Examination of Psychometric Properties of The Turkish Version Form of The Oxford Happiness Questionnaire in University Students

Tayfun Doğan[1], Fatma Sapmaz[2]

[1]Assist. Prof. Dr., Niğde University School of Education, Department of Psychological Counseling and Guidance, Niğde - Turkey
[2]Assist. Prof. Dr., Sakarya University School of Education, Department of Psychological Counseling and Guidance, Sakarya - Turkey

ABSTRACT

Examination of psychometric properties of the Turkish version form of the Oxford Happiness Questionnaire in university students

Objective: It is aimed to examine the psychometric properties of the Turkish form of the Oxford Happiness Questionnaire (OHQ) in this study.

Method: The participants of the study are constituted by 491 university students studying in Sakarya University Education Faculty in 2011-2012 education year. All of the participants were subjected to the Oxford Happiness Questionnaire (OHQ) and randomly selected 173 participants were subjected to the Satisfaction with Life Scale (SWLS), Life Orientation Test (LOT), Positive-Negative Affect Scale (PANAS) and Subjective Happiness Scale (SHS) besides (OHQ). Firstly, linguistic equivalence of the scale was examined. After ensuring the linguistic equivalence, exploratory and confirmatory factor analysis methods were used to examine the structural validity of OHQ and for criterion related validity, the correlations of OHQ with other measuring methods used within the study were checked. The reliability of OHQ was examined with composite reliability, internal consistency and split-half methods.

Findings: According to exploratory factor analysis results, a structure whose eigen value was 8.3 and which explained 29.84% of total variance was obtained. It was seen that the factor loads of the scale varied between 0.32 and 0.77. The findings obtained as a result of confirmatory factor analysis indicated that the one-factor structure of the scale was retained in the sample comprising Turkish university students. As a result of the analysis for criterion related validity, significant relations were found between OHQ and other measuring means evaluating happiness and optimism. In structural reliability analysis, Cronbach alpha internal consistency coefficient of OHQ was found 0.91 and reliability coefficient obtained with test half-life method was found 0.86 and composite reliability of the scale was found 0.91.

Conclusion: The findings obtained in this study indicate that Turkish form of OHQ has a one-factor structure and this form can be used as a valid and reliable measuring means in evaluating happiness in university students.

Key words: Happiness scale, validity, reliability

ÖZET

Oxford Mutluluk Ölçeği Türkçe formunun psikometrik özelliklerinin üniversite öğrencilerinde incelenmesi

Amaç: Bu araştırmada, Oxford Mutluluk Ölçeği (OMÖ) Türkçe formunun psikometrik özelliklerinin incelenmesi amaçlanmıştır.

Yöntem: Araştırmanın katılımcılarını, 2011-2012 öğretim yılında Sakarya Üniversitesi Eğitim Fakültesinde öğrenim görmekte olan 491 üniversite öğrencisi oluşturmaktadır. Katılımcıların tamamına OMÖ, rastgele seçilen 173 katılımcıya ise OMÖ ile birlikte, Yaşam Doyumu Ölçeği (YDÖ), Yaşam Yönelimi Testi (YYT), Pozitif-Negatif Duygu Ölçeği (PNDÖ) ve Öznel Mutluluk Ölçeği (ÖMÖ) uygulanmıştır. İlk olarak, ölçeğin dilsel eşdeğerliği incelenmiştir. Dilsel eşdeğerliğin sağlanmasının ardından, OMÖ'nün yapı geçerliliğini incelemek için açıklayıcı ve doğrulayıcı faktör analizi yöntemlerinden yararlanılırken, ölçüt bağıntılı geçerlilik için OMÖ'nün çalışma kapsamında kullanılan diğer ölçme araçlarıyla korelasyonlarına bakılmıştır. OMÖ'nün güvenilirliği ise bileşik güvenilirlik, iç tutarlılık ve test yarılama yöntemleriyle incelenmiştir.

Bulgular: Açıklayıcı faktör analizi sonuçlarına göre, özdeğeri 8.3 olan ve toplam varyansın %29.84'ünü açıklayan bir yapı elde edilmiştir. Ölçeğe ilişkin faktör yüklerinin ise 0.32 ile 0.77 arasında değiştiği görülmüştür. Doğrulayıcı faktör analizi sonucunda elde edilen değerler ise, ölçeğin tek faktörlü yapısının Türk üniversite öğrencilerinden oluşan örneklemde korunduğunu göstermiştir. Ölçüt bağıntılı geçerlilik için yapılan analiz sonucunda da, OMÖ ile mutluluğu ve iyimserliği değerlendiren diğer ölçme araçları arasında anlamlı düzeyde ilişkiler bulunmuştur. Yapılan güvenilirlik analizlerinde ise, OMÖ'nün Cronbach alfa iç tutarlılık katsayısı 0.91, test yarılama yöntemiyle elde edilen güvenilirlik katsayısı 0.86 olarak bulunmuştur. Ölçeğin bileşik güvenilirliği ise 0.91 olarak saptanmıştır.

Sonuç: Bu çalışmada elde edilen bulgular, OMÖ'nün Türkçe formunun tek faktörlü bir yapıya sahip olduğunu ve bu formun üniversite öğrencilerinde mutluluğu değerlendirmede geçerli ve güvenilir bir ölçme aracı olarak kullanılabileceğini göstermektedir.

Anahtar kelimeler: Mutluluk ölçeği, geçerlilik, güvenilirlik

Address reprint requests to:
Assist. Prof. Dr. Tayfun Doğan
Niğde University School of Education, Department of Psychological Counseling and Guidance, Niğde - Turkey

Phone: +90-388-211-2810

E-mail address:
tayfun@tayfundogan.net

INTRODUCTION

Happiness is defined as experiencing positive emotions more frequently and negative feelings less frequently of an individual and being highly satisfied from life (1,2). Happiness is consequence of cognitive and sensory evaluation about life of individual according to this definition. Frequency of experiencing positive and negative emotions make up sensory aspect of happiness and evaluations about life make up cognitive aspect of happiness in this definition (2,3). Experiencing positive emotions such as trust, joy, delight and hope frequently and experiencing negative emotions such as anger, hatred, anxiety, fear, hopelessness and sadness and being satisfied (to be happy with) from life domains such as marriage, work or health in general are accepted as indicators of happiness (4).

Research about positive psychology and happiness in particular has substantially been increased since 1980's. Various assessment tools have also been developed to assess happiness by increasing research on happiness. One of the most frequently utilized assessment tools in these studies is Oxford Happiness Inventory (OHI) developed by Argyle et al. (1). OHI is an assessment tool prepared in Beck Depression Inventory format (5) and consisted of 29 sets and four different items at each set. The scale represents good psychometric characteristics with this format; however, due to long duration of administration, it was revised by Hills and Argyle (6) and converted to a Likert-type assessment tool with 29 items.

There is increasing interest on research about positive psychology and happiness both in Turkey and the world. Research about happiness has substantially increased particularly since 2000 (4,7-10). For this reason, adaptation of scales about happiness having international validity and reliability will be beneficial for future research. In our study, we aimed to investigate psychometric characteristics of Turkish form of Oxford Happiness Questionnaire. The scale is thought to fill an important gap in studies about happiness in Turkey. Moreover, this assessment tool which is widely used in other cultures will make it easier to evaluate the situation

of Turkish society at intercultural studies about happiness. In this context, psychometric properties of OHQ were examined by paraphrasing and confirmatory factor analysis, inner consistency and criteria-related validity methods and hypothesis of having similar psychometric properties with original form was tested.

METHOD

Participants

Four hundred and ninety-one (334 women/154 men) university students who were being educated at Sakarya University School of Education at 2011-2012 term are participants of this study. Three participants did not declare their gender. Ages of participants were 17-37 and mean was 19.50 (SD=2.23). All participants were administered Oxford Happiness Inventory (OHI) and randomly selected 173 participants were also administered other scales described in data collection tools section alongside with OHI.

Data Collection Tools

Oxford Happiness Questionnaire (OHQ): OHQ is an assessment tool developed by Hills and Argyle (6) to assess happiness having 29 items in 6-item Likert-type (1-Not agree, 6-Fully agree). Hills and Argyle (6) reported inner consistency coefficient (Cronbach alpha) of the scale as 0.91. After factor analysis to determine structural validity of the scale, an 8-factorial structure having self-value over 1 was obtained. However, due to problems in interpreting and naming of these factors, it was concluded that it will be better to utilize the scale with a single factor. Relationship between Life Satisfaction Scale (11), Depression-Happiness Scale (12), Life Orientation Test (13), Rosenberg Self-Esteem Scale (14), Life Interest Scale (15) and Eysenck Personality Questionnaire (16) with OHQ were also examined in this study. According to this, a correlation between OHQ and these scale was found at p<0.001 significance level and correlation of r=0.77, r=0.90, r=0.79, r=0.81 and r=0.77, consecutively. Among sub-scales of Eysenck Personality Questionnaire,

correlations between OHQ and "extraversion" (r=0.61, p<0.001), "neuroticism" (r=-0.59, p<0.001) and "psychoticism" (r=-0.17, p<0.05) were found. A correlation of 0.80 (p<0.001) was also found between OHQ and original form of the scale (Oxford Happiness Inventory).

Life Satisfaction Scale (LSS): This scale was developed by Diener et al. (11). Scale consisted of 5 items and has 7-item Likert-type answer key. Score can be achieved from scale is between 5 and 35. Higher scores indicate higher satisfaction from life. Diener et al. (11) reported inner consistency of the scale as 0.87 and test-retest reliability coefficient as 0.82. Turkish adaptation of the scale was done by Yetim (17). Yetim (17) reported test-retest reliability coefficient as 0.85 and inner consistency as 0.76. Reliability coefficient of LSS was found 0.86 in this study.

Life Orientation Test (LOT): This scale was developed by Scheier and Carver (13) to assess optimism and consists of 12 items (four items as filling items). LOT is a self-rating scale in 5-item Likert-type (1-Not agree, 5-Fully agree). When items coded in reverse are converted, higher scores achieved from scale indicate a higher optimism. Turkish adaptation of LOT was done by Aydın and Tezer (18). According to this, inner consistency of scale was found 0.72 and test-retest reliability coefficient was found 0.77 as a result of administering after four weeks (18). Inner consistency coefficient of LOT was found 0.79 in this study.

Positive Affect Negative Affect Scale (PANAS): This scale was developed by Watson, Tellegen and Clark (19). Scale consisted of 20 affective expressions, 10 of which are positive, and 10 of which are negative. It has 5-item Likert-type answer sheet (1-Not appropriate, 5-Fully appropriate). Watson et al. (19) reported inner consistency of the scale as 0.86-0.90 for "positive emotions" dimension and 0.84-0.87 for "negative emotions" dimension. Turkish adaptation of the scale was done by Gençöz (20). Gençöz (20) determined reliability coefficients (Cronbach alpha) of the scale as 0.83 for "positive emotions" sub-dimension

and 0.86 for "negative emotions" sub-dimension. In this study, reliability coefficients for "positive emotions" and "negative emotions" sub-dimensions were found as 0.85 and 0.84, consecutively.

Subjective Happiness Scale (SHS): This scale was developed by Lyubomirsky and Lepper (21). SHS is a 7-item Likert-type self-rating tool. Scale consisted of 4 items. Lyubomirsky and Lepper (21) reported inner consistency of the scale between 0.79 and 0.94 at different samples. Test-retest reliability was found between 0.55 and 0.90. Turkish adaptation of scale was realized by Doğan and Totan (22). According to this, inner consistency coefficients were found to be between 0.65 and 0.70 at different samples. After confirmatory factor analysis done to determine factorial structure of scale, it was concluded that single factorial structure was preserved like it is in original form (CFI= 0.93, NFI= 0.92, IFI= 0.93; GFI= 0.96). Inner consistency coefficient of SHS was found to be 0.67 in this study (22).

Data Analyses

Adaptation studies of the scale were started by linguistic validity. For this process, scale was translated from its original English version to Turkish by five independent people who are experts of both languages. Items which were thought to represent each item were included in the Turkish version after examining all translated texts. This Turkish version was subsequently reverse-translated to English by an academic from psychological counseling field. Translated text was compared to original version, required corrections were done and Turkish version was finalized. After obtaining linguistic equivalence of scale, implementation was initiated. Scale was administered at class hours and volunteered students were required to attend the study after necessary information was given. Administration was realized without time constraint and continued approximately 15-30 minutes. Descriptive and confirmatory factor analyses, inner consistency and criteria-related validity methods were used in data analyses. Data analysis was realized by SPSS 15 and Lisrel 8.7 software.

RESULTS

Descriptive Statistics

Mean score achieved from scale was found 0.119 (SD=20.13) for the whole sample and score range was 53-168. Higher scores indicate higher level of happiness. When happiness scores were evaluated regarding gender, mean score for men was found 120.87 (SD=18.58) and for women 118.98 (SD=20.81).

Table 1: Correlation between Oxford Happiness Questionnaire scores and gender

Gender	N	Mean	SD	t	p
Women	334	118.98	20.81	0.96	0.34*
Men	154	120.87	18.58		

*p<.001, t= t test, OHQ: Oxford Happiness Questionnaire, SD: Standart deviation

Correlation between happiness scores and gender was examined by independent samples t test and no statistical difference was found (t=0.96, p=0.34). Obtained values were presented at Table 1.

Structural Validity

Descriptive Factor Analysis (DFA): Kaiser-Meyer-Olkin (KMO) and Barlet Sphericity tests were performed to understand whether data set is suitable for factor analysis. For suitability of data for factor analysis, Kaiser-Meyer-Olkin (KMO) should be over 0.60 and Barlett Test should be statistically significant (23). KMO sample suitability coefficient was found 0.92 and Barlett Sphericity Test χ^2 value 5032.35 (p<0.001). These results indicated that our data were suitable for factor analysis. After analysis performed by

Table 2: Results of descriptive factor analysis and total item correlations

Items	Factor Loads	M	SD	Correlations of Total Items
1. I do not feel particularly pleased with the way I am	0.38	5.28	1.07	0.36
2. I am intensely interested in other people	0.46	4.14	1.28	0.40
3. I feel that life is very rewarding	0.55	3.61	1.43	0.50
4. I have very warm feelings towards almost everyone	0.44	3.72	1.38	0.38
6. I am not particularly optimistic about the future	0.52	4.68	1.42	0.50
7. I find most things amusing	0.55	3.80	1.35	0.49
8. I am always committed and involved	0.47	4.49	1.24	0.41
9. Life is good	0.73	4.45	1.42	0.68
10. I do not think that the world is a good place	0.47	4.45	1.57	0.44
11. I laugh a lot	0.51	4.10	1.43	0.43
12. I am well satisfied about everything in my life	0.69	3.60	1.29	0.62
13. I do nott think I look attractive	0.35	4.37	1.46	0.32
14. There is a gap between what I would like to do and what I have done	0.38	3.93	1.58	0.35
15. I am very happy	0.77	3.73	1.32	0.71
16. I find beauty in some things	0.63	4.48	1.13	0.57
17. I always have a cheerful effect on others	0.61	4.18	1.29	0.53
18. I can fit in everything I want to	0.60	3.55	1.30	0.55
19. I feel that I am not especially in control of my life	0.53	4.30	1.45	0.50
20. I feel able to take anything on	0.52	4.71	1.29	0.47
21. I feel fully mentally alert	0.67	4.05	1.35	0.62
22. I often experience joy and elation	0.74	4.26	1.25	0.67
23. I do not find it easy to make decisions	0.32	3.74	1.56	0.30
24. I do not have a particular sense of meaning and purpose in my life	0.47	5.35	1.13	0.43
25. I feel I have a great deal of energy	0.68	3.94	1.39	0.62
26. I usually have a good influence on events	0.64	4.14	1.21	0.57
27. I do not have fun with other people	0.39	5.19	1.10	0.36
28. I do not feel particularly healthy	0.43	4.70	1.41	0.41
29. I do not have particularly happy memories of the past	0.40	4.59	1.58	0.37

Declared Variance: 29.84%, Core value: 8.3
Items with (-) mark are coded in reverse.
SD: Standart deviation

basic components analysis and without any rotation, a 7 factorial structure having core value over 1 was obtained. However, it was observed that scale items were collected at first factor and first factor substantially contributed to variance. Due to small contribution of other six components to variance and not being able to be named, analysis was repeated after limiting with single factor as it is in its original version. After the analysis, due to 0.13 factor load of item 5 (I rarely wake up rested in mornings), item was excluded from scale and analyses were repeated. According to this analysis, a structure with core value of 8.3 and explaining 29.84% of total variance was obtained. Factor loads of scale varied between 0.32 and 0.77 (Table 2).

Confirmatory Factor Analysis (CFA): CFA was performed by using Maximum Likelihood Estimation Method to determine whether single factorial structure of Oxford Happiness Questionnaire can be confirmed in a sample consisting of Turkish university students. For this purpose, "critical N value" (Critical N-CN) was first examined to evaluate adequacy of study sample. CN value for CFA was found 163.12. This value indicates that sample of 491 units forming the study group is adequate for confirmatory factor analysis in our study.

There are many goodness-of-fit indices to evaluate suitability of model according to CFA results. Several goodness-of-fit index values are recommended to be utilized to perform suitability of the model due to strong and weak aspects of suitability indices in differentiating theoretical model and real data (24). Suitability of the model was first assessed by proportion of chi-square values over freedom degree in this study. Value less than 3 indicates goodness-of-fit and value less than 5 indicates acceptable fit. Values over 0.95 for Comparative Fit Index (CFI), Incremental Fit Index (IFI), Relative Fit Index (RFI), Normed Fit Index (NFI), Non-Normed Fit Index (NNFI) indicate goodness-of-fit and values between 0.90 and 0.94 indicate acceptable fit. Values for Root Mean Square Error of Approximation (RMSEA) and Standardised Root Mean Square Residual (SRMR) less than 0.05 indicate goodness-of-fit and values between 0.06 and 0.08 indicate acceptable fit (25-28). It can be said that

Table 3: Results of confirmatory factor analysis

Items	Standardized Loads	t-value	R^2
Item 1	0.36	7.94	0.13
Item 2	0.40	8.91	0.16
Item 3	0.53	12.06	0.28
Item 4	0.39	8.61	0.15
Item 6	0.50	11.41	0.25
Item 7	0.52	11.89	0.27
Item 8	0.44	9.73	0.19
Item 9	0.72	17.97	0.52
Item 10	0.44	9.92	0.20
Item 11	0.44	9.84	0.20
Item 12	0.66	15.73	0.43
Item 13	0.32	7.01	0.10
Item 14	0.37	8.09	0.14
Item 15	0.75	19.00	0.57
Item 16	0.61	14.34	0.37
Item 17	0.55	12.63	0.30
Item 18	0.58	13.48	0.34
Item 19	0.51	11.62	0.26
Item 20	0.51	11.55	0.26
Item 21	0.65	15.60	0.42
Item 22	0.69	16.91	0.48
Item 23	0.32	6.89	0.10
Item 24	0.45	10.18	0.21
Item 25	0.65	15.60	0.42
Item 26	0.61	14.27	0.37
Item 27	0.35	7.74	0.13
Item 28	0.40	8.91	0.16
Item 29	0.38	8.38	0.15

R^2= Coefficient of determination

single factorial structure of the scale is preserved in this sample of Turkish university students according to these criteria. Standardized loads, t-value and R^2 values regarding DFA are presented in Table 3 and goodness-of-fit index values are presented in Table 4.

Criteria-Related Validity

Relationship between Oxford Happiness Questionnaire (OHQ) and, Subjective Happiness Scale (SHS), Life Orientation Test (Optimism Scale), Positive-Negative Affect Schedule (PANAS) and Life Satisfaction Test (LST) were examined for criteria-related validity. Significant correlations between OHQ and other assessment tools evaluating happiness and optimism were found according to analyses (Table 5). These results indicate that OHQ has a good level of goodness-of-fit.

Table 4: Goodness-of-fit indices and their interpretations after confirmatory factor analysis

Fitness Measure	Fitness Criteria	Obtained Values	Fitness
χ^2/df	≤ 3 good fit, ≤ 4-5 acceptable fit	(1450.16/339) 4.2	Accepted
RMSEA	≤ 0.05 good fit, 0.06-0.08 acceptable fit	0.082	Accepted
SRMR	≤ 0.05 good fit, 0.06-0.08 acceptable fit	0.069	Accepted
NFI	≥ 0.95 good fit, 0.94-0.90 acceptable fit	0.92	Accepted
NNFI	≥ 0.95 good fit, 0.94-0.90 acceptable fit	0.93	Accepted
CFI	≥ 0.95 good fit, 0.94-0.90 acceptable fit	0.94	Accepted
IFI	≥ 0.95 good fit, 0.94-0.90 acceptable fit	0.94	Accepted
RFI	≥ 0.95 good fit, 0.94-0.90 acceptable fit	0.91	Accepted

χ^2/df = chi square/degree of freedom, RMSEA: Root Mean Square Error of Approximation, SRMR: Standardised Root Mean Square Residual, NFI: Normed Fit Index, NNFI: Non-Normed Fit Index, CFI: Comparative Fit Index, RFI: Relative Fit Index, IFI: Incremental Fit Index

Table 5: Correlations about criteria-related validity

Assessment Tools	Oxford Happiness Questionnairre
Life Satisfaction Scale	0.69*
Subjective Happiness Scale	0.72*
Positive Affect Scale	0.64*
Negative Affect Scale	-0.60*
Life Orientation Test (Optimism)	0.72*

N=173, *p<0.001

Reliability Study

Reliability of OHQ was examined by composite reliability, inner consistency and test halving methods. According to this analysis, inner consistency coefficient of the scale was found 0.91 and reliability coefficient obtained by test halving method was found 0.86. Reliability coefficients 0.70 and over obtained by inner consistency and test halving methods are accepted as adequate in the literature (23). Composite reliability was found 0.91. Composite reliability is calculated by factor loads and error ratios after confirmatory factor analysis. Acceptable value for Composite reliability was reported 0.70 and over (25). These results indicate that scale has high level of reliability values.

DISCUSSION

In this study, we aimed to examine validity and reliability of Oxford Happiness Questionnaire (OHQ) developed by Hills and Argyle (6) in a sample of Turkish university students. For this purpose, validity of OHQ was tested by descriptive and confirmatory factor analysis methods; reliability was tested by inner consistency, test halving and composite reliability methods. Our findings indicate that Turkish version of OHQ has similar psychometric properties with its original version.

After descriptive factor analysis done to determine factorial structure of the scale, a single factorial structure was obtained as it is in the original version. Fifth item of the scale (I rarely wake up rested in mornings) was excluded due to low factor load. Confirmatory factor analysis was performed to determine confirmation of single factorial structure in a sample consisting of Turkish university students. It was concluded that single factorial structure is preserved by CFA. At criteria-related validity, validity and reliability of OHQ was proved and its correlation between other assessment tools evaluating happiness and optimism was examined. Results of the analysis indicated that there are statistically significant and substantial correlations between subjective happiness, life satisfaction, optimism, positive and negative emotions. These results may be evaluated as a proof of validity of OHQ. Reliability of OHQ was examined by composite reliability, inner consistency and test halving methods. Finally, total OHQ scores were analyzed according to gender and being a man or woman was found not to be correlated with happiness levels of university students.

Our study has some limitations. First of all, it was performed in a sample consisting of only university students. It will be appropriate to examine psychometric properties of the scale in samples who are not students. In this study, reliability of the scale was examined by composite reliability, inner consistency and test halving methods. Determining reliability of the scale can be

suggested by test-retest method in future studies. Fifth item of the scale was excluded due to low factor load and total item correlation. There was an agreement that this item could not be fully understood by participants due to its negative content. In future studies on the scale, this item can be converted to a positive expression and thus included in the scale.

CONCLUSION

Five important conclusions were achieved according to this study results:

1) Turkish version of Oxford Happiness Questionnaire (OHQ) has a single factorial structure.
2) Turkish version of OHQ has a high level of reliability.
3) There is a significant correlation between Turkish version of OHQ and other assessment tools assessing happiness.
4) No differences regarding gender were found in total scores of Turkish version of OHQ.
5) Turkish version of OHQ can be utilized as a valid and reliable assessment tool to evaluate happiness in university students.

REFERENCES

1. Argyle M, Martin M, Crossland J. Happiness as a function of personality and social encounters: In Forgas JP, Innes JM. (editors). Recent Advances in Social Psychology: An International Perspective. North-Holland: Elsevier, 1989, 189-203.

2. Diener E. Subjective well-being. Psychol Bull 1984; 95:542-75.

3. Myers DG, Diener E. Who is happy? Psychol Sci 1995; 6:l0-17.

4. Eryılmaz A. Investigating adolescents' subjective well-being with respect to using subjective well-being increasing strategies and determining life goals. The Journal of Psychiatry and Neurological Sciences 2011; 24:44-51.

5. Beck T, Ward CH, Mendelson M, Hock J, Erbaugh J. An inventory for measuring depression.Arch Gen Psychiatry 1961; 7:158-216.

6. Hills P, Argyle M. The Oxford happiness questionnaire: a compact scale for the measurement of psychological well-being. Personality and Individual Differences 2002; 33:1073-1082.

7. Civitci N, Civitci A. Self-esteem as mediator and moderator of the relationship between loneliness and life satisfaction in adolescents. Personality and Individual Differences 2009; 47:954-958.

8. Doğan T, Çötok AN. Oxford Mutluluk Ölçeği kısa formunun Türkçe uyarlaması: Geçerlilik ve güvenirlik çalışması. Türk Psikolojik Danışma ve Rehberlik Dergisi 2011; 4:165-132 (Article in Turkish).

9. Dost M. An examination of subjective well-being and life satisfaction of students attending to universities in South Africa and Turkey. Education and Science 2010; 35:75-89.

10. Şimşek ÖF. Happiness Revisited: ontological well-being as a theory-based construct of subjective well-being. Journal of Happiness Studies 2009; 10:505-522.

11. Diener E, Emmons RA, Larsen RJ, Grifin, S. The satisfaction with Life Scale. J Pers Assess 1985; 49:71-75.

12. Joseph S, Lewis CA. The Depression–Happiness Scale: reliability and validity of a bipolar self-report scale. J Clin Psychol 1998; 54:537-544.

13. Scheier MF, Carver CS. Optimism, coping and health: assessment and implications of generalised outcome expectancies. Health Psychol 1985; 4:219-247.

14. Rosenberg M. Society and the Adolescent Self-Image. England: Wesleyan University Press, 1989.

15. Battista, PJ, Almond R. The development of meaning in life. Psychiatry 1973; 6:409-427.

16. Eysenck SBG, Eysenck HJ, Barrett P. A revised version of the psychoticism scale. Personality and Individual Differences 1985; 6:21-29.

17. Yetim Ü. Kişisel projelerin organizasyonu ve örüntüsü açısından yaşam doyumu. Yayınlanmamış Doktora Tezi, Ege Üniversitesi Sosyal Bilimler Enstitüsü, İzmir, 1993 (Article in Turkish).

18. Aydın G, Tezer E. İyimserlik, sağlık sorunları ve akademik başarı ilişkisi. Psikoloji Dergisi 1991; 7:2-9 (Article in Turkish).

19. Watson D, Tellegen A, Clark L. Development and validation of brief measures of positive and negative affect: The PANAS scales. J Pers Soc Psychol 1988; 54:1063-1070.

20. Gençöz T. Positive and negative affect schedule: a study of validity and reliability. Turkish Journal of Psychology 2000; 46:19-26.

21. Lyubomirsky S, Lepper HS. A measure of subjective happiness: preliminary reliability and construct validation. Social Indicators Research 1999; 46:137-155.

22. Doğan T, Totan T. Translation and validation of the Turkish subjective happiness scale. 3rd World Conference on Psychology, Counselling and Guidance, İzmir, 2012.

23. Büyüköztürk Ş. Veri analizi el kitabı. Pegem A Yayıncılık, Ankara, 2004 (Article in Turkish).

24. Büyüköztürk Ş, Akgün EÖ, Özkahveci Ö, Demirel F. Güdülenme ve öğrenme stratejileri ölçeğinin Türkçe formunun geçerlilik ve güvenilirlik çalışması. Kuram ve Uygulamada Eğitim Bilimleri 2004; 4:207-239 (Article in Turkish).

25. Hair FJ, Anderson ER, Tatham LR, Black CW. Multivariate Data Analysis. New Jersey: Prentice Hall, 1998.

26. Hoyle RH. Structural Equation Modeling: Concepts, Issues and Applications. Thousands Oaks, CA: Sage Publications, 1995.

27. Kline BR. Principles and practice of structural equation modeling. New York: The Guilford Press, 2005.

28. Hu L, Bentler PM. Cut-of criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Structural Equation Modeling 1999; 6:1-55.