

## Kısa Depresyon-Mutluluk Ölçeğinin Değerlendirilmesi: Güvenilirlik ve Geçerlilik Çalışması

Evaluation of Short Depression-Happiness Scale: A Reliability and Validity Study

Murat Yıldırım<sup>1,2</sup>, Hacer Belen<sup>3</sup>

**Özet.** Kısa Depresyon-Mutluluk Ölçeği (SDHS) hem depresyonu hem de mutluluğu iki uçlu olarak değerlendirmeye yönelik geliştirilmiş bir ölçektir. Ölçeğin güvenilirliği ve geçerliliği ile ilgili bulgular sınırlıdır ve ölçeğin kullanılabilirliğine katkıda bulunacak incelemelere ihtiyaç vardır. Bu çalışma, SDHS'nin psikometrik özelliklerini bir Türk örneğinde araştırmayı amaçlamıştır. Çalışmada 377 üniversite öğrencisine SDHS, Yaşam Doyum Ölçeği, Psikolojik İyi Oluş Ölçeği, Depresyon, Anksiyete ve Stres Ölçeği - 21 ve Beş Faktör Kişilik Envanteri uygulanmıştır. Katılımcıların yaşları 18 ile 38 arasında değişkenlik göstermiştir ( $M = 20,52$ ;  $SD = 2,76$ ). Anketin iç tutarlılık güvenirlilik katsayısı yüksek bulunmuştur ( $\alpha = .87$ ). Açıklayıcı faktör analizi, 3.62'lik bir özdeğer ile tek faktör çözümü vermiş olup, varyansın %60.26'sını açıklamıştır. Doğrulayıcı faktör analizi de tek faktör çözümünü doğrulamıştır ( $\chi^2 = 31.02$ ,  $df = 7$ ,  $p < 0.01$ ,  $NFI = .95$ ,  $CFI = .96$ ,  $IFI = .96$ ,  $GFI = .95$ ,  $SRMR = .050$ ). SDHS puanlarının yaşam doyumu, psikolojik iyi oluş, depresyon, anksiyete, stres ve kişilik ile ilişkili olduğu saptanmıştır. Ölçek ayrıca, hem olumlu hem de olumsuz zihinsel sağlık endekslerini öngörme açısından kişilik özelliklerin ötesinde artırıcı rol oynamıştır. Genel olarak, SDHS'nin zihinsel iyi oluş için faydalı etkileri olduğu görülmüştür. Ölçek, pratisyenlerin ve araştırmacıların, depresyon ve mutluluğu ölçmek için geleneksel ölçeklerinin ötesinde depresyon ve mutluluğun beraber ölçülüp incelenmesine yardımcı olacağı ön görülmektedir.

**Anahtar Kelimeler.** Kısa Depresyon-Mutluluk Ölçeği, Güvenilirlik, Geçerlilik, Türkçe İyvarlama

**Abstract.** The Short Depression-Happiness Scale (SDHS) assesses both depression and happiness on a bipolar dimension. Evidence about reliability and validity of the scale is limited and needs further examination that contributes to the usefulness of the scale. The study aimed to investigate the psychometric properties of the SDHS among a Turkish sample. 377 university students completed the SDHS, Satisfaction With Life Scale, Flourishing Scale, Depression, Anxiety and Stress Scale - 21 and Big Five Personality Inventory. Participants ranged in age from 18 to 38 years ( $M=20.52$ ;  $SD=2.76$ ). Internal consistency reliability was good ( $\alpha=.87$ ). Exploratory factor analysis yielded one factor solution produced an Eigenvalue of 3.62 and explained 60.26% of the variance. Confirmatory factor analysis also confirmed one factor solution ( $\chi^2=31.02$ ,  $df=7$ ,  $p<0.01$ ,  $NFI=.95$ ,  $CFI=.96$ ,  $IFI=.96$ ,  $GFI=.95$ ,  $SRMR=.050$ ). The SDHS was related with life satisfaction, flourishing, depression, anxiety, stress, and personality. The scale also procuded incremental evidence over personality traits in terms of predicting both positive and negative mental health indices. Overall results suggested the usefulness of SDHS for assessment of mental well-being. The scale can be helpful for practitioners and researchers to assess depression and happiness on a dual continuum beyond the traditional measures.

**Keywords.** Short Depression- Happiness Scale, Reliability, Validity, Turkish Adaptation

<sup>1</sup> Öğr. Gör Dr., Ağrı İbrahim Çeçen Üniversitesi, Ağrı, Türkiye, e-mail: muratyildirim@agri.edu.tr

<sup>2</sup> Postdoctoral Research Fellow, Dr., University of Leicester, Leicester, United Kingdom.

<sup>3</sup> Öğr. Gör Dr. Bursa Uludağ Üniversitesi, Bursa, Türkiye, e-mail: hacerbelen@uludag.edu.tr

## INTRODUCTION

Scholars believed that the concept of happiness varies across culture and time due to the notion that individuals' experience of happiness are inherently associated with their cultures (Veenhoven, 2012). For example, happiness has been viewed as favourable to external conditions in some cultures while internal emotional states have been valued in Western cultures (Oishi, Graham, Kesebir & Galinha, 2013). Thus, different definitions of happiness have emerged within the field of positive psychology. Happiness, interchangeably known as subjective well-being, typically comprises of one's cognitive evaluation of his or her life, experience of frequent positive emotions and experience of infrequent of negative emotions (Diener, Suh, Lucas & Smith, 1999). That is, subjective well-being is formed by three separate components: satisfaction with life, positive affect and negative affect.

Various measures have been developed to assess happiness or subjective well-being. These measures, for example, include the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen & Griffin, 1985), the Positive and Negative Affect Schedule (PANAS; Watson, Clark & Tellegen, 1988), the Subjective Happiness Scale (Lyubomirsky & Lepper, 1999), the Oxford Happiness Inventory (Hills & Argyle, 1998), Temporal Satisfaction with Life Scale (Pavot, Diener & Suh, 1998), and the Short Depression-Happiness Scale (SHDS; Joseph, Linley, Harwood, Lewis, & McCollam, 2004). Among those, the SHDS is relatively different in terms of measuring happiness on a bipolar valence dimension with one end being happiness and the other one end being depression. The SHDS has a unique property in such as way that it measures not only the presence of happiness but also the absence of depression.

The SDHS is a short unidimensional measure including 6 items, with 3 negatively worded and 3 positively worded items to reduce response bias. In the original study, authors (Joseph et al., 2004) showed that the scale had good internal consistency and test-retest reliability in a 2-week apart. Evidence of satisfactory convergent validity with theoretically similar scales such as the Beck Depression Scale (Beck et al., 1979), the Self-Rating Depression Scale (Zung, 1965), the Center for Epidemiological Studies Depression Scale (Radloff, 1977) and satisfactory discriminant validity with theoretically dissimilar constructs such as free-floating anxiety, somatic anxiety, and hysteria measured by Crown-Crisp Experiential Index (CCEI: Crown & Crisp, 1979) have been reported. Furthermore, the higher scores on SDHS was found to be related with higher scores on extraversion and agreeableness and lower scores on neuroticism.

The SDHS has been adapted into several cultures including Spanish (Lomas Martínez, Fernández Muñoz & Navarro-Pardo, 2018), Russian (Lewis, Khukhrin, Galyautdinova, Musharraf & Lewis, 2017) and Turkish (Sapmaz & Temizel, 2013). The results of those studies demonstrated that the SDHS had cultural applicability in terms of measuring depression and happiness and the scale produced good internal consistency scores being above .76. Concerning validity, one factorial structure of the SDHS has been confirmed across cultures and its relationship with happiness, satisfaction with life, general health, depressed affect, positive affect, somatic problems, and interpersonal relationship problems have been documented.

The similarities and differences across cultures may make the comparison of research outcomes difficult in some cases. The factorial structure of a scale may not be same in different cultures due to the various definition of the concept of happiness. Individual differences may occur when it comes to responses to happiness measures. This raises the issue of reliability and validity of any measurement tools in the study of psychological concepts. Thus, to improve cultural applicability of a scale, it is necessary to provide further evidence as to the reliability and validity of the scale. Employing different samples can offer useful information to understand cultural variations in happiness (Yildirim, Alshehri & Aziz, 2019).

The aim of this study was to test the reliability and validity of the SDHS. It particularly sought to analyse whether the SDHS had the same factorial structure with the previous studies. The relationship between the SDHS and satisfaction with life, flourishing, depression, anxiety, stress and personality were also explored. Furthermore, the study intended to determine the value of SDHS in predicting psychological outcomes over and above the personality characteristics.

## METHOD

### Participants

A convenience sample of 377 students from Bursa Uludağ University, Turkey was studied. Their ages ranged between 18 and 38 with a mean age of 20.52 ( $SD = 2.76$ ). They were not proportionally distributed by gender: 27.1% males and 72.9% females. Participants were predominantly undergraduate students (98.7%), 1.1% master students, and 0.3% PhD students. Regarding their marital status, 97.8% were single and 2.1% were married. Concerning their perceived socioeconomic status, the highest percentage (80.1%) described itself as belonging to the middle class, 10.3% to low class, 9% to high class, and 0.5% to very low class.

### Measures

**The Short Depression-Happiness Scale (SDHS; Joseph et al., 2004).** The SDHS comprises 6 self-referencing statements measuring happiness on a bipolar dimension. Respondents are asked to rate each statement using a scale with four response options ranging from *never* (0) to *often* (3), where higher scores indicate a greater level of happiness. An example of an item on the scale is “I felt dissatisfied with my life.” The internal consistency coefficient was reported as .80 (Sapmaz, & Temizel, 2013). The Cronbach alpha in this study was .87.

**Satisfaction with Life Scale (SWLS; Diener et al., 1985).** This scale includes 5 statements assessing perceived global life satisfaction. Respondents are required to answer each question using a scale with seven possible responses varying from *strongly disagree* (1) to *strongly agree* (7), with higher scores evidencing greater satisfaction with life. A sample item is “In most ways my life is close to my ideal.” Satisfactory evidence for reliability and validity were reported (Durak, Senol-Durak & Gencoz, 2010). The Cronbach alpha in this study was .84.

**Flourishing Scale (FS; Diener et al., 2010).** The FS is an 8-item instrument measuring the positive human functioning from various areas including positive relationships with others, feelings of competence, optimism and engagement with daily activities.

Respondents are asked to rate their level of agreement with each statement using a 7-point Likert-type scale ranging from *strongly disagree* (1) to *strongly agree* (7). Higher scores represent higher levels of flourishing. A sample statement is, “My social relationships are supportive and rewarding. I am engaged and interested in my daily activities I actively contribute to the happiness and well-being of others.” Adequate evidence of reliability and validity were reported (Telef, 2010). Good internal consistency reliability ( $\alpha=.88$ ) reported in this study.

**Depression, Anxiety and Stress Scale-21 (DASS-21; Lovibond & Lovibond, 1995).**

The scale assesses the negative emotional states with 21 items that clustered into three subscales (7 items each subscale): Depression, Anxiety and Stress. Respondents are asked to answer each statement using a 4-point scale ranging from *did not apply to me at all* (0) to *applied to me very much or most of the time* (3). Higher scores on each subscale evidence higher levels of depression, anxiety and stress. Example items on the depression, anxiety and stress scales are respectively “I couldn’t seem to experience any positive feeling at all”, “I was aware of dryness of my mouth”, and “I found it hard to wind down.” Sufficient internal consistency for the DASS-21 was presented (Yildirim, Boysan & Kefeli, 2018). In this study, Cronbach alpha coefficients were .80 for depression, .76 for anxiety, and .77 for stress.

**Ten-Item Personality Inventory (TIPI; Gosling, Rentfrow & Swann, 2003).**

The TIPI consists of 10 items grouped into five domains (two items per domain): extraversion, agreeableness, conscientiousness, emotional stability, and openness to new experience. Individual statement is answered using a 7-point Likert-type scale ranging from *disagree strongly* (1) to *agree strongly* (7) with higher scores representing higher levels of associated domains. Sample items are “extraverted, enthusiastic” (extraversion), “critical, quarrelsome” (agreeableness), “dependable, self-disciplined” (conscientiousness), “anxious, easily upset” (emotional stability) and “openness to new experience, complex” (openness to new experience). Good internal consistency reliabilities for all domains were reported by Atak (2013). In the present study, the Cronbach alpha coefficients for extraversion, agreeableness, conscientiousness, emotional stability, and openness to new experience were respectively .65, .51, .54, .63, and .62.

**Procedure**

Above-mentioned questionnaires were presented online via secure software. A non-randomized volunteer sample was employed. Participants were not given any incentives for their involvement to the study. A brief instruction about the purpose of the study was presented to all participants. An informed consent form presented at the first page of online survey was obtained before participation. All participants were informed about anonymity and confidentiality of personal information.

**Data analysis**

SPSS for Windows v.25.0 was used to analyse the data. Cronbach alpha coefficient was used to report internal consistency reliability. Descriptive statistics were reported for general characteristics of sample. Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were conducted for the structure validity of the scale. For this, the whole sample was randomly split into two halves, with one ( $n = 189$ ) being used for EFA and the other ( $n = 188$ ) for CFA. Pearson correlations were calculated to explore

the relationship between SDHS and positive and negative mental health indices. Hierarchical multiple regression analysis was used to determine incremental validity of the scale.

## RESULTS

### Descriptive statistics

Table 1 reports descriptive statistics such as minimum, maximum, mean, standard deviation and normality tests to present individuals' characteristics.

**Table 1. Descriptive statistics**

					Skewness		Kurtosis	
	Min	Max	Mean	SD	Statistic	SE	Statistic	SE
1. Short Depression-Happiness	1	18	10,98	3,89	-0,33	0,13	-0,57	0,25
2. Satisfaction with life	5	34	22,67	6,13	-0,47	0,13	-0,41	0,25
3. Flourishing	9	56	40,48	8,75	-1,06	0,13	1,33	0,25
4. Depression	0	19	5,98	3,98	0,75	0,13	0,41	0,25
5. Anxiety	0	20	6,49	3,71	0,66	0,13	0,45	0,25
6. Stress	0	19	6,32	3,68	0,81	0,13	0,68	0,25
7. Extraversion	2	14	9,50	3,02	-0,34	0,13	-0,62	0,25
8. Agreeableness	2	14	11,06	2,27	-0,66	0,13	0,20	0,25
9. Conscientiousness	2	14	10,76	2,58	-0,68	0,13	0,14	0,25
10. Emotional stability	2	14	9,49	2,86	-0,25	0,13	-0,35	0,25
11. Openness to new experiences	2	14	10,68	2,45	-0,73	0,13	0,17	0,25

### Exploratory factor analysis (EFA)

EFA was carried out on the first set of data ( $n = 189$ ) to explore whether a different factor solution than the one previously determined with Western samples might relevant to Turkish sample.

**Table 2. Factor matrix for the SDHS**

Item number	Factor loading
SDHS1	,68
SDHS2	,79
SDHS3	,70
SDHS4	,77
SDHS5	,68
SDHS6	,64

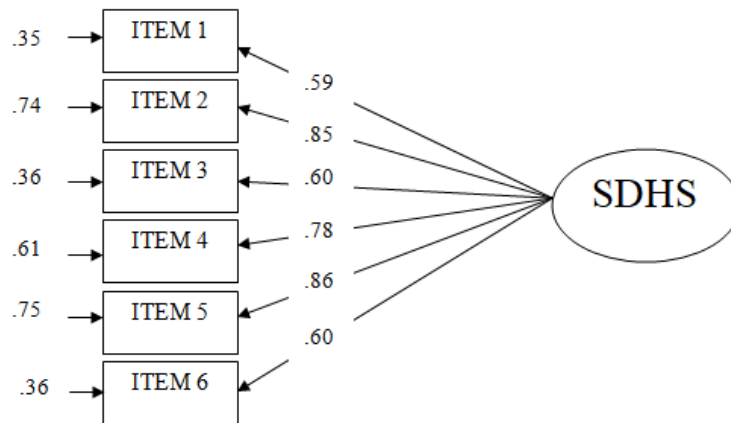
Extraction Method: Maximum Likelihood.

Bartlett's test of sphericity produced a measure of 475.46 ( $p < .001$ ), whereas Kaiser-Meyer-Olkin Measure of Sampling Adequacy produced a measure of .85, suggesting that the data was adequate for the factor analysis and sample size was satisfactory for this. Using Maximum likelihood analysis, EFA yielded one factor solution with an eigenvalue of 3.52, explaining 58.70% of variance. Screeplot also confirmed one factor solution,

with only one circle being above the cut-off point of 1. Factor loadings as shown in Table 2 were between .64 and .79.

### Confirmatory factor Analysis

CFA was performed to determine whether the factor model obtained using EFA can be verified on the second set of data ( $n = 188$ ). To assess the goodness-of-fit, we used chi-square ( $\chi^2$ ), normed fit index (NFI), comparative fit index (CFI), incremental fit index (IFI), goodness of fit index (GFI), and standardized root mean square residual (SRMR). The results of CFA revealed a good fit, ( $\chi^2=31.02$ ,  $df=7$ ,  $p<0.01$ ,  $NFI=.95$ ,  $CFI=.96$ ,  $IFI=.96$ ,  $GFI=.95$ ,  $SRMR=.050$ ). As presented in Figure 1, the standardized factor loadings ranged between .59 and .86.



### Criterion related validity

Pearson correlation coefficients were estimated for total sample to explore the relationship between SDHS and satisfaction with life, flourishing, depression, anxiety, stress, and personality traits. The results are presented in Table 3. SDHS was significantly positively related with satisfaction with life, flourishing and personality traits while it was significantly negatively related with depression, anxiety, and stress. The correlation coefficients varied between .13 and -.68.

### Incremental validity

Five separate hierarchical multiple regression analyses were performed, one for each index of well-being (satisfaction with life, flourishing, depression, anxiety, and stress). In Step 1, personality traits were entered, and in Step 2, the SDHS was entered. Indices of well-being were entered as the outcome variables. As shown in Table 4, the SDHS uniquely contributed to satisfaction with life, flourishing, depression, anxiety, and stress over and above the personality traits. The significant amount of variance ranged between 7% and 23%. This suggests that the SDHS is uniquely important for well-being.

### Reliability

The internal consistency of the items on the SDHS was assessed by Cronbach alpha and item-total coefficients on the total sample. The results indicated that the internal consistency reliability of the scale was satisfactory ( $\alpha = .87$ ) and the item-total coefficients ranged from .62 to .72.

## Discussion

This study aimed to evaluate psychometric properties of the SDHS for use with Turkish university students. The results typically showed satisfactory reliability and validity evidence based on the overall and randomly divided samples. The results of exploratory and confirmatory factor analyses revealed that one factor structure was compatible with the original scale (Joseph *et al.*, 2004) and those have been translated in different cultures such as Spanish (Martínez *et al.*, 2018). The SDHS was found to be associated with satisfaction with life, flourishing, depression, anxiety, stress, and personality. These results expanded previous findings where the relationship between the SDHS and different psychological variables were examined such as general health (Martínez *et al.*, 2018) and happiness (Joseph *et al.*, 2004; Sapmaz & Temizel, 2013). Most importantly, the SDHS showed incremental value in predicting both positive and negative indices of well-being after controlling for personality characteristics. This suggests that SDHS is independent of personality and it is associated with positive and negative factors of well-being. It also contributes additional variance to the prediction of psychological outcomes over and above personality characteristics. Furthermore, the internal consistency value of the scale was good and similar to the previously reported findings (e.g., Martínez *et al.*, 2018).

The present study is important for several reasons. First, providing further evidence as to the validation of the SDHS in Turkish context would significantly contribute to studies on well-being. The possibility of cross-cultural comparisons of research outcomes increases with such validation. Such validation also enhances the usefulness of measurement tools in terms of shedding lights on well-being of Turkish population. Second, given that divergence exists in the concept of and responses to happiness across cultures (Oishi *et al.*, 2013), reliable and valid measurement tools are needed to inform research and practice and such validation should be culturally relevant.

The present study carried several drawbacks. First, as the sample comprised of only young Turkish university students, it is hard to generalise the emerging results to populations of different ages such as adolescents and elderly people. Thus, research should conduct studies on more diverse samples for the compatibility of the results to other populations. Second, the relationship between the SDHS and well-being indices were established using self-report measures which purely rely on individuals' self-assessments. It is recommended to advance the reliability and validity of these findings using other sources of data collection such as peer and behavioural ratings. Finally, cross cultural studies are highly recommended to compare research outcomes across countries. Despite the above limitations, the findings provide support for the original scale and the SDHS is a reliable and valid measure for university students in the Turkish cultural context.

**Table 3. Correlations among the variables of the study**

Variable	$\alpha$	1	2	3	4	5	6	7	8	9	10	11
1. Short Depression-Happiness	0,87	1										
2. Satisfaction with life	0,84	.52**	1									
3. Flourishing	0,88	.48**	.38**	1								
4. Depression	0,80	-.62**	-.33**	-.45**	1							
5. Anxiety	0,76	-.52**	-.27**	-.40**	.83**	1						
6. Stress	0,77	-.68**	-.39**	-.49**	.84**	.78**	1					
7. Extraversion	0,65	.34**	.24**	.35**	-.29**	-.24**	-.33**	1				
8. Agreeableness	0,51	.26**	.19**	.32**	-.22**	-.24**	-.22**	.23**	1			
9. Conscientiousness	0,54	.45**	.36**	.44**	-.43**	-.42**	-.48**	.39**	.30**	1		
10. Emotional stability	0,63	.29**	.24**	.21**	-.33**	-.32**	-.30**	.17**	.27**	.31**	1	
11. Openness to new experiences	0,62	.13*	.08	.20**	-.03	-.04	-.04	.31**	.18**	.21**	.12*	1

\*\*. $p < 0.01$ ; \*. $p < 0.05$



**Table 4. Hierarchical regression analysis showing incremental validity of Short Depression-Happiness Scale in predicting mental health**

Variable	Depression				Anxiety				Stress			
	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p
Step 1	$F(5,371)=25.53, r^2=.26, p<0.01$				$F(5,371)=22.96, r^2=.24, p<0.01$				$F(5,371)=30.64, r^2=.29, p<0.01$			
Extraversion	-0,20	-0,15	-2,94	0,00	-0,11	-0,09	-1,79	0,07	-0,23	-0,19	-3,79	0,00
Agreeableness	-0,10	-0,06	-1,21	0,23	-0,15	-0,09	-1,89	0,06	-0,08	-0,05	-0,99	0,33
Conscientiousness	-0,49	-0,32	-6,14	0,00	-0,46	-0,32	-6,10	0,00	-0,53	-0,37	-7,38	0,00
Emotional stability	-0,29	-0,21	-4,31	0,00	-0,25	-0,19	-3,98	0,00	-0,20	-0,16	-3,38	0,00
Openness to new experiences	0,18	0,11	2,34	0,02	0,14	0,10	1,97	0,05	0,18	0,12	2,65	0,01
Step 2	$F(6,370)=48.55, r^2=.44, \Delta r^2=.19, p<0.01$				$F(6,370)=32.26, r^2=.34, \Delta r^2=.11, p<0.01$				$F(6,370)=66.48, r^2=.52, \Delta r^2=.23, p<0.01$			
Short Depression-Happiness	-0,51	-0,50	-11,05	0,00	-0,36	-0,38	-7,77	0,00	-0,52	-0,55	-13,20	0,00
	Satisfaction with life				Flourishing							
Variable	B	Beta	t	p	B	Beta	t	p				
Step 1	$F(5,371)=14.16, r^2=.16, p<0.01$				$F(5,371)=26.70, r^2=.27, p<0.01$							
Extraversion	0,22	0,11	2,01	0,05	0,48	0,17	3,33	0,00				
Agreeableness	0,14	0,05	1,02	0,31	0,65	0,17	3,51	0,00				
Conscientiousness	0,63	0,27	4,89	0,00	1,04	0,31	6,00	0,00				
Emotional stability	0,28	0,13	2,57	0,01	0,11	0,04	0,78	0,43				
Openness to new experiences	-0,08	-0,03	-0,59	0,55	0,18	0,05	1,06	0,29				
Step 2	$F(6,370)=25.65, r^2=.29, \Delta r^2=.13, p<0.01$				$F(6,370)=30.72, r^2=.33, \Delta r^2=.07, p<0.01$							
Short Depression-Happiness	0,67	0,42	8,36	0,00	0,68	0,30	6,13	0,00				

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