

## Relational Needs Satisfaction Scale: reliability and validity study in Turkish\*

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### ABSTRACT

**Objective:** The aim of this study was to evaluate the reliability and validity of the Relational Needs Satisfaction Scale (RNSS) in Turkish, an inventory that was developed based on Erskine's Relational Needs Model. **Methods:** The study was conducted on a sample of 561 people, which consisted of students from faculties of Medicine, Engineering, Law, Fine Arts, Health Sciences and Sports Sciences as well as employees from Faculty of Medicine in Kocaeli University. Reliability and validity analyses were conducted after analysis of the linguistic equivalence of the scale. The construct validity of the scale was investigated using confirmatory factor analysis (CFA). Experiences in Close Relationships-Revised (ECR-R), Scale of Dimensions of Interpersonal Relationships (SDIR) and Self-Compassion Scale (SCS) were utilized to test convergent validity. To evaluate the reliability of the scale, test-retest correlation, Cronbach alfa and total item correlation were calculated. **Findings:** The five-factor structure and the hierarchical model was confirmed via CFA. Levels of fit indices were sufficient and acceptable for both the five-factor model ( $\chi^2/df=2.03$ , RMSEA=0.048, CFI=0.928, TLI=0.914, IFI=0.921, AIC=464.211) and the hierarchical model (corrected) ( $\chi^2/df=2.05$ , RMSEA=0.048, CFI=0.924, TLI=0.912, IFI=0.925, AIC=468.610). Cronbach's alpha reliability score was found to be 0.83, indicating that the internal consistency of the scale was high. The Turkish version of the scale contains 20 items just like the original one. Comparison of RNSS with ECR-R, SDIR and SCS revealed that convergent validity was ensured. **Conclusion:** In light of the findings, the Turkish version of the RNSS was concluded to be a reliable and valid measurement tool and it is suggested that it can be utilized in future research. (*Anatolian Journal of Psychiatry* 2020; 21(Suppl.2):37-44)

**Keywords:** Relational Needs Satisfaction Scale, validity, reliability, relational needs, integrative psychotherapy

## İlişkisel İhtiyaçlar Doyum Ölçeği: Türkçe geçerlilik ve güvenilirlik çalışması

### ÖZ

**Amaç:** Bu araştırma ile Erskine'nin İlişkisel İhtiyaçlar Modeli temelinde geliştirilen bir ölçme aracı olan İlişkisel İhtiyaçlar Doyum Ölçeğinin (İİDÖ) Türkçe geçerlilik ve güvenilirliğinin değerlendirilmesi amaçlanmıştır. **Yöntem:** Çalışma, Kocaeli Üniversitesi'nin Tıp, Mühendislik, Hukuk, Güzel Sanatlar, Sağlık Bilimleri ve Spor Bilimleri Fakültelerinde okumakta olan öğrenciler ile Tıp Fakültesi çalışanlarından oluşan toplam 561 kişi ile yürütülmüştür. Ölçeğin dilsel eşdeğerliliği incelendikten sonra geçerlilik ve güvenilirlik çalışması yapılmıştır. Doğrulayıcı faktör analizi (DFA)

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kullanılarak ölçeğin yapı geçerliliği incelenmiştir. Ölçüt geçerliliği için Yakın İlişkilerde Yaşantılar Envanteri-II (YİYE-II), Kişilerarası İlişki Boyutları Ölçeği (KİBÖ) ve Öz-Anlayış Ölçeği (ÖZANÖ) kullanılmıştır. Ölçeğin güvenilirliği için test-tekrar test, Cronbach alfa ve madde toplam korelasyon değerleri hesaplanmıştır. **Bulgular:** Ölçeğin beş faktörlü yapısı ve hiyerarşik model DFA ile doğrulanmıştır. Beş faktörlü modele ait uyum indekslerinin ( $\chi^2/df=2.03$ , RMSEA=0.048, CFI=0.928, TLI=0.914, IFI=0.921, AIC=464.211) ve hiyerarşik modele ait uyum indekslerinin (düzeltilmiş) ( $\chi^2/df=2.05$ , RMSEA=0.048, CFI=0.924, TLI=0.912, IFI=0.925, AIC=468.610) yeterli ve kabul edilebilir düzeyde oldukları belirlenmiştir. Cronbach alfa güvenilirlik katsayısı 0.83 olarak bulunmuş ve ölçeğin yüksek derecede iç tutarlılığa sahip olduğu belirlenmiştir. Ölçeğin 20 maddeli özgün yapısı Türkçede de korunmuştur. RNSS puanlarının ölçüt geçerliliği için kullanılan YİYE-II, KİBÖ, ÖZANÖ ile istatistiksel açıdan anlamlı ilişkilerinin olduğu saptanmıştır. **Sonuç:** Bu verilere göre, RNSS geçerli ve güvenilir bir ölçme aracıdır ve ilgili araştırmalarda kullanılması önerilmektedir. (*Anadolu Psikiyatri Derg* 2020; 21(Ek sayı.2):37-44)

**Anahtar sözcükler:** İlişkisel İhtiyaçlar Doyum Ölçeği, geçerlilik, güvenilirlik, ilişkisel ihtiyaçlar, integratif psikoterapi

### INTRODUCTION

Behind human behavior lies the need for connection. Human development is closely linked to the relationships with other people. Human need for relational connection and its importance are addressed in psychoanalytic approaches including object relations theory and self-psychology, attachment theory and transactional analysis.<sup>1-10</sup>

Lack or insufficiency of relational connection as well as lack of appropriate means to satisfy this need breed many negative biopsychosocial outcomes.<sup>11-16</sup> Babies cannot 'grow to be a human'<sup>17</sup> without relational connection.

We humans cannot surpass our need for connection. Our relational needs are valid in every stage of our lives, starting from the very early years of childhood up until old age. They remain to be a permanent component of the relationships of everyday life. Relational needs arise via interactions between people and they at the same time promote and foster these interactions.<sup>17</sup>

Relational needs do not come to the fore as a result of conscious awareness most of the time. They arise in times of inattentiveness and take on an intense and pressing tune, leading to feelings of loneliness, longing or emptiness. If the need is not satisfied, the person may feel frustrated or angry. In a similar vein, the person may lose energy and hope, which may reinforce scripts such as 'life has no meaning'. These beliefs, in turn, pave the way for formation of cognitive defenses that hinder spotting the source of the misery.<sup>17</sup> On the contrary, when the person's relational needs are satisfied, he/she feels being loved.

Erskine and his colleagues<sup>17</sup> defined eight relational needs: 1) the need for security, 2) the need to feel validated, affirmed, and significant within a relationship, 3) the need for acceptance by a

stable, dependable, and protective another person, 4) the need for the confirmation of personal experience, 5) the need for self-definition, 6) the need to have an impact on the other person, 7) the need to have the other initiative, 8) the need to express love.

The notion of relational needs developed by Erskine and his colleagues and Erskine's Relational Needs Model are among the main tenets of relational integrative psychotherapy approach. They have a solid ground in contemporary transactional analysis, as well.<sup>17-20</sup>

In the present study, the aim was to adapt to Turkish the first measurement instrument that was developed based on the notion of relational needs and Erskine's Relational Needs Model.

### METHODS

The first step was to get permission to adapt the Relational Needs Satisfaction Scale (RNSS)<sup>21</sup> to Turkish from the scholars who developed it. Following that, the study was approved by Noninvasive Clinical Studies Ethics Committee of Kocaeli University on October 17, 2018. The project no. was 2018/291 and the decision no. was 2018/16.9.

RNSS was translated to Turkish and the validity of the translation was assessed afterwards.<sup>22</sup> The translation was done by three scholars from different universities whose native language was Turkish and who were not familiar with RNSS before. The researcher compared the translations and then came up with a final draft upon discussing the differences with the translators and three other scholars. The back translation was conducted by an English teacher/translator whose native language was English and who was competent in Turkish, as well. The back translation was evaluated with the developers of RNSS, after which the Turkish version was finalized. A pilot study was conducted on a

sample of 30 people who were either students or employees of Kocaeli University, to ensure that the final version was easily understood in the Turkish language.

### Participants

The study was conducted on a sample of 561 participants, which consisted of students from faculties of Medicine, Engineering, Law, Fine Arts, Health Sciences and Sports Sciences as well as employees from Faculty of Medicine in Kocaeli University. Data was collected based on informed consent.

### Data collection tools

Relational Needs Satisfaction Scale (RNSS) was developed by Žvelc et al.<sup>21</sup> Developed in Slovenia, RNSS happens to be the first measurement instrument that assesses relational needs as defined in Erskine's Relational Needs Model.<sup>17,19</sup>

The scale was developed using adult samples. In the first step, 269 items addressing relational needs were generated.<sup>21</sup> These items were evaluated by five psychotherapists who were experts on the topic. Item number was reduced to 110, with the scale encompassing eight dimensions that pertain to relational needs. Items were Likert-type, where answers ranged from 1 (strongly disagree) to 5 (strongly agree). Upon first administration of the scale, a principal component analysis was used, which revealed the existence of five relational dimensions. In the second administration, which was conducted on a different sample, items were further refined and reliability was tested. The last version of the scale consisted of 20 items with five dimensions. The dimensions were named as authenticity, support and protection, having an impact, shared experience and initiative from the other. Support and protection, having an impact, shared experience and initiative from the other correspond to the relational needs defined in Erskine's model<sup>17,19</sup> whereas authenticity is a new dimension found by the researchers. Authenticity encompasses *the needs for security, for validation, for self-definition, and to express love*,<sup>19</sup> which did not appear as separate dimensions in the analysis. It pertains to the acceptance of the uniqueness and individuality of the person in his/her relationships with others, as well as his/her feeling secure, respected and understood in relationships.<sup>21</sup>

In the third administration which was conducted to confirm the factorial structure of the scale, the five-factor model ( $\chi^2=241.55$ ,  $df=160$ ,  $\chi^2/df=1.51$ ,

CFI=0.97, NNFI=0.97, RMSEA {90% CI}=0.05 (0.05, 0.06), SRMR=0.04, AIC=2725.17) and the hierarchical model ( $\chi^2=250.56$ ,  $df=165$ ,  $\chi^2/df=1.58$ , CFI=0.97, NNFI=0.96, RMSEA {90% CI}=0.06 (0.05, 0.06), SRMR=0.05, AIC=2741.96) were confirmed.

For the scale as a whole, the internal consistency reliability score was found to be 0.90. Internal consistency reliability scores of the sub-dimensions ranged from 0.85 to 0.73. Sub-dimensions were found to be significantly related to one another. Convergent validity scores for the relational dimensions of the scale appeared to be statistically significant when analyses with relevant measurement instruments were conducted.

In conclusion, RNSS appears to be highly reliable and valid. This holds true when each sub-dimension is evaluated separately, as well.

Experiences in Close Relationships-Revised (ECR-R)<sup>23</sup> is a measurement tool that was adapted to Turkish by Selçuk et al.<sup>24</sup> It was developed to assess the dimensions in the attachment dynamics of adults. The scale has a two-factor structure, one factor assessing avoidance and the other assessing anxious behaviors. It contains 36 items, 18 in each factor. Participants are asked to evaluate their emotions and thoughts as to their romantic relationships on Likert-type questions, answers of which range from 1 (strongly disagree) to 7 (strongly agree). Internal consistency score is 0.90 for 'attachment related avoidance' and 0.86 for 'attachment related anxiety' subdimensions. Test-retest reliability score for 'attachment related avoidance' is 0.81 and it is 0.82 for 'attachment related anxiety'. In the present study, internal consistency score appears to be 0.87 for 'attachment related avoidance' and it is 0.85 for 'attachment related anxiety'.

Scale of Dimensions of Interpersonal Relationships (SDIR)<sup>25</sup> was developed to evaluate interpersonal relations of individuals based on their own perceptions. It is a measurement tool that predicts interpersonal relations and detects relational dimensions. It consists of 53 items that fall into the following subdimensions: approval dependence, empathy, trusting others and emotional awareness. Questions are Likert-type, 1 signifying 'completely describes' and 5 connoting 'does not describe at all'. Cronbach's alpha internal consistency scores of the sub-dimensions range from 0.78 to 0.85, whereas test-retest scores range between 0.62 and 0.96.

In the present study, internal consistency scores

range between 0.83 and 0.77.

Self-Compassion Scale (SCS)<sup>26</sup> was adapted to Turkish by Deniz et al.<sup>27</sup> As the name suggests, it was developed to assess self-compassion of individuals. Number of items in the scale is 24. Participants are asked to make their evaluations using a 5-point Likert-scale, 1 signifying 'almost never' and 5 connoting 'almost always'. Internal consistency of the scale is 0.89, whereas test-retest reliability is 0.83. In the present study, internal consistency of the scale is found to be 0.89.

#### Evaluation of data

Statistical analyses of the data were conducted using IBM SPSS 20.0 (IBM Corp., Armonk, NY, USA) and IBM SPSS AMOS 22.0.

**Validity:** Validity of the scale was examined via construct validity and convergent validity. For construct validity, confirmatory factor analysis was conducted.<sup>22</sup> To assess convergent validity ECR-R, SDIR and SCS were administered to the participants along with the RNSS and the correlations between the scale scores were examined.

**Reliability:** To assess the reliability of the scale; test-retest as utilized, internal consistency was examined using Cronbach Alfa score and total item correlation was calculated.<sup>22</sup>

## FINDINGS AND DISCUSSION

### Sociodemographic attributes

For confirmatory factor analysis 462 persons were reached. After evaluation of the data, partial or erroneous ones were eliminated and analyses were conducted on 451 persons, 267 (59.2%) of which were females and 184 (40.8%) were males. Participants aged between 19 and 60, with mean age 23.4±6.01. For convergent validity analyses 110 persons were reached. 57

(51.8%) of them were males and 53 (48.2%) were females. Participants aged between 19 and 46, with mean age 21.7±6.20. Test-retest procedure applied to check reliability (stability) was conducted on 58 participants.

### Construct validity

**Confirmatory factor analysis (CFA):** The scale, with its 20 items and five subdimensions, was put into first-order confirmatory factor analysis (five-factor model) to evaluate its structure. Results revealed that fit indices have acceptable values, indicating a good fit ( $\chi^2/df=2.03$ , RMSEA=0.048, CFI=0.928, TLI=0.914, IFI=0.921, AIC=464.211). In second-order CFA was run to see whether RNSS's five factors that were confirmed by first-order CFA represented the superordinate concept of 'relational needs'. In the first-order CFA there were five latent and 20 manifest variables. In the second-order CFA, the model was tested again after adding the latent variable 'relational needs'. The second-order confirmatory factor analysis, values of fit indices that pertain to the second-order model (hierarchical model) ( $\chi^2/df=2.23$ , RMSEA=0.052, CFI=0.911, TLI=0.897, IFI=0.912, AIC=498.131) came out to be sufficient and acceptable except TLI. In line with the modification indices suggested to improve the model, a modification was conducted between error variances of the subdimensions of 'authenticity' and 'initiative from the other'. After the correction, fit indices of the hierarchical model ( $\chi^2/df=2.05$ , RMSEA=0.048, CFI=0.924, TLI=0.912, IFI=0.925, AIC=468.610) appeared to have sufficient and acceptable values.<sup>28,29</sup>

Both first-order (five-factor) and second-order (corrected hierarchical) models displayed good fit. When the two models were compared based on AIC values,<sup>30</sup> five-factor model demonstrated a better fit as opposed to the hierarchical model (Table 1).

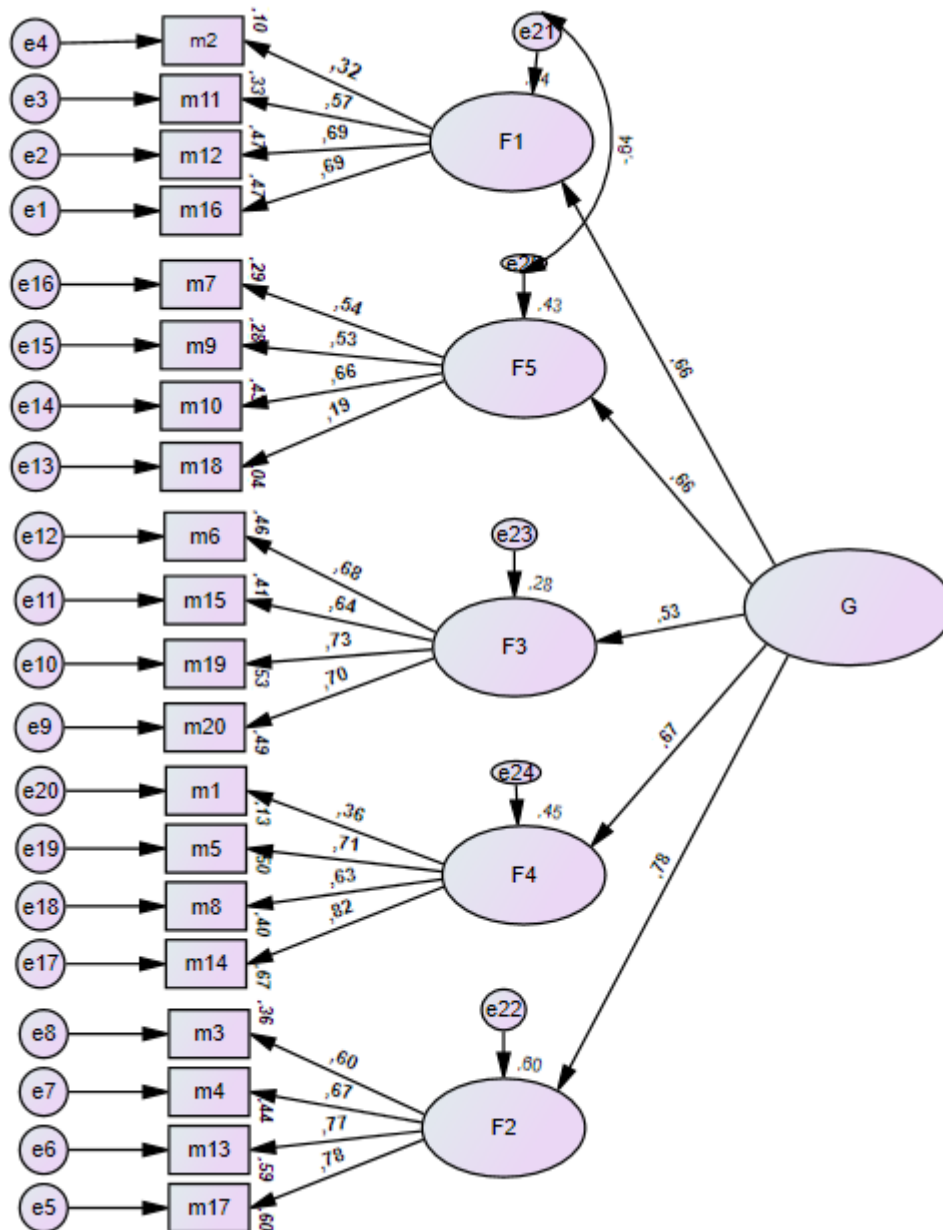
**Table 1.** Values as to the fitness of the model according to first-order and second-order CFA

Fit index	First-order	Second-order	Corrected second-order	Good fit	Acceptable
$\chi^2$	2.030	2.230	2.050	$0 \leq \chi^2/df \leq 2$	$2 \leq \chi^2/df \leq 5$
CFI	0.928	0.911	0.924	$0.95 \leq CFI \leq 1.00$	$0.90 \leq CFI \leq 0.95$
RMSEA	0.048	0.052	0.048	$0 \leq RMSEA \leq 0.05$	$0.05 \leq RMSEA \leq 0.08$
TLI	0.914	0.897	0.912	$0.95 \leq TLI \leq 1.00$	$0.90 \leq TLI \leq 0.95$
IFI	0.921	0.912	0.925	$0.95 \leq IFI \leq 1.00$	$0.90 \leq IFI \leq 0.95$
AIC	464.211	498.131	468.610		

A similar result was obtained in the original study whereby RNSS was developed. Yet it is suggested that the choice of use should be the hierarchical model due to its being more congruent with theory and its providing an explanation as to the covariance between first-order

factors.<sup>21</sup> Similar results were obtained in the Czech study, as well.<sup>31</sup>

The relationship between factors and items in the hierarchical (corrected) model is displayed in Figure 1.



**Figure 1.** Results of second-order confirmatory factor analysis  
 F1: Authenticity; F2: Support and protection; F3: Having an Impact;  
 F4: Shared experience; F5: Initiative from the other; G: Total

Table 2 shows the factor loadings between the first-order latent variables and the second-order latent variable, related significance values as

well as the proportion of variance for the second-order latent variable that's explained by the first-order latent variables.

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**Table 2.** Standardized factor loadings ( $\lambda$ ), significance and  $R^2$  values after the second-order confirmatory factor analysis for Relational Satisfaction Needs Scale

Second-order variable	First-order variables	$\lambda$ coefficient	p	$R^2$
Relational needs	Authenticity	0.661	<b>0.001</b>	0.437
	Support and protection	0.775	<b>0.001</b>	0.601
	Having an impact	0.526	<b>0.001</b>	0.277
	Shared experience	0.673	<b>0.001</b>	0.453
	Initiative from the other	0.658	<b>0.001</b>	0.432

All of the path coefficients between the second-order variable (i.e. relational needs) and the first-order variables (i.e. the subdimensions) are significant at 0.001. The strongest relation appears to be between factors 'relational needs' and 'support and protection'. When variances for the second-order latent variable that's explained by the first-order latent variables are examined, 'support and protection' ( $R^2=0.601$ ) is found to have the most explanatory power whereas 'having an impact' ( $R^2=0.277$ ) had the least. The total score of the scale and the scores of the subdimensions are related to one another. The scale has the power of assessing satisfaction level of relational needs.

In conclusion, by means of CFA, the five-factor and hierarchical models of the original scale were confirmed in the Turkish study, as well.

Five-factor model incorporates five different relational needs. Hierarchical model, resting on the theory of relational needs model, predicted that different relational needs represented by the subscales designate a general, broad relational needs dimension.<sup>21</sup>

**Convergent validity:** Results revealed several statistically significant correlations between the total score of RNSS and various subscales of SDIR. RNSS was negatively correlated with subscale 'approval dependence' ( $r=-0.14$ ,  $p<0.01$ ) and positively correlated with subscales 'empathy' ( $r=0.35$ ,  $p<0.01$ ), 'trusting others' ( $r=0.30$ ,  $p<0.01$ ) and 'emotional awareness' ( $r=0.19$ ,  $p<0.01$ ). RNSS and SCS scores were found to be positively correlated ( $r=0.22$ ,  $p<0.01$ ). On the other hand, correlations between RNSS and subscale 'attachment related anxiety' ( $r=-0.26$ ,

**Table 3.** Corrected item-test correlations and descriptive statistics of RNSS

Subscales	Item number	Min.-max.	Mean $\pm$ SD	CITC
Authenticity	2	1 - 5	3.41 $\pm$ 1.00	0.27
	11	1 - 5	3.57 $\pm$ 0.79	0.44
	12	1 - 5	4.21 $\pm$ 0.82	0.50
	16	1 - 5	3.86 $\pm$ 0.87	0.48
Support and protection	3	1 - 5	3.93 $\pm$ 1.09	0.54
	4	1 - 5	4.17 $\pm$ 0.86	0.57
	13	1 - 5	4.11 $\pm$ 0.97	0.64
	17	1 - 5	3.93 $\pm$ 0.99	0.67
Having an impact	6	1 - 5	3.69 $\pm$ 0.74	0.57
	15	1 - 5	3.45 $\pm$ 0.79	0.56
	19	1 - 5	3.47 $\pm$ 0.69	0.62
	20	1 - 5	3.54 $\pm$ 0.73	0.59
Shared experience	1	1 - 5	3.63 $\pm$ 0.70	0.33
	5	1 - 5	3.76 $\pm$ 0.89	0.61
	8	1 - 5	3.70 $\pm$ 0.91	0.52
	14	1 - 5	3.70 $\pm$ 0.91	0.63
Initiative from the other	7	1 - 5	3.10 $\pm$ 0.89	0.31
	9	1 - 5	3.05 $\pm$ 0.89	0.38
	10	1 - 5	3.14 $\pm$ 0.78	0.40
	18	1 - 5	3.63 $\pm$ 1.05	0.10

CITC: Corrected Item-Total Correlations; RNSS: Relational Satisfaction Needs Scale

$p < 0.01$ ) and subscale 'attachment related avoidance' ( $r = -0.32$ ,  $p < 0.01$ ) of ECR-R both came out to be negative. These findings are in line with previous findings.<sup>21</sup>

**Reliability:** Item analysis was conducted to designate the predictive power and distinctiveness of the total scores of the subscales (Table 3).

Correlations between items and subscales ranged between 0.27 and 0.67 except for the subscale 'initiative from the other'. Correlation is below 0.25 only for the 18<sup>th</sup> item in the subscale 'initiative from the other' (0.10). We decided to keep the item number 18 based on the factor loadings, significance values and  $R^2$  values that were standardized via second-order confirmatory factor analysis<sup>22</sup> (see Table 2). The 20 items and five subscales of the original study are valid for the Turkish version, without any loss.

According to the test-retest procedure that was conducted with a time window of 15 days, reliability (stability) of the scale was found to be 0.82. Reliability was calculated for each subdimension, as well. It turned out to be 0.75 for 'authenticity', 0.80 for 'support and protection', 0.75 for 'shared experience', 0.70 for 'having an impact' and 0.71 for 'initiative from the other'.

Internal consistency score of RNSS was found to be 0.83. It turned out to be 0.63 for 'authenticity', 0.79 for 'support and protection', 0.73 for

'shared experience', 0.78 for 'having an impact' and 0.51 for 'initiative from the other'.

In the literature, Cronbach's alpha is evaluated to designate high reliability when it is between 0.80 and 1.00. Values between 0.60 and 0.79 imply considerable reliability; values between 0.40 and 0.59 imply low reliability and values between 0.00 and 0.39 imply unreliability.<sup>22</sup>

The scale appears to have high reliability with respect to total score of relational needs. Reliability is low for the subscale 'initiative from the other' (0.51). The other subscales are found to be considerably reliable.

## CONCLUSION

In summary, all the analyses reveal that RNSS is a valid and reliable measurement instrument to assess relational needs in the Turkish population. It can be utilized to assess relational needs satisfaction in both clinical and nonclinical populations where the mental health work is being conducted. It can be a measurement tool that can be used before and/or after the mental health services are given. It can be utilized in relevant scientific research, as well.

It is suggested that the reliability and validity of the Turkish version of RNSS is tested on different age groups and clinical samples in the future.

**Authors' contributions:** Ş.E.T.: finding the topic, literature search, research design, analysis and interpretation of data, writing the article; C.C.: research design, interpretation of data, writing the article; A.T.A.: interpretation of data, writing the article; G.Ž.: literature search, analysis and interpretation of data, writing the article.

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