



Adaptation of Chabot emotional differentiation scale to Turkish language and examination of emotional differentiation levels of married people

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Abstract

This study aims to adapt the Chabot Emotional Differentiation Scale (CED) developed by David Chabot (1993) to the Turkish language and to test its reliability and validity on married individuals in North Cyprus. The study group consists of 433 married individuals. The sample is randomly divided into sample 1 ($n = 217$) for exploratory factor analysis and sample 2 ($n = 216$) for confirmatory factor analysis to test the construct validity of the Turkish adapted scale (CED-T). A two-factor structure was obtained from the scale and four items were excluded. One item was excluded from the confirmatory factor analysis and the scale was finalized with 12 items. The study calculated Cronbach Alpha internal consistency coefficients and found reliability coefficients to be sufficient. In addition, it examined the relationship between CED-T scores, trait anxiety scores and married life satisfaction scores, and found that the scale supported the criterion-related validity. The data revealed that CED-T is a valid and reliable measurement tool.

Keywords Differentiation of self · Emotional differentiation · Trait anxiety · Satisfaction of marriage

The family is the most basic societal unit that has changed in parallel with shifts in societies over time, but continues to maintain its universal character (Yavuzer 2004, p. 9; Tarhan 2010, p. 13). Accordingly, many believe that the fam

According to Bowen (1985), repetitive and problematic life patterns can affect the interpersonal relationships of individuals for generations. This study believes that there could be a relation between divorces and Bowen's concept (1985) about the differentiation of self. The concept of differentiation of self-defines the ability of an individual to emotionally and cognitively separate himself from the family in which he grows up and his ability to make his own decisions without being influenced by others (Bowen 1985, Kerr and Bowen

1991). Association and individuality represent two life powers that are diametrically opposed to each other, which are expected to reach a balance and which impact the differentiation of the individual self. Accordingly, the self-differentiated person does not necessarily lose the feeling that he is a member of a family by being aware of his self. In addition, he can distinguish between his own feelings and thoughts and can distinguish that his feelings and thoughts may be different from those of his own family (Bowen 1985).

According to Bowen's theory (1985), the levels to which individuals achieve differentiation of self are related to the trait anxiety they experience at their foundation. But Bowen asserted that some people experience this anxiety more than others and that the foundation is based on the previous generation. This study considers the non-existence of studies in North Cyprus on the differentiation of self and the constant increase in the number of divorces to be a problem. On the subject of divorce, the research presumes that a significant relation exists between individuals' differentiation levels and their levels of continual anxiety and marriage satisfaction.

In the studies conducted, researchers measured the level of differentiation of self with scales developed for this purpose. Several researchers who adopted Bowen's Intergenerational Family Therapy have developed scales measuring the level of differentiation of self (Anderson and

This article is based on the master's thesis prepared by Esra Bellur under the counseling of Prof. Dr. Sibel Dinçyürek.

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Sabatelli 1992; Drake et al. 2015; Haber 1993; Licht and Chabot 2006; McCollum et al. 1991). Differentiation of the self has two dimensions related to intrapsychic and interpersonal relationships (Bowen 1985), but in Bowen's (1978) study there are researchers who argue that the essence of differentiation of self is related to the intrapsychic aspect of differentiation rather than the interpersonal aspect (Karasick 2004; Reynolds and Chabot 2004; Takagishi 1996, 1999; cited in Licht and Chabot 2006). In addition, according to Bowen (1978), individualization can be determined by evaluating the level of emotional differentiation related to the intrapsychic dimension of differentiation. The basis of the differentiation of self is the separation of emotions and thoughts, which is the separation of the individual's intrapsychic oriented dimension, and the level of emotional differentiation that defines the balance between emotions and thoughts (Cited in Licht and Chabot 2006). Emotional differentiation refers to the ability of the individual to distinguish between feelings and thoughts and the decision-making ability of the individual to show their thoughts or feelings in the face of a situation. An individual with a high level of emotional differentiation can make decisions based on logic without denying his feelings (Bowen 1976, 1978; Karasick 2004; Skowron and Friedlander 1998; Takagishi 1996, 1999; cited in Licht and Chabot 2006). The Chabot Emotional Differentiation Scale (CED), developed by David Chabot (1993), measures the level of emotional differentiation. This scale has proven to have an interculturally applicable structure (Karasick 2004; Reynolds and Chabot 2004; Takagishi, 1999; cited in Licht and Chabot 2006). Research has also suggested that this scale will help in understanding the interactions within the family in family counseling (Licht and Chabot 2006). Based on this, this study decided that a scale focusing on the level of emotional differentiation should be developed due to the increasing number of divorces in North Cyprus (Kuzey Kıbrıs Mahkemeleri 2017), marriages, and the need to adapt the CED to Turkish, of which validity and reliability have been proven through studies conducted in various cultures. In this respect, the first aim of this study is to test the reliability and validity of the CED in Turkish by applying it to married individuals in North Cyprus. The second aim is to examine the relationship between CED, trait anxiety and married life satisfaction levels. The third aim is to investigate the level of emotional differentiation of married individuals according to age, gender, marriage style, age of marriage, number of marriages, and time of marriage, educational level, and occupation.

With the adaptation of the CED to Turkish, the scale will be used in psychological counseling and guidance, psychology and especially family counseling to facilitate the identification of the causes of emotional differentiation and to take measures to prevent the emergence of identified problems. In addition, it is believed that it will provide support to the studies on the

subject in Turkish culture by being included in the literature which will be important in these aspects.

Method

Participants

The researcher formed the study group by using convenience sampling from non-random sample types in order to reach married individuals easily (Büyüköztürk et al. 2015). Three questionnaires were removed from the data set because they were filled out incomplete (The questionnaires, at least 50% of which is unfilled). Therefore, the number of participants was determined as 433. The study sample consists of 433 married persons, aged 18 and over who live in Famagusta and participated voluntarily. The sample is randomly divided into two for EFA and CFA. The EFA sample 1 consists of 217 persons and the CFA sample 2 consists of 216 married persons. Table 1 shows the socio-demographic characteristics of the participants in both samples.

Procedure

The researcher corresponded with David Chabot, who developed the Chabot Emotional Differentiation Scale, and obtained the necessary permission to adapt the scale to Turkish. The researcher obtained ethical approval from Eastern Mediterranean University Research and Publication Ethics Board. Following the permission that the Chabot Emotional Differentiation Scale could be adapted to Turkish, the researcher initiated adaptation of the scale to Turkish language. The researcher applied all scales used in the study to married individuals who voluntarily agreed to participate in the study after obtaining the necessary permissions. The researcher collected the data.

Measures

Personal Information Form

The Personal Information Form, which the researcher prepared, contains items that indicate the age, gender, time of marriage, number of marriages, age of marriage, marriage styles, educational status, and occupation of married individuals.

Trait Anxiety Inventory (TAI)

Spielberger, Gorsuch, Lushene, Vagg and Jacobs (1983) developed the State-Trait Anxiety Inventory. Öner and

Table 1 Socio-demographic characteristics of the participants in both samples

	Sample 1 (n = 217)	Sample 2 (n = 216)
Variables		
Gender		
Women	144 (66.4%)	121 (56.0%)
Men	73 (33.6%)	95 (44.0%)
Age		
18–29 ages	18 (8.3%)	19 (8.8%)
30–34 ages	34 (15.7%)	24 (11.1)
35–39 ages	33 (15.2%)	32 (14.8%)
40–44 ages	38 (17.5%)	36 (16.7%)
45–49 ages	39 (18.0%)	40 (18.5%)
50–54 ages	21 (9.7%)	22 (10.2%)
55–59 ages	18 (8.3%)	17 (7.9%)
60 and over	16 (7.4%)	26 (12.0%)
Types of marriages		
By flirting	136 (62.7%)	143 (66.2%)
By arranged	41 (18.9%)	53 (24.5%)
By arranged and flirting	40 (18.4%)	20 (9.3%)
Age of marriage		
18–24 ages	89 (41.0%)	88 (40.7%)
25–29 ages	85 (39.2%)	93 (43.1%)
30–34 ages	31 (14.3%)	21 (9.7%)
35 and over	12 (5.5%)	14 (6.5%)
Number of marriages		
First marriage	201 (92.6%)	197 (91.2%)
Second or more marriage	16 (7.4%)	19 (8.8%)
Marriage time		
0–5 years	72 (33.2%)	33 (15.3%)
6–9 years	35 (16.1%)	29 (13.4%)
10–14 years	24 (11.1%)	29 (13.4%)
15–19 years	24 (11.1%)	27 (12.5%)
20–24 years	22 (10.1%)	28 (13.0%)
25–29 years	18 (8.3%)	24 (11.1%)
30–34 years	12 (5.5%)	15 (6.9%)
35 and over	10 (4.6%)	31 (14.4%)
Educational background		
Primary school	13 (6.0%)	16 (7.4%)
Secondary school	22 (10.1%)	14 (6.5%)
High school	68 (31.3%)	80 (37.0%)
Graduate	79 (36.4%)	73 (33.8%)
Postgraduate	20 (9.2%)	21 (9.7%)
Doctorate	15 (6.9%)	12 (5.6%)
Job		
Unemployed	17 (7.8%)	18 (8.3%)
Worker	20 (9.2%)	22 (10.2%)
Civil servant	72 (33.2%)	71 (32.9%)
Private sector	44 (20.3%)	42 (19.4%)
Academic	26 (12.0%)	18 (8.3%)
Retired	17 (7.8%)	23 (10.6%)
Self-employment	21 (9.7%)	22 (10.2%)

LeCompte (1985) conducted the Turkish adaptation study. Trait anxiety Inventory contains 20 items. The scale is a four-likert type one. The total score to be taken from the items is minimum 20 points and maximum 80 points. The higher the score, the higher the anxiety level of the individual (Öner and LeCompte 1985). This study calculated the internal consistency and test homogeneity of the scale using the Kuder Richardson 20 formula and ranged from .83 to .87 for the Trait Anxiety Inventory. Test-retest reliability of Trait

Anxiety Inventory ranged from .71 to .86 and item reliability ranged from .34 to .72.

Married Life Satisfaction Scale (MLSS)

Johnson, Zabriskie and Hill (2006) developed the Married Life Satisfaction Scale (Çelik 2014). Çelik (2014) conducted the scale's adaptation to Turkish Language. It is a self-report scale consisting of five items. Five is the lowest score that can be obtained from the scale and 35 is the highest. Factor analysis of the scale obtained a single factor structure, which explained 68.07% of the total variance and was in accordance with the original scale. Confirmatory factor analysis revealed that Chi-square was significant ($X^2 = 7,08$ SD = 5, $p = 0.21$) and fit indexes were as follows: RMSEA = .03, AGFI = .97, NFI = .99, NNFI = 1.00, CFI = 1.00, IFI = 1.00, RFI = .99, GFI = .99 ve SRMR = .01 (Çelik 2014).

Chabot Emotional Differentiation Scale (CED)

David Chabot (1993) developed the Chabot Emotional Differentiation Scale (CED). CED is a personal assessment tool designed specifically to measure the levels of emotional differentiation associated with the separation of the intrapsychic aspect of differentiation of self. Chabot designed the items of this 17-item scale to evaluate the emotional differentiation levels of the individuals as follows: (1) non-stressful periods, (2) long-term stress periods, (3) when relationships go well, (4) when there are difficulties in relationships (Chabot 1993; Takagishi 1996, 1999; cited in Licht and Chabot 2006). The scale is a five-point Likert type one and individuals respond to items between 1 (never) and 5 (always). Nine items of the scale were designed as reverse scoring. As a result of the marking of all items, the lowest and highest scores can be 17 and 85, respectively (cited in Licht and Chabot 2006).

Several studies conducted to test the reliability of this scale show that the scale has an acceptable reliability (Karasick 2004; Reynolds and Chabot 2004; Takagishi 1999; cited in Licht and Chabot 2006). The Cronbach's alpha reliability coefficient of the scale was .80 in the study of Takagishi (1999), and .79 in the study on 121 Orthodox Jewish students conducted by Karasick (2004) and .80 in the study conducted by Reynolds and Chabot (2004) conducted on a sample of Italian national and Italian American university students (cited in Licht and Chabot 2006).

Several studies have proven the construct validity of the scale (Frances and Chabot 2004; Karasick 2004; Magnotti, 2003; Rafanello, 2004; Reynolds and Chabot 2004; Takagishi 1996, 1999; cited in Licht and Chabot 2006). The CED has demonstrated that it is applicable with acceptable reliability and validity results from studies conducted with different age groups and study groups. In addition, the scale

can be applied to married and unmarried individuals (Licht and Chabot 2006).

Adaptation of the Scale

The Chabot Emotional Differentiation Scale was adapted to Turkish language in the following manner: First, the scale was translated from English, the source language of the scale, into Turkish, the target language. The scale was translated by 3 experts who were proficient in English and Turkish, and the translations were evaluated. After the translation, the expert opinions were consulted to see whether the items measured the variable intended by the original English scale. The scope validity of the scale translated by experts was examined. The pre-trial application was performed and then some corrections were made without changing the meaning before the scale was finalized.

Data Analyses

Firstly, the study conducted preliminary analyses in terms of reliability and validity of the scale adapted to Turkish. Then, it performed the main analysis, for which it performed descriptive and parametric measurements. It used one-way analysis of variance (ANOVA) and independent one-way t-test to examine whether there was a significant difference in the level of emotional differentiation between married individuals according to socio-demographic variables. In addition, it used the Pearson Product-Moment Correlation analysis to investigate the relationship between the Turkish-scale scale scores, TAI scores and MLSS scores. EFA analysis is performed with Pearson Product-Moment Correlation, ANOVA and independent one-way t-tests using SPSS 25. Analysis of CFA is performed with AMOS 26.

Results

Before the analysis, the variables were examined for missing data and normal distribution. No missing data was found as a result of the missing data review. The skewness values of Sample 1 range from -0.977 to 0.451 and the kurtosis values range from -0.910 to 0.679 . The skewness values of Sample 2 range from -0.855 to 0.305 and the kurtosis values range from -0.863 to 0.643 . Considering these values, it appears that the data meets the normal distribution assumption (Büyüköztürk 2002).

Exploratory Factor Analysis (EFA)

Factor analysis was performed using the Varimax rotation method and principal components analysis. It used varimax

rotation technique, which is one of the vertical rotation techniques, for factor analysis. It performed Kaiser Meyer Olkin (KMO) and Barlett tests to see whether the scale was suitable for factor analysis. The test found the Kaiser-Meyer-Olkin (KMO) coefficient of the scale to be 0.689 . The literature states that KMO value should be 0.60 and above for factor analysis (Uzunboylu and Hürsen 2011) and sees 0.60 as medium, 0.70 as good, 0.80 as very good, and 0.90 as excellent (Kurnaz and Yiğit 2010). Accordingly, the KMO value of 0.689 shows that the sample size can be considered good. The Chi-Square value of the Barlett test was 614.627 . The p value of the scale was determined to be 0.000 . Since this value is less than the significance value of 0.05 , it can be said that factor analysis among variables is appropriate. The five factors CED-T explained 53.211% of the total variance in EFA. When the study examined the line graph created to determine the number of factors that can effectively show the relationship between the 17 items in the CED-T adapted to Turkish, it saw that the highest accelerated rapid decrease was found to be in factors 1 and 2. According to this two-factor structure, the first factor explained 18.537% of the variance and the second factor explained 12.676% . Two factors together explained 31.214% of the total variance. Table 2 presents the rotated factor matrix of the item-factor loadings of the CED-T.

The factor loads of three items (2, 9 and 17th) were less than 0.30 , therefore, they were excluded from the scale and the factor analysis was repeated. KMO and Barlett tests demonstrated that the sample size was acceptable – the KMO value was 0.712 – and four factors explained 53.226% of the total variance. The Chi-Square value of the Barlett test was 535.969 . The p value of the scale was determined to be 0.000 . Since this value is less than the significance value of 0.05 , it can be said that factor analysis among variables is appropriate. The greatest acceleration occurred in factors 1 and 2, so we transformed the scale into a two-factor structure. According to this two-factor structure, the first factor explained 22.319% of the variance and the second factor explained 14.727% . Two factors together explained 37.047% of the total variance. If an item is in more than one factor, the difference between the factor loads of the item in the factors is expected to be at least 0.10 (Çokluk et al. 2010; cited by Dinç and Keçe 2012). The factor load of the 7th item of the scale had an effect on both factors, so this item was excluded from the scale and the factor analysis was repeated. Accordingly, for the 13-item version of the scale, the KMO and Barlett test were performed again with an acceptable sample size KMO value of 0.717 . The Chi-Square value of the Barlett test was 502.763 . The p value of the scale was determined to be 0.000 . Since this value is less than the significance value of 0.05 , it can be said that factor analysis among variables is appropriate. The 13-item scale has a four-factor structure, which explained 55.961% of the total variance. But the greatest acceleration occurred in factors 1

Table 2 Rotated factor matrix on the factor loadings of CED-T

	Factor	
	1	2
12. In a cordial relationship, I apply my principles without feeling emotionally threatened	.742	-.048
4. Even under stress, I can respond logically without denying my emotions	.642	.097
8. Even when I am under pressure, I am clear about what I believe and what I think	.605	.186
10. I act consistently with both my intellectual beliefs and emotional sensitivity	.595	-.011
15. When I socialize, I feel that I am in balance between my feelings and thoughts, as I do in familial relationships	.593	-.076
13. Even when I have to constantly deal with extremely demanding and controlling people, I can keep my peace of mind and clear thinking ability	.571	.016
1. When I am not stressed, my behavior reflects the integrity between my thoughts and feelings	.554	.130
^a 2. When I am under prolonged stress, my behavior is driven by emotions rather than logic	-.267	.227
^a 6. Even though they are not good for me, I find it difficult to end my relationships	.101	.585
^a 3. Before taking action, I find it difficult to harmonize my feelings and thoughts	.191	.577
^a 5. In familial relationships, I have a hard time reacting in a reasonable and understanding way	.146	.570
^a 16. When I am in an emotionally-satisfying relationship, I have difficulty understanding what I want and revealing myself	.226	.568
^a 14. I prefer business relationships to cordial relationships. Because in business relations, the distinction between our feelings and responsibilities is clear	-.304	.553
^a 11. In a crisis, a mismatch between my feelings and my logic prevents me from taking action	.171	.483
7. I act decisively on many issues and do not care about my feelings and/or thoughts	.297	-.367
^a 17. I had to end my intimate relationships with my partner (s) because they defined how I saw myself	-.110	.269
^a 9. I do not like to express my views in close relationships for fear of hurting the other person's feelings	-.046	.191

^a Stands for opposite meaning

and 2, so we transformed the scale into a two-factor structure. According to this two-factor structure, the first factor explained 23.869% of the variance and the second factor explained 14.770%. Two factors together explained 38.640% of the total variance. As a result of the EFA, the study observed that the items 12., 15., 4., 13., 10., 8. and 1. of the scale were included in the first factor; articles 6., 5., 16., 3., 14. and 11. are included in the second factor. First factor consists of 7 items and second factor consists of 6 items. Factor loads of 13 items ranged from 0.524 to 0.746. First factor loads ranged from 0.563 to 0.746. Second factor loads ranged from 0.524 to 0.637.

Two dimensions defined factors, namely "I-Position" and "Emotional Reactivity". The study determined them to be the most appropriate for the content of the items in each factor among the four factors affecting the concept of differentiation of self. Accordingly, the first factor aims to measure the level of self-esteem and the second factor aims to measure the level of emotional reactivity. "I-Position" is a concept that defines one's expressing feelings and thoughts independent from other people and encouraging others to present their own feelings and thoughts in a manner that assumes responsibility regardless of the outcome (Kerr and Bowen 1988). In the first factor, the study aims to determine whether individuals can adapt to

their emotions and thoughts while acting in both stressful and non-stressful periods, and to what extent they can express their feelings and thoughts in their relations with other people, and whether they can establish a balance between logic and emotion even when they are under stress. This factor is named the I-Position sub-dimension. Emotional Reactivity, on the other hand, is a concept that defines individuals' taking in line with their emotions in accordance with their cognitive processes in decisions they make and that individualization could not be realized as a result of emotions leaving thoughts behind (Gladding 2012). The second factor was named the Emotional Reactivity sub-dimension because of the presence of items to measure, whether the individuals left their thoughts behind in their decisions, whether they were aware of their feelings and thoughts in an emotional relationship, and whether they could distinguish between them. In addition, there are items in this sub-dimension to determine whether emotions have priority over decisions, whether logic or emotions are more prominent in stressful situations, and whether a balance can be established between emotions and thoughts in both stressful and stress-free periods.

Confirmatory Factor Analysis (CFA)

To determine and validity in the 13-item 2-factor structure, maximum likelihood CFA was performed in Sample 2. The study found all factor loadings in the model to be statistically significant ($p < 0.05$). The most commonly used statistics are as follows: Chi-square statistics show that $\chi^2/sd < 2$ has a perfect fit and $\chi^2/sd < 3$ shows that it has an acceptable fit. In addition, GFI and CFI values of 0.90 or higher indicate acceptable compliance (Hair et al. 1998). The mean square root of approximate errors, RMSEA, values between 0,10 indicating that there is acceptable agreement (Stevens 2001). An RMSEA value of 0.06 or below indicates a good fit (Hu and Bentler 1999).

In the confirmatory factor analysis, in order to evaluate the validity of the model, the study examined chi-square fit test (χ^2), root mean square error of approximation (RMSEA), comparative fit index (CFI), goodness of fit index (GFI), adjusted goodness of fit index (AGFI) and root mean residual (RMR). It found the fit indexes calculated with DFA as RMSEA = 0.050; CFI = 0.918; GFI = 0.934; AGFI = 0.907 and RMR = 0.070. These values display that the model fit is ensured. The study found Chi-square fit test (χ^2) as 98.455 (sd = 64). $\chi^2/sd = 1.538$ as another calculation. This observed value indicates that the model is in an acceptable fit.

As a result of examining the modification indexes, parameter estimates and large standardized residues, item 14 was excluded. It found the fit indexes calculated with DFA as RMSEA = 0.045; CFI = 0.942; GFI = 0.945; AGFI = 0.919 and RMR = 0.055. These values display that the model fit is ensured. The study found Chi-square fit test (χ^2) as 76.334 (sd = 53). $\chi^2/sd = 1.440$ as another calculation. This observed value indicates

that the model is in an acceptable fit. Using the 12-item version of the scale, values are in compliance and factor loads of the 2-factor model of CED-T vary between 0.64 and 1.26. The model is a result of the CFA performed in Fig. 1.

Reliability

Cronbach's alpha reliability coefficient for the two-factor model of CED-T was found to be 0.739. The reliability coefficient of the first factor, which is called the I-Position sub-dimension, was 0.726 and the reliability coefficient of the second factor, called the Emotional Reactivity sub-dimension, was 0.700. Literature shows that the Cronbach Alpha internal consistency reliability coefficient of the scale is at least 0.60 (George and Mallery 2003; cited by Kılıç 2016). Accordingly, the scale is acceptable.

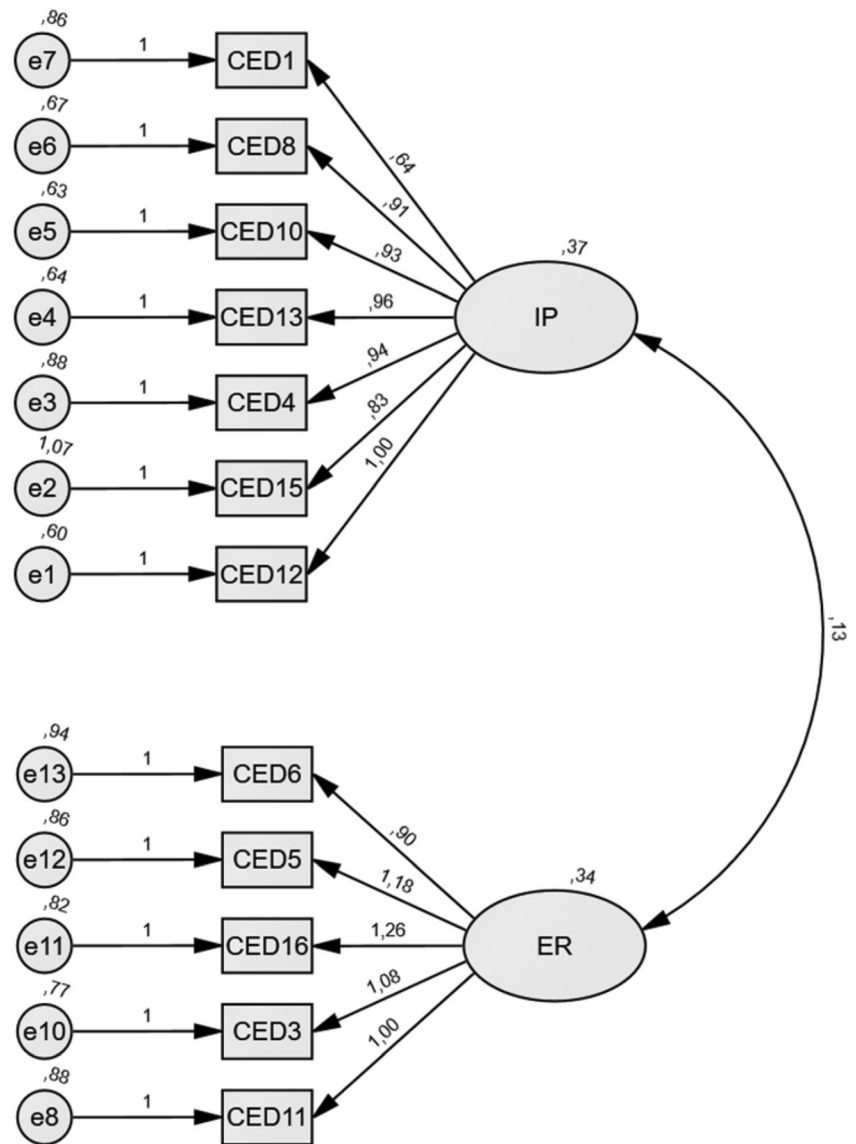
Criterion Relative Validity of Chabot Emotional Differentiation Scale (CED-T)

According to Bowen (1985)'s theory, the levels of differentiation of individuals' selves are fundamentally related to the constant anxiety they experience. Therefore, high-level anxiety causes low-level differentiation. In the literature review, the studies indicating the existence of a negatively significant relationship between the level of anxiety and self-differentiation were found. (Işık and Bulduk 2014 2015; Sarıkaya et al. 2018; Skowron & Friedlander 1998). These studies support Bowen's view. In addition, in the literature review, the studies indicating the existence of meaningful relationships between self-differentiation and levels of marital satisfaction were also found (Glade 2005; Kwon 2000; Skowron 2000). There was no study that examined the relationship between the levels of self-differentiation and the levels of constant anxiety and marital satisfaction of married individuals in the North Cyprus, however, these two variables are used because it is thought that there is a significant relationship between the levels of differentiation of married individuals and the constant anxiety and marriage satisfaction of individuals in line with these studies.

For the criterion-related validity study of CED-T, which was adapted to Turkish language, the study tested it by Pearson Product-Moment Correlation analysis to determine whether there was a significant relationship between CED-T scores, TAI scores, and MLSS scores of married individuals.

Table 3 shows that there is a moderate negative correlation between CED-T total score and TAI score ($r = -0.472$; $p = 0.000$; $p < 0.01$). Likewise, there is a moderately negative correlation between TAI score and I-Position sub-dimension score ($r = -0.410$; $p = 0.000$; $p < 0.01$). In addition, it reveals a moderately negative correlation between the TAI score and the Emotional Reactivity sub-dimension score ($r = -0.333$; $p = 0.000$; $p < 0.01$).

Fig. 1 CFA model for CED-T



The study found a significant positive correlation between CED-T total score and MLSS score ($r = 0.270$; $p = 0.000$; $p < 0.01$). In addition, it found a low-level positive correlation between MLSS score and I-Position sub-dimension score ($r =$

0.321 ; $p = 0.000$; $p < 0.01$). However, it identified no significant relationship between MLSS score and Emotional Reactivity sub-dimension score ($r = 0.088$; $p = 0.197$; $p > 0.01$).

Table 3 Results of Pearson moment product correlation analysis between the scores of total and sub-dimensions of the CED-T of Married Individuals, TAI scores and MLSS

	1	2	3	4	5
1. CED-T total	–				
2. I-position	0.828**	–			
3. Emotional reactivity	0.754**	0.256**	–		
4. Trait anxiety	0.472**	0.410**	–0.333**	–	
5. Married life satisfaction	0.270**	0.321**	0.088	–0.330**	–

** $p < 0.01$

Examination of Chabot Emotional Differentiation Scale (CED-T) Scores of Married Individuals According to Socio-Demographic Variables

The study examined whether there is significant difference between emotional differentiation levels of married individuals according to socio-demographic variables.

The study used one-way ANOVA to test whether there was a significant difference between the CED-T total and sub-dimension scores according to the age of married individuals. It found out that, according to the age of married individuals, there is no significant difference in their CED-T total scores ($F_{(7, 208)} = 0.807$; $p = 0.583$; $p > 0.05$), I-Position sub-

dimension scores ($F_{(7, 208)} = 0.468$; $p = 0.857$; $p > 0.05$) and Emotional Reactivity sub-dimension scores ($F_{(7, 208)} = 1.311$; $p = 0.247$; $p > 0.05$).

The study used independent groups t-test analysis to see whether there is significant difference between the CED-T total and sub-dimension scores of married individuals according to their gender and saw that there is no significant difference in CED-T total score ($t_{(214)} = -0.791$; $p = 0.430$; $p > 0.05$), I-Position sub-dimension score ($t_{(214)} = -0.947$; $p = 0.345$; $p > 0.05$) and Emotional Reactivity sub-dimension score ($t_{(214)} = -0.255$; $p = 0.799$; $p > 0.05$) according the gender of married individuals.

The study used one-way ANOVA to test whether there was a significant difference between the CED-T total and sub-dimension scores according to the marriage style of married individuals. It observed that there was no significant difference in CED-T total score ($F_{(2, 213)} = 0.549$; $p = 0.578$; $p > 0.05$), I-Position sub-dimension score ($F_{(2, 213)} = 0.322$; $p = 0.725$; $p > 0.05$) and Emotional Reactivity sub-dimension score ($F_{(2, 213)} = 0.999$; $p = 0.370$; $p > 0.05$) according the marriage style of married individuals.

The study used one-way ANOVA to test whether there was a significant difference between the CED-T total and sub-dimension scores according to the age of marriage individuals. It observed that there was no significant difference in CED-T total score ($F_{(3, 212)} = 2.475$; $p = 0.062$; $p > 0.05$), I-Position sub-dimension score ($F_{(3, 212)} = 1.491$; $p = 0.218$; $p > 0.05$) and Emotional Reactivity sub-dimension score ($F_{(3, 212)} = 1.660$; $p = 0.177$; $p > 0.05$) according age of married individuals.

The study used independent groups t-test analysis to see whether there is significant difference between the CED-T total and sub-dimension scores of married individuals according to number of marriages and it saw that there was no significant difference in CED-T total score ($t_{(214)} = -0.343$; $p = 0.732$; $p > 0.05$), I-Position sub-dimension score ($t_{(214)} = -1.034$; $p = 0.302$; $p > 0.05$) and Emotional Reactivity sub-dimension ($t_{(214)} = 0.619$; $p = 0.537$; $p > 0.05$) according the number of marriages of married individuals.

The study used one-way ANOVA to test whether there was a significant difference between the scores of CED-T total and sub-dimensions according to the time of marriage of married individuals. It observed that there was no significant difference in CED-T total score ($F_{(7, 208)} = 1.141$; $p = 0.339$; $p > 0.05$), I-Position sub-dimension score ($F_{(7, 208)} = 1.492$; $p = 0.172$; $p > 0.05$) and Emotional Reactivity sub-dimension score ($F_{(7, 208)} = 0.787$; $p = 0.599$; $p > 0.05$) according to marriage time of married individuals.

The study used one-way ANOVA to test whether there was a significant difference between the scores of CED-T total and sub-dimensions according to the education level of married

individuals. It observed that there was no significant difference in CED-T total score ($F_{(5, 210)} = 1.676$; $p = 0.142$; $p > 0.05$), I-Position sub-dimension score ($F_{(5, 210)} = 1.427$; $p = 0.216$; $p > 0.05$) and Emotional Reactivity sub-dimension score ($F_{(5, 210)} = 0.818$; $p = 0.538$; $p > 0.05$) according to the education level of married individuals.

The study used one-way ANOVA to test whether there was a significant difference between the scores of CED-T total and sub-dimensions according to the job of married individuals. It observed that there was no significant difference in CED-T total score ($F_{(6, 209)} = 0.846$; $p = 0.536$; $p > 0.05$), I-Position sub-dimension score ($F_{(6, 209)} = 0.693$; $p = 0.656$; $p > 0.05$) and Emotional Reactivity sub-dimension score ($F_{(6, 209)} = 1.101$; $p = 0.363$; $p > 0.05$) according to the job of married individuals.

Discussion

In line with the first purpose of this study, the researcher adapted the Chabot Emotional Differentiation Scale (CED) developed by David Chabot (1993) to Turkish language and tested the reliability and validity of the scale. As a result of the EFA conducted for the Turkish form of the CED, the original of which was 17 items, three items were excluded because the factor loads of the three items were less than 0.30 (items 2, 9 and 17). It was determined that the 14-item scale had four factors and the highest acceleration decline was in factors 1 and 2. If an item is in more than one factor, the difference between the factor loads of the item in the factors is expected to be at least 0.10 (Çokluk et al. 2010; cited by Dinç and Keçe 2012). Item 7 was excluded from the scale because it loaded on both factors which were close to each other. The 13-item version of the scale had a four-factor structure and the scale was transformed into a two-factor structure since the fastest acceleration was in factors 1 and 2. Contrary to the original scale in English, the Turkish form, which has been transformed into a two-factor structure, explains 23.869% of factor 1 variance and 14.770% of factor 2 variance. Two factors explained 38.640% of the total variance. One expects that the explained variance ratio should be at least 30% for the scales with single factor, but that the scales with a large number of factors should have higher scores (Büyüköztürk 2002, p. 125). Accordingly, that the variance ratio explained by the two-factor structure of the scale is adequate. Factor loads of 13 items ranged from 0.524 to 0.746. Factor loadings of the items indicate medium level when they are between 0.30 and 0.60, while the factor loadings higher than 0.60 indicate high level (Kline 1998). Accordingly, factor loadings of the scale is acceptable. In addition, the confirmatory factor analysis results show that the model is in an

acceptable fit by meeting the values accepted in the literature (Hair et al. 1998; Stevens 2001).

For the reliability of the 12-item two-factor model of CED-T, the Cronbach Alpha reliability coefficient is 0.739, the reliability coefficient of Factor 1 which is a sub-dimension of I-Position is 0.726 and reliability coefficient of Factor 2 which as sub-dimension of Emotional Reactivity is 0.700. The literature suggests that the Cronbach Alpha internal consistency reliability coefficient of a scale is minimum 0.60 (George and Mallery 2003; cited by Kılıç 2016). Accordingly, the reliability coefficient of the total and sub-dimensions of the CED-T, which was adapted to Turkish language, was above 0.60, indicating that the scale has acceptable reliability.

The study examined the relationship between CED-T scores, TAI scores and MLSS scores, and the data obtained supported the criterion-related validity of the scale. It found a moderate negative correlation between CED total and sub-dimension scores and trait anxiety scores. Studies have shown that there is a negative significant relationship between CED and anxiety (Franks and Chabot 2004; Karasick 2004; Takagishi 1996, 1999; cited in Licht and Chabot 2006). These studies support the results of the research. Işık and Bulduk (2015), in their study where they adapted to Turkish the Differentiation of Self Inventory (DSI-R) scale developed by Skowron and Friedlander (1998) and revised by Skowron and Schmitt (2003), found that there was a negative significant relationship between sub-dimensional and total score of differentiation of self and trait anxiety. In addition, Sarikaya et al. (2018) adapted the Differentiation of Self Inventory-Short Form (DSI-SF) developed by Drake et al. (2015) to Turkish. This study found a negative correlation between total score of differentiation of self and emotional reactivity, intertwining, and I-position and trait anxiety, whereas it found no significant relationship between trait anxiety and emotional differentiation. When the results of these scales, which are aimed to measure both the interpersonal and intrapsychic dimensions of differentiation, are related to I-Position and emotional reactivity sub-dimensions, the results support the relationship between trait anxiety and CED-T. In his study with DSI-T, Polat (2014) found that there was a negative correlation between anxiety and differentiation of self-total score and I-Position sub-dimension score, while there was a positive correlation between anxiety and emotional reactivity. Peleg and Messerschmidt-Grandi (2018) in their study conducted with an Israeli (Jewish and Arabic) and a European (Germans and Italians) study group using DSI-R found a moderate negative correlation between I-Position sub-dimension and trait anxiety, whereas contrary to the results of this study, they found a

moderate positive correlation between emotional reactivity sub-dimension and trait anxiety. While the results of these studies related to I-Position sub-dimension supported the results of the research, it did not support the results related to the emotional reactivity sub-dimension. When one examines these studies, it appears that differentiation plays an important role in reducing trait anxiety, but it is important to conduct more studies based on different cultures. According to the results of the study, there was a low positive relationship between the CED-T total and I Position sub-dimension scores and the married life satisfaction scores of the married individuals, while there was no significant relationship between the emotional reactivity sub-dimension score and the married life satisfaction score, respectively. There are studies with similar results in recent literature (Glade 2005; Kwon 2000; Polat 2014; Skowron 2000; Varol 2015). Skowron (2000), in his study, revealed that the low level of differentiation led to more problems in marriage. Polat (2014) found that I-Position sub-dimension predicted dyadic adjustment and that there was a positive relationship between dyadic adjustment and I-Position sub-dimension. In addition, they found that the emotional reactivity sub-dimension did not affect dyadic adjustment and that there was no significant relationship between them. The study conducted by Varol (2015) on genogram-based counseling sessions found that at the end of the five sessions, there was a significant positive difference in the total score of differentiation of self, I-Position sub-dimension and addiction sub-dimension scores of married individuals. However, there was no significant difference in the levels of emotional differentiation and emotional reactivity, which are sub-dimensions of problem solving, emotional commitment and differentiation of self in marriage. When one examines the results on I-Position and emotional reactivity sub-dimensions of these studies which were conducted in a country like North Cyprus where Turkish culture is dominant (Polat 2014; Varol 2015), they appear to support the results of the study which displayed that the emotional reactions of married individuals in North Cyprus are not related to their marriage satisfaction. Bowen (1985), however, emphasized the importance of establishing the I-Position, which he regarded as an important part of differentiation of self. It seems that the therapies he conducted tried to prevent excessively emotional reactions between spouses and thus proposed prevention of emotional reactivity in ensuring differentiation of self, which is believed to increase the quality of marriage.

Accordingly, Bowen's views and related studies in the literature suggest that there is a positive relationship between marital satisfaction and I-Position sub-dimension, which is one of the conclusions of this study,

but there is no significant relationship between emotional reactivity and marital satisfaction, which does not support Bowen's approach.

The study found that there was no significant difference in the CED-T total and sub-dimension scores of married individuals according to age. Studies in which CED study groups consist of various age groups display that CED is a scale that can be applied to different age groups (Franks and Chabot 2004; Karasick 2004; Takagishi 1996; cited in Licht and Chabot 2006). In this respect, the results of the research support the CED-T. In addition, the literature review identified studies with DSI-R and DSI-T and these found that the level of differentiation did not reveal a significant difference according to age (Skowron and Schmitt 2003; Işık and Bulduk 2014 2015). These studies support the results of the research. Bowen (1985) suggested that individuals could not differentiate their self until at least 25 years of age. However, the participation of married individuals between the ages of 18 and 25 in this study suggests findings which do not support Bowen's opinion but support the studies. In this respect, the reason why there is no significant difference between the CED-T scores of married individuals according to age seems to be due to the widespread use of mass media and especially the use of social media, which leads to meeting and sharing between not only the individuals in the same age group, but also between individuals who have huge age differences. Another reason is that it is easier for individuals of different ages to come together in educational institutions. These changes over time appear to be the reason for which this research and other studies do not support Bowen's view.

The study found that there was no significant difference in the CED-T total and sub-dimension scores of married individuals according to gender. In their study, Mert and Topal (2018), Peleg and Yitzhak (2011) and Polat (2014) found that women had higher levels of dependency and emotional reactivity to others than men, but there was no significant difference in I-Position and emotional differentiation sub-dimensions based on gender. While the results of these studies on I-Position sub-dimension support the results of the study, there is no similarity in terms of finding a significant difference in emotional reactivity sub-dimension according to gender. Işık and Bulduk (2014), in their study, found that men's differentiation of self, emotional reactivity, I-position and dependence on others were significantly higher than that of women. This study, however, does not support the results of this research. This study believes, contrary to the results of other studies and considering the changes in the North Cyprus community over time, that the equal conditions provided to women and men in education in North Cyprus in terms of socioeconomic and cultural

elements, values and beliefs are why there is no significant difference between the CED-T scores of the married individuals according to gender. Furthermore, it believes that there may not be a significant difference between the CED-T scores in terms of gender because of the recent history of wars in North Cyprus where both women and men played an active role. As a matter of fact, works related to the Turkish Cypriot struggle reveal that women, like men, took an active role in wars (Onuş 2018). In this respect, contrary to the countries where other studies are conducted, the study believes that a patriarchal society structure in North Cyprus is not as dominant as in other places, and North Cyprus society accepts men and women as more equal than do other places where these studies are conducted.

The study also found that there was no significant difference in the CED-T total and sub-dimension scores of married individuals according to marriage styles. In his study, Polat (2014) found that individuals who performed arranged marriage revealed significantly higher scores in terms of emotional reactivity and dependency sub-dimensions compared to individuals who married after flirting. As for differentiation of self-total score, individuals who married after flirting had significantly higher differentiation levels compared to individuals who performed arranged marriage. In terms of I-Position and emotional differentiation sub-dimensions, the study found no significant difference according to marriage style. While the absence of a significant difference in the I-Position sub-dimension score of this study according to the styles of marriage supports the result of the study, the significant difference found in the emotional reactivity sub-dimension score compared to the styles of marriage does not support the results of the study. Gümüşatam (2018), in his study examining the view of women in the Turkish Cypriot community, asserts that various elements that make up the society in the continuity of culture, such as geographical location and living together with different cultures, add new values to the system, but they also protect the old values without changing them completely. Accordingly, the extended family structure in which more than one generation lives together is not common in North Cyprus society and the nuclear family structure is dominant. However, it appears that there is no significant difference between the CED-T scores of married individuals in terms of marriage styles due to the continuation of situations such as living with the family until the marriage, the absence of the distinction between very traditional or very modern concepts in society, and the similarity of family structures among different regions in general.

In addition, the study found that there was no significant difference in the total and sub-dimension scores of

CED-T according to the age at marriage. In the literature, there are no studies that examine emotional differentiation levels according to the age at marriage. Based on the results of the study, it appears that the reason for not finding a significant difference between the CED-T scores of married individuals according to the age at marriage is that, even though the differentiation levels of the individuals at the time of marriage is low, there may be changes in differentiation levels over time, and this change may be in a positive way as well as in a negative way. In addition, the study found no significant difference in the CED-T total and sub-dimension scores of married individuals according to the number of marriages. In the literature, there are no studies examining emotional differentiation levels according to the number of marriages. In line with the experiences gained from the mistakes individuals made in their first marriages, gaining awareness in their lives and separating their feelings and thoughts from each other and becoming aware of their feelings and opinions, knowing themselves better in this direction, expressing their feelings and thoughts with a healthy communication, and believing that they become more mature in time, one expects that there would be a significant difference between CED-T scores according to the number of marriages. According to the results of the study conducted by Eray (2011) with divorced individuals in North Cyprus, divorced individuals have a high education level and a certain financial income. The results of the same study showed that the existence of economic independence and the income necessary to survive after the divorce were effective in making the decision for divorce, and that women with economic independence decided to divorce more easily. According to this, although it seems that women decide to divorce more easily with the acquisition of economic freedom and increase in education level, it appears that second marriages can be decided more easily and experiences in first marriage are not effective, and therefore emotional differentiation levels are not influential. It seems that there is no significant difference between first marriage and second marriage in terms of emotional differentiation levels.

The study detected no significant difference in CED-T total and sub-dimension scores of married individuals according to the time of marriage. No studies have been identified in the literature on this subject. However, it appears that the lack of significant difference between CED-T scores of married individuals according to time of marriage is related to the fact that experiences, marital satisfaction and marital harmony in every marriage is different and that, as a result of these experiences in marriage, the differentiation gained by married individuals can be different from each other. In other words, it seems that emotional differentiation does not show a significant

difference according to the time of marriage due to the situations that may vary from marriage to marriage, regardless of the time of marriage of married individuals. As a matter of fact, some studies show that there is a significant positive relationship between marital harmony (Lohan and Gupta 2016; Rodriguez Gonzalez et al. 2016) and marital satisfaction (Glade 2005; Kwon 2000) and differentiation levels.

There was no significant difference in the scores of the married persons regarding the total and sub-dimensions of CED-T according to their educational level. The share of persons with a high education level in the North Cyprus is high in the total workforce and the education level of the population continues to increase (Türkiye Cumhuriyeti Lefkoşa Büyükelçiliği Yardım Heyeti Başkanlığı 2014). Due to the high-level of education in the general population of the North Cyprus, the educational level of married persons in the North Cyprus does not make a significant difference between CED-T scores.

There was no significant difference in the scores of the married persons regarding the total and sub-dimensions of CED-T according to their job. Despite the rising education level in the population of North Cyprus, lack of skilled employment opportunities leads to an increase in unemployment rates of highly-educated people (Türkiye Cumhuriyeti Lefkoşa Büyükelçiliği Yardım Heyeti Başkanlığı 2014). Therefore, CED-T scores do not show a meaningful difference according to the professions because of unemployment and underemployment.

The study concludes that CED-T is a valid and reliable measurement tool for married individuals. The CED-T can be applied to married individuals, and the levels of emotional differentiation can be examined to determine what can be done in marriage and family counseling practices, and can be used for process evaluation at the end of the sessions. Schools can organize activities for individuals to ensure that they differentiate their emotions and thoughts, raise awareness, make decisions, deal with stress, gain problem solving skills and develop a sense of responsibility. In addition, researchers can conduct longitudinal studies in order to determine which variables affect the emotional differentiation levels of individuals in addition to the variables found in the literature.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval Ethical approval was obtained from Eastern Mediterranean University Research and Publication Ethics Board.

Informed Consent Informed consent was obtained from all individual participants included in the study.

Appendix

Chabot emotional differentiation scale	Chabot Duygusal Ayrımlaşma Ölçeği
1. When I am not stressed, my behavior reflects the integrity between my thoughts and feelings	1. Stresli olmadığım dönemlerde davranışlarım, düşüncelerim ve duygularım arasındaki bütünlüğü yansıtır
^a 2. Before taking action, I find it difficult to harmonize my feelings and thoughts	^a 2. Harekete geçmeden önce, duygu ve düşüncelerim arasındaki uyumu sağlamakta zorlanırım
3. Even under stress, I can respond logically without denying my emotions	3. Stres altında bile sonuçta duygularımı inkar etmeden mantıklı bir şekilde cevap verebilirim
^a 4. In familial relationships, I have a hard time reacting in a reasonable and understanding way	^a 4. Ailemle ilişkilerimde, makul ama aynı zamanda anlayışlı bir biçimde tepki vermekte zorlanırım
^a 5. Even though they are not good for me, I find it difficult to end my relationships	^a 5. İyilik halimi desteklemese bile, duygusal anlamdaki yakın ilişkilerimi değiştirmekte zorlanırım
6. Even when I am under pressure, I am clear about what I believe and what I think	6. Baskı altında olduğum durumlarda bile neye inandığımı ve ne düşündüğümü konusunda netim
7. I act consistently with both my intellectual beliefs and emotional sensitivity	7. Hem entelektüel inançlarım hem de duygusal duyarlılığımın tutarlı bir biçimde hareket ederim
^a 8. In a crisis, a mismatch between my feelings and my logic prevents me from taking action	^a 8. Bir kriz durumunda duygularım ve mantığım arasındaki uyumsuzluk eylemde bulunmamı (hareketimi) engeller
9. In a cordial relationship, I apply my principles without feeling emotionally threatened	9. Samimi ilişkilerimde duygusal olarak tehdit altında hissetmeden prensiplerimi uygulayırım
10. Even when I have to constantly deal with extremely demanding and controlling people, I can keep my peace of mind and clear thinking ability	10. Aşırı talepkar ve aşırı kontrolcü kişilerle sürekli uğraşmam gerektiğinde bile iç huzurumu ve net düşünmeyi devam ettirebilirim
11. When I socialize, I feel that I am in balance between my feelings and thoughts, as I do in familial relationships	11. Gündelik bir ilişki içerisinde olduğum zaman aile ilişkilerinde olduğum gibi duygu ve düşüncelerim arasında dengede olduğumu hissederim
^a 12. When I am in an emotionally-satisfying relationship, I have difficulty understanding what I want and revealing myself	^a 12. Duygusal olarak tatmin edici bir ilişki içerisinde olduğumda, ne istediğimi anlamakta ve kendimi ortaya koymakta zorluk yaşıyorum

^a Stands for opposite meaning

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