*	.72*	-						
5. CIMEC TOTAL	.89*	.89*	.85*	.90*	-					
6. Body dissatisfaction	.62*	.62*	.53*	.70*	.69*	-				
7. Fear of gaining weight	.58*	.60*	.44*	.65*	.64*	.80*	-			
8. Low self-esteem	.56*	.54*	.47*	.62*	.62*	.84*	.77*	-		
9. Desire to lose weight	.57*	.54*	.46*	.61*	.62*	.74*	.76*	.71*	-	
10. BSQ TOTAL	.66*	.65*	.54*	.73*	.73*	.89*	.89*	.90*	.73*	-

Note. *Correlation is significant at the *p*-value < .01 level (bilateral).

Figure 2

Model-based on the Tripartite Influence Model in patients with ED

*p<.05
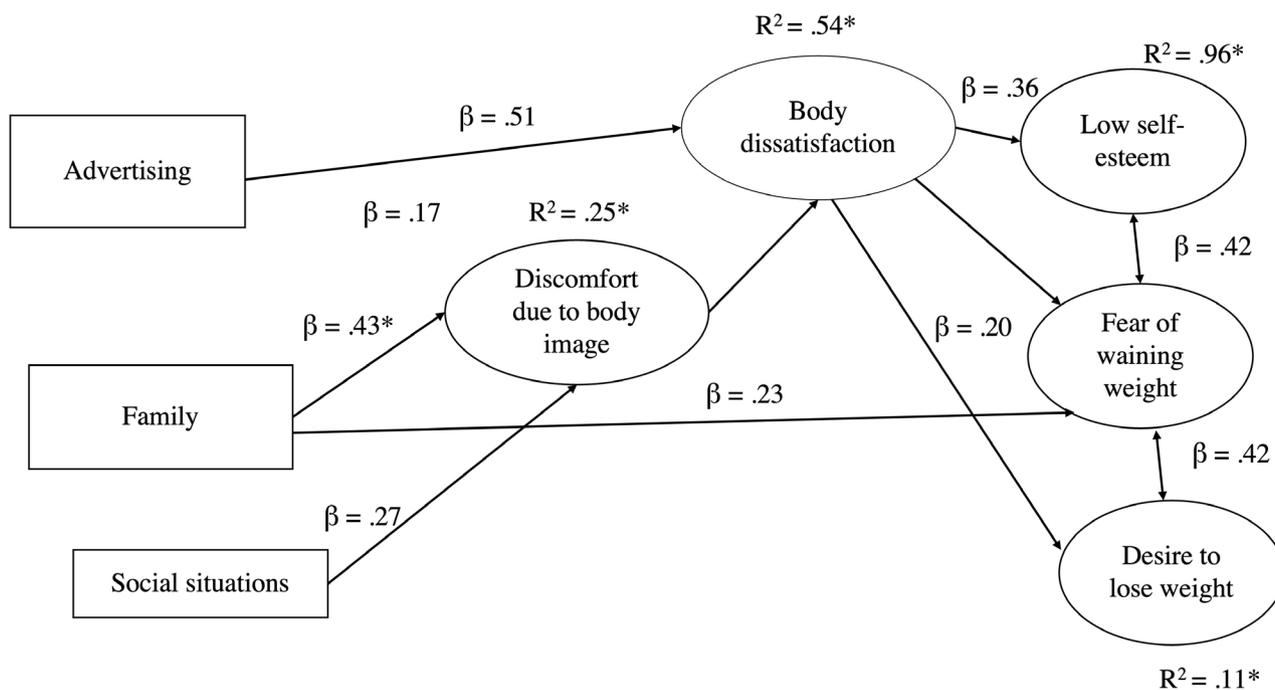
enced body dissatisfaction generating low self-esteem, fear of gaining weight, and desire to lose weight in these patients. The SEM analysis of the Tripartite Influence Model and variations of the basic model showed that the original model (Thompson et al., 1999), with some modifications, fit the data of this study well.

Currently, the social discourse present in social networks, advertising, and conversations with friends, closely associates health with physical appearance, where thinness is considered synonymous with well-being and personal care (Cameron et al., 2019; Carrard et al., 2021). In this way, it has been observed that sociocultural pressures on the body have an impact on the development of eating symptoms in Western culture (Cameron et al., 2019; Saucier, 2004). However, it is important to highlight that the convergence of different factors is required to give rise to an ED.

People with an ED often have low self-esteem, resulting in a distorted perception of their body image (Vedhius et al., 2020). In this way, the most outstanding psychological problems in these patients are related to their attitudes toward thinness and food. Therefore, people with these symptoms may experience distortions in their perception of their shape and weight, negative feelings toward themselves, and excessive preoccupation with their weight (Arija Val et al., 2022).

In our model, both discomfort and concern about body image acted as mediating variables, partially explaining the relationship between sociocultural pressures, body image problems, and eating disorders. These findings are consistent with a study that highlighted the importance of internalizing of the thin ideal among young and middle-aged women (Jankauskiene & Baceviciene, 2021). In our study, an influence of discomfort

on body dissatisfaction was evidenced, which is relevant since patients often express concern about their body, their figure, and how they are perceived by others.

Furthermore, we found that family pressure had a significant impact, even greater than factors such as advertising and social situations. These results agree with the existing literature, where it has been observed that the role of the family is crucial, since parents, especially mothers, can have a great impact on their daughters through comments, eating practices, and diets imposed at home. In this sense, family pressures tend to be more consistent than pressures from the media (Cortez et al., 2016; Ferguson et al., 2014). In the case of Latin American women, especially in Mexico, the family plays a predominant role in the relationship with food, so it was expected that this factor would have an impact on the concern for body image in our patients.

On the other hand, in the present investigation, it was decided to analyze separately the pressure of advertising, family, and social situations (peers and friends), using the CIMEC-26 subscales (Pérez et al., under review), to observe how they behaved independently about body dissatisfaction and its various effects such as low self-esteem, fear of gaining weight, and desire to lose weight. We observed that sociocultural factors exert different influences and, in turn, hurt the body perception of patients. These results are consistent with other studies that found that the more women perceived pressure from their peers and the media to meet appearance ideals, the more they engaged in appearance comparisons and internalized the thin ideal, thereby which was associated with higher levels of body dissatisfaction and greater psychological distress (Wang et al., 2022). In summary, our findings support the influence of the pressures of advertising, fam-

ily, and social situations on body dissatisfaction as well as low self-esteem present in these patients.

The study has several limitations that must be considered when interpreting the results. First, the data collected was cross-sectional in nature, which prevents establishing causal relationships between the variables. Longitudinal studies would be beneficial to examine the directions of relationships over time. Second, the sample used was relatively small and came from a clinic in Mexico City, which limits the generalizability of the findings to other clinical populations or cultures. It would be desirable to have larger and more diversified samples to obtain broader results.

Third, self-report questionnaires were used to measure the variables, which could introduce bias in the information collected. Participant responses could be influenced by factors such as social desirability bias or inaccuracy in self-reflection. Supplementing the questionnaires with other objective measures or more rigorous evaluation methods would be beneficial. Despite these limitations, the study offers an important contribution by being the first to test the Tripartite Influence Model in a sample of ED patients in Mexico. The findings highlight the influence of sociocultural pressures, especially family pressure, on body dissatisfaction and cognitive distortions associated with eating disorders.

The practical implications of this study suggest the need to develop interventions aimed at reducing the negative impact of the media on women's body image, improving media literacy in society, and promoting appropriate strategies to prevent and reduce body dissatisfaction. Likewise, it is suggested the implementation of interventions that help reflect on beauty standards as well as the inclusion of family therapy in the clinical approach.

In conclusion, this research highlights the importance of sociocultural and family influences on concern and discomfort about body image in patients with eating disorders. It is suggested that future research be carried out that considers different types of eating disorders and that also includes men with these psychopathologies, to expand intervention efforts and the resources available in the field of mental health.

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Conflict of interest

The authors declare that they have no conflict of interest in the publication of this article.

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