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Kogan's Attitude toward Old People scale revisited: Psychometric properties and recommendations

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ABSTRACT

Population ageing is one of the present and future challenges in the European context. In addition to age-related changes, negative and judicious attitudes by society are also prevalent. Therefore, there is a need for reliable instruments to evaluate attitudes toward ageing. In this vein, the present research aims to provide a reliable version of the Kogan's Attitudes toward Older People scale adapted to the Spanish context. In a sample from the academic community ($N = 163$), we evaluated the reliability, the psychometric properties, and the internal consistency of a version of Kogan's scale translated into Spanish. The results showed a reliable short version of the scale with adequate psychometric properties and two factors: positive and negative. Moreover, the correlates with similar measures of attitude toward older people proved external validity measures by the short scale. The implications and contributions to the geriatric population are discussed.

1. Introduction

Population ageing is one of the most important demographic factors of the twenty-first century (Beard et al., 2016). Across Europe, greater human longevity, combined with declining birth rates, is resulting in a rapid increase in the percentage of the overall elderly population (Barbi, Lagona, Marsili, Vaupel, & Wachter, 2018; Giuliani et al., 2018; Wolff & Wiechmann, 2018). According to the Spanish Statistical Institute, the number of people older than 60 has increased by 1.6 million, from 6.4 to 8 million people due to declining old-age mortality and larger cohorts entering old age (Spain Population, 2019). This classifies Spain as an ageing nation. Thus, there is a need for reliable instruments that evaluate attitudes toward ageing.

2. Attitudes toward ageing

Ageing is linked with biological, physiological, and psychosocial modifications in individuals (Gu et al., 2019; Levine & Crimmins, 2018). These age-related changes, individually or in combination, may predispose old people to experience a decrease in functional ability (Johansson, Marcusson, & Wressle, 2019), to suffer from depression (Schaakxs et al., 2017), have a poor quality of life, and is linked to increased mortality rates (Zaslavsky et al., 2016). In this vein, age-related changes are also associated with negative and judicious attitudes by society (Gu et al., 2019).

Attitudes toward old people can be defined as feelings, cognitions, and behaviors related to the process of ageing as a personal experience (Hess, 2006). These negative attitudes toward old people are known as 'ageism,' which is increasingly recognized as a relevant public health issue (World Health Organization, 2015). In this sense, during the past few years, there has been increasing interest in the identification and evaluation of attitudes toward the elderly among younger populations. Previous studies have analyzed the perceptions, stereotypes, and attitudes toward old people, and they have shown that students, professionals, and society have negative, discriminative, and judicious attitudes toward the geriatric population (Chen, Plake, Yehle, & Kiersma, 2011; Gallo, 2019). It is important to point out that the attitudes of young people are relevant, as some of them will eventually provide care to the growing elderly population (Ross, Jennings, & Williams, 2017). Therefore, it is necessary to know their attitudes and to be able to create adequate educational programs directed toward younger people.

A recent review, which includes one hundred and six studies, has identified different instruments to assess attitudes towards old people (Ayalon et al., 2019). The results highligh two instruments with adequate psychometric properties: the Aging Semantic Differential (ASD) by Rosencranz and McNevin, which consists of 32 items (Rosencranz & McNevin, 1969) and the Kogan's Attitudes toward Older People scale, which consists of 34 items (Kogan, 1961). Given that Kogan's scale has

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been used in a wide variety of studies and in different countries, and has exhibited good psychometric properties, we consider this scale as the most appropriate to adapt to the Spanish population.

3. Kogan's Attitude toward Old People Scale

The most common tool used in research to evaluate attitudes is Kogan's Attitudes toward Older People scale (ATOP) (Kogan, 1961). The ATOP scale consists of 34 items grouped into two factors that assess positive and negative attitudes toward old people. Positive and negative items make reference to the same questions with opposite wording. In its development, the two factors presented reliability between .66 and .83 in different samples, and both factors presented a medium correlation.

The ATOP scale has also been adapted and validated in different countries (Alquwez, Cruz, Almazan, Alamri, & Mesde, 2018; Lambrinou, Sourtzi, Kalokerinou, & Lemonidou, 2005; Matarese, Lommi, Pedone, Alvaro, & De Marinis, 2013; Runkawatt et al., 2016). We find adaptations of the ATOP scale in Italy (Matarese et al., 2013), Sweden (Söderhamn, Lindencrona, & Gustavsson, 2001), Greece (Lambrinou et al., 2005), Mexico (Celis, Pinedo, Vélez, Rodríguez, & Saavedra, 2012), Israel (Vitman-Schorr, Iecovich, & Alfasi, 2014), Turkey (Erdemir, Kav, Citak, Hanoglu, & Karahan, 2011), Iran (Rejeh, Heravi-Karimooi, Montazeri, Foroughan, & Vaismoradi, 2012), Japan (Ogiwara, Inoue, & Koshimizu, 2007), and China (Yen et al., 2009). Nonetheless, the factor structure of these adaptations is different, even when the reliability presented acceptable values. The scale presented a bi-factor structure in Italy, Turkey, Iran, and China; a three-factor structure in Sweden and Japan; a five-factor structure in Israel; and a six-factor structure in Greece. Hence, it is clear that the factor structure and the psychometric properties of the ATOP scale are different in diverse contexts.

Regarding the Spanish context, Celis et al. (2012) validated a Spanish version they developed in Mexico. However, the approach they followed makes the scale inadequate in the context of Spain. First, the wording of some items is hardly understandable for Spanish people. Second, they performed a content validity test in a Mexican sample and tested the reliability, but they did not test the psychometric properties or the factor structure. Third, they treat the scale data as ordinal instead of interval, so more expert analyses to evaluate the psychometric properties are not allowed. Therefore, this version of the ATOP scale does not seem adequate for the Spanish population, and we do not know the psychometric properties.

4. Correlates of the ATOP scale

The literature suggests that attitudes toward older people are linked with several factors. The most frequently reported factors are age, gender, education level, experiences of caring for old people, and living with an older person in the same household (Rush, Hickey, Epp, & Janke, 2017). Evaluation of previous studies indicated that there are disparities among attitudes toward old people, and these are typically age-related. Researchers have found that there is a changing pattern across life span; middle-aged students showed negative attitudes when they were compared with the older group (Bodner, Bergman, & Cohen-Fridel, 2012). Concerning gender, previous studies have found that females tend to have more positive attitudes than males (Bodner et al., 2012; Nourbakhsh & Mowry, 2019). Gender roles all over the world tend to dictate women's responsibility to provide care, and women account for the majority of informal or family proxies (Chylińska et al., 2017; Solomon-Moore et al., 2018). Education and previous contact have been identified as factors that influence people's attitudes toward old people. For example, people taking a gerontology course have more positive attitudes toward old people. Moreover, the literature suggests that gerontology courses resulted in better knowledge about geriatrics as well as more positive attitudes toward old people (Gallo, 2019; Turan, Yanardag, & Metintas, 2016). Furthermore, experiences of caring for old people or living with an older person have been described to be important in fostering positive attitudes (Nahoko, Chieko, & Tomoko, 2019).

To our concern, even if there has been a growing interest in studying attitudes toward old people during the last decade, there is a remarkable lack of reliable instruments assessing attitudes for the Spanish population. This is the need that this study seeks to fill, by evaluating the reliability, psychometric properties, and external validity of the ATOP scale among the Spanish population. We aim to provide a reliable version of this scale that researchers can use to measure the community's attitude toward old people, which will allow for the design and implementation of appropriate programs to improve these attitudes.

5. Method

5.1. Sample and procedure

The sample was composed of 163 people (126 women) from the academic community of a public university (e.g., students, teachers, and employees) recruited through the university institutional email. The age of respondents ranged between 18 and 59 years old ($M = 29.61$, $SD = 12.76$). The participants completed the survey without receiving any compensation. Once they were presented with the survey, they first accepted its terms and, then, proceeded to respond to the different measures included in the study. The study was conducted in accordance with the Declaration of Helsinki, and the protocol of the study was approved by the Institutional Review Board of the University (965/CEIH/2019).

5.2. Instruments

5.2.1. Attitude Toward Old People (ATOP)

We present the attitude toward old people scale, developed by Kogan (1961), which was translated into Spanish by Celis et al. (2012). This scale is made up of 17 items that evaluate a positive attitude toward old people, and 17 items that evaluate a negative attitude. Positive and negative items make reference to the same questions with opposite wording. Responses were measured on 6-point Likert scales ranging from 1 (*Completely Disagree*) to 6 (*Completely Agree*).

Before using the scale, as we found it hard to understand the translation by Celis et al. (2012) in the context of Spain, we carried a qualitative evaluation of items through an expert judgment (Carretero-Dios & Pérez, 2005, 2007). The evaluation was conducted by three experts (one expert in the construction of scales and two who were familiar with the construct to be evaluated). The task of the experts was to assess the writing of each item qualitatively, as to whether they were understandable. Based on these assessments, modifications were made to the scale. The modifications respecting the original translation are presented in (see Table A1 in Appendix A).

5.2.2. Positive and Negative Affect Schedule (PANAS)

The version of PANAS validated by Sandín et al. (1999) was included. This scale has been used to evaluate the affect toward old people in a Spanish population by Nolla, Queral, and Miró (2014)). It has two factors that evaluate positive (ten items; $\alpha = .91$) and negative affect (ten items; $\alpha = .87$). Responses were measured on a five-point Likert scale ranging from 0 (*Never*) to 4 (*Most of the time*).

5.2.3. Attitude-Older Adult and Aging-Visual Analog Scale (VAS)

The VAS comprises two questions with a slide anchored by percentages from 0% (*Not positive at all*) to 100 % (*Extremely positive*) (Ligon, Ehlman, Moriello, & Welleford, 2009; Ligon, Ehlman, Moriello, Russo, & Miller, 2014). The first question measures attitudes toward older adults (At-OA), while the second measures attitudes toward the ageing process (At-AP) ($r = .32$, $p < .001$). As the correlations

between both questions were not high, we kept both measures as different indicators.

5.2.4. Aging Semantic Differential (ASD)

The ASD is used to measure attitudes and quantify bias and negative stereotypes toward older people. It is a 32-item scale with bipolar adjective pairs with seven response levels developed by Rosencranz and McNevin (1969). We used 18 pairs of adjectives with item responses that may range from 1 to 7, so higher scores suggest a more positive view of older adults ($\alpha = .92$) (Intrieri, von Eye, & Kelly, 1995). It has been used previously in Spanish sample (Zambrini, Moraru, Hanna, Kalache, & Nuñez, 2008).

5.2.5. Occupation

A categorical question about their occupation was included with three possible responses: Student, worker, and other.

5.2.6. Contact

A categorical question about contact with old people was included with three possible answers: "I have lived with old people in the past," "I currently live with old people," "I have never lived with old people."

5.2.7. Geriatric

A dichotomous question about if they are interested in working with old people as geriatricians was also included.

5.2.8. Sociodemographic

We also included questions about gender and age.

5.3. Analysis

The Statistical Package for the Social Sciences (SPSS, Version 25) was used for the statistical analysis. Particularly, analyses were made by appropriate reliability (internal consistency), the psychometric properties of the scale, and the external validity. Thus, exploratory factor analyses (EFA), Pearson's bivariate correlations, and mean difference analyses (Student t-test and ANOVA) were computed. The Cronbach's alpha was used to estimate the reliability.

6. Results

6.1. Psychometric properties and reliability

First, it was verified that the properties of the data were adequate to perform the analyses (KMO = 0.72; Bartlett's sphericity test: $\chi^2_{(33)} = 124.39$, $p < .001$). Second, in order to determine the number of factors to be extracted, a parallel analysis was previously applied (Hayton, Allen, & Scarpello, 2004). The results supported a five-factor solution, with the first eigenvalue being 5.94, the second being 3.49, the third being 2.18, the fourth 1.84, and the fifth 1.63. Then, we computed an EFA using the *maximum likelihood* method and an *oblimin* rotation. The *maximum likelihood* estimator was used following the recommendations of the specialized literature, as it provides greater capacity to make statistical inferences (e.g., hypothesis testing, estimate confidence intervals) (Costello & Osborne, 2005; Fabrigar, Wegener, MacCallum, & Strahan, 1999) and includes less bias than other methods when using indicators with more than five response options (Rhemtulla, Brosseau-Liard, & Savalei, 2012). The direct rotation of *oblimin* was selected because we expected the two subscales to be correlated, as the evidence has shown (Kogan, 1961; Lambrinou, 2005). In addition, this method provides more substantive information to represent psychological constructs than orthogonal methods by allowing factors to be correlated (Reise, Waller, & Comrey, 2000). The results are presented in Table 1.

First, attending to the mean and the standard deviation, items 9, 15, 21, 22, 23, and 27 moved substantially away from the average of the scale. Standard deviations presented acceptable values. Second, regarding the skew and the kurtosis, the same items with deviated means presented a certain degree of bias. Third, the correlation of the item with the total items was really low for all items, while the Cronbach's alpha, when dropping any of the items, did not vary, given that the scale's alpha was .83. Fourth, communalities were low in general. Fifth, regarding the factor loadings, the first and second factors include most of the items, the first factor being the negative items and the second the positive items. The other factors included different couples of items (positive-negative wording) that did not saturate in the first factors.

Given all these restrictions in the scale, we decided to reduce the number of items following the next criteria: maintain items that (1) saturate in the first or second factors (factor loading > .30); (2) were paired (positive-negative wording); and (3) present a mean close to the average of the scale (3.5 ± 1.5). After applying these criteria, we retained items 1, 2, 3, 4, 7, 8, 13, 14, 17, 18, 19, 20, 21, 22, 27, 28, 29, and 30. Therefore, we had a final scale with 18 items, half with positive wording and half with negative, which load onto two different factors. Finally, we repeated the EFA with the items of the reduced version, the results are presented in Table 2.

6.2. Correlates of external validity

In order to provide measures of external validity, in Table 3 we present Pearson's zero-order correlations between the final factors of the scale and other related measures. Results showed a negative relationship between both factors of the scale, as expected. Regarding the first factor, it presented significant positive correlations with negative PANAS and negative with positive PANAS, and At-OA. Unexpectedly, no significant correlation appeared with ASD and At-AP. Regarding the second factor, it presented significant positive correlations with positive PANAS, At-OA, At-AP, and ASD, while negative with negative PANAS. None of the factors was correlated with age. On the whole, both factors seem to be different from other measures of general attitudes toward old people as they did not present high correlations and correlated in the expected direction; the first-factor showing negative attitudes toward old people and the second, positive attitudes.

Finally, we computed different analyses of mean differences with the variables gender (men: 22.7 %; women: 77.3 %), occupation (student: 58.2 %; worker: 37.1 %; other: 4.7 %), contact (I have lived with old people in the past: 43.5 %; I currently live with older people: 39.3 %; I have never lived with older people: 17.3 %), and geriatric (yes: 34.1 %; no: 65.9 %) to explore the differences in both factors of the ATOP scale. Regarding gender, a student's *t*-test showed no significant differences in any of the factors ($p > .319$). In the case of occupation, an ANOVA showed no significant differences with any of the factors ($p > .093$). Another ANOVA showed no differences regarding contact ($p > .192$). Finally, regarding working with the geriatric population, there were no significant differences in the first factor ($p = .178$), while in the second factor we found that those who want to work with old people presented more positive attitude toward old people ($M = 4.31$, $SD = 0.55$) than those who did not want to ($M = 3.88$, $SD = 0.65$) ($t = 4.41$, $p < .001$) (Table 4).

7. Discussion

The aim of this study was to provide a reliable version of this scale that researchers could use to measure the community's attitudes toward old people in the Spanish context, which will allow for the design and implementation of appropriate programs to improve these attitudes. EFA was used to examine the factor structure of the ATOP scale. Our findings suggest that the instrument appears to demonstrate evidence of acceptable psychometric properties, internal consistency reliability, and criterion-related validity.

The reference for this ATOP scale version was a 34-item scale validated in a sample of Mexican health professionals (Celis et al., 2012).

Table 1
Statistical analysis of the items and factor structure of the Kogan's Attitude toward Old People Scale: items, mean, standard deviation, item-total correlation, Cronbach's alpha if the item is eliminated, communalities and factorial structure.

								Factor loadings				
Items	*M*	*SD*	Skew	Kurtosis	R IT-c	α without item	h^2	F1	F2	F3	F4	F5
1	2.44	1.30	0.50	−0.75	0.12	0.82	0.11	0.31				
2	3.65	1.41	−0.15	−0.83	0.13	0.83	0.13		0.38			
3	2.39	1.27	0.67	−0.31	0.13	0.83	0.19	0.40				
4	4.08	1.34	−0.28	−0.75	0.12	0.82	0.26		0.44			
5	4.48	1.11	−0.66	−0.13	0.12	0.82	0.29				−0.48	
6	3.21	1.27	0.15	−0.92	0.12	0.82	0.35				0.36	
7	2.29	1.32	0.98	0.23	0.12	0.82	0.19	0.36				
8	4.68	1.22	−0.85	0.25	0.13	0.83	0.21		0.34			
9	1.98	1.18	1.40	1.63	0.12	0.82	0.46	0.63				
10	3.96	1.24	−0.24	−0.68	0.12	0.82	0.36		0.54			
11	2.72	1.61	0.63	−0.88	0.12	0.82	0.66			0.83		
12	4.16	1.42	−0.28	−0.81	0.12	0.82	0.75			−0.76		
13	2.40	1.16	0.53	−0.25	0.13	0.83	0.20	0.41				
14	3.52	1.37	−0.07	−0.63	0.12	0.82	0.29		0.38			
15	1.85	1.18	1.71	2.63	0.12	0.82	0.28	0.43				
16	4.12	1.09	−0.16	−0.10	0.12	0.82	0.35		0.47			
17	2.25	1.24	0.90	−0.17	0.12	0.82	0.26	0.45				
18	4.97	1.16	−1.11	0.60	0.12	0.82	0.35		0.47			
19	2.63	1.29	0.39	−0.91	0.12	0.81	0.55	0.64				
20	2.72	1.24	0.65	−0.08	0.13	0.83	0.22		0.35			
21	1.99	1.26	1.17	0.49	0.12	0.82	0.35	0.56				
22	5.05	1.14	−1.13	0.68	0.12	0.82	0.28		0.35			
23	1.58	0.90	1.64	2.31	0.12	0.82	0.28	0.46				
24	4.14	1.30	−0.40	−0.36	0.12	0.82	0.30		0.46			
25	2.22	1.19	0.67	−0.60	0.12	0.82	0.32	0.54				
26	4.54	1.30	−0.63	−0.56	0.12	0.82	0.18					
27	1.98	1.05	0.94	0.20	0.12	0.82	0.38	0.61				
28	3.94	1.07	−0.01	−0.49	0.12	0.82	0.35		0.53			
29	2.03	1.12	1.02	0.54	0.12	0.81	0.48	0.66				
30	3.60	1.10	−0.07	−0.01	0.12	0.82	0.46		0.45			
31	3.79	1.36	−0.28	−0.49	0.12	0.82	0.54				−0.55	
32	2.32	1.24	1.14	0.98	0.13	0.83	0.39				0.59	
33	4.17	1.37	−0.44	−0.52	0.13	0.83	0.62					0.74
34	2.52	1.37	0.95	0.32	0.13	0.83	0.50					−0.71
Explained variance (%)								12 %	9%	5%	5%	4%
Cronbach's alpha								.81	.76	*r* = .61	.59	*r* = .51

Table 2
Statistical analysis of the items and factor structure of the Kogan's Attitude toward Old People scale: items, mean, standard deviation, item-total correlation, Cronbach's alpha if the item is eliminated, communalities and factorial structure.

								Factor loadings	
Items	*M*	*SD*	Skew	Kurtosis	R IT-c	α without item	h^2	F1	F2
1	2.44	1.30	0.50	−0.75	0.14	0.74	0.10	0.32	
2	3.65	1.41	−0.15	−0.83	0.15	0.75	0.10		0.32
3	2.39	1.27	0.67	−0.31	0.15	0.75	0.21	0.42	
4	4.08	1.34	−0.28	−0.75	0.14	0.73	0.27		0.41
7	2.29	1.32	0.98	0.23	0.14	0.73	0.15	0.39	
8	4.68	1.22	−0.85	0.25	0.15	0.75	0.06		0.23
13	2.40	1.16	0.53	−0.25	0.15	0.75	0.15	0.37	
14	3.52	1.37	−0.07	−0.63	0.14	0.73	0.27		0.42
17	2.25	1.24	0.90	−0.17	0.13	0.72	0.24	0.44	
18	4.97	1.16	−1.11	0.60	0.14	0.74	0.16		0.35
19	2.63	1.29	0.39	−0.91	0.13	0.71	0.51	0.67	
20	2.72	1.24	0.65	−0.08	0.16	0.76	0.29		0.54
21	1.99	1.26	1.17	0.49	0.14	0.73	0.33	0.59	
22	5.05	1.14	−1.13	0.68	0.13	0.72	0.27		
27	1.98	1.05	0.94	0.20	0.14	0.73	0.35	0.60	
28	3.94	1.07	−0.01	−0.49	0.14	0.73	0.27		0.45
29	2.03	1.12	1.02	0.54	0.13	0.72	0.50	0.70	
30	3.60	1.10	−0.07	−0.01	0.14	0.74	0.33		0.57
Explained variance (%)								16 %	10 %
Cronbach's alpha								.74	.67

However, to be used in another population and another county, an adapted tool should be tested to show adequate psychometric properties (Robinson, 2018). The EFA performed on ATOP confirmed the factorial structure (two-factor) similar to the original American version (Kogan, 1961). However, some items revealed unacceptable factor loading on their different constructs, and they were removed. The differences between the two forms are minimal and shorten the scale. Thus, the scale modifications resulted in a shortened scale containing

Table 3
Means, standard deviations, and correlations involving all variables.

	1	2	3	4	5	6	7	*M*	*SD*
1. F1								2.27	0.69
2. F2	−.257**							4.03	0.64
3. PANAS positive	−.262***	.471***						2.69	0.68
4. PANAS negative	.442***	−.266***	−.035					1.45	0.47
5. At-OA	−.293***	.431***	.545***	−.266***				84.25	15.68
6. At-AP	−.082	.382***	.260***	−.114	.317***			61.05	25.13
7. ASD	−.142	.504***	.424***	−.114	.305***	.217**		4.14	0.75
8. Edad	−.049	.138	.071	−.023	.016	.203**	.141	29.61	12.76

Note: *$p < .05$; **$p < .01$; ***$p < .001$.

18 items, representing the original two factors, the revised version. A short scale is preferable, considering the practical conditions of application (Borsa, Damásio, & Bandeira, 2012).

An acceptable reliability coefficient depends on factors such as number and type of items, variability in the sample, and testing procedures (Asendorpf et al., 2013). The internal consistency of the instrument was acceptable with Cronbach's α values ranging from .64 to .69. This fact, as well as the dearth of competing for reliability measures currently available, suggests that this instrument can be considered adequate for testing attitudes toward the elderly of the current study group.

Regarding external validity, both factors correlated expectedly with similar measures. The first factor presented relationships with negative attitudes and feelings while the second with positive attitudes and feelings. Nonetheless, we did not find relationships with sociodemographic variables such as age, gender, occupation, and contact as we had expected. These findings could be the result of the gender bias in the sample and the low age variability, thus, further studies should test these differences with larger samples.

This research provides important contributions to geriatric investigation. Within the scope of research, it provides the scientific community with a psychometrically tested instrument for use among the community, filling a gap in this area. The availability of this version of ATOP can also contribute to the increase of studies on this subject in the country, and it can also be the subject of further research aiming to validate it in other cultural contexts. It may facilitate exploring common and divergent aspects of the attitudes of the community in different settings and cultures.

Among the implications in clinical practice, the ATOP can be used to assist the government in identifying the attitudes of the Spanish population. The ATOP can even be used for the identification of the effects of proposed approaches and policies to change the attitudes of the population, comparing different groups and interventions.

Despite the significant findings regarding the Spanish version of the ATOP psychometrics properties, several limitations are acknowledged, which should be taken into consideration in future studies. First, our samples were primarily young and female, so generalizability is limited even though we invited an academic community of a public university to participate. It can be suggested that they have to be applied in different regions with larger sample groups. Second, the study investigated only seven variables (age, sex, contact with old people, occupation, interest in working with old people, affect and stereotypes) in association with attitudes toward old people. Future research should investigate a number or other variables, including economic status, profession, and religion to prove their relationship with attitudes toward old people.

8. Conclusion

In conclusion, this study has examined the psychometric properties of a Spanish language version of the ATOP scale. Through exploratory factor analyses, we found a revised Spanish version of 30 items of the ATOP scale with good psychometric properties and internal and external validity. Therefore, we present a validated scale to assess attitudes toward old people in the Spanish context.

Table 4
Final items of the reduced version of the Kogan's Attitude toward Old People scale.

Negative items		Positive items	
1	Probablemente sería mucho mejor si las personas mayores vivieran en zonas residenciales con gente de su misma edad	2	Probablemente sería mejor si las personas mayores vivieran en zonas residenciales con gente más joven
3	Hay algo diferente en las personas mayores; es difícil saber si algo les molesta mucho	4	La mayoría de las personas mayores realmente no son diferente de los demás; al igual que las personas más jóvenes, son fáciles de entender
7	La mayoría de las personas mayores prefieren jubilarse tan pronto como sus pensiones o sus hijos puedan mantenerlos	8	La mayoría de las personas mayores prefieren continuar trabajando siempre y cuando ellos puedan hacerlo antes que estar dependiendo de alguien más
13	Las personas mayores tienen mucho poder en los negocios y la política	14	Las personas mayores deberían tener más poder en los negocios y la política
17	La mayoría de las personas mayores aburren a otros al insistir en querer hablar acerca de los "viejos tiempos"	18	Una de las cualidades más interesantes y entretenidas de la mayoría de las personas mayores es el contar sus experiencias pasadas
19	La mayoría de las personas mayores pasan mucho tiempo metiéndose en los asuntos de otros y dando consejos a quienes no se los han pedido	20	La mayoría de las personas mayores tienden a dar consejos solo cuando se los piden
21	Si las personas mayores quieren caer bien a otras personas, su primer paso debería ser el deshacerse de sus defectos irritantes	22	Si piensas un poco, las personas mayores tienen los mismos defectos que cualquier otra persona
27	La mayoría de las personas mayores deberían preocuparse más de su apariencia personal; ellas son muy desordenadas	28	La mayoría de las personas mayores parecen bastante limpias y ordenadas en su apariencia personal
29	La mayoría de las personas mayores son irritables, mal humoradas y desagradables	30	La mayoría de las personas mayores son alegres, agradables y están de buen humor

CRediT authorship contribution statement

Araceli Ortiz-Rubio: Conceptualization, Investigation, Writing - original draft, Writing - review & editing. **Roberto M. Lobato:** Methodology, Formal analysis, Writing - original draft, Writing - review & editing. **Marie Carmen Valenza:** Supervision.

Declaration of Competing Interest

The authors declare that there are no potential conflicts of interest concerning the research, authorship, and/or publication of this article.

The reported studies were approved by the ethical committee of the University of Granada.

All participants provided informed consent.

Appendix A

Table A1
Final translation of the ATOP scale into Spanish.

	Mexican version	Spanish version
1	Probablemente sería mucho mejor si los adultos mayores vivieran en unidades residenciales con gente de su misma edad*	Probablemente sería mucho mejor si las personas mayores vivieran en zonas residenciales con gente de su misma edad*
2	Probablemente sería mejor si la mayoría de adultos mayores vivieran en unidades residenciales con gente más joven	Probablemente sería mejor si las personas mayores vivieran en zonas residenciales con gente más joven
3	Hay algo diferente acerca del adulto mayor; es difícil saber lo que les molesta mucho*	Hay algo diferente en las personas mayores; es difícil saber si algo les molesta mucho*
4	La mayoría de adultos mayores realmente no son diferente de los demás; así como las personas más jóvenes, ellos son fáciles de entender	La mayoría de las personas mayores realmente no son diferente de los demás; al igual que las personas más jóvenes, son fáciles de entender
5	La mayoría de los adultos mayores establece sus formas de ser y/o actuar que les es difícil de cambiar*	La mayoría de las personas mayores establecen formas de ser y/o actuar que les es difícil de cambiar*
6	La mayoría de adultos mayores son capaces de nuevas adaptaciones cuando cierta situación la requiera	La mayoría de las personas mayores son capaces de adaptarse cuando la situación lo requiera
7	La mayoría de adultos mayores prefieren jubilarse tan pronto como sus pensiones o sus hijos puedan mantenerlos*	La mayoría de las personas mayores prefieren jubilarse tan pronto como sus pensiones o sus hijos puedan mantenerlos*
8	La mayoría de adultos mayores prefieren continuar trabajando siempre y cuando ellos puedan hacerlo antes que estar dependiendo de alguien más	La mayoría de las personas mayores prefieren continuar trabajando siempre y cuando ellos puedan hacerlo antes que estar dependiendo de alguien más
9	La mayoría de adultos mayores tienden a tener sus hogares en un aspecto desaseado e inatractivo*	La mayoría de las personas mayores tienden a tener sus hogares en un estado indeseado y poco atractivo*
10	Generalmente se puede confiar en que la mayoría de adultos mayores pueden mantener un hogar limpio y atractivo	Generalmente se puede confiar en que la mayoría de las personas mayores pueden mantener un hogar limpio y atractivo
11	Es tonto pensar que sabiduría viene con la edad*	Es tonto pensar que la sabiduría viene con la edad*
12	La gente se vuelve más sabia con la venida de los años	La gente se vuelve más sabia con la edad
13	Los adultos mayores tienen mucho poder en los negocios y la política*	Las personas mayores tienen mucho poder en los negocios y la política*
14	Los adultos mayores deberían tener mas poder en los negocios y la política	Las personas mayores deberían tener más poder en los negocios y la política
15	La mayoría de adultos sienta incómodo*	La mayoría de las personas mayores hacen que uno se sienta incómodo*
16	La mayoría de adultos mayores hacen que uno se sienta relajado al estar con ellos	La mayoría de las personas mayores hacen que uno se sienta relajado al estar con ellos
17	La mayoría de adultos mayores aburren a otros al insistir en querer hablar acerca de los “viejos tiempos”*	La mayoría de las personas mayores aburren a otros al insistir en querer hablar acerca de los “viejos tiempos”*
18	Una de las cualidades más interesantes y entretenidas de la mayoría de adultos mayores es el contar sus experiencias pasadas	Una de las cualidades más interesantes y entretenidas de la mayoría de las personas mayores es el contar sus experiencias pasadas
19	La mayoría de adultos mayores pasan mucho tiempo metiéndose en los asuntos de otros y dando consejos a quienes no se los han pedido*	La mayoría de las personas mayores pasan mucho tiempo metiéndose en los asuntos de otros y dando consejos a quienes no se los han pedido*
20	La mayoría de adultos mayores tienden a guardárselos y a dar consejos solo cuando se los piden	La mayoría de las personas mayores tienden a dar consejos solo cuando se los piden
21	Si los adultos mayores quieren caerle bien a otras personas, su primer paso debería ser el deshacerse de sus defectos irritantes*	Si las personas mayores quieren caer bien a otras personas, su primer paso debería ser el deshacerse de sus defectos irritantes*
22	Si piensas un poco, los adultos mayores tienen los mismos defectos que cualquier otra persona	Si piensas un poco, las personas mayores tienen los mismos defectos que cualquier otra persona
23	A fin de tener una vecindad residencial agradable, sería mejor no tener muchos adultos mayores viviendo allí*	A fin de tener un vecindario agradable, sería mejor no tener muchas personas mayores viviendo allí*
24	Tú puedes contar con una vecindad residencial agradable cuando hay un número considerable de adultos mayores viviendo allí	Tú puedes contar con un vecindario agradable cuando hay un número considerable de personas mayores viviendo allí
25	Hay algunas excepciones; pero en general la mayoría de adultos mayores son muy parecidos*	Hay algunas excepciones; pero en general la mayoría de personas mayores son muy parecidas*
26	Es evidente que la mayoría de adultos mayores son muy diferentes el uno del otro	Es evidente que la mayoría de personas mayores son muy diferentes entre ellas
27	La mayoría de adultos mayores deberían preocuparse más de su apariencia personal; ellos son muy desordenados*	La mayoría de las personas mayores deberían preocuparse más de su apariencia personal; ellas son muy desordenadas*
28	La mayoría de adultos mayores parecen bastante limpios y ordenados en su apariencia personal	La mayoría de las personas mayores parecen bastante limpias y ordenadas en su apariencia personal
29	La mayoría de adultos mayores son irritables, mal humorados y desagradables*	La mayoría de las personas mayores son irritables, mal humoradas y desagradables*
30	La mayoría de adultos mayores son alegres, agradables y de buen humor	La mayoría de las personas mayores son alegres, agradables y están de buen humor
31	La mayoría de adultos mayores constantemente se quejan del comportamiento de la generación juvenil*	La mayoría de las personas mayores constantemente se quejan del comportamiento de las generaciones más jóvenes*
32	Uno casi nunca escucha los adultos mayores quejarse acerca del comportamiento de la generación juvenil	Uno casi nunca escucha a las personas mayores quejarse acerca del comportamiento de las generaciones más jóvenes
33	La mayoría de adultos mayores hacen excesivas demandas por amor y seguridad más que cualquier otra persona*	La mayoría de las personas mayores requieren de más amor y seguridad que cualquier otra persona*
34	La mayoría de adultos mayores no necesitan amor y seguridad más que cualquier otra persona	La mayoría de las personas mayores no necesitan más amor y seguridad que cualquier otra persona

Note: *negative items.

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