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RESEARCH

Turkish Adaptation Study of the State Anger Scale in a Traumatized Sample

Travma Deneyimlemiş Bir Örneklemde Durumluk Öfke Ölçeğinin Türkçe Uyarlama Çalışması

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Abstract

Anger is an emotional response that occurs with many mental problems, sometimes treated as a symptom, so it would be useful to measure in clinical studies. This study aims to adapt the State Anger Scale to Turkish and to test the validity and reliability of the scale. A sample of 578 women who experienced physical and sexual abuse, aged between 18 to 57 participated in the study. The internal consistency of the scale was calculated by calculating both Cronbach's alpha coefficient and Guttman split-half reliability. While the construct validity of the scale was examined by exploratory factor analysis; the criteria validity of the scale was tested by examining the relationship between traumatic stress and trait anger levels. The predictive validity was tested by regression analysis. The internal consistency coefficient of the scale was $\alpha = .94$; the split-half reliability coefficient was .89. Results of factor analysis revealed that the scale consisted of two factors that have a high-level positive relationship. The state anger and traumatic stress symptoms were related positively, and state anger level explained 22% of the variance in traumatic stress symptoms. These findings suggest that the Turkish version of the State Anger Scale (STAS) is a valid and reliable measurement tool. The STAS is thought to be a useful tool for both determining the effectiveness of treatment and developing preventive studies especially in the studies of psychological trauma.
Keywords: Anger, post-traumatic stress disorder, reliability, validity

Öz

Öfke, birçok ruhsal problem ile birlikte ortaya çıkan, kimi zaman bir semptom olarak da ele alınan, bu nedenle klinik araştırmalarda ölçülmesinin faydalı olacağı duygusal bir tepkidir. Bu çalışmada Durumluk Öfke Ölçeğinin Türkçe'ye uyarlanması, geçerlik ve güvenirliğinin sınanması amaçlanmıştır. Araştırmanın örneklemini fiziksel ve cinsel şiddet deneyimi olan, yaşları 18 – 57 arasında değişen 578 kadın oluşturmaktadır. Ölçeğin iç tutarlılığı hem Cronbach alfa katsayısı hem de iki yarım test güvenirliği hesaplanarak; yapı geçerliliği açımlayıcı faktör analizi kullanılarak, ölçüt bağıntılı geçerliliği travmatik stres ve sürekli öfke puanları arasındaki ilişki incelenerek ve yordayıcı geçerliliği regresyon analizi yapılarak test edilmiştir. Ölçeğin iç tutarlılık kat sayısı .94; iki yarım test güvenirliği .88 ve Guttman İki-Yarı kat sayısı .89 olarak hesaplanmıştır. Yapılan faktör analizinde ölçeğin iki faktörden oluştuğu, iki faktör arasında yüksek düzey pozitif ilişki olduğu görülmüştür. Durumluk öfke düzeyi ile travmatik stres belirtileri arasında yüksek düzey pozitif ilişki olduğu, durumluk öfke düzeyinin travmatik stres belirtilerindeki değişimin %22'sini açıkladığı görülmüştür. Bu bulgular Durumluk Öfke Ölçeği'nin Türkçe formunun geçerli ve güvenilir bir ölçüm aracı olduğuna işaret etmektedir. Durumluk öfke ölçeğinin, özellikle psikolojik travma alanında yapılan çalışmalarda hem tedavi etkililiğinin tespit edilmesinde hem de önleyici çalışmalar geliştirmede kullanılabilecek yardımcı bir araç olduğu düşünülmektedir.
Anahtar sözcükler: Öfke, travma sonrası stres bozuklukları, güvenirlik, geçerlilik

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ANGER is one of the basic emotions which has a very important place in daily life. It can be described as a psychobiological emotional state and an emotional response emerging in the situations such as keeping an individual from the satisfaction of personal needs or a goal-oriented behavior (Spielberger 1999, Etzler et al. 2014). Anger can be seen as a symptom in many mental disorders such as post-traumatic stress disorder (PTSD), generalized anxiety disorder, bipolar mood disorder, impulse control disorder, and borderline personality disorder (APA-American Psychiatric Association 2013). It is seen that measuring the level of anger which is a symptom of many disorders in DSM-5, is very important in understanding the effects of anger on the occurrence and continuation of mental disorders and the effect of anger level on an individual's functionality.

Anger is one of the emotions that occur in a situation where has been encountered with a threatening stressor. Anger shows similarities with anxiety in terms of triggers and physiological mechanisms. Both anger and anxiety are emotions that are regulated by the amygdala, and the frontal and temporal regions that are active during both emotional reactions are similar (Danesh 1977, Olatunji et al. 2010). Even though this similarity caused the observation of anger-related problems in anxiety and PTSD, it is stated that the level of anger observed with PTSD is higher than the observed levels of anger in every other anxiety disorder (Olatunji et al., 2010). It is stated that anger level increases especially in people who have been exposed to traumatic stress. Eventually, this increased level of anger leads to both physical health problems and interpersonal problems (Kulka et al. 1990, Lasko et al. 1994, Jakupcak and Tull 2005, Swan et al. 2005).

Studies examining the relationship between PTSD and anger indicate that anger is one of the predictors of PTSD (Riggs et al. 1992, Dyer et al. 2009, Olatunji et al. 2010). In fact, it is stated that anger predicts the severity of PTSD more than any other traumatic stress symptom (Durham et al., 2018). Anger levels of women who have experienced trauma are higher than a control group who have never experienced trauma, and it was found that anger level is the strongest predictor of PTSD symptoms one month after the incident. (Riggs et al. 1992). Similarly, Novaco and Chemtob (2002) also indicated that anger explained 40% of the variance in traumatic stress symptoms. In some studies, it can be seen that a high level of anger in people who have experienced a traumatic event affects negatively the treatment process of PTSD symptoms. (Dyer et al. 2009; Olatunji et al., 2010). Durham et al. (2016), when they examined the relationship between PTSD and anger, they determined that anger was associated with dysphoric arousal more than undesirable thoughts about the event, negative changes in mood, and cognition. In another study, it was stated that anger is related to all traumatic stress symptom dimensions and may affect PTSD and comorbid disorders (Durham et al. 2018). All these findings support the idea that anger is a mechanism underlying traumatic stress.

Spielberger (1988) suggested that anger consists of two components: state anger and trait anger. Accordingly, trait anger has been described as a part of personality structure, a feature connected with temperament. On the other hand, state anger has been described as an emotional response that could be experienced in a specific moment, and its intensity could vary under different situations. In a study, it was reported that a high level of trait anger mediated the significant relationship between conflict in war, PTSD, and later aggression (Novaco and Chemtob 2002, Wilk et al. 2015). That is, being angry

as a character trait plays a mediating role in the development of post-traumatic PTSD symptoms. Therefore, it is thought that it is important to measure both trait and state anger levels in people who have experienced trauma.

In this study, it was aimed to adapt the Turkish version of the State-Trait Anger Scale (WHO, Spielberger 1988), which is a measurement tool to help evaluate the state anger level in individuals with trauma experience and to examine the psychometric properties of the scale. Although there are many scales to measure anger in the literature, validity, and reliability studies have been conducted in Turkish, and it is known that the most widely used scale is the Multidimensional Anger Scale. The scale, developed by Balkaya and Şahin (2003), consists of 5 sub-dimensions that measure anger-related symptoms, anger-inducing situations, anger-related thoughts, anger-related behaviors, and interpersonal anger reactions. Although the scale is a scale developed following cultural norms, it does not allow the measurement of state and trait anger separately. In addition, anger-related symptoms provide a measure of physical manifestations of anger. Another scale used is the Novaco Anger Inventory, but the psychometric properties of this scale for children and adolescents have been examined in Turkish and therefore cannot be used for adults. In this respect, bringing the State-Trait Anger Scale developed by Spielberger (1988) into Turkish would be beneficial especially for clinical studies.

The Trait Anger sub-dimension of the aforementioned scale was adapted into Turkish by Özer (1992) and its psychometric properties were reported. State Anger dimension was translated into Turkish by Kalay et al. (2017). However, the psychometric properties of the scale were tested on university students, and the Novaco Anger Inventory, which was reported to be a valid and reliable scale for the 11-15 age group, was used in the sample of the 18-31 age group to test the concurrent validity of the scale. This study, it was aimed to test the Turkish validity and reliability of the scale in both adults and a sample that has experienced trauma and to examine its validity in the context of the relationship between PTSD symptoms and trait and state anger symptoms.

Method

Sample

This research is a sub-study of a more comprehensive study on "The Effects of Violence Against Women". Therefore, the sample consists of women aged 18 years and older who have had at least one romantic relationship experience. What is meant by a romantic relationship here is a partner relationship defined by intimacy, sensuality, and the desire for intimacy (Shulman et al. 2011).

In DSM – 5, in PTSD diagnostic criteria A, a traumatic event is defined as 'actual serious injury or actual sexual violence or threatened to death or sexual violence' (APA 2013). Therefore, in this study, the definition of a traumatic event was limited to the definition of a traumatic event in DSM-5. The data of 434 people out of 1012 people who had not experienced physical or sexual violence and only experienced psychological and economic violence were not included in the analyses. The sample of this study consists of only physical (n=223), only sexual (n=163) and both physical and sexual violence experienced women.

The age of participants ranged from 18 to 57 years and the mean age was 32.9 (SD=9.9). Of the participants, 53.5% (n=309) were single, 28.4% were married, 17.1% (n=99) were divorced and 1.0% (n=6) were widows. Most of the participants (68.9%, n=398) were university graduates. The remaining 15.7% (n=91) were postgraduate or doctorate, 13.0% (n=75) were high school, 2.3% were primary or secondary school and 0.2% (n=1) were literate. Employees rate was 54.3% (n=314). While 24.9% (n=144) of the participants stated that they had previously experienced a life-threatening traumatic event, 32.7% (n=189) stated that they had previously been diagnosed with a mental disorder that requires treatment. Of those who stated that they had a mental illness requiring treatment, 108 received treatment for depression, 41 for anxiety disorder, 7 for post-traumatic stress disorder, 5 for bipolar disorder, 4 for obsessive-compulsive disorder, and 4 for personality disorder. The remaining 10 people, one each, stated that they received treatment for trichology, grief, tic disorder, fibromyalgia, substance use, insomnia, atypical psychosis, attention deficit and hyperactivity, and eating disorders.

Procedure

In the study, the items of the state anger scale were translated into Turkish from the original form by the authors. Translations were evaluated by a total of four people, two of whom are language experts and two of whom are experts in clinical psychology. The concordance between the expert evaluations was evaluated with the intraclass correlation (ICC) value, and the translations were found to be appropriate with a correlation of .95.

The research design and procedures in question were approved by the decision of the Ethics Committee of Istanbul Arel University, dated 24.03.2017, and numbered 2017/02. The research question forum was created on the internet and online access was provided to the participants. The research was designed in such a way that access to the questions in the research link is provided by the approval of the Informed Consent form. The prepared online questionnaire was shown to 207,796 people using the Facebook advertising tool between September 25, 2017, and November 29, 2017. The number of people who answered all of the questions by clicking on the research link is 1415. Since the research project is about partner violence and its effects, the criteria for inclusion in the research were determined as having at least one romantic relationship experience and being over 18 years old. Considering these criteria, 348 people who had no relationship experience, 5 people who were determined to be under the age of 18, and 50 male participants were not included in the research sample. The research design was explained in detail in the study conducted by Cankardaş-Nalbantçılar (2018).

Measures

Demographic information form

It consists of age, marital status (Single/Divorced/Widow=1, Married=2), level of education (1=Literate, 2=Primary School, 3=Secondary School, 4=High School, 5=University, 6=Postgraduate, 7=Doctorate, employment status (Employed=1, Unemployed=0), mental disorder history (1=Yes, 0=No) and traumatic event experience (1=Yes, 0=No). In addition, the participants were asked to indicate the time elapsed since they were exposed to the last traumatic event, as day/month/year, and then these dates were calculated on a daily basis by the researcher.

State Anger Scale

The state anger scale consists of 10 – item self-report scale. Each item is scored on a 4-Likert type scale (1= Almost never, 2=Sometimes, 3=Often, 4=Almost always). The internal consistency coefficient of the scale was calculated as .90 and above in the studies conducted with both college students and navy soldiers (Westberry, 1980; Spielberger, 1988). Jacobs et al. (1988) tested the test-retest reliability of the scale in a study conducted with university students. As a result, the Pearson correlation coefficient between the two measurements was calculated as .27 for women and .21 for men. In this study, the test-retest reliability coefficient of the state anger scale was found to be lower than the trait anger scale. This finding supports the assumption that state anger is an unstable dimension that arises against certain situations. Studies conducted with both normal and clinical samples indicate that the state anger scale is a reliable and valid instrument (Spielberger 1988, Müller et al. 2001, Etzler et al. 2014).

Trait Anger Scale

The scale is a self-report scale consisting of 10 items. Each item scores 1 to 4 (1= Almost never, 2=Sometimes, 3=Often, 4=Almost always), and the increasing scores show an increasing level of trait anger. The internal consistency coefficient of the scale, which is one of the subscales of the State-Trait Anger Scale developed by Spielberger (1988), was reported as .82. Jacobs et al. (1988) tested the test-retest reliability of the scale in a study conducted with university students. As a result, the Pearson correlation coefficient between the two measurements was .77 for women and .70 for men. Özer (1992) in his study with multiple groups, reported internal consistency coefficients as α = .82 in university students, α = .77 in high school students, α = .78 in school administrators, α = .84 in neurotic patients who applied for psychological counseling and α = .91 in hypertensive patients. In this study conducted with women who have experienced various types of violence, it is calculated as α = .86 in women who had experienced physical and sexual violence. Item-total correlations ranged between .44 and .66.

Traumatic Stress Symptom Scale -5 (TSSS-5)

The first version of this scale was developed in Turkish to measure 17 PTSD symptoms defined in DSM-IV. The scale is a 4-point Likert-type scale (0= Not at all bothered, 1= Slightly, 2=Fairly, 3=Very much bothered). Psychometric examination of the scale with the earthquake survivors data revealed that the scale had a specificity and sensitivity coefficients of .81 for the diagnosis of PTSD determined by the Clinician-Administered PTSD Scale (CAPS, Aker et al., 1999), and the accurate diagnosis classification rate was 80% (Başoğlu et al., 2001). The internal consistency coefficient of the scale for PTSD symptoms was α = .92. The Serbian-Croatian version of the scale also showed similar psychometric properties in people with war and torture experience (Başoğlu & Şalcıoğlu, 2011). The internal consistency coefficient was found to be α = .88 in a study conducted with 220 women with domestic violence experience (Şalcıoğlu et al., 2016). The scale was updated by Şalcıoğlu (2016) according to the diagnosis of PTSD symptoms described in DSM-5. The internal consistency coefficient was calculated as α = .94 in a sample of 604 people with sexual trauma experience of the new 20-item TSSS-5. The item-total correlations ranged from .51 to .76 when one item was excluded (psychogenic amnesia, r = .34) (Bayram-Kuzgun 2018). In the main study of this study conducted

with women who experienced violence, the internal consistency coefficient was found to be α = .95. Item total correlations ranged from .44 to .77.

Statistical analysis

The data of the research were analyzed using the SPSS 25.0 package program. The power analysis of the research was also done using WebPower software. In this study, the construct validity of the scale was tested by exploratory factor analysis. A two-half test method was used to test the reliability of the scale and the internal consistency coefficient was calculated. Finally, the criterion-related validity of the scale was tested. The internal consistency of the scale was examined by calculating both the Cronbach's alpha coefficient and the two-half test reliability. While calculating the reliability of the two-half test, the scale items were divided into two groups according to their item numbers (odd and even numbers). The construct validity of the scale was examined using basic axes factor analysis.

The criterion validity of the scale was tested by examining the relationship between the scores obtained from the state anger scale and trait anger and traumatic stress symptoms which were found to be related in the literature. Accordingly, a positive correlation coefficient is expected between these scores. The relationship between state anger, trait anger, and traumatic stress symptom levels was examined by calculating the Pearson correlation coefficient. While interpreting the correlation coefficients, as suggested by Cohen (1988), .29 and below were taken as low, between .30 and .49 as a medium, and above .50 as high-level correlation. Multiple hierarchical regression analysis was performed to test the predictive validity of the scale. In this analysis, the scores obtained from the TSSS-5 were dependent variables. Age, education level, marital status, employment status, past trauma experience, mental illness history, the total score of trait anger scale, and total score of state anger scale were used as independent variables. All independent variables were entered into the regression model in the following order: Demographic variables (age, marital status, educational level, and working status) in Step 1; In Step 2, history (traumatic event history, history of mental illness); In Step 3, trait anger; state anger in Step 4.

The participants of the study were divided into three groups according to the trauma they experienced. The scores obtained from the state anger, trait anger, and TSSS – 5 have been compared with one-way ANOVA. The cut-off point for the 17-item form of the Traumatic Stress Symptom Scale according to DSM-IV was reported as 25 (Başoğlu and Şalcıoğlu 2011). In this study, 25 points were taken as the cut-off point of the scale, and those with a score of 25 and above were grouped as "those who met the possible diagnosis of PTSD", and participants below 25 points were grouped as "those who did not meet the possible diagnosis of PTSD". The relationship between state and trait anger and PTSD was examined by independent samples t-test analysis.

Results

Reliability of the scale

The internal consistency of the scale was found to be α = .94 in the calculation of data obtained from women who had experienced violence. The exclusion of any item did not cause a significant increase in the internal consistency coefficient. Item mean scores,

item-total correlation coefficients, and inter-item correlation coefficients are shown in Table 1. Item total correlations ranged from .66 - .82, while inter-item correlations ranged between .37 - .78. The split-half reliability of the scale was calculated as .88. Guttman Split-Half coefficient has been found as .89.

Table 1. State Anger Scale item factor loads

Items	Factor Loads	
	Anger related behavioral and verbal responses	Anger related behavioral and verbal responses
Item 7	0.95	-0.09
Item 8	0.90	-0.16
Item 5	0.83	0.07
Item 9	0.73	0.17
Item 6	0.61	0.31
Item 4	0.58	0.33
Item 10	0.55	0.19
Item 3	0.05	0.86
Item 2	0.02	0.83
Item 1	0.09	0.79

Table 2. Inter-item and item total correlation coefficients and descriptive statistics on responses to items

	Mean	SD	Item -total Correlations	1	2	3	4	5	6	7	8	9
1	2.33	0.98	0.73	-								
2	2.64	0.99	0.69	.71	-							
3	2.56	1.02	0.70	.75	.72	-						
4	1.99	1.11	0.82	.62	.60	.62	-					
5	1.75	1.07	0.81	.56	.51	.52	.76	-				
6	1.74	1.04	0.81	.62	.61	.60	.71	.71	-			
7	1.48	0.91	0.78	.50	.45	.48	.64	.78	.73	-		
8	1.39	0.85	0.68	.42	.37	.37	.61	.67	.58	.73	-	
9	1.65	0.97	0.82	.60	.52	.57	.70	.71	.76	.76	.64	-
10	1.93	1.12	0.66	.49	.49	.48	.58	.61	.52	.55	.57	.59

Construct validity of the scale: exploratory factor analysis

In the principal axis factor analysis, all items were loaded high on the first factor (.70-.84), whereas some items explained the variance on the second factor up to 21%. Ten items generated two factors with eigenvalues above 1. Scree plot analysis indicated a two-factor structure. Considering that the items are related to each other, Direct Oblimin rotation has been applied. As a result, two factors explaining 69.8% of the total variance were obtained. The factor loadings of the 10 items are represented in Table 1. As it can be seen, the factor loadings of the items on Factor 1 ranged from .55 to .95, and factor loadings of the items loaded on the second factor ranged from .79 to .86. The first factor included 7 items measuring verbal and motor responses related to anger and explained 61.8% of the variance. The second factor include angry feelings and explained 8.4% of the variance. A strong positive correlation was found between two factors ($r = .66$, $p < .001$).

The Cronbach's Alpha score for the scale was .94, indicating high internal consistency which means the scale is reliable. Internal consistency was .93 for Factor 1

and .89 for Factor 2. Table 2 shows the inter-item correlation coefficients, item-total correlation coefficients, and the mean scores and standard deviation of the items. The medium and strong correlations between the items indicate that the items were related to state anger structure. The absence of a significant increase in the internal consistency coefficients in the case of removing any items supports that all items are compatible with the general structure.

Criterion-related and predictive validity of the scale

Results of the correlation analysis showed a moderate positive relationship between level state anger and trait anger r= .49, p<.001). Scores of state anger and trait anger of the participants who have been divided into three groups according to their experiences of violence were compared (Table 3). Results have shown that the state anger level of individuals who experienced multiple types of violence is significantly higher than those who experienced only sexual or physical violence alone, however, trait anger levels did not differ between the three groups. These findings indicate that state and trait anger are both related and differentiating emotional states.

Table 3. Comparison of state and trait anger scores according to violence experience

	Physical	Sexual	Physical + Sexual		
	Mean (SD)	Mean (SD)	Mean (SD)	*F*	*p* ‡
State Anger	19.0 (7.7)	18.1 (7.2)	21.2 (8.9)	7.497	.001[1]
Trait Anger	21.1 (6.0)	20.3 (5.8)	21.4 (6.2)	1.411	.245

‡ One-way ANOVA comparisons (Bonferroni test); 1 Physical + Sexual > Physical, Sexual

Post-hoc power analysis was performed using the research findings. As a result of the analysis made using the group averages and sample numbers obtained from the state anger scale, the total effect size of the research was calculated as .45. While the effect size of the difference between the state anger levels of those who experienced physical violence and those who experienced sexual violence was 0.13, it was observed that the effect size of the difference between the state anger levels of those who experienced physical violence and those who experienced both physical and sexual violence was 0.33. It was observed that the effect size of the difference between the state anger levels of those who experienced sexual violence and those who experienced both sexual and physical violence was 0.43. As a result, it was seen that 100% test power was reached as a result of the research conducted with a 5 percent error rate and 573 observations.

A strong positive relationship between traumatic stress symptoms and state anger level has been determined (r = .63, p<.001). This finding supports the relationship between anger and PTSD. When the TSSS-5's breakpoint is accepted as 25, it has been seen that level of state anger of the ones who have a possible diagnosis of PTSD (M= 23.4; SD= 8.2) is higher than those who have not (M=15.4; SD= 5.4) (t =-13.824; p<.001). Similarly, those who have a possible diagnosis of PTSD (M=23.0, SD=6.2) had higher scores of trait anger than those who have not (M=18.9, SD=5.1) (t =-8.668, p<.001). Table 4 shows the results of the regression analysis in predicting PTSD. The regression model was statistically significant (F(9, 563) = 46.47, p< .001) and explained 42% of the variance in traumatic stress symptoms. Demographic information, history of mental illness, and traumatic event history explained the 7% of the variance in PTSD symptom level, while trait anger explained 13% and state anger explained %22.

According to the results, angry individuals are more prone to develop PTSD, but state anger is more determinant.

Table 4. Predictors of traumatic stress symptoms

			PTSD	
Steps of the hierarchical regression models	R2		Change Statistics	
Step 1 (demographics)	.03		F(4,568)=3.61, p<.05	
Step 2 (past trauma and mental disorder history)	.09		F(7,565)=8.10, p <.001	
Step 3 (trait anger)	.21		F(8,564)=18.75, p<.001	
Step 4 (state anger)	.43		F(9,563)=46.47, p<.001	
	B	β	p	%95 CI
Predictors at the last step	-.10	-.07	.112	[-0.22, 0.01]
Age	-1.53	-.05	.129	[-2.17, 0.49]
Education Level	.62	.03	.426	[-1.25, 3.30]
Marital Status	-.03	.00	.978	[-1.61, 2.50]
Employment Status	1.26	.04	.269	[-0.92, 3.53]
Past Trauma History	3.26	.10	.002	[1.45, 5.58]
Mental Disorder History	-.00	-.07	.040	[-0.00, 0.00]
Trait Anger	.24	.10	.009	[0.06, 0.41]
State Anger	.996	.54	.000	[0.89, 1.15]

PTSD: Post-Traumatic Stress Disorder

Discussion

In this study, which was conducted to adapt the State Anger Scale into Turkish, the reliability of the scale was examined both by calculating the internal consistency coefficient and using split-half form methods. Findings support the reliability of the scale. The fact that the scale has a high internal consistency indicates that it is a one-dimensional scale, but factor analysis which has been used to determine the construct validity of the scale has identified two sub-dimensions. Even though, the findings showed that it has one dimension in the first study of the scale (Spielberger, 1988), in other studies conducted with different samples, were found two-sub dimensions which include anger related behavioral and verbal responses and emotion of anger as in this study (Forgays et al., 1997). Spielberger, (2010) in State-Trait Anger Expression Inventory - 2 (STAXI-2), expanded the State Anger Scale to three structures which each one of them consists of five items, and he stated that these structures include angry feelings, expressing the anger verbally and physically. Clinically, these findings may be significant to differentiate anger and verbal or physical aggression behaviors.

The relationship between the State Anger Scale and Trait Anger Scale suggests that these two concepts overlap and at the same time are separate. While Trait Anger Scale is a scale that captures the general temperament characteristics, the state anger scale captures the instant anger response better (Spielberger 2010). While the level of trait anger has not differed among individuals who have experienced multiple types of violence and individuals who have experienced only one type of violence, state anger, and traumatic stress levels were higher in people who experienced multiple violence. This situation supports the findings of studies (Brewin et al. 2000, Ozer et al. 2003, Kilpatrick et al. 2013) indicating that PTSD level increases as the number of traumatic events increases. In addition, among females who experienced violence, the experience of more types of violence indicates a higher level of PTSD (Basile et al., 2004). In all types of

violence, the level of state anger increases by the number of types of violence, whereas the level of trait anger has not differed. Trait anger has been described as a part of the personality structure that does not change case to case and shows more consistent characteristics (Spielberger 1988). Obtained results support this assumption. Level of state anger included in criterion E of PTSD diagnosis criteria as a symptom (American Psychiatric Association 2013). Therefore, the level of state anger and PTSD level having a strong positive relationship is rather meaningful. Foa and et al. (1995) anger and aggression which occurs after trauma is feelings expressed to cope with fear which is far more disturbing. Also from a different standpoint, anger as a stress symptom is the preparation of the system towards to next stressor however these symptoms are characterized by the dysfunctional organization of psychophysiological arousal (Chemtob et al. 1997). In this study, it is seen that both scores of trait and state anger of individuals who meet the diagnostic criteria for PTSD are higher than those who do not meet the diagnostic criteria for PTSD. These findings, at the development of traumatic stress symptoms, trait anger is a risk factor, support findings of studies which concluded that state anger is one of the traumatic stress symptoms (Heinrichs and et al. 2005, Meffert and et al. 2008). All these findings also support the criterion and predictive validity of the state anger scale.

Conclusion

These findings show that State Anger Scale is a scale that can be used for measuring the instant level of anger. Aimed at adapting the State Anger Scale into Turkish, performing this study with only female participants and samples being composed of only individuals who have experienced violence are the limitations of the research. In the future conducting studies where different samples such as males, children, and adolescent girls and boys have been covered also will provide more common usage of the scale in studies in which anger and anger-related problems have been investigated. Also, these studies will provide new information about the psychometric features of the scale. Another limitation of the study is that the information about the traumatic stress symptom level was obtained by self-report scale, and clinical interviews were not conducted. Despite all these limitations, it can be said that the State Anger Scale, which was adapted into Turkish as a result of the validity and reliability analyzes of the scale, is a valid and reliable measurement tool that measures anger in women aged 18 and over in Turkish culture. It is thought that the State Anger Scale is an auxiliary tool that can be used both in determining the effectiveness of treatment and in developing preventive studies, especially in studies conducted in the field of psychological trauma. Considering the Turkish scales used to measure anger, it is seen that no tool measures the state and trait anger levels separately. The trait anger scale has been translated into Turkish before, but the State anger scale has not been adapted. With the translation of the state anger scale into Turkish, it will be possible to measure the different effects of different dimensions of anger by measuring both state and trait anger together. This will be useful for clinical studies focusing on anger and anger-related disorders.

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Addendum 1. State Anger Scale (Turkish version)

Durumluk Öfke Ölçeği

Aşağıda insanların kendilerini tanımlamak için kullandıkları bazı ifadeler verilmiştir. Her bir ifadeyi okuyup şu anda nasıl hissettiğinizi belirten seçeneği işaretleyiniz. Unutmayın ki, hiçbir ifade için kesin doğru veya kesin yanlış cevaplar yoktur. Herhangi bir ifade üzerinde çok zaman harcamayınız, ancak mevcut duygularınızı en iyi tanımlar görünen cevabı seçiniz.

	Hiç	Biraz	Oldukça	Çok
1.Çok öfkeliyim				
2.Sinirim bozuldu				
3.Kızgınım				
4.Birine bağırasım var				
5.Bir şeyleri kırasım var				
6.Deliye döndüm				
7.Masayı yumruklayasım var				
8.Birine vurasım var				
9.Burnumdan soluyorum				
10.Küfredesim var				