**RESEARCH ARTICLE**

# Turkish adaptation of the Objectified Body Consciousness Scale and the Self-Objectification Questionnaire

Tugba Yilmaz[1] , Ozlem Bozo[2]

[1]Izmir Bakircay University, Department of Psychology, Faculty of Arts and Sciences, Izmir - Turkey
[2]Orta Dogu Technical University, Department of Psychology, Ankara - Turkey

**ABSTRACT**

**Objective:** The scope of this study was to adapt two important measurement tools from the body image literature: the Objectified Body Consciousness Scale (OBCS) and the Self-Objectification Questionnaire (SOQ). These instruments are important in the assessment of eating and feeding disorders. The objectified body consciousness scale has three subscales: body surveillance, body shame, and control beliefs. Although the two scales had been translated to Turkish before, the psychometric properties had not been studied in detail.

**Method:** The instruments were adapted to Turkish via the translation and back-translation method. Confirmatory factor analyses and validity and reliability analyses were conducted.

**Results:** Of the three subscales of the OBCS, control beliefs produced weak values. For the SOQ, item 2 "health" did not load under its factor and was eliminated from further analyses.

**Conclusion:** The results suggest that both the OBCS and the SOQ have satisfactory psychometric qualities. Strengths and limitations of the study have been discussed.

**Keywords:** Body image, eating disorders, self-objectification questionnaire, the objectified body consciousness scale

## INTRODUCTION

At the present time, the number of body image studies is on the rise because body image is closely connected with certain psychopathologies, such as eating disorders (1-5). Commonly, these studies have been conducted with women since the prevalence of eating disorders in women is higher than in men (1-6). The way women perceive and give meaning to their body and bodily functions affects psychological factors such as thoughts and emotions. Uncovering these psychological factors

empowers experts working in the mental health area, for instance, clinical psychologists and psychiatrists. These psychological variables might give rise to the development of psychological problems including eating disorders (1-6). Studies carried out in English-speaking and Western countries are becoming more common, and the Turkish literature has been affected by this research trend, too.

Particularly for eating disorders, there is a noted effect of the media on women's bodies. In Western, male-dominated societies, the female body is inspected

by males as an object in view of its possible uses (1). The female body is sexualized by men, a persistent practice through which women learn to internalize the gaze roving over their body and begin to sexualize themselves. In other words, women start objectifying themselves and eventually treat their body as an object that needs to be fit and to look good. This experience, called self-objectification, diminishes women's awareness of their internal body states (such as hunger).

The majority of body image studies concerning the effect of objectification on psychological disorders make use of the Objectified Body Consciousness Scale and the Self-Objectification Scale (2,3,7,8). These two instruments should be adapted to the Turkish language for Turkish researchers to use in their research about body image. In the following sections, these scales are introduced in detail and the connection of these tools with objectification and psychological disorders is discussed.

**The Objectified Body Consciousness Scale (OBCS):** The Objectified Body Consciousness Scale (OBCS) was developed by McKinley and Hyde (1). The original scale is in English and consists of 24 items measured on a 7-point Likert-type scale ranging from "strongly disagree" to "strongly agree". The scale also includes a "not applicable" option for each item which is scored zero. The OBCS includes three factors, designated surveillance, body shame, and control beliefs, consisting of 8 items each. Surveillance refers to the monitoring of one's outer appearance and standards of cultural beauty. Body shame describes the feelings when a person's body does not meet the standards of beauty. Control beliefs are an individual's beliefs regarding his or her personal control over their own appearance and body. There are 14 reverse-coded items in the OBCS (items 1, 3, 4, 6, 7, 9, 12, 13, 15, 18, 19, 20, 21, 24). If there are more than 2 items missing or coded as NA, the factors are counted as missing.

The OBCS is frequently used in the literature to measure body shame in objectification studies, especially for eating disorders. For example, Martins et al. (2) used the body shame subscale of the OBCS in their study to assess body shame levels in their homosexual and heterosexual participants. Tiggemann and Boundy (3), and Tiggemann and Andrew (4) used a state version of the body shame subscale of the OBCS, where all items start with "Right now…," with the remainder of the sentences being the same as in the original items.

Previous body image studies used the OBCS to test their hypotheses about the association of body shame

and body surveillance with consequences such as eating disorder and depressive disorder symptoms (5). Some of these studies revealed that body shame and surveillance are positively associated with women's self-objectification experiences, depressive symptomatology, and disordered eating (6,8). However, the third scale in OBCS, i.e., control beliefs, yielded mixed results. In other words, findings regarding the association between control beliefs and indicators of body image and eating problems were sometimes positive and sometimes negative (1,9). Moradi and Varnes (9) studied the factor structure of the OBCS in a sample of U.S. college students 20 years after the publication of the OBCS. They checked the reliability and validity of the measures with body esteem and internalization of sociocultural attitudes towards the body, concluding that the control beliefs scale showed very weak psychometric qualities. For example, it negatively correlated with the other two scales of the OBCS. They suggested that the OBCS better be used in a two-factor solution (body shame and body surveillance) for a better model fit. Moreover, item 3 from body surveillance and items 14 and 15 from body shame did not have satisfactory factor loadings. Hence, researchers are advised to delete three items from these two scales, resulting in a 13-item alternative model for two-factor OBCS. The main aim of this study was to assess the psychometric qualities of the OBCS subdimensions body shame, body surveillance, and control beliefs in a Turkish sample.

**The Self-Objectification Questionnaire (SOQ):** Self-objectification research is a developing area of study in the Turkish literature. However, measurement tools frequently used in objectification research, such as the Self-Objectification Questionnaire (SOQ), are not available in Turkish with adequate psychometric properties (10).

The SOQ requests participants to list and rank 10 attributes for body and health. Test-takers are asked to rank the items from 0 to 9, where 0 represents the least important attribute and 9 the most important one. Five of the items are related with appearance and the other 5 items with health and competence. As a result of the ranking, a total SOQ score, calculated using a specific formula (see section 1.3.2.5 below), represents the level of objectification.

In the literature, there are other measures assessing the same phenomenon, such as the Interpersonal Self-Objectification Scale (ISOS) (11). Its authors explained that women's daily encounters with interpersonal sexual-objectification wax and wane over time. Researchers supported their reasons for developing

ISOS with the assumption that interpersonal encounters affect self-objectification of women (10,12,13). In line with a study by Moradi et al. (8), they argued that women's understanding of their psychological stress can be enhanced by understanding their levels of interpersonal self-objectification. As a result, they developed a 15-item scale consisting of two factors, i.e., body evaluation and unwanted explicit sexual advances.

However, this scale was not measuring self-objectification as stable, enduring, and personality-related elements of the objectification practice (14). Instead, ISOS measures instant self-objectification that occurs when a woman encounters another person. Hence, SOQ and ISOS were conceptually different from each other.

The SOQ is the only measure assessing objectification at the personality level, i.e., trait SO. Hence, it was used by several researchers to measure individuals' trait self-objectification (3,4,10,12,15). These studies revealed the adverse effect of having high scores in trait SO measurement. For example, Fredrickson et al. (12) and Tiggemann and Boundy (3) showed that women whose trait SO scores were high were more responsive to triggers of state SO in the environment than their counterparts whose trait SO scores were lower.

To the best of our knowledge, no study has adapted the SOQ to other languages with adequate tests for psychometric qualities after its publication. Until now, studies have been conducted with U.S. (10,12) and Australian college students (3,4,15) and in these studies, the SOQ was used in its original English language.

In 2013, Dogan translated the SOQ into Turkish and studied its psychometric properties in her master's thesis (16). Although there were some correlations between the total SOQ score and other conceptually converging scales used in that study, these were nonsignificant. The author found significant correlations only between the total SOQ score and some relevant items that were asked in the demographic information form (1- My appearance is quite important for me; 2- I have trouble focusing on my daily chores if I feel dissatisfied with my appearance). The author stated that the lack of significance of the findings is due to the fact that there is no Turkish scale related to objectification available.

Dogan (16) stated that due to the ordinal nature of the items in the SOQ, reliability and validity analyses were not run. However, the author did not discuss the pattern of the answers on this scale. This is an important point since many psychology studies in Turkey recruit university students, particularly psychology students. Many of the assessment tools used in these studies are Likert-type scales and students are used to answer the questions in Likert-type scale fashion. The ordering of the SOQ items was originally designed assigning 0 to least important attribute and 9 to most important attribute. However, in Turkish cultural tradition, people are used to assigning small numbers to more important items. They usually rank any items from the most important to the least important one in an ascending order (1, 2, 3, 4…). The ranking procedure required by the SOQ is not in keeping with Turkish students' general expectations.

To proceed to the experimental study of the objectification theory, a necessary step seems to be adapting the SOQ and the OBCS to Turkish. Therefore, this study tests the reliability and validity of the Turkish version of these instruments.

## METHOD

### Participants

Participants were female Turkish university students. At Time 1, the sample consisted of 174 women, 139 of whom were undergraduate students. They were aged 18 to 30 years (M=22.93, SD=3.17). Their self-reported socioeconomic status (SES) was low in 10.9% (n=19), intermediate in 81.6% (n=142), and high in 7.5% (n=13) of cases. The majority of the participants were single (91.4%, n=159); 15 participants (8.6%) reported being married.

Time 1 participants were called in again for the Time 2 assessment in which 127 women agreed to take part. Of these, 107 (84.3%) were undergraduate students. Time 2 participants were aged 18 to 30 years (M=22.50, SD=3.00), 12% of whom (n=15) reported a low, 83% (n=105) an intermediate, and 5% (n=7) a high SES. The majority of the participants were single (93%, n=118), while 9 participants (7%) reported being married.

### Measures

**Background Information:** Participants were asked their age, marital status, education level, height, and weight.

**Objectified Body Consciousness Scale (OBCS):** Participants' surveillance, body shame, and control beliefs were assessed with the OBCS (1). The original scale is in English and consists of 24 items scored on a 7-point Likert-type scale. The test-retest reliability of the subscales ranged between 0.73 and 0.79 (p<0.001).

Validity of the scales was assessed by examining the relations with body esteem. Surveillance had a negative correlation with body esteem (r=-0.39, p<0.001) and body shame had a strong negative correlation (r=-0.51, p<0.001) (17). Control beliefs were not significantly related to body esteem; they were however positively related to both surveillance and body shame. The scale has been translated to Turkish in the present study. The internal consistency of the scale was 0.64 in the current study while the internal consistency of the subscales ranged between 0.64 and 0.75.

**Self-Focused Attention Scale (SFAS):** Public and private body consciousness were assessed with the SFAS (18). The scale has 17 items, none of which is reverse-scored. Items in the scale are scored on a 4-point Likert-type scale ranging from "strongly disagree" to "strongly agree." Construct validity of the scale was assessed with its relation to depression (19), anxiety (20) and illness concern (21). Correlation coefficients between SFAS and BDI-2, STAI and ICS were positive, indicating that the scale possesses satisfactory construct validity (19-21). Internal consistency of the four dimensions ranged between 0.54 and 0.70. The Turkish version of the scale was studied by Akin et al. (22). It includes four subscales: private body consciousness, private self-consciousness, public body consciousness, and public self-consciousness. Internal consistency of the subscales ranged between 0.57 and 0.68. Confirmatory factor analysis revealed that the four-dimensional model had a good fit ($\chi^2$=273.94, df=105, RMSEA=0.069, GFI=0.91, AGFI=0.87, and SRMR=0.079). Higher scores correspond to more self-focused attention. Internal consistency reliability of the subscales in the current study ranged between 0.53 and 0.65. Internal consistency of the whole scale in the current instrument was 0.76.

**Social Physique Anxiety Inventory (SPAI):** Participants' appearance anxiety was assessed by the SPAI (23). The inventory was used to measure self-presentational anxiety related to appearance. It includes 12 items (e.g., "In the presence of others, I feel apprehensive about my physique/figure") and the answers are scored on a 5-point Likert-type scale ranging from "not at all" to "extremely". Higher scores indicate grater social physique anxiety. The scale has high internal consistency reliability (α=0.90) and test-retest reliability (r=0.82). Construct validity of the original scale was measured by correlations of SPAI with self-consciousness (24), fear of negative evaluation (25) and interaction anxiousness (26). SPAI correlated moderately with interaction anxiousness and fear of

negative evaluation. Hence SPAI showed strong correlations with measures that are related to general concerns of evaluations by others. While SPAI significantly correlated with public self-consciousness, it was not significantly correlated with private self-consciousness. SPAI correlated positively with degree to which people think about their observable aspects, whereas it did not correlate with degree to which people think about their nonobservable aspects. The scale was adapted to Turkish culture by Mulazimoglu-Balli and Asci (27). Internal consistency of the adapted scale is 0.81 and test-retest reliability is 0.81, both of which are moderately high. The Pearson product moment correlation coefficient was used to test the criterion-related validity between SPAI and Body Image Scale (28) scores. The correlation coefficients were negative and ranged between 0.43 and 0.57. The authors stated that SPAI Turkish version has satisfactory validity and reliability. Internal consistency of the scale was 0.88 in the current study.

**Self-Objectification Questionnaire (SOQ):** Trait self-objectification was evaluated by the SOQ, which was developed by Noll and Fredrickson (10). This questionnaire aimed explicitly to measure general self-objectification. The test includes a list of 10 body attributes that participants are asked to rank in order of importance to their physical self-concept. The 10 body attributes contain 5 appearance-based attributes (weight, sex appeal, physical attractiveness, firm/sculpted muscles, and measurements) and five competence-based attributes (physical coordination, health, strength, energy level, physical fitness level). Scoring involves adding up the ranks of appearance-based attributes and competence-based attributes separately. Then, the sum of the ranks for the competence attributes is subtracted from the sum of the ranks for the appearance attributes. Scores can range between −25 and +25 whereby higher scores indicate greater dependence on physical self-concept focused on appearance – in other words, greater self-objectification. The scale was translated to Turkish by Dogan (16). The reliability and validity of the Turkish adaptation of the scale were reexamined in the scope of this study, finding an internal consistency reliability for the scale of 0.83.

**Sociocultural Attitudes Towards Appearance Questionnaire-3 (SATAQ-3):** The SATAQ-3 was used to assess the participants' body image (29). It has 4 subscales: information, pressure, internalization-general, and internalization-athlete. Internal consistency of the subscales was high, ranging between 0.92 and 0.96. Internal consistency of the whole scale was 0.96.

The total score was positively and significantly correlated with that of the Ideal Body Internalization Scale-Revised (30) and the Drive for Thinness and Body Dissatisfaction subscales of the Eating Disorders Inventory (31). SATAQ-3 was translated to Turkish by Kalafat et al. (32). The scale consists of 25 items scored on a 5-point Likert-type scale from "strongly disagree" to "strongly agree". The internal consistency of the factors ranges between 0.74 and 0.91 and is 0.93 for the whole scale. Confirmatory factor analysis revealed that a four-dimensional model had a good fit ($\chi^2$=834.97, df=105, RMSEA=0.07, NFI=0.86, CFI=0.90, and RFI=0.84). All these statistics indicate that the Turkish SATAQ-3 has satisfactory psychometric qualities. Internal consistency of the scale in the current study was 0.93, while it ranged between 0.70 and 0.91 for the subscales.

**Procedure**

In the translation process of the scales, the translation and back-translation method was used (33). Three bilingual psychology experts translated the OBCS independently. Two bilingual psychology experts selected the best translated items from all three translations. Subsequently, another expert translated the Turkish items back to English for final comparison. The SOQ was translated to Turkish by Dogan (16), this translation was examined by the author and the same translation was used in the study.

The study was approved by the Middle East Technical University Research Center for Applied Ethics. An online survey (qualtrics.com) was prepared for data collection. University students were asked to participate in the study in exchange for additional course credits. They were also encouraged to invite their friends to take part in the study. All participants filled in an informed consent form and were debriefed at the end of the study. Participation was voluntary. The Time 2 measurement took place after 3 weeks.

## RESULTS

### - The Objectified Body Consciousness Scale (OBCS)
**Data Screening**

Minimum and maximum scores of each variable were checked. Male participants were excluded from the data set (n=10). Ages of female participants were checked and 2 participants were excluded from further analyses for being older than 30 years. Univariate outliers were calculated by Z scores and no univariate outlier was found. Participants with more than 25% missing values were excluded from all analyses. Multivariate outliers

were investigated by Mahalanobis distance for the OBCS. One value exceeded the cutoff, leading to the exclusion of 1 participant from further analyses [$\chi^2$(16)=39.252, p<0.001].

**Confirmatory Factor Analysis for the OBCS**

EQS Version 6.1 was used to conduct confirmatory factor analysis (CFA). First, the original 3-factor model was calculated by confirmatory factor analysis of the sample variance-covariance matrix. The original 3-factor model indicated an overall fit of the data (SB $\chi^2$=379.72, df=245, p<0.001, CFI=0.83, RMSEA=0.052 SRMR=0.076). Standardized factor loadings showed that item 1 (0.179) and 9 (0.085) were not loading well. Other items loaded significantly under their factors adequately (ranging between 0.25 and 0.82). As a result, to improve the fit, items 1 and 9 were deleted from the analyses.

The second CFA was conducted with 22 items because the surveillance factor had lost 2 items. The second CFA showed that the data fit the model more adequately (SB $\chi^2$ =280.49, df=202, p<0.001, CFI=0.87, RMSEA=0.047, SRMR=0.077). Standardized factor loadings were all significant and ranged between 0.25 and 0.78 under their factors.

**Reliability Analysis**

The internal consistency of each of the OBCS factors was examined by Cronbach's alpha coefficients. At Time 1, internal consistency reliability of the scales ranged between 0.64 and 0.75, which indicates moderate and acceptable reliability. Table 1 displays Corrected item-total correlations and Cronbach's alpha if item deleted for each scale.

Test-retest reliability of each scale was calculated by two subsequent measurements with a 3-week interval. All test-retest reliabilities were significant at a p<0.01 level. The respective statistics are also shown in Table 1.

**Correlations Within the OBCS**

At Time 1, surveillance (M=3.54, SD=1.02) correlated positively and significantly with body shame (M=2.80, SD=1.03) (r=0.478, p<0.001, n=174) while it correlated negatively and significantly with control beliefs (M=5.15, SD=0.96) (r=-0.165, p<0.05, n=174). Body shame and control beliefs correlated negatively and significantly (r=-0.225, p<0.01, n=174).

**OBCS Items Mean and Standard Deviations**

Means and standard deviations of the items of the OBCS at Time 1 are shown in Table 1.

## Construct Validity of the OBCS

Correlations between OBCS, SFAS, SPAI and SOQ are displayed in Table 2.

Surveillance (r=0.066, p>0.05), body shame (r=0.128, p=n.s.), and control beliefs (r=-0.133 p>0.05) scales did not significantly correlate with private body consciousness. These insignificant and very low correlations might suggest that the OBCS scales were conceptually different from being aware of internal thoughts and processes. This result was also in line with the original study (1). On the other hand, the public body consciousness factor of the SFAS, which refers to how one looks at others, was significantly and positively correlated with surveillance (r=0.311, p<0.01).

When the correlations among the subscales of SOQ and the OBCS scales were investigated, in line with the expectations, surveillance (r=-0.202, p<0.01) and body shame (r=-0.236, p<0.01) were negatively and

significantly correlated with competence, while control beliefs (r=0.156, p<0.05) were positively and significantly correlated with competence.

These results were opposite for the relation between appearance and objectification level. Surveillance (r=0.237, p<0.01 for appearance; r=0.422, p<0.01 for objectification level) and body shame (r=0.172, p<0.05 for appearance; r=0.381, p<0.01 for objectification level) were significantly and positively correlated with appearance, while control beliefs did not significantly correlate with appearance (r=-0.006, p>0.05) and objectification level (r=-0.136, p>0.05).

In terms of attitudes towards the body, the patterns of the results were identical. In other words, while surveillance and body shame exhibited stronger positive and significant correlations with the SATAQ-3 subscales pressure (surveillance r=0.45, p<0.05; body shame r=0.48, p<0.01), internalization-general

**Table 1: Test-retest reliability, internal consistency reliability, means and standard deviations of the OBCS**

| Items | Corrected item-total correlation | Mean | SD | Cronbach's alpha if item deleted | Internal consistency reliability | Test-retest reliability (n=127) |
|---|---|---|---|---|---|---|
| **Surveillance** | | | | | 0.635 | 0.68 |
| 3 | 0.327 | 3.35 | 1.59 | 0.605 | | |
| 7 | 0.306 | 2.84 | 1.82 | 0.615 | | |
| 14 | 0.324 | 3.85 | 1.83 | 0.608 | | |
| 16 | 0.528 | 3.96 | 1.80 | 0.523 | | |
| 18 | 0.275 | 9.94 | 1.70 | 0.625 | | |
| 20 | 0.452 | 3.28 | 1.53 | 0.562 | | |
| **Body shame** | | | | | 0.747 | 0.78 |
| 2 | 0.541 | 3.74 | 2.01 | 0.699 | | |
| 5 | 0.498 | 2.87 | 1.81 | 0.709 | | |
| 8 | 0.445 | 1.82 | 1.36 | 0.722 | | |
| 11 | 0.413 | 2.17 | 1.71 | 0.726 | | |
| 13 | 0.369 | 2.98 | 1.66 | 0.734 | | |
| 15 | 0.313 | 3.53 | 1.96 | 0.748 | | |
| 17 | 0.441 | 2.96 | 1.68 | 0.721 | | |
| 22 | 0.553 | 2.38 | 1.55 | 0.702 | | |
| **Control beliefs** | | | | | 0.699 | 0.68 |
| 4 | 0.384 | 5.54 | 1.59 | 0.671 | | |
| 6 | 0.513 | 5.44 | 1.73 | 0.641 | | |
| 10 | 0.221 | 5.76 | 1.37 | 0.701 | | |
| 12 | 0.291 | 4.73 | 1.89 | 0.695 | | |
| 19 | 0.447 | 4.48 | 1.67 | 0.657 | | |
| 21 | 0.429 | 5.46 | 1.82 | 0.661 | | |
| 23 | 0.344 | 5.93 | 1.62 | 0.679 | | |
| 24 | 0.381 | 3.93 | 1.76 | 0.648 | | |

OBCS: Objectified Body Consciousness Scale

**Table 2: Intercorrelations between OBCS, SFAS, SOQ; SATAQ-3 and SPAI**

| Scale name | Subscales | OBCS | | |
| --- | --- | --- | --- | --- |
| | | Surveillance | Body shame | Control beliefs |
| SFAS | Public body | 0.311** | 0.186* | 0.022 |
| | Private body | 0.066 | 0.128 | -0.032 |
| SOQ | Appearance | 0.237** | 0.172 | -0.006 |
| | Competence | -0.202** | -0.236** | 0.156* |
| | Objectification | 0.422** | 0.381** | -0.136 |
| SATAQ-3 | Information | 0.231** | 0.121 | -0.133 |
| | Pressure | 0.452** | 0.481** | -0.143 |
| | Internalization-General | 0.455** | 0.394** | -0.129 |
| | Internalization-Athlete | 0.210** | 0.323** | -0.035 |
| SPAI | Feeling of discomfort | 0.397** | 0.444** | -0.140 |
| | Expectation of negative evaluation | 0.535** | 0.556** | -0.201** |

OBCS: Objectified Body Consciousness Scale, SFAS: Self-Focused Attention Scale, SOQ: Self-Objectification Questionnaire, SATAQ-3: Sociocultural Attitudes Towards Appearance Questionnaire-3, SPAI: Social Physique Anxiety Inventory, *p<0.05, **p<0.01

(surveillance r=0.46, p<0.01; body shame r=0.39, p<0.01) and internalization-athlete (surveillance r=0.21, p<0.05; body shame r=0.32, p<0.01), control beliefs were not significantly correlated to the subscales of SATAQ-3 (correlations ranged between -0.03 and -0.14).

Additionally, when the OBCS's associations with appearance anxiety scales were examined, the correlation pattern of the OBCS repeated itself. Surveillance and body shame were strongly (positively and significantly) correlated with the SPAI subscales feeling of discomfort (surveillance r=0.40, p<0.01, body shame r=0.44, p<0.01), and expecting negative evaluation (surveillance r=0.54, p<0.01; body shame r=0.56, p<0.01), whereas control beliefs had weaker associations with these subscales of SPAI (feeling of discomfort r=-0.14, p>0.05; expecting negative evaluation r=-0.20, p<0.01).

The correlation with the information factor of SATAQ-3 was an indicator that surveillance and body shame were not the same construct. The only factor that differentiated surveillance from body shame was the information factor of SATAQ-3. While surveillance exhibited stronger positive and significant association with the information subscale (r=0.23, p<0.01), body shame showed weaker association with information (r=0.12, p=n.s.). Therefore, while information converged with surveillance, it was unrelated with body shame.

Among all intercorrelations, the strongest correlations of the OBCS emerged with appearance anxiety scales (SPAI) (r=0.535 for surveillance; r=0.556 for body shame; r=-0.201 for control beliefs; p<0.01).

Lastly, when the relation between OBCS and appearance anxiety was investigated, it was seen that all three scales of the OBCS significantly correlated with expectation of negative evaluation. This result supported the convergent validity of surveillance and body shame with negative evaluations from others. It also supported the divergent validity of control beliefs from the two scales and expectation of negative evaluations from others.

**- The Self-Objectification Questionnaire (SOQ)**
**Data Screening**
To detect multivariate outliers for appearance and competence, the Mahalanobis distance was calculated ($\chi^2[2]=13.816$, p<0.001). One participant's data were excluded from the further analyses because it was a multivariate outlier.

**Confirmatory Factor Analysis for the SOQ**
EQS Version 6.1 was used to conduct confirmatory factor analysis (CFA). First, the original 2-factor model was calculated by confirmatory factor analysis of the sample variance-covariance matrix. The original 2-factor model indicated a good overall fit of the data (SB $\chi^2$=62.72, df=31, p<0.001, CFI=0.95, RMSEA=0.077, SRMR=0.073). Standardized factors loadings ranged between 0.18 (item 2; health) and 0.78 (item 10; body size). Item 2 yielded a low factor loading. Because the calculation of objectification depends on a difference between two subscales (each with five items), losing one item in the subtrahend could inflate the difference score, which also would inflate objectification levels. Therefore, given that item 2 was a necessary and

meaningful element in this relatively short questionnaire, we continued using it in the further analyses.

## Correlations among the SOQ Subscales

The SOQ consists of two subscales: appearance and competence. Objectification level was calculated by subtracting competence scores from appearance score. As expected, competence (M=33.47, SD=7.47) and appearance (M=28.12, SD=9.94) were significantly correlated with each other (r=0.501, p<0.001).

## The SOQ Items' Mean and Standard Deviations

Means and standard deviations of the items of the SOQ at Time 1 are displayed in Table 3.

## Reliability Analysis

The internal consistency of each of the SOQ subscales was examined by calculating Cronbach's alpha coefficients. At Time 1, internal consistency reliability of appearance and competence were 0.84 and 0.73, respectively. These values indicated good internal consistency reliability. In Table 3, corrected item-total correlations and Cronbach's alpha if item deleted are shown for each scale.

## Construct Validity of the SOQ

Intercorrelations between the SOQ, the OBCS, and the SPAI are displayed in Table 4.

In assessing objectification level, as Table 4 shows, appearance is not enough in and of itself, as, objectification does not simply mean giving importance to appearance; instead, it gives more importance to appearance than to competence. Thus, the difference between appearance and competence is a better way of measuring objectification as the SOQ suggested.

As expected, the objectification level assessed by SOQ had stronger correlations with surveillance and body shame of the OBCS. However, the association between control beliefs and objectification was not significant.

Objectification level has strong correlations with sociocultural attitudes. Particularly with pressure (r=0.37, p<0.01) and internalization-general (r=0.38, p<0.01), objectification level had stronger correlations, a result that was expected conceptually.

The association between internalization-athlete and objectification was not strong (r=0.18, p<0.05). Since objectification was related with having a look acceptable to others, internalization of athletic standards might not be strongly related with it.

Among all factors, the relation between control beliefs and objectification was insignificant. This might be because these two variables were conceptually unrelated to each other. Control beliefs seemed to be a distinct concept when compared to body shame and surveillance in the current sample. Hence, although these control beliefs of the OBCS and SOQ assess objectification (state or trait), their association was weak. In the discussion section, this finding is analyzed in detail.

## DISCUSSION

Body image studies indicate that perceptions about the body are related with the development of certain

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**Table 3: Internal consistency reliability, means and standard deviations of the SOQ**

| Item | Corrected item-total correlation | Mean | SD | Cronbach's alpha if item deleted | Internal consistency reliability |
|------|------|------|------|------|------|
| **Appearance** | | | | | 0.84 |
| 3 | 0.616 | 5.49 | 2.62 | 0.819 | |
| 5 | 0.690 | 5.71 | 2.73 | 0.798 | |
| 6 | 0.675 | 6.30 | 2.23 | 0.805 | |
| 8 | 0.585 | 4.90 | 2.68 | 0.828 | |
| 10 | 0.688 | 5.70 | 2.38 | 0.800 | |
| **Competence** | | | | | 0.73 |
| 1 | 0.590 | 5.89 | 2.55 | 0.642 | |
| 2 | 0.256 | 8.20 | 1.45 | 0.750 | |
| 4 | 0.484 | 5.28 | 2.56 | 0.693 | |
| 7 | 0.608 | 6.94 | 2.06 | 0.639 | |
| 9 | 0.546 | 7.15 | 1.93 | 0.666 | |

SOQ: Self-Objectification Questionnaire

**Table 4: Intercorrelations between the SOQ, the OBCS, SATAQ-3, and SPAI**

| Scale name | Subscales | Self-Objectification Questionnaire (SOQ) | | |
|---|---|---|---|---|
| | | Appearance | Competence | Objectification |
| **OBC** | Surveillance | 0.237** | -0.20** | 0.422** |
| | Body shame | 0.172* | -0.20** | 0.381** |
| | Control beliefs | -0.006 | 0.156* | -0.136 |
| **SATAQ-3** | Information | 0.246** | 0.038 | 0.233** |
| | Pressure | 0.185* | -0.20** | 0.37** |
| | Internalization-General | 0.183* | -0.20** | 0.383** |
| | Internalization-Athlete | 0.036 | -0.17* | 0.179* |
| **SPAI** | Feeling of discomfort | 0.002 | -0.30** | 0.242** |
| | Expectation of negative evaluation | 0.062 | -0.15* | 0.279** |

SATAQ-3: Sociocultural Attitudes Towards Appearance Questionnaire-3, SPAI: Social Physique Anxiety Inventory, *p<0.05, **p<0.01

psychopathologies, particularly eating disorders. The way people feel about their body is affected by how they think about and conceptualize their body. Women in particular might conceive of their body as an object and begin to treat it in ways to make it look good rather than feel good. How women adapt to such an experience is related to the socialization of girls and women whose bodies have been inspected by men for their potential and sexual use. When persistently being sexually objectified, women internalize the gaze directed at their bodies and begin to look at their own bodies in a similar fashion.

The link between eating disorders and objectification has been shown by several studies conducted in the Western world, particularly the USA and other English-speaking countries. To see the effect of objectification in non-Western countries, researchers need reliable and valid measurement tools. The OBCS and the SOQ are the most frequently used instruments in body image studies. Turkish researchers need a Turkish version of these scales to conduct studies on body image and objectification research.

In the light of the above-mentioned motivations, this study pursued two objectives: the first one was to create a Turkish adaptation of the OBCS and study its psychometric properties in a Turkish sample. The second objective was to examine the psychometric properties of the SOQ, which was translated to Turkish by Doğan (16). To establish the factor structure, Confirmatory Factor Analyses (CFA) were run in EQS version 6.1. The reason why these two scales are simultaneously adapted to Turkish is their relevance to each other and the fact that they are used jointly in many studies.

To examine internal consistency reliability, Cronbach's alphas were calculated. The OBCS's test-

retest reliability was examined during measurements at Time 1 and Time 2, with a 3-week interval. To examine construct validity, relations between some relevant measurement tools and the OBCS and the SOQ were examined via Pearson Product-Moment correlation analyses.

First, CFA was run to study the fit of the data to the original factor structures of the OBCS. A 3-factor solution (i.e., surveillance, body shame, control) was investigated using Turkish sample data. The results yielded a good fit of the data from the current sample to the 3-factor model. In contrast with the original scale, items 1 (I rarely think about how I look and 9 (When I can't control my weight, I feel like something must be wrong with me) of the scale did not load satisfactorily under the body surveillance scale. This could be a result of translation issues. Surveillance items measure the extent to which women see themselves as others see them (1). Since these items did not load to their factors, they were excluded from further analyses. Thus, the Turkish version the OBCS had 22 items. There was a similar situation in the study of Moradi and Varnes (9) who argued that item 3 from body surveillance and items 14 and 15 from body shame did not load well under their factors. Hence, these items could be deleted from OBC.

The relations between the OBCS factors were calculated by Pearson Product-Moment correlation coefficient. The surveillance and body shame correlation of the current sample was similar to the original study (r=0.48 in the current sample; r=0.66 in the original study; both p<0.001). However, the correlation between surveillance and control beliefs and the correlation between body shame and control beliefs were different from the original study. While these two correlations were positive and significant in the original

study, they were negative and significant in the current sample. The reevaluation study of OBCS (9) obtained similar findings. While body shame and body surveillance were positively correlated (r=0.69, p<0.001), control beliefs were negatively correlated with body surveillance (r=-0.17, p<0.01) and body shame (r=-0.26, p<0.001).

Several factors might have contributed to these findings. First, the control beliefs scale of the OBCS consists of 8 items (items 4, 6, 10, 12, 19, 21, 23, 24 of the complete scale). Questions explore directly or in reverse whether a person is in control of these items: the looks they are born with (item 4), body (item 6), looks (item 10), how their body looks (item 12), the genes that control weight (item 19), weight (items 21 and 23), the genes that determine outlook (item 24). In Turkish, these words were (item 4), (item 6), (item 10), (item 12), (items 19 and 24), and (items 21 and 23). These items show that some of them are controllable while others are not. For example, a person's looks depend on parts of the body, such as ears, nose, height, hair, leg length etc., over which personal control is limited compared to the control of weight. Hence, the control over item 4 (looks) and that over item 21 could be perceived differently. Genes, on the other hand, seems nearly completely related with an external locus of control since personal control over genes is nearly impossible. Hence, the participants might have believed that they have different levels of control (beliefs) on the items of this scale. Different wording and new research on controllability may have resulted in misunderstanding these items. Moradi and Varnes (9) argued that control beliefs items were poor indicators of the control beliefs scale and should therefore be excluded.

Another explanation is the understanding of the word "control" in the Turkish sample. Participants who believed that they were in control of their body and appearance might report less body shame and less need for surveillance. When we compare means and standard deviations of the OBCS, it is seen that the largest difference between the current and the original study was for control beliefs. In the original sample consisting of 121 women, the mean was 3.93 (SD=0.70) while in this sample at Time 1 (n=174), it was 5.16 (SD=0.96). These results might suggest that the Turkish sample reported being more in control of their appearance than the original sample.

Yet another possible explanation could be history. The original study was conducted in 1996, while ours was carried out in 2016. A 20-year gap and the expansion of social media might have created more awareness and need for controlling body and appearance than was the case 2 decades earlier.

Results for test-retest reliability in the current study were similar to those of the original study. For the current study, test-retest reliabilities were 0.68, 0.78, and 0.68 (p<0.01) for surveillance, body shame, and control beliefs, respectively, while in the original study, the respective test-retest reliabilities were 0.79, 0.79, and 0.73 (p<0.01). Hence, in terms of test-retest reliabilities, the original and the current findings are consistent.

Internal consistency of the OBCS was similar to the original study but slightly lower, with 0.64, 0.75, and 0.70 for surveillance, body shame, and control beliefs, respectively. Cronbach's alpha reliability coefficients for the samples in the original study were in the range of 0.70 to 0.80 for body shame and body surveillance and between 0.60 and 0.70 for the control beliefs scale. In the study by Moradi and Varnes, results were similar: internal consistency reliabilities were 0.84, 0.80, and 0.71 for body surveillance, body shame, and control beliefs, respectively (9). Therefore, except for surveillance, the internal consistency results of the other scales are consistent with the original study. Internal consistency of body surveillance in the current study was lower than in the original study.

Construct validity of the OBCS was examined by its relation with related measures, i.e., SFAS, SOQ, SATAQ, and SPAI. The SFAS measures general and private body factors. While body shame and surveillance had strong correlations with some factors, control beliefs had nonsignificant correlations with those factors. This pattern repeated itself in other studies. For instance, control beliefs were not significantly correlated with the internalization-general factor of SATAQ-3 in the current study (r=-0.13, p>0.05); similarly, control beliefs were negatively correlated with the same scale of SATAQ-3 (r=-0.14, p<0.001) in the study by Moradi and Varnes (9). Although the correlations were similar to each other, the first was nonsignificant while the latter was significant. This might be due to the difference between the samples. In the current study, there were 174 women aged between 18 and 30 years (M=22.93, SD=3.17), while in Moradi and Varnes' study the sample consisted of 368 women aged between 18 and 35 years (M=20.33, SD=2.52) (9).

For the SFAS, general body means being apprehensive about how one is seen by others. Private body, on the other hand, measures being attentive to

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personal feelings and thoughts. As expected, surveillance and body shame were positively correlated with general body; but they were not correlated with private body. This result supported the idea that body shame and surveillance were suitable to represent objectification levels. Additionally, these two scales were conceptually different from private body perceptions such as interoceptive awareness.

This result is further supported by the correlations of surveillance and body shame with competence from the SOQ and internalization subscales of SATAQ. Significant and strong correlations with the SPAI indicated that surveillance and body shame were conceptually similar to negative evaluations from others. This was in line with the proposition of the original study of the OBCS (1).

Although the OBCS, particularly the body shame scale, was used in many studies, our review of the literature showed that ours was the first attempt to adapt the scale to Turkish. This study aimed to ensure that the Turkish adaptation of the scale has satisfactory psychometric qualities, which our results have confirmed. Nevertheless, further investigation of the surveillance scale might improve the psychometric qualities of the Turkish OBCS. Excluding the control beliefs scale might be another issue for future studies in examining the Turkish OBCS.

The second aim of this study was to validate the psychometric qualities of the SOQ (11). The SOQ is frequently used in self-objectification research to measure trait self-objectification. It has 10 attributes, half of which are related with competence and the other half with appearance. The participants were asked to rank these items from 0 to 9, where 9 means the most important and 0 the least important attribute. Crucially, the participants were asked in the instructions not to give the same number to two attributes.

However, this study showed that the participants did not follow the instructions accurately. Instead, they understood that each attribute was to be rated on a 9-point Likert-type scale; hence, they gave two or more attributes the same number. Thus, items of SOQ were not answered as if they were ordinal; instead, participants treated each item as if they were answered on an interval measurement (Likert-type) scale.

The scale was translated to Turkish by Dogan (16). In that study, it was said that because the scale needed an ordinal scoring, Cronbach's alpha for the internal consistency reliability could not be calculated. For construct validity, the SOQ was correlated with the Social Appearance Anxiety Inventory (r=0.06, p<0.001)

and the SPAI (r=0.05, p<0.001); however, the correlations were nonsignificant. The author discussed that these results were not significant because there was no other Turkish scale available to measure objectification directly or indirectly. Instead, the author asked some questions regarding appearance in the demographics form and found SOQ to be significantly correlated with those, which could be used as evidence for convergent validity. These items and their correlations were as follows: "My appearance is quite important for me/Dış görünüşüm benim için oldukça önemlidir" (r=0.28, p<0.01); "I have trouble focusing on my daily chores if I feel dissatisfied with my appearance/Görüntümden memnun olmadığım günlerde günlük işlerime odaklanmakta zorluk çekerim" (r=0.25, p<0.01); "I enjoy watching programs related with aesthetic operations/Estetik operasyonlarla ilgili programları izlemekten keyif alırım" (r=0.22, p<0.01); and "I often feel the need of looking to mirror in a day/Gün içerisinde sık sık aynaya bakma ihtiyacı hissederim" (r=0.24, p<0.01).

To examine the factor structure and the fit of the data from the current sample to the two-factor solution, CFA was run. According to the results, with the exception of number 2, the items loaded under their subscales sufficiently, and the data fit the model well. The low factor loading of item 2 "health" could be related to the translation and a different understanding of health in two different cultures. In fact, according to the World Health Organization (WHO), health consists of physical, psychological, social, and spiritual wellbeing in addition to being disease-free. If the participants have thought that being healthy means not having a disease, they would have rated the item more for appearance rather than competence. Consequently, this item might have shown insufficient factor loading to the competence subscale. Nevertheless, since the objectification level depends on the difference of appearance from competence, it was thought that subtracting one item would affect the measurement drastically due to the low number of items on the scale. Therefore, it was decided to keep item 2 for the further analyses.

Internal consistency reliability results of the SOQ factors were satisfactory. To examine the construct validity, the relation of SOQ with some other related constructs was investigated, including SPAI, OBC, and SATAQ. As expected, except for control beliefs from the OBC, the SOQ exhibited strong correlations with conceptually related measurements. The dimension control beliefs, which measured the extent to which a

person perceives himself/herself as being in control of their appearance, was conceptually distinct from the trait-objectification level measured by the SOQ.

In sum, the study also aimed to examine the psychometric properties of the SOQ. The reliability and validity analyses revealed that the SOQ has satisfactory psychometric qualities for a Turkish sample.

This study was an important step to conduct an experimental study on objectification closely linked to eating disorders (1,10,14). Self-objectification studies have become more common in the literature. Importantly, a quick review in the well-known databases indicated that the studies are predominantly from Western cultures. This is due to the nature of the theory: objectification theory suggested that the internalization of the third-person eye occurs in Western cultures (14). However, non-Western cultures are not free from the effects of Western cultures. Advertisements, movies, series, video clips, various kinds of visual arts, and ideas have been exchanged between Western and non-Western countries. From this viewpoint, objectification should also be studied in non-Western cultures.

As mentioned earlier, Turkish literature on objectification and eating disorders is expanding (16) and instruments are necessary to measure the negative effect of objectification on women's bodies and psychology. Objectification is a perception that raises various negative feelings that lead women to adapting ineffective eating rituals and weight control methods (1,14). If the OBCS and the SOQ can be available in Turkish, more research can be conducted and the literature will show whether or not the effects of objectification are similar to those in Western and English-speaking countries. Consequently, a cross-cultural comparison can be conducted.

With regard to this aim, statistical analyses in our study yielded satisfactory results for both instruments. Nevertheless, the findings for both of these scales suggest that a replication in the Turkish culture would be useful, possibly with a revised translation of the items. For our study, we recruited Turkish women, predominantly university students. This sample may not be representative of the Turkish female population. Therefore, another suggestion is to replicate the findings in different Turkish women's samples. Moreover, the data were collected via an online data collection method. Although this method is feasible, it was seen that many people opened the webpage for the scale, read the information in the consent form, and quit the process. This might lead to losing participants who belong to a focus group but decide not to participate in the online study. Therefore, the last suggestion of our discussion is to conduct studies with more efficient methods, such as online studies done in laboratories or administering hardcopies of the questionnaires.

For good objectification research in non-Western cultures, measurement tools with satisfactory psychometric qualities are needed. Hence, this study aimed to examine the most frequently used tools for measuring objectification in a Turkish sample: the SOQ for trait objectification, and for body shame the OBCS. According to the current literature, this study was the first attempt to adapt the OBCS to a foreign language and the second attempt to translate the SOQ to Turkish. We hope this study will enable other researchers to study objectification in Turkey.

| Contribution Categories | | Author Initials |
|---|---|---|
| Category 1 | Concept/Design | T.Y., O.B. |
| | Data acquisition | T.Y., O.B. |
| | Data analysis/Interpretation | T.Y., O.B. |
| Category 2 | Drafting manuscript | T.Y., O.B. |
| | Critical revision of manuscript | T.Y., O.B. |
| Category 3 | Final approval and accountability | T.Y., O.B. |
| Other | Technical or material support | T.Y. |
| | Supervision | O.B. |

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