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Validation of the advanced activities of daily living scale

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ABSTRACT

The objective was to evaluate the metric properties of the List of Advanced Activities of the Daily Living. A study quantitative was conducted. The sample comprised 200 older adults from the city of Pouso Alegre, Brazil. The following instruments were employed: 1- Questionnaire sociodemographic and health; 2- Vitor Quality of Life Scale for the Elderly (VITOR QLSE); and 3 - List of Advanced Activities in Daily Life – AAVDs. It was verified through the exploratory factorial analysis that the list possesses three denominated domains of Activities of Leisure, Social Activities and Productive Activities. The three-factor solution explained 58.18% of total variance: 30% by the first factor, 18.03% by the second, and 10.14% by the third. The coefficient alpha for the overall scale was 0.80. The list of AADLs presented reliable and valid metric properties to be applied in the elderly.

Introduction

Currently, assessment of the functional state or capacity of older adults is generally done based on performance in activities of daily living which have hitherto been divided into two categories: 1) basic activities of daily living (BADLs), consisting of everyday self-care tasks related to survival; 2) instrumental activities of daily living (IADLs), involving tasks for maintaining life in the community or supporting life in society.[1]

However, Paschoal[2] pointed out that the use of BADLs and IADLs alone can lead to low sensitivity for detecting mild functional deficits in community-dwelling older adults because these activities do not include performance of more complex daily activities such as work, artistic or bodily/physical activities involving social participation, which require a greater level of physical, cognitive and social ability.

In this respect, Dias, Duarte, Almeida and Lebrão,[3] stated that the initial discussion on the need to incorporate another group of activities into the functional assessment of elderly began in 1989 with Reuben & Solomon. The authors highlighted the need to incorporate more complex activities involving physical, mental and social functioning, performed at home and in community life. Functional state would thus encompass the person's health, well-being and adaptation to their limitations. The authors proposed the use of three functional levels of activities (basic, intermediate and advanced), where the last level is associated with better cognitive assessment and excellent quality of life, but not with leading an independent life.

Advanced activities involve tasks related to the performance of social functions such as social, physical, leisure, community, religious and work activities. Therefore, a slight decrease in the performance of advanced activities of daily living (AADLs) may serve as a key marker of future functional decline in older adults.[3]

The functional performance measures related to the ABVDs and the AIVDs are routinely used in clinical practice and frequently found in the scientific literature. However, this is not the case for AAVDs, since it has not been used in clinical practice and has not been scientifically investigated in the functional evaluation of the elderly and in the improvement of health status and quality of life (QOL), as well as in the search for active aging.[1,3]

AADLs are made up by personal and environmental factors. Personal factors are related to sociodemographic factors, functional capacity, interest levels, motivation, self-efficacy and self-control. These, in turn, are linked to learning and personality, besides physical, cognitive, emotional and social abilities.[1] Environmental factors encompass conditions produced by the individual's environment where they carry out the activity of daily living. These environmental

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conditions can be physical, emotional or social, within the context of where the individual lives and leads their life.[4] Environmental factors involved in daily activities include the following elements: 1- consumption (technology, services, goods, products); 2 – natural and artificial environments (weather, relief, lighting, sounds, images, accessibility); 3 – relationships (family, friends, caregivers); 4 – public policies (health, education, transport, work and job, social welfare); and 5 – individual attitudes of the elderly person. It is important to emphasize that these factors are complementary with one another and thus their influence on activities should not be considered separately but in conjunction with the.[1]

Engagement in AADLs has a strong association with reduced risk of death and of developing disabilities, and also with higher levels of emotional well-being, cognitive functioning and fewer depressive symptoms.[5] However, the absence of diseases and good physical functioning are not the fundamental aspects for performing AADLs. Even in these situations, elderly can adopt mechanisms of selection, optimization and compensation to deal with aging-related losses, thereby creating effective ways of adapting to the environment.[6] When limited or interrupted, AADLs can predict health problems and disability, rendering assessment of this class of behaviors an important instrument for early diagnosis of physical and cognitive disabilities.[7]

However, although the importance and the need to evaluate the AADLs for the quality of life of the elderly is emphasized, there is no news in the Brazilian scenario of the existence of scales to evaluate this dimension. The only material found in the literature concerns a "List of Advanced Activities of Daily Living", which integrates the research "Frailty Profile of Elderly Brazilians" carried out by the FIBRA Network, which is a multi-center and multidisciplinary research network who investigated the characteristics, prevalence and risk factors related to the fragility syndrome in Brazilian elderly. This constitutes the only instrument available in the literature for assessing the phenomenon, although its reliability and validity have not yet been assessed. the items of the instrument were adapted from Reuben *et al.* in 1990; Baltes, Mayr, Borchelt, Maas and Wilms, in 1993; Souza, Strawbridge, Wallagen and Cohen, in 2002 and Magalhães and Teixeira-Salmela, in 2006.[8]

However, although it is already used in some Brazilian studies there is no news on the evaluation of their metric characteristics. Therefore, this study had as main objective to evaluate the psychometric properties of the respective list, in order to confirm if it is valid and reliable to evaluate the AADLs phenomenon.

Design and methods

It is a quantitative and cross-sectional methodological study. Methodological studies are known in the literature for using complex and sophisticated methods of metric evaluation.[9]

Study site, participants, sample and sampling

The study was conducted in a city in southern Minas Gerais, Brazil. Participants were the elderly aged 60 years or older. The sample consisted of 220 elderly people. The number of participants was calculated to produce stable factorial solutions. For this, the criterion "item-subject reason" was used, according to Pasquali,[10] it should have a minimum proportion of 5: 1 of the sample size for the number of constituent items in a scale to test its psychometric characteristics. Sampling was non-probabilistic based on convenience, accidental and "snowball" methods. The interviews were conducted in natural places such as streets, squares, churches and homes. The data collection period was from June to August 2016. The inclusion criteria were: to have preserved cognitive and communicative skills, as certified by the Mental Assessment Questionnaire; and reside in the aforementioned city.

Data collection

Data collection was performed using the direct structured interview technique. Prior to interview, all participants were informed about the study objectives and instruments, and queries and the Free and Informed Consent Form were explained. The following instruments were used:

1 Mental health questionnaire: the questionnaire consists of ten questions that briefly analyze the temporo-spatial orientation and memory for late events. It is recommended as a form of screening of cases to undergo further evaluation.[11] It should be clarified that the questionnaire in question was used only to detect some cognitive alteration that prevented the individual from participating in the study and did not have the objective of characterizing the cognition of the elderly in this study.
2 Questionnaire containing open and closed questions collecting data on gender, marital status, work and other variables, characterizing personal, family, social and health aspects. This questionnaire was intended to characterize the sociodemographic and health aspects of the study participants. The respective questionnaire was designed by the authors of the study and this study aimed to identify only the general characteristics of respondents.
3 Vitor Quality of Life Scale for the Elderly (VITOR QLSE): a specific scale measuring quality of life in elderly, devised and validated by Silva and Baptista[12] derived from a generic QoL scale called the Ferrans & Powers Quality of Life Index. This comprises 48 items grouped into six domains: 1) Autonomy and Psychological (10 items); 2) Environment (10 items); 3) Physical Independence (6 items); 4) Family (7 items); 5) Health (6 items); and 6) Social (9 items). All items are positive in nature. Response options are: "very dissatisfied" (1 point); "dissatisfied" (2 points); "neither satisfied nor dissatisfied" (3 points); "satisfied" (4 points) and "very satisfied" (5 points). Minimum score on the scale is 48 points with a maximum of 240 points. The closer to the lower limit, the worse the quality of life and vice-versa. The scores of the domains or values of the 48 items can be combined to give an overall score for quality of life in elderly adults, denoted the total VITOR QLSE score.
4 List of Advanced Activities in Daily Living – (Attachment A): proposed by Oliveira et al.[8] this is a 13-item scale with no domains and the following response options: "never done"; "stopped doing" and "still doing". Items are scored on a scale of 1–3 points with a minimum score of 13 and maximum of 39. The respective items were adapted from Reuben *et al.* (1990); Baltes, Mayr, Borchelt, Maas and Wilms (1993); Souza, Strawbridge, Wallagen and Cohen (2002) and Magalhães and Teixeira-Salmela (2006). Although it is being used in the Brazilian context, there is no news until the present moment of studies about the metric properties of the respective list.

Ethical aspects

The present study was conducted in accordance with the precepts established in Brazilian Resolution 466/12, which governs research involving human beings, where the participants' autonomy, anonymity, confidentiality and privacy must be respected. This study followed the precepts set out in the Helsinki Declaration. The study was approved by the Research Ethics Committee of the Universidade do Vale do Sapucaí, in Pouso Alegre – Minas Gerais, under license no. 1.417.178.

Data analysis

Data were keyed into a database using the SPSS Statistical Package for the Social Sciences, version 24. For the descriptive statistics, categorical variables were expressed as frequency and percentage, whereas continuous variables were expressed as mean and standard deviation. Prior to the psychometric analysis of the List of AADLs, the Kaiser-Meyer-Olkin (KMO) and Bartlett Sphericity tests were performed to determine whether the scale in question possessed the characteristics for exploratory factor analysis. Having met the prerequisites for analysis, factor extraction by principal component analysis with oblique rotation (oblimin method) was carried out. Coefficient alpha, Pearson's correlation coefficient and Student's *t* tests were employed for the stages assessing the reliability and validity of the List of AADLs.

Results

Firstly, the results for the personal characteristics of the study participants are outlined, followed by the assessment of the AADLs. Lastly, the details of the assessment of the psychometric properties of the List of AADLs are given.

Sociodemographic and health profile of study participants

The personal, demographic and health data of the study participants were characterized as follows: 52.27% were female; participants had a mean age of 65.86 (SD ± 6.94) years within an age range of 60–74 years; 51.9% had the first incomplete school stage, that is, the "elementary school" in Brazil incomplete; 61.36% were married; 39.54% were retired and not working; 44.09% rated their health as "Good"; 52.46% had no chronic diseases; and 58.18% performed some kind of physical activity.

Assessment of advanced activities of daily living

With respect to the evaluation of the AADLs of the members of this study, the overall mean transformed to the value of (0 to 100) was 67,26 points and SD ± 13,27. The three domains of the List of AADLs identified in this study using factorial analysis (leisure activity, social activities and productive activities) had the following means respectively (70; 89 and 48).

Psychometric analysis of the advanced activities of daily living scale

The metric properties of the List of AADLs were determined by the following methods: Exploratory factor analysis, Reliability, and Construct Validity. The respective procedures are described below.

Exploratory factor analysis

The conceptual structure of the items of the AADL was analyzed using exploratory factor analysis. Factor analysis allows identification of factors that are dimensions in which scores differed from one subject to another. Analyses of intercorrelations and behavioral data enable the categories describing behavior to be reduced to fewer categories.[13]

The first step adopted was to observe whether the data matrix could be subjected to factor analysis.[10] To this end, the assessment methods commonly cited in the literature were employed: the Kaiser-Meyer-Olkin (KMO) criteria and Bartlett's Sphericity Test.[14] The KMO index indicates the adequacy of applying Exploratory Factor Analysis for the data set, whereas Bartlett's sphericity test assesses the overall significance of all the correlations in a data matrix.[15] The KMO test value was 0.77, showing that the data were adequate for factor analysis. Bartlett's test yielded $p < 0.001$, indicating that the variables being assessed were significantly correlated.

Table 1
Factor structure of items of the advanced activities of daily living scale.

Items	Factors		
	Leisure Activities	Social Activities	Productive Activities
1. Visit other people's houses.		0.87	
2. Receive visitors at your house.		0.84	
3. Go to church or temple for religious rituals or social activities connected with religion		0.62	
4. Take part in social gatherings		0.61	
5. Take part in cultural events, such as concerts, shows, exhibitions, theater plays or movies at the cinema.	0.63		
6. Drive a car.	0.65		
7. Take short trips out of town.	0.82		
8. Take longer trips out of the town or country.	0.85		
9. Do voluntary work			0.66
10. Do paid work			0.48
11. Sit on boards or committees of associations, clubs, schools, unions, cooperatives or community centers, or engage in political activities.			0.73
12. Take part in refresher or Open University for the Third Age courses.			0.84
13. Participate in community centers or groups specifically for the elderly.			0.80
Variance (Total = 58.18%)	30	18.03	10.14
Singular values (Eigenvalues)	3.9	2.34	1.31

Given the data allowed factor analysis, the principal components analysis technique was used to determine whether the different variables represented the same concept. Principal component analysis is an exploratory multivariate data analysis technique which transforms a set of correlated variables into a smaller group of independent variables, simplifying the data by reducing the number of variables needed to describe them.[16] The oblique rotation (oblimin) method was elected for the exploratory factor analysis which yields correlated factors, representing the most appropriate procedure for the subject studied.[17] During this process, factors greater than 0.40 were selected, producing three factors as shown in Table 1.

The exploratory factor analysis revealed that the List of AADLs has three dimensions. Applying the method of Dias *et al.*[3] the first (Social Domain) comprises four items. The second domain (Leisure Domain) has four items of free choice that produce pleasure (items 5, 7 and 8) plus item 6 for developing abilities. The last of the domains (Productive) contains five items related to activities leading to an end product (items 11,12 and 13) while items 9 and 10 are subtypes of productive activities corresponding to paid and voluntary work.

The factor structure of the items exhibited satisfactory factor loadings above acceptable limits. The three-factor solution explained 58.18% of total variance, with first factor (Leisure) explaining 30%, the second (Social) 18.03%, and the third (Productive)10.14%.

Pearson's correlation among the list items and its three respective factors was applied to confirm the structure of the scale. These results are given in Table 2 showing that the items had a stronger correlation with the dimension to which they belonged, thus confirming the structure of the List of AADLs.

Reliability

The reliability of the List of AADLswas tested for internal consistency using coefficient alpha. Coefficient alpha is a widely used procedure for assessing the reliability of scores of a test.[18]

Table 2
Correlation among items and domains of the AADL Scale.

Items	Domains		
	Leisure Activities	Social Activities	Productive Activities
1. Visit other people's houses.	0.24**	**0.84****	0.03
2. Receive visitors at your house.	0.19**	**0.77****	0.01
3. Go to church or temple for religious rituals or social activities connected with religion	0.14*	**0.61****	−0.02
4. Take part in social gatherings	0.50**	**0.76****	0.20**
5. Take part in cultural events, such as concerts, shows, exhibitions, theater plays or movies at the cinema.	**0.69****	0.35**	0.40**
6. Drive a car.	**0.72****	0.21**	0.33**
7. Take short trips out of town.	**0.79****	0.35**	0.23**
8. Take longer trips out of the town or country.	**0.82****	0.27**	0.33**
9. Do voluntary work	0.45**	0.19**	**0.76****
10. Do paid work	0.26**	0.07	**0.63****
11. Sit on boards or committees of associations, clubs, schools, unions, cooperatives or community centers, or engage in political activities.	0.20**	−0.06	**0.69****
12. Take part in refresher or Open University for the Third Age courses.	0.33**	0.07	**0.76****
13. Participate in community centers or groups specifically for the elderly.	0.24**	0.03	**0.72****

* $p < 0.05$.
** $p < 0.01$.

Table 3
Pearson's Correlation Coefficient among domains of the AADL Scale and the QoL Scale.

Quality of life	Advanced Activities of Daily Living			
	Leisure Activities	Social Activities	Productive Activities	Overall Activities
Autonomy and Psychological Dimension	0.31**	0.22**	0.24**	0.35**
Environment	−0.15*	−0.11	−0.08	−0.16*
Physical Independence	0.26**	0.18**	0.21**	0.30**
Family	0.28**	0.16*	0.23**	0.31**
Health	0.10	0.04	0.18**	0.15*
Social Dimension	0.18**	0.11	0.29**	0.27**
Overall Quality of Life	0.19**	0.11	0.21**	0.24**

* $p < 0.05$.
** $p < 0.01$.

Table 4
Pearson's Correlation Coefficient among the AADL domains and their overall score.

AADL Domains	Overall Activities Score
Leisure Activities	0.85*
Social Activities	0.58*
Productive Activities	0.75*

* $p \leq 0.001$.

This test determines the internal consistency of items, i.e. the congruence that each individual test item has with remaining items of the same test.[10]

The coefficient alpha values were: Leisure Activities, 0.75; Social Activities, 0.73; and Productive Activities, 0.75. The internal consistency for the overall scale was 0.80. These results are consistent with the limits found in the literature on psychometrics for interpreting coefficient alpha.[19]

Construct validity

Three procedures were employed to ascertain whether the List of AADLs displayed evidence of construct validity: convergent validity, homogeneity and contrasting groups. The methods used and results found are outlined below.

Convergent validity

Convergent validity is a procedure for obtaining construct validity, revealing whether the instrument constructed relates with other variables in the manner expected.[13] Thus, Pearson's correlation coefficient test was performed among the QoL and AADL scores (Table 3). As expected, there was a statistically significant correlation between AADL scores and QoL scores, evidencing the construct validity of the scale assessed.

Homogeneity

Homogeneity defines the uniformity of the instrument in measuring a single concept. Correlations among subtest scores and total score are cited in the literature as evidence of homogeneity.[20] In the present study, the homogeneity of the AADL Scale was tested using Pearson's correlation coefficient among the respective scale domains and its overall score (Table 4). As depicted in Table 4, the correlations among the domain scores and total score were strong and statistically significant, a characteristic confirming the homogeneity of the AADL Scale and its construct validity.

Contrasting groups

The contrasting groups method (different groups) was also used in this study as a means of providing further evidence of construct validity. This is based on the premise that if an instrument is a valid measure of a construct then the scores of groups that have supposed differences under the construct should also differ.[20]

Thus, it was determined whether scores on the AADL Scale displayed the expected differences according to participation of different groups. This was determined by performing Student's *t* test to identify whether differences existed between the general indices of AADLs between individuals “with work” and “without work”. The results found are given in Table 5, showing statistically significant differences in AADL Scores between those with and without work. As expected, individuals with work had higher indices of advanced activities compared to those without work. These results support the notion that the AADL scale is indeed a valid instrument for measuring the respective construct.

Table 5
Mean, standard deviation and student's *t*-test of AADLs of study participants according to occupational characteristics.

Occupational Factors/ Characteristic	Advanced Activities of Daily Living		
	Mean*	Standard Deviation	*t*
Leisure Activities			
With Work	2.2	0.34	5.68**
Without Work	1.9	0.39	
Social Activities			
With Work	2.2	0.34	3.99**
Without Work	1.9	0.39	
Productive Activities			
With Work	2.2	0.34	3.30**
Without Work	1.9	0.39	
Overall Activity			
With Work	2.2	0.34	5.96**
Without Work	1.9	0.39	

* Score from 0 to 3.
** $p \leq 0.001$.

Discussion

This study aimed to evaluate the reliability and validity of the LAADLs. In summary, the result showed that it has acceptable psychometric properties and is therefore a reliable and valid instrument for the purpose for which it is intended. Thus, from this work to its list happens to be called “Advanced Activities of Daily Living Scale”.

Factor analysis revealed three factors. Based on Dias *et al.*,[3] the domains of the AADL can be divided into social, productive, physical and leisure. The social domain relates to the environment in situations of social contact, activities in family groups, friendships, in religious and charitable organizations, and also involvement in community and political groups. The productive domain is characterized by engagement in activities that result in an end product, such as formal and informal paid work, domestic unpaid work, and formal or informal care provided for others. The physical factor encompasses physical activity such as activities with high physical demands involving muscle strength, range of joint motion, fine global motor coordination, participation in physical exercises, bodily activities and sports. These activities are often performed as leisure pursuits. Lastly, the Leisure components entail performing free-choice activities that are pleasurable and contribute toward personal achievement due to the process of involvement. These activities encompass relaxation, recreation and development of abilities.

Notably, the scale assessed in this study includes no items under the Physical Domain because, when it was devised, no items were constructed for this domain. This explains the absence of the respective domain.

The reliability of the AADL Scale was tested using coefficient alpha. The scale showed internal consistency both for overall score and the individual domains (Overall Score: 0.80; Leisure Activities: 0.75; Social Activities: 0.73; Productive Activities: 0.75). The analysis of reliability of the scale using coefficient alpha demonstrated that the items of the instrument measure the same variable, i.e. they were all consistent with the construct to be investigated. Coefficient alpha is a widely used procedure for assessing the reliability of scores of a test, with alpha values ranging from 0 to 1, where values closer to 1 indicate greater reliability of the validated instrument.[13] Alpha values above 0.80 indicate good internal consistency, although in some cases values over 0.60 may be acceptable when scales contain very few items.[21] However, Streiner[22] pointed out that coefficient alpha values exceeding 0.90 may be excessively high and indicate redundant items.

With regard to construct validity, the AADL Scale showed acceptable results for Convergent Validity, Homogeneity and Contrasting Groups. Cohen *et al.*[20] reported that construct validity is a judgement on the adequacy of conclusions drawn based on scores of tests for individual positions in a variable called construct. This constitutes a comprehensive validity which analyzes how scores on the tests relate with other scores and measures, and how scores on the test can be construed in the sphere of a theoretical structure to understand the construct which the test is designed to measure.

Regarding convergent validity, correlation of the AADL Scale with the VITOR QLSE was used because Dias *et al.*[3] and Dias *et al.*[23] affirmed that engaging in AADL promotes improved quality of life. In other words, elderly who practice AADL have better quality of life (QoL). As suggested in the literature, a statistically significant correlation was detected between AADLs and QoL, i.e. individuals with higher AADL indices also had better QoL. Hutz *et al.*[13] described that when performing a thorough study of construct validity, it is important to know whether the instrument assessed relates with other variables as expected and indicated theoretically.[13] Cohen *et al.*[20] emphasized that if the scores on the instrument being assessed have a strong correlation with scores 0 of other tests in the manner expected, this serves as evidence of convergent validity.

The homogeneity of the AADL scale was also assessed. Pearson's correlation coefficient test among the AADL Scale domains with overall score were statistically significant, providing evidence of valid homogeneity. Cohen *et al.*20 clarified that assessment of the homogeneity of an instrument is cited in the literature as a means of evaluating construct validity; it shows whether the instrument studied is uniform in assessing the concept which it is intended to measure.

Another approach used in this study for assessing the construct validity of the AADL Scale was the contrasting groups method. Two groups of older adults were used: with work and without work. Application of this procedure revealed that the scale displayed evidence of construct validity, given that the results of Student's *t* test showed statistically significant differences among the groups with and without work. As expected, the group with work had higher QoL levels compared to the group without work. Work is a way of helping the individual maintain health, control depression, frailty and disability, well-being, good cognitive level and independence in everyday activities.[24] Voluntary work represents an alternative in older adults, where a growing number of older adults are willing to undertake this kind of work.[25] It can be inferred that this phenomenon is a sign of availability, through which the elderly show they are fit to do work. For older adults to maintain good capacity for work, factors such as satisfaction with life, regular physical activity, sufficient spending power, voluntary work and occupational activities are fundamental to conserve functional capacity.[24] It is known that functional capacity, in its broader sense, involves the capacity for work, particularly among older adults.[25]

Conclusion

The Advanced Activities of Daily Living Scale showed acceptable psychometric properties, proving a valid and reliable measure for assessing advanced activities of daily living of older adults.

Exploratory factor analysis revealed three factors, referred to as Leisure Activities, Social Activities and Productive Activities in the literature. The scale is therefore multidimensional but does not encompass the physical aspect also cited in the literature as a domain of advanced activities. Given these results, future studies are underway to complement the respective scale with items related to the physical domain in an effort to make it more coherent with the literature.

This AADL study should be replicated in further investigations involving older adults from other settings, contexts and with different sociodemographic characteristics in order to confirm the results found in the present study. Finally, the respective scale should be integrated with the assessment of functional capacity, together with the assessment of basic and instrumental activities of daily living, thereby providing more comprehensive data on functional capacity.

Finally, as a limitation of the study, we cite the fact that the sample was not probabilistic, a characteristic that does not invalidate the importance of the study, but which requires caution when generalizing the results for the Brazilian elderly population. It is also recommended from this study performing confirmatory analysis AADLs scale.

Appendix 1. advanced activities of daily living (AADL) scale

People at certain times or phases in life continue doing certain activities which they have always done; for different reasons, they may also stop doing them, while there are also activities they have never done. We would like to know your involvement in the activities below. Therefore, circle the number which reflects your situation for each of the activities. You can fill it out yourself else I can do it for you if you prefer.

ACTIVITIES	Never done	Stopped doing	Still do
1. Visit other people's houses.	1	2	3
2. Receive visitors at your house.	1	2	3
3. Go to church or temple for religious rituals or social activities connected with religion	1	2	3
4. Take part in social gatherings	1	2	3
5. Take part in cultural events, such as concerts, shows, exhibitions, theater plays or movies at the cinema.	1	2	3
6. Drive a car.	1	2	3
7. Take short trips out of town.	1	2	3
8. Take longer trips out of the town or country.	1	2	3
9. Do voluntary work.	1	2	3
10. Do paid work.	1	2	3
11. Sit on boards or committees of associations, clubs, schools, unions, cooperatives or community centers, or engage in political activities.	1	2	3
12. Take part in refresher or Open University for the Third Age courses.	1	2	3
13. Participate in community centers or groups specifically for the elderly.	1	2	3

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