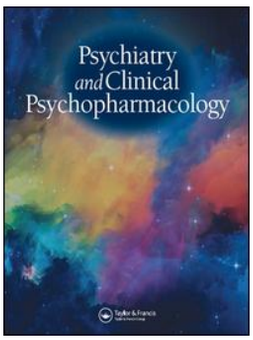

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Turkish Version of Acceptance and Action Questionnaire-II (AAQ-II): A reliability and Validity Analysis in Clinical and Non-Clinical Samples

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ABSTRACT:

Turkish version of Acceptance and Action Questionnaire-II (AAQ-II): A reliability and validity analysis in clinical and non-clinical samples

Objective: Acceptance and Action Questionnaire-II (AAQ-II) is a self-evaluating scale that has been developed for assessing psychological inflexibility levels. The aim of the present study is to examine reliability and validity of the Turkish version of Acceptance and Action Questionnaire-II (Turkish AAQ-II) using clinical and non-clinical sample.

Methods: The study group consisted of 207 patients who have at least one diagnosis of anxiety disorders, anti-social personality disorder, unipolar depression or bipolar disorder, and 267 healthy controls. A socio-demographic form, Turkish AAQ-II, Panic Disorder Severity Scale (PDSS), Ruminative Thinking Style Questionnaire (RTSQ), Beck Depression Inventory (BDI), Padua Inventory Washington State University Revision (PI-WSUR), Short Form-36 (SF-36), STAI (State-Trait Anxiety Inventory) I-II were all administered. Internal consistency and temporal stability analyses were performed to evaluate the reliability of Turkish AAQ-II. Exploratory factor analysis and confirmatory factor analysis (CFA) were also conducted to evaluate the construct validity of this instrument. Convergent, concurrent and predictive validity analyses were also performed.

Results: From 474 participants across clinical and non-clinical samples our results indicated satisfactory reliability and validity of the Turkish AAQ-II. The Turkish AAQ-II showed good internal consistency with Cronbach's α coefficient of 0.84. 60 days test–retest reliability analysis also showed good temporal stability (Pearson's correlation coefficient, r = 0.85). For structural validity; principal component analysis was conducted and Kaiser-Meyer-Olkin index (r=0.83) showed suitability for factor analysis (Bartlett chi-square=1151.20; p<0.0001). One-factor solution (Eigenvalue of 3.62) accounted for 51.76% of the total variance. Confirmatory factor analysis demonstrates that a revised model of scale fits well with 7 items and a one-factor structure [RMSEA (0.079), SRMR (0.0210), CFI (0.971), GFI (0.972), NFI (0.961)]. Pearson's correlation analysis was used for evaluating convergent validity of Turkish AAQ-II and resulted in moderate correlations with RTSQ and STAI-II total scores (coefficients r = 0.566, r = 0.669, respectively). Concurrent validity analysis was performed to examine the predictive power of Turkish AAQ-II. Statistically significant correlations were found between total scores of Turkish AAQ-II and BDI (r=0.632), STAI-I (r=0.535), PI-WSUR (r=0.668) and PDSS (r=0.670). Predictive validity examined by comparing mean total Turkish AAQ-II scores of clinical and non-clinical groups and found statistically significantly higher scores in clinical (M=26.17, SD=8.81) group compared to to non-clinical [M=19.05, SD=7.76; t(443)=9.05, p<.0001] study group.

Conclusions: It was found that Turkish AAQ-II has an one-factor structure with 7-item version. Higher levels of Turkish AAQ-II were found correlated with higher depressive, obsessive-compulsive, and anxiety related symptoms, and lower quality of life scores. Finally, it can be proposed that psychological inflexibility, assessed by Turkish AAQ-II, is a valid unidimensional measure in a variety of clinical sample as good as in non-clinical sample to measure the level of psychological distress.

Keywords: acceptance and action questionnaire, psychological inflexibility, reliability, validity, factorial structure

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INTRODUCTION

From a behaviorist point of view, a psychological event is defined as the interaction between the organism and environment[1]. When this interaction is observed, one can easily distinguish the importance of language and cognition on separating the human from other species. A pragmatic behaviorist approach to language and cognition, relational frame theory, proposes that verbal relations (cognitions) have controlling functions over behaviors, rather than determining them[2].

Increased dominancy of language and cognition can lead insensitivity to contingencies in a particular context and narrow behavioral repertoire[3]. In Acceptance and Commitment Therapy (ACT) model, narrowing of behavioral repertoire is described as 'psychological inflexibility', which is synonymous with psychopathology[4]. This model consists of six repertoire-narrowing dimensions called; experiential avoidance, cognitive fusion, dominance of conceptualized past and/ or feared future, attachment to conceptualized self, absent of values, and inactivity/ avoidance/ impulsivity[5].

In psychological inflexibility model, experiential avoidance is mostly focused one and has respectably large research support in relation to occurrence and maintenance stages of various psychopathologic conditions[6]. Experiential avoidance has been taken as an opposite attitude to 'acceptance' and defined as individual's unwillingness to be in contact with -mostly negative- senses, emotions, thoughts, memories, images etc. and attempts to alter the form, frequency, and situational sensitivity of these private experiences[7]. This can be a problematic pattern especially if it takes individual away from his/ her valued life activities. For example, emotional avoidance in anxiety disorders replies itself through negative reinforcement and causes poor social, intimate, and occupational life styles[8]. In opposition to experiential avoidance; 'acceptance' term contains a voluntary willingness to contact with unwanted private experiences and taking an open, receptive, flexible posture to these experiences for a value congruent life[9]. In the heart of psychological flexibility model; when an aversive private experience occurs, acceptance posture provides a broader behavioral repertoire and prevents individual from a rigid behavioral pattern that is related to development of psychopathology.

Although psychological inflexibility (assessed with experiential avoidance levels) is a unique approach to clinical problems, its context-based characteristics complicate the evaluation of itself by self-assessment tools[10]. Despite this difficulty, Acceptance and Action Questionnaire I[11] and II[12] versions have been developed for the purpose of evaluating the differences of experiential avoidance levels in individuals and displayed as a marker for lower psychological well-being[13] and numerous clinical conditions. A great deal of research showed that experiential avoidance functioned as a mediator in treatment response in depression[14], anxiety disorders[15], chronic pain[16], nicotine dependence[17], and psychosis[18].

However, it was found that the first scale (AAQ-I) has unstable factor structure, low alpha value of internal consistency, item complexity[12], and weak psychometric characteristics[12,19]. And a new scale (Acceptance and Action Questionnaire-II, AAQ-II) has been developed in the light of these statistical weaknesses of AAQ-I that consists of 10 items[12]. Three of ten items have been removed due to the weakness of the two-factor structure, and finally seven-item AAQ-II with one-factor structure is now widely used version of the scale. The current seven-item AAQ-II is a 7-point Likert style scale and respondents rate items from 1 ('never true') to 7 ('Always true'). All items are negatively worded and total score shows higher 'psychological inflexibility' level. Original study of AAQ-II conducted with a total of 2,816 participants from six different samples from both healthy and clinical conditions. The scale showed good internal consistency with average Cronbach's alpha level of 0.84 (0.78–0.88). Temporal stability of the AAQ-II, assessed with 3- and 12-month test-retest reliability, also revealed good correlations and stability (0.81 and 0.79, respectively). Significant positive correlations were also found between psychological inflexibility

(measured by AAQ-II) and other related constructs including anxiety, depression, thought suppression levels, and psychological distress outcomes. The authors also found that higher levels of psychological inflexibility may have predicted mental health related problems due to an analysis with a sample of substance misuse. Overall, original AAQ-II shows strong convergent, predictive, and concurrent validity properties[12].

Examining transcultural validity of psychological flexibility model, Monestès et al.[20] found that AAQ-II versions of different languages (Dutch, English, French, Greek, and Italian), have similar psychometric properties in five different communities in Europe. Recently a new study has been conducted, including our present data, for larger transcultural validity of psychological flexibility model.

Beside of a general version for clinical and non-clinical samples, specific versions of AAQ-I and II were also developed for particular conditions, aims and samples, including chronic pain[16], diabetes[21], weight related problems[22], smoking[17], food craving[23] substance dependency[24], social anxiety[25], epilepsy[26], stigma[27], body image[28], and auditory hallucinations[29].

Overall, experiential avoidance and psychological flexibility model is a growing scientific approach related to clinical problems and psychological health. Presence of a measuring tool based on psychological flexibility model will provide opportunities for further researches beside of clinical use. The present study was aimed to examine the psychometric properties and factor structure of the Turkish Version of Acceptance and Action Questionnaire-II (Turkish AAQ-II) in both clinical and non-clinical sample.

MATERIALS AND METHOD

Participants

The sample consists of 207 individuals who have at least one diagnosis with anxiety disorders, anti-social personality disorders, unipolar depression or bipolar disorders who applied to outpatient clinics of our hospital and 267 healthy volunteer who do not have any psychiatric complain at the time of the research. The individuals aged 18-65 who are literate and do not have any psychotic disorder, active mood episode, mental retardation and accepted to attend the research voluntarily are included into the research.

Procedure

The study was approved by the Ethics Committee of Bakirkoy Training and Research Hospital for Psychiatry, Neurology, and Neurosurgery. Permission was obtained from the developers of the original questionnaire to conduct our study. After translation of the AAQ items into Turkish; the scale was then translated back to English by three psychiatrists fluent in both Turkish and English. Discrepancies between both Turkish versions were then discussed and cleared to make sure that the Turkish translation resembled the original content of the instrument as closely as possible.

Socio-demographic form and Turkish AAQ-II were administered to participants who met the research inclusion criteria. Self-reported scales -except Panic Disorder Severity Scale- were used as indices of psychopathology to examine clinical validity. Ruminative Thinking Style Questionnaire, Beck Depression Inventory and SF-36 were administered to participants diagnosed with Unipolar Depression; Padua Inventory and SF-36 were applied to participants diagnosed with Obsessive Compulsive Disorder; STAI I-II, SF-36 and Panic Disorder Severity Scale were applied to participants diagnosed with Panic Disorder, State-Trait Anxiety Inventory (STAI) I-II and SF-36 were applied to participants diagnosed with other Anxiety Disorders. Ruminative Thinking Style Questionnaire, Beck Depression Inventory, STAI I-II and SF-36 were used in the assessment of healthy controls.

Measurement Tools

Socio-Demographic Form: It is a study-oriented form developed by researchers, which

includes questions about socio-demographic properties like age, gender, education and life histories of the participants.

Acceptance and Action Questionnaire-II (AAQ-II): During the validity and reliability analyses it was shown that new version of AAQ with 7 items has strong statistical data both with clinical and non-clinical samples[12]. Higher scores received from the scale show higher levels of psychological inflexibility, thus increase in experiential avoidance.

Ruminative Thinking Style Questionnaire (RTSQ): RTSQ was developed to assess ruminative thinking styles by Brinker and Dozois[30] and Turkish validity and reliability study of the scale was conducted by Karatepe et al.[31] The 7-point Likert type scale consists of 20 items. Contrary to previous rumination focused scales, RTSQ assesses the general ruminative response style independent from individual's present mood and it is not only depression-oriented.

Beck Depression Inventory (BDI): The BDI is a 21-item self-report questionnaire designed to measure somatic, emotional, cognitive, and impulsive symptoms of depression[32]. Participants rate symptom severity in 21 items on a 4-point Likert scale ranging from 0 to 3, with respect to the past 2 weeks. The score that can be taken from inventory varies between 0 and 63 and higher scores indicate an increase in depressive mood. Turkish validity and reliability study of the scale was conducted by Hisli[33].

The MOS 36-Item Short-Form Health Survey (SF-36): The 36-item short-form (SF-36) was constructed for use in clinical practice and research, health policy evaluations, and general population surveys to examine health status in the Medical Outcomes Study[34]. The SF-36 was designed for use in clinical practice and research, health policy evaluations, and general population surveys. This scale has been reported to be used in the evaluation of the quality of life in patients with physical illness. The SF-36 includes one multi-item scale that assesses eight health concepts: 1) limitations in physical activities because of health problems; 2) limitations in social activities because of physical or emotional problems; 3) limitations in usual role activities because of physical health problems; 4) bodily pain; 5) general mental health (psychological distress and well-being); 6) limitations in usual role activities because of emotional problems; 7) vitality (energy and fatigue); and 8) general health perceptions reflecting quality of life[34]. Turkish version of SF-36 has been validated by Kocyigit et al.[35]. Internal consistency reliability of the scale for this study was 0.8935. TurkishEach subscale evaluates the health between 0-100. A 0 score implies bad and 100 implies higher quality of life[36].

Padua Inventory Washington State University Revision (PI-WSUR): The PI-WSUR is a 39-item self-report measure, developed to assess the severity of obsessions and compulsions[37]. Each item is rated on a 5-point scale according to the degree of disturbance caused by the thought or behavior (0= "not at all" to 4= "very much"). The PI-WSUR items were organized to measure 5 content areas relevant to OCD. These 5 areas are obsessional thoughts to harm self/ others (OTAHSO); obsessional impulses to harm self/ others (OITHSO); contamination obsessions and washing compulsions (COWC); checking compulsions (CHKC); and dressing/ grooming compulsions (DRGRC). The five subscale structure was supported by the Turkish version of the scale[38].

State-Trait Anxiety Inventory (STAI) I-II: The original inventory was developed in 1970 by Spielberger et al.[39] and its Turkish adaptation with validity and reliability was carried out by Oner[40]. The 4-point Likert type self report inventory consists of two separate scales with 20 items that measure state and trait anxiety. Higher scores obtained from the scales show higher anxiety and worry levels.

Panic Disorder Severity Scale (PDSS): The

PDSS was developed to provide a simple way of measuring the overall severity of DSM-IV panic disorder. The PDSS consists of 7 items, each rated on a 5-point Likert scale from 0 (no symptoms) to 4 (extreme symptoms) with a total range of 0 to 28. The items are carefully anchored and assess panic frequency, distress during panic, panic-focused anticipatory anxiety, phobic avoidance of situation, phobic avoidance of physical sensations, impairment in work functioning, and impairment in social functioning. A total score more than or equal to 8 signifies the symptoms of panic disorder. Increase in total score indicates increase in severity of panic disorder[41]. Turkish validity and reliability study of the PDSS was conducted by Monkul et al.[42].

Statistical Analysis

For descriptive statistics and psychometric analysis, we used SPSS 15.0 version for windows (SPSS Inc., Chicago, IL). The data were tested for univariate and multivariate normality, linearity, and homogenity of sample variances[43]. All items were in acceptable ranges. Presence of outliers were also controlled. Internal consistency and item-total correlation were evaluated using Cronbach's alpha and Pearson's correlation coefficients. Temporal stability of T Turkish AAQ-II was assessed with test-retest method after a month from the baseline assessment. Suitability of the scale for factor analysis was evaluated by Bartlett's test[44] (requires significance at $p<0.05$ value) and Kaiser-Meyer-Olkin (KMO) sampling adequacy assessment[45] (requires a 0.6 value) Principal component analysis (PCA) was conducted to examine the factor structure.

Beside of exploratory factor analysis (EFA) for factor structure, it is recommended to perform confirmatory factor analysis (CFA) for further support of models[46]. We used SPSS AMOS 23 version to perform CFAs[47] for testing our factor structure which obtained from EFA. The quality of models can also be evaluated by its goodness of fit to data[48]. Chi-square (χ^2) is very sensitive to sample size[49], for this reason we used relative chi-square, is the chi-square fit index divided by degrees of freedom (χ^2/df), makes χ^2 less dependent on sample size. In addition, frequently suggested fit indices we used are the comparative fit index (CFI)[50], the general fit index (GFI), chi-square degrees of freedom ratio or normalized chi square (χ^2/df), the normed fit index (NFI), the standardized root-mean-square residual (SRMR), and the root mean square error of approximation (RMSEA)[51]. Values of CFI, GFI, NFI > 0.952, χ^2/df <553, and RMSEA, SRMR < 0.0854 are used as criteria for indicating a good fit.

In order to determine convergent and concurrent validity of Turkish AAQ-II, its relationship with between other scales was examined by Pearson correlation analysis. For predictive validity of Turkish AAQ-II independent-samples t-test was performed.

RESULTS

Descriptive Statistics

29 of 474 respondents identified as outliers by box plot method and analyses conducted with 445 participants. 210 were females (47.2%). Mean age was 32.3 (±10.89, range between 18 and 63). 98 of respondents were graduate students (22%), 224 of them were full-time employees (50.3%) and others were retired or unemployed (27.6%, n=123) participants.

Reliability

In order to determine internal consistency between Turkish AAQ-II items, Cronbach's alpha correlation analysis method was used. Overall Cronbach's alpha coefficient was found 0.84, which indicates a good internal consistency. Table 1 displays the descriptive statistics for Turkish AAQ-II items, corrected item-total correlations and the value of Cronbach's alpha if item deleted. In according to our results, we did not need to remove any items for increasing the value of Cronbach's alpha.

For the temporal stability of Turkish AAQ-II, we performed test-retest reliability analysis. Thirty

Table 1: Descriptive statistics, corrected item-total correlation and Cronbach's Alpha if item deleted from Turkish AAQ-II items (n=445)

Items	Mean	Std. Deviation	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. My painful experiences and memories make it difficult for me to live a life that I would value.	3.36	1.71	0.546	0.829
2. I'm afraid of my feelings.	3.09	1.76	0.516	0.834
3. I worry about not being able to control my worries and feelings.	3.17	1.70	0.620	0.819
4. My painful memories prevent me from having a fulfilling life.	2.64	1.75	0.609	0.820
5. Emotions cause problems in my life.	3.20	1.71	0.674	0.810
6. It seems like most people are handling their lives better than I am.	3.54	1.86	0.582	0.824
7. Worries get in the way of my success.	3.243	1.97	0.646	0.814

Table 2: Results of confirmatory factor analyses of model testing of Turkish AAQ-II

Model	RMSEA*	SRMR†	CFI‡	GFI§	NFI‖	χ^2/df¶	p
One-factor model	0.100	0.041	0.949	0.957	0.939	5.4	<0.01
One-factor model with revision	0.079	0.210	0.971	0.972	0.961	3.7	<0.01

*RMSEA= root mean square error of approximation, †SRMR= Standardized root mean square residuals, ‡CFI= Comparative Fit Index, §GFI= goodness of fit index, ‖NFI= normed fit index, ¶χ^2/df= normalized chi-square.

participants from our sample completed Turkish AAQ-II 60 days later. Correlation coefficient between time 1 and 2 was r=0.85. This indicated that Turkish AAQ-II scale have a good temporal stability between the two assessments.

Construct Validity

Principal component analysis (PCA) was conducted to analyses structural validity. Kaiser-Meyer-Olkin index, a measure of sampling adequacy (r=0.83) showed that data were suitable for factor analysis (Bartlett chi-square=1151.20; p<0.0001). We identified one factor solution with an Eigenvalue of 3.62 and it accounted for 51.76% of the total variance. Also the application of the scree plot criterion resulted in a one-factor structure.

CFA was conducted to determine whether the data replicated one-factor structure found with the EFA. We used the unit loading constrain method for choosing the latent variable[55]. According to the fit indices, revised model-2 found statistically significantly superior to model-1 with RMSEA (0.079), SRMR (0.0210), CFI (0.971), GFI (0.972), NFI (0.961) and a change in normalized chi-square χ^2/df (3.746), p<0.01 (Table 2). Goodness-of-fit

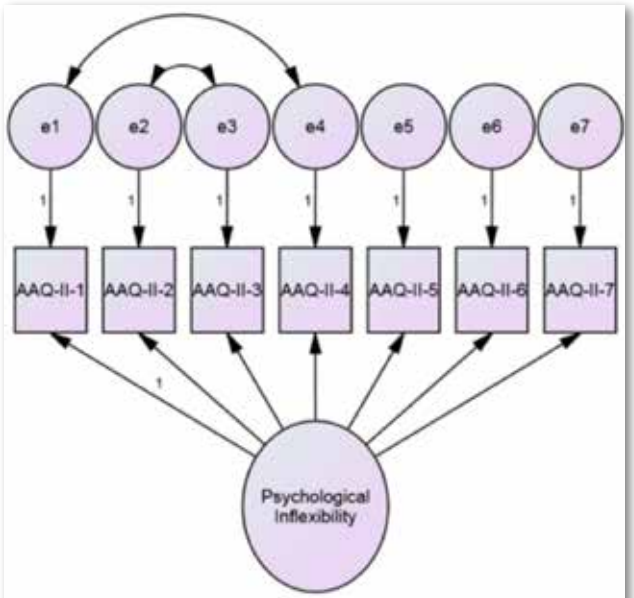

Figure 1: Turkish AAQ-II with revised one-factor model

Table 3: Standardized factor loadings and squared multiple correlations of the revised one-factor model of Turkish AAQ-II from confirmatory factor analyses

Items	Standardized factor loadings	Squared Multiple Correlations
1	0.51	0.546
2	0.52	0.516
3	0.66	0.620
4	0.60	0.609
5	0.75	0.674
6	0.67	0.582
7	0.75	0.646

indices revealed that the one-factor model fitted well with correlated measurement errors between items 1–4, and 2–3. In according to these results, we selected model-2 as the best fit for the data (Figure 1). Estimated standardized factor loadings (ranged between 0.51 and 0.75, p<.001) for Turkish AAQ-II and the variance explained by items (ranged between 26.4 and 56.9%) were displayed in Table 3.

Convergent, Concurrent, and Predictive Validities

For convergent validity analysis we examined the correlation between Turkish AAQ-II and Ruminative Thinking Style Questionnaire (RTSQ) and State-Trait Anxiety Inventory (STAI) II. We used RTSQ and STAI-II for evaluating rumination and worry patterns, respectively. Based on Pearson's correlation analysis, Turkish AAQ-II was correlated moderately with the total scores of RTSQ (coefficient r=0.566) and STAI-II (r=0.669) (Table 4).

We conducted concurrent validity analysis to examine the predictive power of Turkish AAQ-II for other outcomes. Based on Pearson's correlation analysis we found statistically significant correlations between total scores of Turkish AAQ-II and BDI (r=0.632), STAI-I (r=0.535), PI-WSUR (r=0.668) and PDSS (r=0.670). We also examined correlations with SF-36 and found statistically significant correlations (physical functioning; r=-0.506, role limitations due to physical health problems; r=-0.340, role limitations due to emotional problems; r=-0.446, bodily pain; r=-0.292, general health; r=-0.326, vitality; r=-0.295, social functioning; r=-0.474, mental health; r=-0.324) (Table 4).

Table 4: Correlations of Turkish AAQ-II scores with Other Measures

	n	AAQ-II (r)
RTSQ†	283	0.566**
STAI-I‡	295	0.535**
STAI-II‡	295	0.669**
BDI§	283	0.632**
PI-WSUR‖	32	0.668**
PDSS¶	17	0.670**
SF-36-physical functioning**	366	-0.506**
SF-36-role limitations due to physical health problems	366	-0.340**
SF-36-role limitations due to emotional problems	366	-0.446**
SF-36-bodily pain	366	-0.292**
SF-36-general health	366	-0.326**
SF-36-vitality	366	-0.295**
SF-36-social functioning	366	-0.474**
SF-36-mental health	366	-0.324**
Age	445	-0.032

**p<0.001. *AAQ-II= Acceptance and Action Questionnaire-II, †RTSQ= Ruminative Thinking Style Questionnaire, ‡STAI I-II=State-Trait Anxiety Inventory I-II, §BDI= Beck Depression Inventory, ‖PI-WSUR= Padua Inventory Washington State University Revision, ¶PDSS= Panic Disorder Severity Scale, **SF-36= Short Form 36.

Additionally the predictive validity of the Turkish AAQ-II examined by comparing total AAQ-II mean scores of clinical and non-clinical groups. We conducted independent-samples t-test and found statistically significantly higher scores in clinical (M=26.17, SD=8.81) group according to non-clinical [M=19.05, SD=7.76; t(443)=9.05, p<0.0001] group. The magnitude of the difference in the means was moderate (eta squared=0.07)[56].

We found no statistically significant correlations between Turkish AAQ-II total scores and age (r=-0.032) (Table 4). Also an independent-samples t-test was conducted to compare the Turkish AAQ-II scores for males and females. There were no statistically significant differences in total scores for males (M=20.09, SD=8.81) and females [M=21.32, SD=8.85; t(429)=1.44, p=0.15].

DISCUSSION

The purpose of the present study was to explore the psychometric properties and factorial structure of the Turkish version of Acceptance and Action

Questionnaire-II (Turkish AAQ-II). For this aim, we conducted several statistical analyses to examine internal consistency, temporal stability, construct validity, convergent, concurrent, and predictive validity of the scale.

We first examined the internal consistency of the scale. Cronbach's alpha coefficient was found 0.84 in our sample and this value was similar to original paper[12] (ranging from 0.78 to 0.87 across the different samples). This result supported adequate internal consistency[57] of Turkish AAQ-II. Temporal stability of scale conducted with test-retest reliability analysis 60 days later from the baseline application. With 0.85 correlation coefficient value between time 1 and 2, Turkish AAQ-II seemed to have a good temporal stability. As the original research, temporal stability of Turkish AAQ-II for longer time periods needs to be examined.

Exploratory factor analysis (EFA) was performed to determine construct validity and factor structure of items of Turkish AAQ-II. Solution with one-factor was obtained, which explained 51.76% of total variance. This result showed the same factor structure with the original scale. We also performed confirmatory factor analysis (CFA) for testing our one-factor solution obtained from EFA. CFA also allowed us to determine measurement errors. These correlated errors stem from methodological effects, which are similarly worded items, content overlaps, demand characteristics, acquiescence, reading difficulty, etc[58]. According to our results, CFA agreed with the one-factor structure of Turkish AAQ-II as obtained from the EFA. This one-factor result is similar with previous studies[12,59,60]. However, we found two correlated measurement errors specified by CFA. Similarly worded items as 'painful memories' and overlapping of items' content may explain first method effect between item 1 and 4. This same method effect with items 1 and 4 was also found in previous AAQ-II studies[10,12,61,62,63]. Additionally, both of these items' aim seemed to evaluate individuals' perception of negative past experiences as barriers for living a meaningful life. Other method effect we found by CFA –not found in the original research- was between items 2 and 3. This error can also be explained with similarly worded ('feelings') items. As a result, we can say that, with two method effects, Turkish AAQ-II's one-factor model fit the data in our sample.

Regarding convergent validity analysis, relations between total Turkish AAQ-II and Ruminative Thinking Style Questionnaire (RTSQ) and State-Trait Anxiety Inventory II (STAI-II) scores were examined. High levels of these response styles (rumination and worry, respectively) are indicators of psychological inflexibility model and both have emotional avoidance functions[11]. Moderate to good correlations between these scales provide evidence for convergent validity of Turkish AAQ-II.

Psychological inflexibility model propose that experiential avoidance is one of the central dimensions of psychopathology and in relation with various clinical conditions[64] and impaired functionality. Accordingly, our results indicated that, higher psychological inflexibility levels have significant positive correlations with the severity of psychopathological conditions like panic disorder, other anxiety disorders, unipolar depression, obsessive-compulsive disorder, and quality of life. Consistent with our findings, previous studies also found similar results as psychological inflexibility has a moderate and strong positive correlations with depression, anxiety, and distress levels[12,61,63,65,66].

In original research[12], it was found that mean total scores of AAQ-II is 28.34 (SD: 9.92) in a clinical sample with substance misuse. This is similar with our results, which is 26.17 (SD=8.81) as mean score in our clinical sample. Considering other studies and our results together, it can be said that Turkish AAQ-II has good transcultural validity. We also found significant difference in total scores between clinical and non-clinical sample. This high experiential avoidance levels in our clinical sample provides evidence for validity of Turkish AAQ-II.

As other studies[12,67] have also shown, AAQ-II levels have no significant relations with gender and age. These indicate that the AAQ-II can be used in diverse populations.

CONCLUSION

Findings of present study showed that construct validity, internal consistency, convergent, predictive, and concurrent validity of the Turkish AAQ-II were supported by a wide range of sample. As previous studies, we found that Turkish AAQ-II has also a one-factor structure. A recently published research[63] indicated that another Turkish version of AAQ-II has good psychometric properties in a non-clinical student sample. Present study contains participants with various disorders (unipolar depression, obsessive compulsive disorder, panic disorder, and other anxiety disorders) in addition to non-clinical sample and showed that Turkish AAQ-II is a suitable scale for clinical trials in addition to non-clinical studies.

This study has some limitations. First, we did not include quality of life measures directly. For this reason we could not directly assess relationship between Turkish AAQ-II levels and quality of life. Second, cross-sectional nature of the study does not allow us to separate potential cause and effect relationship between the measures used. Finally, lack of participants with severe mental disorders, like schizophrenia. Future studies are needed especially with other clinical disorders for additional support of this model.

Psychological inflexibility, assessed by Turkish AAQ-II, is a valid unidimensional measure in a variety of clinical sample as good as in non-clinical sample to measure the level of psychological distress. Higher levels of AAQ-II are found in relation with higher depressive, obsessive-compulsive, and anxiety related symptoms, also with reduced quality of life. In the light of these findings of present and previous studies, psychological inflexibility model supports a transdiagnostic psychopathology approach.

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KABUL VE EYLEM FORMU-2

Aşağıda bir dizi ifade bulunmaktadır. Her bir ifadenin sizin için ne kadar doğru olduğunu yanında yazan rakamı yuvarlak içine alarak belirtiniz. Seçiminizi yapmak için aşağıdaki cetveli kullanınız.

1	2	3	4	5	6	7
Hiçbir zaman doğru değil	Çok nadiren doğru	Nadiren doğru	Bazen doğru	Sıklıkla doğru	Neredeyse her zaman doğru	Daima doğru

1.	Geçmişte olan acı veren yaşantılarım ve hatıralarım, değer verdiğim bir hayatı yaşamayı zorlaştırıyor.	1	2	3	4	5	6	7
2.	Hislerimden korkarım.	1	2	3	4	5	6	7
3.	Kaygılarımı ve hislerimi kontrol edememekten endişelenirim.	1	2	3	4	5	6	7
4.	Acı hatıralarım dolu dolu bir hayat yaşamamı engelliyor.	1	2	3	4	5	6	7
5.	Duygular hayatımda sorunlara yol açar	1	2	3	4	5	6	7
6.	İnsanların çoğu hayatlarını benden daha iyi idare ediyor gibi görünüyor.	1	2	3	4	5	6	7
7.	Endişelerim başarılı olmamı engelliyor	1	2	3	4	5	6	7