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## Aims

This study explores the relationship between an adapted Active Ageing Index and a Personal Active Ageing Index (IPEA - Marsillas, 2016; Marsillas, De Donder, Kardol et al., 2017). It is a quantitative index, based on a model of active ageing focused on an individual level and comprises two broad categories of variables, which group together important dimensions found in the scientific literature: 1) state or health variables (related to physical, psychological and social health), 2) processual or participation variables (different types of activities such as social participation, leisure or lifelong learning).

This study aims to answer the question about the possible relationship between both indexes and their components and/or domains.

## Methodology

A selective methodology was used, carrying out a survey among a representative sample of the 60-year-old and over community-dwelling older adults in Galicia (804.403 persons). The sampling selection was made through the county register and a two-stage sampling was chosen: conglomerates for the selection of the first-level units (municipalities) and quotas according to the habitat, gender and age-group for the selection of second-level units (individuals).

The variables used in this study were continuous and covered the following variables:

- Adapted AAI: the 4 domains and 21 indicators of the AAI were adapted to an individual format, generating a new instrument in which the weight of the indicators was redistributed partially.

-IPEA, the variables included were chosen based on a literature review (Marsillas, 2016) and assessed the ten broad dimensions of: 1) health (objective and subjective health), 2) functionality (basic and instrumental daily activities), 3) cognitive state, 4) affective state, 5) social state (social and family perceived support, frequency of outdoor social contact), 6) ICT use, 7) lifelong learning, 8) employment, 9) social participation, 10) leisure activities.

A bivariate analysis in terms of correlation has been conducted.

## Results

### Adapted Active Ageing Index

The descriptive results of the adapted AAI to individual scores are shown below. This first calculation of individual scores, domain indexes and overall indexes allowed allocating the people on a continuum.

#### Descriptive results for Adapted Active Ageing Index

	Indexes			
	Mean	Std. Deviation	Minimum	Maximum
Domain 1: Employment	0.03	0.09	0.00	0.35
Domain 2: Participation in society	0.05	0.06	0.00	0.35
Individual adaptation of AAI	0.07	0.02	0.01	0.10
Domain 3: Independent, healthy and secure living	0.13	0.06	0.00	0.20
Domain 4: Capacity and enabling environment	0.27	0.15	0.02	0.75
Overall	0.27	0.15	0.02	0.75

### Personal Active Ageing Index (IPEA)

Five of the ten variables have means over 0.50, with higher results in variables related to the state or health of people. Those related to participation showed lower results than state variables, which is also shown in the global health and global participation categories

#### Descriptive results for Personal Active Ageing Index

	Indexes			
	Mean	Std. Deviation	Minimum	Maximum
Physical State	0.65	0.20	0.03	0.97
Functional State	0.94	0.15	0.00	1.00
Cognitive State	0.87	0.14	0.27	1.00
Emotional State	0.47	0.23	0.00	1.00
Social State	0.91	0.14	0.00	1.00
Lifelong learning	0.42	0.28	0.00	1.00
Use of ICT	0.42	0.35	0.00	1.00
Social Participation	0.38	0.48	0.00	1.00
Employment	0.08	0.28	0.00	1.00
Leisure	0.51	0.17	0.07	0.93
Global Health	0.77	0.13	0.27	0.99
Global Participation	0.45	0.25	0.02	1.00
IPEA	0.66	0.15	0.18	1.00

### Relationship between Adapted AAI and IPEA

The highest correlations are present where similar variables are present, as expected. This is the case of the fourth domain and the physical state, for example. However, the functional state and the 4<sup>o</sup> domain of the Adapted AAI (Capacity), even when they do not have similar items included in both domains, show a significant and moderate correlation ( $r^2=0.42$ ). Additionally, other categories, such as leisure, which variables are totally different of the rest of the domains included in the Adapted AAI, it shows a significant and moderate correlation, quantified in 0.42 when related to AAI Capacity and 0.28 with the Adapted AAI participation and 0.33 with the overall Adapted AAI.

#### Correlation between Adapted AAI and IPEA

	Adapted AAI				
	AAI Employment	AAI Participation	AAI Independent	AAI Capacity	AAI Overall
Physical State	0.21***	0.10*	0.10*	0.55***	0.40***
Functional State	0.12*	0.25***	0.27***	0.42***	0.37***
Cognitive State	0.16**	0.23***	0.27***	0.30***	0.34***
Emotional State	0.08	0.14**	0.29***	0.47***	0.33***
Social State	0.05	0.07	0.15**	0.35***	0.21***
Lifelong learning	0.08	0.29***	0.40***	0.34***	0.36***
Use of ICT	0.26***	0.27***	0.34***	0.47***	0.51***
Social Participation	0.06	---	0.18***	0.27***	0.44***
Employment	----	0.01	-0.02	0.15***	0.67***
Leisure	0.002	0.28***	0.40***	0.42***	0.33***
Global Health	0.19**	0.25**	0.30**	0.60**	0.50**
Global Participation	0.38***	0.53***	0.37***	0.50***	0.71***
IPEA	0.32***	0.44***	0.38***	0.62***	0.68***

## Discussion

This study explores two different individual indexes and its relationship showing how can both help to measure the level of the ageing of people. They measure different areas, are positioned in different conceptualization of ageing and their indicators are recoded in different ways, but the conjoint application of both tools allows us knowing the overall score of a particular territory and its position in a ranking, segmenting results and territories and assigning a score to each person placing them on a continuum regarding a more comprehensive number and dimensions of the individual ageing. Thus, the awareness of the problematic and needs of older people living in different areas can be increased. We are aware of the limitations of this study, including the similarity of two domains, which could increase the correlation of the global score of both indexes. Additionally, some measures referring similar concepts, such as social support (IPEA) or social connectedness (Adapted AAI), or physical state (IPEA) and perceived limitation (Adapted AAI) can be influencing also the results presented in this paper. However, the comparison of both indexes suggests interesting results, such as the relationship between the Adapted AAI Capacity and the cognitive state, which can be understood by its influence on different indicators of this domain such as social connectedness, emotional well-being, or its relationship to the education level. Additionally, the relationship between leisure and the different domains and the overall adapted index would indicate that being active in leisure is significantly related to the capacity to age actively or the independent living, but a lower relationship is found when the participation in society is involved.

In conclusion, the IPEA provides an individual quantitative result of each person's active ageing level as well as allows for monitoring his or her progress by comparing different periods of time as well as to compare people of different groups.