



A Turkish version of Kogan's attitude toward older people (KAOP) scale: Reliability and validity assessment

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ABSTRACT

The considerable growth in the elderly population in Turkey has brought with it problems as well as concerns regarding gerontological education for health care professionals. The quality of care provided for older people is directly related to the attitudes of health care professionals. Validated instruments are needed in order to study attitudes toward old people. Aim of this study was to assess the reliability and validity of a Turkish version of KAOP among faculty of health sciences (health management, nutrition and dietetics, nursing, physical therapy, social workers and sports) students ($n = 594$) at a university. The scale was translated using the back-translation technique. A two-phase data collection design was used. Four weeks following the first completion, another KAOP form was given. Content validity, construct validity, internal consistency, and stability reliability were assessed. Scores were between 86 and 175. The study sample reported slightly positive attitudes (132.9 ± 14.74). All of the 34 items were found to have significant item-to-total correlations. The content validity index was 0.94. The Cronbach's alpha was 0.84 for the total scale. The Turkish version of the KAOP can be considered reliable and valid scale for assessing the attitudes toward older people.

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1. Introduction

As life expectancy increases, the elderly population grows rapidly. In Europe, older people constitute around 17.1% of the total population and it is expected that this rate will increase to 30% in 2060 (Giannakouris, 2008). According to data of Turkish Statistical Institute (TUIK) 7.1% of the population is 65 and over. It is estimated that it will increase to 9.9% by 2025 (TUIK, 2009).

Aging is not an illness, but the increasing numbers and severity of health problems and declining functional abilities are among the potentially life-changing problems of aging. These issues increase the likelihood that older adults will need health care. This enhances the need for skilled and experienced health care providers in many health care settings who can address and meet the needs of older people (Palmore, 2005). Caring of older people is affected by many things, such as knowledge, skills and attitudes relating to geriatric care. In all society, attitudes of people toward older people are generally negative. These attitudes are based on myth and stereotype and contribute to a further lack of understanding of the aging process and the potential of older people. This situation is related to knowledge, experiences, beliefs and motivation of person. Negative attitudes and lack of

knowledge about aging have serious consequences for older adults (Hweidi and Obeisat, 2006). Attitudes can be changed by education, so it is very important to determine health care students' attitudes (Akdemir et al., 2007).

The elderly population is rapidly growing in Turkey and there is a need for greater gerontological education (Aksoydan, 2009). A reliable and valid instrument is essential and helpful to provide useful and sufficient information to increase students' knowledge and attitudes, to pinpoint students' strengths and weaknesses. The KAOP scale has been found to possess high reliability and validity values in several international research studies; however, there has not been any verification of the Turkish version. This was the need that this study sought to fill. Consequently, it could be used as a measurement of KAOP for health-related students.

2. Subjects and methods

2.1. Participants

Potential participants were undergraduates at Baskent University who provide health care to the elderly in the future. Eight hundred and thirty five (835) questionnaires were given out, but the final sample consisted of 594 students (71%).

The students who were recruited for this study were as follows: who were able to speak and understand Turkish, whose studying at health sciences faculty, and who were willing to participate in this

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study. The study was performed according to the Helsinki Declaration and approved by the Baskent University Research and Ethical Board (Project No: KA087186).

2.2. Measurement

The KAOP consists of 34 items regarding older people (Kogan, 1961). The scale contains one set of 17 items expressing negative statements (KAOP–) and second set of 17 items expressing positive statements (KAOP+) about old people. The scale is designed as a summed Likert attitude scale on six-point response categories that ranges from 1 (strongly disagree) to 6 (strongly agree). These categories were scored 1, 2, 3, 5 and 6, respectively, with a score of 4 assigned in the rare case of failure to respond to an item (Kogan, 1961). Scores on the negatively worded items had to be reversed to obtain the total score. The possible score was between 34 and 204. Higher total scores indicated a more positive attitude. A score of 102 is considered a neutral attitude toward older adults (Kearney et al., 2000). For the Japanese version, the Cronbach's alpha was 0.87 (Ogiwara et al., 2007); for Greek version it was 0.80 (Lambrinou et al., 2005) and for the Chinese version it was 0.82 (Yen et al., 2009); for Swedish version it was 0.79 (Söderhamn et al., 2000) for the total scale.

2.3. Procedures

2.3.1. Translation and equivalence assessment of the Turkish version

Permission was obtained from Professor Nathan Kogan. The back-translation method was used to ensure that the scale was accurately translated into Turkish. The KAOP scale was first translated from English to Turkish separately by three bilingual linguistic, medical and nursing professionals. Another expert reviewed the Turkish translations together for inconsistencies with the original English form and minor revisions were suggested in some areas and one Turkish version of the scale was created. Subsequently, it was translated back from Turkish to English by two bilingual language experts. The back translated and original forms of KAOP were compared and found to be highly similar in meaning. The back translated version of the scale was also sent to Professor Nathan Kogan and received confirmation regarding the sameness in meaning. In this study the negative and positive items were presented in random order based on Prof. Kogan's suggestion.

Then, an expert panel of 12 members (geriatrician, family physician, sociologist, faculty members from social work, dietetics, sports, health management, physical therapy, psychology, communication, nursing departments and clinical nurse) were asked to rate each item of the Turkish version of the KAOP based on relevance, clarity, and simplicity as 1 (not relevant), 2 (somewhat relevant), 3 (relevant), or 4 (very relevant). Finally according to their recommendations minor changes were made and pilot testing were performed with 30 students.

2.4. Data collection

Data was collected at two different points in time (one month interval). The questionnaire included a cover letter that addressed the purpose and importance of the study; demographic data in addition to KAOP scale which was given to participants during the classes. Four weeks following the first completion, another KAOP form, was given to 402 subjects who were willing to take part.

2.5. Data analysis

SPSS (SPSS, Version 12.0 for Windows 2000) was used for data entry and analysis. Content validity, construct validity, internal consistency reliability, and stability were assessed. To ensure

content validity, content analyses were based on multi-expert. Construct validity was assessed by factor analysis employing principal component analysis. The Kaiser–Meyer–Olkin (KMO) test was used to measure sample adequacy and the Bartlett test of sphericity was used to examine the correlation matrix. The Cronbach's alpha was used to estimate the internal consistency reliability. Stability was assessed using a repeated measure design with a 4-week interval by Pearson correlations.

3. Results

3.1. Demographic data

Total of 594 students returned the KAOP. Demographic data of students are summarized in Table 1. Students' age ranged from 18 to 27 years with mean age of 21-year old. Of the students, 19% were male and 81% female.

The sample mean score was 132.94 (S.D. = 14.74), approximately half of the subjects (45.8%) scoring above the mean. As shown in Table 1, females had higher scores (more positive attitudes), nursing students scored higher than other departments, and seniors rated higher than sophomores. Students who have past experience living or working with elderly rated higher score; also students having interest to work with had more positive attitudes.

Table 1
The students' demographics (n = 594).

Parameters	n (%)	KAOP score, mean ± S.D.
Age (mean: 21.76 ± 1.72; range: 18–27)		
18–22	395 (66.5)	132.60 ± 14.67
23–27	199 (33.5)	133.83 ± 14.86
Gender		
Female	481 (81.0)	134.32 ± 14.95
Male	113 (19.0)	126.95 ± 11.96
Departments		
Nursing	177 (29.8)	139.12 ± 14.27
Nutrition	108 (18.2)	132.15 ± 13.83
Social workers	99 (16.7)	134.68 ± 15.62
Physical therapy	88 (14.8)	127.09 ± 9.87
Health management	63 (10.6)	129.03 ± 15.39
Sports	59 (9.9)	124.59 ± 13.16
Class		
1st year	150 (25.7)	131.08 ± 13.38
2nd year	143 (24.5)	131.74 ± 14.07
3rd year	170 (29.1)	135.51 ± 16.20
4th year	121 (20.7)	133.04 ± 14.61
Income level		
<Expenditure	48 (8.1)	132.56 ± 13.07
Equal to expenditure	336 (56.6)	134.64 ± 15.28
>Expenditure	210 (35.4)	130.24 ± 13.85
Place of living		
At home	478 (80.5)	133.12 ± 15.07
At dormitory	116 (19.5)	132.94 ± 14.74
City center	466 (78.5)	132.59 ± 15.09
County	112 (18.9)	133.9 ± 13.29
Village	16 (2.7)	135.69 ± 15.96
Do you live with people older than 65 years		
Yes	75 (12.6)	134.76 ± 16.07
No	519 (87.4)	132.69 ± 14.53
Mean age of oldest person lived with in household = 60.84 ± 13.84; range 24–115		
Past experience living with elderly		
Yes	318 (53.5)	134.98 ± 15.1
No	276 (46.5)	130.62 ± 13.98
Past experience working with elderly		
Yes	107 (18.0)	134.71 ± 15.12
No	487 (82.0)	132.50 ± 14.63
After graduation do you have interest to work with elderly		
Yes	347 (58.4)	135.72 ± 14.31
No	247 (41.6)	129.0 ± 14.45
Total	594 (100.0)	132.94 ± 14.74 Range: 86–175

Table 2The results, factor loads and test–re-test correlations (*r*) for KAOP.

	Item content	Mean ± S.D.	1st factor load	2nd factor load	<i>r</i>
No.		594	594	402	
1N	It would be better if most of the elderly lived with their coevals in the same place	3.40 ± 1.25	0.38	0.46	0.28 [†]
1P	It would be better if most of the elderly lived in places where the young also lived	3.77 ± 1.20	0.60	0.56	0.33 [†]
2N	There is something different with most of the elderly: it is difficult to understand what makes them restless/tick	3.30 ± 1.18	0.41	0.51	0.31 [†]
2P	Most of the elderly are not different from anybody; understanding them is as easy as understanding the young	4.07 ± 1.29	0.48	0.56	0.43 [†]
3N	Most of the elderly live as they wish and cannot change	2.86 ± 1.27	0.45	0.47	0.35 [†]
3P	Most of the elderly can adopt themselves to the changes required by the conditions	3.53 ± 1.18	0.49	0.49	0.32 [†]
4N	Most of the elderly prefer to get retired as soon as entitled to it or their children are able to look after them	3.75 ± 1.25	0.40	0.48	0.25 [†]
4P	Most of the elderly would like continue to work as long as possible rather than be dependent on anybody	4.33 ± 1.10	0.44	0.52	0.26 [†]
5N	Most of the elderly tend to let their houses untidy and unkempt	4.41 ± 1.13	0.57	0.70	0.31 [†]
5P	Most of the elderly can keep their houses clean and tidy	3.85 ± 1.12	0.66	0.62	0.40 [†]
6N	It is foolish to say that wisdom comes by old age	3.96 ± 1.41	0.66	0.60	0.40 [†]
6P	People grow wiser with coming of old age	4.24 ± 1.19	0.67	0.61	0.36 [†]
7N	The elderly have too much power in business life and politics	3.67 ± 1.21	0.66	0.69	0.21 [†]
7P	The elderly should have power in business life and politics	3.69 ± 1.11	0.48	0.48	0.38 [†]
8N	Most of the elderly easily make people ill/make them feel unwell	4.26 ± 1.15	0.59	0.64	0.45 [†]
8P	It is quite relaxing to be with the elderly	3.91 ± 1.05	0.57	0.63	0.43 [†]
9N	Most of the elderly bore others by talking about 'good old days'	3.50 ± 1.32	0.45	0.41	0.39 [†]
9P	One of the most interesting and entertaining qualities of most elderly people is to tell about their past experiences	4.78 ± 1.07	0.50	0.49	0.25 [†]
10N	Most of the elderly spend too much time mix into other people's business (stick their noses) and giving unsought advice	3.57 ± 1.27	0.63	0.60	0.32 [†]
10P	Most of the elderly tend to keep their opinions to themselves and give advice only when asked	3.69 ± 1.33	0.45	0.56	0.26 [†]
11N	If the elderly people expect to be liked, their first step is to try to get rid of their irritating faults	3.61 ± 1.29	0.52	0.49	0.40 [†]
11P	When you think about it, old people have the same faults as anybody else	4.74 ± 0.99	0.49	0.60	0.30 [†]
12N	Its best to move to an area where there not many elderly people in order to keep your neighborhood nice	4.11 ± 1.21	0.35	0.54	0.21 [†]
12P	You can be sure to find a nice atmosphere if there is a sufficient number of elderly people in your neighborhood	3.72 ± 1.09	0.59	0.60	0.39 [†]
13N	There are a few exceptions, but in general most old people are pretty much alike	3.64 ± 1.17	0.33	0.43	0.26 [†]
13P	It is evident that most old people are very different from one another	4.94 ± 1.08	0.54	0.58	0.37 [†]
14N	Most of the elderly should take care of their personal appearance; they are too untidy	4.52 ± 1.17	0.59	0.63	0.31 [†]
14P	Most of the elderly have a clean and tidy personal appearance	4.10 ± 0.92	0.61	0.60	0.32 [†]
15N	Most of the elderly are irritable, grouchy and unpleasant	4.18 ± 1.16	0.62	0.62	0.38 [†]
15P	Most of the elderly are cheerful, agreeable and good humored	4.17 ± 0.96	0.55	0.58	0.43 [†]
16N	Most of the elderly constantly complaining about the behavior of the younger generation	3.15 ± 1.08	0.46	0.55	0.37 [†]
16P	Most of the elderly rarely complaining about the behavior of the younger generation	3.55 ± 1.39	0.32	0.58	0.35 [†]
17N	Most of the elderly need more love and reassurance as other people	2.72 ± 1.07	0.67	0.47	0.29 [†]
17P	Most of the elderly need as much love and reassurance as other people	5.23 ± 1.03	0.57	0.62	0.30 [†]

Note: *r* = Pearson correlation.† *p* < 0.001

The means and standard deviation of each item are presented in Table 2. Thirteen out of 17 positive items had higher mean scores than negative items.

3.2. Validity

3.2.1. Content validity

The content validity index (CVI) was used to determine item validity. Panel experts (geriatrician, family physician, sociologist, faculty members from social work, dietetics, sports, health management, physical therapy, psychology, communication and nursing departments as well as a clinical nurse) were asked to rate each item of the Turkish version of the KAOP based on relevance, clarity, and simplicity as 1 (not relevant), 2 (somewhat relevant), 3 (relevant), or 4 (very relevant). A CVI was computed using the proportion of experts who were in agreement about item relevance. The average CVI was 0.94 in the final version indicating adequate content validity (>0.80; Polit and Beck, 2004).

The KAOP was then given to 30 students who were not included in the main sample and feedback received. Students cited that this questionnaire was easy to read and understand.

3.2.2. Construct validity

Construct validity was supported in the factor analysis. The KMO was 0.83 indicating sampling adequacy. Bartlett's test of sphericity was statistically significant. Factor analysis of the scale was carried out using principal component analysis with varimax rotation and the acceptable level for scale items was set to be above 0.30. All 34 items demonstrated moderate to strong loading (>0.30; Table 2).

3.3. Reliability

3.3.1. Internal consistency reliability

Cronbach's alpha was 0.84 for the total scale, 0.79 for negative items, and 0.77 for positive items. For second application the internal consistency reliability Cronbach's alpha was 0.82 for the total scale, 0.82 for negative items, and 0.81 for positive items, which indicate good internal consistency reliability.

3.3.2. Stability reliability

In order to assess the scale's stability over time, test–retest reliability of the scale was carried out with 402 students after 4 weeks. The Pearson-correlation coefficients (*r*) for test–retest

between items were 0.21 and 0.45. It was found that there is a positive correlation. The test–retest interval correlation coefficient for total scale was 0.73. Stability reliability was adequate in this study.

4. Discussion

The Turkish version of the KAOP indicates good content validity because the CVI was 0.94. Construct validity was supported in the factor analysis. When we look at the factor load; for all items it was above the set point (0.30) and for the second application it was over than 0.40; therefore we did not exclude any item from the original scale.

The KAOP shows good internal consistency reliability as well as stability which were similar with other studies. For the Japanese version, the Cronbach's alpha was 0.87 (Ogiwara et al., 2007); for Greek version it was 0.80 (Lambrinou et al., 2005) and for the Chinese version it was 0.82 (Yen et al., 2009); for Swedish version it was 0.79 (Söderhamn et al., 2000) for the total scale.

Turkish students who took part in this study reported more positive attitudes when compared with Jordanian students (Hweidi and Obeisat, 2006); however lower than Chinese (Yen et al., 2009) and Taiwanese students (Wang et al., 2009).

The considerable growth in the elderly population in Turkey has brought with it problems as well as concerns regarding gerontological education for health care professionals. The quality of care provided for older people is directly related to the attitudes of health care professionals. Because today's students are tomorrow's health care professionals, it is important to increase students' knowledge and positive attitudes. Educators in many academic programs must better prepare students for the booming elderly population.

5. Conclusions

Psychometric analyses of the Turkish version of KAOP scale indicate high reliability (internal consistency and stability) and good content and construct validity. Based on these findings, it is recommended that the Turkish version of the KAOP be incorporated or adapted by health-related professions as one of the tools used to assess the students' and/or health care providers' attitudes toward the elderly. Hopefully, the medical, nursing and other programs could help in preparing health-related professionals capable of meeting the needs of older people by using the Turkish version of the KAOP scale.

Conflict of interest statement

None.

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