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Body image among female university students in Turkey: concurrent translation and validation of three body image measures

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The aim of the present study was to translate into Turkish and validate three measures of body image for women, namely the Photographic Figure Rating Scale, the Body Appreciation Scale (BAS) and the Sociocultural Attitudes Toward Appearance Questionnaire-3 (SATAQ-3). A total of 501 female undergraduates from Ankara completed Turkish versions of the aforementioned scales, along with Turkish versions of measures of life satisfaction and self-esteem. Participants also reported their body mass index (BMI). Factor analytic results showed that the BAS reduced to a single dimension, whereas the SATAQ-3 reduced to four dimensions; these factor structures were similar to those observed among various Western samples. Further analyses showed that most respondents (55.6%) wanted to be thinner. The translated scales showed good patterns of validity, insofar as scores were significantly correlated with life satisfaction, self-esteem and BMI, and can be recommended for the assessment of body image among Turkish-speaking samples.

Keywords: actual-ideal weight discrepancy; body appreciation; media ideals; Turkey; translation; validation

Introduction

Although body image disturbance was once considered to be culture-bound to Western countries (e.g., Banks, 1992; Timimi & Adams, 1996; Tsai, 2000), recent surveys have reported that body dissatisfaction and related syndromes are now global phenomena (e.g., Soh, Touyz, & Surgenor, 2006). For example, one study of respondents from 26 countries across 10 major world regions showed that cross-regional differences in body dissatisfaction were small ($\eta_p^2 = .04$; Swami, Frederick et al., 2010). These findings point to an important concern for public health worldwide, given established relationships between symptoms of body image disturbance and disordered eating (e.g. Neumark-Sztainer, Paxton, Hannan, Haines, & Story, 2006; Stice, 2001) as well as negative mental health more generally (e.g. Keery, van den Berg, & Thompson, 2004).

Although a number of different hypotheses have been put forward to explain the rise of body image disturbance in non-Western countries, most scholars have focused on the twin influences of Westernisation and modernisation (for reviews, see Levine & Smolak, 2010; Swami, 2014). In the first instance, it has been proposed that body image

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disturbance has become international in nature as a result of non-Western women adopting Western values and ideals of appearance (Nasser, 1988). The cultural values represented by Westernisation are far-reaching and include the glorification of a slender bodily ideal, the veneration of youth and beauty and insistence on work on the body (Levine & Smolak, 2010; Swami, 2014). In support of this perspective, studies have reported positive relationships between body image disturbance and indices of Westernisation, such as use of Western media (Anderson-Fye & Becker, 2004; Swami, Frederick et al., 2010; Swami, Mada, & Tovée, 2012).

In tandem with the effects of a globalised world, a number of scholars have highlighted the impact of modernisation and urbanisation on beauty ideals and practices (e.g., Lee & Lee, 2000; Swami, Kannan, & Furnham, 2012; Swami & Tovée, 2005a, 2005b; Tovée, Swami, Furnham, & Mangalparsad, 2006). More specifically, it has been suggested that changing social and gender roles create conflicting demands on women to strive for career accomplishment while maintaining their physical attractiveness (Lee & Lee, 2000). Increasing affluence also results in nutritional and lifestyle transitions, particularly higher rates of obesity, which in turn legitimise a pursuit of thinness and a fear of fatness (Swami & Tovée, 2005a). In short, the combined effects of Westernisation and modernisation are argued to have resulted in the higher prevalence of negative body image documented worldwide.

Turkey is a useful context in which to examine issues related to body image for a number of reasons. Although Islamic political identity in Turkey was traditionally built in opposition to the West, economic liberalisation, democratisation and Turkey's application for membership to the European Union have resulted in changing national identities and a rapprochement with the West (Dağı, 2005). Indeed, although it is sometimes argued that Turkey does not share Europe's Greco-Roman cultural and historical heritage, it is nevertheless clear that important transformations in Turkey's national identity have taken place over the past century. In particular, there have been significant moves to transform this national identity in line with the constitutive and cultural norms of the West (Oğuzlu & Kibaroğlu, 2009).

These changes appear to have had an impact on corporeal experiences and attitudes (Besler et al., 2011). For example, although Turks have traditionally venerated full-figured bodies, recent studies have reported that attitudes toward, and perceptions of, body shape and size are becoming very similar across European countries, including Turkey (Mikolajczyk et al., 2010; Swami, Frederick et al., 2010). More specifically, veneration of the thin ideal and rates of dieting are as high in Turkey as they are in other European sites (Canpolat, Orsel, Akdemir, & Ozbay, 2005). It appears that Turkey's position, both geographically and culturally, at the crossroads between Europe and Asia has resulted in an assimilation of Western European attitudes toward body size, which in turn has resulted in high rates of body dissatisfaction and symptoms of disordered eating (Canpolat et al., 2005). These are important concerns because Turkish practitioners may hold differing perceptions about the causes of negative body image and disordered eating from their Western counterparts, which, in turn, may affect the provision of treatment (Erguner-Tekinalp & Gillespie, 2010).

To date, however, studies of body image in the Turkish context have been limited in two important ways. First, they have tended to focus overwhelmingly on specific sub-populations, such as cancer patients (e.g. Akkaya, Atalay, Selcuk, Akkaya, & Ardıç, 2011; Alicikus et al., 2009; Erol, Can, & Aydiner, 2012). Second, where studies have focused on the wider population, these have tended to use unstandardised scales of

uncertain or unknown psychometric properties (e.g. Özgen, Kinaci, & Arli, 2012). To be sure, a number of body image measures have been translated and validated in Turkish, including the Body Shape Questionnaire (Akdemir et al., 2012), the Body Image Satisfaction Questionnaire (Cok, 1988) and the Multidimensional Body-Self Relations Questionnaire (Dogan & Dogan, 1992). Even so, the limited use of these scales among non-clinical populations limits our understanding of body image disturbance in the Turkish context.

The main aim of the present study was to examine body image issues in Turkey through the concurrent translation and validation of three established measures, namely the Photographic Figure Rating Scale (PFRS: Swami, Salem, Furnham, & Tovée, 2008), the Body Appreciation Scale (BAS: Avalos, Tylka, & Wood-Barcalow, 2005) and the Sociocultural Attitudes Toward Appearance Questionnaire-3 (SATAQ-3: Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004). These measures were selected because of their frequent use in the contemporary literature, their robust validity and reliability among Western populations and because they assess multiple aspects of body image, namely actual-ideal weight discrepancy (PFRS), positive body image (BAS) and mass media influence on physical attractiveness ideals (SATAQ-3). Taken together, the translation and validation of these scales in Turkish will provide a more comprehensive snapshot of body image concerns in a relatively under-studied population. Below, we briefly introduce each of these measures.

The PFRS

The PFRS is figural rating scale in which respondents are presented with a range of figures ranging in body size and asked to select the figure that most closely matches their own body and the figure they would most likely to possess (Swami, Salem et al., 2008). The discrepancy between these ratings provides a measure of actual-ideal weight discrepancy. Among Western samples, scores derived from the PFRS have been shown to have very good construct validity, convergent and divergent validity, and test-retest reliability after three and five weeks (Swami, Salem et al., 2008; Swami, Stieger et al., 2012; Swami, Taylor, & Carvalho, 2011). In addition, the PFRS has been translated into multiple languages and used in various sites, including Brazil (Swami, Campana et al., 2011), Indonesia (Swami, Henderson, Custance, & Tovée, 2011), Malaysia (Swami, Tovée, & Harris, 2013), South Korea (Swami, Hwang, & Jung, 2012) and Zimbabwe (Swami, Mada et al., 2012).

The BAS

The BAS is a 13-item measure of favourable opinions of the body, acceptance of the body despite its imperfections, respect for the body and protection of the body from unrealistic aesthetic ideals (Avalos et al., 2005). Among Western samples, the BAS has been shown to reduce to a single dimension (Avalos et al., 2005; Swami, Stieger, Haubner, & Voracek, 2008) and has good patterns of convergent and divergent validity (Augustus-Horvath & Tylka, 2011; Iannantuono & Tylka, 2012; Swami, 2009a; Swami, Begum, & Petrides, 2010; Swami, Hadji-Michael, & Furnham, 2008). However, the BAS does not appear to reduce to a single dimension among non-Western samples, including Malaysians (Swami & Chamorro-Premuzic, 2008), Brazilians (Swami, Campana et al., 2011), Indonesians (Swami & Jaafar, 2012) and South Koreans (Swami, Hwang et al., 2012). Rather, in these samples, the BAS factorially reduces to two distinct dimensions

that have been labelled General Body Appreciation (typically 10 items, although 2 items have low item-loadings) and Body Image Investment (3 items), respectively.

The SATAQ-3

The SATAQ-3 is a 30-item measure of mass media influence (Thompson et al., 2004). The original validation of the measure reports four dimensions reflecting: (1) perceptions of mass media as a source of information about appearance ideals (Information), (2) pressure from mass media to change one's physical appearance (Pressure), (3) the internalisation of media portrayals of attractiveness ideals (Internalisation-General) and (4) the internalisation of media portrayals related to having an athletic physical appearance (Internalisation-Athlete). This four-factor solution has been supported in subsequent studies with female samples (e.g. Markland & Oliver, 2008) and among Italian (Stefanile, Matera, Nerini, & Pisani, 2011), Spanish (Sánchez-Carracedo et al., 2012), Brazilian (Swami, Campana et al., 2011), French (Rousseau, Valls, & Chabrol, 2010) and Jordanian populations (Madanat, Hawks, & Brown, 2006).

However, there is some debate as to whether this factor structure is cross-culturally stable. For example, in a sample of Malaysian women, Swami (2009b) reported that two factors (Information and Internalisation-Athlete) mirrored the parent subscales, but a third factor was an amalgamation of the Pressures and Internalisation-General factors in the original version (a fourth factor included several cross-loading items that were eventually dropped from analyses). Similarly, in a sample of Chinese boys, Jackson and Chen (2010) reported an alternative four-factor solution consisting of General Pressure-Internalisations, Sources of Appearance Information, Pressure-Internalisation of an Athletic Ideal and Pressure to be Thin. Additionally, some authors have recommended dropping at least one item of the SATAQ-3 due to cross-loadings onto different factors (Rousseau et al., 2010; Sánchez-Carracedo et al., 2012). It is also noteworthy that most previous studies have not taken up the scale developers' suggestion of reverse-keying eight items in order to reduce possible response bias (Thompson et al., 2004).

The present study

In short, the present study set out to concurrently translate and validate Turkish versions of the PFRS, BAS and SATAQ-3. A primary aim of the study was to establish the factor structures of the BAS and SATAQ-3 in particular. Given Turkey's geographic and cultural position at the crossroads of Europe and Asia, and given its social and economic developments, we preliminarily hypothesised that the BAS and SATAQ-3 would have factor structures similar to those reported among Western samples. In addition to the aforementioned scales, we also included measures of self-esteem, life satisfaction and self-reported body mass index (BMI). The former two measures have been previously validated in Turkish and can provide evidence of divergent validity, whereas the latter can provide evidence of convergent validity.

Methods

Participants

The participants of this study were 501 female university students from a university in Ankara, the capital of Turkey. Participants ranged in age from 20 to 32 years (M = 22.05, SD = 1.81) and in self-reported BMI from 15.56 to 37.78 kg/m^2 (M = 21.81, SD = 3.35).

All participants were of Turk ancestry and the majority were enrolled on undergraduate degree programmes (98.8%). In terms of marital status, the majority of participants were single (96.4%), 2.2% were married, 1.0% were cohabiting and the remainder were divorced or separated.

Measures

The PFRS

To measure actual-ideal weight discrepancy, we used the PFRS, which consists of 10 photographic images of women ranging in body size from emaciated to obese. Participants were asked to select the figure that most closely matched their own body (current) and the figure that they would most like to possess (ideal), with ratings made on a 10-point scale (1 = Figure with the lowest BMI, 10 = Figure with the highest BMI). A measure of weight discrepancy was computed as the difference between unsigned current and ideal ratings. As such, scores could only take positive values, with higher scores reflecting greater actual-ideal weight discrepancy. The PFRS has been shown to have good psychometric properties, including good patterns of validity and good test-retest reliability after three and five weeks (Swami, Salem et al., 2008; Swami, Stieger et al., 2012; Swami, Taylor et al., 2011).

The BAS

Participants completed the BAS, a 13-item measure of positive body image in which respondents rate a series of statements on a 5-point scale (1 = Never, 5 = Always). Among Western samples, the BAS has a one-dimensional factor structure and good psychometric properties (Avalos et al., 2005; Swami, Stieger et al., 2008). Among non-Western samples, however, the BAS reduces to two distinct subscales measuring General Body Appreciation and Body Image Investment (e.g. Swami & Chamorro-Premuzic, 2008; Swami & Jaafar, 2012). The factor structure of the BAS in the present study is reported in the Results section.

The SATAQ-3

Participants completed the SATAQ-3, a 30-item scale that measures the multidimensional impact of sociocultural influences on body image. All items on the scale are rated on 7-point scale (1 = Definitely disagree, 7 = Definitely agree). Following the recommendation of Thompson et al. (2004), 8 items were reverse-keyed for presentation to participants, which is consistent with the recommendation of Thompson et al. (2004). In its parent version, the SATAQ-3 reduces factorially to four dimensions (Information, Pressure, Internalisation-General and Internalisation-Athlete) with good evidence of validity and reliability. However, there is some debate as to whether the scale remains stable across cultures, with some items showing cross-loadings and some factors possibly amalgamating (Jackson & Chen, 2010; Swami, 2009b). The factor structure of the Turkish SATAQ-3 is reported in the Results section.

Rosenberg's Self-esteem Scale (RSES: Rosenberg, 1965; Turkish translation: Çuhadaroğlu, 1986)

The RSES is a 10-item scale that is widely used to measure an individual's self-worth. All items are rated on a 4-point scale (1 = Strongly disagree, 4 = Strongly agree) and 5 items are reverse-coded. An overall score was computed as the mean of all items, with higher

scores reflecting greater self-esteem. Scores on the Turkish RSES have been shown to have acceptable criterion-related validity and good test-retest reliability (Çuhadaroğlu, 1986). In the present study, Cronbach's α for this scale was .81.

Satisfaction with Life Scale (SWLS: Diener, Emmons, Larsen, & Griffin, 1985; Turkish translation: Köker, 1991)

The 5-item SWLS was used to measure an individual's subjective well-being. The SWLS is one of the most widely used measures of life satisfaction and consists of 5 items rated on a 5-point scale (1 = Strongly disagree, 5 = Strongly agree). An overall score was computed as the mean of all items, with higher scores reflecting greater life satisfaction. The Turkish version of the scale has been shown to have good psychometric properties, including good reliability coefficients (Köker, 1991). In the present study, Cronbach's α for this scale was .80.

Demographics

Participants provided their demographic details consisting of age, ethnicity, degree enrolment, marital status, height and weight. The latter two items were used to calculate participants' self-reported BMI as kg/m^2. Among adults, self-reported BMI has been shown to correlate very highly with actual BMI (e.g. Spencer, Appleby, Davey, & Key, 2002).

Procedure

Once ethical approval for this study was obtained from the relevant university ethics committee, Turkish versions of the PFRS, BAS and SATAQ-3 were developed using the back-translation method (Brislin, 1970). The first author initially prepared a translation from English into Turkish, which was then back-translated into English by an independent translator unaffiliated with the research project. Discrepancies between the translations were settled by agreement between the translators. Participants for the study were recruited opportunistically by the second author through on-campus courses. Specifically, surveys were distributed to students according to an attendance list and were collected at the end of the testing session. All participants provided informed consent and completed anonymous, paper-and-pencil versions of the survey. The order of presentation of scales was counter-balanced for each participant. Participation was on a voluntary basis and participants were not remunerated for completing the survey. Following completion and return of the survey, all participants were debriefed.

Statistical analyses

To examine the factor structures of the BAS and SATAQ-3, we conducted principal-axis exploratory factor analysis for the total sample using quartimax rotation for the BAS (because we expected a general factor to emerge) and promax rotation for the SATAQ-3 (because of the expectation of a non-orthogonal solution [Pedhazur & Schmelkin, 1991]). The number of factors to be extracted was determined by factor eigenvalues above 1.0 (the EGV1 criterion) and the scree-plot (Cattell, 1966). Where necessary, we favoured parsimony in determining factor structures. In addition, we used Kline's (1986) recommended item-extraction criterion of .40 and selected the most conceptually plausible solution where items had multiple loadings. To examine associations between actual-ideal weight discrepancy, body appreciation, the influence of the mass media, self-esteem and

life satisfaction, we computed bivariate correlations between scores derived from all scales. Finally, we computed multiple linear regression (using the simultaneous, forced-entry method) with actual-ideal weight discrepancy and body appreciation, respectively, as criteria and all remaining factors as predictors. All analyses were conducted using IBM SPSS Statistics v.19.

Results

Factor structure of the BAS

Bartlett's test of sphericity, $\chi^2(78) = 2477.39$, $p < .001$, and the Kaiser-Meyer-Olkin measure of sampling adequacy, KMO = .91, showed that the BAS items had adequate common variance for factor analysis. Examination of the scree plot indicated the emergence of a dominant first factor with a steep drop to the next factor, whereas the EGV1 criterion indicated that two factors had an eigenvalues > 1.0 ($\lambda = 5.16$ and 1.09). Even so, and as can be seen in Table 1, all items adequately loaded on to the first factor with loadings ≥ .42. Based on these indices, we extracted a single factor for the Turkish BAS, which explained 39.7% of the variance. We also computed an overall body appreciation score by taking the mean of all items. Cronbach's α for this score was .88.

Factor structure of the SATAQ-3

Examination of Bartlett's test of sphericity, $\chi^2(435) = 7065.04$, $p < .001$, and the Kaiser-Meyer-Olkin measure of sampling adequacy, KMO = .92, showed that the SATAQ-3 items had adequate common variance for factor analysis. Both the scree-plot and the EGV1 criterion indicated that four factors should be extracted. Item loadings are reported in Table 2. As can be seen, the first factor ($\lambda = 7.87$, 26.2% of the variance explained) included the nine items that Thompson et al. (2004) reported as loading on to the Internalisation-General Factor. The second factor ($\lambda = 4.25$, 14.1% of the variance explained) included the nine Information items, whereas the third factor ($\lambda = 2.24$, 7.5%

Table 1. Factor loadings for the Turkish Body Appreciation Scale.

Item	Factor loading
2. I feel good about my body.	.82
3. On the whole, I am satisfied with my body.	.82
6. I take a positive attitude towards my body.	.76
1. I respect my body.	.74
10. My feelings toward my body are positive, for the most part.	.70
7. I am attentive to my body's needs.	.67
13. Despite its imperfections, I still like my body.	.66
4. Despite its flaws, I accept my body for what it is.	.64
11. I engage in healthy behaviours to take care of my body.	.60
9. I do not focus a lot of energy being concerned with my body shape or weight.	.54
8. My self worth is independent of my body shape or weight.	.50
12. I do not allow unrealistically thin images of women presented in the media to affect my attitudes towards my body.	.44
5. I feel that my body has at least some good qualities.	.42

Table 2. Factor loadings for the Turkish Sociocultural Attitudes toward Appearance Questionnaire–3.

	Factor loading			
Items	I-General	Information	Pressures	I-Athlete
16. I compare my appearance to the appearance of people in magazines.	**.77**	.12	−.13	.11
27. I don't try to look like the people on TV.	**.77**	−.03	−.05	−.07
3. I wouldn't like my body to look like the people who are on TV.	**.75**	.07	−.01	−.07
15. I wish I looked like the models in music videos.	**.75**	−.01	.01	−.16
11. I would like my body to look like the people who are in movies.	**.68**	.10	−.03	−.11
12. I don't compare my body to the bodies of people who appear in magazines.	**.64**	.14	.03	−.21
7. I would like my body to look like the models who appear in magazines.	**.61**	.08	−.09	.12
4. I compare my body to the bodies of TV and movie stars.	**.54**	.16	−.20	.05
8. I compare my appearance to the appearance of TV and movie stars.	**.49**	.09	−.08	.19
21. Pictures in magazines are an important source of information about fashion and 'being attractive'.	.27	**.80**	.02	.01
25. Movies are an important source of information about fashion and 'being attractive'.	.29	**.79**	−.06	.06
13. Magazine articles aren't an important source of information about fashion and 'being attractive'.	.20	**.76**	.09	.06
17. Magazine advertisements are an important source of information about fashion and 'being attractive'.	.27	**.73**	.04	.02
1. TV programmes are an important source of information about fashion and 'being attractive'.	.25	**.73**	−.05	.05
28. Movie stars aren't an important source of information about fashion and 'being attractive'.	−.27	**.68**	.09	.10
29. Famous people are an important source of information about fashion and 'being attractive'.	.17	**.64**	.09	.01
5. TV commercials are an important source of information about fashion and 'being attractive'.	.02	**.56**	−.08	.15
9. Music videos on TV aren't important source of information about fashion and 'being attractive'.	.11	**.47**	.13	−.01

Table 2. (*Continued*)

Items	Factor loading			
	I-General	Information	Pressures	I-Athlete
10. I've felt pressure from TV and magazines to be thin.	−.29	.04	**.61**	−.06
22. I've felt pressure from TV or magazines to exercise.	−.28	−.02	**.54**	.03
26. I've felt pressure from TV or magazines to change my appearance.	−.03	.04	**.54**	−.01
14. I've felt pressure from TV or magazines to have a perfect body.	−.14	.28	**.51**	−.07
2. I've felt pressure from TV or magazines to lose weight.	.01	−.22	**.50**	.09
18. I've felt pressure from TV or magazines to diet.	−.04	−.26	**.48**	−.03
6. I haven't felt pressure from TV or magazines to look pretty.	−.23	−.05	**.46**	.09
23. I wish I looked as athletic as sports stars.	.32	.18	.07	**.75**
24. I compare my body to that of people who are athletic.	.34	.12	.06	**.60**
30. I try to look like sports stars.	.29	.15	.02	**.57**
20. I compare my body to that of people in 'good shape'.	.37	.07	−.12	**.48**
19. I don't wish I looked as athletic as the people in magazines.	**.42**	.39	.16	**.44**

Note: Values in bold refer to items that loaded onto a particular factor; I = internalisation.

of the variance explained) included the seven Pressures items. The last factor (λ = 1.76, 5.8% of the variance explained) included all five of the Internalisation-Athlete items. However, item 20 appeared to cross-load onto two factors. Following the recommendation of Sánchez-Carracedo et al. (2012), we omitted this item from further analyses in order to avoid problems of an item belonging simultaneously to more than one factor. Overall factor scores were computed by taking the mean of all items associated with a factor. Internal consistency coefficients (Cronbach's α) for these subscales were good: Internalisation-General = .82; Information = .85; Pressures = .84 and Internalisation-Athlete = .76.

Descriptive statistics and regression analyses

Descriptive statistics (*M* and *SD*) for all variables included in the present study are reported in Table 3. In terms of the ratings derived from the PFRS, participants rated an underweight figure as being the closest to their actual body size (*M* = 4.06, *SD* = 1.97). However, participants also rated a thinner figure as being their ideal (*M* = 3.12,

SD = 1.21). Based on signed PFRS scores, 27.2% of participants were satisfied with their current body size, 55.6% wanted to be thinner and 17.2% wanted to be larger (for all further analyses, we have used unsigned PFRS scores, which represent any form of weight discrepancy). As can be seen in Table 3, actual-ideal weight discrepancy was negatively correlated with body appreciation, self-esteem and life satisfaction, and positively with three of the four SATAQ-3 subscales as well as BMI. Body appreciation was negatively correlated with all four SATAQ-3 subscales and BMI, and positively with self-esteem and life satisfaction.

A regression analysis was run with actual-ideal weight discrepancy as the criterion variable and all remaining variables except body appreciation as predictor variables. The regression was significant, $F(7, 500) = 21.94$, $p < .001$, Adj. $R^2 = .23$, with participant BMI ($B = .18$, $SE = .02$, $\beta = .43$, $t = 10.66$, $p < .001$) and self-esteem ($B = -.36$, $SE = .12$, $\beta = -.13$, $t = -2.91$, $p = .004$) emerging as the only significant predictors. The same analysis with body appreciation as the criterion variable was also significant, $F(7, 500) = 43.92$, $p < .001$, Adj. $R^2 = .38$. The significant predictors were self-esteem ($B = .40$, $SE = .05$, $\beta = .33$, $t = 8.48$, $p < .001$), life satisfaction ($B = .17$, $SE = .03$, $\beta = .21$, $t = 5.51$, $p < .001$), Pressures ($B = -.17$, $SE = .04$, $\beta = -.20$, $t = -4.38$, $p < .001$), participant BMI ($B = -.03$, $SE = .01$, $\beta = -.16$, $t = -4.36$, $p < .001$) and Internalisation-General ($B = -.16$, $SE = .05$, $\beta = -.14$, $t = -2.89$, $p = .004$).

Discussion

The aim of the present study was to concurrently translate and validate Turkish versions of three body image measures, namely the PFRS, BAS and SATAQ-3. Our results showed that the Turkish versions of the BAS and SATAQ-3 had similar factor structures to those reported among Western samples. In addition, internal consistency coefficients for both the overall BAS and SATAQ-3 subscales were good. The present results also indicated that scores derived from the PFRS, BAS and SATAQ-3 had good patterns of validity insofar as they were correlated significantly and in the expected direction with measures of life satisfaction, self-esteem and participant BMI.

In terms of body appreciation, the present results indicated that the Turkish BAS reduced to a single dimension, with all items loading onto this factor. This is consistent with previous reports of a single dimension for the BAS among Western samples (Avalos et al., 2005; Swami, Stieger et al., 2008), but contrasts with reports of a two-dimensional solution among non-Western samples (Swami, Campana et al., 2011; Swami & Chamorro-Premuzic, 2008; Swami, Hwang et al., 2012; Swami & Jaafar, 2012). The Turkish BAS also had good internal reliability and was correlated significantly and in the expected direction with measures of actual-ideal weight discrepancy, all four SATAQ-3 subscales, self-reported BMI, life satisfaction and self-esteem. Broadly speaking, these results are consistent with previous reports of psychological correlates of body appreciation (e.g. Avalos et al., 2005; Swami, Hadji-Michael et al., 2008).

Likewise, the Turkish SATAQ-3 reduced to four factors that mirrored those reported by the scale's developers. This four-factor solution is generally consistent with studies that have been conducted with Western samples (e.g. Markland & Oliver, 2008; Sánchez-Carracedo et al., 2012; Stefanile et al., 2011), although it stands in contrast to reports of differing factor solutions among some non-Western samples (e.g. Swami, 2009b). However, as in previous work (Rousseau et al., 2010; Sánchez-Carracedo et al., 2012), we found that one item (item 20) of the SATAQ-3 cross-loaded on to two factors and, following earlier recommendations, we elected to drop this item from the Turkish

Table 3. Descriptive statistics and inter-scale correlations between all variables in the study.

	1	2	3	4	5	6	7	8	9
(1) Actual-ideal weight discrepancy		−.35**	.26**	.25**	.21**	.08	−.31**	−.11*	.45**
(2) Body appreciation			−.09*	−.40**	−.31**	−.20**	.48**	.36**	−.26**
(3) Information				.35**	.45**	.36**	.07	−.03	.03
(4) Pressures					.57**	.41**	−.27**	−.16**	.14*
(5) Internalisation-General						.46**	−.15*	−.11*	.10*
(6) Internalisation-Athlete							−.15*	−.15*	.14*
(7) Self-esteem								.30**	−.12*
(8) Life satisfaction									−.12*
(9) Participant body mass index									
M	1.48	3.99	2.92	2.44	2.83	2.68	3.03	3.44	21.82
SD	1.42	0.61	0.56	0.72	0.53	0.72	0.50	0.75	3.35

Note: *$p < .05$, **$p < .001$.

SATAQ-3. Even so, the subscales of the Turkish SATAQ-3 all showed good internal consistency and, with the exception of the Information subscale, were significantly correlated with measures of life satisfaction, self-esteem and self-reported BMI.

Our regression analysis showed further that there were different patterns of predictors for actual-ideal weight discrepancy and body appreciation, respectively, in the present sample. More specifically, the only significant predictors of actual-ideal weight discrepancy were BMI and self-esteem, whereas significant predictors of body appreciation were self-esteem, life satisfaction, BMI and two subscales of the SATAQ-3 (Pressures and Internalisation-General). These results are in line with previous findings that self-esteem and BMI are strong correlates of both actual-ideal weight discrepancy and body appreciation (e.g. Swami, Stieger et al., 2008). However, the different patterns of predictors for actual-ideal weight discrepancy and body appreciation may be indicative of culture-specific concerns that will require further investigation.

Limitations of the present study include the reliance on a student sample, which limits the generalisability of our findings. In future work, it will be important to replicate our findings with a more representative sample of the Turkish population. In a similar vein, future research would also do well to investigate the extent to which there are intra-regional or ethnic differences in body image among Turkish samples. In addition, our focus on three measures of body image perhaps neglects other important candidate predictors of negative body image in Turkey, such as exposure to Western media, degree of urbanisation, religiosity and appearance investment. Finally, it may be important for future work to assess the relationships between the three translated scales in the present work and those that had been previously translated, such as the Body Shape Questionnaire (Akdemir et al., 2012), the Body Image Satisfaction Questionnaire (Cok, 1988) and the Multidimensional Body-Self- Relations Questionnaire (Dogan & Dogan, 1992).

These limitations notwithstanding, the present findings indicate that the Turkish versions of the PFRS, BAS and SATAQ-3 are reliable and valid tools for the assessment of body image among Turkish-speaking samples. It is hoped that the availability of these measures in Turkish will stimulate further investigations of body image-related issues among Turkish samples. In particular, it will be useful for future studies to replicate cross-cultural work (e.g. Mikolajczyk et al., 2010) to ascertain the extent to which Turkey represents a nation that has adopted Western ideals of beauty. Certainly, like previous work (e.g. Canpolat et al., 2005), the present results suggest that a large proportion of respondents wanted to be thinner and that the ideal female figure was one that was clinically underweight. If these findings can be replicated in future work, they may have important implications for the treatment of negative body image in Turkey.

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