ORIGINAL ARTICLE

UNIVERSITY STUDENTS' ATTITUDES TOWARDS OLDER WOMEN: A SCALE DEVELOPMENT STUDY

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Abstract

Introduction: The world population is rapidly aging due to decreased fertility rates, increased longevity, and the development of preventive and curative health services. In general, women live longer than men and, therefore, are exposed to negative attitudes more frequently. No measurement tool currently exists that can reliably and validly assess people's attitudes towards older women in Türkiye. Therefore, the Attitude Towards Older Women Scale is expected to significantly meet this need.

Materials and Method: The study participants consisted of 512 students from a university in the Central Anatolia Region who were continuing their education and agreed to participate in the study voluntarily. Validity and reliability analyses were conducted, and the 'Attitude Towards Older Women Scale,' designed as a five-point Likert-type scale, was subjected to both exploratory and confirmatory factor analyses.

Results: The 23-item "Attitude Towards Older Women Scale" consists of 9 items for positive attitudes and 14 items for negative attitudes. The total score that can be obtained from the scale varies between 23 and 115. The total score is obtained by summing the scores from the two factors in the scale. A high score indicates high positive attitudes towards older women, while a low score indicates low positive attitudes towards older women.

Conclusion: According to the analysis results, the reliability and validity of the "Attitude Towards Older Women Scale" are at an acceptable level, indicating that the scale can be used to determine the attitudes of university students towards older women in Türkiye.

Key Words: Aged; Attitude; Women; Students.

INTRODUCTION

Human life is divided into certain periods, such as childhood, youth, adulthood, and old age. Although it is impossible to separate the stages of life, old age, following adulthood, is, like otherperiods of life, considered a natural and universal reality, but is also a process in which physical and psychological loss of abilities occurs (1).The World Health Organization defines old age as beginning at 65 years and above, whereas United Nations reports consider it to start at 60 years (2). With decreased fertility and mortality rates, alongside the development of preventive and curative health services, the world population is rapidly aging (3). According to 2023 data, in Türkiye women live longer than men, with a difference of 5.5 years in life expectancy (4). Therefore, women may be more frequently exposed to negative attitudes towards old age. In general, age discrimination and stereotypes towards older adults can significantly impact their physical and mental health and well-being (5).

Since the number of older adults will increase in the near future, it is essential to develop positive attitudes and behaviors towards people in this age group (6). Older women are at considerably higher risk than men for various reasons, including lower education levels, widowhood, living in nursing homes or alone, low socio-economic status, illness, and the use of multiple medications. It has been noted that they are more exposed to negative attitudes, age discrimination, and social exclusion since they are more dependent on others (7).

The concept of attitude refers to a mental state that influences individuals' thoughts, feelings, and behaviors towards objects, ideas, events, and other people. Attitudes are the most important factors ensuring that individuals have positive behaviors towards older adults is feelings and attitudes (8). However, no existing measurement tool can reliably and validly assess people's attitudes towards older women in Türkiye. Therefore, the Attitude Towards Older Women Scale is expected to significantly meet this need.

MATERIALS AND METHOD

Attitude Towards Older Women Scale

At the first stage of the scale development process, a literature review was performed, and scales related to attitudes towards older women were scanned (9,10,11). The literature review revealed no existing measurement tool related to attitudes towards older women. Therefore, items that best evaluated attitudes towards older adults were identified, and a 34-item pool was created. To evaluate university students' positive and negative attitudes towards older women, one item that reflected positive attitudes on the 5-point Likert scale (1=Strongly Disagree, 2=Disagree, 3=Undecided, 4=Agree, 5=Strongly Agree) was "Being with older women is peaceful." An example of an item reflecting negative attitudes was "Older women are stubborn." Items reflecting negative attitudes were reverse-scored.. An increase in the positive attitude score indicates a stronger positive attitude towards older women, while a decrease in the negative attitude score indicates a more negative attitude.

At the second stage, expert opinions were sought regarding the scope of the items, item consistency, and the identification of irrelevant items on the draft scale (12). To this end, five faculty members specializing in social work and sociology were consulted. After the reviewby these experts, the number of items was reduced to 32.

At the third stage, a Turkish language and literature expert reviewed the scale to ensure it was linguistically comprehensible, after which the scale was finalized. The necessary permission was obtained from the Non-Interventional Ethics Committee of a university in the Central Anatolia Region for the prepared scale form. The draft scale, which was ready for implementation, was named the "Attitude Towards Older Women Scale (ATOWS)."

Participants

The study participants consisted of 512 students from a university in the Central Anatolia Region who

volunteered for the study while continuing their education. Of the participants, 87.3% (n=447) were female, with a mean age of 20.87 years (SD = 2.17), ranging from 18 to 35 years.

Data analysis

Exploratory factor analysis (EFA) was first conducted to determine the construct validity of the Attitude Towards Older Women Scale. Before the analysis, the normality distribution of the data was tested with the skewness-kurtosis test. The skewness and kurtosis values of the items ranged between -1.50 and +1.50, indicating that the items were normally distributed (12). The research data were examined by exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) for construct validity using SPSS and AMOS software. After CFA, Cronbach's alpha values were checked for reliability.

RESULTS

EFA and CFA analyses were conducted to test the scale's construct validity.

Exploratory Factor Analysis

To ensure the data is suitable for factor analysis, the KMO coefficient should be higher than .60, and the result of Bartlett's test should be significant. In this study, the KMO sample concordance coefficient was found to be .848, and Bartlett's test of sphericity yielded an χ^2 value of 2373.838 ($p<.001$). These results indicated that the responses to the scale items could be factored. A minimum sample size of 300 is recommended for factor analysis (12), and this analysis was conducted with 303 students. As the aim of this study was to develop a two-dimensional scale, the varimax rotation factor analysis using the principal components technique in EFA was limited to two factors. The literature states that when deciding whether an item should be included in the scale during scale development, a factor loading value of .45 or higher would be a good criterion for selection. Additionally, when deciding whether to include an item in the scale, the difference between the two highest loading values should be at least .10 (13). As a result of the exploratory factor analysis performed with the varimax rotation method, nine items (I7, I16, I18, I20, I21, I22, I26, I27, and I29) with discrimination indices below .45 were deleted from the scale.

Table 1 lists the item factor loading values of the scale's final version.

Table 1. Item factor loading values of the Attitude Towards Older Women Scale

Item No	Positive attitude	Negative attitude
I25	.727	
I24	.704	
I33	.660	
I6	.558	
I10	.631	
I28	.582	
I17	.572	
I3	.557	
I11	.522	
I13		.713
I14		.709
I19		.670
I34		.659
I2		.665
I32		.647
I12		.621
I1		.607
I31		.592
I15		.567
I23		.543
I9		.540
I8		.460
I30		.501
Eigenvalue	3.402	5.818
Explained Variance	14.792	25.297
Total Variance Explained	40.089	

As shown in Table 1, the eigenvalues in the two subscales are 3.402 in the first and 5.818 in the other. The percentage of total variance explained is 14.792% in the first subscale, 25.297% in the second subscale, and 40.089% in total. The factor loading values of the items vary between .460 and .727. In social sciences, an accepted variance ratio is considered adequate between 40% and 60%. However, since a variance ratio of 30% or more (14) is acceptable in single-factor structures, the explained variance ratio of 40.089% is considered acceptable.

Table 2. Reliability analysis of the Attitude Towards Older Women Scale

Subscales	Number of Questions	Cronbach's Alpha Reliability Coefficient
Positive Attitude	9	.840
Negative Attitude	14	.892
Total	23	.889

The Cronbach's alpha reliability coefficient calculated for the overall Attitude Towards Older Women Scale was .889, and it was calculated as .840 for the positive attitude subscale and .892 for the negative attitude subscale. Given that these values exceed .70, the scale's reliability is considered acceptable (12).

Item Analysis

The comparison of the subgroup and the supergroup is one of the methods used to determine whether the items retained in the scale have internal validity. The test scores obtained from the scale were ranked from smallest to largest, and it was determined that 27% of the sample equated to 81 participants. According to the scale score, the 81 people with the lowest score were recoded as the 'subgroup.' The difference between these groups was examined using the 'independent samples t-test.' When the findings regarding internal validity in Table 3 were examined, the difference between the arithmetic means of the attitude scores of the subgroup and the supergroup was found to be statistically significant ($p<0.001$).

Table 3. T-test results of the scale scores for the 27% subgroup and supergroup

	N	Mean ± SD	t	P
Subgroup	81	55.12 ± 9.41	17.329	.000
Supergroup	81	78.17 ± 7.39		

Confirmatory Factor Analysis

As a result of the exploratory factor analysis, a structure consisting of 23 items and two subscales was obtained. To test whether this structure obtained with EFA was confirmed or not, data were collected again using the scale's final version, and CFA was applied. It was suggested that the sample size for CFA should be between 100 and 200 observations (15). Consequently, a sample size of 209 students was deemed appropriate for the analysis. The items reflecting negative attitudes in the scale were reverse coded. Figure 1 shows the factor loadings related to the model obtained as a result of CFA.

In confirmatory factor analysis and structural equation modeling, the fit indices most commonly used to assess the fit of the model to the data are χ^2 (chi-square), RMSEA (Root Mean Square Error of Approximation), GFI (Goodness of Fit Index), AGFI (Adjusted Goodness of Fit Index), and CFI (Comparative Fit Index) (16). After the scale displayed a two-component structure, confirmatory factor analysis (CFA) was conducted to determine the fit of the structure. The CFA results indicated the following values: χ^2/sd=2.125, RMSEA=0.074, GFI=0.838, CFI=0.871, AGFI=0.800, NFI=0.884, IFI=0.873, and TLI=0.854. Table 2 below contains data on the fit indices obtained after the analyses.

When the goodness-of-fit indices for the Attitude Towards Older Women Scale were examined, it was found that the chi-square degree was χ^2=476.030 and the degree of freedom was

Figure 1. Path diagram for CFA results

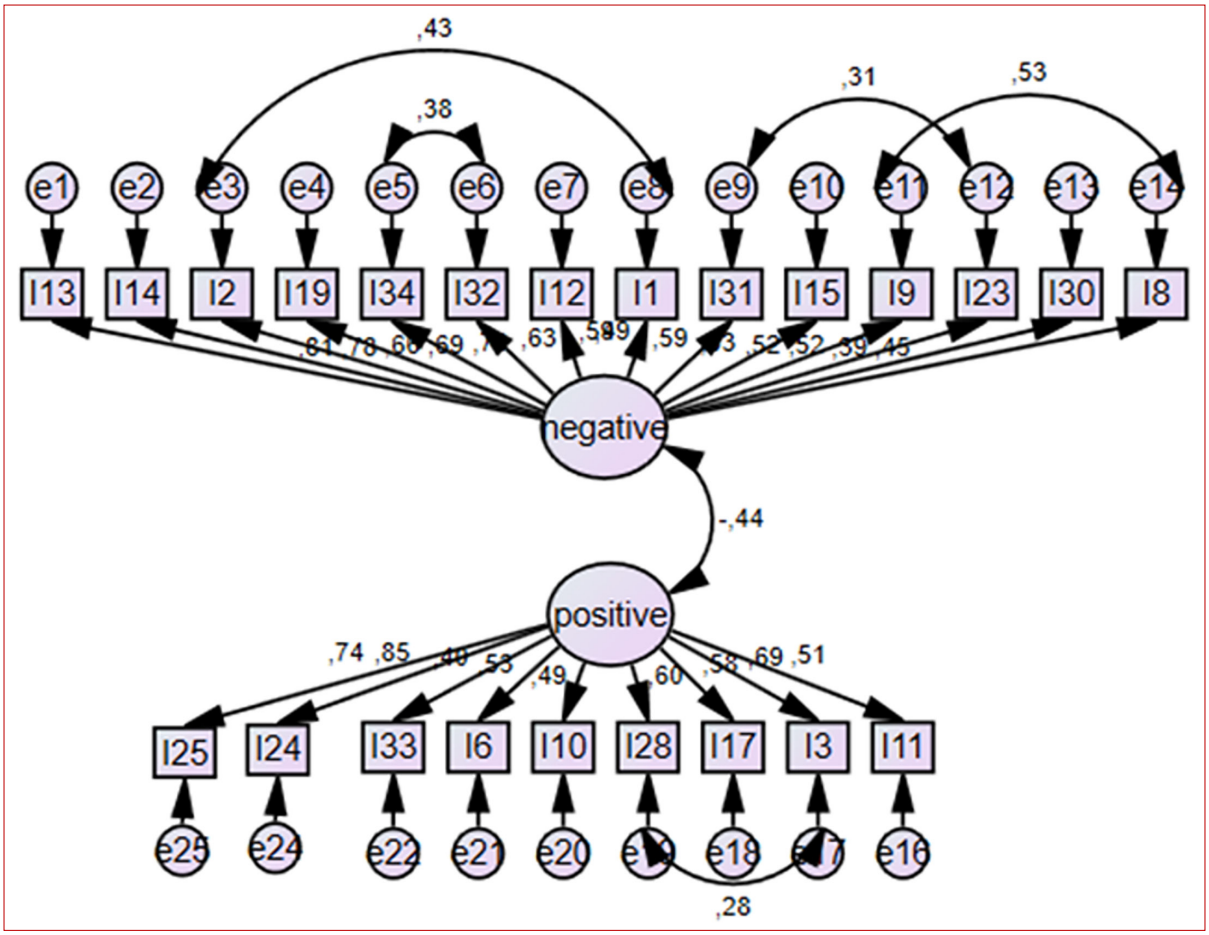

Table 4. Values related to goodness-of-fit indices for the Attitude Towards Older Women Scale

Chi-square	Sd	$\chi^{2/sd}$	RMSA	GFI	CFI	AGFI	IFI	TLI
476.030	270	2.125	.074	.838	.871	.800	.873	.854

sd=224. Accordingly, it was determined that the χ^2/sd ratio was 2.125 ($p<.05$). To understand if the model data fit is suitable, the χ^2/sd ratio should be less than 5 (17), and if it is less than 3, it is accepted that the model has a very good fit (18). The RMSEA value of the model was found to be .072. An RMSEA value of .08 and below indicates that the model has a good fit (19). An AGFI value exceeding .90 indicates a perfect fit, while .85 indicates an acceptable fit (20). However, some studies in the literature stress that an AGFI value above .80 is acceptable (21). The comparative fit index (CFI) value of the scale is 0.871. The Tucker-Lewis index (TLI) value is 0.854, and the incremental fit index (IFI) value is 0.853. These indices are considered acceptable when they are equal to or greater than 0.80 (12,22). When these criteria are considered, it can be stated that the two-factor structure obtained with confirmatory factor analysis is an acceptable model.

DISCUSSION

Negative and discriminatory attitudes towards older adults are more prevalent in modern societies than in traditional ones. Previous evaluations of attitudes towards older adults were typically based on various translations of Kogan's Attitude Toward Old People Scale (10). However, both foreign and domestic studies have examined university students' attitudes towards older adults. The majority of these studies have been conducted with students studying in the field of health. Students' attitudes towards older adults vary according to variables such as age, gender, department, income, and the presence of older adults in the family (7). The study adapting the Attitude Toward Older People Scale into Turkish indicated that due to prejudices about aging and the lack of economic security, many older adults experience health problems and increased dependence (9). A similar recent cross-sectional study in Austria with university students from various departments found that participants held negative attitudes towards older adults, describing them as dependent, insecure, and in poor health (23).

To combat the negative attitudes that older adults are exposed to, the attitudes and knowledge of young people should be structured in a more positive way. As such, they will not have stereotypical views about aging. In this regard, it is believed that the development of up-to-date, valid, and reliable measurement tools that will facilitate the acquisition of information that will guide policies and research on aging and older women will contribute to the literature.

Validity and reliability analyses were conducted on the "Attitude Towards Older Women Scale," which was developed as a five-point Likert-type scale and subjected to exploratory and confirmatory factor analyses. The exploratory factor analysis revealed that the 23-item "Attitude Towards Older Women Scale" consists of nine items for positive attitudes and 14 items for negative attitudes. The total score that can be obtained from the scale varies between 23 and 115. The total score is obtained by summing the scores obtained from the two factors in the scale.

A high score indicates high positive attitudes towards older women, whereas a low score indicates low positive attitudes towards older women. The variance explained by the two-factor structure is 40.089%. As a result of the analysis conducted regarding the measurement tool's reliability, Cronbach's alpha coefficients were found to be .840 for the first factor, .892 for the second factor, and .889 for the overall scale. According to the t-test results of the scale scores regarding the 27% subgroup and supergroup, the difference between the arithmetic means of the attitude scores of the subgroup and the supergroup was found to be statistically significant, possibly indicating that all items in the ATOWS are discriminatory. To test the structure's accuracy, confirmatory factor analysis was conducted, resulting in the following values: χ^2/sd=2.125, RMSEA=0.074, GFI=0.838, CFI=0.871, AGFI=0.800, NFI=0.884, IFI=0.873, and TLI=0.854. The confirmatory factor analysis confirmed that the two-factor structure is an acceptable model. The Attitude Towards Older Women Scale (ATOWS) is a two-dimensional measurement tool with 23 items, where high scores in the positive attitude subscale and low scores in the negative attitude subscale indicate positive attitudes towards older women.

CONCLUSION

In line with the analysis results, the acceptable reliability and validity of the "Attitude Towards Older Women Scale" show that the scale can be used to determine the attitudes of university students towards older women in Türkiye. It is also thought that it will fill the gap in the literature, especially in studies to be conducted in the field of women's studies.

REFERENCES

1. Ceylan H. Old Age and the Welfare State. Opening Publications, İstanbul 2015, Türkiye pp 15-25.
2. Aslan D. Preventive Medicine Approach in Elderly. Geriatrics. Publications of the Turkish Medical Association, Ankara 2007, Türkiye pp 38–44. (in Turkish)
3. Konak A, Çiğdem Y. The Phenomenon of Old Age: The Example of the Sivas Nursing Home. Journal of Social Sciences, Cumhuriyet University 2005;29:23-63. (in Turkish)
4. TUIK. Life Tables 2018-2020; 2023. [Internet] Available from: https://data.tuik.gov.tr/Bulten/Index?p=Hayat-Tablolari-2018-2020-37226. Accessed date: 12.04.2024
5. Chrisler JC, Barney A, Palatino B. Ageism Can Be Hazardous to Women's Health: Ageism, Sexism, And Stereotypes of Older Women in The Healthcare System. Journal of Social Issues 2016;72(1):86-104. (DOI: 10.1111/josi.12157)
6. Cheong SK, Wong TY, Koh GC. Attitudes Towards the Elderly Among Singapore Medical Students. Annals Academy of Medicine Singapore 2009;38(10):857-61. (DOI: 10.47102/annals-acadmedsg.V38N10p857)
7. Dağ A. Old Age and Social Exclusion in the Context of Gender. Journal of Academic Social Research 2016;(28):480-500. (in Turkish) (DOI : 10.16992/ASOS.1202)
8. Şahin H, Erdem Y. Determining the Attitudes of Nursing Students Towards the Elderly. Journal of Social Research in Turkey 2017;21(1):219-32. (in Turkish)
9. Duyan V, Gelbal S. Adaptation of the Attitudes Towards the Elderly Scale to Turkish with a Group of University Students. Turkish Journal of Geriatrics 2013;16(2):202-209. (in Turkish)
10. Kogan N. Attitudes Toward Old People: The Development of a Scale and An Examination of Correlates. The Journal of Abnormal and Social Psychology 1961;62(1):44-54. (DOI: 10.1037/h0048053).
11. Otrar M. Attitudes Toward Aging and Old Age Scale: Validity and Reliability Study. Journal of Sociology 2016;36(2):527-550. (in Turkish) (DOI:10.16917/iusosyoloji.292680).
12. Tabachnick BG, Fidell LS. Using Multivariate Statistics (Baloğlu M, Trans. Eds). 6th edition, Nobel Academy Publications, 2020, Türkiye pp 25-45.
13. Tavşancıl, E. Measurement of Attitudes and Data Analysis with SPSS. Nobel Publishing Distribution, Ankara 2010 Türkiye pp 45-55. (in Turkish)
14. Alpar, R. Applied Statistics and Validity-Reliability with Examples from Sports, Health, and Educational Sciences. 3rd edition. Detay Publishing, Ankara 2014, Türkiye pp 52-82.
15. Nevitt J, Hancock GR. Evaluating Small Sample Approaches For Model Test Statistics In Structural Equation Modeling. Multivariate Behavioral Research 2004;39(3):439-78. (DOI:10.1207/S15327906MBR3903_3).
16. Sümer N. Structural Equation Models: Basic Concepts and Example Applications. Turkish Psychology Articles 2000; 3(6):49-74. (in Turkish)
17. Marsh HW, Hocevar D. A New, More Powerful Approach to Multitrait-Multimethod Analyses: Application of Second-Order Confirmatory Factor Analysis. Journal of Applied Psychology 1988;73(1):107-17. (DOI: 10.1037/0021-9010.73.1.107).
18. Doğan N, Başokçu TO. Comparison of Factor Analysis and Hierarchical Clustering Analysis Results Applied for the Statistics Attitude Scale. Journal of Measurement and Evaluation in Education and Psychology 2010;1(2):65-71. (in Turkish)
19. Hu LT, Bentler PM. Cut-off Criteria for Fit Indexes In Covariance Structure Analysis: Conventional Criteria Versus New Alternatives. Structural Equation Modelling. 1999;6(1):1-55. (DOI:10.1080/10705519909540118).
20. Schermelleh-Engel K, Moosbrugger H, Müller H. Evaluating The Fit of Structural Equation Models: Tests of Significance and Descriptive Goodness-Of-Fit Measures. Methods of Psychological Research Online 2003;8(2):23-74. (DOI:10.23668/psycharchives.12784).
21. Doll WJ, Xia W, Torkzadeh G. A Confirmatory Factor Analysis of the End-User Computing Satisfaction Instrument. MIS Quarterly 1994;18(4):453-61. (DOI: 10.2307/249524).
22. Kline RB. Principles and Practice of Structural Equation Modeling. New York: Guilford, 2011, pp 80-95.
23. Schüttengruber G, Stolz E, Lohrmann C, Kriebernegg U, Halfens R,Großschädl . Attitudes Towards Older Adults (80 Years and Older): A Measurement with The Ageing Semantic Differential—A Cross Sectional Study of Austrian Students. Int J Older People Nurs 2022;17:e12430. (DOI:10.1111/opn.12430)