The Validity and Reliability Study of Therapeutic Alliance Scale: Psychological Counselor Version

Mehmet Kandemir[1]

[1]*Kırıkkale University, Turkey*

ABSTRACT

This study aimed to design a measurement tool for measuring the therapeutic alliance skills of the experts providing psychological counseling services. For the preliminary validity and reliability study of the Therapeutic Alliance Scale, 224 people working as psychological counselors were reached. After the preparation of the data for analysis and establishing the hypotheses, exploratory factor analysis was conducted in the study. As a result of the analysis, the Kaise-Meyer-Olkin (KMO) value was found as 0.90, and the Barlett test was determined as $\chi2 = 1343.61$ (p <.00). The scale was found to have a three-factor structure as a result of the exploratory factor analysis and varimax rotation techniques carried out. In the factor analysis conducted to determine the construct validity of the therapeutic alliance scale, which could measure the three-factor dimension. For reliability, Cronbach's alpha internal consistency coefficients were analyzed, and as a result, the coefficients for the first, second, and third factors were found as .86, .87, and .68, respectively. After that, first and second level confirmatory factor analysis were done. As a result of the first analysis, the values were found as Chi-Square/Degree of Freedom (563, 114 / 167) = 3.72 and RMSEA= .08. Also, the fit coefficients obtained for the tested model were CFI = .91, GFI = .91, IFI = .90, NFI = .89, and TLI = .91. Similar results were obtained in the second level confirmatory factor analysis.

Keywords:[2]
Therapeutic Alliance, Psychological Counselor, Confirmatory Factor Analysis, Exploratory Factor Analysis

1. Introduction

In recent years, it has been observed researchers working in the field of psychological counseling focus on the main factors contributing to the well-being of the clients in the psychological help process (Hill & Lambert, 2004). It is observed that the evidence-based researches especially on the psychological counseling process and its result focus on this issue. In this context, the importance of the common factors used in all approaches for the consultation process and the client's well-being has become apparent (Bolsinger, Jaeger, Hoff & Theodoridou, 2020). The therapeutic alliance concepts and components, which are at the center of these factors, are evaluated on the basis of therapeutic relationship. Researches on the psychological counseling process and outcome have considerable contributions to the definition of these important variables. Research into the psychological counseling process and outcome has considerable contributions to identifying these significant variables. Evidence-based information on how to provide more effective relief in process and outcome research and psychological counseling practices is provided to practitioners (Ollendick, 2014). While outcome research investigates instant or permanent changes that occur as a result of the psychological counseling and psychotherapy process in the field of psychological relief (counseling, therapy), process research looks into what happens in counseling or psychotherapy sessions (Krieger,

[1] Corresponding author's address: Faculty of Education, Department of Guidance and Counseling, Kırıkkale University, Kırıkkale, Turkey
Telephone: 03183571329
Fax: 03183571389
e-mail:mkandemir61@gmail.com

Moritz, Weil, & Nage, 2018). Hill (1991) listed the variables discussed in the process research related to therapeutic relief relationship under seven headings. These headings included; nonverbal relief behaviors, verbal intervention behaviors involving language and grammatical structure, latent behaviors involving the goals of the psychological counselor and the client's responses, conversational content of the therapeutic process, strategies and methods such as transference employed in the therapeutic process, interpersonal styles including factors such as psychological empathic understanding or participation, and therapeutic relationship that involves factors such as therapeutic alliance and relational control. When the classification is examined, the therapeutic relationship can be seen to be an important variable for process research. Lambert, Bergin, and Garfield (2004) claimed that the therapeutic relationship contributed to the well-being of the client more than the methods and techniques used in counseling. According to Gaston (1990), maintaining the therapeutic relationship at a positive level is one of the most important factors in the therapeutic process, and it increases the healing effect of the strategies used in the process. Considering these explanations, it is possible to say that the therapeutic relationship and its dimensions are an important field of study of process and outcome studies. One of the most remarkable features of the concept of the therapeutic relationship is the therapeutic alliance (Gelso & Carter, 1985). Studies conducted in this context are observed to emphasize that therapeutic alliance in the psychological counseling process significantly affects the outcomes of the counseling process (Clarkin & Levy, 2004; Cuijpers, Cristea, Karyotaki, Reijnders & Hollon, 2019). The concept of the therapeutic alliance, which Wexler (2006) states is related to the structure of the relationship between the psychological counselor and the client, was primarily conceptualized by Zetzel (1956), who came from the psychodynamic approach. Bordin's (1979) reconceptualization of the therapeutic alliance concept with an approach that is above-theoretical level caused an increase in the number of process studies.

According to Sprenkle and Blow (2004), this conceptualization cares about the positive cooperation of the client with the psychological counselor. Bordin (1994) thinks that the therapeutic alliance consists of three interrelated and integral components. These include the consensus of the counselor and the client regarding the goals of counseling or therapy. According to Rogers (2009) and Lambert, (1992), the consensus between the client and the psychological counselor means that the parties have a common understanding of the goals set for the change. The second component is a consensus on the task and responsibility required to achieve the goals. Another important component is the establishment of an emotional bond including the development of respect, trust and personal attachment in the relationship between the psychological counselor and the client. According to Bordin (1979), the therapeutic alliance reflects trust, respect, and mutual interest between the client and the psychological counselor, as well as consensus-based emotional duties about therapeutic goals and objectives. This alliance combines the rational and self-observing aspects of the client and the therapeutic quality of the therapist (Goldfried & Davila, 2005; Safran, Muran & Rothman, 2006). According to Horvath and Symonds (1991), the unity of goal and task (responsibility) between the psychological counselor or therapist and the client constitutes the cognitive dimension of the therapeutic alliance, whereas the bond or attachment makes up the affective dimension. According to Soygüt and Işıklı (2008), the meaning of "above-theories" that Bordin attaches to the therapeutic alliance has carried the contribution of the interpersonal relationship factor to the consultation to an important level regardless of the approaches and methods used in psychological counseling. At the same time, according to them, the concept of the alliance is of interest due to its strong contribution to change in today's psychotherapy research. The examination of the literature shows that the therapeutic alliance has begun to be seen as a variable that combines the necessary techniques and methods for counseling that are offered by counseling approaches and which help the counseling to gain integrity (Castonguay & Beutler 2006). According to Bordin (1994), the quality of the therapeutic alliance, which is associated with the harmonious functioning of the goal, task, and bond components, is an important predictor of successful therapeutic results (Wampold, 2010). In this context, Florsheim, Shotorbani, Guest-Warnick, Barratt, and Hwan (2000), claimed that establishing a positive therapeutic alliance should be the primary goal of therapy. Goldfried and Davila (2005) stated that a strong, positive, and safe relationship could provide the power to the counselor to show patience to the client and have an effect to get feedback from the client.

In the psychological aid process, the therapeutic alliance skill that psychological counselors have developed with their clients is very valuable and important, as stated in the explanations above. For this reason, the therapeutic alliance skills that psychological counselors have developed with their clients need to be analyzed and the nature of this skill and which variables it is associated with should be analyzed. For analysis of the therapeutic alliance, it is possible to say that a proper measurement tool is needed for measuring the therapeutic alliance skills of psychological counselors and that there is a limited number of measurement tools. Considering all this, this study tried to develop a "Therapeutic Alliance Scale" for determining the skills that psychological counselors develop with their clients and the levels of these skills.

2. Method

2.1. The Study Group

Three different study groups were included in the study for the validity and reliability study of the Therapeutic Alliance Scale. The purposive sampling method was used to make up the study groups, which were selected according to criteria fitting the purpose of the study. In the first study group created, 224 psychological counselors who worked in the field for at least 1 year and carried out at least 1 psychological counseling service per week were reached. Of the psychological counselors reached, 118 were female and 106 were male. The age of the study group ranged from 22 to 56 and the mean age was 29.79 years. At the same time, the service year of the study group varied between 1 and 32 years, and the mean year of service was 7.01 years. Also, the number of weekly counseling of this group ranged from 1 to 40, and the mean weekly counseling was 5.94. Finally, of the participants in the study group, 192 were graduates of the guidance and psychological counseling department, 12 were graduates of the psychology department, and 8 were graduates of the department of the psychological services in education. In the first study group, construct validity and internal consistency reliability analyses were done. The second study group consisted of psychological counselors working in institutions affiliated to the Ministry of National Education. In this group, there were a total of 438 psychological counselors (265 female, 153 male). The age of the participants was between 22 and 63, their professional experience ranged from 1 to 25 years, and the number of psychological counseling a week varied from 1 to 20. In the second study group, confirmatory factor analysis of the scale structure determined by exploratory factor analysis was conducted. Besides, data were collected from 180 psychological counselors working in institutions affiliated to the Ministry of National Education to do reliability calculations of the scale using the test-retest and split-half analyses. Of the psychological counselors reached, 111 were female and 69 were male. The age of the study group varied between 22 and 52 and the mean age was 29.02 years. At the same time, the professional seniority of the study group varied between 1 and 28 years, and the mean year of service was 6.10 years.

2.2. Data Collection Tools

2.2.1. Personal Information Form

Within the scope of the study, a personal information form was created for a demographic evaluation of psychological counselors working in schools affiliated to the Ministry of National Education. The form aimed to collect information about psychological counselors' gender, age, professional seniority, and the number of their counseling services carried out.

2.2.2. Expert Opinion Form for the Therapeutic Alliance Scale

In the context of the validity and reliability study of the Therapeutic Alliance Scale, this form was created to submit the item pool, prepared for the therapeutic alliance skills of psychological counselors, to the expert opinion. The Expert Opinion Form for the Therapeutic Alliance Scale involved a 0-to-10-rating system for the evaluation of the appropriateness of the items by the experts, as well as asking for explanations regarding the therapeutic alliance and its dimensions.

2.2.3. Therapeutic Alliance Scale-Psychological Counselor Form

Different forms of this scale, which were created to determine the therapeutic skills of psychological counselors, were used during the validity and reliability study. In addition to the validity and reliability of the scale, psychometric evaluation results were presented in the findings section of the paper. The preliminary validity and reliability analyses of the scale were carried out by Kandemir (2017) and Kandemir and İlhan (2019). Previous analysis of the scale, psychometric analysis studies with new data, and reporting of the whole scale were carried out in this study.

2.3. Data Collection Process and Preparation of Data for Analysis

Before collecting data from the school psychological counselors in the study, they were informed about the general objectives of the study, data collection tools, and the average application time. The study groups were observed to fill out the forms and scales within an average of 10 minutes. After the collected data were entered on IBM SPSS 21 statistical software package, some preliminary evaluations were done to prepare the data for analysis. Before starting exploratory factor analysis (EFA), extreme value analyses were conducted. Within the scope of this analysis, the Z scores of 6 data were outside the +3 and -3 range and were therefore removed from the data set. One of the prerequisites of EFA is that there is no multicollinearity/singularity problem in the data. According to Tabachnick and Fidel (2001), such data should be excluded from the analysis when such a problem occurs. In this context, a correlation test was carried out and the correlation coefficients between the items were found to vary between .10 and .64. Accordingly, the data group could be said to have no multicollinearity/singularity problem.

3. Results

In the process of developing the therapeutic alliance scale, primarily the therapeutic alliance, the features and dimensions of the therapeutic alliance, its relationships with similar concepts, and its theoretical foundations were examined in the literature. Later, within the scope of the related literature, a 42-item therapeutic alliance scale item pool was created. The items were created under the therapeutic alliance literature (Bordin, 1979) and the rules of writing items as much as possible. The item pool created in the next stage was submitted to the opinions of 14 experts working in the field. Ten of these experts stated their views on the scale. Concerning the evaluations from experts, 1 item was removed from the scale and 16 items were modified. At the same time, the scores that the experts gave to the scales were observed to range between 5 and 10 and the mean score was 8.2. With the data obtained, necessary amendments were made and the scale was finalized for its administration to the study group. Then, the data collection process was initiated from the study group to determine the construct validity and reliability of the scale, which had 41 items and a 7-point Likert type evaluation design. After the analysis of the data collected from the first research group for preliminary validity and reliability analysis of the scale, the Kaiser-Meyer-Olkin (KMO) value was found to be .90 and the Bartlett test result was $\chi2 = 1343.61$ (p <.00). The high KMO value indicated that the variables increased the predictability of other variables on the scale, and the result, which was greater than .90, meant that the sample size was perfect (Sharma, 1996). The Bartlett test was found to be significant and this could be interpreted that the sample size was appropriate for factor analysis and that the correlation matrix was suitable. According to the results of both tests, the data matrix was found to be suitable for EFA. According to Tabachnick and Fidel (2001), the rotation was necessary to ensure clarity and significance in evaluations. The rotation was also necessary to decide which item would be included under which factor. In cases where factors are unrelated, the orthogonal rotation should be conducted (Hair, Black, Babin, Anderson, & Tatham, 2005). The orthogonal rotation method was used in this analysis since the dimensions of the concept of therapeutic alliance included different features (Bordin, 1994). The analysis was carried out by using, varimax method, one of the orthogonal rotation methods, and by determining the item load values as .30. As a result of EFA, the variance explanation rates of each item on a common factor were examined, and as a result of the analysis, the items with a value below .30 were removed from the data set and the analyses were repeated. Çokluk, Şekercioğlu, and Büyüköztürk (2012) stated that items on a scale should not be removed according to the common variance values, but that other criteria were also important for the

removal of items. Therefore, items with a value close to 30 were kept in the analysis. As a result of the analysis done after this process, the eigenvalues regarding how many factors the scale might have were examined, and three factors were determined to be above 1. The eigenvalues of the factors were found to be 7.28, 1.81, and 1.31, respectively. Regarding the results of factor structures, Cattel's "scree plot" test (Kline, 1994) was done. According to Kline (1994), this test is used to determine the maximum number of significant factors. As a result of the analysis, the following figure was obtained (Figure 2).
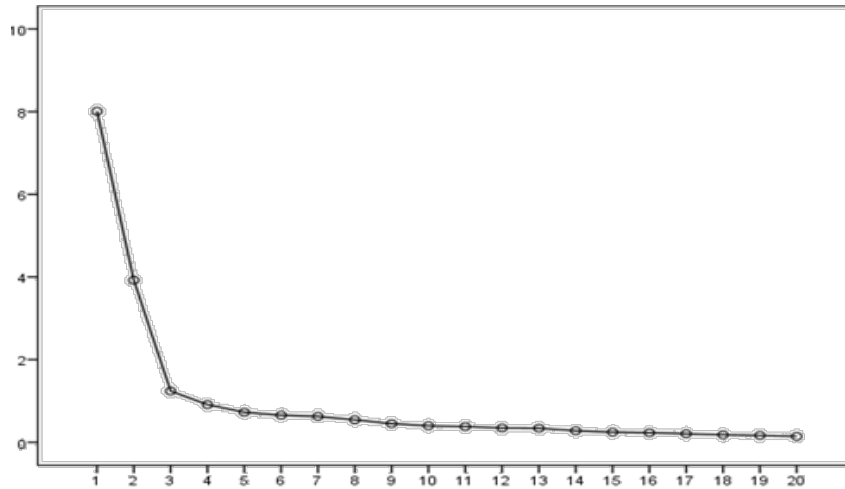

Figure 1. The Scree Plot related to the Therapeutic Alliance Scale

According to the graph in Figure 1, it turned out that the scale had two different breaking points. After the analysis using the varimax rotation technique, the three-factor dimension of the scale was determined. In this context, although the scree plot of the Therapeutic Alliance Scale gave an impression of a two-dimensional structure, the theoretical basis of the concept of alliance and the evaluations obtained from the experts supported the three-dimensional structure. At the same time, as a result of EFA, the eigenvalues of the second and third dimensions of the scale were observed to be greater than 1. Therefore, the Therapeutic Alliance Scale was reported as a three-dimensional structure. Items with a loading value of less than 0.30 were removed from the analysis. The EFA results of the Therapeutic Alliance Scale are shown in Table 1.

Table 1. EFA Results of the Therapeutic Alliance Scale

Items	Factors			Common Variance Values
	1st Factor	2nd Factor	3rd Factor	
item18	.848			.750
item19	.786			.696
item20	.685			.562
item16	.649			.522
item25	.616			.597
item15	.607			.511
item23	.518			.386
item9		.808		.694
item4		.681		.515
item8		.679		.602
item5		.663		.562
item3		.611		.476
item7		.611		.593

item13	**.498**		.373
item33		**.699**	.531
item32		**.651**	.430
item41		**.607**	.455
item40		**.602**	.407
item36		**.545**	.372
item28		**.512**	.455
Explained Variance Values	%36.39	% 9.02	%6.55
	Total Variance Explained		%51.98
Eigenvalues of the factors	7.280	1.805	1.311

As seen in Table 1, the factor loading values for each item of the therapeutic alliance scale ranged from 0.50 to 0.85. The first factor explained 36.39% of the variance; the second factor explained 9.02% of the variance; and the third factor explained 6.55% of the variance. They were found to explain 51.98% of the variance in total. According to Henson and Roberts (2006), an explained variance rate of greater than 50% should be considered as a high level. According to Scherer, Wieb, Luther, and Adams (1988), in factor analysis in social science, explained variance levels varying between 40% and 60% are satisfactory. Based on this evidence from the literature, it can be said that the variance value obtained as a result of the analysis was quite good and the measuring capacity of the resulting factor structures was high. After these analyses, each factor was named considering the theoretical information in the literature. Accordingly, the factors were named as "goal alliance", "task and responsibility alliance", and "emotional bond alliance", respectively.

To determine the reliability of the results obtained from EFA, Cronbach's alpha internal-consistency values obtained from item analysis were analyzed. The coefficient value obtained from the analysis was found as 0.86 for task and responsibility, 0.87 for goal, and 0.68 for the emotional bond. Özdamar (1999) defined the reliability coefficients between 0.61 and 0.80 as moderate, and those between 0.81 and 100 as high levels of reliability. On the other hand, Nunnally (1978) stated that an internal consistency coefficient value of 0.60 was the lower limit for reliability. Considering these explanations, it is possible to say that the first and second factors of the scale reached a very high-reliability level, while the third factor reached an acceptable reliability level. Confirmatory Factor Analysis (CFA) was conducted to test the validity of the determined factor structures. To do this, data were collected from a new study group. The therapeutic alliance scale was exposed to CFA using the new data collected from 421 psychological counselors working in the field. This analysis is based on the trial of an assumption that variables will predominantly exist on predefined structures based on an approach. Therefore, the related variables are chosen according to the assumptions of the approach or the theory, and the level by which variables go under the determined factors is examined.

Relationships emerging between CFA and dimensions of the scale can be tested using comparative hypothesis models and the degree of goodness of models can be determined (Sümer, 2000). It is noteworthy that the use of CFA studies has recently increased in scale development and adaptation-based research (Çapa, Çakıroğlu & Sarıkaya, 2005). In addition to identifying the representative loadings of the items, CFA is utilized to determine the relationship values of the items with the factors. A first-level CFA was primarily implemented in the analysis of the model consisting of 3 latent variables (goal, responsibility and emotional bond) determined with EFA and 20 observed variables of the therapeutic alliance scale. Accordingly, the basic structure of the scale was subjected to CFA in the model, and the fit values were obtained. According to the results obtained, Chi-Square/Degrees of Freedom (563,114 / 167) was 3.72, and RMSEA was .08. The coefficients of fit which were obtained for the tested model were CFI = .91, GFI = .91, IFI = .90, NFI = .89, and TLI = .91. The fit values such as CFI, GFI, IFI, NFI, and TLI were observed to be equal or close to 0.90. The proposed hypothesis model can be considered to have adequate goodness of fit when chi-square and RMSEA values are .08 or below this value (Şimşek, 2007). Therefore, the analysis of the improvement indices was not needed. Figure 2 presents the findings of CFA regarding the standardized coefficients of the relationship values between a given item and the factor it belongs to.
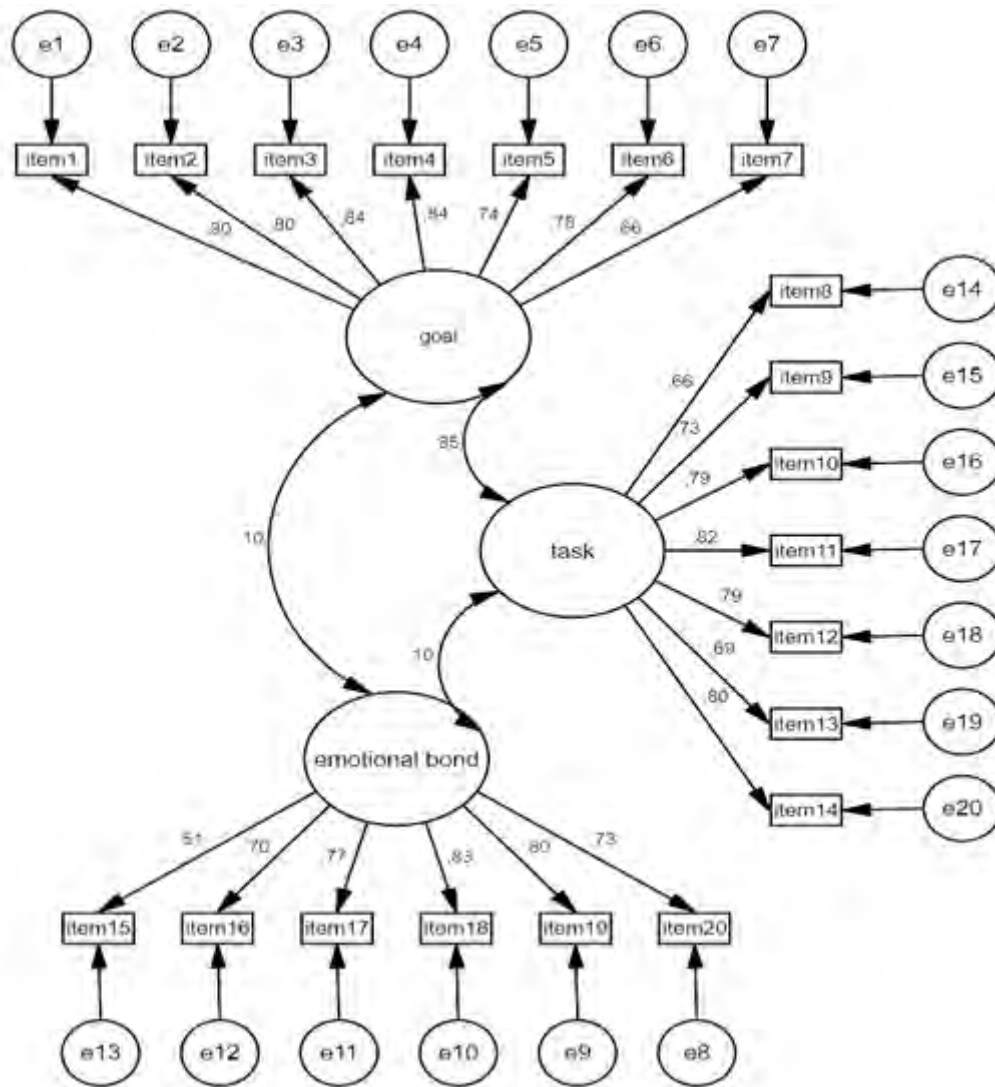
Figure 2. The Diagram of the First Level CFA Results for the Therapeutic Alliance Scale

A second-level CFA was conducted to demonstrate that the goal, responsibility, and emotional bond factors, whose relationships regarding the Therapeutic Alliance Scale were determined with the first-level CFA, represent the theoretically proposed therapeutic alliance factor. In other words, to determine the structural relationships of the determined three-factor structure with the "therapeutic alliance" high-level variable, a second level CFA factor model was created and analyzed. According to the results obtained at the second-level CFA, Chi-Square/Degrees of Freedom (581,199 / 167) was 3.48, and RMSEA was 0.07. As a result of the analysis, the Chi-Square and RMSEA values were found to be less than 0.08. The coefficients of fit which were obtained for the tested model were CFI = .93, GFI = .93, IFI = .93, NFI = .91, and TLI = .92. The proposed hypothesis model is considered to have sufficient goodness of fit when fit values such as CFI, GFI, IFI, NFI, and TLI are equal or close to .90 and the chi-square and RMSEA values are equal to 0.08 or less than this value (Şimşek, 2007). Therefore, it was not necessary to examine the improvement indices. Figure 3 presents the findings of CFA regarding the standardized coefficients of the relationship values between a given item and the factor it belongs to.
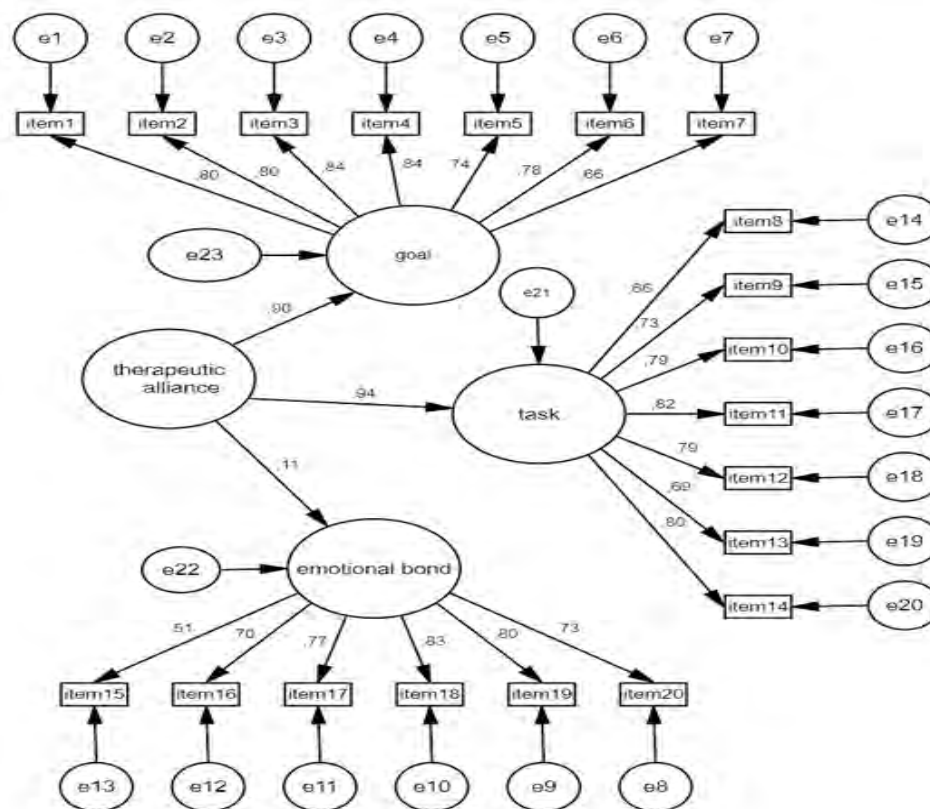
Figure 3. The Diagram of the Second Level CFA Results for the Therapeutic Alliance Scale

A new reliability analysis was conducted with the test-retest method on a new data set created after the above studies. After the analysis, the coefficients were found to be 0.88 for the entire scale, 0.91 for the goal factor sub-dimension, 0.89 for the taskfactor sub-dimension, and 0.87 for the emotional bond factor. At the same time, the item-total correlation was calculated for the items in the therapeutic alliance scale, whose reliability study was conducted. With this analysis, the correlation coefficient of each therapeutic alliance item was calculated. The therapeutic alliance score obtained from each item and the total therapeutic alliance score was handled regarding the relationship between them. The results of the analysis are given in Table 2.

Table 2. Statistics of the Therapeutic Alliance Items

	$\bar{x}$	Ss	Item-Total Correlation	Reliability Coefficient for Item Removal
m1	5.457	1.245	.516	.861
m2	5.295	1.165	.618	.858
m3	5.352	1.198	.592	.859
m4	5.467	1.187	.607	.858
m5	5.112	1.211	.539	.863
m6	5.233	1.152	.575	.859
m7	5.186	1.144	.595	.859
m8	4.857	1.157	.554	.862
m9	5.252	1.181	.512	.861
m10	5.295	1.123	.572	.863
m11	5.576	1.066	.529	.861
m12	5.391	1.145	.578	.859
m13	5.733	1.224	.456	.863
m14	5.505	1.116	.566	.862
m15	4.086	1.646	.467	.863
m16	3.043	1.918	.316	.871

m17	2.614	1.809	.376	.867
m18	2.557	1.919	.309	.871
m19	3.324	1.764	.271	.872
m20	2.876	1.762	.364	.868

After the analyses, it is possible to say that the Therapeutic Alliance Scale has the capacity to reliably measure the ability of psychological counselors to establish a therapeutic alliance.

4. Discussion, Conclusions and Recommendations

As a result of the validity and reliability study of the Therapeutic Alliance Scale designed to measure the therapeutic alliance skills that psychological counselors establish with their clients, a three-dimensional structure emerged. The goal, task/responsibility, and emotional bond dimensions that emerged after exploratory factor analysis were also confirmed by confirmatory factor analysis and different reliability estimations. The structure of the scale emerging as a result of the study can be said to be in parallel with the alliance theory of Bordin (1979). According to Bordin (1979), the therapeutic alliance consists of the goal, task, and emotional bond components, and the goal and task components are a kind of cognitive alliance, while the emotional bond component is an affective alliance. Also, the therapeutic alliance scale developed by Andrusyna, Tang, DeRubeis, and Luborsky (2001) appears to have goal, task, and emotional bond components. Andrusyna et al. (2001) refer to the "emotional bond" dimension of the therapeutic alliance also as the "relationship" dimension. It is possible to say that the structure obtained as a result of the study fits the theoretical framework and structure of the therapeutic alliance concept. As a result of first and second-level confirmatory factor analyses of the scale, fit indices were found to be at an acceptable level. Accordingly, it can be said that each factor in the scale can be used separately or the total score of the scale can also be taken into consideration. This may add depth and different aspects to studies on the alliance. According to the results obtained, it can be said that the Therapeutic Alliance Scale can be used in areas where the concept and structure of the therapeutic alliance and psychological counseling process are conceptualized and where there is a need for understanding the process-result relationship related to the therapeutic processes.

While preparing the Therapeutic Alliance Scale, a pool of items was created with the support obtained from the literature related to the therapeutic alliance, and validity and reliability analyses were carried out on the data collected from psychological counselors. This situation can be said to be among the limitations of the study. We could have collected opinions of psychological counselors during the preparation of the scale items and for supporting the psychometric analysis. Alliance is a bilateral concept. Accordingly, to better understand the concept of the therapeutic alliance, obtaining data and opinions not only from psychological counselors but also from clients could have made the results of the study more meaningful. Accordingly, the study was in the form of developing a measurement tool for measuring the therapeutic alliance skills of psychological counselors. Considering the bilateral aspect of the concept of the alliance, the need for developing measurement tools to determine the therapeutic alliance levels of the person receiving the psychological help, namely the clients, was felt during the study process. Bordin (1979) stated that the concept of the therapeutic alliance also had cognitive and affective structures in addition to the goal, task, and emotional bond dimensions. According to Bordin, the goal and task components of the alliance contain a cognitive aspect, while the emotional bond component involves an affective characteristic. Considering this, it can be said that besides the triple structure that emerged in the study, scale studies, in which the cognitive and affective alliance dimensions that Bordin referred to are tested, are also needed.

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