

The Validity and Reliability Study of the Turkish Version of Client Attachment to Therapist Scale (CATS)



Yasemin KAHYA¹, Nuray MUSTAFAOĞLU ÇİÇEK², F. Mahperi ULUYOL³,
Hüseyin NERGİZ⁴, Sait ULUÇ⁵, Gonca SOYGÜT PEKAK⁶

SUMMARY

Objective: This study aimed to evaluate the validity and reliability of the Turkish version of Client Attachment to Therapist Scale (CATS-TR) which provides a framework for measuring and conceptualizing the relationship between the therapist and the client.

Method: The study included 191 individuals with a mean age of 24.41 years who had received a minimum of 5 and a maximum of 15 sessions of therapy for different psychological problems. All participants completed the CATS-TR, the Early Close Relationships-R (ECR-R), the Bell Object Relations Inventory (BORRTI), and the Working Alliance Inventory (WAI-SF), and a Client Information Form handed to the clients in a closed envelope by their respective therapists.

Results: Exploratory and Confirmatory Factor Analysis results indicated an acceptable fit for the CATS-TR which comprised the Secure, Fearful/Avoidant and Preoccupied/Merger subscales, with internal consistency levels ranging between 0.71 and 0.85. Criterion validity analyses showed that the scores on the CATS-TR Fearful/Avoidant and Preoccupied/Merger subscales correlated with the scores on the ECR-R Avoidance/Anxiety subdimensions and the BORRTI Object Relations subdimension in the expected directions. Also, the mean score on the CATS-TR Secure Attachment subscale was a significant predictor of the therapeutic alliance assessed by the WAI-SF and its subscales.

Conclusion: This study has demonstrated that the CATS-TR has an acceptable level of validity and reliability with results indicating its usefulness for research and clinical settings in Turkey investigating the common factors bringing about change in psychotherapy.

Keywords: Attachment to therapist, therapeutic alliance, measuring attachment in psychotherapy

INTRODUCTION

The number of studies examining psychotherapy processes has been increasing rapidly in recent years (Falkenström et al. 2014, Gülüm et al. 2016, Martin et al. 2000). Research findings indicate that the therapeutic alliance between the client and therapist is the strongest factor predicting the outcome of psychotherapy (Gaston 1990, Horvath et al. 2011). Bordin (1979) defined alliance as the combination of the three main structures in the client-therapist relationship in a way to include different psychotherapy approaches. These three main structures are agreement on tasks in the therapy process, agreement on goals, and emotional bond based on mutual trust and acceptance.

On the other hand, it is proposed that the attachment pattern of the individual has a significant role on the therapeutic relationship between the client and the therapist (Daly and Mallinckrodt 2009, Farber et al. 1995, Mallinckrodt 2000, Meyer and Pilkonis 2001, Obegi 2008). According to the definition of early attachment behaviour, the infant has a tendency to seek and maintain intimacy with the caregiver when the attachment behavior system is activated as, for example, during stress. When the attachment behavior system is inactive, the exploratory behavior system is activated and the infant begins to explore the environment with the secure base-role of the caregiver. According to Bowlby's attachment theory, every one develops expectations about one's own self

Received: 30.03.2020, **Accepted:** 31.08.2020, **Available Online Date:** 31.01.2021

¹Assis. Prof., Social Sciences University of Ankara, Faculty of Social Sciences and Humanities, Department of Psychology, Ankara, ²Assis. Prof., Bursa Technical University, Faculty of Humanities and Social Sciences, Department of Psychology, Bursa, ³Assis. Prof., Akdeniz University, Faculty of Letters, Department of Psychology, Antalya, ⁴Res. Assis. Dr., ⁵Assoc. Prof., Hacettepe University, Faculty of Letters, Department of Psychology, Ankara, ⁶Prof., Schema Therapy Institute, Ankara, Turkey.

e-mail: yaseminoruclular@gmail.com

(*self model*), about the people with whom one interacts closely (*others model*) and the world on the basis of the interactions with the primary caregivers after being born and throughout childhood (Bowlby 1969). After investigating Bowlby's theoretical claims with experimental methods, showed that the reactions of infants differed in situations of separation from and reunion with the mother as a result of the different interaction patterns between the mother and infant. This research findings demonstrated that three different attachment patterns, described as secure attachment, insecure-avoidant attachment and insecure-resistant attachment, developed in accordance with the reactions of 12-month-old infants at the moments of separation and reunion with the attachment figure. Although pioneering studies focused on early interactions (Ainsworth et al. 1978), subsequent studies also took into account the reflection of the early attachment relationship with the primary caregiver on other lifelong relationships. In this context, it was also observed that mental representations shaped within the framework of the quality of attachment developed by the individual in the early period would be the basis for the development of perceptions that would affect the adulthood relationships (Mikulincer and Shaver 2007).

One of the areas of close relationships in adulthood is the therapeutic relationship between the client and the therapist in the psychotherapy process. According to some points of view, the mother-infant/child relationship is re-enacted in the client-therapist relationship during the psychotherapy process (Bowlby 1988, Gelso and Carter 1994). Research results suggest that client expectations in the client-therapist relationship may stem from the basic characteristics defined in the early parent-child attachment relationship (Daniel 2006, Mikulincer and Shaver 2007, Obegi and Berant 2009). The study by Mallinckrodt (2010) defined five basic characteristics of secure attachment in the client-therapist relationship, such that, clients in the process of secure attachment consider their therapists as (i) stronger and smarter, (ii) a safe shelter when they feel threatened, (iii) someone with whom they establish intimacy and emotional bond through regular contact (iv) a soothing secure basis for psychological exploration and as (v) someone with whom they experience separation anxiety close to ending the therapy process. The five basic characteristics proposed by are supported by empirical findings. For example, it was demonstrated that clients sought a stronger and smarter basis in psychotherapy and that psychotherapy functioned as a search for intimacy (Vogel and Wei 2005). Clients who received support from their therapists were observed to experience significantly greater sense of relaxation in the sessions after experiencing/sharing a critical event and defined the therapist as a "secure base" (Janzen et al. 2008). The secure base factor in the psychotherapy relationship has become one of the areas most focused upon (Farber and

Metzger 2009, Mallinckrodt et al. 2005). Also, many clients experienced separation anxiety at the end of psychotherapy processes (Joyce et al. 2007). On the other hand, the bond between the client and therapist is not a static attachment relationship, but a corrective emotional experience that activates the attachment pattern the client brings to the process, promoting a more harmonious functioning by the responses of the client-therapist pair to activations and offering an increasingly changing relationship sequence (Mikulincer and Shaver 2007, Woodhouse et al. 2013).

Given the parallelism between the client-therapist and early caregiver-infant relationship (Bowlby 1988), an empirical methodical perspective in line with the attachment theory was adopted to explain the attachment pattern between the therapist and client, and its effects on psychotherapy processes (Kivlighan et al. 1998, Mallinckrodt 2000, Mallinckrodt and Jeong 2015, Mallinckrodt et al. 2017, Obegi 2008, Petrowski et al. 2019, Smith et al. 2010). For example, consistent with Bowlby's (1988) explication that securely attached individuals are more open to exploration, secure attachment to the therapist was found to be associated with more comfortable exploration in sessions of deep content (Eames and Roth 2010, Mallinckrodt et al. 2005, Sauer et al. 2010, Yotsidi et al. 2019). Different studies have also shown that the secure client attachment to therapist was positively correlated with therapeutic alliance (Eames and Roth 2000, Kivlighan et al. 1998, Mallinckrodt and Jeong 2015, Diener et al. 2009). Similarly, investigations on the factors predicting the change during psychotherapy showed that the client's attachment pattern to the therapist might be effective on the relationship between the therapist and the client (Mallinckrodt 2000, Meyer and Pilkonis 2001).

Interview and self-report-based evaluation methods were recommended in the literature for examining the attachment of adult clients in the psychotherapy process (Griffin and Bartholomew 1994). Mallinckrodt et al. (1995) developed the Client Attachment to Therapist Scale (CATS) in order to measure the bond between the client and the therapist. This scale, based on the client's self-report, focuses on conceptualizing the therapeutic relationship from the viewpoint of attachment and evaluating the quality of the bond between the client and therapist. The scale consists of three dimensions in parallel with the three different attachment patterns proposed by Ainsworth et al. (1978). Clients perceiving their therapists as sensitive and emotional are detected by the CATS-Secure subscale; whereas clients abstaining from making personal statements, feeling threatened or humiliated and suspecting disagreement, disapproval and rejection by their therapists are identified by the CATS-Fearful/Avoidant subscale; and those needing intimacy to expand their relationship beyond therapy and desiring to be 'one' with the therapist are differentiated by

the CATS-Preoccupied/Merger subscale. The CATS subscales were correlated with the relationship capacity of the client and the therapeutic alliance (Mallinckrodt et al. 1995). Not only did CATS reflect well the anxious and avoidant attachment styles as the two end points of the adult insecure attachment tendency (Brennan et al. 1998) but also correlated with the hyperactivating and deactivating (defensive) tendencies in the client-therapist bond (Mikulincer and Shaver 2007). The CATS has been used in various studies evaluating the effects of the attachment orientations of the client on psychotherapy relationship and therapeutic alliance (Mallinckrodt and Jeong 2015, Mallinckrodt et al. 2005, Romano et al. 2008, Saypol and Farber 2010). As most of the studies on this subject were conducted with European and American samples, investigating the attachment during therapy process in different cultures was considered to be useful (Wang and Mallinckrodt 2006).

So far as is known, an instrument to measure the client and therapist bond specific to psychotherapy has not been reported in the national literature. Based on the importance of the subject in the international field, the present study has aimed to introduce the CATS to the national literature after adapting it the Turkish language and testing its psychometric properties. The Working Alliance Inventory (WAI) by Horvath and Greenberg (1989), the Object Relations and Reality Testing Inventory (BORRTI) by Bell (1995), the Adult Attachment Scale by Collins and Read (1990) and the Self-Efficacy Scale by Sherer et al. (1982) were used as validity criteria in the original validation study on the CATS.

In the current study on the CATS-TR, the original form of the CATS adapted to the Turkish language, it was decided to use the WAI-SF (Bordin 1979), the ECR-R (Fraley et al. 2000) and the BORRTI (Bell 1995) as the validity criteria. The similarity of the validity criteria in the current study with the original study is based on two principles. Firstly, it was planned to perform meta-analysis studies on the adaptation studies of the CATS that were carried out in different cultures (Wang and Mallinckrodt 2006). The data set of the Turkish sample is likely to be used in future meta-analysis studies. Secondly, the scales used in the original study are the structures that we can expect to theoretically affect the client-therapist attachment process. In this context, it is considered that the adaptation of the Turkish CATS form will contribute to both research and practice.

METHOD

Participants

Within the scope of the study, individuals who received psychological counseling or psychotherapy service were reached. However, one participant was excluded from the

sample since the number of sessions completed was more than the research criteria (15 sessions), one participant was excluded from the sample because of leaving the CATS blank. Four participants were excluded from the sample due to being 18 years or younger, and three participants were excluded from the sample since they left 6 or more items blank in the CATS. In conclusion, the sample of the study consisted of 191 participants.

The mean age of the participants was 24.41 ($SS=5.92$) and they consisted of 152 females and 39 males. The mean age of the females was 24.32 ($SS=6.14$) and the mean age of the males was 24.74 ($SS=5.04$). While 53.8% of the participants had high school education, 43.6% and 2.6% of them had undergraduate education and postgraduate education, respectively. Furthermore, 15.4% of them were married, 41.1% of them had a job and 69.2% of them had a moderate level of income. The duration of psychological problems that caused participants to apply to psychological counseling or psychotherapy was an average of 34.14 on a monthly basis, and the mean number of psychotherapy sessions completed was 7.58 ($SS=2.05$).

The sample of the study was reached through 34 different psychologists/clinical psychologists or psychological counselors. The mean age of the experts was 30.62 ($SS=4.25$), and 97.1% of them were female while 2.9% of them were male. 61.8% of the experts were mainly Ph.D. students in the field of clinical psychology or graduated from this field. 35.5% ($n=12$) of the experts indicated that the psychotherapy approaches they adopted were shaped by Cognitive Behavioral Therapy (CBT), while 26.5% ($n=9$) of them indicated that their psychotherapy orientation were shaped by CBT and Schema Therapy schools.

Instruments

The Client Information Form

The client Information form was created by researchers to obtain data on the participant socio-demographic characteristics including age, gender, education, income status, and the psychological counseling or psychotherapy services received.

The Client Attachment to Therapist Scale (CATS)

The CATS was developed by Mallinckrodt et al. (1995) to evaluate the psychotherapy relationship from the viewpoint of attachment. Consisting of 36 items, the CATS is a 6-point Likert type scale with scores ranging from 1=*strongly disagree* to 6=*strongly agree*, marked by the clients receiving psychological counseling or psychotherapy. Of its 3 subscales, The Secure Attachment subscale evaluates the perception that the therapist is sensitive, emotionally accessible and comforting, and the feelings of the therapist encouragement

to explore situations that create anxiety. The Fearful/Avoidant Attachment subscale evaluates the client's suspicions about being rejected by the therapist for being noncompliant, feelings about being criticized by the therapist, and reluctance to self-disclose to the therapist. Finally, the Preoccupied/Merger Attachment subscale evaluates the desire to have more contact and harmony with the therapist and to move the relationship beyond the limits of the therapy, and the perception that the therapist is intertwined with other clients. In order to support the construct validity of the original CATS, its relationships with adult attachment, therapeutic alliance, and object relations measures were examined, and it was seen to correlate significantly with these variables in the expected direction. In different studies, the Cronbach alpha internal consistency coefficient of the CATS varied between 0.73 and 0.94 for the Secure subscale, 0.73 and 0.91 for the Fearful/Avoidant subscale and 0.73 and 0.89 for the Preoccupied/Merger subscale (Mallinckrodt et al. 2016). In the original study, the test-retest reliability of the scale was above 0.72 for the three subscales (Mallinckrodt et al. 1995). With respect to these results, the original form of the CATS was considered to be reliable and valid.

The Early Close Relationships-R (ECR-R)

The ECR-R, developed by Fraley et al. (2000) to measure adult attachment dimensions, consists of 36 items in 7-point Likert type scored as 1= *totally disagree* - 7= *totally agree*; with 18 items evaluating the anxiety dimension of attachment (e.g., "I am afraid of losing the love of the person I am with") and the other 18 items evaluating the avoidance dimension of attachment (e.g., "I find it difficult to trust and believe in people with whom I have a romantic relationship").

The scores on each sub-dimension vary between 18 and 126. Anxiety and avoidance scores are calculated by taking the average score on the items measuring each dimension. The avoidant or anxious attachment pattern of the individual increases as the score obtained from the respective scale dimensions increases. The validity and reliability of the Turkish version of the ECR-R was demonstrated by Selçuk et al. (2005) with the Cronbach alpha coefficients being 0.90 and 0.86 for, respectively, the avoidance and the anxiety dimensions; and the test-retest reliability coefficients being 0.81 and 0.82, respectively, for the avoidance and the anxiety dimensions.

The Object Relations and Reality Testing Inventory (BORRTI)

The BORRTI was developed by Bell (1995) to measure the object relations and reality testing dimensions of self-functioning. The scale consists of two subdimensions and one half of the items measure object relations and the other half measure reality testing dimension. The BORRTI consists of 90 items scored as "True-False". In this study, only the items related to object relations dimension were used. The

object relations dimension consists of four subdimensions, including alienation, insecure attachment, egocentrism and social incompetence. In the original form of the BORRTI, the Cronbach's alpha internal consistency coefficients of the object relations subdimensions varied between 0.78 and 0.90 and the test-retest correlations calculated on the data of different diagnostic groups varied between 0.58 and 0.81. The Turkish language version of the BORRTI (Uluç et al. 2015) supported the four-factor structure of the object relations dimension of the original form. The Cronbach's alpha internal consistency coefficients of these subdimensions vary between 0.70 and 0.80. Analyses evaluating the criterion validity showed significant correlation, with coefficients in the 0.14 - 0.56 range, between object relations subdimensions and all subdimensions of the Symptom Checklist-90-R (SCL-90-R). The results indicated that the Turkish version of the BORRTI is a valid and reliable measurement tool.

The Working Alliance Inventory-Short Form (WAI -SF)- Client Form

The original WAI developed by Bordin (1979) was shortened to the 12-item form by Horvath and Greenberg (1989) which comprises the task, goal and bond subdimensions as in the original WAI and has separate forms for the therapists and clients. The client form was used in this study. The Cronbach's alpha internal consistency coefficients of the subdimensions vary between 0.70 and 0.80. The psychometric properties of the Turkish version of the WAI-SF, which supports the three-factor structure of the original form, were examined by Gülüm et al. (2016). The Cronbach's alpha internal consistency coefficients of the subdimensions varied between 0.67 and 0.86; and the correlations between the WAI original form and the total and subdimensions of WAI-SF varied between 0.52 and 0.91 (Gülüm et al. 2016), indicating that the Turkish version of the WAI-SF/Client is a valid and reliable measurement tool.

Procedure

Before starting the study, approval of B. Mallinckrodt, the principal developer of the CATS, was asked via e-mail for adaptation of the original form of the scale to the Turkish language. Also, approval of the Ethics Committee of Istanbul Şehir University was obtained to conduct the study. The original form of the CATS was first translated from English to the Turkish language by four researchers working on their doctoral theses in the field of clinical psychology. After discussion on the suggestions prepared by the researchers on the translation of the scale items, the CATS-TR was created by four different referees fluent in both English and Turkish and in training for doctorate in Clinical Psychology. The final form of the CAT-TR was completed in line with the feedback received from the referees.

The set of data collection tools was delivered directly or by e-mail to the experts working in psychological counseling centers for students or counseling centers of the universities in major cities including Ankara, Izmir and Bursa where the therapists delivered the sets in a closed envelope to the clients who had completed the 5th-15th sessions of their counselling. The completed sets were collected in closed envelopes by the therapists. Also, the clients volunteering for the test-retest reliability check on the CATS-TR were asked to give their e-mail addresses. For this purpose, only the CATS-TR was sent and received back online from the volunteers within a period of approximately 1 month.

Statistical Analysis

Statistical analysis of the data on the participants and the evaluated variables by means of descriptive analyses, and Exploratory Factor Analysis (EFA), convergent, criterion and predictive validity analyses, and the internal consistency and test-retest analyses were conducted using the SPSS package program version 23. Confirmatory factor analysis (CFA) for construct validity was carried out on the Mplus package program version 7, on the results of which the goodness of the fit of the model was determined by using the Chi-square value (χ^2), degrees of freedom (*df*), comparative fit index (*CFI*), standardized fit index Tucker Lewis Index (*TLI*), root mean square error of approximation (*RMSEA*) and Bayesian Information Criterion (*BIC*). In the current study, CFA results, which were examined on the basis of structural equation models, were interpreted within the framework of the fit index criteria presented in the literature (Hu and Bentler 1999, Sümer 2000).

RESULTS

Construct Validity of the CATS-TR

Firstly, EFA was performed in order to determine the construct validity of the CATS-TR. As the original CATS consists of three factors expected to be correlated, principal components analysis was run according to oblimin rotation, which is one of the non-orthogonal rotation methods. Given a KMO index of 0.794 and Barlett test result of $\chi^2(630)=2093.021$, $p=0.01$, the data were suitable for factor analysis. EFA results indicated more than 3 factors with eigenvalues >1, with the first three factors explaining 18.40%, 12.30% and 5.61%, respectively, of the variance which exceeded those of the other factors with eigenvalues >1.

The CATS-TR Preoccupied/Merger Attachment subscale consisted of the items 4, 7, 10, 13, 16, 19, 22, 25, 28 and 31 in accordance with the original form. Item 15, included in the Fearful/Avoidant Attachment subscale of the original CATS, had a factor loading of <0.30 in the CATS-TR and

its correlation with the other items was very low on the correlation matrix. Therefore, by also considering its content, item 15 was excluded from the CATS-TR.

It was decided after factor loading examinations indicated by EFA results, that the reversed items 1 and 17 in the Secure Attachment subscale of the original CATS could be included in the Fearful/Avoidant Attachment subscale of the CATS-TR without reversed scoring, resulting in a larger factor loading. Also, the reversed item 27 in the Fearful/Avoidant Attachment subscale of the original CATS required to be placed in line with the factor loading in the Secure Attachment subscale of the CATS-TR without reverse coding.

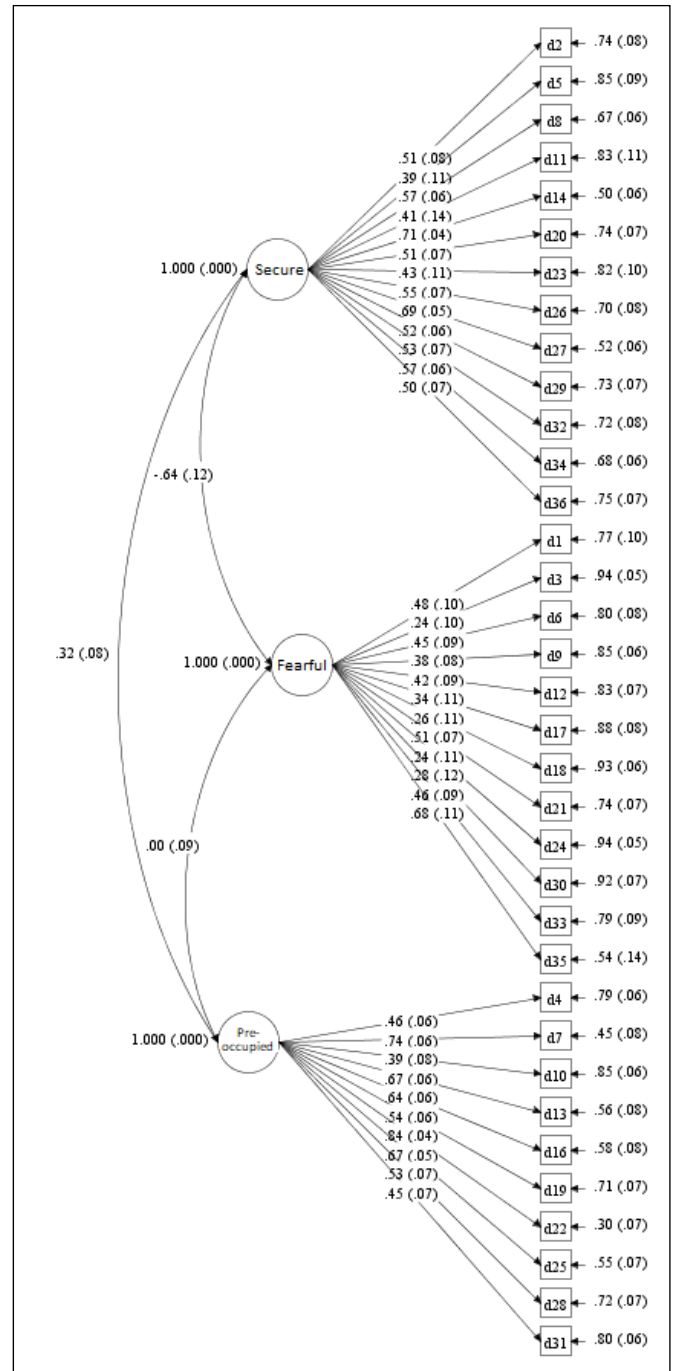
Although item 35 in the Fearful/Avoidant Attachment subscale in the original form was loaded to the Secure Attachment dimension in the Turkish form with a greater factor loading, unlike the original form, it was decided to keep it in the Fearful/Avoidant Attachment dimension due to item content. At the same time, it was observed that there was no big difference for the 35th item in terms of factor loading of the mentioned subscales. Accordingly, the CATS-TR Secure Attachment subscale consisted of items 2, 5, 8, 11 (reversed item), 14, 20, 23 (reversed item), 26, 27, 29, 32, 34 and 36; while the CATS-TR Fearful/Avoidant Attachment subscale comprised of items 1, 3, 6, 9 (reversed item), 12, 17, 18, 21, 24, 30, 33 and 35. According to the EFA results, no adjustment was made other than the changes specified for items 1, 15, 17 and 27 in the determination of the items in the Turkish CATS subscales, and the items were distributed to the relevant subscales in accordance with the original form. The EFA results within the framework of the original CATS are presented in Table 1.

Furthermore, the construct validity of the Turkish CATS form was examined by CFA. According to EFA, before making the above-mentioned changes for the Turkish form, the results of the CFA, in which the construct validity of the original form of CATS was tested, indicated the fit indexes that needed improvement [$\chi^2(591)=1067.631$, $p<0.01$; $\chi^2/df=1.81$; $CFI=0.70$, $TLI=0.68$, $RMSEA=0.07$]. Hence, the CATS-TR scale items were rearranged according to the EFA results as described above. The subsequent CFA on the construct validity of the CATS-TR indicated better acceptable fit indices for the reorganized scale [$\chi^2(557)=953.168$, $p<0.01$; $\chi^2/df=1.71$; $CFI=0.74$, $TLI=0.73$, $RMSEA=0.06$]. The lower BIC value of 19812.201 obtained by CFA on the reorganized CATS-TR, as compared to the BIC value of 19903.231 obtained by the CFA testing of the original CATS, demonstrated that the second model better fitted the data set. According to CFA results, the loading of all items on the factors, that is, the sub-dimensions of the CATS-TR were significant. The factor loadings and standard errors of the items in the Secure Attachment, Fearful/Avoidant

Table 1. Results of the CATS-TR Exploratory Factor Analysis

	Factor 1 Secure Attachment	Factor 2 Preoccupied/ Merger Attachment	Factor 3 Fearful/Avoidant Attachment
CATS 1	0.244	0.107	-0.494
CATS 2	0.557	-0.029	-0.102
CATS 3	0.067	0.051	0.397
CATS 4	0.081	0.505	0.051
CATS 5	0.400	-0.019	-0.206
CATS 6	0.000	-0.123	0.604
CATS 7	-0.101	0.804	-0.174
CATS 8	0.495	0.257	-0.071
CATS 9	-0.194	-0.096	0.356
CATS 10	-0.218	0.518	0.202
CATS 11	0.514	-0.085	-0.216
CATS 12	-0.185	-0.110	0.411
CATS 13	0.138	0.657	-0.063
CATS 14	0.708	0.103	-0.019
CATS 15	-0.120	0.099	0.093
CATS 16	0.048	0.718	-0.140
CATS 17	0.041	-0.064	-0.399
CATS 18	0.025	0.158	0.321
CATS 19	-0.023	0.650	-0.055
CATS 20	0.608	-0.002	0.061
CATS 21	-0.250	0.034	0.426
CATS 22	-0.001	0.845	-0.105
CATS 23	0.546	-0.299	-0.117
CATS 24	0.263	0.013	0.563
CATS 25	0.301	0.623	0.109
CATS 26	0.595	0.017	0.125
CATS 27	-0.683	-0.031	0.109
CATS 28	0.095	0.554	0.028
CATS 29	0.454	0.315	0.041
CATS 30	0.015	0.060	0.487
CATS 31	-0.074	0.561	0.104
CATS 32	0.616	0.025	0.137
CATS 33	0.029	-0.141	0.681
CATS 34	0.622	0.016	0.024
CATS 35	-0.547	0.037	0.366
CATS 36	0.557	0.142	0.178

Factor Extraction Method: Principal Components Analysis
Rotation Method: Oblimin

**Figure 1.** Results of the Confirmatory Factor Analysis on the CATS-TR

Attachment and Preoccupied/Merger Attachment sub-dimensions are presented in Figure 1.

Criterion Validity and Predictive Validity of the CATS-TR

In order to evaluate the criterion validity of the CATS-TR, its relationship with the scores obtained from the ECR-R dimensions was first examined. According to the results of the Pearson correlation analysis, it was observed that the scores from the CATS-TR Secure Attachment subscale were

not significantly correlated with the scores from the ECR-R Anxiety and Avoidance dimensions. While the relationship between the ECR-R Anxiety dimension and the scores on the CATS-TR Preoccupied/Merger Attachment subscale was found to be positive and marginally significant ($r=0.14$, $p<0.05$), the relationship between the ECR-R Anxiety dimension and the scores on the CATS-TR Fearful/Avoidant Attachment subscale was found to be positive and significant ($r=0.20$, $p<0.01$). A positive and marginally significant relationship was also observed between the ECR-R Avoidance

dimension and the CATS-TR Fearful/Avoidant Attachment subscale scores ($r=0.15$, $p=0.05$).

Secondly, the relationship between the CATS-TR subscale scores and the subdimension scores of the BORRTI Object Relations dimension was examined to provide evidence for the criterion validity of the CATS-TR. Pearson correlation analysis showed that the scores on the CATS-TR Secure Attachment subscale and the scores on the BORRTI subdimensions were not significantly correlated. However, the relationships between CATS-TR Preoccupied/Merger Attachment subscale scores and the BORRTI Alienation ($r=0.25$, $p<0.01$), Insecure attachment ($r=0.26$, $p<0.01$), Egocentrism ($r=0.19$, $p<0.01$) and Social incompetence ($r=0.16$, $p<0.05$) subdimension scores were positive and significant. Moreover, the relationships between CATS-TR Fearful/Avoidant Attachment subscale scores and BORRTI Alienation ($r=0.30$, $p<0.01$), Insecure attachment ($r=0.23$, $p<0.01$), Egocentrism ($r=0.25$, $p<0.01$), and Social incompetence ($r=0.27$, $p<0.01$) subdimension scores were also positively significant. Results of the Pearsons correlation analysis and the descriptive findings for the variables are presented in Table 2.

Simple regression analyses predicting the total score on the WAI-SF measuring therapeutic alliance and the scores on the WAI-SF task, goal, and bond subscales were run to provide evidence for the predictive validity of the scores obtained on the CATS-TR subscales.

In the first regression analysis, the CATS-TR Secure Attachment, Preoccupied/Merger Attachment and the Fearful/Avoidant Attachment scores were included as the predictive variables in the model together with the WAI-SF

total score as the predicted variable. The results indicated that the scores on the CATS-TR Secure Attachment ($\beta=0.64$, $p<0.01$) and Fearful/Avoidant Attachment ($\beta=-0.23$, $p<0.01$) subscales significantly predicted the therapeutic alliance scores and explained 56% of the variance in the therapeutic alliance [$F(3, 184)=78.606$, $p<0.01$]. However, the CATS-TR Preoccupied/Merger Attachment scores did not significantly predict the therapeutic alliance scores.

In the second regression model, the CATS-TR subscale scores were included as the predictive variables, while the scores from the WAI-SF task subscale were entered as the predicted variable. The results indicated that the CATS-TR Secure Attachment ($\beta=0.59$, $p<0.01$) and Preoccupied/Merger Attachment ($\beta=-0.13$, $p<0.05$) subscale scores significantly predicted the scores on the WAI-SF task subscale and significantly explained 38% of the variance in the therapeutic alliance in the task dimension [$F(3,184)=38.135$, $p<0.01$]. The CATS-TR Fearful / Avoidant Attachment scores did not significantly predict the therapeutic alliance scores in the task dimension ($\beta=-0.05$, $p=0.08$).

In the third regression model, the CATS-TR subscale scores were the predictive variables, and the scores on the WAI-SF bond subscale were the predicted variable. The results indicated that the scores of the CATS-TR Secure Attachment ($\beta=0.60$, $p<0.01$) and the CATS-TR Fearful/Avoidant Attachment ($\beta=-0.22$, $p<0.01$) subscales significantly predicted the therapeutic alliance scores in the bond dimension and explained 53% of the variance in the therapeutic alliance in the bond dimension [$F(3,184)=67.858$, $p<0.01$]. The CATS-TR Preoccupied/Merger Attachment scores did not significantly predict the therapeutic alliance scores in the bond dimension.

Table 2. Pearson's Correlation Analysis Results on Criterion Validity of CATS-TR

	1	2	3	4	5	6	7	8	9
1. CATS-Secure	-	-0.38***	0.27***	-0.08	-0.03	-0.08	-0.06	-0.04	-0.14
2. CATS-Fearful		-	0.10	0.15*	0.20**	0.30***	0.23**	0.25**	0.27***
3. CATS-Preoccupied			-	0.08	0.14*	0.25**	0.26***	0.19**	0.16*
4. ECR-R-Avoidance				-	0.47***	0.58***	0.33***	0.23**	0.50***
5. ECR-R-Anxiety					-	0.64***	0.62***	0.54***	0.42***
6.BORRTI-ALI						-	0.78***	0.68***	0.77***
7.BORRTI-IA							-	0.72***	0.52***
8.BORRTI-EGO								-	0.52***
9.BORRTI-SI									-
Mean	66.46	18.99	28.29	3.35	4.23	8.76	7.65	4.32	2.37
(Standard Deviation)	(7.62)	(6.01)	(10.51)	(1.41)	(1.17)	(4.42)	(3.11)	(2.52)	(1.90)
%95 Confidence Interval	65.36-67.56	18.12-19.85	26.77-29.80	3.19-3.52	4.06-4.39	8.12-9.40	7.20-8.10	3.96-4.69	2.10-2.65

CATS-TR Secure = Client Attachment to Therapist Scale-Secure Attachment, CATS-TR Fearful = Client Attachment to Therapist Scale-Fearful/Avoidant Attachment, CATS-TR Preoccupied = Client Attachment to Therapist Scale-Preoccupied/Merger Attachment, ECR-R-Avoidance/Anxiety = Early Close Relationships-R-Avoidance/Anxiety, BORRTI-AL = Bell Object Relations and Reality Testing Inventory-Alienation, BORRTI-IA = BORRTI-Insecure Attachment, BORRTI-EGO = BORRTI-Egocentrism, BORRTI-SI = BORRTI-Social Incompetence

*** $p<.001$, ** $p<.01$, * $p<.05$ or * $p<.05$

Finally, in the simple regression model, the CATS-TR subscale scores were included as predictive variables and the WAI-SF goal subscale scores were included as the predicted variables. The CATS-TR Secure Attachment ($\beta=0.53$, $p<0.01$), Fearful/Avoidant Attachment ($\beta=-0.27$, $p<0.01$) and Preoccupied/Merger Attachment ($\beta=-0.13$, $p<0.05$) subscale scores significantly predicted the scores obtained on the WAI-SF goal subscale and explained 44% of alliance in the goal dimension [$F(3,184)=49.000$, $p<0.01$].

Internal Consistency and Test-Retest Reliability of the CATS-TR

Cronbach's alpha coefficients were calculated to evaluate the internal consistency of the CATS-TR subscales. Cronbach's alpha coefficient of the CATS-TR Secure Attachment, Preoccupied/Merger Attachment and Fearful/Avoidant attachment subscales were, respectively, 0.82, 0.85 and 0.71. The range of values for the corrected item total correlations for the CATS-TR Secure Attachment, Preoccupied/Merger Attachment and Fearful/Avoidant Attachment subscales were, respectively, 0.37-0.64, 0.25-0.45 and 0.33-0.63. The test-retest reliability coefficients for CATS-TR Secure Attachment, Preoccupied/Merger Attachment and Fearful/Avoidant Attachment subscales were, respectively, 0.78 ($N=39$, $p<0.01$), 0.81 ($N=39$, $p<0.01$) and 0.56 ($N=39$, $p<0.01$).

DISCUSSION

Research findings confirmed the original three-factor structure of the original CATS (Mallinckrodt et al. 1995), showing that these factors had sufficient internal consistency and test-retest reliability. The CATS-TR structure is consistent with that of the original CATS by comprising the same three Secure Attachment, Fearful/Avoidant Attachment and Preoccupied/Merger Attachment subscales. The scoring on these subscales also has a timewise consistency demonstrating that attachment to the therapist does not reflect a temporary phenomenon with regard to psychotherapy processes. The CATS-TR, however, differs from the original CATS after reorganization on the basis of the EFA results which demonstrated that item 15 with the content "I feel humiliated in my conversations with my therapist/counselor", did not function well psychometrically in the Turkish sample, and necessitated its removal from the CATS-TR. There may be various reasons underlying the low factor loading of item 15 and its weak relationship with other items. The average number of sessions completed by the participants of the present study was over seven. As expressed by the item 15 content, a client who felt "humiliated" during sessions may have stopped continuing the therapy at a stage earlier than the average number of completed sessions in the present study. On the other hand, as seen with some of the clients who participated in

the original study by Mallinckrodt et al. (1995), the clients participating in this study may have felt "humiliated" at times and may have abstained from directly responding to this item due to cultural emotion expression factors (Çorapçı et al. 2012). Some CATS items were also found not to work well after translation to the languages of other cultures and were excluded from the adapted forms of the scale (Yotsidi et al. 2018). From this point of view, CATS may be considered to be a tool sensitive to cultural differences.

The criterion validity analyses on the CATS-TR data showed that whereas the CATS-TR Secure Attachment subscale and the ECR-R Anxiety and Avoidance dimensions were not correlated, the CATS-TR Preoccupied/Merger Attachment marginally correlated with the ECR-R Anxiety dimension. The CATS-TR Fearful/Avoidant Attachment correlated positively and significantly with the ECR-R Anxiety dimension, showing only a marginally significant correlation with the Avoidance dimension ($p=0.05$). When these results were evaluated together, it was observed that the CATS-TR insecure attachment dimensions tended to correlate with the ECR-R Anxiety dimension, but the ECR-R Avoidance dimension did not correlate with the scores on the CATS-TR subscales except for the cited marginal correlation. A recent meta-analysis demonstrated that the negative relationships between CATS Secure Attachment and the ECR-R Anxiety and Avoidance dimensions were significant (Mallinckrodt and Jeong 2015). This result appears to be inconsistent with those of the present research. However, when the results of the 13 studies included in the meta-analysis were examined in detail, the individual studies had a common pattern of statistically insignificant relationships particularly between the scores on the CATS Secure Attachment subscale and the adult attachment styles (e.g., Bachelor et al. 2010, Mallinckrodt et al. 1995, Mallinckrodt et al. 2005). Hence, the significant relationship reported between the CATS Secure Attachment subscale and adult attachment styles may have been reached by the meta-analysis combining the results of individual studies. Inconsistent results regarding the relationship between CATS Secure Attachment and the client's adult attachment styles in the ECR-R Anxiety and Avoidance dimensions can also be explained by the difference in the measurement methods of the client's adult attachment style. Furthermore, in the cited meta-analysis, while the relationships between adult attachment styles in the ECR-R Anxiety and Avoidance dimensions and the CATS Fearful/Avoidant Attachment dimension were significant, only the relationship between the ECR-R Anxiety dimension and the CATS Preoccupied/Merger Attachment was significant (Mallinckrodt and Jeong 2015). These results are consistent with those of the current research.

Therefore, it can be considered that the clients with fearful/avoidant attachment to their therapists may have anxious

and avoidant adult attachment styles, while the adult attachment styles of the clients with preoccupied/merger attachment to their therapists may reflect a more anxious pattern. It is also known that there is not a direct relationship between the client's avoidant adult attachment style and the avoidant attachment to the therapist or between the client's anxious attachment style and the anxious attachment to the therapist (Mallinckrodt and Jeong 2015). From this point of view, it is inferred that there may be a relationship between adult attachment styles of the client before therapy and the experiences of attachment to the therapist, however, these two structures may not reflect the same overlapping structures.

The criterion validity results of this study using the BORRTI did not demonstrate a significant relationship between CATS-TR Secure Attachment and the subdimensions of the BORRTI object relations dimension. But, significant relationships were observed between CATS-TR Fearful/Avoidant and Preoccupied/Merger Attachment subscales and the Alienation, Insecure Attachment, Egocentrism and Social incompetence subdimensions of the BORRTI object relations dimension. Results of the present study are partially consistent with those of the original study of the CATS on object relations which demonstrated an inverse correlation between the CATS-TR Secure Attachment subscale and all subdimensions in the BORRTI object relations dimension (Mallinckrodt et al. 1995). This result draws attention to positive representations of object relations brought by the client to therapy as a factor that may affect the client's secure attachment to the therapist. In the current study, however, the representations for object relations such as secure self and secure other (Horowitz et al. 1993) were not found to be correlated with secure attachment to the therapist. It is reported in the literature that the relationship between the object relations dimension and the therapeutic alliance gradually decreased after the first session (Goldman and Anderson 2007). As demonstrated by the current study results, the object relations dimension can be inferred to be mainly correlated with insecure patterns, such as fearful/avoidant or preoccupied/merger attachment to the therapist, instead being correlated with positive process variables of psychotherapy, such as alliance and secure attachment to the therapist.

It is understood from the predictive validity results that the increase in the scores on the CATS-TR Secure Attachment subscale predicted the increase in the total score and the task, bond, goal component scores of the therapeutic alliance on the basis of client evaluation. Also, the increase in the CATS-TR Fearful/Avoidant Attachment subscale scores predicted the decrease in total score of the therapeutic alliance and the scores on the bond and goal components of the alliance. Finally, the increase in the score on the CATS-TR Preoccupied/Merger Attachment subscale predicted the decrease in scores

in the task and goal dimensions of the therapeutic alliance. It is demonstrated by reports in the literature that most of the variance in the therapeutic alliance was explained by the CATS-Secure Attachment subscale scores (Mallinckrodt and Jeong 2015, Yotsidi et al. 2018). The clients who are securely attached to their therapists may perceive their therapists as an emotionally responsive, accepting and secure basis for the exploration of challenging issues (Bowlby 1988), and thus an increase in alliance can be expected. The cited meta-analysis results, consistent with the current results, also showed the positive and negative effects of, respectively, the CATS-Secure Attachment and Fearful/Avoidant Attachment dimensions on therapeutic alliance, and also indicated in partial agreement with the findings in the literature, that there is not a significant relationship between the CATS Preoccupied/Merger Attachment and the therapeutic alliance and its components (Mallinckrodt and Jeong 2015). It was observed in the current results, which are generally consistent with the literature, that a client who is securely attached to the therapist experienced "being on the same page" with the therapist with regard to the bond formed and the goals and tasks of psychotherapy. However, it is predicted that a client with a fearful/avoidant attachment to the therapist may generally experience breakdown in the therapeutic alliance and specifically in the bond and goal components of the alliance. The clients who are attached to their therapists with fearful/avoidant patterns may tend to feel insecure with their therapist and may fear being rejected. It is understood that the clients with preoccupied/merger attachment to their therapists may not generally experience a break in the alliance and in the bond component of the alliance, but may experience breaks in the task and goal components of the alliance. It can be expected that the clients with preoccupied/merger attachment may have breaks in the task and goal components defining the limits of the therapy relationship, but, may not have breaks in the bond dimension, which is the relationship-oriented component (Mallinckrodt et al. 2005).

Current research findings indicate that the CATS-TR is valid and reliable at acceptable levels and can be used in research and practice settings. Nevertheless, the study has some limitations that will facilitate the design of future research and the interpretation of the findings. The primary limitation of this study was basing data acquisition solely on self-report psychometric tools. Measurement of the client's adult attachment representations using the Adult Attachment Interview (AAI) (George et al. 1985) instead of the ECR-R may provide a clearer framework for the relationships between the structure of attachment to therapist and the adult attachment representation. As the number of people per item must be at least five in scale adaptation studies (Stevens 2002), the number of participants was sufficient for this adaptation study on the CATS-TR, but may be considered as

a limitation to assessing a wider range of variance in CATS-TR insecure attachment patterns. Clinical problems of the clients participating in the study do not represent a specific problem area. In studies planned to use the CATS-TR, higher participant numbers would enable evaluating grouped specific clinical problems. Furthermore, although this study is not a replicate of the original study for developing the CATS, the validity criteria of the CATS-TR were analysed on the same theoretical and methodological basis, which, as far as known, were used when adapting the CATS to different cultures and is general approach in scale adaptation studies. Therefore, the relationship between CATS-TR and variables such as the client's psychological symptom level or personality traits were not investigated. Questions on the features of the relationship between experiences of attachment to therapist evaluated by CATS, and psychological symptom level of the client, personality traits or other specific variables determined by the researchers can be answered by future studies. Longitudinal examination of these structures should shed light on the search for the factors affecting the change in the client's attachment pattern to the therapist. All evaluations made by the present study were based on client reporting and client characteristics. Therefore, the demonstration by this study that developing secure attachment to the therapist predicts the therapeutic alliance should not be interpreted as being solely dependent on the role of the client since psychotherapists, as active participants, also provide conditions that make the attachment relationship possible in psychotherapy (Mallinckrodt et al. 2015). Consideration of the role of psychotherapists in relation to variables such as adult attachment representations and therapeutic alliance is among the recommendations for future studies (Marmarosh 2015).

CONCLUSION

In conclusion, this study demonstrated that the CATS-TR, originally developed within the framework of the attachment theory, is a valid and reliable tool, thereby contributing to the national literature a psychometric tool to evaluate the client's attachment patterns to the therapist in future studies on the psychotherapy process and the psychotherapy practice. Hence, adoption of the attachment theory perspective in the studies to be conducted in our country will increase the understanding of the common factors that create change in psychotherapy independently of the theoretical orientation or treatment modality (Marmarosh 2015). The adaptation study of the CATS is considered to have clinical implications as explained below. According to Bowlby (1988), the psychotherapist is a figure of attachment as a "secure haven" in which the he/she can act to explore the client's inner world. Within the framework of the attachment theory, the change through psychotherapy is considered to occur *not after but*

during the process of developing secure attachment to the therapist (Mallinckrodt 2010). Therefore, the CATS-TR will be useful as a tool to shed light on change-oriented research and clinical practices in psychotherapy. It was recommended that the therapist should gradually reduce the therapeutic distance and allow the client's participatory role in the therapy to grow gradually so that a client who is shaped by fearful/avoidant attachment characteristics to the therapist evaluated by the CATS may possibly participate in the relationship with defensive tactics (Mikulincer and Shaver 2007) and so have a corrective emotional experience (Mallinckrodt et al. 2015). Also, in the case of a client relating to the therapist evaluated by the CATS with excessive tactics of preoccupied/merger attachment characteristics, the gradual decrease in the therapeutic distance to support the autonomy of the client may facilitate change (Mikulincer and Shaver 2007, Mallinckrodt et al. 2015). Thus, psychotherapy may change the client's implicit memories arising from early attachment experiences and the non-verbal or procedural knowledge of establishing a close relationship (Lyons-Ruth 1999). In conclusion, the CATS-TR is a tool with sufficient psychometric features that can be used to evaluate the client's attachment pattern to the therapist, shed light on the psychotherapy process and thereby support the positive therapy outcome.

REFERENCES

- Ainsworth MDS, Blehar MC, Waters E et al (1978) Patterns of Attachment: A Psychological Study of the Strange Situation. Hillsdale, NJ: Erlbaum.
- Bachelor A, Meunier G, Laverdière O et al (2010) Client attachment to therapist: Relation to client personality and symptomatology, and their contributions to the therapeutic alliance. *Psychol Psychother: Theory Res Pract* 47:454–68.
- Berant E, Obegi JH (2009) Attachment-informed psychotherapy research with adults. JH Obegi, E Berant (Ed), Attachment Theory and Research in Clinical Work with Adults. The Guilford Press, s. 461-89.
- Bordin ES (1979) The generalizability of the psychoanalytic concept of the working alliance. *Psychol Psychother: Theory Res Pract* 16:252-60.
- Bowlby J (1969) Attachment and Loss, Vol. 1: Attachment. London, Hogarth Press.
- Bowlby J (1973) Attachment and Loss, Vol. 2: Separation—anxiety and Anger. London, Hogarth Press.
- Bowlby J (1988) A Secure Base: Parent-child Attachment and Healthy Human Development. London, Routledge.
- Brennan KA, Clark CL, Shaver PR (1998) Self-report measurement of adult attachment: An integrative overview. JA Simpson, WS Rholes (Ed), Attachment Theory and Close Relationships. Guilford Press s. 46–76.
- Collins NL, Read SJ (1990) Adult attachment, working models, and relationship quality in dating couples. *J Pers Soc Psychol* 58:644.
- Çorapçı F, Aksan N, Yağmurlu B (2012) Socialization of Turkish children's emotions: Do different emotions elicit different responses? *Glob Stud Child* 2:106-16.
- Daly KD, Mallinckrodt B (2009) Experienced therapists' approach to psychotherapy for adults with attachment avoidance or attachment anxiety. *J Couns Psychol* 56:549-63.
- Daniel SIF (2006) Adult Attachment Patterns and Individual Psychotherapy: A Review. *Clin Psychol Rev* 26:968-84.

- Diener MJ, Hilsenroth MJ, Weinberger J (2009) A primer on meta-analysis of correlation coefficients: The relationship between patient-reported therapeutic alliance and adult attachment style as an illustration. *Psychother Res* 19:519-26.
- Farber BA, Metzger JA (2009) The therapist as secure base. Attachment theory and research in clinical work with adults. JA Simpson, WS Rholes (Ed), *Attachment Theory and Close Relationships*. Guilford Press s. 46-70.
- Farber BA, Lippert RA, Nevas DB (1995) The therapist as attachment figure. *Psychol Psychother: Theory Res Pract* 32:204-12.
- Falkenström F, Granström F, Holmqvist R (2014) Working alliance predicts psychotherapy outcome even while controlling for prior symptom improvement. *Psychother Res* 24:146-59.
- Eames V, Roth A (2000) Patient attachment orientation and the early working alliance-a study of patient and therapist reports of alliance quality and ruptures. *Psychother Res* 10:421-34.
- Gaston L (1990) The concept of the alliance and its role in psychotherapy: Theoretical and empirical considerations. *Psychother* 27:143-53.
- George C, Kaplan N, Main M (1985) The Berkeley adult attachment interview. Unpublished protocol. Berkeley: Department of Psychology, University of California.
- Goldman GA, Anderson T (2007) Quality of object relations and security of attachment as predictors of early therapeutic alliance. *J Couns Psychol* 54:111-17.
- Griffin D, Bartholomew K (1994) Models of the Self and Other: Fundamental Dimensions Underlying Measures of Adult Attachment. *J Pers Soc Psychol* 67:430-45.
- Gülüm V, Uluç S, Soygüt G (2016) Psychometric properties of the Turkish Working Alliance Inventory-Short form. *Turk J Psychiatry* 29:47-53.
- Horowitz LM, Rosenberg SE, Bartholomew K (1993) Interpersonal problems, attachment styles, and outcome in brief dynamic psychotherapy. *J Consult Clin Psychol* 61:549-60.
- Horvath AO, Del Re A, Fluckiger C et al (2011) Alliance in individual psychotherapy. *Psychother* 48:9-16.
- Horvath AO, Greenberg L (1986) The development of the Working Alliance Inventory: A research handbook. *Psychotherapeutic processes: A research handbook*: 529-56.
- Hu LT, Bentler PM (1999) Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structur Equ Model: A Multidiscip J* 6:1-55.
- Janzen J, Fitzpatrick M, Drapeau M (2008) Processes involved in client-nominated relationship building incidents: Client attachment, attachment to therapist, and session impact. *Psychol Psychother: Theory Res Pract* 45:377-90.
- Joyce AS, Piper WE, Ogrodniczuk JS et al (2007) Termination in Psychotherapy: A Psychodynamic Model of Processes and Outcomes. Washington, DC, US: American Psychological Association s. 157-65.
- Kivlighan Jr DM, Patton MJ, Foote D (1998) Moderating effects of client attachment on the counselor experience-working alliance relationship. *J Couns Psychol* 45:274-78.
- Lyons-Ruth K (1999) The two-person unconscious: Intersubjective dialogue, enactive relational representation, and the emergence of new forms of relational organization. *Psychoanal Inq* 19:576-617.
- Mallinckrodt B (2000) Attachment, social competencies, social support, and interpersonal process in psychotherapy. *Psychother Res* 10:239-66.
- Mallinckrodt B (2010) The psychotherapy relationship as attachment: Evidence and implications. *J Soc Pers Relatsh* 27:262-70.
- Mallinckrodt B, Anderson MZ, Choi G et al (2017) Pseudosecure vs. individuated-secure client attachment to therapist: Implications for therapy process and outcome. *Psychother Res* 27:677-91.
- Mallinckrodt B, Choi G, Daly KD (2015) Pilot test of a measure to assess therapeutic distance and its association with client attachment and corrective experience in therapy. *Psychother Res* 25:505-17.
- Mallinckrodt B, Gantt DL, Coble HM (1995) Attachment patterns in the psychotherapy relationship: Development of the Client Attachment to Therapist Scale. *J Couns Psychol* 42:307-17.
- Mallinckrodt B, Jeong J (2015) Meta-analysis of client attachment to therapist: Associations with working alliance and client pretherapy attachment. *Psychother* 52:134-39.
- Mallinckrodt B, Porter MJ, Kivlighan Jr DM (2005) Client attachment to therapist, depth of in-session exploration, and object relations in brief psychotherapy. *Psychol Psychother: Theory Res Pract* 42:85-100.
- Marmarosh CL (2015) Emphasizing the complexity of the relationship: The next decade of attachment-based psychotherapy research. *Psychother* 52:12-8.
- Martin DJ, Garske JP, Davis MK (2000). Relation of the therapeutic alliance with outcome and other variables: a meta-analytic review. *J Consult Clin Psychol* 68:438-50.
- Meyer B, Pilkonis PA (2001) Attachment style. *Psychol Psychother: Theory Res Pract* 38:466.
- Mikulincer M, Shaver PR (2007) *Attachment in Adulthood: Structure, Dynamics, and Change*. New York, Guilford Press.
- Obegi JH (2008) The development of the client-therapist bond through the lens of attachment theory. *Psychol Psychother: Theory Res Pract* 45:431-46.
- Petrowski K, Berth H, Schurig S et al (2019) Suppressor effects in associations between patient attachment to therapist and psychotherapy outcome. *Clin Psychol Psychother* 26:105-9.
- Romano V, Fitzpatrick M, Janzen J (2008) The secure-base hypothesis: Global attachment, attachment to counselor, and session exploration in psychotherapy. *J Couns Psychol* 55:495-504.
- Sauer EM, Anderson MZ, Gormley B et al (2010) Client attachment orientations, working alliances, and responses to therapy: A psychology training clinic study. *Psychother Res* 20:702-11.
- Saypol E, Farber BA (2010) Attachment style and patient disclosure in psychotherapy. *Psychother Res* 20:462-71.
- Selçuk E, Günaydin G, Sümer N et al (2005) A new scale developed to measure adult attachment dimensions: Experiences in Close Relationships-Revised (ECR-R) – Psychometric evaluation in a Turkish sample. *Turk Psychol Artic* 8:1-11.
- Sherer M, Maddux JE, Mercandante B et al (1982) The self-efficacy scale: Construction and validation. *Psychol Rep* 51: 663-71.
- Stevens JP (2002) *Applied Multivariate Statistics for the Social Sciences* (4th ed). Lawrence Erlbaum Associates Publishers.
- Sümer N (2000) Structural equation modeling: Basic concepts and applications. *Turk Psychol Artic* 3:49-74.
- Skourteli MC, Lennie C (2010) The therapeutic relationship from an attachment theory perspective. *Couns Psychol Rev* 26:20-33.
- Smith AE, Mserfi RM, Golding L (2010) Client self rated adult attachment patterns and the therapeutic alliance: A systematic review. *Clin Psychol Rev* 30:326-37.
- Uluç S, Tüzün Z, Haselden M et al (2015) Bell Object Relations and Reality Testing Inventory (BORRTI) Turkish adaptation study. *Clin Psychiatry* 18:112-23.
- Vogel DL, Wei M (2005) Adult attachment and help-seeking intent: the mediating roles of psychological distress and perceived social support. *J Couns Psychol* 52:347-57.
- Wang CC, Mallinckrodt B (2006) Differences between Taiwanese and U.S. cultural beliefs about ideal adult attachment. *J Couns Psychol* 53:192-204.
- Yotsidi V, Stalikas A, Pezirkianidis C et al (2019) The relationships between client resistance and attachment to therapist in psychotherapy. *J Contemp Psychother* 49:99-109.