Article History
Received: 25.04.2024
Accepted: 18.09.2024
Available online: 27.12.2024
Article Type: Research Article

ADIYAMAN UNIVERSITY
Journal of Educational Sciences
(AUJES)

https://dergipark.org.tr/tr/pub/adyuebd

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Tuğçe Akalın Sevi[1], Pınar Özdemir[2]
[1] Düzce University
[2] Düzce University

To cite this article:
Akalın Sevi, T. & Özdemir, P. (2024). Development of the repair attempts scale: a validity and reliability study. *Adiyaman University Journal of Educational Sciences, 14*(2), 130-140.

Adiyaman University Journal of Educational Sciences

Volume 14, Number 2, December 2024, Page 130-140 ISSN: 2149-2727
DOI: http://dx.doi.org/10.17984/adyuebd.1472385

Development of the Repair Attempts Scale: A Validity and Reliability Study

Tuğçe Akalın Sevi[1], Pınar Özdemir[2]
[1] Düzce University
[2] Düzce University

Abstract

This study aimed to develop and test a Repair Attempts Scale to measure repair attempts as a conflict management skill in romantic relationships and test the psychometric properties. The sample consisted of 508 participants, 359 of whom were female (70.7%) and 149 of whom were male (29.3%). First, semi-structured interviews were conducted with eight people in romantic relationships, and a large item pool was formed. Those items were evaluated by six field experts and finalized afterward. The study was conducted in two stages. In the first stage, data were collected from 249 people and exploratory factor analysis was performed to reveal the scale's construct validity. Exploratory factor analysis results showed that the Repair Attempts Scale had a two-dimensional structure consisting of eight items. The factors were Cognitive Repair Attempts and Affective Repair Attempts. In the second stage, data were collected from 259 participants, and confirmatory factor analysis was performed based on the structure that emerged from EFA. Cronbach's alpha internal consistency coefficient and test-retest reliability were examined for the scale's reliability. Item analyses were evaluated by item-total score correlation coefficients, item average scores of the lower 27% and upper 27% groups were compared. Criterion-related validity was tested by examining the Pearson product-moment correlation coefficient of the relationship between the developed scale with the Responses to Dissatisfaction in Close Relationships – Accommodation Instrument and the Conflict Resolution Styles Scale in Romantic Relationships. The results showed that the Repair Attempts Scale is a valid and reliable measurement tool.

Key words: Conflict resolution, Repair attempts, Scale development, Validity and reliability.

Introduction

Interpersonal conflict refers to a dynamic process consisting of perceived disagreements between interdependent parties and their responses to negative emotions and thoughts of interference in achieving their goals. The basic elements in this process are disagreement, negative emotion, and interference (Barki & Hartwick, 2004). Conflict is inevitable in the relationship resulting from perceived differences, inconsistencies, incompatible values, interests, beliefs, and decisions between partners (McNulty & Russell, 2010). The couples' responses during the conflict, the quality of their communication, the emotions reflected, and how conflicts are handled and managed are all parts of the conflict process (Saibo, 2016). Couples use constructive and destructive strategies to resolve conflict. These strategies are behaviors displayed in response to a specific problem or theme that causes conflict between couples. Constructive strategies include attempts at humor, self-control, flexibility, sensitivity, tolerance, empathy, and compromise. Destructive strategies include behaviors such as assault, threat, coercion, retaliation, complaint, excessive rationalization, rigidity, withdrawal, dominance, or submission (Batista da Costa & Mossman, 2021).

In the literature, various approaches classify conflict resolution styles among individuals. The first styles are avoiding, accommodating, competing, collaborating, and compromising, which are classified to see the different dimensions of interpersonal conflict behaviors (Kilmann & Thomas, 1977). Avoiding is not talking about the conflict exhibited by physical disappearance, avoiding talking, and remaining silent. The purpose of accommodating is to maintain the relationship. Since the individuals cares about the other individuals, they suppress the conflict issue and take care to stay in harmony. Competing involves the individual's attempt to impose their own decisions and thoughts on the other party through dominant behaviors and attitudes. In the collaborating style, problems are solved to achieve the optimal outcome for everyone. Both parties get what they want, and negative emotions are minimized. Finally, in the compromising style, both parties compromise their wishes. In this approach, where there are no total winners, there are no total losers either. According to another classification, couples resort to four approaches to end the conflict: submission, compromise, stand-off, and

Corresponding Author: *Pınar Özdemir, haticepinarozdemir@gmail.com*

withdrawal (Vuchinich, 1990, cited in Arcidiacono & Pontecorvo, 2009; Canel, 2007; Okurcan, 2018). With individuals who use the submission approach, there is acceptance and giving up their wishes. The individual usually evaluates the situation from the other individual's point of view and resolves the conflict by submitting it to them. In the compromise style, couples find a common compromise regarding the problem they are in conflict with, and in order for this compromise to occur, both parties must make some sacrifices. In the stand-off approach, partners relinquish the conflict without eliminating the problem. The problem is not talked about, not solved, and there is no winner or loser. Finally, in the withdrawal approach, one of the partners displays withdrawal behavior and refuses to communicate. In another study, couples' interactions were observed, and their positive and negative interactions were classified. While constructive problem-solving and accommodating behaviors were classified as positive interaction types, defensiveness, stubbornness, criticism, and withdrawal from interaction (avoidance) were evaluated as negative interactions (Gottman & Krokoff, 1989). In a study based on Gottman and Krokoff's classification, the responses of spouses during conflict were classified under four categories: positive problem-solving (finding a satisfactory solution for both parties), compliance (reluctance to defend one's wishes), withdrawal (reluctance to talk about the conflicting issue), and conflict engagement (physical or verbal assault) (Kurdek, 1994).

Gottman, on the other hand, attaches importance to conflict management rather than conflict resolution. According to Gottman, since conflict is inevitable and natural, it is not possible to eliminate it. However, it can be managed (Gottman & Gottman, 2017). Relationships grow in the process of resolving conflicts and contribute to the relationship when the conflict is managed functionally (Gottman, 1995). Conflict helps couples better understand each other's emotional worlds and cope with change. Gottman (1995) argued that couples approach conflict in different ways. However, individuals in successful marriages use three types of problem-solving models in their conflicts: validating, conflict-avoidant and volatile approaches. According to the validating approach, couples generally resolve conflicts by meeting on common ground. Thanks to mutual respect and empathy, both parties remain calm. In the conflict-avoidant approach, couples are aware that they are different from each other and accept this. Therefore, they prefer to resolve conflicts over time with their avoidant and distant attitudes. In the volatile approach, couples express their positive and negative emotions to each other very clearly. They try to resolve conflicts with positive interactions such as touching, smiling, complimenting, etc.

Gottman first used the concept of *repair attempts* in conflict resolution in the Gottman Sound Relationship House theory and evaluated it as a factor affecting the relationship. According to Gottman's sound relationship house theory, a happy relationship has several components. The first of these components is to build “love maps”. Love maps are road maps that partners draw about each other's inner worlds. Building love maps reveals the feeling of interest between partners and makes them feel that they are known and will continue to be recognized by their partner. After the love maps component comes the “fondness and admiration” component. It is possible for partners to include this component in their relationship by communicating their love and respect for each other and appreciating each other. The third component is “turn towards instead of away”. Rather than turning away or turning against each other, partners turn towards each other. It is ensured by expressing wishes and needs verbally and non-verbally. To secure turn towards instead of away, couples display behaviors such as humor, showing love and attention, sexual contact and warmth, empathy, help or asking for help (Gottman et al., 1998; Gottman & Gottman, 2008). Gottman argues that when these first three components are ensured, the foundation for the friendship relationship in marriage is laid, and how the first three components are used forms the basis of the repair attempts that couples will use. Because an effective repair attempt is not only about how one of the partners does it, but also about what they have in terms of emotional context as a couple (Gottman & Gottman, 2017). A repair attempt is any action taken by one partner to reduce conflict or negative affect and repair the interaction. Anything that interrupts and reduces the negativity associated with conflict is considered as a successful repair attempt (Gottman, 1999). Gottman defined the couples' repair mechanism as the glue that helps the marriage survive in tense times and stated that happy couples intensively use repair attempts to manage conflict (Gottman, 1995).

Gottman et al. (1998) conducted an experimental study between 1989 and 1992 with 130 participants who had been married for at least six months and had no children. The researchers observed that the emotional closeness established by couples through repair attempts transformed destructive conflict management styles into constructive conflict management styles. As a result of this study, repair attempts were coded by Tabares and Driver. These codes are agreement, affection, compromise, defining the conflict, guarding, humor, monitoring discussion, repair questions, softening, request for direction, taking responsibility, self-disclosure, topic change, understanding, and giving the we are okay message. Some of these repair attempts are called affective repair since they involve partners understanding and accepting each other's emotions and revealing their own emotions, whereas some are called cognitive repair since they involve conflict management within a logical framework (Gottman & Silver, 2013; Gottman et al., 2015). According to this study, the affective closeness that couples establish through repair mechanisms keeps them away from using destructive conflict

style and encourages them to use constructive conflict style. It also helps couples move from attack-defense mode to compromise and collaboration mode. Two different qualitative studies indicate that one of the components of a happy relationship is not to be cross with the partner. The researchers observed that in the face of the partner who is cross, the other partner engaging in intimacy and repair efforts such as trying to communicate, showing compensatory behaviors for hurtful behavior, apologizing for his/her part, talking, making the other laugh, inviting the other to dinner and solving the problem positively affects the relationship (Durmuş & Demir, 2015; Özdemir-Kemahlı, 2019). In her study on happy couples, Özdemir-Kemahlı (2019) made many references to repair attempts as one of their strengths. In the study, some participants said, "She invites me to dinner, tries to talk, tries to make me laugh, tries to get on with me (Male Turquois, 31-33)." and "She hugs, kisses, we make up and it just goes away (Male Red, 47-48)." Özdemir-Kemahlı (2019) explained that statements such as these are important indicators of repair attempts.

The examination of the related literature showed that the scales developed for conflict in romantic relationships have been scales only about conflict resolution approaches and there have not been any scales measuring repair attempts (Can et al., 2022; Özen et al., 2016; Parsons et al., 2020; Taluy et al., 2018; Zacchilli, 2009). For this reason, it is believed that the scale to be developed on this subject will contribute to the literature.

Method

Participants

The study group consisted of a total of 508 participants, 359 of whom were female (70.7%) and 149 of whom were male (29.3%). Out of the 508 participants, 238 (46.8%) of them were dating, 27 (5.3%) were engaged, and 243 (47.9%) were married. Hundred and twenty-four (24.4%) participants were in a relationship for less than one year, 206 (40.6%) between 1-5 years, 73 (14.4%) between 6-10 years, 42 (8.3%) between 11-15 years, and 63 (12.3%) were in a relationship for 6 years or more. Fourteen (2.8%) of the participants were elementary school graduates, 15 (3%) were middle school graduates, and 148 (29.1%) were high school graduates. Twenty-eight 28 (5.5%) participants had associate degrees, 262 (51%) had bachelor's degrees, and 41 (8.1%) had master's degrees.

Data Collection Tools

Demographic Information Form. Developed by the researchers, the Demographic Information Form includes questions about participants' demographic characteristics such as age, sex, education level, as well as the status of their romantic relationships and the duration of their romantic relationship.

Repair Attempts Scale. The scale developed by researchers to measure partners' repair attempts after conflicts that occur in romantic relationships. In the present study, findings regarding the validity and reliability results of the scale are presented. The 5-point Likert scale has eight items and two factors. The psychometric properties of the scale show that 1st, 2nd, 3rd, and 4th items are grouped under the *Cognitive Repairs* sub-factor and 5th, 6th, 7th ,and 8th items are under the *Affective Repairs* sub-factor. The scale is scored by calculating the total score, not by calculating both sub-dimensions separately. An increase in the scale score indicates repair attempts being used. The results regarding the construct validity, reliability, criterion validity, and item analysis of the scale are presented in the Findings section.

Conflict Resolution Styles Scale in Romantic Relationships (CRSSRR). Developed by Özen et al. (2016), the CRSSRR is a measurement tool that measures couples' conflict resolution styles. According to the results of the exploratory factor analysis, the 25-item scale has a four-factor structure, namely Negative Conflict Resolution Styles, Positive Conflict Resolution Styles, Retreat, and Subordination. Cronbach's alpha coefficients for the sub-dimensions were .80 for the Positive Conflict Resolution Styles, .82 for the Negative Conflict Resolution Styles, .74 for the Retreat, and .73 for the Subordination. Item-total correlations ranged from .47 to .67 for Positive Conflict Resolution Styles, .37 to .68 for Negative Conflict Resolution Styles, .39 to .59 for Retreat, and .38 and .57 for Subordination sub-dimensions. In the development study of the Repair Attempts Scale, the *Positive Conflict Resolution Styles* subscale of the CRSSRR was used to determine criterion validity. In this study, the Cronbach's alpha internal consistency coefficient of this subscale was found as .70.

Responses to Dissatisfaction in Close Relationships- Accommodation Instrument (RDCR). Examining the mutual effects of the responses of couples experiencing problems against the difficulties they experienced, the RDCR was developed by Rusbult et al. (1991). The RDCR was adapted into Turkish for the first time by Çırakoğlu (2006) using only the "individual" dimension and was named My Reactions to Relationship Problems. In the test study of the My Reactions to Relationship Problems, Cronbach's alpha internal consistency coefficients were .73 for the Voice, .59 for the Loyalty, .69 for the Exit., and .57 for the Neglect sub-dimensions. Factor analysis was carried out by Taluy (2018) to test the construct validity of the RDCR, and as a

result of this analysis, a four-factor structure was obtained that was suitable for the original scale in terms of both the individual's reactions and the perceived reactions of the partner. The factors of this 16-item scale were grouped under Exit, Voice, Loyalty, and Neglect. Cronbach's alpha internal consistency coefficients of the factors varied between .53 and .80 for the individual's response, and between .54 and .85 for the individual's perceived response in their partner. In the development study of the Repair Attempts Scale, the *Voice* subscale of this scale was used to determine criterion validity. In this study, the Cronbach's alpha internal consistency coefficient of this subscale was found as .77.

Scale Development Process

In the first stage of the scale development study, a literature review was conducted on the concept of repair attempts and previous studies on the subject were reviewed. Then, semi-structured interviews were conducted with eight randomly selected individuals in romantic relationships. Each individual was asked how they managed the conflict with their partner and how they approached each other. An item pool of 22 items was formed in line with the literature and answers received from the semi-structured interviews. The items developed were shared with six experts in the field and evaluated in terms of content validity. One of the six experts was an expert both in the field of psychological counselling and in the field of measurement and evaluation. Following expert opinions, the items were reviewed and suggested changes and corrections were made. The CVI value calculated on the remaining items was found to be above the minimum criterion value of .99 (Veneziano & Hooper, 1997) for 6 experts. It was decided to proceed to the next stages with a total of 16 items. Interviews were held with individuals to test whether the items that were reviewed after the changes would be correctly understood by those who read and answered the scale. Respondents to the scale were asked "What did you understand from this item?" and “What did you think when answering this item?” By asking questions like these, the face validity of the items was determined and the scale was finalized.

Data Collection Process

Permission to use the measurement tools used in the research was requested from the researchers. Then, permission was obtained from Düzce University Scientific Research and Publication Ethics Committee for the ethical compliance of the research (2023/262, dated 31.08.2023). The data were collected via a link in an online platform. The scales prepared on the online platform were delivered to married, engaged and dating individuals via e-mail and online messaging. Before the participants started answering the questionnaire, the purpose, importance, and scope of the research were explained. In addition, the participants were asked a yes/no question whether they volunteered to participate in the research, and confidentiality was emphasized.

Data Analysis

After the scale was first administered online to a total of 260 people, the data was analyzed using the SPSS package program. Before analyzing the collected data, kurtosis and skewness values were tested to examine the normality of the data distribution. After the outliers were removed from the data set, the kurtosis values of the 249 data varied between -.78 and .15, and the skewness values varied between .51 and .30. Additionally, the Z value was examined for normality and the value was between +3 and -3. In normality assumptions, kurtosis and skewness values can be between -2 and +2, and Z value can be between +3 and -3 (Tabachnick & Fidell, 2019). Therefore, according to the analysis results, the data was accepted as normally distributed. According to Tabachnick and Fidell (2019), the sample size is sufficient if the number is five times the total number of items. Thus, the sample size is sufficient to perform the analysis.

Exploratory factor analysis (EFA) was performed on this data set to determine the factor structure of the scale. Kaiser-Meyer-Olkin (KMO) sampling suitability criterion was used to evaluate the suitability of 249 data for EFA. As a result of the analysis, the KMO coefficient was found to be .80. Since the KMO value was above 0.6, the data set was deemed suitable for EFA (Büyüköztürk, 2021). Bartlett’s Test of Sphericity was performed and the value was found to be 399.169 ($p<.01$). After EFA, the scale took its final form with eight items.

In the second stage, the finalized 8- item scale was administered online to 270 people in order to conduct a confirmatory factor analysis (CFA). CFA assumptions were examined for the collected data. Eleven outliers were removed from the study at this stage and CFA was performed on the remaining 259 data. It was observed that the kurtosis and skewness values of the data were .82 and -.50. It was known that kurtosis and skewness values could be between -2 and +2 in normality assumptions (Tabachnick & Fidell, 2019). Therefore, according to the results of the analysis, it was accepted that the data were normally distributed and provided the CFA assumptions (Harrigton, 2009).

The sample size of 259 was sufficient for the analyses. In the reliability analysis of the scale, Cronbach's alpha internal consistency coefficient was examined. In item analysis, item mean scores of the lower

27% and upper 27% groups were compared using item-total score correlation coefficients and independent groups t-test. For criterion validity, the Repair Attempts Scale, whose validity and reliability were tested in the present study, criterion-related validity was tested by calculating the Pearson's product-moment correlation coefficient of the relationships between the RDCR and the CRSSRR.

Ethics Approval

In this article, journal writing rules, publication principles, research and publication ethics rules, journal ethics rules were followed. The author is responsible for any violations that may arise in relation to the article." Ethical approval was obtained from the Duzce University Scientific Research and Publication Ethics Committee with the decision number 2023/262, dated 31.08.2023.

Result

Findings Regarding EFA

Before performing EFA, whether the necessary prerequisites were met was examined. In this direction, inter-item correlation values were examined to determine whether the data is suitable for factor analysis. There were significant relationships between the items. Another prerequisite examined was KMO and Bartlett's Test of Sphericity results. Büyüköztürk (2021) states that in order to perform EFA, KMO must be higher than .60 and Bartlett's Test of Sphericity must be significant. In the present study, the KMO sample size coefficient was found to be .80 and the Bartlett's Test of Sphericity value was 399,169 ($p<.01$). In addition, missing values, outliers, normality of distribution and multicollinearity were examined. The data met the multiple normality assumptions and there was no multicollinearity problem. The direct oblimin rotation technique and maximum likelihood method were used to examine the factor structure of the scale. Oblimin rotation is used when a theoretical correlation between factors is assumed (Costello & Osborne, 2005). The most common estimation method in SEM was the maximum likelihood (ML) method, as it was selected by default in many software packages. This method can make consistent and unbiased predictions on well-defined models, large sample sizes, normally distributed independent, continuous and multivariate data sets (Kline, 2023).

First, the eigenvalues were examined to determine the number of factors, and two factors with eigenvalues greater than one were identified. At the same time, the examination of the scree plot in Figure 1 showed that the cut-off point for the number of factors was two. In terms of the eigenvalues of the factors, the eigenvalue of the first factor was 2.9 and the eigenvalue of the second factor was 1.2. In terms of the contribution of the factors to the variance, the contribution of the first factor was 37.44%, the second factor was 15.9%, and the factors together explained 53.34% of the variance. In multi-factor measurement tools, it is sufficient for the variance explained to be between 40% and 60% (Tavşancıl, 2019). It can be said that the factors of the scale developed in the present study explained the variance at a sufficient level. The literature state that the item is acceptable to the scale if the factor load values are .32 and above. In addition, the value of an item on the factor it loads must be at least .10 more than the values it loads on other factors. Otherwise, since the relevant item loads on more than one factor, it is considered an overlapping item and recommended to be removed (Büyüköztürk, 2021; Tabachnick & Fidell, 2019). In this regard, care was taken to ensure that the items in the sub-factors had a loading value of .32 and above and that there were no overlapping items. For this reason, the number of 22 items was reduced to 16 depending on the lawshe analysis and 8 depending on the factor analysis. The factors and load values of the scale are presented in Table 1.

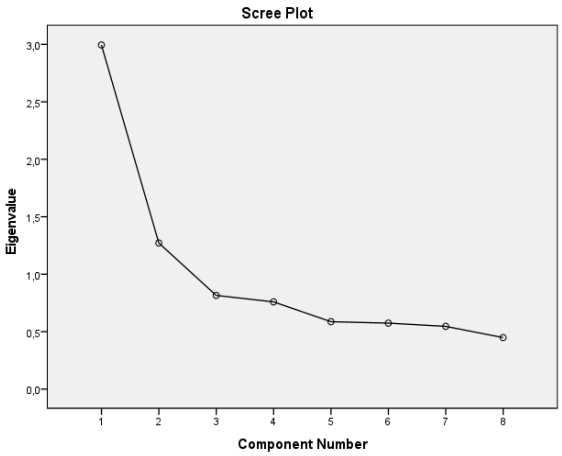

Figure 1. Scree plot graph for the Repair Attempts Scale

As seen in Figure 1, the cut-off point for the number of factors is two. In terms of the eigenvalues of the factors, the eigenvalue of the first factor is 2.9 and the eigenvalue of the second factor is 1.2.

Table 1. EFA results of the Repair Attempts Scale

Item No	Factor 1	Factor 2
I1		.69
I2		.53
I3		.59
I4		.54
I5	.60	
I6	.63	
I7	.72	
I8	.51	

As seen in Table 1, the EFA results revealed a scale consisting of eight items and two sub-dimensions. Factor 1 shows the Affective Repairs (four items) dimension, and factor 2 shows the Cognitive Repairs (four items) dimension.

Table 2. Findings of the Pearson's product-moment correlation analysis performed to determine the relationships between factors

	Affective Repairs	Cognitive Repairs
Affective Repairs	1	.53
Cognitive Repairs	.53	1

As seen in Table 2, there is a moderate positive relationship (r=.36) between the factors. A value above .30 indicate a significant relationship (Köklü et al., 2023). This finding shows that the relationship between the factors is moderate. In this scale, the two sub-dimensions will not be evaluated separately and the total score of the scale will be calculated.

Findings Regarding the CFA

In order to test the factor structure of the structure obtained as a result of the EFA, CFA was performed using the MPLUS program. In order to evaluate the validity of the model in CFA, model fit indices must meet the necessary criteria (Çokluk et al., 2021; Hu & Bentler, 1999). The findings regarding the fit indices of the model examined for the CFA conducted in this study are presented in Table 3.

Table 3. Excellent and acceptable values for the examined fit indices

Examined Fit Indices	Excellent Fit	Acceptable	Obtained Fit	Result
x^2/sd	$0 \leq x^2/sd \leq 2$	$x^2/sd \leq$ 4-5	1.89	Excellent Fit
CFI	*CFI* ≥ .95	*CFI* ≥ .90	.95	Excellent Fit
TLI	*TLI* ≥ .95	*TLI* ≥ .90	.93	Acceptable Fit
SRMR	SRMR ≤ .06	SRMR ≤ .09	.04	Acceptable Fit
RMSEA	.00≤ RMSEA ≤.05	.00≤ RMSEA ≤.08	.06	Acceptable Fit

The examination of the fit values of the model shown in Table 3 showed that the ratio of the chi-square value to the degrees of freedom (*Chi-square* = 36.956/*sd*=19) was 1.89. Achi-square/degrees of freedom ratio between 0 and 2 indicates excellent fit (Meydan & Şeşen, 2015). When other fit indices are examined, while CFI=.95, SRMR=.04 indicates excellent fit, TLI=.93, RMSEA=.06 indicates acceptable fit (Hooper et al., 2008; Kline, 2023). CFA results revealed that the model fits well and has high construct validity. As a result of these findings, it can be said that the 2-factor structure of the 8- item Repair Attempts Scale is confirmed.

Figure 2 presents the standardized parameter estimates for the factors and items of the scale. The CFA results in Figure 2 shows that the item factor loadings for the Affective Repairs sub-factor are between .45 and .69, and between .56 and .81 for the Cognitive Repairs sub-factor. In terms of the t values for item factor loadings, all t values were significant.

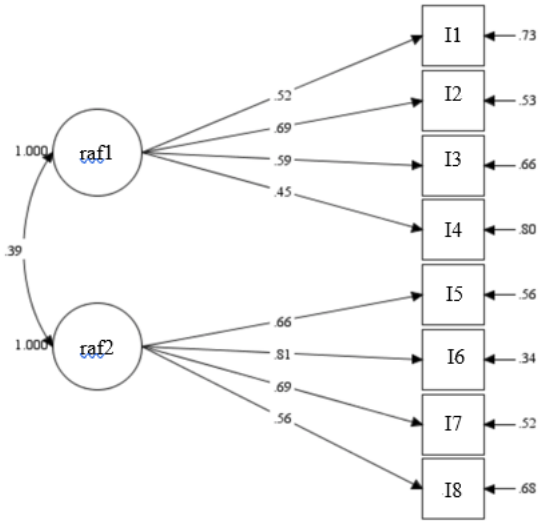

Figure 2. Path diagram and factor loadings for the Repair Attempts Scale

Similar Scale Validity

In order to determine the criterion-related validity of the Repair Attempts Scale, the relationship between the Voice sub-dimension of the RDCR and the Positive Conflict Resolution sub-dimension of the CRSSRR was examined. The values were between .52 and .60. This finding can be considered as evidence for the criterion-related validity of the Repair Attempts Scale. The correlation values for the relationship between the scales is presented in Table 4.

Table 4. Correlation results between the Repair Attempts Scale and the Voice subscale of the RDCR and the Positive Conflict Resolution subscale of the CRSSRR

	Voice	Positive Conflict Resolution
Repair Attempts	.52**	.60**

**p< .01

In terms of the relationships between the Repair Attempts Scale and the relevant sub-dimensions of the other scales presented in Table 4, there is a moderately positive significant relationship with the Voice sub-dimension (r=.52, *p*<.01) and a moderately positive significant relationship with the Positive Conflict Resolution sub-dimension (r=.60, *p*<.01).

Findings Regarding the Reliability of the Repair Attempts Scale

Cronbach's alpha coefficient findings were examined to determine the reliability of measurement tools, which is expressed as the ability to provide reliable and consistent results. In order for the measurement tool to be considered reliable, the Cronbach's alpha coefficient is expected to be .70 and above (Creswell, 2005).

Table 5. Cronbach's alpha internal consistency coefficients of the scale

	Cronbach's Alfa	Item Number
Repair Attempts	.75	8

As seen in Table 5, the internal consistency coefficient for the Repair Attempts Scale, which was evaluated on a single total score, was determined to be .75. Therefore, the scale reliability was met. In addition, since the test-retest reliability coefficient obtained as a result of administering the scale to the same individuals twice with an interval of four weeks was found to be .76. In order to test the split-half reliability, the scale was divided into two forms as odd-numbered items and even-numbered items, and the relationship between these two forms was analysed. The Spearman Brown coefficient between the two forms was .78, the analyzes regarding the reliability of the scale were accepted sufficient and the fact that the scale meets the reliability conditions was accepted.

Examination of Item-Total Correlations

In order to test the suitability of the items for the purpose, Pearson's product-moment correlation coefficients of the relationships between the score from each item and the total score from the scale were examined. Based on Tavşancıl (2019) as a reference, according to the item-total correlation values, those less than .20 were regarded

as items that should be removed from the scale, those between .20 and .30 were regarded as items that need to be corrected, those between .30 and .40 were regarded as good, and those above .40 were regarded as very good. are considered to be very good substances. The findings of this study are presented in Table 6.

Table 6. Item-total correlation results

Item No	Item-Total Correlation Coefficients
I1	.60**
I2	.65**
I3	.56**
I4	.60**
I5	.65**
I6	.60**
I7	.65**
I8	.52**

**p< .001

As seen in Table 6, the item-total correlation of the items was between .52 and .65. Item-total correlations show that the items in the scale measure similar behaviors. Büyüköztürk (2021) stated that item-total correlation coefficients being .30 and above is a proof of the scale items exemplifying similar behaviors and scale's internal consistency being high.

Examination of the t Values Regarding the 27% Lower-Upper Group Difference

In order to determine the discrimination power of the items, the 27% upper group with the highest score from the item total scores and the 27% lower group with the lowest score were compared using independent sample t-test. According to Büyüköztürk (2021), a significant difference in the results shows the distinctiveness of the items. By including the 62 people with the highest scores (27%) in the upper group, and the 62 people with the lowest scores (27%) in the lower group, t values regarding the item total scores of the lower and upper groups were determined. The findings are presented in Table 7.

Table 7. t Values regarding the 27% lower-upper group difference

F1 (Affective Repairs)			**F2 (Cognitive Repairs)**		
Item No	***t***	***p***	**Item No**	***t***	***p***
5	6.97	.00	1	8.6	.00
6	8.94	.00	2	8.48	.00
7	8.65	.00	3	10.3	.00
8	6.84	.00	4	7.77	.00

As seen in Table 7, the t test values for the differences between the item scores of the 27% upper and lower groups varied between 6.84 and 10.3. The difference between the lower and upper group means of the items was statistically significant (p <.01).

Conclusion and Discussion

In the literature, there are many different conflict resolution approaches (Kilmann & Thomas, 1977; Gottman & Krokoff, 1989; Vuchinich, 1990; Kurdek, 1994;). Gottman (1995) emphasizes that managing conflict rather than resolving it is a more accurate term because conflict cannot be eliminated due to its natural and inevitable nature. According to Gottman (1999) and Gottman and Silver (2013), individuals in a romantic relationship take an action against their partner in order to reduce the tension that occurs during and after the conflict. This action is called a repair attempt. While the purpose of this action is sometimes an effort of intimacy and an emotional step just to break the ice, sometimes it is an effort to find a solution and a cognitive step to solve the problem. Gottman et al. (2015) coded repair attempts as affective and cognitive repair attempts.

In the present study, the literature on repair attempts was taken into consideration during the formation of the item pool and statements expressing attitudes and behaviors such as affection, compromise, defining the conflict, guarding, humor, monitoring discussion, repair question, softening, request for direction, taking responsibility, self-disclosure, topic change, understanding, giving the message of we're okay were added. In

addition, in the interviews conducted with the couples for the question pool, their expressions along with these qualities were gathered around two main features.

Two features stood out in the participants' statements: building intimacy and trying to move towards a solution. As a result of EFA and CFA, these two features presented themselves statistically and were grouped around two factors. Researchers first named the factors as building intimacy and seeking solution. However, since the research revealed that the concepts of *Cognitive Repairs* and *Affective Repairs* in the literature cover a similar content, it was decided that it would be more appropriate to name the sub-dimensions of the scale in parallel with the literature. Accordingly, the scale consists of two subscales, Cognitive Repair and Affective, which are evaluated over the total score. The researchers considered that repair attempt consists of a combination of *attempts at emotional closeness* and *turning to solution*, when these two together, they decided that they completely covered the repair attempt. For this reason, it was suggested that the repair attempt scale should be evaluated over the total score.

The KMO value calculated in this study, which aimed to examine and develop the psychometric properties of the Repair Attempts Scale, the chi-square value of the Bartlett's test and the result that the correlation or covariance matrix is different from the identity matrix, showed that the data set was suitable for factor analysis (Büyüköztürk, 2021; Çokluk et al., 2021). The findings revealed that the data set had a sufficient sample size to perform factor analysis and had an appropriate data distribution. In order to test the construct validity, first, EFA was performed and then CFA was employed according to the findings. According to the analyzed findings, the scale showed a two-factor structure. This two-factor structure explained 53.34% of the variance. This rate indicates a sufficient variance explanation rate in social sciences (Kline, 2023).

In the CFA performed to test the two-dimensional structure obtained as a result of the EFA, different fit indices were evaluated to test the fit adequacy. The examination of the fit values of the model showed that the ratio of the chi-square value to the degrees of freedom (Chi-square = 36.956/*sd*=19) was 1.89. A $\chi 2$/sd value between 0 and 2 means there is perfect fit (Meydan & Şeşen, 2015). When other fit indices are examined, while CFI=.95, SRMR=.04 indicates perfect fit, TLI=.93, RMSEA=.06 appears to indicate acceptable fit (Hooper et al., 2008; Kline, 2023). CFA results show that the model has good fit and high construct validity. Based on these findings, the 2-factor structure of the 8- item Repair Attempts Scale was confirmed.

The fact that the Cronbach's alpha coefficients were above .70, which indicates the ability of the measurement tools to provide reliable and consistent results, showed that the Repair Attempts Scale was highly reliable. In the findings, item-total correlation coefficients of .30 and above showed that the internal consistency of the scale was high. Since the difference between the means of the 27% lower and 27% upper groups of the score distribution of the scale was statistically significant ($p<.01$), it was accepted that the items were distinctive. The correlation values indicating the criterion-related validity of the scale were found to be between .52 and .60. Test-retest method result was .76. This finding can be considered as evidence for the criterion-related validity of the Repair Attempts Scale (Büyüköztürk, 2021; Creswell, 2005).

The findings put forth that the Repair Attempts Scale was sufficient to be used in determining the repair attempts made by partners after conflicts in romantic relationships. When the psychometric properties of the scale are examined, it can be accepted that the Repair Attempts Scale is a valid and reliable measurement tool.

Recommendations

The fact that 70.7% of the study group consists of female participants is regarded as a limitation of this study. For this reason, in different studies to be conducted with the scale, it may be recommended to include more male participants. It is believed that researchers' study of variables such as psychological resilience of partners, attachment styles, personality traits, which may be related to repair attempts, and with sample groups with different demographic characteristics may be useful in revealing the multidimensional effect of repair attempts on romantic relationships. Researchers can contribute to the related literature by conducting different studies on repair attempts.

Author(s) Contribution Rate: Authors's contribution to this article is 50%, 50%.

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