Journey to the Past, Reminiscence Function: A Scale Adaptation Study in a Group of Healthcare Users

Geçmişe Yolculuk, Anımsama Fonksiyonu: Sağlık Hizmeti Alan Grupta Bir Ölçek Uyarlama Çalışması

Araştırma Research

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Abstract

Aim: The aim of this study was to conduct the Turkish validity and reliability study of the Reminiscence Function Scale.

Methods: This methodological study was conducted between January and September 2023 with 642 individuals aged 18 years and over. Data were collected using the "Personal Information Form" and the "Reminiscence Function Scale." Language validity, face validity, content validity, construct validity, and reliability analyses were performed. The intraclass correlation coefficient, composite reliability, and convergent validity values of the scale were analyzed.

Results: The mean age of the participants was 47.33±19.96 years (min–max=19–89); 58.3% were female, 61.5% were married, and 31.0% were university graduates. Confirmatory factor analysis showed that the 43-item, eight-factor structure of the scale demonstrated good model fit, with $\chi^2/df=2.00$, GFI=0.90, CFI=0.95, and RMSEA=0.03. The total Cronbach's Alpha coefficient of the scale was 0.966, and the intraclass correlation coefficient was r=0.963. The composite reliability value for the total scale was 0.71, and the convergent validity value was 0.54.

Conclusion: The Reminiscence Function Scale was found to be valid and reliable for the Turkish population. It can support adult individuals in re-evaluating and making sense of their past experiences. In this respect, it is a measurement tool that can be used in scientific studies and clinical applications

Keywords: adult; memory; health services; nurses; psychometrics

Özet

Amaç: Bu araştırmanın amacı, Anımsama Fonksiyon Ölçeği'nin Türkçe geçerlik ve güvenirlik çalışmasının yapılmasıdır.

Yöntem: Metodolojik tasarımlı araştırma, 18 yaş üstü 642 birey ile Ocak-Eylül 2023 tarihleri arasında yürütülmüştür. Veriler "Bireysel Bilgi Formu" ve "Anımsama Fonksiyon Ölçeği" ile toplanmıştır. Verilerin analizinde dil, yüzey, kapsam geçerliği, yapı geçerliği ve güvenirlik analizleri yapılmıştır. Ölçeğin sınıf içi korelasyon katsayısı, birleşik güvenirlik ve yakınsak geçerlik değerleri analiz edilmiştir.

Bulgular: Katılımcıların yaş ortalaması 47,33±19,96 (min-maks=19-89) olup, %58,3'ü kadın, %61,5'i evli ve %31,0'ı lisans mezunudur. Doğrulayıcı faktör analizi sonucunda ölçeğin 43 madde ve sekiz faktörlü yapısının uyum indeksleri $\chi2/df=2,00$, GFI=0,90, CFI=0,95, RMSEA=0,03 değerleri ile iyi uyum düzeyindedir. Ölçeğin toplam Cronbach Alfa değeri 0,966 ve sınıf içi korelasyon katsayı değeri r=0,963'tür. Ölçeğin birleşik güvenirlik değeri ölçek toplamı için 0,71 ve yakınsak geçerlik değeri 0,54'tür.

Sonuç: Anımsama Fonksiyon Ölçeği'nin Türk toplumu için geçerli ve güvenilir olduğu belirlenmiştir. Yetişkin bireylerin geçmiş deneyimlerini yeniden değerlendirmelerine ve anlamlandırmalarına destek sağlayabilir. Bu yönüyle bilimsel çalışmalar ve klinik uygulamalarda kullanılabilir bir ölçüm aracıdır.

Anahtar Sözcükler: erişkin; hafıza; hemşireler; psikometri; sağlık hizmetleri

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Introduction

Reminiscence is a comprehensive process that involves individuals of all ages recalling memories of past experiences (1). Recollection is defined as describing or thinking about past experiences that are individually important (2). The process of reminiscence was initially defined as selecting, withdrawing, thinking, and closing from memory. Later, it was defined as exploring essential events, experiences, and people in people's past lives (3,4). Reminiscence is also defined as remembering events and experiences that have been forgotten for a long time and are worth remembering for the individual (5). However, the simplest definition is the recollection of memories (2).

Recalling memories allows the individual to review his/her own life. In this way, the individual can re-examine his/her experiences, find the meaning of life, and evaluate his/her old coping skills (6). The reminiscence function can be experienced verbally or nonverbally alone, with others, or in a group (2,7,8). The content of reminiscence activities can significantly affect coping abilities when coping with life's challenges (9). Through the revaluation of past experiences, previous coping methods that have been useful can be evaluated, conflicts from the past can be resolved, and thus, the individual's satisfaction with life can be increased (2,10-12).

Reminiscence is a system that, on the one hand, enables the use of memories and, on the other hand, motivates the individual (2). When the contributions of reminiscence functions to individuals are evaluated, they can be listed as producing solutions to problems, turning inward, teaching and informing, preparing for death, bringing painful events to mind, talking to each other, establishing close relationships, and minimizing distress (13). Many things can trigger reminiscence. Sensory elements are at the top of these. Movies, music, sounds, photographs, smells, and textures (knitting, fabric, etc.) are the best examples of these triggers (2,14).

Reminiscence is a tool that focuses on remembering past fragments of life and enriching daily life through remembered fragments (4). This feature increases the transfer and sharing of similar and different life experiences. Through reminiscence, people can rediscover themselves, better understand the people around them, get to know humanity anew, and realize the importance of relationships. By focusing on the distant past and remembering and sharing memories, people gain new insights and perspectives and find the courage to face the future. In addition, entertaining, empowering, informing, and transcending boundaries increases the quality of life and well-being (3,4). The reminiscence function improves individuals' awareness of their health, helps them cope with past and current problems, and provides a basis for interpersonal interaction and empathy. For this reason, it is essential to develop or adapt valid and reliable measurement tools to determine the frequency of reminiscence function and process in individuals. As a result of the literature review conducted with this necessity in mind, the "Reminiscence Function Scale" developed by Webster (1993) to assess lifelong recollection functions was found. Turkish adaptation of this scale is essential in increasing knowledge in the relevant literature (7).

This study was conducted to test the psychometric properties of the Turkish version of the Reminiscence Function Scale in a group receiving healthcare services.

Research Questions

1. Are the measurement results obtained from the Turkish version of the Reminiscence Function Scale valid in the group using health services?
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Materials and Methods

Design of the study

The study was conducted methodologically. In the adaptation steps of the scale, the steps of the scale adaptation guide prepared by Sousa and Rojjanasrirat (2011) were followed (15).

Study Group

The study group consisted of individuals aged 18 years and over who resided in a province in northern Türkiye and applied to receive health services at the family health center with the largest population in the city center, and who agreed to participate in the study.

In scale development and adaptation studies, it is recommended that the study group size be at least 5–10 times the number of scale items (16). Accordingly, for the draft scale consisting of 43 items, a minimum of 430 participants (43×10) was considered sufficient. In addition, the literature suggests that a sample size of at least 300 participants is adequate for scale studies (16,17). Based on these considerations, the study was conducted with a total of 642 participants.

Data Collection Tools

Individual Information Form: It is a 6-question form that will determine the age, gender, marital status, educational status, number of children, and family structure of the individuals.

The Reminiscence Function Scale: The Reminiscence Function Scale (RFS) was developed by Webster in 1993 based on a sample of individuals aged 17 to 91 years (7). The scale aims to assess how frequently and for what purposes individuals engage in reminiscing about past experiences. The RFS consists of 43 items rated on a 6-point Likert scale ranging from 1 (never) to 6 (very often). In its current form, the scale comprises eight subscales: Boredom Reduction (6 items), Death Preparation (6 items), Identity (6 items), Problem-Solving (6 items), Conversation (5 items), Intimacy Maintenance (4 items), Bitterness Revival (5 items), and Teach/Inform (5 items). The internal consistency coefficients of the scale range from 0.79 to 0.89. Higher scores indicate more frequent engagement in reminiscence processes.

In the original scale development study, a 54-item preliminary form was subjected to exploratory factor analysis using principal components analysis. The analysis yielded a seven-factor structure consisting of 43 items that reflected the core functions of reminiscence. These factors were labeled Boredom Reduction, Death Preparation, Identity/Problem-Solving, Conversation, Intimacy Maintenance, Bitterness Revival, and Teach/Inform. Item factor loadings ranged from 0.61 to 0.83 for Boredom Reduction, 0.58 to 0.76 for Death Preparation, 0.50 to 0.73 for Identity/Problem-Solving, 0.61 to 0.71 for Conversation, 0.59 to 0.84 for Intimacy Maintenance, 0.59 to 0.82 for Bitterness Revival, and 0.58 to 0.78 for Teach/Inform. These findings indicate strong associations between items and their respective factors and support the construct validity of the multidimensional structure of the scale (7).

In the original study, identity-related and problem-solving–related reminiscence functions were addressed under a single factor labeled Identity/Problem-Solving. However, in cross-cultural scale adaptation studies, it is well recognized that the original factor structure may be re-evaluated across different samples. In the present study, confirmatory factor analysis results indicated that reminiscence functions related to identity and those related to problem-solving could be modeled as separate factors. Accordingly, the structure evaluated under a single factor in the original scale was addressed as two distinct subscales -Identity and Problem-Solving- in the current study. In addition, based on a recent review of the scale and the permission correspondence conducted with the scale's author for the adaptation process, the scale was identified as being presented with an eight-factor structure. Therefore, all analyses were conducted based on the eight-factor model. The current structure of the scale is publicly available through the following open-access link (https://www.researchgate.net/publication/294581272_The_Reminiscence_Functions_Scale_RFS).

Ethical Considerations

Before starting the study, permission was obtained via e-mail from the author who developed the scale for adaptation and use in Turkish. Ethics committee approval (Date: 16.09.2022, Decision no: 2022-9/1.2) was obtained. During the data collection process, the research team introduced the participants to the purpose of the study. Their informed consent was obtained by explaining that participation was entirely voluntary, that they could withdraw from the study at any time, that their information would be kept confidential, and that the research results would be used only for scientific purposes. The ethical principles of the Declaration of Helsinki were followed at all stages of the study.

Data Collection

This study was conducted between January and September 2023. The invitation to participate in the study was sent face to face by the researchers to individuals who applied to the family health

centers. Questionnaires were distributed to individuals who agreed to participate in the study and they were asked to fill them out. The "Informed Consent Form" was applied to the individuals before the researchers applied the forms. Data collection continued until the target group was reached, and it took 10-15 minutes to answer the data collection tool.

Data analysis

SPSS 22.00, AMOS 24.00 package programs were used to analyze the data. Scale, language, surface, content validity, construct validity, and reliability analyses were conducted for the adaptation steps. In the evaluation of the data, firstly, the suitability of the data for normal distribution was evaluated with skewness and kurtosis coefficients. For language validity, the translation-back-translation technique was used; for face validity, peer assessment, expert opinion, and pilot application were used. The Content Validity Index (CVI) was used with expert opinion for content validity. Confirmatory factor analysis (CFA) was conducted. Goodness of Fit Index (GFI), Comparative Fit Index (CFI), Incremental Fit Index (IFI), Tucker-Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA) were used for CFA. The reliability analysis determined Cronbach's alpha, intraclass correlation coefficient (ICC), and item-total correlation values. In addition, the scale's combined reliability (CR) and convergent validity (AVE) values were determined.

Results

Descriptive Characteristics of Participants

It was determined that 29.8% of the participants were in their 20s, 58.3% were female, 61.5% were married, 31.0% were undergraduate graduates, 70.7% were nuclear family members, 33.0% had 3-4 children, and the mean age was 47.33±19.96 [min-max=19-89] (Table 1).

Language Validity

The RFS is a scale developed in English. The original scale was translated into Turkish by two certified independent translators (T1-T2) at the same time interval and independently of each other. Both translators had extensive experience in both Turkish and English. While (T1) is an academic in the nursing field, (T2) is a native Turkish speaker and an expert working as an academic in the USA. A third bilingual translator compared the translations from the translators and the original scale (T3). Translators and researchers met once. In line with the translators' suggestions, it was decided to add the phrase "When I reminisce it is," written at the beginning of the original scale, as "I reminisce" at the end of each item to conform to Turkish. In addition, some items with synonyms were evaluated. Thus, the Turkish version of the RFS (RFS-TR) was prepared. In the blinded-back translation step, the RFS-TR was independently translated into English by two bilingual translators (T4, T5) with characteristics similar to those of the first translators at the same time interval. Both translations were then compared by an independent bilingual translator (T6) and the research team. Both translations showed a very high level of agreement with each other and the original scale. Thus, the linguistically validated RSF-TR was sent to experts for face and content validity.

Item Clarity Evaluation and Pilot Application

In order to ensure that the statements of the RFS-TR are better and easier to understand by the population in which it will be used, a pilot application and face validity step were carried out before the psychometric tests. In the pilot application, the statements of the RFS-TR were evaluated by 37 people over 18 selected from the target sample. 94.0% of the participants gave a score of 1 to all statements of the RFS-TR. Revisions were requested for three items in terms of punctuation and clarity. After the revisions, all participants gave 1 point to all statements of the RFS-TR. After this application, Cronbach's Alpha value of the RFS-TR was determined to be 0.89. Thus, the pilot application of the RFS-TR was conducted, and face validity was ensured.

Content Validity

In this stage, content validity was assessed with the support of six experts, including two experts in nursing, two experts in gerontology, one expert in psychometric scale development and adaptation, and one expert in language and grammar. Prior to content validity assessment, the experts also reviewed the items in terms of clarity, comprehensibility, and linguistic appropriateness for the target population. The experts evaluated the relevance of each item using a 4-point rating scale ranging from 1=not relevant to 4=very

Table 1. Distribution of Descriptive Characteristics of Participants (n=642)		
Features	**n**	**%**
Age [Mean±SD=47.33±19.96; Min-Max=19-89]		
20s	191	29.8
30s	36	5.6
40s	112	17.4
50s	83	12.9
60s	132	20.6
70s	62	9.7
80s	26	4.0
Gender		
Woman	374	58.3
Male	268	41.7
Marital status		
Married	395	61.5
Single	247	38.5
Education Status		
Illiterate	53	8.3
Literate	52	8.1
Primary School	150	23.4
Middle School	83	12.9
High School	105	16.4
License	199	31.0
Family Type		
Lives alone	39	6.1
Nuclear family	454	70.7
Extended family	149	23.2
Number of Children		
No children	191	29.8
1-2 children	158	24.6
3-4 children	212	33.0
5 children and above	81	12.6
* n: number; %: percentage		

relevant (18). As a result of the content validity evaluation, the item-level Content Validity Index (I-CVI) values of the 43 items of the RFS-TR ranged between 0.83 and 1.00, while the scale-level Content Validity Index (S-CVI) was calculated as 0.96. In addition, all items were evaluated by the experts in terms of linguistic clarity and were rated as "1=the statement is clear." Based on these findings, content validity was established, and preliminary validity evidence related to item clarity and comprehensibility was strengthened.

Construct Validity

In this step, the KMO value was determined as 0.967, and Bartlett's test of sphericity $\chi2=16994.294$ ($p<0.001$) after the analysis was performed to evaluate the homogeneity and the adequate size of the data set for factor analysis. CFA was performed to confirm the 8 sub-scales and 43-item structure of the scale. The items loaded statistically significantly on the factors ($p<0.001$). The factor loadings ranges of the RFS-TR items and the sub-scales which they were distributed were as follows:

Table 2. RFS-TR Fit Index Values		
Model Fit Index	**RFS-TR**	**Good Fit**
x^2/df	2.000	≤3
GFI	0.90	≥0.90
CFI	0.95	≥0.97
IFI	0.95	≥0.95
TLI	0.95	≥0.95
RMSEA	0.03	≤0.05

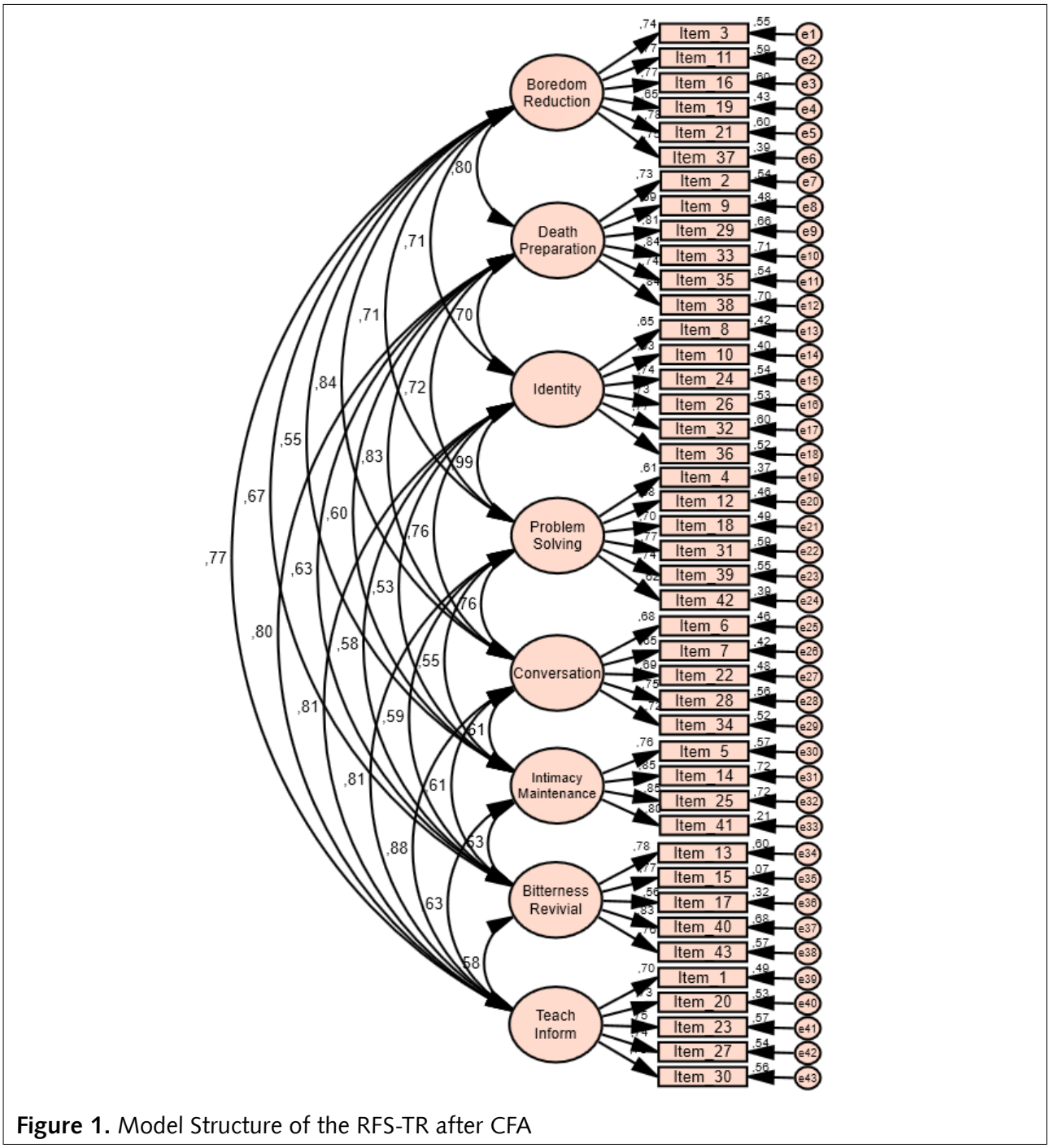

Figure 1. Model Structure of the RFS-TR after CFA

(F1) Boredom Reduction=0.653-0.777, (F2) Death Preparation=0.695-0.843, (F3) Identity=0.631-0.772, (F4) Problem-Solving=0.609-0.766, (F5) Conversation=0.645-0.748, (F6) Intimacy Maintenance=0.757-0.848, (F7) Bitterness Revivial=0.563-0.826, (F8) Teach/Inform=0.702-0.753. The 8 sub-scale and 43-item model structure established by the structure of the original scale was tested.

The fit indices of the scale were χ^2=1571.783, df=786, χ^2/df=2.000, GFI=0.90, CFI=0.95, IFI=0.95, TLI=0.95, RMSEA=0.03. After CFA, it was determined that the index values were within the fit range (19), and the structure of the scale was confirmed (Table 2; Figure 1).

Reliability

Cronbach's alpha coefficients of the scale were 0.863 for (F1) Boredom Reduction, 0.866 for (F2) Death Preparation, 0.859 for (F3) Identity, 0.843 for (F4) Problem-Solving, 0.835 for (F5) Conversation, 0.819 for (F6) Intimacy Maintenance, 0.799 for (F7) Bitterness Revivial, and 0.857 for (F8) Teach/Inform. The total Cronbach's alpha value of the scale was 0.966 (Table 3). In addition, the ICC value of the RFS-TR was found to be r=0.963 (95% CI=0.959-0.967) and significant (p<0.001). The ICC values of the sub-scales were found to be in the range of 0.799-0.856 and statistically significant (p<0.001) (Table 3). In addition, the item-total correlation range of the scale was found to be 0.551-0.784. Accordingly, the internal consistency of the RFS-TR was ensured.

Composite Reliability

The CR values of the RFS-TR were found to be in the range of 0.71 for the total scale and 0.55-0.89 for its sub-scales (Table 3).

Convergent Validity

The AVE values of the RFS-TR were found to be in the range of 0.54 for the total scale and 0.47-0.66 for its sub-scales (Table 3).

Discussion

The RFS-TR is an easy-to-use tool produces valid, and reliable measurement that aims to measure the reminiscence skills of adult individuals. The psychometric properties of the RFS-TR and the required cut-off values were analyzed in line with the literature studies. The fact that the language validity of the RFS-TR was carried out by language experts with the translation-back translation technique supported the scale to make accurate measurements in the new sample without losing its original meaning (15,20). According to the literature, for a statement in the scale not to be removed, it must receive a score of 1 from at least 80% of the participants in the pilot study (15). In this step, it is evident that the RFS-TR, all items that received a score of 1 from the participants,

Table 3. Validity and Reliability Analysis Values of RFS-TR

RFS-TR and Subscales		Item-Total Correlation Range	Cronbach's Alpha	ICC [95%CI]	CR	AVE
F1	Boredom Reduction	0.616-0.730	0.863	0.856* [0.835-0.874]	0.72	0.56
F2	Death Preparation	0.684-0.784	0.866	0.856* [0.834-0.876]	0.89	0.61
F3	Identity	0.678-0.719	0.859	0.854* [0.835-0.871]	0.64	0.50
F4	Problem-Solving	0.644-0.742	0.843	0.839* [0.818-0.858]	0.55	0.47
F5	Conversation	0.672-0.719	0.835	0.832* [0.810-0.852]	0.66	0.49
F6	Intimacy Maintenance	0.551-0.632	0.819	0.799* [0.753-0.835]	0.76	0.66
F7	Bitterness Revivial	0.585-0.653	0.799	0.784* [0.749-0.815]	0.74	0.55
F8	Teach/Inform	0.694-0.726	0.857	0.849* [0.826-0.869]	0.69	0.54
RFS-TR		0.551-0.784	0.966	0.963* [0.959-0.967]	0.71	0.54

*p<0.001; 95% CI=95% Confidence Interval

can be easily understood in the sample. Before the psychometric tests, content validity was examined to improve and refine the RFS-TR. It was determined by the experts that all of the items and the items of the RFS-TR, which exceeded the limit values of 0.78-0.80 in the item scale and 0.90 in the total scale, behaved in common in measuring reminiscence (18,21). The items of the RFS-TR were distributed in eight sub-scales at an excellent fit level. Accordingly, the 8 sub-scales were determined as Boredom Reduction, Death Preparation, Identity, Problem-Solving, Conversation, Intimacy Maintenance, Bitterness Revivial and Teach/Inform. The highest factor loading of the items in the sub-scales was in the Intimacy Maintenance sub-scale. In the original scale, similar to the Turkish adaptation, the item with the highest factor load was in the Intimacy Maintenance sub-scale (7). This supports the fact that the RFS-TR measures are similar to the original. In addition, the fit indices of the whole scale were in the good fit range (19). All CFA results showed that the RFS-TR was compatible with the theoretical and original model structure. Scale reliability was evaluated bidirectionally in terms of Cronbach's alpha and ICC. The total Cronbach's alpha (0.966) and ICC values (0.963) of the scale showed high reliability, with values well above the cut-off value of 0.70 (19,22). Cronbach's alpha values of the RFS-TR subscales are at a high reliability level and are similar to the original scale (7). The CR value was used to determine the combined reliability of the RFS-TR, and the cut-off value was taken as >0.60 (23). Since the total seven sub-scales of the scale were above the threshold value and the other sub-scale was close to the threshold value, it was determined that the combined reliability of the RFS-TR was achieved. Thus, it was seen that the total and sub-scales of the scale made reliable measurements in the same direction. The AVE value, another indicator of the internal consistency of the scale items, is expected to be higher than 0.50 (24,25). Since the AVE value of the total scale was above the limit value (>0.50), the convergent validity of the RFS-TR was ensured.

Limitations of the Study

Since the research is limited to the province where the research was conducted at the time the data was collected, generalizations can not be made, but it can be a guide for future research.

Conclusion And Recommendations

The RFS-TR was evaluated as compliant with the scale adaptation steps. The scale showed a good fit with its items and scales. It has internal consistency and the ability to measure at a high level of reliability within itself. The RFS-TR is a reliable measurement tool with convergent validity and convergent reliability. This instrument, which assesses adult individuals' reminiscence skills, should be tested in different populations, and a shorter form should be considered.

Contribution to the Field

The RFS-TR is a valid, reliable scale that evaluates the reminiscence function with different scales. Reminiscence is a skill that has both social and psychological aspects and affects people. It is precious to measure reminiscence by the individual himself/herself. In particular, evaluating the concepts related to reminiscence as separate scales will show clear targets for the individual to organize his/her reminiscence characteristics. In addition, this scale will provide nurses with preliminary data on reminiscence to provide individualized care.

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