


Psychometric Properties of the Turkish Version of the Experiences in Close Relationships–Relationship Structures Questionnaire (ECR-RS)

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Abstract

The aim of this study was to adapt the Turkish version of the Experiences in Close Relationships–Relationship Structures Questionnaire in a sample of Turkey. Study I was conducted to prove the reliability and validity of the results obtained as a result of the adaptation of the Experiences in Close Relationships–Relationship Structures (ECR-RS) Questionnaire to Turkish culture. The study showed that the Experiences in Close Relationships–Relationship Structures Questionnaire and its subscales were reliable and valid. The study showed that the ECR-RS subscales correlated with the Relationship Questionnaire, the Relationship Styles Questionnaire, the Rosenberg Self-Esteem Subscale, the Sociotropy-Autonomy Scale, the Contact with parents and the Relationship experience, denoting content validity of the Experiences in Close Relationships–Relationship Structures Questionnaire. According to the research results, the Experiences in Close Relationships–Relationship Structures Questionnaire are a reliable and valid measurement tool that can be used for the purpose of evaluating attachment representation in Turkish culture. In addition, this study provides attachment researchers with a basis for reviewing the assumption that dimensional models overlap with categorical models. It is suggested that The Experiences in Close Relationships-Relationship Structures Questionnaire be adapted to different relationship structures (e.g., therapist, god, ideological groups), retested on different age groups and its relationship with personality traits and psychological problems be investigated.

Keywords

attachment model, adult attachment, ECR-RS, validation, culture, Turkey

Introduction

Pioneering studies concerning the function and structure of the attachment system were conducted by Ainsworth (1985) and Bowlby (2012). *The attachment system* is the name given to the construct that guides the behavior of establishing affinity with other people as an evolutionary reaction by individuals to attacks from the outer world to protect their lives (Bowlby, 2012, 2014, 2015). The source of individuals' behaviors related to attachment is internal working models that are relationship schemes which have been formed since early years of life and which they have developed about important individuals (Collins, 1996; Main et al., 1985). If the attachment figure provides three basic supports called proximity (meeting psychological and physiological needs), safe haven (instrumental and emotional support), and secure base (support for discovery), attachment representation takes shape in a positive form, and secure attachment based on mutual trust develops with the attachment figure. (Ainsworth et al., 2015; Mikulincer & Shaver, 2009; Reizer & Mikulincer, 2007). If basic supports are not provided, insecure attachment

develops (Shaver & Mikulincer, 2007). Insecure attachment is handled in two basic dimensions, namely attachment-related avoidance and attachment-related anxiety (Fraley et al., 2000; Fraley & Shaver, 2000; Fraley & Waller, 1998). Attachment avoidance is characterized by avoidance of intimacy and dependence and deactivation of attachment behavior. Attachment anxiety is characterized by an expectation of separation, abandonment, or insufficient love and hyperactivation of attachment behavior (Collins & Feeney, 2004; Hazan & Shaver, 1987, 1994; Mikulincer & Shaver, 2003).

Various instruments that measure categorical and dimensional models have been developed by attachment researchers to understand and evaluate the nature of attachment

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representation. Adult Attachment Scale (AAS), which was the first scale to measure attachment characteristics using self-report techniques, was developed by Hazan and Shaver (1987). Hazan and Shaver (1987) adapted the attachment categories defined by Ainsworth et al. to adult romantic relationships. Bartholomew and Horowitz (1991) and Griffin and Bartholomew (1994), however, developed a four-category measurement instruments called *Relationship Questionnaire (RQ)* and *Relationship Styles Questionnaire (RSQ)* based on Bowlby (2012) internally working model, which was composed of two dimensions, namely Model of Self and Model of Others, and attachment styles developed from these two dimensions, namely secure, fearful, dismissing, and preoccupied attachment. After the 1990s, attachment researchers began to develop measurement tools in the dimensional model based on social cognitive perspective in shaping attachment representation, on the grounds that categorical models had strict boundaries and did not reflect individuals' social cognitive worlds. One of the measurement instruments that take dimensional measurements highlighting social cognitive perspective is the AAS developed by Collins and Read (1990). The Adult Attachment Questionnaire (AAQ; Simpson, 1990) and the Attachment Style Questionnaire (ASQ; J. A. Feeney et al., 1994) are also among instruments that take dimensional measurements.

Despite all these developments, the debate about whether the models that best represent the nature of attachment representation are categorical or dimensional models continues. However, statistical evidence was provided indicating that dimensional approach would bring a more accurate perspective in assessing attachment (Brennan et al., 1998; Fraley & Waller, 1998). Following this evidence, the ECR Brennan et al. (1998) and ECR-R (Fraley et al., 2000) (a revised version of the ECR), which are claimed to be the most popular measurement tools for attachment representation measurement (Fraley, 2018), were developed. With increasing evidence that individuals' attachment representation is affected by relationship structures (Baldwin et al., 1996; Baldwin & Fehr, 1995; Collins, 1996; Collins & Read, 1990, 1994; J. A. Feeney & Noller, 1990; Hudson et al., 2015), ECR-R was revised, and the ECR-RS was developed to evaluate attachment characteristics according to relationship structures (Fraley, Heffernan, et al., 2011).

The ECR-RS has been adapted to different cultures by researchers. It has been reported that the Czech (Cvrčková, 2017), Hungarian (Gyöngyvér & András, 2016) Brazil (Rocha et al., 2017), Japanese (Komura et al., 2016), Portuguese (Moreira et al., 2015), and Polish (Marszał, 2015) versions of the scale showed good fit to the two-dimensional model consisting of 9 items, as in the original scale. In the French version of The ECR-RS Partner subscale (Chaperon & Dandeneau, 2017), Items 5 and 6 were removed from the scale for cross-loading, thus confirming the two-dimensional structure.

There have also been efforts aimed at adapting the ECR-RS to samples consisting of adolescents, and results compatible with the two-dimensional model were obtained in the adaptation efforts in the Chilean (Karapas et al., 2015), Danish (Donbaek & Elklit, 2014), and Italian (Hünefeldt et al., 2013) cultures. However, the Italian version of the ECR-RS consists of 8 items. Item 7 of the anxiety dimension was omitted from the test on the grounds that it reduced reliability.

In the light of all this information, the main motivation behind the selection of the ECR-RS to adapt to Turkish culture is that the ECR-RS is the short form of ECR-R which is used very frequently by researchers and reported to have psychometric properties superior to other measurement tools for Turkish culture (Selçuk et al., 2005; Sümer, 2006) and that it can make sensitive measurements regarding the relationship structure while determining the attachment styles.

Due to the aforementioned importance of the scale, the psychometric properties of this research were tested on different groups from the sample. Antalyalı and Özkul (2016) revised the ECR-RS in a single form to be able to use it in administrative and organizational researches. In another study, The ECR-RS was tested by Karataş (2016) on a sample composed of Turkish adolescents. However, the fact that the model did not work well on university students as the sample was not inclusive, and some modifications that were not compatible with the theory for model fit indicate that the model proposed in this study should be reevaluated. In addition, it is thought that the use of the same measurement tool by researchers from different cultures in the measurement of attachment representations will contribute to the elucidation of the hypotheses related to the attachment system by creating a more holistic framework.

On account of all these reasons, compatibility of the ECR-RS with the Turkish culture was tested. Efforts aimed at adapting the ECR-RS to Turkish culture were implemented in two phases, namely Study I and Study II. In Study I, the ECR-RS was conducted and evidence proving its reliability and validity was presented. In Study II, however, the relationships of the ECR-RS with other attachment scales and with structures associated with it theoretically were revealed.

Study I

The purpose of this study is to provide evidence concerning validity and reliability of results obtained as a consequence of adaptation of the ECR-RS to Turkish culture.

Method

Participants. The sample of Study I comprised 460 individuals randomly selected from among undergraduate students aged 18–35 years attending Selçuk University in the city of Konya, Turkey, in the academic year of 2016–2017; 54.8% of the participants consisted of female students, while 45.2%

were male. Median age of the participants was 20.47 ($SD = 3.06$) years. It was seen that whereas 38% of the participants had a close romantic relationship, 62% did not have a close romantic relationship. The sample consists of young adults, none of whom have experienced marriage before.

The test–retest sample consisted of 97 individuals randomly selected from undergraduate students aged 18–35 years in the academic year of 2016–2017; 63.9% of the participants consisted of female students, while 36.1% were male. Median age of the participants was 20.49 ($SD = 3.79$) years. While 42.3% of the participants had a close romantic relationship, 57.7% of them did not have a close romantic relationship.

Measures

Personal information form. This form was developed by the researchers to collect information about the participants' gender, age, and relationship status.

ECR-RS. The ECR-RS was formed by Fraley, Hefferman, et al. (2011). The ECR-RS is a self-report instrument designed to assess attachment-related anxiety and avoidance in five targets, namely mother, father, romantic partner, best friend, and global. This scale was formed by Fraley, Hefferman, et al. (2011) using 9 items selected from the ECR-R scale developed by Fraley et al. (2000). The ECR-RS is composed of two subdimensions, namely avoidance (Items 1–6) and anxiety (Items 7–9). The scale includes 7-item Likert-type questions. The statements in the scale are scored from 1 to 7 (1: *strongly disagree* to 7: *strongly agree*). The attachment-related anxiety dimension represents the extent to which people tend to worry about attachment-related concerns (e.g., I'm afraid that this person may abandon me.), whereas the attachment-related avoidance dimension represents the extent to which people are uncomfortable opening up to others and depending on them (e.g., I talk things over with this person.). High scores obtained from each subscale indicate high avoidance or anxiety. Secure people tend to score low on both dimensions. The scale can be used separately to determine attachment patterns in mother, father, romantic partner, best friend relationships and global, or it can be used as a whole as a shorter version of ECR-R.

Data analysis. Statistical analyses made on the quantitative findings of this study were conducted using SPSS 23 and LISREL 8.80. Test–Retest method and Cronbach's Alpha (CA) coefficients were used to determine the reliability of the results obtained from the ECR-RS scale. Since the ECR-RS was adapted to a new language, or in other words since it was adapted to a new sample, the factorial structure between factors and related items was revealed using explanatory factor analysis (EFA), and then this structure was confirmed using confirmatory factor analysis (CFA; Terwee et al., 2007). Convergent validity and discriminant validity were investigated to determine the validity of the results obtained

from the ECR-RS scale. Convergent validity was investigated through standardized factor loads, which were obtained through CFA, which indicates the relationship between factors (i.e., latent variables) and items belonging to factors (i.e., observed variables), and Composite Reliability (CR) and Average Variances Explained (AVE) coefficients, which were calculated by the help of them. Discriminant validity, however, was investigated through correlations between latent variables and the root squares of AVE coefficients.

Three criteria are taken into consideration in studies to prove convergent validity. The first criterion is that standard factor load of each observable variable belonging to latent variables needs to be greater than .50 and statistically significant (Hair et al., 1998). The second criterion is that both of the CR and CA figures need to be greater than .70 for each structure. It had been stated previously that CA values in this study were greater than .70. The last criterion is that the coefficient of AVE should be greater than .50 (Fornell & Larcker, 1981; Hair et al., 1998).

AVE coefficients are used to prove discriminant validity of the measurement models. In this study, the discriminant validity of the measurement model was checked by comparing the square root of the AVE coefficient value of each structure with the correlation between that structure and the other structures (Fornell & Larcker, 1981).

Procedures. Before adapting the ECR-RS scale to Turkish culture, contact was established with R. Chris Fraley, one of the authors who had developed the original form of the ECR-RS, he was informed about the study, and permission was obtained. Then, the final form of the Turkish version of the ECR-RS was created for the main application following the translation, pilot study, and the obtainment of expert opinion stages. Paper-/pencil-based questionnaires were distributed to students in their classroom. The anonymity of the study was stressed in advance. Participants were also aware that their participation was completely voluntary, and that they could withdraw from the study at any time.

Translation and pilot study. The ECR-RS was translated from English to Turkish via back translation method to obtain the initial Turkish version of the ECR-RS. To check whether the language equivalences produced while translating from the original language to the target language meet the semantic structures, it is recommended to review the first form with a pilot application before the main psychometric analysis (K. Z. Deniz, 2007; Karakoç & Dönmez, 2014). For this reason, a pilot study was conducted on a group of 515 individuals studying at Selcuk University in Konya, Turkey; 54.8% of the participants consisted of female students, while 42.5% were male. Median age of the participants was 20.47 ($SD = 3.06$) years. While 38% of the participants had a close romantic relationship, 62% of them did not have a close romantic relationship. The factorial structure between factors and related items was revealed using EFA and CFA.

According to the findings obtained from the pilot study, the ratio of explanation of total variance was found to be 50% for the mother subscale, 58% for the father subscale, 59% for the partner subscale, and 59% for the best friend subscale. The factor loads for all subscales were found to be highest .85 and lowest .19. Ratios of explanation of variance were inadequate as they were below 60. Moreover, factor loads are required to be above .50 (Hair et al., 1998), but factor loads for Items 5 and 6 in this form were below .50% in all subscales, and these items were in the anxiety dimension unlike in the original form.

Therefore, Turkish items were rearranged to provide the semantic structure of Articles 5 and 6 as in the original form by obtaining expert opinions from Chris Fraley, one of the authors who had developed the original form of the ECR-RS and specialists in the field of psychology and linguistics. In this way, the Turkish version of the ECR-RS was made ready for actual application.

Result

Then, the results of Test–Retest Method and CA coefficients were presented concerning reliability of the ECR-RS scale, and the results of convergent validity and discriminant validity were presented for its validity.

Results regarding reliability of the ECR-RS

Test–retest. Two applications were conducted at an interval of 4 weeks to determine test–retest reliability. Correlations between Time 1 and Time 2 were found to be .62 for mother subscale, .58 for father subscale, .68 for partner subscale, .62 for friend subscale, and .64 for global subscale. In addition, correlations were found to be .64 for the parental domain (mother and father) and .80 for the peer domain (friend and partner). The result of test–retest correlation for the ECR-RS subscale indicated a moderate level of correlation. These findings indicated that the ECR-RS Turkish version has an acceptable reliability.

CA. In the study, the CA reliability coefficients obtained when the ECR-RS scale was assessed according to the avoidance and anxiety dimensions for five targets (mother, father, partner, friend, and global) are given in Table 1. When Table 1 is examined, it can be said that all the variables varied between .73 and .87, and therefore, the results obtained from the scale are reliable for all groups.

The ECR-RS validity results

EFA and factor reduction results. Whether data are suitable for EFA or not can be investigated using Kaiser–Meyer–Olkin (KMO) coefficient and Bartlett Sphericity test (Tatlidil, 1996). Some researchers state that if KMO coefficient calculated for adequacy of sample size is between .80 and .90, this is good, and that Bartlett Sphericity test should

be significant at the level of .05 (Bartlett, 1950; Field, 2013; Tatlidil, 1996). In this study, KMO coefficient was .84 and the significance level of Bartlett Sphericity test was $p < .01$ ($\chi^2 = 1,007.63$, $df = 289$), which indicated that the data were suitable for factor analysis. The results of factor analysis are given in Table 1.

It is seen as a result of the factor analysis that the total variance explained is 59.13%. Variance explained being 30% or above in single-factor scales is considered to be adequate (Çokluk et al., 2010). When factor loads of the items on the scale are investigated one by one, it is observed that they vary between .54 and .76. Factor loads being .50 and above is a good selection criterion (Hair et al., 1998). Total variance of the items of the scale explained, and their factor loads are given in Table 1.

CFA results and fit indices. To test the two-factor structure of the ECR–RS, CFA was performed using Robust Maximum Likelihood Estimation in LISREL for each relationship targets and fit indices used frequently in assessment of general model fit. Since chi-square criterion is sensitive to sample size, and since it could overvalue model mismatch, it was not included in the assessment. The model was assessed using comparative fit index (CFI), root mean square error of approximation (RMSEA), and standardized root mean square residuals (SRMR). When fit indices were being assessed, acceptable limits were taken to be $RMSEA \leq .10$ (Hu & Bentler, 1999), $CFI \geq .90$ (Bagozzi & Yi, 1988), and $SRMR \leq .10$ (Schermelell-Engel et al., 2003). The figures obtained from the study were between .09 and .10 for RMSEA, between .92 and .97 for CFI, and between .09 and .01 for SRMR. Therefore, the CFA model fit was achieved for the two-factor structure in all target subscales.

Convergent validity results. As previously mentioned, three criteria are taken into consideration in studies to prove convergent validity. The first criterion is that standard factor load of each observable variable belonging to latent variables needs to be greater than .50 and statistically significant (Hair et al., 1998). In this study, all relationships were statistically significant at a level of .05, but the standard factor loads of two items belonging to the avoidance dimension of global relationship were found to be .45 and .42. Factor loads being .50 and higher is a good criterion but it is pointed out that this figure could be reduced to as low as .30 (Whitley et al., 2013). The second criterion is that both of the CR and CA figures need to be greater than .70 for each structure. It had been stated previously that CA values in this study were greater than .70. However, it was seen that CR values also varied between .81 and .92. The last criterion is that the coefficient of AVE should be greater than .5 (Fornell & Larcker, 1981; Hair et al., 1998). In this study, the AVE coefficient for the ECR-RS global attachment subscale was found to be .44. However, Fornell and Larcker (1981) stated that when CR

Table 1. Findings About Factor Analysis of the ECR-RS Subscales.

Items	Mother		Father		Partner		Friend		Global	
	Av.	Anx.	Av.	Anx.	Av.	Anx.	Av.	Anx.	Av.	Anx.
1. İhtiyacım olduğu zaman bu kişiye danışmanın bana faydası olur. (It helps to turn to this person in times of need.)	.77	.04	.78	.18	.86	.05	.81	.14	.68	-.02
2. Problemlerimi ve kaygılarımı genellikle bu kişiyle konuşurum. (I usually discuss my problems and concerns with this person.)	.81	.01	.86	.05	.90	.10	.87	.07	.83	-.06
3. Başımdan geçenleri bu kişi ile konuşurum. (I talk things over with this person.)	.82	.02	.84	.01	.86	.06	.86	.05	.79	-.16
4. Bu kişiye kolayca güvenirim. (Ifind it easy to depend on this person)	.58	.13	.63	.24	.75	.12	.73	.15	.64	.03
5. Kendimi açmak için bu kişiyi tercih etmem. (I don't feel comfortable opening up to this person.)	.61	.26	.70	.23	.61	.37	.63	.49	.55	.36
6. Bu kişiye gerçek hislerimi göstermeyi tercih etmem. (I prefer not to show this person how I feel deep down.)	.54	.29	.65	.39	.55	.53	.58	.51	.55	.35
7. Bu kişinin beni gerçekten önemsemediğinden sık sık endişe duyarım. (I often worry that this person doesn't really care for me.)	.21	.75	.36	.78	.27	.83	.29	.81	.15	.84
8. Bu kişinin beni terk edebileceğinden korkarım. (I'm afraid that this person may abandon me.)	.04	.80	-.01	.85	.01	.84	.01	.85	-.11	.84
9. Bu kişinin beni, benim onu önemsemediğim kadar önemsemeyeceğinden endişe duyarım. (I worry that this person won't care about me as much as I care about him or her.)	.09	.82	.22	.88	.05	.87	.08	.86	-.02	.89
Variance Explained %	33.24	22.62	39.41	26.54	39.64	28.74	38.91	29.49	31.56	27.57
Total Variance Explained %	55.86		65.95		68.37		68.41		59.13	
Eigen values	2.99	2.04	3.55	2.39	3.57	2.59	3.50	2.65	2.84	2.48
KMO	.78	.83	.85	.85	.74					
Bartlett Test	<.01		<.01		<.01		<.01		<.01	
CA	.80	.73	.86	.83	.87	.83	.87	.83	.77	.85

Note. ECR-RS = Experiences in Close Relationships–Relationship Structures; KMO = Kaiser–Meyer–Olkin; CA = Cronbach's Alpha.

value is greater than .6, AVE smaller than .5 is acceptable, and that composite validity is sufficient (Huang et al., 2013). When these three criteria are taken into consideration, it is seen that composite validity is proven (see Table 2).

Discriminant validity. AVE coefficients are used to prove discriminant validity of measurement models. In this study, the discriminant validity of the measurement model was checked by comparing the square root of the AVE coefficient value of each structure with the correlation between that structure and the other structures. Since square root values of AVE were greater than the values in all of the lines and columns, discriminant validity was proven for all dimensions (Fornell & Larcker, 1981) (See Table 3).

Study II

The purpose of Study II is to assess construct validity of the ECR-RS in a more comprehensive way. For this reason,

some relationships that were considered important were tested. Among the researchers of attachment, Bartholomew and Horowitz's four-category model is assumed to reconcile categorical and dimensional models (Ravitz et al., 2010; Sümer et al., 2015). Thus, secure attachment is conceptualized as a relative absence of attachment anxiety and attachment avoidance; preoccupied attachment is conceptualized as high attachment anxiety and low attachment avoidance; dismissing attachment is conceptualized as high attachment avoidance and low attachment anxiety; and fearful attachment is the combination of high insecurity on both dimensions of attachment avoidance and attachment anxiety. In this study, the relationships between the dimensional model on which the ECR-RS is based and the categorical models of RSQ and RQ were examined.

In addition, since there have been reported relationships between attachment representation and personality traits in past studies (Ravitz et al., 2010; Shaver & Mikulincer, 2005), the relationships between the ECR-RS and subdimensions of

Table 2. The ECR-RS Subscales Convergent Validity Results.

Items of avoidance	Mother	Father	Partner	Friend	Global
1	.83	.84	.89	.88	.71
2	.80	.86	.93	.89	.90
3	.79	.81	.86	.86	.77
4	.64	.71	.75	.75	.57
5	.63	.72	.66	.76	.45
6	.58	.72	.64	.73	.42
CR	.86	.90	.91	.92	.81
Variance Explained	.52	.61	.63	.66	.44
Items of Anxiety					
7	.79	.87	.85	.85	.79
8	.78	.81	.80	.81	.84
9	.84	.96	.88	.88	.95
CR	.85	.91	.88	.88	.90
Variance Explained	.65	.78	.71	.72	.74

Note. Bold scores are standardized factor loads obtained from the CFA belonging to each subscale of the items. ECR-RS = Experiences in Close Relationships–Relationship Structures; CR = Composite Reliability; CFA = confirmatory factor analysis.

sociotropic and autonomic personality traits, its relationship with self-esteem, and finally the relationship between the subscales of the ECR-RS and being connected with parents and the romantic relationship status were investigated.

Method

Participants. The sample of Study II comprised 173 individuals randomly selected from among undergraduate students aged 18–35 years attending Selcuk University in Konya, Turkey in the academic year of 2016–2017; 52.6% of the participants consisted of female students, while 47.4% were male. Median age of the participants was 20.19 ($SD = 3.52$) years. It was seen that whereas 74% of the participants had a close romantic relationship, 26% did not have a close romantic relationship. The sample consists of young adults, none of whom have experienced marriage before.

Measures

Experiences in Close Relationships–Relationship Structures scale (ECR-RS). The ECR-RS scale, which was proven to be compatible with the Turkish culture in Study I, was used.

RQ. It was developed by Bartholomew and Horowitz (1991) to assess individual differences within a two-dimensional model of adult attachment (self and others) and four categorical models (secure, preoccupied, dismissing, fearful). The scale is consisted of four paragraphs each describing categorical attachment patterns. RQ is a Likert-type scale ranging from 1 (not at all like me) to 4 (somewhat like me) to 7 (very much like me) to rate each of the four paragraphs. The scale was adapted to Turkish culture by Sümer and Güngör (1999).

RSQ. It was designed by Griffin and Bartholomew (1994) to assess individual differences within a two-dimensional model of adult attachment and four categorical models (secure, preoccupied, dismissing, fearful). RSQ is a Likert-type scale ranging from 1 = *not at all like me* to 7 = *very much like me* (e.g., I cannot easily trust others). The scale was adapted to Turkish culture by Sümer and Güngör (1999). The Turkish version of RQ was, like the original form, found to be fitting for the two-factor and four-category model. The CA coefficient calculated for this study is .78.

The Rosenberg Self-Esteem Subscale (RSS). It was developed by Rosenberg (1965) to assess individual self-esteem. The Rosenberg's Self Esteem subscale is a 10-item, 4-point Likert-type instrument. In the scale, individuals score their levels of agreement with the items ranging from 1 = *Strongly Agree* to 4 = *Strongly Disagree* (e.g. I find myself as valuable as other people). The scale measures self-worth by measuring both positive and negative feelings about the self. The scale was adapted to Turkish culture by Çuhadaroğlu (1986) and Kartal (1996). The CA coefficient calculated for this study is .70.

Sociotropy–Autonomy Scale (SAS). To assess sociotropy and autonomy, Beck et al. (1983) developed a 60-item SAS. In the scale, 30 items measure sociotropy, while 30 items measure autonomy (e.g., It is difficult for me to be away from the people I love). The sociotropy subscale is composed of three factors, namely Concern about Disapproval (CPA), Attachment/Concern about Separation (CAS), and Pleasing Others (PO). The Autonomy scale, on the other hand, is also composed of three factors, namely Individualistic or Autonomous Achievement (IAA), Mobility/Freedom from Control of Others (FCO), and Preference for Solitude (PS). The SAS has 60 items rated on a 5-point scale (ranging from 0 to 4). The scale was adapted to Turkish culture by Şahin et al. (1993). The CA coefficient calculated for this study was .87.

Contact with parents (CP). To assess current contact with mother and father, two different questions were asked: “Have you had contact with your mother within the past six months?” and “Have you had contact with your father within the past six months?” The participants responded to the questions as yes or no.

Relationship experience (RE). Two different questions were asked to collect information about the participants' romantic experiences. “Have you ever had a romantic relationship?” and “Are you having a romantic relationship currently?,” and the participants were asked to respond to the questions as yes or no.

Data Analysis

Statistical analyses in Study 2 were made using IBM Statistical Software (SPSS 23). Percentages (%) and f and SD

Table 3. The ECR-RS Subscales Discriminant Validity Results.

Structures	Mother		Father		Partner		Friend		Global	
	1	2	1	2	1	2	1	2	1	2
1. Avoidance	.72		.78		.79		.81		.66	
2. Anxiety	.42	.81	.54	.88	.38	.84	.51	.85	.03	.86
AVE	.52	.65	.61	.78	.63	.71	.66	.72	.44	.74

Note. Diagonal components between correlations are square roots of AVE. ECR-RS = Experiences in Close Relationships–Relationship Structures; AVE = Average Variances Explained.

calculations were made to analyze demographic data (gender and age). Pearson correlation analysis was used to test the correlations between the ECR-RS and other variables.

Procedures

The ECR-RS, RQ, RSQ, RSS, SAS, CP, and RE scales were administered to the participants in a face-to-face manner. The anonymity of the study was stressed in advance. Participants were also aware that their participation was completely voluntary and that they could withdraw from participation at any time.

Results

In this section, findings concerning the correlation analysis belonging to the ECR-RS and different structures were presented. A correlation coefficient as an absolute value between .70 and 1.00 indicates that there is a high level of correlation; a correlation coefficient between .70 and .30 indicates a moderate level of correlation, and a correlation coefficient between .30 and .00 indicates a low level of correlation (Büyüköztürk et al., 2008). The findings in the tables were explained in light of these findings. Correlations of the subscale of the ECR-RS, namely mother, father, romantic partner, best friend, and global attachment with each other are given in Table 4.

The anxiety and avoidance dimensions of the mother, father, partner, and friend subscales of the ECR-RS are positively correlated at a low and medium level. No correlation was observed between the avoidance and anxiety dimensions of the global attachment subscale.

The relationship between the ECR-RS subscales and RQ, RSQ, RSS, CAD, CAS, PO, IAA, FCO, PS, CP, and RE was analyzed, and the findings obtained were given in Table 5. Anxiety and avoidance dimensions of the ECR-RS subscales exhibit low, positive, and negative significant relationships with RQ, RSQ, RSS, CAD, CAS, PO, IAA, FCO, PS, CP, and RE (see Table 5).

General Discussion

The purpose of Study I was to test construct validity of the ECR-RS in a Turkish population by the help of a sample consisting of individuals in their young adult period. According

to the findings of the reliability analysis, test–retest correlation for the ECR-RS subscale indicated a moderate level correlation. A moderate level of significant relationship was observed in test–retest applications of attachment scales conducted at different time periods (Baldwin & Fehr, 1995; Collins & Read, 1990; Fraley, 2002; Lewis, 1998). It can be said that the mother, father, romantic partner, best friend, and global attachment pattern subscales of the ECR-RS are reliable for the Turkish culture.

According to the results of EFA and CFA, a two-dimensional structure (avoidance–anxiety) was observed for each of the subscales of mother, father, romantic partner, best friend, and global attachment. Items 1–6 showed loading on the avoidance dimension whereas Items 7–9 showed loading on the anxiety dimension. Findings of EFA and CFA concerning Turkish version of the ECR-RS yielded a two-factor solution across best friend, mother, father, parental figure domains, and global subscale, which is concordant with the first validation study of the ECR-RS in adults (Fraley, Heffernan, et al., 2011). The ECR-RS was reported to be above the 69% of cumulative variance value calculated in the original study (Fraley, Heffernan, et al., 2011). It is seen that the cumulative variance values in the Turkish version of the ECR-RS (see Table 1) are very close to the original study.

According to the factor analysis of the ECR-RS subscales (father, mother, best friend, partner, global), the lowest item load for the avoidance dimension was .54, and the highest was .90, whereas the lowest factor load for the anxiety dimension was .75, and the highest factor load was found to be .89. In the first validation study of the ECR-RS in adults (Fraley, Heffernan, et al., 2011), the factor loads for all subscales (mother, father, partner and friend) were found to be highest .91 and lowest .47 for the avoidance dimensions and highest .88 and lowest .79 for the anxiety dimension. The findings of this study regarding the factor loads are consistent with the findings of Fraley, Heffernan, et al. (2011). However, factor loads of Items 5 and 6 were reported to be lower than other items for at least one subscale in the validation studies of the ECR-RS in different cultures (Chaperon & Dandeneau, 2017; Donbaek & Elklit, 2014; Karapas et al., 2015; Komura et al., 2016; Moreira et al., 2015). Indeed, it has been seen that some studies have removed the said items from the scale (Chaperon & Dandeneau, 2017). It is thought that the reason why the factor loads of the items in this study were found to be similar to the factor loads in the original

Table 4. Means, Standard Deviations, and Intercorrelations Among the ECR-RS Subscale.

Scales	Avoidance					Anxiety				
	Mother	Father	Partner	Friend	Global	Mother	Father	Partner	Friend	Global
Avoidance										
Mother	—									
Father	.39**	—								
Partner	.34**	.07	—							
Friend	.36**	.17*	.31**	—						
Global	.26**	.33**	.26**	.34**	—					
Anxiety										
Mother	.32**	.26**	.17*	.24**	.20**	—				
Father	.25**	.44**	.09	.20**	.25**	.76**	—			
Partner	.12	.22**	.25**	.17*	.16*	.50**	.48**	—		
Friend	.20**	.15**	.23**	.43**	.16*	.54**	.41**	.53**	—	
Global	.10	.12	.24**	.26**	.09	.35**	.32**	.49**	.51**	—
\bar{x}	14.07	18.47	14.79	13.84	21.52	6.57	7.83	9.96	8.10	9.12
SD	7.98	9.72	7.34	7.65	8.41	4.88	5.67	5.52	5.40	5.37

Note. ECR-RS = Experiences in Close Relationships-Relationship Structures.

* $p < .05$. ** $p < .01$.

study was that comprehensive studies were conducted to obtain the semantic structure in the original language during the development of the Turkish version of the ECR-RS.

In recent studies, it is emphasized that global and specific relational models should be evaluated as different structures (Cozzarelli et al., 2000; Fraley, 2014; Pierce & Lydon, 2001; Sibley & Overall, 2008; Sümer, 2006). In the first validation study of the ECR-RS (Fraley, Heffernan, et al., 2011), the global attachment representation was evaluated by calculating the average scores of the other four scales. However, Fraley (2014) suggests that the global attachment style should be evaluated independently of the other forms. There was no validation study on global attachment subscale in previous studies (Bączkowski & Cierpiałkowska, 2015; Chaperon & Dandeneau, 2017; Donbaek & Elklit, 2014; Fraley, Heffernan, et al., 2011; Gyöngyvér & András, 2016; Karapas et al., 2015; Komura et al., 2016; Marszał, 2014; Rocha et al., 2017). In this study, initial findings are presented indicating that the ECR-RS is a reliable and valid tool for measuring global attachment subscale in global attachment representation (see Tables 1 and 2).

The relationships between the subscales of the ECR-RS were examined in accordance with the purpose of Study II. It was found that the anxiety and avoidance dimensions of the mother, father, partner and friend subscales of the ECR-RS are positively correlated at a low and medium level. This finding is similar to the findings of previous studies (Bączkowski & Cierpiałkowska, 2015; Donbaek & Elklit, 2014; Hudson et al., 2015; Marszał, 2014; Moreira et al., 2015). However, in the validation study of the Brazilian version of the scale, Rocha et al. (2017) reported that there was no relationship between anxiety and avoidance dimensions of the mother, friend, and partner subscales. However, no

relationship was found only among the dimensions of the global subscale in the current study. Since global attachment representation was evaluated by taking the average of the four subscales (Donbaek & Elklit, 2014; Hudson et al., 2015; Marszał, 2014; Moreira et al., 2015), correlations with other subscales were reported in previous studies. However, the global attachment representation was evaluated through global subscale in the current study, too. It is believed that the difference with the findings of the previous study is due to this.

The correlation of the anxiety and avoidance dimensions of all the subscales of the ECR-RS with RSQ and RQ was investigated in Study II. According to the findings, the assumed relationships between ECR-RS subscales, which provide dimensional measurement according to the relationship structure, and the RQ and RSQ, which measure according to the Global attachment representations, were either not determined or they were found to be correlated at a rather low level (Ravitz et al., 2010; Sümer, 2006; Sümer et al., 2015).

There are two main interrelated discussions among the theorists regarding the measurement of Attachment representation. The first relates to general and relationship-specific attachment orientations. According to this, the attachment characteristics of individuals can change according to specific relationships (Cozzarelli et al., 2000; Imamoğlu & Imamoğlu, 2006; Klohnen et al., 2005; Pierce & Lydon, 2001; Pietromonaco & Barrett, 2000). The four subscales of the ECR-RS examine the attachment styles in specific relationships. For this reason, a relationship may not have been detected between RQ and RSQ according to global attachment representations and the subscales of the ECR-RS. However, although Donbaek and Elklit (2014) and Komura

Table 5. Findings Concerning Relationships Between the ECR-RS Subscales and RSQ, RQ, RSS, CAD, CAS, PO, IAA, FCO, PS, CP, and RE.

Scales	Avoidance					Anxiety				
	Mother	Father	Partner	Friend	Global	Mother	Father	Partner	Friend	Global
Self (RSQ)	.15	-.07	-.08	.11	.14	-.06	-.12	-.15	-.06	-.25**
Others (RSQ)	.03	-.01	-.09	-.03	-.22**	.08	.06	-.07	.17*	.11
Secure (RSQ)	-.02	-.02	-.21**	-.16*	-.24**	-.03	.01	.01	.01	-.06
Fearful (RSQ)	.10	-.10	-.22**	-.12	-.03	.02	-.02	-.11	-.02	-.12
Preoccupied (RSQ)	.14	-.02	.15	.07	.14	.18*	.09	.14	.12	.05
Dismissing (RSQ)	-.09	.07	-.03	-.04	.07	.21**	.27**	.27**	.22**	.21**
Self (RQ)	-.04	-.19*	-.03	.01	.02	-.14	-.26**	-.17*	-.23**	-.28**
Others (RQ)	.09	.09	-.05	-.07	-.06	-.08	-.01	-.07	-.05	.04
Secure (RQ)	.01	-.10	-.16*	-.11	.01	-.07	-.09	-.10	-.12	-.15
Fearful (RQ)	-.04	.02	-.06	-.02	.05	.15*	.19*	.15	.16*	.12
Preoccupied (RQ)	.09	.21**	-.02	-.01	.05	.18*	.28**	.24**	.28**	.32**
Dismissing (RQ)	-.03	-.08	-.01	.07	.13	.12	.02	.14	.10	-.02
RSS	.10	.26**	.16*	.19*	.12	.09	.17*	.34**	.14	.31**
CAD	-.08	.06	-.13	-.13	.03	.06	.07	.12	.04	.11
CAS	-.19*	-.01	-.35**	-.22**	-.25**	-.08	-.07	-.07	-.03	-.01
PO	-.11	-.05	-.15*	-.08	-.07	-.06	-.08	-.12	.07	.03
IAA	-.12	-.05	-.20**	-.05	.08	-.09	-.05	-.13	.01	-.24**
FCO	-.09	.02	-.10	-.07	.21**	.02	.06	.07	.05	-.16*
PS	.02	.07	-.02	.09	.18*	.01	.05	.11	.10	-.07
CP_Mother	-.07	.14	-.10	-.01	-.11	-.08	-.02	-.15*	-.07	-.10
CP_Father	-.20**	-.13	-.13	-.19*	.04	-.05	-.08	-.10	-.14	-.07
RE_Ever	-.10	-.14	.23**	.01	-.10	-.01	-.09	.16*	.08	.09
RE_Now	-.03	-.02	.18*	.20**	.01	-.04	-.02	.15	.06	.14

Note. ECR-RS = Experiences in Close Relationships-Relationship Structures; RSQ = Relationship Styles Questionnaire; RQ = Relationship Questionnaire; RSS = Rosenberg Self-Esteem Subscale; CAD = Concern About Disapproval; CAS = Concern About Separation; PO = Pleasing Others; IAA = Individualistic or Autonomous Achievement; FCO = Mobility/Freedom from Control of Others; PS = Preference for Solitude; CP = Contact with parents; RE = Relationship experience.

* $p < .05$. ** $p < .01$.

et al. (2016) determined correlations with RQ in their findings, no comprehensive relationships were identified with categorical measurements in all of the subscales of all the ECR-RS. For example, Komura et al. (2016) stated that RQ's self and others dimensions did not correlate with the avoidance and anxiety dimensions of some subscales of the ECR-RS, whereas Donbaek and Elklit (2014) reported no relationship between the preoccupied category of RQ and the avoidance dimension of the ECR-RS for parental domain.

The second topic of discussion concerns whether the categorical models (Ainsworth, 1985; Bartholomew & Shaver, 1998; Hazan & Shaver, 1994; Sroufe, 2003) or dimensional models (Fraley et al., 2000; Fraley, Heffernan, et al., 2011; Fraley & Roisman, 2014) are the right models to be used in measuring individual differences in attachment. Both measurement models are used by researchers.

However, recent studies favor the use of dimensional models to measure individual differences in attachment (Fraley et al., 2000, 2015; Fraley, Heffernan, et al., 2011; Fraley & Shaver, 2000; Fraley, Vicary, et al., 2011; Hudson et al., 2015; Lubiewska & Van de Vijver, 2020). It has been

reported that models based on categorical measurements may misrepresent the nature of attachment (Fraley et al., 2015; Fraley & Roisman, 2014). Indeed, when RQ and RSQ were applied to the same sample, differences were observed even between the categories it determined (Stein et al., 2002; Sümer & Güngör, 1999). In fact, a moderate correlation was detected between these two scales in the same structure (Sümer & Güngör, 1999). Similarly, some inconsistencies were detected between the four-category measurements and measurements based on a three-category structure (Bartholomew & Shaver, 1998). In other words, the fit between the categorizations made with similar measurements based on the same model is lower than expected (Sümer, 2006). The findings concerning the relationship between the ECR-RS and categorical models obtained in this study are thought to have stemmed from the fact that these measurement tools are based on different models and that categorical measurements are limited in their capacity to determine individual differences regarding individuals' attachment characteristics (Brennan et al., 1998; Fraley & Waller, 1998; Lubiewska & Van de Vijver, 2020).

In order to examine the relationship between attachment characteristics and personality traits according to specific relationships, the relationship between the ECR-RS subscales and SAS subscales was examined. According to the results of the analysis, some relationships compatible with the theory were determined between mother, friend, partner and global subscale and some autonomy and sociotropy subdimensions. However, in general, the expected relationships could not be established on the basis of specific relations between the anxiety dimension of the ECR-RS and sociotropy subscales and avoidance subscales and autonomy subscales (Sibley & Overall, 2010). Although it is thought that the findings obtained partially support the hypothesis that attachment characteristics are linked to psychological problems (Franz et al., 2011; Gyöngyvér & András, 2016; Surcinelli et al., 2010) and personality traits (M. E. Deniz, 2011; Erozkán, 2009; Selçuk et al., 2005), there seems to be a need for rather limited and advanced analyses to make this interpretation.

Another finding observed in Study II concerns relationships between RSS scores and avoidance dimension of the ECR-RS's father, romantic partner and best friendship subscales and anxiety dimension of father, romantic partner and global attachment subscales. Significant correlations were observed between RSS and Parental and Peer Attachment scores in the past studies as in those in Study II (Bellavia & Murray, 2003; Gorrese & Ruggieri, 2013; Selçuk et al., 2005). However, there were also findings where no correlations were observed (Paterson et al., 1995; Wilkinson, 2010; Wongpakaran et al., 2012). According to the findings, no dimension of the mother subscale was associated with self-esteem. Both socialization and selection have effects on our attachment orientations (Fraley & Roisman, 2019). An individual cannot choose who will be around him or her during infancy and early childhood, but the adult can decide who will be in his social network. For most individuals, attachment to the mother is not a choice but a vital necessity from the early years of life, and the resulting attachment orientation is resistant to change (Fraley, Vicary, et al., 2011). Although self-esteem is a variable that directs the social relationships of the adult individual, there may be different dynamics that affect attachment representation in long-term relationships such as mother–daughter relationship. However, additional evidence is needed to broaden this interpretation.

According to the findings of Study II, both the avoidance and anxiety dimensions of the romantic partner subscale of the ECR-RS were correlated with current romantic relationship. Moreover, past experience and avoidance dimension were also correlated. In partial similarity to this, Cooper et al. (1998) observed in their study that there was a correlation between relationship experience and avoidant and anxious attachment dimensions. Individuals' past relationships and experiences or whether they were in a romantic relationship or not were correlated with attachment dimensions in

romantic relationships. However, there is a need for more findings to observe and interpret the interaction between these variables.

Limitations and Suggestions

Although it is a reliable and valid measurement tool for Turkish culture, the ECR-RS has some limitations. The first limitation is that the sample of the study is composed of single individuals in young adulthood. For this reason, a generalization can be made for similar samples. However, there is evidence that adult attachment characteristics may change at different ages (Berman et al., 2006; Chopik & Edelstein, 2014; Hudson et al., 2015; Khan et al., 2020; Lubiewska & Van de Vijver, 2020). It is recommended that the ECR-RS be applied in samples consisting of individuals from different stages of life, and the results be reported.

The second limitation is that the dimensions of the ECR-RS and the categories of RQ and RSQ were examined within the scope of Study II in terms of the relationships supposed to exist in the literature. However, Study II is limited in terms of sample size, and the analyses made. Debates continue about whether the categorical models or dimensional models accurately represent the nature of attachment (Fraley, 2019; Fraley & Roisman, 2014; Ravitz et al., 2010; Sroufe, 2003). For this reason, in future studies, it is recommended that taxometric analyses be used to reach deeper findings about categories and dimensions in the analysis of the relations between the ECR-RS and other scales used in Turkish culture.

The third limitation is that this study is limited to the validity and reliability findings of the mother, father, partner, friend, and global form of the ECR-RS. One of the main hypotheses on which the ECR-RS is based is that there are different attachment orientations in different relationship structures (Collins, 1996; Collins & Feeney, 2004; B. C. Feeney & Collins, 2019; Fraley et al., 2015). Among the attachment scales, there are scales that evaluate attachment process in different relationship structures such as school attachment (Libbey, 2004), attachment to God (Sim & Loh, 2003), pets' attachment (Zilcha-Mano et al., 2011), therapist (Mallinckrodt et al., 1995), and coach–athlete attachment (Davis & Jowett, 2014). However, researchers make use of the explanations offered by the attachment theory to understand the relationships between the individuals and ideological groups (Devine, 2015), the political views (Weise et al., 2008), and religious figures (Kirkpatrick, 1992). It is suggested that adaptations be made for different relationship structures in future studies.

The fourth limitation was investigated in relation to the subdimensions of sociotropic and autonomic personality traits to provide additional evidence of the ECR-RS's construct validity. Limited evidence was obtained regarding the relationship between the ECR-RS and these psychological structures. For this reason, it is recommended that the

relationship between the ECR-RS and five-factor personality traits, narcissism, depression, and anxiety disorders be examined. Also, it is suggested that especially the relationship between partner subscale and relationship satisfaction, jealousy, and violence in romantic relationships be investigated.

Implications

Despite the limitations mentioned above, the present study presents some important contributions to the existing literature on attachment representation assessed. In this study, a measurement tool frequently used by researchers has been introduced to Turkish culture to evaluate attachment representations specific to the relationship structure of individuals raised in Turkish culture. Thus, using the same measurement tool in different cultures to test the hypotheses of attachment theory will provide a holistic clarification of the hypotheses about the theory. For example, hypotheses such as that there could be more than one attachment figures and that the position of the attachment figures in the network of relationships depends on age, relationship, and sociocognitive factors, and hypotheses related to the development of measurement models that reflect the nature of attachment representation are being tested by researchers (Carnelley & Rowe, 2017; Gillath et al., 2019; Julal et al., 2017; Rowe & Carnelley, 2005). The ECR-RS is a reliable measurement tool that can be used for problems intended to be solved by attachment researchers. In addition, this study provides attachment researchers with a basis for reviewing the assumption that dimensional models overlap with categorical models.

Conclusion

The analyses provide evidence that the ECR-RS is a reliable and valid measurement tool that can be used for the purpose of evaluating attachment representation in Turkish culture. This study provides a reliable measurement model for attachment researchers to hypothetically test Bowlby's proposed ideas (Bowlby, 2012, 2014, 2015) on attachment theory and for clinical experts focusing on the psychological effects of differences in individuals' attachment orientations.

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Experiment Participants

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Ethical Approval

This article does not contain any studies with animals performed by any of the authors.

Informed Consent

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

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