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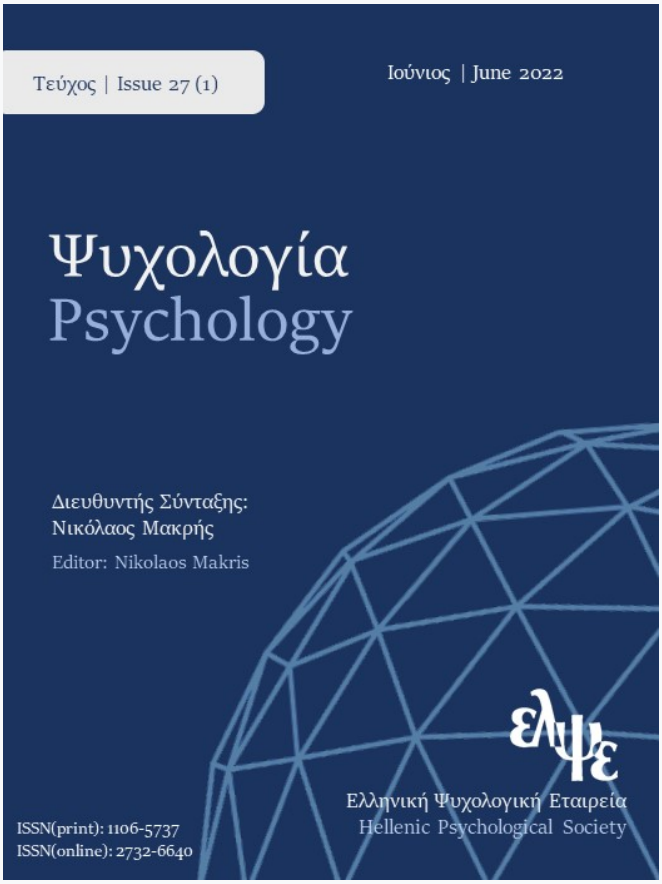

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Translation and psychometric evaluation of the Greek version of the Body Image Guilt and Shame Scale

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KEYWORDS

Body image,
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ABSTRACT

This study examined the psychometric properties of the Greek version of the Body Image Guilt and Shame Scale (BIGSS) in a community sample (N = 2867) of both genders. A set of questionnaires was administered. It included demographic data, Body Mass Index, the Body Image Guilt and Shame Scale (BIGSS), the Body Appreciation Scale, the Other as Shamer and the Experience of Shame Scale. The best solution for the BIGSS (according to exploratory factor analysis) supported a two-factor structure, similar to that found in the original validation. These two factors reflect body guilt and body shame. One more factor was derived, which corresponds to no body image guilt and shame, and its items serve as fillers in the 15 scenarios of the BIGSS. Cronbach's α value was .90 for Body Image Shame and .85 for the Body Image Guilt subscales. There was a significant positive correlation of both the Body Image Guilt and the Body Image Shame subscales with the Other as Shamer and the Experience of Shame Scale and a negative one with the Body Appreciation Scale. Gender and BMI significantly predicted the score on the Body Image Guilt and the Body Image Shame subscales and age on the Body Image Guilt subscale. In conclusion, the Greek version of the BIGSS has adequate internal consistency, reliability and construct validity, and it is suitable for research and clinical use.

Introduction

Body image is the mental representation of one's body identity, the subjective "picture" people have of their own body, regardless of how their body does look (Schilder, 2013). It is a multidimensional concept which reflects not only how individuals think, feel and behave with respect to their physical appearance but also with respect to their body functionality (Abbott & Barber, 2010). These perceptions, thoughts, feelings, and behaviors can be positive or negative and affect many aspects of one's psychosocial well-being and quality of life (Cash & Smolak, 2011). Individuals differ in their perceptions of their own body, and their perceptions may not fit the societal standards and expectations (Tiwari & Kumar, 2015). In the last years, many researchers have become increasingly concerned about the high levels of body dissatisfaction reported by their participants.

Body image shame and body image guilt are highly connected with body dissatisfaction and several sociodemographic (e.g., gender, age) and psychological factors (e.g., personality traits) are correlated with them. The aim of this study was to translate and culturally adapt the Body Image Guilt and Shame Scale to the Greek population. There are only a few tests for the measurement of body shame, and, to our knowledge, there are no questionnaires that evaluate body image guilt and body image shame in the Greek language. The translated version of the Body Image Guilt and Shame Scale is expected to be a useful scale that can be distributed for clinical and research purposes in Greece.

Body satisfaction and dissatisfaction

Body image can be experienced positively or negatively (Cash & Smolak, 2011). Body dissatisfaction can be defined as a negative attitude towards physical appearance resulting from the discrepancy between one's body perceptions and the perceived ideal body (Heider et al., 2018). It is noteworthy that many people experience body image dissatisfaction, and its rates are high, especially among women, adolescents and young adults (da Silva et al., 2020). According to Van den Berg et al. (2002), it is useful to view satisfaction as a continuum, ranging from no body image satisfaction to extreme body image satisfaction. On the other hand, there are beliefs regarding a "perfect" body image as well as a tendency to compare one's body image to that of others.

Body image has also implications for one's psychological functioning and mental health. Body dissatisfaction can result to adverse psychosocial outcomes for both genders, including eating disorders, various weight control behaviors, depression, social anxiety, low self-esteem, impaired sexual functioning and diminished quality of life (Cash et al., 2004).

Males and females differ in their level of body satisfaction, and females are more deeply affected by body dissatisfaction (Annis et al., 2004; Davison & McCabe, 2006; Rierdan & Koff, 1997). Nevertheless, males may be affected by body image more than what has been acknowledged in the past (Cohane & Pope, 2001). For decades, a thin body pattern was considered ideal for women and a muscular one for men. Currently, both sexes aim for a body type with low fat and well-defined musculature (da Silva et al., 2020). A noticeable difference between men and women is the following: contrary to findings for women, men's body dissatisfaction is a two-tailed phenomenon involving both ends of a weight continuum and men who are either above or below the acceptable range in their Body Mass Index scores, tend to be especially dissatisfied with their physical appearance (Muth & Cash, 1997). There are also significant rates of body dissatisfaction related to thinness among women, especially in Western countries (Swami, 2015).

Body satisfaction is also impacted by age. It gradually increases with the increase in age during adolescence and gets stabilized by adulthood (Holsen et al., 2012). In adolescence, a common focus of shame is one's body (Davison & Mc Cabe, 2006) and about 60% of girls and 30% of boys say they would like to change the size or shape of their bodies (Presnell et al., 2004). On the other hand, older adults show body image dissatisfaction in a different form. McLaren and Kuh (2004) found that 80% of the women reported weight dissatisfaction in comparison to their younger years, and this dissatisfaction affected their daily life activities.

Body shame and body guilt

Shame has received increasing theory and research attention, as both a personal experience (to feel ashamed) and an interpersonal process, via acts of stigmatizing and shaming (Gilbert, 2002). Shame is defined as a deeply painful emotion that is felt when a person judges him-or herself as defective or bad (Tangney & Fearing, 2002). According to Tangney (1991, 1993) shame and guilt are associated with different cognitions, motivations, evaluations, feelings, and behaviors. Shame, which focuses broadly on judging oneself as bad, differs from other self-conscious emotions, such as guilt, which is experienced when a person judges their behavior as bad. Research suggests that while shame involves internal, stable, uncontrollable, and global attributions about the self, guilt involves internal, unstable, controllable, and specific attributions about the self (Tracy & Robins, 2006).

More specifically, shame is associated with maladaptive, avoidant, and concealing responses, whereas guilt is associated with moral behaviours, other-oriented empathy and with adaptive responses aimed at repairing the consequences of transgressing behavior (Niedenthal et al., 1994; Tangney, 1993; Thompson et al., 2003). Moreover, shame is essentially public in the sense that there is an implied, if not actual, audience involved (Lutwak & Ferrari, 1996).

Shame tends to be a stronger predictor than the guilt of widespread negative outcomes, including social impairment and withdrawal, depression, and suicidality (Weingarden et al., 2016). It is also associated with escape avoidance and distancing as ways of coping with stressors, fear of negative evaluation about oneself and pessimism and depression (Thompson et al., 2003).

When individuals do not measure up to their view of the "ideal" physique, and when measuring up to that ideal is of central concern, they are likely to experience feelings of shame (Silberstein et al., 1987). Body shame is a relatively new concept (Gilbert, 2002) and is the shame one feels in response to how one's body looks. It refers to perceptions that one is negatively evaluated or judged by others because of their physical appearance (external dimension of body image shame) and negative self-evaluations due to his/her physical appearance (internal dimension) (Duarte & Pinto-Gouveia, 2017). Body shame also refers to the shame one feels in response to how their body functions (Goss & Gilbert, 2002). For example, obese patients feel shame for not being able to perform normal activities (e.g., walking long distances or physical playing).

Body guilt, on the other hand, refers to feeling regret and remorse over how the body looks and a desire for reparative action to "fix" the body (Calogero & Pina, 2011). It also includes self-blame for one (related to body image or weight) action and motivation to change that negative behavior (Tangney, 1996). Body guilt has been included within the framework of objectification theory, and both body shame and body guilt fully mediate the relationship between self-surveillance and eating restraint in women (Calogero & Pina, 2011). When people experience their physical bodies as unattractive, undesirable and a source of "shamed" self, they are at risk of psychological distress and disorders (Gilbert, 2002). Body shame also seems to have an important role in the development of eating disorders (Burney et al., 2000).

Body Image Guilt and Shame Scale (BIGSS)

Body image guilt and shame have been measured with a variety of scales. Thompson et al. (2003) developed the BIGSS arguing that measures used to assess shame in a body-related context were inadequate because: a) they were excessively global in nature, b) they were specifically targeted at eating behaviours or c) they didn't embrace both body image guilt and shame. The BIGGS is a self-report scenario-based measure of guilt and shame with respect to body image, and it tends to mainly capture weight- and eating-based shame (Weingarden et al., 2016). The structure of the scale -the response alternatives and scenarios- were modelled on the Test of Self-Conscious Affect (TOSCA-Tangney et al., 1989) and trialed on graduate students and colleagues who provided feedback on the wording of scenarios and response options and whether they classified as intended in terms of zexternalization of blame, detachment-unconcern, guilt and shame. A typical scenario is the following: *Your partner asks you to lose weight.* Response items include:

a) You would feel worthless and undervalued" (shame).

b) You would decide to do something about your weight" (guilt)

c) You would tell your partner that she or he should accept you for who you are

d) You would tell your partner that she or he is not perfect either.

The BIGSS has been translated and culturally adapted in Portuguese language in Brazil (Oliveira, 2015) and has been used in several studies and samples (e.g. Kumar, 2011; Calogero et al., 2011; Weingarden et al., 2016). The score in BIGSS is highly correlated with other measures of guilt, shame and body concerns (Thompson et al., 2003). On the contrary, its correlation with body appreciation has not been examined extensively.

The present study

This study examined the factor structure and psychometric properties (internal consistency reliability and construct validity) of the Greek version of the Body Image Guilt and Shame Scale. We chose to examine internal

consistency reliability and construct validity (convergent and discriminant) because these forms of reliability and validity are the most common in a study of cultural adaptation of a scale (Beaton et al., 2000).

Based on the literature about body image guilt and shame, the validation study of the BIGSS and its cultural adaptation in other languages, it was hypothesized that: a) the BIGSS consists of two main factors (Body Image Guilt and Body Image Shame) (Hypothesis 1), b) Both BIGSS factors are negatively associated with body appreciation (Hypothesis 2), and c) they are positively associated with internal and external shame (Hypothesis 3). Hypotheses 2 and 3 regard the construct (convergent and discriminant) validity of the BES. Moreover, it was hypothesized that there are significant effects of gender, age and BMI on BIGSS scores (Hypothesis 4).

Method

Design

A cross-sectional study was conducted, which lasted 12 months (February 2018-January 2019). The participants were selected based on the following eligibility criteria: 1) male-female with sufficient ability to understand and respond to the questionnaire; 2) age > 18 years; 3) resident of Greece; 4) ability to speak-understand the Greek language; 5) persons wishing to participate voluntarily in the research. Persons with severe psychiatric symptoms were excluded.

A snowball recruitment procedure was used in order to obtain the sample of the study. In this sampling procedure, the individuals selected to be initially studied recruit new participants from among their circle of acquaintances (Vogt, 1999). Thus, in this study, the authors collaborated with six researchers and distributed the questionnaires in their circle of acquaintances. Subsequently, every participant was requested to disseminate the survey to other persons. The questionnaires were completed in printed version and through e-mail and google forms. They were administered to many prefectures of Greece in order to ensure greater representativeness of the sample.

Participants

The sample comprised 2867 individuals, who represented the Greek general population from all over the country. There were 1021 men (35.6%) and 1846 women (64.4%). The mean age of the participants was 33 years (M=32.92, *SD* = 12.77; Range = 18 to 66 years). Concerning the educational level, most of the participants were higher education graduates (university/technical institutions) (33.4%) or students (30.5%), and 11.7% were Master of Science (MSc) or Master of Arts (MA) holders. A small percentage (1.5%) were PhD holders. Finally, 18.8% of the participants were high school graduates, while 2.8% were secondary school graduates, and 1.1 % were primary school graduates.

The majority of the participants were residents of Athens/Attica and of Central Greece (Greek: Sterea Ellada) (79.9%). Other places of residence were the following: Macedonia (8.1%), Crete (3.3%), Peloponnese (2.6%), Epirus (0.6%), Aegean Islands (0.9%), Thessaly (1.3%), Thrace (1%), Ionian Islands (0.6%). Most of the participants self-reported as being single (61.1%) and married (32.3%). As far as their job, the majority of them were private employees (26.6%), unemployed (23.2%) and civil servants (15.8%)

Measures

There were two parts to the set of questionnaires administered. The first part included sociodemographic questions. The second part included the following questionnaires: 1) Body Image Guilt and Shame Scale, 2) Body Appreciation Scale (BAS), 3) Other as Shamer (OAS), 4) Experience of Shame Scale (ESS). The Body Appreciation Scale was used to examine the discriminant validity of the BIGSS, while the Other as Shamer and the Experience of Shame Scale was used to examine its convergent validity. These questionnaires were translated and culturally

adapted to the Greek population by several scholars (Alexias et al., 2016; Gouva et al., 2016a; Gouva et al., 2016b).

Sociodemographic data

Participants were first asked to fill in their sociodemographic data, namely their gender, age, marital status, level of education, job, place of residence, weight (in kilograms) and height (in meters).

Body Mass Index

Body Mass Index (BMI) scores (weight in Kgs/square of the body height in meters) were calculated for the study needs. BMI scores were classified in the following categories: < 18.5 = Underweight; 18.5-24.9 = Normal weight; 25-29.9 = Overweight; > 30 = Obese.

Body Image Guilt and Shame Scale

Similarly to TOSCA, the BIGSS consists of 15 brief scenarios that respondents would be likely to encounter in day-to-day life. The scenarios are daily events dealing with body image that participants may encounter. Each scenario is followed by response items assessing shame, guilt, externalization/ rationalization, and detachment. For each statement, respondents rate, on a 5-point Likert scale (1=Not likely and 5=Very likely), how likely they could react in the manner stated. Because the BIGSS requires participants to make four different ratings in response to each of the 15 scenarios, the completion of the BIGSS requires 60 ratings. The shame and guilt response options are the only two response options that are scored, with externalization/rationalization and detachment serving as filler items. These response options are randomized across the 15 items (Thompson et al., 2003).

The BIGGS is one of the few available instruments for body image guilt and shame. It has demonstrated high internal consistency (α=.88 and α=.91 for shame and guilt, respectively) and construct validity (Thompson et al., 2003).

Translation of the questionnaire. The translation strategy was based on minimal translation criteria developed by the Scientific Advisory Committee of the Medical Outcomes Trust (2002) and on a set of guidelines by the International Test Commission (Van de Vijver & Hambleton, 1996). The translation was performed using a multiple forward and backward translation protocol. Two independent bilingual professionals translated the questionnaire into Greek (forward translation). The mother language of all translators was the Greek and their level of English was advanced. Then followed the reconciliation report, which is the process of alignment of the two translations from a bilingual professional who had Greek as mother-language so as the final agreed version to be extracted.

Then, the re-conciliated Greek version of the questionnaire was retranslated into English by two native English speakers, who were blinded to the original version (backward translation). The last step of the translation procedure was the pretesting of the translated instrument. Fifteen people were randomly assigned in order to participate in the cognitive debriefing process and to confirm that the scale could be read and understood by the persons in the sample. After completing the questionnaire, they were asked to state their general impression of the clarity of the items and to give translation alternatives. Moreover, they were asked about the comprehensiveness of the instructions and their ability to complete it independently. Their comments and suggestions were used in order to prepare the instructions and to ensure that participants had no difficulties in reading the items. The average time for completing the questionnaire was six-eight minutes. There was an attempt to maintain all the key features of the questionnaire during the translation into the Greek language, but all the necessary changes in order to adjust it to the Greek culture were also conducted.

Body Appreciation Scale

The Body Appreciation Scale (BAS; Avalos et al., 2005) evaluates the positive body image (e.g., "I respect my body"). The 13 items of the questionnaire are rated on a 5-point scale (*1 = Never, 5 = Always*) and are averaged to obtain a total score. Higher scores reflect greater body appreciation. Item 12 of the scale is gender-specific and there is a different question for men and women. In the Greek version, Item 12 is reversed scored in order to be well understood and not confusing (in the original scale, this Item contains two negative phrases). This scale has been translated and culturally adapted in several languages and has been used in many studies. In this study, the Greek version of the Body Appreciation Scale (Alexias et al., 2016) was used. Cronbach's α was .86.

Other as Shamer Scale

The Other as Shamer Scale (OAS, Goss et al., 1994) measures external shame and the individual's perceptions of how others see and judge them. Its items are divided into three subscales: a) *Inferior* (e.g., "I feel other people see me as not good enough"); b) *Empty* (e.g., "Others see me as empty and unfulfilled"), and c) *Mistakes* (e.g., "I think others can see my defects"). Responses are on a 5-point scale (ranging from *0 - never, to 4 - almost always*), indicating how often one feels this way. A total score, as well as a score for each subscale, are obtained by summing up individual scores on relevant items. Higher scores reveal high external shame. The OAS has been used in various studies related to feelings of shame. The Cronbach's α for this scale was .92 (Goss et al., 1994) and for the Greek version was .87 (Gouva et al., 2016a). In the present study, Cronbach's α was .91.

Experience of Shame Scale

The Experience of Shame Scale (ESS; Andrews et al., 2002) consists of 25 items, which are rated in a 4-point scale (*1 = not at all, 4 = a lot*). It measures only the tendency for shame and not for guilt. It evaluates shame as a dispositional characteristic and not as a state response to specific situations. The items are divided into three subscales: *Characterological shame* (e.g., Have you felt ashamed of any of your personal habits?); *Behavioral shame* (e.g., Have you felt ashamed of your ability to do things?), and *Bodily shame* (e.g., Have you wanted to hide or conceal your body or any part of it?). Besides a score for each subscale, the items are summed to a total score, with higher scores indicating more frequent and/or more intense experiences of shame. The total scale is reported to have a Cronbach's α of .92, with a test-retest reliability of .83 over 11 weeks. The subscales have alpha scores of .86 - .90 and test-retest reliability of .74 - .86 (Andrews et al., 2002). Internal consistency was also high in the Greek adaptation of the scale (Cronbach's α = .93) (Gouva et al., 2016b). In the present study, Cronbach's α was .94.

Procedure

The participants were informed in detail about the purpose of the study and were given assurances of anonymity and confidentiality. They were also assured that the collected data would be used only for the purpose of the study. All participants took part on a voluntary basis, without taking any remuneration.

Data analysis

The statistical program SPSS v.26. was used for the analysis of data, namely descriptive statistics, ANOVA, Pearson's correlation. Moreover, both Exploratory Factor Analysis (EFA) with the Principal Component Analysis method and Confirmatory Factor Analysis (CFA) were carried out to examine the factor structure of the BES. In EFA the number of factors was determined according to those with eigenvalues > 1, as well as by examining the scree plot. The minimum loading criterion was set to .30. Internal consistency reliability of the instrument was

assessed by using Cronbach's alpha coefficient. Alpha coefficient values of .70 or higher were deemed to indicate good reliability.

Construct (convergent and discriminant) validity was assessed by computing the Pearson's correlation between the BIGSS subscales and the rest questionnaires (Body Appreciation Scale, Other as Shamer, Experience of Shame Scale).

Results

The structure of the BIGSS

In the original validation, two factors were derived (Body Image Guilt and Body Image Shame). However, the rest items were not presented as grouping in a factor. That is, the factor loadings of the rest items serving as fillers in the scenarios were not clear. Due to this, we preferred not to perform a Confirmatory Factor Analysis to confirm the factor structure of the original validation. Thus, a principal component factor analysis with oblimin rotation was conducted on the BIGSS items. Similarly to the original validation, an oblique rotation was used because guilt and shame have been shown to be consistently correlated irrespective of the guilt and shame dimensions that are being measured (Thompson et al., 2003). Bartlett's test of sphericity ($x2 = 50418.678$, $p<.001$) and the Kaiser-Meyer-Olkin index (.927) confirmed that the HOS items had adequate variance for factor analysis.

The initial solution (based on eigenvalues>1) revealed 13 factors, which explained the 53.37% of the variance. However, this model was fully unacceptable, due to the low loadings of the items on the respective factors. When the factors to extract were set to 3, they explained 29.71 % of the variance. In the next step, based on the factor loadings, on the communalities and on the reliability analysis (Cronbach's Alpha if Item Deleted) the, items 6b, 9c, 10c were deleted from the Body Image Shame subscale and the items 1c and 9b from the Body Image Guilt subscale. Next, factor analysis was carried out again, and the new model explained 31.09 % of the variance (Table 1). Factor I consisted of items dealing with Body Image Shame (eigenvalue = 10.21; percent of variance = 13.25%). Factor II consisted of items dealing with Body Image Guilt (eigenvalue = 4.46; percent of variance = 9.64%). Factor III contains items serving as fillers in the scenarios and denote no body image shame and guilt, acceptance of one's body image, rationalizing, ignoring or positively reframing the other's negative comments about one's body, externalization of blame, detachment-unconcern etc. (eigenvalue = 2.44; percent of variance = 8.20%). The factor loadings and results are presented in Table 2. This factor structure of the BIGSS was also supported by the scree plot.

In this model, factors I and II correspond with remarkable accuracy to the two factors derived from the original validation (Factor I: body image shame, Factor II: body image guilt). The items that loaded in factor III serve as fillers in the scenarios. Moreover, the rest questions (1c, 6b, 9b, 9c, 10a, 10b, 10c, 10d), although they had low loadings, they were retained in order to serve simply as fillers in every scenario (15 scenarios X 4 items), too.

Body Image Shame denotes shame about one's body. This factor has a similar structure to the corresponding found in the original validation. However, the following differences were noticed:

-No items loaded on Body Image Shame subscale in scenario 15.

-Item 15b loaded on Body Image Guilt and not on Body Image Shame subscale. However, it presented a great loading value on Body Image Shame (.409), too.

-Two items (12a and 12b) and not one (12a) loaded on Body Image Shame subscale in scenario 12.

-Item 10b had very low loadings and didn't load on Body Image Shame subscale. The same results about the item 10b were found in the original validation. More specifically, the developers of the scale note that

"Item 10 proved to be psychometrically unsound, and researchers may want to consider eliminating it from the total score".

Body Image Guilt denotes guilt and regret about one's body and a desire for reparative action to "fix" the body. This factor has a similar structure to the corresponding found in the original validation, too. However, the following differences were noticed:

- No items loaded on Body Image Guilt subscale in scenarios 1, 6,10 and 12. The same results about the item 10d were found in the original validation (see above).
- Two items (15b and 15c) and not one (15c) loaded on Body Image Guilt subscale in scenario 15.

Table 1

Exploratory factor analysis for the BIGSS

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10.21	18.56	18.56	10.21	18.56	18.56	7.29	13.25	13.25
2	4.46	8.10	26.66	4.46	8.10	26.66	5.30	9.64	22.89
3	2.44	4.43	31.09	2.44	4.43	31.09	4.51	8.20	31.09

*Note. Extraction Method: Principal Component Analysis.

Internal consistency reliability

The internal consistency of the BIGSS subscales was analyzed by means of Cronbach's α coefficient. Its value was .90 for the Body Image Shame subscale and .85 for the Body Image Guilt subscale. These findings show high internal consistency reliability of the BIGSS subscales.

Construct validity

Correlations between the BIGSS subscales and the Body Appreciation Scale, Other as Shamer and Experience of Shame Scale are presented in table 3. There was a significant positive correlation of both the Body Image Guilt and the Body Image Shame subscales with the Other as Shamer and the Experience of Shame Scale and a negative one with the Body Appreciation Scale. These findings suggest that the Greek version of the BES has adequate construct (convergent and discriminant) validity.

The mean score in the Body Image Shame subscale was 29.08 (SD=11.32) and in the Body Image Guilt subscale was 34.12 (SD=9.77). There was a significant positive correlation between the two subscales (r=.659, p=.001).

Table 2

Items and factor loadings of the Body Image Guilt and Shame Scale

Item	Body Image Shame	Body Image Guilt	Externalisation/ rationalization and detachment
BIGSS 1a	.301		
BIGSS 1b			.331
BIGSS 1d			.314
BIGSS 2a			.418
BIGSS 2b			.335
BIGSS 2c		.409	
BIGSS 2d	.559		
BIGSS 3a	.652		
BIGSS 3b		.665	
BIGSS 3c			.413
BIGSS 3d			
BIGSS 4a			.364
BIGSS 4b		.637	
BIGSS 4c	.721		
BIGSS 4d			.424
BIGSS 5a	.665		
BIGSS 5b		.669	
BIGSS 5c			.526
BIGSS 5d			.463
BIGSS 6a			.416
BIGSS 6c	.672		
BIGSS 6d			.314
BIGSS 7a		.709	
BIGSS 7b			.430
BIGSS 7c	.698		
BIGSS 7d			.377
BIGSS 8a		.517	
BIGSS 8b			.491
BIGSS 8c	.550		
BIGSS 8d			.471
BIGSS 9a	.703		
BIGSS 9d		.563	
BIGSS 10a			
BIGSS 10b			
BIGSS 10d			
BIGSS 11a		.494	
BIGSS 11b			.413

The table is continued on the next page

Continuation of Table 2

Item	Body Image Shame	Body Image Guilt	Externalisation/ rationalization and detachment
BIGSS 11c			.413
BIGSS 11d	.599		
BIGSS 12a	.684		
BIGSS 12b	.409		
BIGSS 12c			.331
BIGSS 12d			.327
BIGSS 13a			.324
BIGSS 13b		.556	
BIGSS 13c	.621		
BIGSS 13d			.489
BIGSS 14a	.490		
BIGSS 14b		.339	
BIGSS 14c			.457
BIGSS 14d			.496
BIGSS 15a			.369
BIGSS 15b		.519	
BIGSS 15c		.513	
BIGSS 15d			.449

***Note:** -Extraction Method: Principal Component Analysis. Rotation Method: Oblimin with Kaiser Normalization. -The minimum loading criterion was set to .30

Table 3

Pearson correlations between the Body Image Guilt, Body Image Shame, Body Appreciation Scale, Other as Shamer and Experience of Shame Scale

	Body Image Shame	Body Image Guilt
Body Image Guilt	.659**	1
Body Appreciation Scale	-.532**	-.288**
Other as Shamer	.425**	.229**
Experience of Shame Scale	.527**	.402**
Experience of Shame Scale - characterological shame	.458**	.336**
Experience of Shame Scale - behavioral shame	.427**	.361**
Experience of Shame Scale - bodily shame	.586**	.402**

*Note:**p<.01

Relationship to gender, age and BMI

In the whole sample the mean BMI score was 24.02 (*SD* = 4.28, Range = 14.69 to 47.75). Concerning the BMI categories, 60.6% of the participants had normal weight, 24.7% were overweight, 7.6% were underweight, and 7.2% were obese.

There was a significant weak negative correlation between age and Body Image Shame subscale, r = .044, p =.022, Age didn't significantly correlate with Body Image Guilt subscale. In addition, no significant correlation was found between BMI and Body Image Guilt and Body Image Shame subscales.

Descriptive statistics and differences between gender, BMI categories and age groups on BIGSS subscales are presented in Table 4.

The impact of gender on Body Image Guilt and Body Image Shame was found to be significant (t=-8.49, df=2812, p=.001 and t=14.73, df=2812, p=.001 correspondingly), and women had a higher score than men.

There was also a significant effect (albeit very small according to the effect size index) of BMI on Body Image Guilt and on Body Image Shame [F(3, 2676) = 5.66, p = .001, η_p^2 = 0.003 and F(3, 2676) = 3.088, p=.026, η_p^2=.006 correspondingly]. According to the Bonferroni post hoc test, obese participants had a higher score than overweight participants on Body Image Shame subscale and lower than participants with normal weight on Body Image Guilt subscale.

Moreover, age had a significant effect, albeit very small according to the effect size index, on Body Image Guilt subscale, F(4, 2720) = 2.61, p=.034, η_p^2=0.04. According to the Bonferroni post hoc test, participants aged 41-50 years old had a higher score than those aged >60 years old on Body Image Guilt subscale.

Table 4

Descriptive statistics and differences between gender, BMI categories and age groups in the BIGSS subscales

	Body Image Guilt	*P*	Body Image Shame	*P*
Gender				
Men	32.06	.001	25.20	.001
Women	35.27		31.26	
BMI categories				
Underweight	32.84	.001	29.06	.026
Normal weight	34.65		29.10	
Overweight	33.65		27.98	
Obese	32.25		30.58	
Age groups				
18-30 years	34.03	.034	29.43	ns
31-40 years	34.15		28.68	
41-50 years	34.94		29.16	
51-60 years	34.38		28.29	
>60 years	31.19		27.71	

*Note: ns = nonsignificant

Discussion

This study was conducted in order to evaluate the psychometric properties of the Greek version of the Body Image Guilt and Shame Scale (BIGSS). The basic finding is that the BIGSS consists of two subscales, reflecting Body Image Guilt and Body Image Shame, and its reliability and validity are adequate.

The first two factors correspond with accuracy to the Body Image Guilt and Body Image Shame subscales found in the original validation. Several minor differences were noticed, which are presented in the results section. One more factor emerged, which denotes no body image shame and guilt, acceptance of one's body image, rationalizing, ignoring or positively reframing the other's negative comments about one's body, externalization of blame, detachment-unconcern etc. The above factor structure of the BIGSS confirms hypothesis 1. A different one-dimensional model was chosen in the Brazilian version of the BIGSS in both male and female sample, with differences in content between specific versions for each sex, though (Oliveira, 2015).

The three factors of the BIGGS accounted for 31.09% of the total variance and all the retained items met the minimal loading criterion (.30). In comparison to the original validation study of the BIGGS, the following differences are noticeable: a) the original BIGSS was validated in a sample of university students and not in the general population, and b) the sample was also smaller than the sample used in this study.

The analyses performed showed that the Greek BIGSS has adequate internal consistency reliability. Cronbach's α coefficient was .90 for Body Image Shame and .85 for the Body Image Guilt subscales. High internal consistency reliability was also found in the original validation of the BIGSS (a=0.88 for Body Image Guilt subscale and a=0.90 for the Body Image Shame subscale). Satisfactory evidence of internal reliability was also found in the Brazilian version of the BIGSS for both males and females (Oliveira, 2015).

The correlation between the Body Image Guilt and the Body Image Shame subscales was large, positive and significant (r=.659, p=.001). It should be noted that a lower but relatively large and significant correlation (r=0.59) was also found between these two subscales in the original validation of the BIGSS (Thompson et al., 2003).

Both Body Image Guilt and Body Image Shame subscales demonstrated adequate construct validity. Body Image Guilt and Body Image Shame subscales were negatively correlated with body appreciation. On the other hand, the correlation of the Body Image Guilt and Body Image Shame subscales with internal and external shame was negative and significant, as expected. According to these findings, Hypothesis 2 and 3 were confirmed. The original BIGSS has also demonstrated adequate construct validity. However, it is noticeable that the construct validity of the original BIGSS was evaluated by different questionnaires (Thompson et al., 2003). Construct validity was also adequate in the Brazilian version of the BIGSS for both males and females (Oliveira, 2015).

Finally, gender, age and BMI significantly affected the scores in the Body Image Guilt and the Body Image Shame subscales, confirming Hypothesis 4. However, the effect sizes in our study were in the main small, which suggests that the differences found were not so noticeable. Since many of the subscales that measure attitudes and behaviours associated with body image have demonstrated gender differences (Thompson et al., 2003), the scores of men and women on the BIGSS guilt and shame responses were compared in this study. Similarly to the original validation of the BIGSS, women had a higher score than men on body image shame and body image guilt subscales. These results confirm the findings of other studies, in which it is reported that females are more deeply affected than men by body dissatisfaction (Annis et al., 2004; Davison & McCabe, 2006; Rierdan & Koff, 1997) and seem to reflect gender differences in socialization patterns of men and women relative to body image issues as well as in relation to guilt and shame (Thompson et al., 2003).

Age and BMI effects on Body Image Guilt and Body Image Shame subscales were not examined in the original validation. In this study, obese participants scored higher than overweight participants on Body Image Shame subscale. However, obese participants and participants aged >60 years old had lower score than participants with normal weight and aged 41-50 years old on Body Image Guilt subscale. These results possibly reflect the small desire of obese and older individuals for reparative action to "fix" their body. Future studies should further evaluate and confirm these differences in Body Image Guilt.

Strengths and limitations of the study

The strengths of this research included the large community sample (N=2867), which was representative of the Greek population. This sample is possibly the largest that has ever been recruited to examine the factor structure and psychometric properties of the BIGSS in a Western country. However, the snowball-sampling technique that was used potentially introduces bias because it reduces the likelihood that a sample will represent a good cross-section of a population (Heckathorn, 1997; Swami & Charro-Premuzic, 2008). Another strength of the present study is that the construct validity of BES was tested with three additional scales. Further, in contrast to the original validation of the BIGGS, this study examined its relationship to BMI categories. As for the limitations of the study, the test-retest reliability of the BIGSS subscales was not examined in this study. This type of reliability has not been examined in the original validation too. Moreover, the fact that the mean age was 33 years and 64.4% were women shows that younger people and women were overrepresented in the sample compared to older people and men.

Conclusion

The present study showed that the Greek version of the BIGSS consists of two subscales reflecting Body Image Guilt and Body Image Shame) and the rest items serve as fillers in every scenario denoting no body image guilt and shame. It is reliable, valid, easy to administer and can be used for research and clinical purposes in men and women. Its availability will make easier the systematic investigation of body image guilt and body image shame in the Greek population. An additional psychometric investigation of the BIGSS will be very useful, and particularly important is the further investigation of possible cross-cultural differences in body shame and guilt. This highlights the necessity for cultural adaptation of BIGSS in many other languages and countries, given the history of its use within social as well as clinical psychology. Future studies could also validate the BIGSS in samples divided by gender in order to evaluate possible gender differences in body image guilt and shame.

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ΕΜΠΕΙΡΙΚΗ ΕΡΓΑΣΙΑ | RESEARCH PAPER

Μετάφραση και ψυχομετρική αξιολόγηση της ελληνικής εκδοχής της Κλίμακας ντροπής και ενοχής για την εικόνα σώματος (Body Image Guilt and Shame Scale)

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ΛΕΞΕΙΣ-ΚΛΕΙΔΙΑ

Εικόνα σώματος,
ενοχή,
ντοπή,
ελληνική εκδοχή,
ψυχομετρικές ιδιότητες

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ΠΕΡΙΛΗΨΗ

Αυτή η μελέτη εξέτασε τις ψυχομετρικές ιδιότητες της ελληνικής εκδοχής του Body Image Guilt and Shame Scale (BIGSS) σε δείγμα γενικού πληθυσμού (N = 2867) και των δύο φύλων. Χρησιμοποιήθηκε σύνθετο ερωτηματολόγιο αποτελούμενο από δημογραφικές πληροφορίες, στοιχεία για το βάρος, το ύψος και το Δείκτη Μάζας Σώματος και από τα ερωτηματολόγια Body Image Guilt and Shame Scale (BIGSS), Body Appreciation Scale, Other as Shamer και Experience of Shame Scale. Σύμφωνα με τη βέλτιστη παραγοντική δομή (η οποία προέκυψε από τη διερευνητική ανάλυση παραγόντων) το BIGSS αποτελείται από δύο παράγοντες, όπως και στην πρωτότυπη στάθμιση. Αυτοί οι δύο παράγοντες αντικατοπτρίζουν την ενοχή για την εικόνα σώματος και την ντροπή για την εικόνα σώματος. Προέκυψε ένας ακόμη παράγοντας, ο οποίος δεν αντιστοιχεί σε ενοχή και ντροπή για την εικόνα του σώματος και οι προτάσεις του χρησιμεύουν ως συμπληρωματικες στα 15 σενάρια του BIGSS. Η τιμή α του Cronbach ήταν 0,90 για την υποκλίμακα Body Image Shame και το 0,85 για την υποκλίμακα Body Image Guilt. Υπήρξε σημαντική θετική συσχέτιση των υποκλιμάκων Body Image Guilt και Body Image Shame με το Other as Shamer και το Experience of Shame Scale και αρνητική με το Body Appreciation Scale. Το φύλο και ο Δείκτης Μάζας Σώματος προέβλεπαν σημαντικά τη βαθμολογία στις υποκλίμακες Body Image Guilt και Body Image Shame και η ηλικία στην υποκλίμακα Body Image Guilt. Συμπερασματικά, η ελληνική εκδοχή του BIGSS έχει ικανοποιητική εγκυρότητα και αξιοπιστία εσωτερικής συνέπειας και είναι κατάλληλη για ερευνητικές χρήσεις και για κλινικές εφαρμογές.