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Original Article

Adaptation of Relational Aging Anxiety Scale into Turkish

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ABSTRACT

Objective: The aim of this study is to adapt the Relational Aging Anxiety Scale into Turkish.

Methods: The study group of the research consists of 258 people determined by the convenience sampling method. In this study, the Relational Aging Anxiety Scale translated into Turkish and checked by the experts in the field was used as a data collection tool. The obtained data were analyzed through Statistical Package for Social Sciences, JAMOVI, and LISREL programs.

Results: The scale supported the 3-factor structure as in the original scale. The overall Cronbach's alpha coefficient of the scale was found to be 0.902. The Cronbach's alpha coefficient values for the sub-dimensions "personal aging anxiety, collective affinity for older people, and relational aging anxiety" were 0.740, 0.915, and 0.832, respectively. It was determined that the KMO value was 0.898 and the Bartlett test was significant ($x^2 = 2521.355$; $P < .01$). Confirmatory factor analysis χ^2/standard deviation, comparative fit index, root mean square error of approximation, root mean square residual, incremental fit index, parsimony normed fit index, and parsimony goodness-of-fit index compliance values were checked to understand whether the structure in the source scale was compatible with Turkish. The results also showed that the language and structure of the source scale were successfully adapted to the target scale.

Conclusion: In this study, in which the Relational Aging Anxiety Scale was adapted to Turkish language, sub-dimensions of "personal aging anxiety, collective affinity for older people, and relational aging anxiety" were obtained in accordance with the original scale.

Keywords: Aging, old age, aging anxiety, ageism

Introduction

The issue of old age has become one of the important fields of study with the increase in the elderly population on a global scale. This situation seems to be related to reasons such as developing health services, development of health and care services offered at home, adoption of healthy lifestyle habits, and in connection with the prolongation of life expectancy.[1-3]

It can be said that life expectancy at birth shows an increasing trend compared to the past. While this period was 66.8 years worldwide in 2000, it reached 73.3 years in 2019. In Turkey, while life expectancy at birth was 74.4 years in 2000, it was recorded as 78.6 years in 2019.[4] According to the data provided by the World Bank,[5] life expectancy at birth in the whole world in 1960 was 52.58 years. This supports the information about the background of the current demographic transformation.

Due to both lifestyle and environmental conditions, signs of aging may progress differently in each individual.[6] However, this does not reduce the risks faced by the rapidly aging population. The rapid increase in the rate of the elderly population paves the way for the emergence of many social, economic, and political risks.[7] The rapidly aging population causes many dimensions to come to the fore, not only physically but also socially and psychologically. At this point, it is seen that age discrimination and similar issues have become more popular, and recently,

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age discrimination is one of the prominent issues in the literature. In addition, issues such as aging anxiety, which are also examined in this study, come to the fore.

Age discrimination can generally be considered as a whole which includes discriminatory discourses, attitudes, and behaviors created by younger people on an age-based basis toward older people.[8-10] In age discrimination, a negative image is generally attributed to the elderly, and it is emphasized that the elderly are dysfunctional and the young are productive.[11,12]

Age discrimination negatively affects elderly individuals psychosocially and also life satisfaction.[13] In other words, ageism can also be considered as a kind of psychological violence or abuse of younger individuals toward older individuals. Evaluating the elderly as individuals in need of care, dependent, not to be addressed, and excluded from social life can be considered as different aspects of ageism.[14] Age discrimination can affect not only the elderly but also other adult groups, but the most affected groups are the older ones.[10] The fact that the older age group is faced with age discrimination and carries a higher risk in terms of aging anxiety and related death anxiety increases the disadvantage. At this point, age discrimination in the society is an important factor, affecting aging anxiety.

In the literature, aging anxiety is closely related to issues such as death anxiety and fear of aging. From a pathological point of view, the prevalence of anxiety disorder seems to be higher than other disorders in the elderly. In a study conducted on individuals aged 65 years and over, anxiety disorders were found to be the most common psychiatric disorder.[15,16] The prevalence of anxiety symptoms among older individuals is higher than the prevalence of anxiety disorder. Approximately 17% of elderly men and 21% of elderly women report clinically significant anxiety symptoms that do not meet the Diagnostic and Statistical Manual of Mental Disorders (DSM) criteria for anxiety disorder.[15,16]

In the gerontology literature, 4 main dimensions are reported to express aging anxiety: physical, psychological, social, and interpersonal or spiritual. The "whole person" model of aging highlights the importance of the interaction between these dimensions in understanding older individuals.[17] Additionally, these 4 dimensions of aging-related anxiety consist of specific fears or ways in which anxiety is expressed. In this context, the fear of aging is first defined as the fear associated with one's personal aging process. Second, the fear of being old expresses a personal point of view in the form of fear of old age and a situation rather than a process. Therefore, it is defined as a fear associated with a state of personal exclusion. Third, anxiety about aging is characterized as the fear of older people and the perception of others. In this context, it is defined as the fear associated with older people.[17] The rate of the elderly population is increasing rapidly every year, which shows that more attention should be paid to aging studies in fields such as gerontology, social work, and psychology and that issues such as aging anxiety, fear of old age, and age discrimination will gain more importance.

In this study, it was aimed to adapt the Relational Aging Anxiety Scale, which is considered to be directly related to aging anxiety, into Turkish. This scale was developed based on the relational ageism theory and using the Aging Anxiety Scale.[17] It is thought that the scale will bring a new measurement tool to the national old age literature.

Materials and Methods

This research was conducted using the methodological research design for the Turkish Adaptation of the Relational Aging Anxiety Scale. Participants were determined by the convenience sampling method. A total of 258 people living with their spouses or children or living alone at home in different provinces of Turkey participated in the study. The participation of people who are in good mental health, who can answer the questions in a healthy way, and who do not have a known health problem has been ensured. People over the age of 18 years and having good comprehension skills were included in the study.

Participants

Table 1 shows that 40 (54.3%) participants were female, 118 (45.7%) male, 12 (4.7%) divorced, 31 (12%) widowed, 5 (1.9%) separated from their spouses, 152 (58.9%) married, and 58 (22.5%) have never been married. Forty (15.5%) participants stated their economic situation as bad, 148 (57.4%) as medium, and 70 (27.1%) as good. The age of the participants ranged from 20 to 79 years, and the average age of the participants was 49.17 ± 17.243 years. The age groups of the participants are summarized in Table 1. The data were collected by paying attention to the age distribution of the participants, as in the source scale.

Relational Aging Anxiety Scale

The Relational Aging Anxiety Scale[18] was developed to measure attitudes toward aging as a multidimensional construct reflecting a relational process. The scale was developed based on the relational ageism theory and by using the Aging Anxiety Scale.[17]

Five items belonging to the fear of old people sub-dimension and 5 items belonging to the psychological concerns sub-dimension of the AAS which has 4 sub-dimensions were adapted to the Relational Aging Anxiety Scale. This adaptation of both the subscales involves reverting the word old to create a more inclusive question that can be answered regardless of age. In addition, a 6-item scale was created by the developers to represent relational age discrimination.

In the research in which the source scale was included, 329 people determined by the convenience sampling method were included in the study for item factor analysis. As a result of the factor analysis carried out, a reliable structure with 3 factors emerged. The alpha values for the internal consistency of the scale were 0.88 for the whole scale, 0.84 for the personal aging anxiety sub-dimension, 0.83 for the collective affinity for older people sub-dimension, and 0.81 for the relational aging anxiety sub-dimension. The scale is in a 5-point Likert type, scored between strongly disagree and strongly agree.

The original scale in English was published in 2019 as Development of the Relational Ageism Scale: Confirmatory Test on Survey Data.[18] In order to adapt the scale to Turkish, permission was obtained from the responsible author via e-mail. After this permission, ethics committee permission dated 04/08/2021 and number 285 was obtained from Akdeniz University, Social and Human Sciences Scientific Research and Publication Ethics Committee.

Within the scope of language validity, 16 items in the source scale were first translated into Turkish by the translators. The 2 different translations obtained were compared and evaluated by the researchers and turned into a single form. This form was sent to 10 experts who have done various studies on old age. The final form of the scale was obtained with the regulations of the researchers, taking into account

Table 1. Age of the Participants

Age (years)	n	%
20-29	43	16.7
30-39	43	16.7
40-49	40	15.5
50-59	47	18.2
60-69	51	19.8
70-79	34	13.2

n, number of valid observations.

the feedback and correction suggestions received from the experts. The final form was translated back into English by 1 translator and compared with the original scale by the researchers. As a result of the comparison, the final form, which was evaluated that there was no need to make any other changes, was applied to 27 people face-to-face by the researchers, and feedback was received from the participants. As a result of all these processes, it was evaluated that the scale was translated into Turkish in an appropriate way.

Data Collection

The data were collected through the forms created by the researchers. Brief and clear information was given about the purpose and method of the research, and ethical issues were explained by conducting interviews with the participants in a time period and environment where the participants felt comfortable. Digital informed consent was obtained from all participants who participated in this study. It was emphasized that the participants could leave the research at any time. In order to prevent a participant from participating in more than one, the names and surnames of the participants were kept as a separate list.

Statistical Analysis

After the data collected in the study were transferred to the computer, they were checked by the researchers first visually and then with Statistical Package for Social Sciences (SPSS) and JAMOVI programs. SPSS, JAMOVI, and LISREL programs were used for analysis. JAMOVI is a computer program for data analysis and performing statistical tests and LISREL (linear structural relations) is a proprietary statistical software package used in structural equation modeling (SEM) for manifest and latent variables.

Expert opinion was sought for the language validity of the scale. While language validity and confirmatory factor analysis (CFA) were performed for validity in the study, internal consistency and item analyzes were used for reliability study.

Results

In this study, which was carried out within the scope of the adaptation of the Relational Aging Anxiety Scale into Turkish, first the permission process was completed, the processes shared in the Materials and Methods section were followed, the data were collected, and validity and reliability studies were applied.

Validity Study

It was found that the Kaiser Meyer Olkin (KMO) value was higher than 0.60 (=0.898) and the Bartlett test was significant ($x^2 = 2521.355$; $P < .01$) for the convenience of the data collected in the study for factor analysis. Afterward, CFA was performed to ensure construct validity. CFA χ^2/SD, comparative fit index (CFI), root mean square error of approximation (RMSEA), root mean square residual (RMR), incremental fit index (IFI), parsimony normed fit index (PNFI), and parsimony goodness-of-fit index (PGFI) compliance values were checked to understand whether the structure in the source scale was compatible with Turkish. These values are good-fit values that are often used in scale adaptation studies.

Table 2. Fit Indexes and CFA Values for the Scale

Fit Indexes	First Model	Second Model	Acceptable Fit Values	Perfect Fit Values
χ^2	566.04	306.81		
SD	101	99		
χ^2/SD	5.604	3.1	≤5	≤2
CFI	0.92	0.95	>0.90	>0.95
RMSEA	0.134	0.090	<0.1	<0.08
SRMR	0.18	0.15	<0.1	<0.05
IFI	0.92	0.95	>0.90	>0.95
PNFI	0.76	0.77	>0.5	
PGFI	0.58	0.63	>0.5	

χ^2, Chi-Square; SD, Standard deviation; CFA, confirmatory factor analysis; CFI, comparative fit index; IFI, incremental fit index; PGFI, parsimony goodness-of-fit index; PNFI, parsimony normed fit index; RMSEA, root mean square error of approximation; SRMR, standardizedroot mean square residual.

Table 3. Cronbach's Alpha Coefficients of Relational Aging Anxiety Scale

Sub-dimensions	Items	Cronbach's Alpha Coefficients
(A) Personal aging anxiety	3, 4, 6, 9, 11	0.740
(B) Collective affinity for older people	1, 2, 5, 7, 10	0.915
(C) Relational aging anxiety	8, 12, 13, 14, 15, 16	0.832
Total	*	0.902

It was determined that the first model established in accordance with the structure in the source scale had values close to acceptable fit values. In the first model, covariances were created between the 8th and 13th, and 3rd and 11th items in the same factor, as suggested by the LISREL program, in order to ensure good-fit values. The fit values obtained as a result of repeated CFA after the created covariances are given in Table 2.

It is understood that χ^2/SD, CFI, RMSEA, IFI, PNFI, and PGFI values are among acceptable values according to the fit values, which is as a result of the CFA performed for the second model established according to Table 2. The obtained RMR value is in the range of perfect fit value.

Reliability Study

First, the Cronbach's alpha coefficient was determined regarding the reliability of the Relational Aging Anxiety Scale. The values obtained for the Cronbach's alpha coefficient are given in Table 3.

Table 4. Item Correlation Analysis of Relational Aging Anxiety Scale

Item Number	Corrected Item-Total Correlation	Cronbach's Alpha If Item Deleted	Item Number	Corrected Item-Total Correlation	Cronbach's Alpha If Item Deleted
1	0.598	0.895	9	0.643	0.893
2	0.630	0.894	10	0.608	0.895
3	0.329	0.905	11	0.437	0.901
4	0.568	0.896	12	0.689	0.892
5	0.610	0.895	13	0.473	0.900
6	0.637	0.894	14	0.680	0.892
7	0.634	0.894	15	0.623	0.894
8	0.427	0.901	16	0.671	0.893

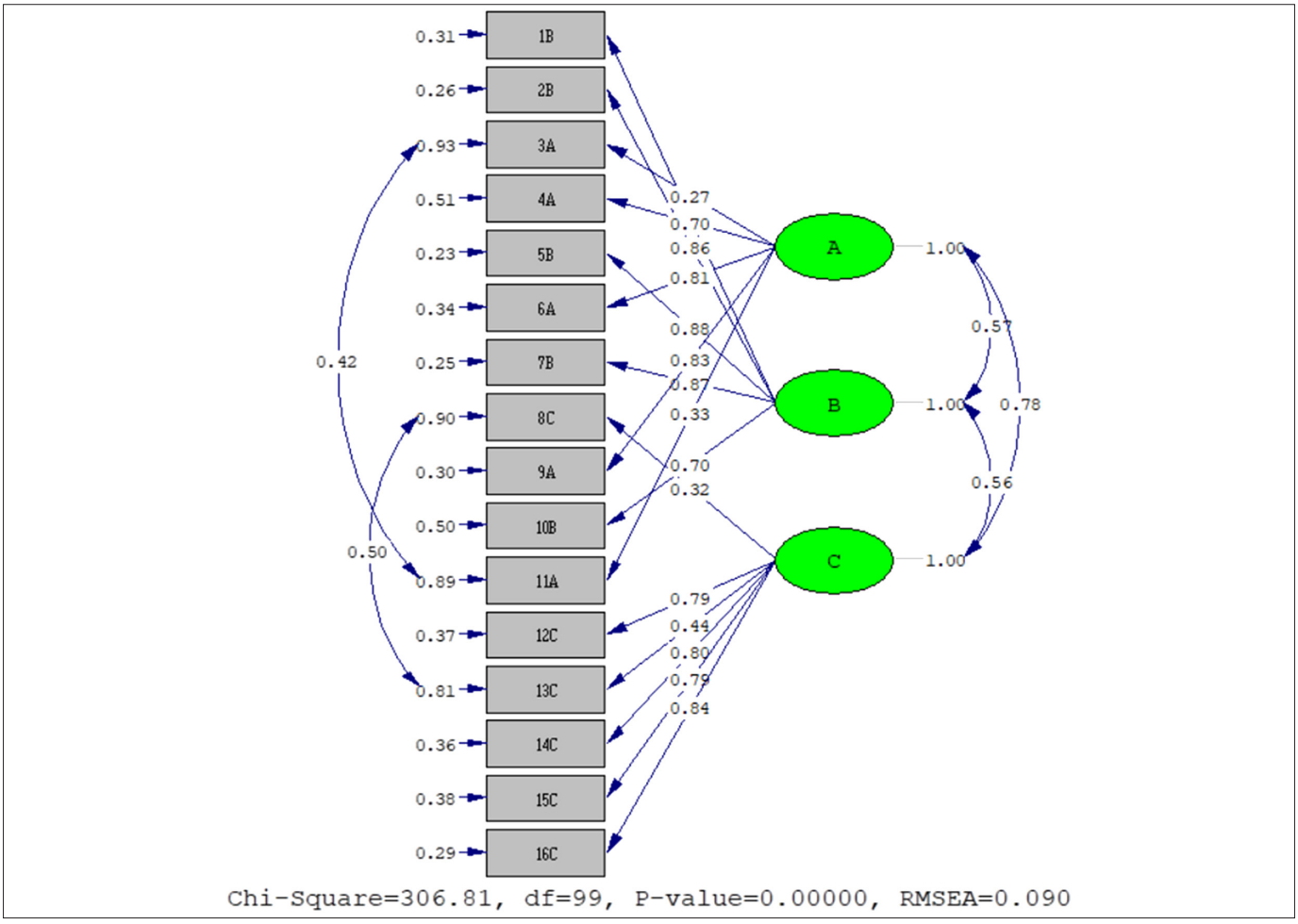

Figure 1. Path diagram 1.

According to Table 3, the Cronbach's alpha coefficient values for personal aging anxiety, collective affinity for older people, and relational aging anxiety sub-dimensions were 0.740, 0.915, and 0.832, respectively. The Cronbach's alpha coefficient value for all the items of the scale was found to be 0.902.

According to Table 4, corrected item-total correlation values of the items in the scale vary between 0.329 and 0.689. Removing any of the items in the scale does not increase the value of the Cronbach's alpha coefficient.

The path diagrams (standardized results and *t* values) obtained for the scale as a result of CFA are as in Figures 1 and 2. It is seen that the results obtained were positive and included the expected results in scale adaptations. When all the results obtained are evaluated together, it can be said that the findings of the Turkish adaptation study of the Relational Aging Anxiety Scale present a valid and reliable structure.

Discussion

Adapting a scale from the source scale to the target culture does not mean literal translation of the items in the source scale into the target language. It is necessary to adapt the scale and take into account the differences that may occur between cultures.[19] In this study, it was aimed to prevent possible differences between cultures by evaluating the translations made by translators to ensure language and structural validity by researchers and experts. The feedback received by the participants in the preliminary study showed that the language and structure of the source scale were successfully adapted to the target scale. The findings obtained as a result of the validity and reliability analyses also indicate that the scale is suitable for the target culture. In the literature, similar methods are frequently used for construct and language validity in studies on scale adaptation.

Validity refers to how well the assessment tool actually measures the outcome of interest.[20] In order to understand whether the structure of the Relational Aging Anxiety Scale in the source country/culture is valid in the target culture/language, the structure consisting of 16 items and 3 sub-dimensions in the source scale was tested with the data collected from 258 participants in the target language and culture by performing CFA. The obtained fit values are between the acceptable fit values or perfect fit values. Since the χ^2 value is affected by the sample size, the χ^2/SD value is mostly used in scale adaptation studies. In this study, the χ^2/SD value obtained as a result of CFA is among the acceptable fit values.[21-24] Root mean square error of approximation and CFI are 2 commonly applied indices to evaluate the fit of structural equation models.[25] Root mean square error of approximation and CFI values obtained as a result of DFA are among acceptable values.[26-28] The closer the standardized root mean square residual (SRMR) and RMSEA value to zero, the better the model fits. Standardized root mean square residual is the standardized version of the RMSEA value. The obtained SRMR value is quite close to the perfect fit value and is between acceptable values.[29]

Incremental fit index, PNFI, and PGFI values are also in the acceptable range.[30] These values obtained as a result of CFA show that the scale

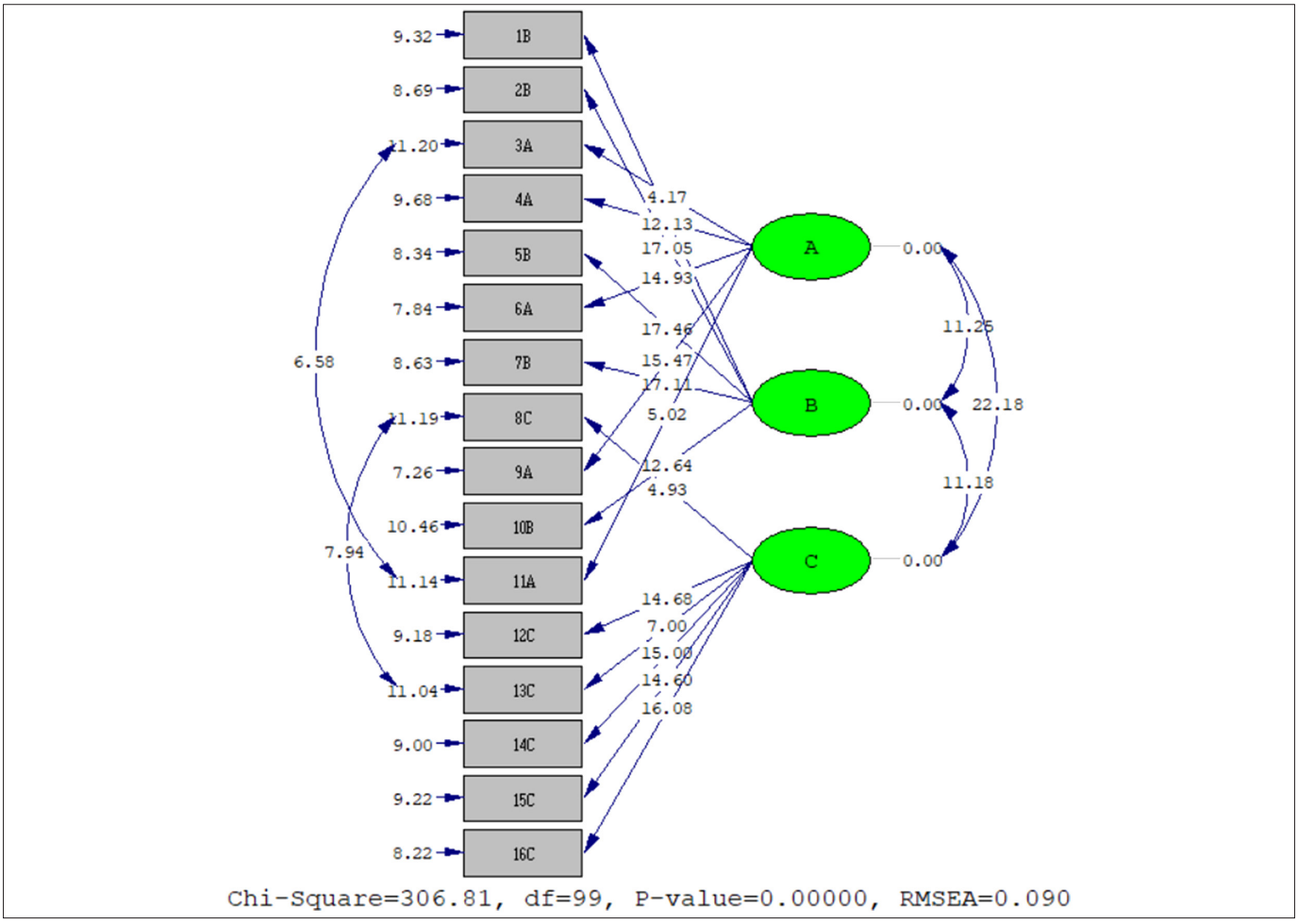

Figure 2. Path diagram 2.

has a valid structure in the target culture. However, validity is not a sufficient criterion for a scale to be used, at the same time the scale must be a reliable measurement tool. As a result, all these findings show that the Turkish version of the scale is valid, reliable, and suitable for use.

In the 21st century we are in, the elderly are mostly; they have started to take part in social life in a wide range from social and cultural issues to health, economy, and environment/urbanization policies.[31] At this point, it is important for the elderly to be more involved in social life, develop coping mechanisms related to aging anxiety, and improve their quality of life. Many studies show that physical, mental, and social problems developed with aging negatively affect the quality of life.[32-35] This situation shows that studies and services related to elderly groups should be supported. In this respect, one of the issues that should be focused on is the development of measurement tools for aging research or adaptation of the existing measurement tools.

In this study, it was aimed to obtain a valid and reliable measurement tool by adapting the Relational Aging Anxiety Scale, developed by Gendron et al.[18] into Turkish. For this purpose, the scale, which was first given permission to adapt it into Turkish, was translated into Turkish, and the translations were evaluated by experts. The feedbacks received from the pre-applications with the final form show that the scale was successfully translated into Turkish. Confirmatory factor analysis was performed to understand whether the translated scale matched the structure of the source scale. For reliability, Cronbach's alpha coefficients and findings related to item-total score correlation were used.

Basically, reliability concerns the extent to which an experiment, test, or any measurement procedure yields the same results in repeated trials.[36] Cronbach's alpha is an internal consistency test and is often used to calculate correlation values between answers in the assessment tool.[37] For better reliability, it is expected to be close to 1.[20] As a result of the analyses performed, the Cronbach's alpha values obtained for the sub-dimensions and the whole scale are higher than 0.70, indicating that the scale is reliable.[38] Scale item correlation coefficients ranging from 0.329 to 0.689 strengthen the reliability of the scale.[39,40] When the items to be removed from the scale were evaluated, none of the items to be removed increased the Cronbach's alpha value of the scale. This finding indicates the high reliability of the scale and the item–sub-dimension agreement.[41-43]

All these results show that the adapted Relational Aging Anxiety Scale can be used safely in Turkish society. Although some scales such as Geriatric Anxiety Inventory,[44] State Trait Anxiety Inventory,[45] Templer's Death Anxiety Inventory,[46] and Death Anxiety Inventory[47] in the literature have similar aspects with Relational Aging Anxiety Scale, the adapted Relational Aging Anxiety Scale includes unique dimensions such as "personal aging anxiety," "collective affinity for older people" and "relational aging anxiety." For this reason, it is thought that the scale has a unique value and can be used in research by examining it with different dimensions.

The results obtained as a result of the adaptation of the Relational Aging Anxiety Scale (Appendix) into Turkish showed that the scale offers a valid and reliable structure. The results showed that the language and structure of the source scale were successfully adapted to the target scale. It is thought that the scale can be used safely in studies focused on aging anxiety and ageism, especially in areas such as social work, psychology, and gerontology. The fact that aging and death anxiety have an important place in the personal lives of elderly individuals requires further studies. In this direction, it is recommended to use this scale on samples of different elderly groups.

Study Limitations

Individuals under the age of 20 years and those aged 80 years and over were not included in this study. Only citizens of Turkey have been involved in the contribution. Since the data were collected online, it can be stated that individuals with insufficient technological infrastructure were not included in this study.

Ethics Committee Approval: Ethics committee approval was received for this study from the Social and Human Sciences Scientific Research and Publication Ethics Committee of Akdeniz University (Date: August 4, 2021; Number:285).

Informed Consent: Digital informed consent was obtained from all participants who participated in this study.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept – M.Ç., U.Y., M.Z.Y.; Design – M.Ç.; Supervision – M.Z.Y.; Data Collection and Processing – M.Ç., U.Y. ; Analysis and Interpretation – M.Ç.; Literature Review – U.Y., M.Z.Y.; Writing – M.Ç., U.Y., M.Z.Y.; Critical Review – U.Y., M.Z.Y.

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Appendix

Ilişkisel Yaşlanma Kaygisi Ölçeği (Türkçe Form)

BOYUT 1: Kişisel İçselleştirilmiş Yaşlanma Kaygısı

Yaşlılığımda keyif alacak bir şey bulamamaktan korkuyorum

Yaşlılığımda zamanımı dolduracak birçok şeyim olacak

Yaşlandıkça hayatla ilgili iyi hissetmeyi bekliyorum

Yaşlılığımda kendime ilgili iyi hissetmeyi bekliyorum

Yaşlılığımda hayatın anlamı olmamasından korkuyorum

BOYUT 2: Yaşlılara Karşı Kolektif Yakınlık

Yaşlı insanların arasında bulunmaktan keyif alırım

Yaşlı yakınlarımı ziyaret etmeyi severim

Yaşlılarla konuşmaktan keyif alırım

Yaşlıların arasında bulunmaktan keyif alırım

Yaşlılar için birşeyler yapmaktan keyif alırım

BOYUT 3: İlişkisel Yaşlanma Kaygısı

İnsanlar yaşlandığımda beni görmezden gelecek

Başkaları yaşlılığımda katkılarıma değer verecek

Yaşlılığımda fikirlerimin başkaları için bir önemi olmayacak

Yaşlılığımda insanlar bana saygı gösterecek

Yaşlılığımda insanlar beni yeterli biri olarak görecekler

Yaşlılığımda insanlar beni bilgili birisi olarak görecek

Not: Yanıtlar 5'li likert tipi ölçek ile alınmaktadır. (1) Kesinlikle katılıyorum (5) Kesinlikle katılmıyorum şeklindedir.