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# Social risk factors related to eating disorders in women

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## Factores de riesgo sociales relacionados con los trastornos de la conducta alimentaria en mujeres

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### Abstract

Eating disorders prevalence's rates are increasing in Western countries and there is evidence to suggest that young women are at the highest risk of developing this kind of disorders. That is the reason why prevention and intervention programs are so important. To develop these types of programs it is necessary to identify relevant risk factors contributing to this disorder. In the current research social risk variables to develop eating disorders (social comparisons, sociocultural attitudes toward appearance and social anxiety) have been measured in a 375 women non clinical sample. Results have shown that social comparisons are direct and indirect (through social anxiety) positively related with the risk to develop eating disorders and that sociocultural attitudes toward appearance are just indirect (through social anxiety) and positively related to eating disorders. Finally, the importance of including these social variables in prevention and intervention programs is discussed.

*Key words: eating disorders; social comparisons; sociocultural attitudes toward appearance; social anxiety*

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### Resumen

La tasa de prevalencia de los trastornos de la conducta alimentaria está aumentando en los países industrializados y hay evidencia de que son las mujeres jóvenes las que tienen un mayor riesgo para desarrollar este tipo de patologías. Esa es la razón por la que los programas de prevención e intervención son tan importantes. Para desarrollar tales programas es necesario identificar los factores de riesgo relevantes que contribuyen a la aparición de este trastorno. En la presente investigación se analizan variables sociales relacionadas con el riesgo a desarrollar trastornos de la conducta alimentaria (comparaciones sociales, actitudes socioculturales sobre la apariencia y la ansiedad social) en una muestra no clínica de 375 mujeres. Los resultados muestran que la comparación social está directa e indirectamente (a través de la ansiedad social) relacionada de forma positiva con el riesgo para desarrollar trastornos de la conducta alimentaria, mientras que las actitudes socioculturales sobre la apariencia lo hace de forma indirecta (a través de la ansiedad social) y positiva con los problemas de la conducta alimentaria. Finalmente, se discute la importancia de incluir estas variables sociales en los programas de prevención e intervención.

*Palabras clave: trastorno de la conducta alimentaria; comparaciones sociales; actitudes socioculturales sobre la apariencia; ansiedad social*

Eating disorders (ED) can be defined as a disturbance of eating behavior that results in the altered consumption of foods and that affects physical health and psychosocial functioning (Fairburn & Walsh, 1995). Anorexia nervosa, bulimia nervosa and binge eating disorder are the most frequent disorders (Hudson, Hiripi, Pope & Kessler, 2007). ED are increasing all over the world and the prevalence rates are really high in Western countries (see Preti et al., 2009; Swanson, Crow, Le Grange, Swendsen & Merikangas, 2011). For instance, the prevalence of anorexia and bulimia is estimated to be 0.3% and 1.0% among adolescent and young women respectively (Hoek, 2007). That is the reason why prevention and intervention programs are so important, but the development of these programs requires the accurate identification of individuals at risk to develop ED (Striegel-Moore & Cachelin, 2001). There is evidence which suggest that young women from industrialized countries are at the highest risk of developing ED (Cummins & Lehman, 2007) and some authors suggest that millions of women may be affected by disordered eating if they are not treated properly (Field et al., 2008). To improve these prevention and intervention programs with this particularly vulnerable group it is necessary to understand that ED are multidetermined, and that biological, familial, personality and sociocultural risk factors exist. Among the sociocultural variables, the influence of the mass media, social attitudes toward thinness and social anxiety are important risk factors that should be borne in mind (Dittmar & Howard, 2004).

### ED and social comparisons

One of the most important factors related with the developing of ED is the social standard of beauty and thinness that appears in the media (Dittmar, Lloyd, Dugan, Halliwell, Jacobs & Cramer, 2000). The relationship between ED and exposure to use of images in the mass media is widely acknowledged (see for example Becker, Burwell, Gilman, Herzog & Hamburg, 2002; Carney & Louw, 2006; Groesz, Levine, & Murnen, 2002; Thomsen, McCoy & Williams, 2001; Williams, Thomsen & McCoy, 2003). These studies examining the relationship between ED and exposure to ideal-type media images have showed the importance of this factor in the tendency of young women to develop ED. These social comparisons that women do with others who are superior on physical dimensions (for example, models that appear on magazines and television) are associated with ED (Halliwell & Harvey, 2006). According to the reviewed literature the social comparisons that women do

with models and thin girls who appear in the mass media have a major role in the explanation of why young women develop ED (Fitzsimmons-Craft, 2011).

### ED and sociocultural attitudes towards appearance

As it has been said this beauty image which appears in the media affects negatively women (Ahern, Bennett & Hetherington, 2008). However, women differ in the extent to which they endorse this thin ideal that appears in the mass media (Heinberg, Thompson & Stormer, 1995). According to the last authors, these sociocultural attitudes towards appearance (recognition and acceptance of socially sanctioned standards of thinness and beauty) differences provide useful information for researchers and clinicians interested in ED. As a matter of fact, this thin ideal internalization is an important ED risk factor that has become a central target of many prevention programs (Wilksch & Wade, 2012). It has been proved the relationship between this variable (sociocultural attitudes towards appearance) and social comparisons (Dittmar & Howard, 2004), bulimia nervosa (Cashel, Cunningham, Landeros, Cokley & Muhammad, 2003) and with ED in general (Calogero, Davis & Thompson, 2004). Even a specific instrument for patients with ED has been developed in order to measure sociocultural attitudes towards appearance because of its importance (Heinberg, Coughlin, Pinto, Haug, Brode & Guarda, 2008).

### ED and social anxiety

Given that the vast majority of women are heavier than this thin cultural ideal (Flegal, Carroll, Ogden & Curtin, 2010; Rokholm, Baker & Sørensen, 2010), social comparisons with models and extremely thin women depicted in magazines and television shows can have unfavorable consequences for their psychological health (Dittmar & Howard, 2004). For example, these authors have found that body-focused anxiety was higher in women who were exposed to extreme thin models. Additionally, it has been found that social anxiety, or fear of social situations because individuals perceive themselves to be vulnerable to negative evaluation by others (Lepine & Pelissolo, 2000), is a common problem in ED patients (see for example Godart, Flament, Perdereau, & Jeammet, 2002; Hinrichsen, Waller & Dhokia, 2007; Wonderlich-Tierney & Vander Wal, 2010) and also in non clinical populations (Gilbert & Meyer, 2003). According

to Gilbert & Meyer (2005a,b) there is a relationship between ED and a fear of being negatively evaluated by others. Some authors (Utschig, Presnell, Madeley & Smits, 2010) suggest that the thin pressure on young women is so high that they are potential risk individuals to become afraid of the evaluation of others and for that reason to develop ED related problems. Additionally, it has been found that social anxiety is positively correlated with social comparisons (Karazsia & Crowther, 2009) and sociocultural attitudes toward appearance (Eriksson, Baigi, Marklund & Lindgren, 2008). For instance, Eriksson et al. (2008) have found that social anxiety (measured with Social Physique Anxiety Scale) is related with sociocultural attitudes toward appearance (measured with the *Sociocultural Attitudes Towards Appearance Questionnaire*) and Karazsia and Crowther (2009) show in their work that social body comparison predicts the anxiety that participants suffer related to their body dissatisfaction.

However, so far, these three variables (social comparisons, sociocultural attitudes toward appearance and social anxiety) have not been tested all together as predictors of ED. For this reason, in the current research an explanation linking these four variables is proposed with the goal to create a parsimonious model able to integrate the different findings of the recent investigation made in the last years. On the one hand, according to reviewed literature it would be expected a positive relationship between social comparisons and sociocultural attitudes toward appearance (Dittmar & Howard, 2004) and between social comparisons and risk to develop ED (Halliwell & Harvey, 2006). Otherwise, it is hypothesized that social comparisons and sociocultural attitudes toward appearance will be positively correlated with social anxiety (Eriksson et al., 2008; Karazsia & Crowther, 2009) and risk to develop ED (Gilbert & Meyer, 2005a, b). Finally, it is expected that social anxiety will mediate the relationship between social comparisons and sociocultural attitudes toward appearance and risk to develop ED (Gilbert & Mayer, 2005a, b; Utschig et al., 2010). The proposed model can be seen in Figure 1.

## Method

### Sample

Participants were 375 Spanish female students of the UNED (Spanish Open University) from 18 to 35 years

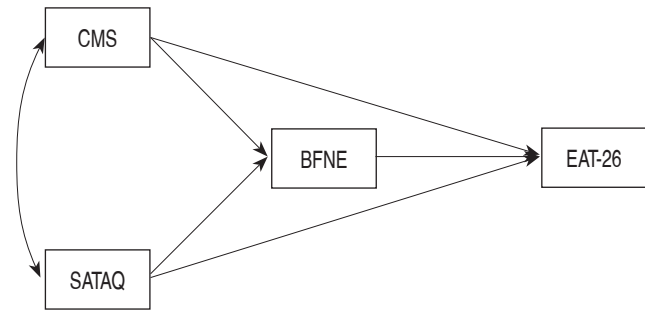


Figure 1. Proposed model

CMS = Comparison to Models Survey (social comparisons)

SATAQ = Sociocultural Attitudes Toward Appearance Questionnaire

BFNE = Brief version of the Fear of Negative Evaluation scale (social anxiety)

EAT-26 = Eating Attitudes Test (risk to develop ED)

(age: Mean = 26.51, SD = 4.82; Body Mass Index or BMI: Mean = 21.75, SD = 3.32) who were enrolled in a psychology course and who received extra credit for their participation. Young women provide a good sample for studying ED since the ages of 18-35 represent the ages of highest ED prevalence (Fairburn, 1998).

### Instruments

To measure social comparisons the *Comparison to Models Survey* (CMS) was used (Strowman, 1999; Spanish version: Magallares & Morales, 2008). This 7-item scale ( $\alpha = .88$ ) on a 6-point scale, ranging from 1 (*never*) to 6 (*always*), is designed to assess the extent to which individuals engage in comparing themselves to mass media models. A score was computed by averaging the 7 items of the scale. Higher scores on the CMS reflect greater social comparisons.

To measure sociocultural attitudes towards appearance the *Sociocultural Attitudes Towards Appearance Questionnaire* (SATAQ) was used (Heinberg et al., 1995; Spanish version: Guzmán & Lugli, 2009). SATAQ is a measure that assesses awareness of sociocultural pressures to be thin and attractive and internalization of those standards. The Internalization subscale of the SATAQ ( $\alpha = .85$ ) consists of 8 items on 6-point Likert-type scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). A score was computed by averaging the 8 items of the subscale. Higher scores on the SATAQ reflect greater internalization.

To measure social anxiety the *Brief Version of the Fear of Negative Evaluation scale* (BFNE) was used (Leary, 1983; Watson & Friend, 1969; Spanish version: Gallego, 2010;

Gallego, Botella, Quero, Baños & García-Palacios, 2007). BFNE is the measure commonly used to determine the degree in which individuals experience apprehension at the prospect of being negatively evaluated by others. The BFNE ( $\alpha = .94$ ) consists of 8 items with a 6-point Likert-type scale (from 0 = “not at all characteristic of me” to 6 = “extremely characteristic of me”). A score was computed by averaging the 8 items of the scale. Higher scores on the BFNE reflect greater social anxiety.

To measure if participants had eating problems the Spanish version of the Eating Attitudes Test (EAT-26) (English version: Garner & Garfinkel, 1979; Garner, Olmsted, Bohr & Garfinkel, 1982; Spanish version: Rivas, Bersabé, Jiménez, & Berrocal, 2010) was used. The EAT-26 questionnaire can be applied in order to identify the high-risk subjects to develop ED (Orbitello et al., 2006). This screening test allows professionals to detect individuals with a special disposition to suffer a non specified ED that afterwards will have to be confirmed through a clinical interview. The original version consisted of 40 items but Garner et al. (1982) revised the EAT into a 26-item version scored on a 6-point Likert scale ranging from “never” (1) to “always” (6). A score was computed by averaging the 26 items of the scale ( $\alpha = .94$ ). Higher scores on the EAT-26 reflect greater risk to develop ED.

### Results

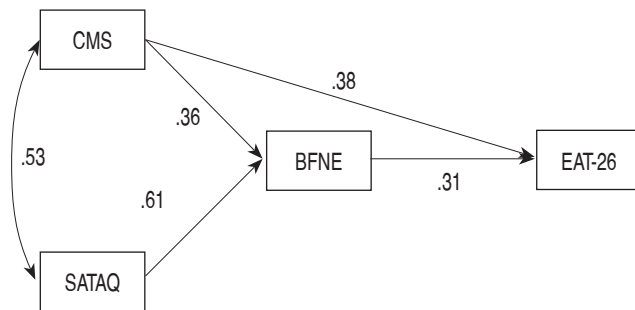
Table 1 shows the pattern of correlations among the four variables of the current study. As it can be seen all the variables are positively related to each other and all of them reach statistical significance ( $p < .01$  for the six correlations). As hypothesized social comparisons, sociocultural attitudes towards appearance, social anxiety and risk to develop ED present positive and high correlations.

A path analysis was performed with AMOS software (Arbuckle, 2011) to test the parsimonious model linking all the factors related to ED. Variables used were social comparisons (CMS), sociocultural attitudes toward appearance (SATAQ), social anxiety (BFNE) and risk to develop eating disorders (EAT-26). As mentioned before a positive relationship between all variables was expected, being the social anxiety the mediator between social comparisons and sociocultural attitudes towards appearance and risk to develop ED. According to Byrne (2010) this model presents an appropriate goodness of fit (values between

**Tabla 1**  
*Correlations between CMS, SATAQ, BFNE and EAT-26.*

	1	2	3	4
1. CMS	-	-	-	-
2. SATAQ	.52*	-	-	-
3. BFNE	.47*	.53*	-	-
4. EAT-26	.36*	.34*	.37*	-
Mean	2.39	2.48	3.52	2.32
SD	1.07	0.64	1.45	1.69

\*  $p < .01$   
 CMS = Comparison to Models Survey (social comparisons)  
 SATAQ = Sociocultural Attitudes Toward Appearance Questionnaire  
 BFNE = Brief version of the Fear of Negative Evaluation scale (social anxiety)  
 EAT-26 = Eating Attitudes Test (risk to develop ED)



Note: Standardized estimations of the model. The values of the arrows are the standardized regression coefficients ( $\beta$ ).

**Figure 2.** Path analysis  
 CMS = Comparison to Models Survey (social comparisons)  
 SATAQ = Sociocultural Attitudes Toward Appearance Questionnaire  
 BFNE = Brief version of the Fear of Negative Evaluation scale (social anxiety)  
 EAT-26 = Eating Attitudes Test (risk to develop ED)

.95 and 1.00 for CFI, GFI and NFI, and values between .05 and 0.8 for the RMSEA) [ $\chi^2(1) = 3.85, p = .05; CFI = .99; GFI = .99; NFI = .98; RMSEA = .08$ ].

In the figure, it can be observed, according to the hypothesis, that the relationship between the CMS and SATAQ is positive. Additionally, CMS is directly and positively linked with EAT and also indirectly through the mediated effect with the BFNE. Finally, SATAQ is only related positively with EAT through FNE but not directly as it was hypothesized (the direct link between these two variables was finally removed of the final model because it was not statically significant).

According to the results, the model proposed presents an appropriate goodness of fit that allows us to say that social anxiety partially mediate the relationship between social comparisons and risk to develop ED and fully mediate the relationship between sociocultural attitudes toward appearance and eating problems.

## Discussion

The current research consolidates established work within ED. First of all, a positive link between social comparisons and sociocultural attitudes toward appearance was found (Dittmar & Howard, 2004). Additionally, it has been found that there is a positive and direct relationship between social comparisons and social anxiety (Karazsia & Crowther, 2009), and between social anxiety and sociocultural attitudes toward appearance (Eriksson et al., 2008). In the last place, it has been found a significant and positive relationship between fear of negative evaluation and ED (Gilbert & Meyer, 2005a, b) and between social comparisons and ED (Dittmar & Howard, 2004).

The current research also expands literature. The model proposed in the current research shows how social comparisons, sociocultural attitudes toward appearance, social anxiety and risk to develop ED are related to each other. According to the results, it can be said that social anxiety partially mediate the relationship between social comparisons and eating problems (there are significant relationships on the direct and indirect link between these two variables) and fully mediate the relationship between sociocultural attitudes toward appearance and risk to develop ED (there is a significant relationship on indirect link between these two variables). This result suggests that the social comparisons which young women do with models that appear in the mass media produce the internalization of a thin model (sociocultural attitudes toward appearance) which generates an intense fear of being negatively evaluated by others (social anxiety) based on her appearance and beauty (because these social standards are really complicated to achieve), that finally create a situation in which ED problems can appear.

According to the results of the current investigation it can be said that the grade in which women compare themselves with models that appear in media, the internalization of the cultural ideals of thinness as well as appearance and the social anxiety that these individuals suffer for this pressure

to be slim, are important risk factors to explain why some women can develop ED with the pass of time. For this reason it seems to be important to take these relevant variables into account in order to improve the prevention (Stice, Rohde, Shaw & Gau, 2011) and intervention programs (Ashley & Crino, 2010) that nowadays exist. For young women, the group at the highest risk to develop ED (Cummins & Lehman, 2007), psychoeducational intervention programs are very effective to reduce problematic attitudes and behaviors that may lead to ED among this particularly vulnerable group (Zabinski, Wilfley, Calfas, Winzelberg & Taylor, 2004). For this reason, these kind of interventions would be improved with the inclusion of the social variables which have been presented in the current research.

The current research has a number of limitations that suggest future investigation. First of all, this research is a cross-sectional study. However, only longitudinal studies can provide insight into how social comparisons, sociocultural attitudes toward appearance, social anxiety and risk to develop ED interact with different daily life stressful experiences. In the second place, it is important to remark the necessity to reply these findings with clinical samples. It will be interesting to test the proposed model with women with a diagnosis of an ED. The use of a nonclinical sample clearly limits these study conclusions. Nevertheless, the current findings have implications for clinical practice. Finally, in the research self-reports have been used. It would be necessary, for future research, to conduct investigations with similar goals, using not only these type of measures, but also more objective criteria, evaluating the same constructs with alternative measures and not just with a screening test like EAT-26 (Garner & Garfinkel, 1979; Garner et al., 1982). Despite these limitations, the research provides new data with potential applications.

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