Adaptation of the Dementia Attitudes Scale into Turkish

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ABSTRACT

Introduction: The aim of this study was to assess psychometric properties of the Turkish version of the Dementia Attitudes Scale which is developed to determine attitudes towards dementia.

Methods: 326 volunteered students between the age of 20–44 years, studying in Manisa Celal Bayar University Faculty of Medicine and Faculty of Health Sciences are included in this methodological study. Data of the study were collected with "Demographic Data Form", "Dementia Attitudes Scale" and "UCLA-Geriatrics Attitudes Scale". For the analysis of the data, the SPSS and Lisrel software were used.

Results: The Cronbach's alpha coefficient of the Dementia Attitudes Scale is 0.84 which is quite high. Confirmatory factor analysis has supported three factor-structure of the scale: "Supporting attitude", "Accepting attitude" and "Exclusionary attitude". Confirmatory factor analysis revealed goodness of fit coefficients as 0.076 for RMSEA, 2.86 for the chi-square/sd, and 0.93 for CFI. The analysis showed that the adapted scale fits the model very well. The scale can discriminate between demographic characteristics and attitudes to dementia. The scale significantly correlates with UCLA-Geriatric Attitudes Scale measuring attitude towards the elderly.

Conclusion: Dementia Attitude Scale is a valid and reliable scale that can be used in studies evaluating the attitude towards dementia.

Keywords: Dementia attitude scale, dementia, validity, reliability

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INTRODUCTION

Dementia is defined as a cognitive impairment syndrome, which affects memory, cognitive abilities, and behaviors and significantly hinders the ability of the person to perform daily activities (1). The most common type of dementia is Alzheimer's Disease accounting for approximately 60–70% of all dementia cases (2). Although age is the strongest known risk factor for dementia, dementia does not develop as a normal part of aging process. Today, around 50 million people have already been diagnosed with dementia problems and 9.9 million new cases of dementia are diagnosed globally each year. The majority of dementia cases (63%) is known to live in low- and middle-income countries and these cases are now the seventh leading cause of death in the world (1). Especially the recommended prevalence of dementia has been reported to be 8.67% for 60 years old group as a key indicator to track the health statues of the aging societyand older population in Turkey. Also, it is stated that Turkey has the lowest proportion of dementia accompanied with Mexico and Slovak Republic in Organization for Economic Cooperation and Development (OECD) countries (3,4). However, due to limited data on studies on the prevalence of dementia in our country, a clear rate cannot be given. Therefore, the prevalence of dementia in our country is considered to be lower than other countries (5-7). The World Health Organization (WHO) emphasizes that in many countries the problems experienced by dementia patients are further increased by the lack of understanding and ongoing awareness of dementia (1).

With the increasing number of people diagnosed with dementia and Alzheimer's Disease, caring for dementia patients will be among the important issues in the coming years. Therefore, negative perceptions, attitudes and stereotypes related to dementia, the need to change attitudes and the means to promote positive attitudes towards people with dementia should be critically investigated and the results to be obtained should be carefully considered in the future struggle in this area.

Attitudes are one of the most important determinants of human behavior. Therefore, they give direction to the individual's behavior. Individuals' attitudes towards a phenomenon or situation significantly affect their behaviors such as love and hate. For this reason, it is desirable to measure attitudes and to know the degree of attitudes of people related to the relevant phenomenon or situation (8). In the literature, negative perceptions and opinions have been reported for dementia patients claiming that they are unpredictable, do not express themselves creatively, and that it is difficult to deal with and interested (9). Brodaty, Draper, and Low (10), in their study investigating the attitudes of the employees in the nursing home towards dementia patients, found that working staff have a negative perception of dementia. People working in the nursing home stated that dementia patients were unpredictable, lonely and vulnerable; they also stated that they had difficulty in dealing with aggression and hostility. Kahana et al. (11) compared the attitudes

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of nurses in three groups as healthy elderly, physically ill elderly and Alzheimer's disease. It was stated that nurses evaluated the elderly with Alzheimer's disease to be more negative than physically ill elderly. In particular, these negative perspectives, even among direct caregivers, suggest that understanding of dementia is lacking and that there is a need to develop a positive attitude towards people with dementia. It has been reported that dementia patients, university students and caregivers can promote positive attitude changes through activity programs and creative practices (12).

In order to make societies dementia-friendlyand enable them not to view dementia as a biomedical phenomenon, a culture change is recommended for dementia care in nursing homes where a more psychologically focused working style is preferred (12). The Dementia Attitudes Scale (DAS), developed by O'Connor and McFadden in 2010, is a tool determining the attitude of university students and that of direct care workers in terms of dementia. There is no Turkish tool to determine the attitudes of individuals towards dementia to be employed in our country. The aim of this study was to adapt the DAS into Turkish and to psychologically test its validity and reliability.

METHOD

Design of Study and Sample
The methodological study included 326 students attending the Faculty of Medicine and Health Sciences (Nursing Department) at Manisa Celal Bayar University. For the 20-item scale, the sample size of 10-fold was determined, and it was interviewed with at least 200 students. The sample of the study consisted of 326 students (aged 20–44 years) who were volunteered to participate in the study in the faculties mentioned in the Fall Semester of 2018-2019 Academic year from whom informed consents were obtained.

Data Collection Tools

Introductory Information Form
This form was prepared by the researchers in accordance with the literature aiming to determine the sociodemographic and descriptive characteristics of the students.

The Dementia Attitudes Scale (DAS)
The original scale research consists of four studies that start with structured interviews and qualitative concept maps, followed by exploratory factor analysis and convergent validity test. For the two groups of users targeted in the study, the scale was validated with university students and direct care workers. DAS was developed in 2010 by O'Connor and McFadden. It was stated that an important difficulty encountered in the creation of the scale was related to the terminology. Confusion has been reported about the relationship between Alzheimer's Disease and dementia, and therefore the term "related diseases" (RD) and Alzheimer's disease are used among the scale expressions (ADRD). The scale is a 7-point Likert scale with options from 1 (strongly disagree) to 7 (strongly agree). 6 items of the 20-item scale are inversely scored. Cronbach's alpha value of the scale was reported to be 0.83 (12).

UCLA Geriatric Attitude Scale
The scale was developed by Reuben et al. (1998), and the validity and reliability study of the English was conducted with the data obtained from short-term, multidimensional and medical students and healthcare students. Turkish validity and reliability study of UCLA Geriatrics Attitudes Scale was performed by Şahin et al. (13). The scale has 5 sub-dimensions and is prepared in five likert type (5. Strongly agree-1. Strongly disagree). In the Turkish scale, four dimensions are defined as "social values, medical

care, and compassion and resource allocation. The highest score to be obtained is 70 and the increase in the score shows that the attitude is more positive. UCLA Cronbach alpha value was calculated as 0.73 for this study.

Process

Adaptation of DAS to Turkish and scope validity
In the adaptation phase of the DAS to Turkish, the scale was first translated from the original language of the scale, English, into Turkish by four independent native speakers. Then, Turkish texts were combined by the researchers. Two faculty members evaluated each item in terms of the most appropriate Turkish translation and a consensus was created for Turkish translation version. Afterwards, a Turkish native speaker translated the Turkish form of the scale into English. The original text of the scale and the advanced translation text were compared in terms of consistency. Lastly, the items of the scale were discussed, upon the consensus, the Turkish translation was reviewed for the last time and the final version of the scale was accepted.

After the language adaptation, for the latest version of the scale, the opinions of 11 experts working in the field of Public Health, Psychiatry, Nursing and Medical Education were obtained. Experts were asked to evaluate the draft scale between 1 and 4 points in terms of language / expression appropriateness and content suitability. Davis technique was used for the scope validity of the scale (14). In the Davis technique, experts evaluate their views on substances with (1) appropriate, (2) highly appropriate substance, (3) slightly appropriate-substance serious review, and (4) non-compliance. According to expert opinions, it was found appropriate to include dementia in the form of "Alzheimer's disease and similar disorders" as in the original scale. No items were removed from the scale. The Scope Validity Index, which was suggested by Davis as 0.80 and above, was found between 0.82–1.00 for scale items. Cognitive questioning was performed on 12 individuals representing the target group of this last version of the scale. As a result of the application, no negative feedback was received regarding the intelligibility of the substances. The data of pre-applied students were not included in the analysis.

Statistical analysis
After applying the DAS to the target group, Lisrel 8.54 and SPSS 20.0 statistical package programs were used in the analyses. The subscales, total mean item scores and standard deviations were calculated for the scale score distributions. For the distributions obtained from the scale, the base and ceiling effects were calculated for each of the scale and sub-dimensions. It is desirable that the base and ceiling effect percentages are lower than 15% from the top and bottom, because, high percentage indicates that the responses given to the items constituting the dimension spread to the extremes (15).

For reliability analysis, Cronbach alpha values were calculated for the scale and its sub-dimensions as internal consistency coefficient. Cronbach's alpha values above 0.7 were considered sufficient (15–17). In addition, Cronbach's alpha values were also calculated when the item was removed. Generally, item-total correlation values that were desired to be over 0.3–0.4 were also calculated (16). Whether the scale had summability was also tested (Tukey Non-additivity test).

In intercultural scale adaptation studies, confirmatory factor analysis is recommended, but in the confirmatory factor analysis, the model for the original scale dimension structure is not confirmed or if the model data fit is insufficient, it is stated that the explanatory factor analysis should be performed (18,19). For the purpose of this study, two-dimensional model of original scale was evaluated with confirmatory factor analysis before

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exploratory factor analysis was performed. The first model fit indices are given in Table 4. However, due to poor index fit of the two-dimensional model (RMSEA = 0.097, χ2 / sd value 4.05 [χ2 = 685.91, sd = 169], CFI = 0.90, GFI: 0.83, SRMR = 0.077) it was found that the original structure did not display adequate agreement (20). Explanatory factor analysis was made to the scale.

In the validity analysis, explanatory and confirmatory factor analyzes were performed. The explanatory factor analysis was performed and varimax rotation was applied through the principal components analysis and the factor formation status of the scale was examined. As a result of the calculation, Kaiser-Meyer-Olkin (KMO) value was calculated for sample size adequacy. Barlett's Sphericity Test was also used to determine the suitability of the scale items for analysis. KMO value should be above 0.5 and Barlett's sphericity test result should be below p <0.05.

Confirmatory factor analysis was performed to evaluate the item-size structure of the scale. The values of the summary fit index which are Chi-square / degree of freedom value (χ2 / sd), Root Mean Square Error (RMSEA), Comperative Fit Index (CFI), Standardized Root Mean Residual (SRMR) and Incremental Fit Index (IFI) values were given. Many concordance and cut-off points are indicated in the literature for these values. The model's summary fit index values of χ2 / df are less than 3, RMSEA and SRMR are less than 0.08 and CFI and IFI are above 0.90 and GFI is above 0.95. It is considered as an indicator of acceptable compliance (20).

Correlation coefficients between the UCLA Geriatric Attitude Scale and its subscales were examined for discriminant validity. The correlation coefficients of the scales were evaluated as low between 0.1-0.3, medium between 0.31-0.50 and higher than 0.51 (21). It is expected that the instruments which measure similar subjects will have a medium or high correlation, and those measuring different subjects will produce a low correlation coefficient. For the validity of known groups, differences in age, marital status, income perception, educational status, working status and DAS score were compared with Student's t-test and one-way analysis of variance (15).

Ethical Aspect of the Research
For the validity and reliability study of the Turkish version of the scale, permission was obtained from Susan H. McFadden via e-mail. Approval was obtained from Manisa Celal Bayar University Faculty of Medicine Local Ethics Committee before starting the data collection process. Written permissions were obtained from the Faculty of Medicine and Health Sciences. Informed written consent was obtained from the students who participated in the data collection process.

RESULTS

Sample Identifying Findings
The mean age of the study sample was 23.10 ± 2.75 (between 20 and 44); 40.2% of them are studying in the Faculty of Medicine and 59.8% are studying in the Nursing Department of the Faculty of Health Sciences. The majority (70.2%) of girls, (63.8%) equivalent to income and expenditure, (60.7%) were seen to live in the city center for the longest time, (85.0%) has a nuclear family structure. 58.6% of the students did not live with the elderly at present or previously, but 70.6% stated that they had information about dementia (Table 1).

Distribution Properties and Reliability Analysis of the Scale
The mean scores and standard deviations of the DAS total and three sub-dimensions are shown in Table 2. The mean total score was 99.03 ± 13.89. Cronbach's alpha values of the three-factor scale were calculated as follows: the "Supportive Attitude" sub-dimension was found to be

Table 1. Distribution of study group by sociodemographic characteristics (n=326)

Sociodemographic characteristics		n	%
Faculty	Faculty of Medicine	131	40.2
	Nursing Department of the Faculty of Health Sciences	195	59.8
Age (years) 23.10±2.75 (Range:20–44) Median: 23.00	23 years and younger	219	67.2
	Older than 23 years	107	32.8
Sex	Men	97	29.8
	Women	229	70.2
Income Perception of student	Low	48	14.7
	Middle (equivalent to income and expenditure)	208	63.8
	High	70	21.5
The longest time lived settlement of the student	Urban	43	13.2
	County center	82	25.2
	Rural	198	60.7
	Abroad	3	0.9
Marital status	Married	20	6.1
	Unmarried	306	93.9
Education status of his/her mother	Illiterate (Elementary school not finished)	23	7.1
	Literate (Elementary school not finished)	13	4.0
	Elementary School	130	39.9
	Secondary School	41	12.6
	High School	58	17.8
	College	61	18.7
Education status of his/her father	Illiterate (Elementary school not finished)	6	1.8
	Literate (Elementary school not finished)	8	2.5
	Elementary School	94	28.8
	Secondary School	44	13.5
	High School	78	23.9
	College	96	29.4
Types of family structure	Nuclear family	277	85.0
	The larger extended family	36	11.0
	A single-parent family	13	4.0
The oldest individual in the family	Mom/dad	141	43.3
	Grandmother/grandfather	165	50.6
	Uncle / Uncle / Aunt / Still	16	4.9
	Missed data	4	1.2
Presence of an individual diagnosed with dementia in the family	There is an individual diagnosed with dementia in the family	39	12.0
	None	287	88.0
Relation of an individual diagnosed with dementia*	1st degree relative	10	25.6
	2nd.degree relative	26	66.7
	3rd degree relative	3	7.7
Living with the elderly in the home	Yes (previously)	105	32.2
	At present	30	9.2
	No	191	58.6
Having information about dementia	Yes	230	70.6
	No	96	29.4

The mean age of the individuals with a diagnosis of dementia in the family was 68.49 ± 14.30 (Range: 44-99, Median: 70). Percentages were calculated on n=39 individuals.

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Table 2. Descriptive statistics of the Dementia Attitudes Scale, item-total correlation coefficients, Cronbach's alpha values of factors, Cronbach's alpha values if item was deleted and the floor-ceiling effect values

Dementia Attitudes Scale (DAS) and items	Point Mean ± standard deviation	Item-total correlation coefficients	Cronbach's alpha if item deleted	The value of Cronbach alpha	Floor- Ceiling Effect Value %
DAS Total	99.03±13.89			0.84	0.3–0.3
Factor 1. Supportive attitude	45.44±6.40			0.65	0.3–0.6
DAS1	5.29±1.39	0.445	0.829		
DAS7	5.89±1.31	0.478	0.828		
DAS10	5.39±1.30	0.500	0.827		
DAS11	5.54±1.23	0.460	0.829		
DAS15	5.35±1.32	0.606	0.822		
DAS16*	3.17±1.58	-0.246	0.862		
DAS18	4.80±1.36	0.372	0.832		
DAS19	5.63±1.28	0.585	0.823		
DAS20	4.33±1.58	0.213	0.841		
Factor 2. Acceptive attitude	27.70±5.57			0.78	0.3–1.2
DAS3	4.32±1.33	0.367	0.833		
DAS4	3.55±1.36	0.343	0.834		
DAS5	5.14±1.48	0.497	0.826		
DAS12	5.12±1.26	0.616	0.822		
DAS13	4.64±1.28	0.564	0.824		
DAS14	4.90±1.28	0.572	0.824		
Factor 3. Exclusionary attitude	25.88±5.15			0.71	0.3–5.2
DAS2*	5.56±1.43	0.448	0.829		
DAS6*	5.79±1.44	0.527	0.825		
DAS8*	4.41±1.64	0.250	0.839		
DAS9*	4.92±1.56	0.468	0.828		
DAS17*	5.19±1.49	0.491	0.827		

* Reversed items

0.65, the "Acceptive Attitude" sub-dimension was 0.78, and the "Exclusive Attitude" sub-dimension was 0.71. Cronbach's alpha coefficient for the total of the scale was 0.84 (Table 2). As a result of Tukey Non-Additivity test, Friedman x2 value was found to be 131.212 (p<0.001).

It has been determined that the floor and ceiling values do not exceed 5.2% for the total and each sub-dimension of the DAS. The item total correlation coefficients of the scale were found to be between 0.21–0.61. When the goodness of fit indices did not confirm the original scale structure, so item analysis was performed to determine the items with low correlation with the scale as a whole. As a result of item analysis, item-total score correlation value of three items (items 8, 16 and 20) was found to be less than 0.30 or negative. Material was not removed from the scale in order not to disturb the original scale structure.

Validity Analysis: Explanatory and confirmatory factor analysis
For factor analysis, KMO value was found to be 0.857, whileBarlett's sphericity test was found to be adequate and consistent at p<0.001 level. This value, which is statistically significant, showed that explanatory and confirmatory factor analysis could be performed for the model. Explanatory factor analysis, where all items of the scale were evaluated together, was conducted. When the eigenvalue was taken as 1, it was found that three factors were produced. The variance explanatory level of the items that make up the three-dimensional structure produced from exploratory factor analysis is 45.6%. When the distribution of these three

factors according to the size structure of the original scale was observed, it was seen that some items were found to have different factors than the two sub-dimensions of the original scale. Although the distribution of the items is not compatible with the original factor structure, it is seen that the factors produced as a result of explanatory factor analysis are distributed in three sub-dimensions in order to determine the attitude (Table 3). The first factor was called "Supportive Attitude", because it included expressions of attitude that would support and acknowledge the differences of people with Alzheimer's disease and people with similar conditions. The second factor was named as "Acceptive Attitude" because it included expressions that adopted acceptability and non-punishment against negative behaviors, desires and movements of people with Alzheimer's disease and similar disorders. As for the third one, the term "Exclusionary Attitude" was used as a name, which included expressions of attitude towards discrimination and inclusion from people with Alzheimer's disease and similar conditions.

As a result of the confirmatory factor analysis applied for the whole model, the concordance indices of the three sub-dimensional models produced are given in Table 4. It was found that RMSEA = 0.076, $\chi 2$ / sd = 2.86, CFI = 0.93, and SRMR = 0.064, which are the summary fit indexes of the three sub-dimensional models produced for Turkish-adapted DAS (Figure 1). The goodness of fit indices of the model that tested two sub-dimensions of the original scale were found to be poor; The structure of the three sub-dimensions obtained after exploratory factor analysis displayed a
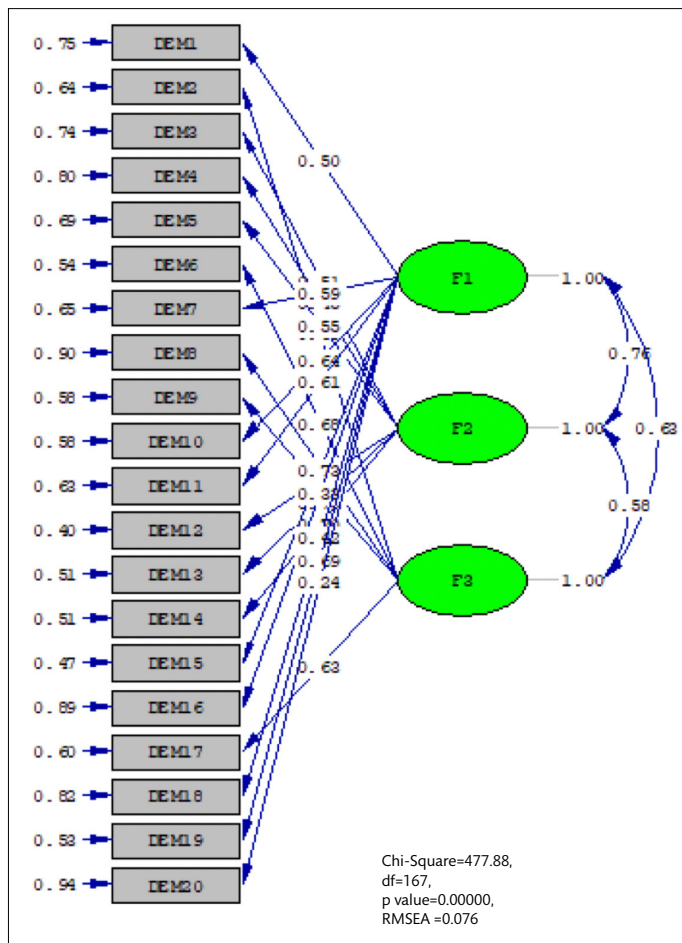
Figure 1. Confirmatory Factor Analysis Model of Dementia Attitudes Scale

good agreement with the results of confirmatory factor analysis.

Distinguished Validity Analysis
The correlation coefficients between the DAS score and the UCLA Geriatric Attitude Scale and its subscales were found to be between 0.22 and 0.55. The highest correlation was between WTO total scores and UCLA-Geriatric Attitude Scale total scores (r = 0.55). In the comparisons, it was found that there was a significant correlation between all subscales of both of the scales (p<0.01, Table 5).

Known Groups Validity
As a result of univariate analyzes, a significant relationship was found between DAS score and the status of whether or not having information about dementia (p<0.05). However, a similar relationship was not found between the faculties, sex, the longest residential unit, the family structure, the presence of dementia in the family and the living status with the elderly (p> 0.05, Table 6). The students who stated that they were informed about dementia had higher DAS scores, who also had a more positive attitude.

DISCUSSION
In this study, the psychometric properties of DAS were analyzed with three basic approaches the first of which is the basic distribution characteristics of the DAS items, the second is the reliability findings and final one is the validity findings.

The sample size of the study was calculated as over 300 and at least 5–10 times the scale number of items, as suggested in the literature (16). After language adaptation and pilot application, the data obtained from the scale applied in the field were first evaluated in terms of descriptive characteristics. When the base and ceiling effect percentages of the total and sub-dimensions of the scale were evaluated, it was determined that

Table 3. Exploratory factor analysis results of Dementia Attitudes Scale (baseline data, n = 326) (Varimax)

	Factors		
Produced factors ➔ Item	Factor 1. Supportive attitude	Factor 2. Acceptive attitude	Factor 3. Exclusionary attitude
DAS1. It is rewarding to work with people who have ADRD	0.549		
DAS7. Every person with ADRD has different needs	0.728		
DAS10. People with ADRD like having familiar things nearby	0.633		
DAS11. It is important to know the past history of people with ADRD	0.725		
DAS15. People with ADRD can feel when others are kind to them.	0.595		
DAS16*. I feel frustrated because I do not know how to help people with ADRD	-0.488		
DAS18. I admire the coping skills of people with ADRD	0.391		
DAS19. We can do a lot now to improve the lives of people with ADRD	0.596		
DAS20. Difficult behaviors may be a form of communication for people with ADRD.	0.201		
DAS3. People with ADRD can be creative.		0.653	
DAS4. I feel confident around people with ADRD		0.737	
DAS5. I am comfortable touching people with ADRD		0.493	
DAS12. It is possible to enjoy interacting with people with ADRD		0.646	
DAS13. I feel relaxed around people with ADRD		0.665	
DAS14. People with ADRD can enjoy life		0.568	
DAS2*. I am afraid of people with ADRD			0.645
DAS6*. I feel uncomfortable being around people with ADRD			0.559
DAS8*. I am not very familiar with ADRD.			0.663
DAS9*. I would avoid an agitated person with ADRD			0.620
DAS17*. I cannot imagine caring for someone with ADRD			0.605
Eigen value	5.969	1.653	1.502
Exploratory variance (%)	18.43	14.37	12.82

ADRD = Alzheimer's disease and related disorders; DAS= Dementia Attitudes Scale
KMO (Kaiser -Meyer Olkin): 0.857; Bartlett's test of sphericity: p<0.001, Exploratory variance number=3; The percentage of cumulative variance for three factors: %45.6 * Reversed items

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Table 4. Confirmatory factor analysis model summary index scores of the Dementia Attitudes Scale (n=326)

Criteria	DAS (Original scale with two factors)	DAS (Produced three factors with EFA)
χ2 (p)	685.91	477.88
df	169	167
χ2/df	4.05	2.86
Root Mean Square Error of Approximation (RMSEA)	0.097	0.076
Comparative Fit Index (CFI)	0.90	0.93
Goodness of Fit Index (GFI)	0.83	0.87
Standardized Root Mean Square Residual (SRMR)	0.077	0.064
Incremental Fit Index (IFI)	0.90	0.93

DAS= Dementia Attitudes Scale; EFA=Exploratory factor analysis

the scale item responses mostly displayed a central distribution. When the base and top effect percentages of the total and sub-dimensions of the scale were evaluated, it was determined that the scale item responses mostly displayed a central distribution. In the literature, the effect of base and top is recommended to be below 15% (15). Values obtained from the study group (0.3% - 5.2%) are in accordance with this criterion. According to the scale findings, it was determined that the items and their options adequately represented the desired property to be measured, and that the responders did not consistently provide extreme values.

In this study, DAS total score average was found to be 99.03 ± 13.89. In the original scale study evaluating the attitudes of university students and caregivers towards dementia, a total DAS value of 154.37 ± 15.81 (114–189) was reported (in a range of 30 to 210 possible).

Reliability Analysis
Cronbach's alpha value was calculated as 0.84 for the whole scale. Cronbach's alpha values of the sub-dimensions of the three-factor scale were as follows; Supportive Attitude subscale was found to be 0.65,

Table 5. Correlation coefficients between scales

Scales	Supportive attitude	Acceptive attitude	Exclusionary attitude	DAS Total
UCLA-Social values	0.370*	0.223*	0.342*	0.387*
UCLA-Medical care	0.294*	0.333*	0.427*	0.427*
UCLA-Compassion	0.409*	0.316*	0.403*	0.464*
UCLA-Resources distribution	0.251*	0.371*	0.311*	0.379*
UCLA Geriatrics Attitudes Scale	0.428*	0.431*	0.498*	0.554*

* p<0.01, DAS= Dementia Attitudes Scale

Table 6. Analysis assessing the differences in means scores on the DAS, according to basic participant characteristics (n=326)

Characteristics	n	Mean ± Standard deviation	Statistical test*
Faculty			
Student of medical faculty	131	99.80±15.28	t=0.822 p=0.412
Student of school of nursing	195	98.51±12.89	
Sex			
Men	97	99.09±14.33	t=0.047 p=0.962
Women	229	99.01±13.74	
The longest time lived settlement of the student			
Urban	43	98.79±13.99	F=0.391** p=0.691
County center	82	97.86±12.01	
Rural	198	99.42±14.48	
Types of family structure			
Nuclear family	277	98.87±13.31	t=-0.503 p=0.615
The larger extended family + A single-parent family	49	99.95±16.95	
Presence of an individual diagnosed with dementia in the family			
There is	39	10.74±18.49	t=0.633 p=0.530
None	287	98.80±13.17	
Living with the elderly in the home			
Yes (previously)+ Presently	135	10.65±15,16	t=1.720 p=0.087
No	191	97.89±12.85	
Having information about dementia			
Yes	230	10.06±14.25	t=2.069 p=0.039
No	96	96.58±12.74	

*Independent t test ** One -way ANOVA test

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Acceptive Attitude sub-dimension was 0.78, Exclusive Attitude sub-dimension was 0.71. These alpha values are above the recommended cut-off point of 0.7, except for the Supportive Attitude dimension. When the item is deleted, Cronbach's alpha values are not expected to exceed the specified value (22). Cronbach's alpha values did not exceed 0.84 when all items were excluded, except for a scale item (Article 16) which only caused a very small increase (0.84 to 0.86). The reliability coefficients obtained from the original version of the DAS were found to be 0.85 for the whole scale (0.82 for the Social Comfort dimension and 0.75 for the Dementia Information dimension) (12). Cronbach's alpha values obtained from the adaptation and reliability analyzes of the DAS in different languages were 0.85 in the Croatian version while 0.86 in the Dutch version and were reported over 0.7 (23,24). In both the Croatian and Dutch versions, the two factors of the scale were "positive scale" and "negative scale". However, the entire DAS is analyzed as a one-dimensional scale in the Dutch version in the Netherlands, as it shows high reliability. The DAS validity in Croatia was studied with a sampling of employees and professionals in daily contact with people with dementia, but when the sample consisted of people in the general population, a completely different structure emerged (23, 24). As in other languages, the structure of the factors was quite different in the Turkish DAS compared to the original factors. However, in the Turkish version of the DAS, the significance of the three-dimensional structure in itself was an important indicator.

The total correlations of items indicating whether each item of the scale is compatible with the whole scale were found to be between 0.21 and 0.61. The item total score correlation value of the three items (items 8, 16 and 20) in the scale was found to be less than 0.30 or negative. In the item total score correlation analysis, positive and high correlation values indicate that the items sample the similar behaviors and have high internal consistency and it is emphasized that the low total item correlation decreases the reliability of the scale (16, 25). In the literature, it is stated that the correlation value below 0.30 is considered inadequate, but if the items between 0.20,0.30 are deemed necessary, it can be taken to the scale where it can remain in the scale without being removed (25). In accordance with the literature, in order not to disturb the original scale structure, it was found that the items bordered with very small values should not be removed from the scale.

As a result of the test (p <0.001), it was found that the scale was collectable and suitable to obtain the total score of the scale.

Validity Analysis
In the validity analysis of the scale, explanatory and confirmatory factor analyseswere applied. As a result of the explanatory factor analysis, the Turkish WTO was different from the original scale and consisted of three dimensions (factors) and had a harmonious structure as a whole. In total, approximately 1/2 (45.6%) of the variance was explained, and 38.72% was explained in the original scale study. The results are similar to the original scale study. The results of the exploratory factor analysis showed that, in contrast to the original version of the DAS adapted and psychometric analyzed in this study, it converged conceptually in three dimensions (Table 3). It is accepted that the variance explained in the literature between 40% and 60% is sufficient (18, 19). Factor loads, which are expressed as coefficients explaining the relationship of items with dimensions (factors), are expected to be high in the dimensions to which they belong. In order to say that an itemmeasures a structure or factor well, there is an accepted view that the minimum magnitude of this factor load should be 0.30. It is reported that a negative factor load also indicates the inverse relationship of the factor to the variable (18). It is seen that the 16th item, showing an inverse relationship, was perceived negatively by the students although it was an inverted expression. However, the factor load value of this item is sufficient. In this study, the 20th item with the lowest factor load (0.201) and the 18th item (0.391) were among the items with the lowest factor load in the original scale study (0.33, 0.37, respectively). During the original scale development study, it was stated that items with factor loads less than 0.40 in DAS results should be taken into consideration in future validity and reliability studies.

In order to test the conformity of the conceptual structure determined by explanatory factor analysis with the measurement model, confirmatory factor analysis was conducted on DAS. As a result of the analysis performed for the whole DAS, $\chi2 / df$ value indicating the model fit is within the acceptable fit range of 2.8. In addition, comparative goodness of fit (CFI = 0.93) was found to be above 0.90 and recommended RMSEA value was below 0.08 which is the acceptable limit of 0.08 (20). The results of confirmatory factor analysis of the structure, formed by considering three sub-dimensions obtained from the explanatory factor analysis in the original scale, show that the harmony between the measurement model and the conceptual model is acceptable (Table 4). It was also determined that all sub-dimensions of the scale displayed values consistent with the structure they represented conceptually, and each sub-dimension could explain its structure in a harmonious way.

There was a significant correlation between UCLA Geriatric Attitude Scale (r = 0.55) which measures similar concepts with DAS sub-dimensions and all subscales (p <0.01). In the original scale study, Kogan's Attitude Scale to Elderly People, similar to UCLA-Geriatrics Attitude Scale, was used and the correlation value was reported to be r = 0.51 (p <0.01) between the two scales. The wwo study findings were similar. In the light of these findings, DAS can be used to distinguish the characteristics of dementia attitudes towards the elderly (21).

For the validity findings of the scale used to test the construct validity, the relationship between the total score of DAS and socio-demographic variables was tested. According to the comparison results, the scale was seen to be distinctive in terms of getting information about dementia (p <0.05). There was no difference between the faculty, sex, the longest-lived settlement, family structure and the presence of the family diagnosed with dementia and living with the elderly (p> 0.05). In the Dutch adaptation study, no significant difference was found between age, education and gender (p> 0.05). In fact, it is expected that recognizing a person affected by dementia will be related to more positive attitudes towards dementia. However, other studies in the literature, such as this study, did not find a significant difference between recognizing a person with dementia and DAS (p = 0.130) (23,26). The results of the studies in the literature are similar.

There are also limitations in this study. The generalizability of the findings and the invariance reliability tests to test the invariance with respect to time were tested. The study was conducted with students studying at Manisa Celal Bayar University. The fact that the clinical sample and caregivers were not included in the study also limits its generalizability. Since the study sample did not include clinical patients and caregivers, it was thought that statistical results differing from the original scale study in this study. In addition, responding to items that are one of the main problems of attitude scales towards social desirability may have affected the results of this study methodologically.

CONCLUSION
The psychometric properties from the Turkish adaptation study of DAS indicate that the scale is a valid and reliable instrument. According to the findings of the study, 20-item DAS is recommended for researchers who want to examine the attitude towards dementia in practice in terms of length and ease of application.

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