

Original article / Araştırma**The Anorexia Nervosa Stages of Change Questionnaire and the Bulimia Nervosa Stages of Change Questionnaire: their psychometric properties in a Turkish sample***F. Elif ERGÜNEY OKUMUŞ,¹ H. Özlem SERTEL BERK,²
Başak YÜCEL,³ Elizabeth RIEGER⁴**ABSTRACT**

Objective: Deficits in motivation to change are common among individuals with eating disorders, yet there has been an absence of research on motivation in non-Western countries. The aim of this study was to develop measures of motivation to change based on the Anorexia Nervosa Stages of Change Questionnaire (ANSOCQ) and the Bulimia Nervosa Stages of Change Questionnaire (BNSOCQ) in a Turkish population. **Methods:** Forty-four women with anorexia nervosa and thirty-one women with bulimia nervosa participated in the study. In order to show the reliability of the ANSOCQ and BNSOCQ, Cronbach's alpha values were evaluated. Pearson Correlation Coefficient test was used to analyze correlations between the ANSOCQ/BNSOCQ and both the Eating Disorder Examination Questionnaire (EDEQ) and Beck Depression Inventory (BDI). The Student's t-test for independent samples was used to compare mean total scores on the ANSOCQ and BNSOCQ across the current phase of illness groups. **Results:** The Turkish versions of the ANSOCQ and BNSOCQ demonstrated good internal consistency (Cronbach's alpha=0.92 and 0.89, respectively). In terms of convergent validity, negative correlations were found between the ANSOCQ/BNSOCQ and each of the EDEQ subscales and (for the ANSOCQ alone) the BDI. Also, participants in the active phase of illness reported a significantly lower level of motivation compared to those in remission. **Discussion:** The study provides initial support for the reliability and validity of the ANSOCQ and BNSOCQ in a Turkish sample, which will enable greater cross-cultural research on motivation in eating disorders. (*Anatolian Journal of Psychiatry* 2018; 19(Special issue.1):29-33)

Keywords: eating disorders, anorexia nervosa, bulimia nervosa, motivation, stages of change

Anoreksiya Nervosa Değişim Evreleri Ölçeği ve Bulimiya Nervosa Değişim Evreleri Ölçeği: Türk örneğinde psikometrik özellikleri**ÖZ**

Amaç: Yeme bozukluğu olgularında değişime yönelik motivasyon eksikliğine sık rastlanmakla birlikte, batılı olmayan ülkelerde bu alandaki araştırmalar oldukça azdır. Bu doğrultuda çalışmamızın amacı, değişime yönelik motivasyonu ölçen Anoreksiya Nervosa Değişim Evreleri Ölçeği (ANDEÖ) ve Bulimiya Nervosa Değişim Evreleri Ölçeğinin (BNDEÖ) Türkçeye uyarlamasının yapılmasıdır. **Yöntem:** Araştırmada 44 anoreksiya nervosa ve 31 bulimiya

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*nervoza olgusu yer almıştır. ANDEÖ ve BNDEÖ'nün güvenilirlik düzeyleri Cronbach alfa iç tutarlılık katsayısı analizi ile ölçülmüştür. Ayrıca ANDEÖ/BNDEÖ ile Yeme Bozukluğunu Değerlendirme Ölçeği (YBDÖ) ve Beck Depresyon Ölçeği (BDÖ) arasındaki ilişkiler Pearson korelasyon katsayısı analizi ile incelenmiştir. Son olarak ANDEÖ/BNDEÖ toplam puanlarının hastalığın evrelerine göre farklılaşp farklılaşmadığı bağımsız örneklem t-testi ile analiz edilmiştir. **Sonuçlar:** ANDEÖ ve BNDEÖ'nün Cronbach alfa iç tutarlılık düzeyleri sırasıyla 0.92 ve 0.89 olarak bulunmuştur. Yakınsak geçerlilik bağlamında ANDEÖ/BNDEÖ ile YBDÖ ve BDÖ puanları arasında (sadece ANDEÖ ile) negatif korelasyonlar bulunmuştur. Ayrıca, hastalığın akut olduğu olguların, remisyonda olan olgulara göre motivasyonları anlamlı olarak daha düşüktür. **Tartışma:** Araştırma bulguları ANDEÖ ve BNDEÖ'nün güvenilirlik ve geçerliliğinin kabul edilebilir düzeyde olduğunu desteklemekte ve ölçeklerin Türk toplumunda kullanımının uygun olduğunu ortaya koymaktadır. Araştırma sonuçlarının yeme bozukluklarında motivasyonel durumun kültürler arası araştırılmasına destek sağlayacağı düşünülmektedir. (Anadolu Psikiyatri Derg 2018; 19(Özel sayı.1):29-33)*

Anahtar sözcükler: Yeme bozuklukları, anoreksiya nervoza, bulimiya nervoza, motivasyon, değişim evreleri

INTRODUCTION

Recent decades have witnessed increased empirical attention to the role of motivation to change in eating disorders (EDs), largely driven by the need to improve treatment outcomes, with full recovery evident in only approximately half of ED patients.¹ This body of research has found that motivational deficits are prevalent in patients with anorexia nervosa (AN)² and bulimia nervosa (BN),³ and often remain so throughout the duration of treatment. Research has also found that level of motivation fluctuates across the core and associated symptoms of EDs (although motivation is generally low across all symptoms, even for those that would not be considered ego syntonic such as negative affect);⁴ that level of motivation predicts treatment engagement and dropout;^{5,6} and that level of motivation is associated with current levels of core and associated ED symptomatology and predicts short-term outcome.^{6,7} There is also some evidence that motivational-enhancement approaches (including internet-delivered programs) can increase motivation to change and improve ED symptomatology,^{3,8} although more research is needed to identify the optimum strategies for enhancing motivation for recovery.^{9,10}

Fundamental to this research endeavor has been the development of several instruments for assessing motivation to change and related constructs (e.g., decisional balance) in the context of EDs.¹¹ However, most of these measures have been developed in English-speaking populations and all have been developed in Western countries. This has precluded the possibility of conducting cross-cultural comparisons in motivational constructs, even though such differences might be expected. For example, low motivation has been attributed in part to the ego syntonic nature of ED symptoms such as the pursuit of thinness;¹² it might therefore be the case that motivational deficits are particularly

apparent in cultures endorsing the thin ideal it might therefore be the case that motivational deficits are particularly apparent in cultures endorsing the thin ideal (for further discussion, see^{13,14}). Moreover, the current transmission of the thin ideal through globalization affords a unique opportunity to investigate potential changes in motivation within the same culture over time and to evaluate sociocultural conceptualizations of eating disorder constructs.¹⁵ As such, the aim of the present study is to investigate the psychometric properties of two self-report questionnaires that assess motivation to change in patients with an ED. (i.e., the Anorexia Nervosa Stages of Change Questionnaire [ANSOCQ]⁶ and the Bulimia Nervosa Stages of Change Questionnaire [BNSOCQ]¹⁶) in a Turkish sample.

METHODS

Participants

The participants were 75 women with a diagnosis of AN (n=44; mean age=24.1±6.2 years) or BN (n=31; mean age=28.2±7.6 years) recruited through the database of the Eating Disorders Program of the Istanbul Faculty of Medicine at Istanbul University, which is a tertiary health care center. Participants were classified in terms of their current phase of illness as active (AN=29.5%; BN=38.7%) if they met full DSM-IV-TR criteria according to the Turkish version of the Structured Clinical Interview for DSM-IV-TR Axis I Disorders (SCID-I);¹⁷ in partial remission (AN=45.4%; BN=58.1%) if they did not fulfill the DSM-IV-TR criteria for AN or BN, but fulfilled the EDNOS criteria; or in complete remission (AN=25.0%; BN=3.2%) if they no longer had an ED diagnosis and had completed their treatment at the time of the study.

Procedures and materials

Two psychologists with advanced English level

independently translated the scales from English to Turkish and after the review process was completed, two linguist back translated the scales. The translated scales were sent to their developer for further review and necessary changes were made. This study was ethically and scientifically approved by the Scientific Board of Istanbul University Department of Psychology and Institute of Social Sciences, and informed consent was obtained from participants before data collection. A clinical interview using the SCID-I was conducted to verify the ED diagnosis. Participants were then asked to complete the questionnaire battery that included demographic form, Turkish versions of the Eating Disorder Examination Questionnaire (EDE-Q)¹⁸ Beck Depression Inventory (BDI),¹⁹ ANSOCQ,² and BNSOCQ.¹⁶

Demographic Form: This form was created by the first and second authors to obtain socio-demographic information (age, socioeconomic status etc.), weight, height, body mass index (BMI), current-previous diagnosis, and treatment history of the patients.

The Anorexia Nervosa Stages of Change Questionnaire (ANSOCQ) and Bulimia Nervosa Stages of Change Questionnaire (BNSOCQ): The ANSOCQ and BNSOCQ are both 20-item self-report questionnaires that assess level of motivation to change a broad range of ED symptoms. Fifteen items of the two scales are identical, remaining items are specific to ED type. For each symptom, respondents indicate their level of motivation based on the stages of change model.¹⁶⁻²⁰ That is, respondents indicate whether they are in the precontemplation, contemplation, preparation, action or maintenance stage of change with respect to the specified symptom. Item scores are summed to yield a total score of overall readiness to change ED symptoms. Current or most recent diagnosis of the participant was considered in deciding whether to administer the ANSOCQ or BNSOCQ.

Beck Depression Inventory (BDI): BDI is a 24-item self-report questionnaire that assess depression. Higher scores indicate an increase of the depression level.¹⁹ Cronbach's alpha was 0.88 in the present study.

Eating Disorders Examination Questionnaire (EDE-Q): EDE-Q is 33-item self-report questionnaire that assess different aspects of eating pathology. It has four subscales; restraint, eating concern, weight concern, shape concern. The scores in questions and subscales are ranged from 0 to 6, increasing scores meaning the

severity of eating pathology.¹⁸ Cronbach's alpha was 0.85 in this study.

Statistical analyses

The internal consistencies of the Turkish versions of the ANSOCQ and BNSOCQ were calculated using Cronbach's alpha coefficients. Pearson Correlation Coefficient test was used to analyze correlations between the ANSOCQ/BNSOCQ and both the EDE-Q and BDI. The Student's t-test for independent samples was used to compare mean total scores on the ANSOCQ and BNSOCQ across the current phase of illness groups.

RESULTS

The Cronbach's coefficient alpha was 0.92 for the ANSOCQ and 0.89 for the BNSOCQ. Thus both scales demonstrated good internal consistency.

Convergent validity was assessed in terms of (1) correlations between both the ANSOCQ and BNSOCQ and eating disorder symptomatology; (2) correlations between both the ANSOCQ and BNSOCQ and depressive symptomatology; and (3) the relationship between total scores on both the ANSOCQ and BNSOCQ and current phase of illness (active, partial remission or full remission). As shown in Table 1, statistically significant and negative correlations were obtained between the ANSOCQ and the total and subscale scores of the EDE-Q, as well as the BDI. All correlations were of a large effect size. Similar results were seen for the BNSOCQ, with the exception of a statistically non-significant correlation between the BNSOCQ and BDI.

In terms of the current phase of illness group comparisons on total ANSOCQ scores, the mean score of patients in the active phase of AN

Table 1. Spearman correlation coefficients between the ANSOCQ/BNSOCQ and the EDE-Q (total and subscale) and BDI scores

Measures	ANSOCQ	BNSOCQ
EDE-Q total	-0.73 ^b	-0.67 ^b
EDE-Q restraint	-0.62 ^b	-0.59 ^b
EDE-Q eating concern	-0.67 ^b	-0.58 ^a
EDE-Q shape concern	-0.72 ^b	-0.50 ^a
EDE-Q weight concern	-0.64 ^b	-0.59 ^b
Beck Depression Inventory	-0.52 ^b	-0.13

EDE-Q, Eating Disorder Examination-Questionnaire
^a: $p < 0.01$ ^b: $p < 0.001$

(47.1±13.7) was statistically significantly lower than the mean score of patients in partial remission (64.8±13.9) ($t_{(31)}=-3.6$, $p=0.002$). Also, the mean ANSOCQ score of patients in partial remission was statistically significantly lower than the mean score of those in full remission (81.3±13.1) ($t_{(29)}=-3.13$, $p=0.002$). As can be seen in Table 2, 92.3% of AN patients in the active phase of illness were in a pre-action stage of change (precontemplation, contemplation and preparation), compared with 65.0% of those in partial remission and 18.2% of those in complete remission.

Similarly, the mean BNSOCQ score of patients in the active phase of BN (45.5±9.2) was statistically significantly lower than the mean score for those in partial remission (59.2±11.2) ($t_{(28)}=-3.5$, $p=0.001$). Mean total BNSOCQ scores in the partial and complete remission groups could not be compared as there was only one BN case in complete remission. As shown in Table 2, all BN patients in the active phase of illness were in a pre-action stage of change, compared with 83.3% of those in partial remission. The only BN patient in complete remission was in the maintenance stage of change.

Table 2. The number and percentage of patients with AN and BN in different stages of change across the categories of current phase of illness

Stages of change	Anorexia nervosa (n=44)						Bulimia nervosa (n=31)					
	Active illness		Partial remission		Complete remission		Active illness		Partial remission		Complete remission	
	n	%	n	%	n	%	n	%	n	%	n	%
Pre-action	12	92.3	13	65.0	2	18.2	12	100.0	15	83.3	0	0
Action	1	7.7	6	30.0	5	45.4	0	0	3	16.7	0	0
Maintenance	0	0	1	5.0	4	36.4	0	0	0	0	1	100.0
Total	13	100.0	20	100.0	11	100.0	12	100.0	18	100.0	1	100.0

Pre-action stages contains precontemplation, contemplation and preparation

DISCUSSION

The purpose of this study was to investigate the psychometric properties of the ANSOCQ and BNSOCQ in a sample of Turkish patients with EDs. The internal consistencies of both questionnaires were good and comparable to those reported in previous studies (e.g., Cronbach's $\alpha=0.90$ for the ANSOCQ in a sample of adult inpatients with AN⁶ and 0.94 for the BNSOCQ in a sample of adolescent patients with BN¹⁶).

In terms of convergent validity, the ANSOCQ and BNSOCQ were negatively correlated with each of the subscales and total score of the EDE-Q, consistent with previous research demonstrating that higher levels of motivation to change are associated with lower levels of ED symptomatology.^{6,16-21} Also in accordance with past research was the finding that ANSOCQ scores were negatively correlated with BDI scores,⁶⁻²¹ perhaps due to elevated depression inducing a sense of hopelessness regarding the possibility of change and/or increasing the ego syntonic nature of ED behaviors as a means of mood regulation. However, contrary to previous findings,¹⁶ BNSOCQ scores were not signifi-

cantly related to BDI scores in the present study. The reasons for this unexpected finding are unclear, although it could not be attributed to a restriction in range of the BDI scores (which ranged from 3 to 41 in the BN group). One possible explanation is that Turkish depressed patients have been found to report significantly higher somatic symptoms than Western samples,²² and it may be that it is the cognitive-affective features of depression that are predominantly related to motivation to change ED symptoms.

Additional support for the convergent validity of both the ANSOCQ and BNSOCQ was evident in terms of significant increases in motivation from the active to partial remission phases of illness and, for the ANSOCQ, increases in motivation from the partial to full remission phases of illness. Of the AN patients in treatment (active and partial remission combined), 75.8% were in a pre-action stage of change which is comparable to the 79.6% of AN inpatients in a pre-action stage of change found in a previous study.² In the present study, 90.0% of BN patients in treatment were in a pre-action stage of change which appears higher than the 70.0% of treat-

ment-seeking BN patients reported previously.¹⁶

This study is the first study that conducted on treatment motivation in ED with the highest clinical sample so far in Turkey. The findings overall are suggestive of both similarities and differences between samples from Western

cultures and the current Turkish sample. The preliminary evidence for the psychometric properties of the Turkish versions of the ANSOCQ and BNSOCQ supports the use of these instruments in conducting cross-cultural research on motivation to change.

Authors' contributors: E.E.O.: literature review, study design, data collection and entering, statistical analyses, writing and reviewing the draft and manuscript; O.S.B.: literature review, study design, statistical analyses, writing and reviewing the draft, and manuscript; B.Y.: literature review, study design, data collection, reviewing the manuscript; E.R.: literature review, statistical analyses, writing and reviewing the manuscript.

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