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Validity and Reliability of The Turkish Version of Snaith-Hamilton Pleasure Scale

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Abstract

Anhedonia is a core feature of many psychiatric disorders and its reliable evaluation is needed for the dimensional understanding of psychiatric disorders. Snaith-Hamilton Pleasure Scale (SHAPS) is one of the most widely used scales to assess anhedonia. Here, we aimed to search the validity and reliability of the Turkish version of SHAPS. Translation of the original scale was completed in a two-step procedure. 188 healthy controls, 56 patients with a depressive disorder (F32-F34, excluding F34.0 cyclothymic disorder, according to ICD-10), and 52 patients with anxiety, stress-related or somatoform disorder diagnoses (F40-49 diagnosis according to ICD-10) were recruited, and evaluated with the Turkish version of SHAPS, Beck Depression Inventory (BDI), Beck Anxiety Inventory (BAI) and Symptom Checklist-90-R (SCL-90-R). For the Turkish version of SHAPS, Cronbach's alpha coefficient was found 0.87. The item-total item correlation indices ranged from 0.39 to 0.64. Principal components analysis extracted two factors and explained 46.57 % of total variance. The most significant correlation of SHAPS was found with BDI and depression subscale of SCL-90-R scores. SHAPS also weakly but significantly correlated with obsessive compulsive and anxiety subscales of SCL-90-R, and weakly but non-significantly with BAI and somatization, interpersonal sensitivity, hostility and psychoticism subscales of SCL-90-R. Depressive group had significantly higher SHAPS scores compared to controls and anxious group. Anxious group and control group were not significantly different for SHAPS scores. The current study shows that the Turkish version of the SHAPS has good psychometric properties. SHAPS scores may correlate with depression, somatization, and interpersonal sensitivity scores, and it may help to differentiate depressive patients from anxious patients and controls.

Keywords: Anhedonia, depression, interpersonal sensitivity, anxiety, reliability

Öz

Snaith-Hamilton Keyif Alma Ölçeği'nin Türkçe Versiyonunun Geçerlilik ve Güvenilirliği

Anhedoni, birçok psikiyatrik bozukluğun temel bir özelliğidir ve psikiyatrik bozuklukların boyutsal olarak anlaşılması için güvenilir bir şekilde değerlendirilmesi gerekir. Snaith-Hamilton Keyif Alma Ölçeği (SHKÖ), anhedoniyi değerlendirmek için en yaygın kullanılan ölçeklerden biridir. Burada, SHKÖ'nün Türkçe versiyonunun geçerliliği ve güvenilirliğinin araştırılması amaçlanmıştır. Orijinal ölçeğin çevirisi iki aşamalı bir prosedürle tamamlanmıştır. 188 sağlıklı kontrol, 56 depresif bozukluk (ICD-10'a göre F34.0 (siklotimi) dışında F32-F34 tanıları almış kişiler) ve 52 anksiyete, stres ilişkili veya somatoform bozukluk tanısı almış olan anksiyöz hasta (ICD-10'a göre F40-49 tanıları almış kişiler) çalışmaya alınmıştır. Katılımcılar SHKÖ'nün Türkçe versiyonu, Beck Depresyon Envanteri (BDE), Beck Anksiyete Envanteri (BAE) ve Belirti Kontrol Listesi-90-Gözden Geçirilmiş Form (SCL-90-R) ile değerlendirilmiştir. SHKÖ'nün Türkçe versiyonu için Cronbach alfa katsayısı 0,87 olarak bulunmuştur. Madde-toplam madde korelasyon endeksleri 0,39 ile 0,64 arasında değişmiştir. Temel bileşenler analizi iki faktörü ortaya çıkarmış ve toplam varyansın % 46,57' sini açıklamıştır. En yüksek SHKÖ korelasyonu BDE ve SCL-90-R'nin depresyon alt ölçeği skorları ile bulunmuştur. SHKÖ ayrıca SCL-90-R'nin obsesif kompulsif ve anksiyete alt ölçekleri ile zayıf fakat istatiksel olarak anlamlı bir korelasyon gösterirken, SCL-90-R'nin somatizasyon, kişilerarası duyarlılık, hostilite ve psikotisizm alt ölçekleri ile zayıf fakat istatistiksel olarak anlamlı olmayan bir ilişki göstermiştir. Depresif hasta grubunda kontrol grubuna ve anksiyöz hasta grubuna göre anlamlı derecede yüksek SHKÖ skorları saptanmıştır. Anksiyöz hasta grubu ve kontrol grubu, SHKÖ skorları için farklı bulunmamıştır. Bu çalışma, SHKÖ'nün Türkçe versiyonunun iyi psikometrik özellikleri olduğunu göstermektedir. SHKÖ puanları depresyon, somatizasyon ve kişilerarası duyarlılık puanları ile ilişkili olabilir ve depresif hastaları anksiyöz hastalardan ve kontrollerden ayırmada yardımcı olabilir.

Anahtar sözcükler: Anhedoni, depresyon, kişiler arası duyarlılık, anksiyete, güvenilirlik

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INTRODUCTION

Anhedonia is a core symptom and endophenotype of major depressive disorder (MDD)(American Psychiatric Association, 2013; Pizzagalli, 2014). It is defined as getting less pleasure from daily life activities, decreased motivation and sensitivity for rewarding experiences and it is an endophenotype for MDD (Pizzagalli, 2014). Both mood disorders and schizophrenia spectrum disorders may present with anhedonia (Lambert et al., 2018). However, structured clinical interviews question anhedonia with a few questions and its intensity and effect on daily life experiences is not easy to measure. Further assessment of anhedonia is needed for a better understanding of the neurobiology and treatment responses of psychiatric disorders (Rizvi, Pizzagalli, Sproule, & Kennedy, 2016).

Currently, there are both laboratory-based measurements (Der-Avakian & Pizzagalli, 2018) and self-assessment scales of anhedonia (Di Giannantonio, M., 2013). Among these scales, the Snaith-Hamilton Pleasure Scale has been one of the most widely used self-report scale and it has a higher correlation with depression measurements compared to other anhedonia scales (Leventhal, Chasson, Tapia, Miller, & Pettit, 2006). Snaith and Hamilton developed the Snaith-Hamilton Pleasure Scale, intending to measure self-assessment of hedonic responses to interests, social interaction, sensory responses, food and drink (Snaith et al., 1995). In a large sample of MDD cases (Nakonezny, Carmody, Morris, Kurian, & Trivedi, 2010), it was found to correlate with other measures of depression and severity of the depressive episode.

This scale has previously been translated to many languages, as French, Spanish, Malaysian, Italian, Japanese, Chinese and Dutch, and it was validated for assessment of anhedonia both in psychiatric disorders and neurological disorders as Parkinson's disease (Franken, Rassin, & Muris, 2007; Fresan & Berlanga, 2013; Liu, Wang, Zhu, Li, & Chan, 2012; Loas et al., 1997; Martino et al., 2018; Miura et al., 2012; Ng et al., 2014; Santangelo et al., 2009). It has previously been translated to Turkish by Kesebir S. et al (2015). In their translation, they used present tense for the sentences and while calculating the overall score, they summed the scores of 0-3 point Likert answers of the 14 items, instead of the dichotomized scoring used in the original article. They also used depression and bipolar disorder groups as the clinical sample for the validation. However, in the original article by Snaith et al. (1995), it was reported that phrasing of the sentences were designed to overcome the difficulty when a subject is not able to experience the situation currently and that it aimed to measure the capacity for the last days. Therefore, here, we felt the need to translate the scale to Turkish in the past tense and measure its validity using dichotomized scoring as originally suggested, in a group of healthy general population sample, depressive patient group and anxious patient group.

MATERIALS & METHODS

Subjects

296 participants were recruited through advertisements in the Koç University Hospital and Koç University, waiting lounges of the hospital and also by contacts with the general population who gave informed consent for participation after the invitation by the research assistants. Inclusion criteria were age between 18 and 65 years, not being illiterate and having a sufficient educational capacity to comply with the study protocol. Exclusion criteria for both the patient and general population group were having received a schizophrenia spectrum disorder, bipolar disorder or dementia diagnosis, having a history of a head trauma, being under the influence of an alcohol, drug or substance intoxication, having a general medical condition that may influence cognitive processes, alcohol/substance use disorder, substance-induced mental disorders or psychiatric disorders due to a general medical condition.

The study included three groups: 188 (63.5 %) of the sample were healthy controls, who have not received a psychiatric diagnosis. Of the clinical sample (n=108), 56 (18.9 %) participants received a depressive disorder diagnosis (F32-F34, excluding F34.0 cyclothymic disorder, according to ICD-10), and 52 (17.6 %) participants received a F40-49 diagnosis according to ICD-10. Psychiatric diagnosis were given after a clinical interview with psychiatrists (HYE, OK, ACE) based on the ICD-10 diagnostic criteria. Patients that received both a depressive and an anxious disorder diagnosis were not included in this study.

Data regarding sociodemographic variables and scales were collected by research assistants, trained by HYE for the standardized way of collecting data and securing the attention check of the participants. Each participant signed a written informed consent. Participants did not

receive compensation except for feedback about their scale scores. In case high scores in the scales were detected in the general population group, they were psycho-educated for a psychiatric consultation. The patient and general population group were matched for age, sex, education and income level. All evaluations were completed on the same day. The study was approved by Koç University Local Ethical Committee and all procedures were in accordance with the Declaration of Helsinki.

Translation Procedures

We got written permission from the developers of the scale for the validation of the Turkish version of SHAPS. Translation has been completed in two steps. The first Turkish translation was done independently by HYE and MYI, a psychiatrist and a psychologist with an expertise in cognitive functioning and evaluation. The translated version was compared to achieve a final agreed version. A native English speaker psychologist with experience in neuropsychology back-translated the Turkish version to English. HYE and MYI checked for the back-translated sentences for inconsistencies with the original version and for the integrity of the meaning to correct the Turkish translation. Secondly, the corrected Turkish version was back-translated by another English speaking person and the integrity of the meaning and consistency with the original version was checked by HYE and MYI and the final Turkish version was implemented. Lastly, 8 medical school students were requested to fill the questionnaire and check for mixed expression of sentences or misunderstandings and feedback about the last adapted version was received as it is well understood by the participants.

Instruments

A sociodemographic data form was used to collect data about participants' age, sex, educational level, income, marital status, and occupational status. Also, they were asked to report if they had ongoing psychiatric treatment and known psychiatric diagnoses. All questionnaires and self-report scales were applied through the Qualtrics survey system.

Snaith-Hamilton Pleasure Scale: This scale questions the hedonic capacity in the last few days. The questionnaire formed by 14 items is answered as a 4-point Likert scale, as strongly/ definitely disagree, disagree, agree, strongly/ definitely agree. While scoring, strongly/ definitely disagree, and disagree items are scored as 1, while agree, strongly/ definitely agree responses are scored as 0, thus the total score ranges from 0 to 14 (Snaith et al., 1995). Participants scoring higher or equal to three can be grouped as the anhedonic group (Snaith et al., 1995).

Beck Depression Inventory (BDI): In order to evaluate depressive symptoms of the participants, BDI has been used. This inventory has been developed by Beck et al. (1984) and the Turkish version has been validated by Hisli N.(1989). This scale has 21 items answered as a 4-point Likert scale and it measures cognitive, affective and vegetative symptoms of depression. Scores range between 0 and 63 and higher scores indicate higher depressive symptoms.

Beck Anxiety Inventory (BAI): In order to evaluate anxious symptoms of the participants, BAI has been used. This inventory has been developed by Beck et al. (1988) and the Turkish version has been validated by Ulusoy et al (1998). This scale measures symptoms of anxiety, using 21 items that are rated from 0 to 3. Higher scores indicate higher anxious symptoms and scores range from 0 to 63.

SCL-90-R: It is a 90 item multidimensional questionnaire that was developed to measure psychological problems. Items are rated as 0-4 point Likert scale and responses to various items are summed to form subcategorical scores of somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, anger-hostility, phobic anxiety, paranoid ideation and psychoticism (Derogatis, Rickels, & Rock, 1976). It has previously been translated to Turkish and its validation study has been conducted Dağ, İ. (1991).

Statistical Analysis

Descriptive statistics for age, gender, education, income and occupational status, including the mean scores of self-reported psychometric scales were determined for the participants. Descriptive statistics for clinical measures were inspected for quality control. In the reliability analysis of SHAPS, binary-coded responses from the scale for each item has been used. Cronbach's alpha coefficient, item-total score correlation and scores for Cronbach's alpha coefficient if item was deleted were used to analyze the developed scale's reliability. Item-total correlation is accepted as a primary criterion and must be equal to 0.30

or at least greater than 0.25. Kaiser-Meier-Olkin measure and Bartlett's test were used to measure sampling adequacy. Exploratory factor analysis was performed as principal component analysis with varimax rotation and factors with an eigenvalue greater than 1 and items with factor loadings greater than 0.35 were taken into consideration. A confirmatory factor analysis (CFA) of our factorial model was conducted using AMOS software and the comparative fit index (CFI) and root mean square error of approximation (RMSEA) were used to compare the fit according to established criteria and guidelines. Standardized regression weights were calculated to measure each item's fit with the factorial structure (Lomax & Schumacker, 2004; Hooper, 2008).

Correlation of SHAPS with other clinical measures, as BDI, BAI and SCL-90-R subscales were conducted using Pearson correlation test. $p<0.005$ was considered significant for this analysis due to multiple comparisons.

To determine any potential differences between the patient groups and control group's sex, education, income, and occupational status distributions, chi-square test was used. To compare study groups (controls, depressive group, anxious group) for clinical measures, one way ANOVA was used with post hoc Bonferroni test for two-group comparisons.

RESULTS

Study Sample

The mean age of the participants was 34.8±13 (min:18, max: 64). 185 of the participants (62.5%) were women. 168 (56.8%) of the participants' educational levels were higher than high school. The mean scores of BDI was 12.9±10.14 (min:0, max: 43) and BAI was 12.9±10.8 (min:0, max: 48). Healthy participants and patient groups were not significantly different for gender, educational level, income (chi-square test, $p>0.05$) and age (one way ANOVA, $p=0.75$).

Reliability Analysis and Factor Structure of the SHAPS Scale

To determine the SHAPS's internal consistency, Cronbach's alpha coefficient was calculated and found to be 0.87, using data from 296 participants. For SHAPS, the item-total item correlation indices ranged from 0.39 to 0.64. The corrected item-total correlations have shown that each of the items of SHAPS revealed good reliability (Table 1). Kaiser-Meyer-Olkin measure of sampling adequacy was 0.89 and Bartlett's Test of Sphericity, that assesses if the dataset is suitable for factor analysis, was significant ($p<0.001$). Therefore, we interpreted the factor analysis results. Principal components analysis extracted two factors with eigenvalues over 1 and explained 46.57% of total variance. Based on the factor loadings, items 1-5,8-12 were grouped as factor 1 and items 6,7,13,14 were grouped as factor 2. Factor 1 has been named physical anhedonia and factor 2 has been named social anhedonia. Factor structure, component values for each item and their factor loadings are given in Table 1.

CFA using AMOS showed that the fit indices for the two-factor model were at a reasonable approximate fit (CMIN/DF: 2.62, IFI: 0.9, CFI: 0.9 RMSEA: 0.074). Standardized regression weights of each item with the designated factor and each item's relation with the factorial structure are given in Figure 1. In this analysis, the expected coefficients should be between 0.2 and 0.8 (Lomax & Schumacker, 2004; Hooper, 2008). This model shows that the scale items fit the factorial model.

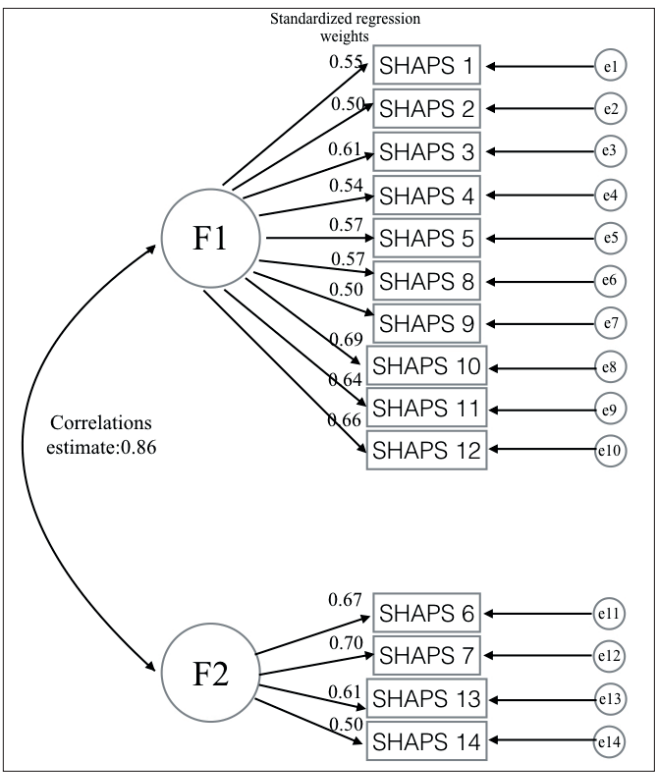

Figure 1. Model structure with correlation estimate of factors and standardized regression weights of each item with the designated factor

Table 1: Item-total item correlations and factorial structure of the Turkish version of SHAPS

					Factor Loadings	
SHAPS Item	*Turkish Translation*	*Corrected Item-Total Correlation*	*Cronbach's Alpha if Item Deleted*	*Sub-scale (Factor)*	*Factor 1*	*Factor 2*
1	En sevdiğim televizyon ya da radyo programının tadını çıkartırdım.	0.53	0.86	1	0.63	
2	Ailemle veya yakın arkadaşlarımla olmaktan keyif alırdım.	0.48	0.86	1	0.50	
3	Hobilerim ve uğraşlarımdan keyif alırdım.	0.57	0.86	1	0.64	
4	En sevdiğim yemeğin tadını çıkartırdım.	0.51	0.86	1	0.55	
5	Sıcak bir banyo veya ferahlatıcı bir duştan keyif alırdım.	0.54	0.86	1	0.65	
6	Çiçek kokusu veya serin bir deniz esintisinin kokusu veya taze pişmiş ekmek kokusundan keyif alırdım.	0.60	0.86	2	0.45	0.55
7	Diğer insanların gülen yüzlerini görmekten keyif alırdım.	0.59	0.86	2	0.37	0.63
8	Dış görünüşüme çaba sarf ettiğimde şık görünmekten hoşlanırdım.	0.54	0.86	1	0.46	0.43
9	Kitap, dergi veya gazete okumaktan keyif alırdım.	0.46	0.87	1	0.67	
10	Bir fincan çay ya da kahve veya favori bir içeceğimi içmekten keyif alırdım.	0.64	0.86	1	0.61	0.39
11	Küçük şeylerden keyif alırdım, örneğin; parlak güneşli bir gün, bir arkadaştan gelen telefon çağrısı.	0.58	0.86	1	0.63	
12	Güzel bir peyzaj veya manzaradan keyif alırdım.	0.60	0.86	1	0.53	0.44
13	Başkalarına yardım etmekten keyif alırdım.	0.50	0.86	2		0.74
14	Diğer insanların övgüsünü aldığımda memnuniyet duyardım.	0.40	0.87	2		0.78

Table 2: Correlation of SHAPS total score with BDI, BAI and subscales of SCL-90-R

			SCL-90-R SCORES									
	BDI	BAI	Total	Somatization	Obsessive-Compulsive	Interpersonal Sensitivity	Depression	Anxiety	Hostility	Phobia	Paranoid ideation	Psychoticism
P.C.	0.27	0.12	0.18	0.12	0.17	0.14	0.24	0.18	0.13	0.08	0.11	0.14
p	<0.001	0.041	0.002	0.034	0.004	0.020	<0.001	0.002	0.026	0.192	0.056	0.019

P.C.: Pearson correlation coefficient
p: p value for the Pearson correlation test. p<0.005 was considered significant for this analysis due to multiple comparisons.

Convergent and Divergent Validity of SHAPS: Correlations of SHAPS scores with BDI, BAI and SCL-90-R Subscales

When SHAPS was studied for its correlation with BDI, BAI and SCL-90-R subscales, the most significant correlations were found with BDI and depression subscale of SCL-90-R scores. SHAPS also weakly but significantly correlated with obsessive compulsive and anxiety subscales of SCL-90-R, and weakly but non-significantly with BAI and somatization, interpersonal sensitivity, hostility and psychoticism subscales of SCL-90-R (Table 2).

Discriminative Validity of SHAPS

SHAPS scores were significantly different among the three groups (One Way ANOVA, p<0.001). The depressive patient group scored significantly higher compared to controls (p<0.001) and compared to anxious patients (p=0.004). Anxious patients and control groups were not significantly different for SHAPS scores (p=0.45). On the other hand, BDI and BAI scores were significantly different among the three groups (p<0.001, one way ANOVA). Compared to the control group, patient groups scored significantly higher for BDI and BAI scores (p<0.001,

Table 3: Mean Scores of SHAPS, BDI and BAI scores in participant groups

	*SHAPS scores**			*BDI scores***			*BAI scores***		
	Controls	*Depressive Group*	*Anxious Group*	*Controls*	*Depressive Group*	*Anxious Group*	*Controls*	*Depressive Group*	*Anxious Group*
Mean	1.14	3.34	1.71	9.38	20.64	17.31	10.02	18.95	16.67
Std. Dev.	2.26	3.49	2.67	8.19	10.24	10.23	9.07	11.72	11.71

*: SHAPS scores were significantly different among the three groups (One Way ANOVA, $p<0.001$). The depressive group scored significantly higher compared to controls ($p<0.001$) and compared to anxious group ($p=0.004$). Anxious group and control groups were not significantly different for SHAPS scores ($p=0.45$).
**: BDI and BAI scores were significantly different among the three groups ($p<0.001$, one way ANOVA). Control group scored significantly lower for BDI and BAI scores ($p<0.001$), however, anxious and depressive groups were not significantly different for BDI and BAI scores ($p>0.05$).

for all analysis). However, anxious and depressive groups were not significantly different for BDI and BAI scores ($p>0.05$) (Table 3).

DISCUSSION

We found that internal consistency and item-total item correlations of the Turkish version of the SHAPS scale were at an acceptable level. Our analysis with varimax rotation revealed two factors of the SHAPS scale. In the largest sample study so far with chronic depressive cases, the scale's Cronbach's alpha level was also found 0.91, but the one-factor solution obtained through principal component analysis with Promax rotation, explained 36.6 % of the variance (Nakonezny et al., 2010). In another study by the same group with less depressive cases, principal component analysis revealed two or three factors. However, due to unclear contextual differences between the factors, they suggested a unidimensional approach while using SHAPS (Nakonezny et al., 2015). Many other previous studies also suggest that SHAPS is a unidimensional scale for trait anhedonia (Audrain-McGovern et al., 2012; Liu et al., 2012; Nakonezny et al., 2010; Ng et al., 2014). In a study conducted on the general population for the validation of Italian SHAPS, their analysis with Promax rotation revealed a three-factor structure (Martino et al., 2018). Fresan et al. conducted the validation study with depressed patients and found a 4-factor solution with varimax rotation, however, they also criticized the inconsistent content of loaded items for each factor (Fresan & Berlanga, 2013). These studies point to the fact that the severity of depressive symptoms in the population affects the factorial structure of the scale. Even though our analysis revealed a two-factor solution, the content of each factor does not exactly overlap with the other studies that suggested a two-factor solution as physical anhedonia and social anhedonia (Langvik & Borgen Austad, 2019; Lambert et al., 2018; Kesebir, 2015). Factor 2 of our scale is listed under the social anhedonia category in the study by Langvik et al. (2019), however, it includes some additional items. Also, item 8 (I would enjoy looking smart when I have made an effort with my appearance) was found to be in the social anhedonia factor in the study by Kesebir et al. (2015), however in our study, its factor loading scores were very similar between factor 1 and factor 2 (Table 1) and our confirmatory factor analysis confirmed its selection as a physical anhedonia (factor 1) item. The fact that each study used participants with different diagnosis and various severities, may explain the inconsistencies of different factorial structures found in studies.

Previous studies have also shown modest correlation of SHAPS scores with the MADRS scale (Nakonezny et al., 2010; Nakonezny et al., 2015) and BDI (Leventhal et al., 2006; Martino et al., 2018; Chong Guan et al., 2014) and no correlation with HAM-D (Fresan & Berlanga, 2013). We also found a moderate correlation with BDI scores. These findings point out that depression diagnosis is not only limited to the presentation of anhedonia. Depression is a heterogeneous, diagnosis composed of multiple symptoms, however, anhedonia is a related construct of depression.

A previous study found a mild correlation between SHAPS and BAI (Leventhal et al., 2006). However, in our analysis, SHAPS showed no significant correlation with BAI and a weak correaltion with anxiety and obsessive-compulsive subscales of SCL-90-R. In the original article by Snaith and Hamilton (Snaith et al., 1995), they proposed that SHAPS showed a borderline correlation with Montgomery and Asberg depression rating scale's (MADRS) anxiety item and no correlation with the depressed mood item scores (Snaith et al., 1995). Here, in a larger sample, we showed that SHAPS mainly correlated with depressive scores instead of anxious scores. Also,

our results showed that clinical samples with depressive disorder diagnoses were significantly different than both controls and clinical samples with anxiety disorders diagnosis for the SHAPS scores. However, depressive disorder diagnoses group were not different than the anxiety disorders diagnosis group, for BAI or BDI scores. This finding is in accordance with the diagnostic systems, as the major distinction between depression and other diagnoses are anhedonia and depressed mood.

Our analysis also found a weak but non-significant correlation between somatization subscale of SCL-90-R and SHAPS scores. To our knowledge, this is a finding that has not been searched in other studies. The comorbidity of somatic symptom disorders with depression is well known (Henningsen, Zimmermann, & Sattel, 2003), however the relation between anhedonia as a subconstruct and somatization was not analyzed, except for a study that found a negative correlation between physical anhedonia and premenstrual symptomatology (Bridou & Aguerre, 2013). This finding needs to be assessed further in a group of somatizing patients. Anhedonic and non-anhedonic depressive cases may also be compared for the somatization tendency.

Our results also revealed weak but non-significant association with interpersonal sensitivity subscale of SCL-90-R and SHAPS scores. The relationship between interpersonal stress and anhedonia may be bidirectional, as increased interpersonal sensitivity may result in anhedonia and anhedonia may increase interpersonal sensitivity. Anhedonic depression subscale scores of Mood and Anxiety Symptoms Questionnaire were found to be related to the Rejection Sensitivity Questionnaire (Gilbert, Irons, Olsen, Gilbert, & McEwan, 2006). Kumar et al. have shown that depressed patients have higher amygdala responses to social rejection and that hedonic tone measured by SHAPS correlated negatively with neural responses to social exclusion (Kumar et al., 2017). Also, Langvik et al. (Langvik & Borgen Austad, 2019) found that extraversion correlates with anhedonia. Personality features may also be modulating anhedonia experience. This needs further assessment.

Limitations

This study has several limitations. Even though we found a correlation with SHAPS and somatization subscale scores, we did not have a patient group of solely somatic symptom and related disorders. Psychiatric diagnosis were not given based on a structured clinical interview as SCID-5. Patient groups had similar BDI and BAI scores, and they were formed by heterogeneous groups of depressive and anxious disorders. This study had a cross-sectional design, therefore, it did not allow us to interpret the direction of the relationship between the scales. Here, we did not evaluate a cut-off score for SHAPS to discriminate psychiatric disorders. As discussed above, anhedonia is not specific to one psychiatric disorder and using a cut-off score to discriminate psychiatric disorders is also not suggested by previous studies. However, participants scoring higher or equal to three can be grouped as the anhedonic group (Snaith et al., 1995), as we have applied in this study. We also did not recruit data for test-retest analysis, as SHAPS scores the anhedonia symptoms in the very last few days and its score may depend on the changes in daily stress and events, and its test-retest reliability may be compromised. Since two groups in our sample consisted of patients who would undergo pharmacological treatment, its scores were not expected to stay constant during follow up. Snaith et al. (1995) suggests that test-retest reliability should not be tested in patients groups as its scores would be sensitive to changes related to treatment.

CONCLUSION

The current study shows that the Turkish version of the SHAPS is valid and reliable to measure anhedonia in adults. Turkish version of the SHAPS scale shows good psychometric properties. SHAPS scores may correlate with depression, somatization, and interpersonal sensitivity scores, and it may help to differentiate depressive patients from anxious patients and controls.

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