The Personal Wellbeing among Community-Dwelling Older Adults in Spain and Associated Factors

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Abstract

Objective: The conceptual framework of Quality of Life (QoL) allows approaching the knowledge of the living conditions of people in order to help establishing policies for QoL improvement. This study is aimed at examining the assessment made by older adults on their personal wellbeing and the satisfaction with life and the associated factors. A summary of the psychometric properties of the measurement instrument was also presented.

Method: The data came from the Ageing in Spain Longitudinal Study, Pilot Survey (ELES-PS), carried out in 2011 among people 50 years old or more living in family housing in Spain. The Personal Wellbeing Index (PWI), as a multidimensional measure of QoL, was used to evaluate the subjective wellbeing. Personal, social and residential characteristics were considered as independent variables. Descriptive statistical analysis, ANOVA, correlation, factor and regression analyses were applied.

Results and conclusions: The PWI had good psychometric properties and showed the convergent validity with satisfaction with life as a whole (SWLW). Unidimensional structure of the scale was also demonstrated. PWI and SWLW total scores reached 74.5%SM and 77.1%SM, respectively. The best rated life domains were the satisfaction with relationships, safety and feeling part of the community. The SWLW observed significant differences in gender categories while PWI within age and social status.

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Both scales were associated with marital status, educational level, household size, current activity status and social status. The regression model of the PWI explained 34.2% of the variance through factors on socio-demographic and economic resources, psychosocial, health/functioning, family and social networks, leisure and residential environment. Based on these results, it would be desirable to deepen on this line from a longitudinal perspective to detect the influence of the changing conditions of the aged people in their personal well-being and life satisfaction.

Keywords: *Older Adults, Subjective Wellbeing, Wellbeing Domains, Personal Wellbeing Index, Satisfaction with Life, Quality of Life, Psychometric Properties, Associated Factors.*

Introduction

The study of Quality of Life (QoL) in ageing contributes to expand the limits of a vision that often focuses on the impairment of health and functional capacity, to a more multidimensional perspective of individuals' life in old age.

Health, interpersonal relationships, safety, place in community, emotional and material well-being are some of the main central domains that shape the multidimensional concept of QoL (Cummins, 1996; Schalock, 2004). In the field of QoL in older adults several studies with quantitative and qualitative methodological approaches have explored the main life domains from the viewpoint of the individuals, considering different personal characteristics, health conditions and social contexts, including residential and spatial issues. Broadly speaking, they highlight the physical, emotional and social domains (Halvorsrud & Kalfoss, 2007). Specifically, authors such as Bowling et al. (2001) found eight major domains: health, independence, social relations, financial circumstances, housing and neighbourhood, social activities and roles. In addition to these dimensions, others that are very important for this population group are family and leisure activities (Ahmed-Mohamed & Rojo-Pérez, 2011; Browne et al., 1994; Fernández-Mayoralas et al., 2007; Lardiés-Bosque, 2011; Seymour et al., 2008), autonomy and the attitude towards life (Richard et al., 2005), and the health of significant others (Bowling, 1995; Prieto-Flores et al., 2010). Although the residential environment, as an Ageing in Place context (Rojo-Perez et al., 2001), and the close social network linked to the place of residence, are not among the domains more mentioned by the elderly themselves, they do provide a high level of satisfaction in old age (Rojo-Perez et al., 2007).

Even though people attach more importance to certain QoL domains, there is no taxonomy of domains in which all individuals are reflected (Browne et al., 1994), because QoL is significant in terms of individuals' subjective experience (Taylor & Bogdan, 1990). In this regard, the QoL evaluation corresponds to a dynamic interaction between the external conditions of an individual's life and the internal perceptions of those conditions (Browne et al., 1994).

Thus, objective living conditions and subjective well-being indicators are used to assess overall QoL and its domains. The objective approach is linked to the satisfaction of needs that determine individuals' well-being, while the subjective perspective is geared towards people's subjective experience of their life (Delhey et al., 2002). Objective and subjective well-being are complementary and, though both are necessary for social policy decision-making, the choice of one or the other indicators in research will depend on the goals pursued (Veenhoven, 2002).

All this goes to underscore the need to consider both objective and subjective indicators when assessing QoL; yet the latter can also be used to make cross-national comparisons, insofar as they reflects not only whether people are living according to their human needs, but also represents judgments based on the particular norms and values of each culture (Diener & Suh, 2000). Moreover, despite the often moderate correlations found between objective and subjective indicators, objective living conditions have an impact on individual well-being, mainly through

personal perceptions relative to, inter alia, expectations and comparative standards (Daatland & Hansen, 2007). Accordingly, a sufficiently adverse environment and personal circumstances (such as health decline, loss of close ties, etc.) can defeat the homeostatic system in the way that individuals cannot maintain a normal state of positive well-being (Cummins, 2005). When this occurs, the level of subjective well-being falls below its homeostatic range (Cummins et al., 2003). In this sense, the dynamics of the subjective well-being outcomes could be affected by positive or negative events, as well as by transitions in different individual later life domains, i.e., job retirement, disability and, consequently, loss of autonomy and dependence, widowhood and weakening of family and social networks, changes in the residential environment, etc.

One widely-used measure of subjective well-being are scales of satisfaction, because through them people make globally judgments about their life as a whole, or about the specific domains that make up their life (Bowling, 2005; Diener, 1994). Satisfaction with life domains influences satisfaction with life as a whole (Rahtz & Sirgy, 2000), such that QoL models and their instruments must reflect a hierarchical structure formed by core domains that contribute to its explanation (Cummins, 2005).

This theory was the basis underlying the International Well-being Index (IWI), which measures personal and national well-being on two subscales, the Personal Well-being Index (PWI) and the National Well-being Index (NWI) (International Well-being Group, 2006). They consist of several items referred to specific personal life or national domains, and represent the first-level deconstruction of the single items on satisfaction with personal life or satisfaction with national life, respectively, in the sense that each item or domain individually contributes unique variance to satisfaction with life (Cummins et al., 2003).

Many studies have used this measuring instrument to ascertain the level of individual well-being and judge its usefulness in different populations and cultural and geographical areas. The first were conducted by the instrument's designers (Cummins et al., 2003), in which they explained the creation of the Australian Unity Well-being Index for measuring subjective well-being across various dimensions through the PWI instrument. The most recent dealt with the association of subjective well-being and satisfaction with market activities (Ganglmair-Wooliscroft & Lawson, 2012), satisfaction with life and with living conditions in Macau (China) (Rato & Davey, 2012), the contribution of job satisfaction and partner satisfaction to subjective well-being (Lai & Cummins, in press), the influence of age in PWI within institutionalized and non-institutionalized older people in Spain (Rodriguez-Blazquez et al., 2012), or the analysis of subjective well-being among adolescents in a cross-comparison between countries (Casas et al., 2012; Casas et al., 2012 in press).

Within the previous contexts, the IWI instrument has been translated and used in different languages (International Well-being Group, 2006). By way of example, it has been successfully used in Spanish and in different populations, both in Latin American countries (Tonón, 2006; Wills-Herrera, 2009) and in Spain (Casas et al., 2007, Casas et al., 2008; Fernandez-Mayoralas et al., 2012; Forjaz et al., 2012; Rodriguez-Blazquez et al., 2011). The research presented in this paper applies the PWI as baseline information for cohorts born prior to 1960, for a longitudinal study of ageing in Spain. This subscale comprises seven items (standard of living, health, achievements in life, personal relationships, personal safety, feeling part of the community and future security) and a generic item on satisfaction with life as a whole (SWLW). In 2006 the spirituality/religion domain was added (International Well-being Group, 2006), as it had given satisfactory results in Colombia (Wills-Herrera, 2009).

Based on this perspective, this paper aims to examine the subjective dimension through older adults' assessment of their personal well-being as an overall indicator of QoL and partial domains. Specific objectives are: 1) to analyze the psychometric properties of the PWI in its unipolar response format, in order to ascertain if the instrument is suitable for analysing the subjective well-being of the population in question, and compare the data with those obtained in other

studies; 2) gauge this population's level of satisfaction with life as a whole and with life domains in the context of their personal characteristics and their physical and social environment, and 3) establish the factors associated with overall personal well-being and specific domain in elderly adulthood, from among those dimensions that they themselves have rated as important in their quality of life, namely: health, family network, economic situation, social network, and leisure and free time (Fernández-Mayoralas et al., 2011), as well as the residential environment as context for aging at home with autonomy and independence (Rojo-Perez et al., 2007).

All of this will serve to establish a reliable point of departure for longitudinal monitoring of the population's subjective well-being in relation to objective living conditions in the ageing process, thereby helping to lay the groundwork for the development of social policies associated to QoL research (Verlet & Devos, 2009).

Methodology
Participants, sample design and instruments

Cross-sectional data come from the Ageing in Spain Longitudinal Study, Pilot Survey (ELES-PS), conducted with people aged 50 years or more living in community dwelling (Teófilo Rodríguez et al., 2011). The survey was drafted as representative subjects selected on a national geographical basis. The sample design consisted of a stratified multistage cluster of first-stage units by autonomous region and size of habitat (≤ 10,000 inhabitants, 10,001-100,000, 100,001-500,000 and > 500,000), randomly selected proportional to its population aged 50 years or older. Second-stage units (households) were selected randomly from a database of households with telephones by census tract. An individual was also randomly selected in each household (last sampling unit) with post-stratification by sex and age decade (50-59, 60-69, 70-79 and 80-89 years).

The survey includes a collection of biological samples, anthropometry, performing tests and a wide questionnaire with objective and subjective questions on ageing dimensions (household, demographic and life course characteristics; well-being and QoL; family and social networks and social participation in free time; physical health and healthy living habits; physical, emotional and cognitive functioning; support networks and use of health and social resources; residential environment; employment situation, economic resources and standard of living; values and attitudes).

The information was collected in four phases: i) telephone questionnaire; ii) visit by nurses (blood and saliva samples, administration of a cognitive deterioration screening tool through the Spanish version of the Mini-Mental State Examination (MMSE) (Folstein, Folstein & McHugh, 1975), adapted by Lobo et al. (Folstein et al., 2002), measurement of skin folds and recording of medicines taken by the individual); iii) CAPI questionnaire (Computer-Assisted Personal Interviewing) conducted by trained interviewers and taking of anthropometric measurements and performing tests; and iv) self-administered questionnaire. The PWI subscale of the IWI instrument with eight domains (1- Standard of living, 2- Health, 3- Achieving in life, 4- Relationships, 5- Safety, 6- Feeling part of your community or group of people, 7- Future security and 8- Spirituality/religion) and the item on SWLW were included in the telephone questionnaire phase, a procedure also followed in other research studies that used this instrument with satisfactory results (Lau at al., 2005; Cummins et al., 2012; Rato & Davey, 2012; Wills-Herrera, 2009; Wills-Herrera, Islam & Hamilton, 2009). In item six, the word "community" has a specific meaning in the everyday Spanish live, namely to belong to the same group of owners of houses within the same building or plot, so the questionnaire includes an alternative to that word: "or group of people".

The telephone questionnaire phase comprises 1,747 individuals, including a specific sub-sample in the Basque Country (a region located in northern Spain). The sample was weighted

to correct the overrepresentation of people from that region, thus the final number of weighted interviews was 1,357 (error of ±2.7% for a confidence level of 95%); nursing, CAPI and self-administered questionnaires incorporates 1,185, 1,086 and 898 weighted subjects, for an error of ±2.8%, ±3.0%, ±3.3%, respectively.

The ELES-PS used the PWI with eight items and the SWLW item as a unipolar response scale, anchored from the lowest level of satisfaction imaginable (0) to the highest (10), in order to avoid the difficulties experienced by individuals in rating satisfaction with life using the two-way dissatisfaction-satisfaction response scale (Davern & Cummins, 2006; Mazaheri & Theuns, 2009). The wording of the question to obtain an answer to satisfaction with life sub-domains was: "For the next question, on a scale of 0 to 10, where 0 is the lowest level of satisfaction imaginable and 10 the highest (i.e. you are completely satisfied), you would say that your level of satisfaction with … [item] is…". The language used was Spanish, and the cross-cultural adaptation produced by the research team for a previous study (Fernandez-Mayoralas et al., 2012), is available at http://www.deakin.edu.au/research/acqol/auwbi/index-translations/pwi-a-spanish-spain.pdf.

SWLW, PWI total score and PWI items scores were used as dependent variables according to the objectives expressed earlier. For the purposes of this study, other features related to personal, social and residential characteristics were considered as possible associated variables and selected according to the most important dimensions in quality in later life as perceived by the individuals themselves (Fernandez-Mayoralas et al., 2011), namely: i) socio-demographic characteristics and economic resources (Rodríguez-Rodríguez et al., 2011): sex, age, marital status, household size, level of education, relationship with current activity status, social status, household economic perception; ii) health, physical and cognitive functioning: self-perception of health, number of chronic medical conditions, functional ability, cognitive deterioration based on the Mini-Mental State Examination (MMSE) (Folstein et al., 2002), depression based on the 10-item version of the Center for Epidemiological Studies Depression Scale (CES-D 10) (Robison et al., 2002), positive and negative feelings according to the Scale of Positive and Negative Experience (SPANE balance) (Diener et al., 2009); iii) residential environment: size of the habitat of residence, number of amenities in the building, house and home (Rojo-Pérez, 2011); iv) frequency of performing leisure and social and community participation activities during the last twelve months, used as latent variables or main components obtained in previous research through Factor Analysis (FA) (cultural and educational activities and trips, activities in the social and residential environment, participation in associations) (Rodríguez-Rodríguez et al., 2012); and v) family and social networks and support: size of family and friends networks in number of individuals, loneliness according to the 6-item De Jong Gierveld Loneliness Scale (LS) (De Jong Gierveld & Van Tilburg, 2006; Prieto-Flores et al., 2011), perceived social support according to the Duke-UNC Functional Social Support Questionnaire (DUFSS) (Broadhead et al., 1988; Ayala et al., 2012).

With regard to ethical aspects, the ELES-PS was approved by the Bioethics Subcommittee of the Spanish National Research Council. Prior to the surveys, an informed consent form was granted and signed by each respondent, and anonymity was assured.

Data analysis

For the purpose of working with comparable data derived from a 0.0 to 10.0 point scale, PWI items as well as SWLW were standardized into units of Percentage of Scale Maximum (%SM), using the formula PWI item score*10.0, which means shifting the decimal point to the right to produce %SM units on a 0.0-100.0 distribution (Cummins et al., 2003; International Well-being Group, 2006; Mazaheri &Theuns, 2009). The PWI standardized items were aggregated and averaged to calculate the PWI total score.

Descriptive statistics were applied to socio-demographic data in order to characterize the

participants. Psychometric properties of the PWI (unipolar response format) were analyzed following the Classic Test Theory. Firstly, to determine whether the 8 items forming the PWI scale measure the same construct, we explored the correlation of item 'k' with the scale built without that item through the corrected item-total correlation (CITC), following the criterion value of ≥0.30 (Ayala et al., 2012). The reason is based on the knowledge that the item 8-Spirituality/religion had not shown a unique contribution to the explanation of SWLW in Australia (Caras, 2003), nor did it work well for a sample of Spanish population aged 60 years old or more (Forjaz et al., 2012); on the contrary, it had a significant contribution in the context of Colombia, for which it was first designed (Wills-Herrera, 2009), and a very low but significant contribution to explain satisfaction with life in Catalonia-Spain (Casas et al., 2009) and in Algeria (Tiliouine, 2009).

Secondly, the following psychometric attributes of the scale were explored: acceptability, internal consistency, convergent and discriminative validity and precision. Acceptability was assessed on the basis of data quality and fully computable data, score ranges, mean and median distance, floor effect (% of subjects in the values of 0-15 of the scale) and ceiling effect (% of subjects in the values 85 or more of the scale), with a maximum of 15% for both effects taken as satisfactory (McHorney & Tarlov, 1995). Internal consistency (as a feature of the items included in the scale measure the same construct) was explored by using the Cronbach's α coefficient, with an acceptable minimum of 0.70 (Scientific Advisory Committee of the Medical Outcomes Trust, 2002), and lying within the standards of the PWI scale, 0.70 and 0.85 (International Well-being Group, 2006; Casas et al., 2012), item homogeneity (mean of the inter-item correlation coefficients) and the CITC, both based on the accepted minimum limit of 0.30 (Rodriguez-Blazquez et al., 2011). Within the basic principle of deconstruction of SWLW by means of life domains, a bivariate correlation and a multiple linear regression analysis (MLRA) of the domains of PWI (independent variables) against SWLW (dependent variable) was run in order to check the construct validity of the PWI (International Well-being Group, 2006), with the expectation that all domains should contribute unique variance (Cummins, 2010). For discriminative validity measures (the ability of the scale to differentiate between known groups of subjects), ANOVA T-test with Bonferroni post-hoc comparison was applied to compare PWI with socio-demographic variables and to test the statistical differences among categories of the same variable. The precision of PWI scale was assessed through the standard error of measurement (SEM) based on the arbitrary criterion value of SEM ≤ ½ Standard Deviation (SD) (Rodriguez-Blazquez et al., 2011).

Finally, to analyze which factors were associated with the PWI, a MLRA through step-wise method was set taking the following independent variables: socio-demographic indicators (age, sex, living with or without a partner); health indicators (functional ability, number of chronic medical conditions, self-perception of health); psychological indicators (MMSE, CES-D 10, SPANE Balance); leisure activity (cultural, educational and travel-tourism activities; activities in the residential -household, neighbourhood- and social environment; associative participation); family and social network indicators (LS, DUFSS, size of family and friends networks in number of individuals); residential environment (if the place where the person lives is below or above 100 thousand inhabitants, and number of amenities in: the building where the house is located, the house and at home); and economic resources (education level, income, self-perceived economic status from 0: very poor to 10: very rich, and social class in manual or non-manual workers). Statistical assumptions for regression models were checked. The regression analysis was repeated for each of the seven PWI items, using the same independent variables.

Analyses were performed using the statistical software SPSS 19.

Results
The socio-demographic characteristics of the participants

The sample consisted of 1,357 subjects. Table 1 shows the characteristics of the sample. Differences in the number of cases for each variable are related to the data collection phases, as previously mentioned.

Table 1: *Characteristics of the participants.*

Variables	%
Gender (N: 1,357)	
Male	45.0
Female	55.0
Age (N: 1,357; M: 66.3; SD: 10.7; Min: 50; Max: 98)	
50-59	32.5
60-69	28.8
70-79	23.7
80 years old and more	15.1
Marital status (N: 1,357)	
Single	5.5
Married, living with a partner	70.3
Widower/widow	19.6
Divorced/Separated	4.5
Household size (number of persons) (N: 1,357; M: 2.5; SD: 1.1; Min: 1; Max: 8)	
1 member	16.8
2	43.7
3	20.4
4 and more	19.1
Level of education (N: 1,357)	
Less than primary	36.0
Primary	22.7
Secondary	18.7
University	22.6
Relationship with current activity status (N: 1,085; Miss: 1) (1)	
Working	27.6
Retired	43.0
Housework, care	19.0

Inactive (unemployed, students, disabled, other)	10.4
Social status (N: 948; Miss: 138) (1)	
Non-manual workers:	
I-II: Managers	27.2
III: Employees, professionals, supervisors	27.7
Manual workers:	
IV: Skilled and semiskilled workers	35.6
V: Unskilled workers	9.6
Self-perceived economic status of the household (0: very poor household to 10: very rich). (N: 1,057; Miss: 29; M: 5.9; SD: 1.5; Min: 0; Max: 10) (1)	
0	0.3
1	0.6
2	1.5
3	4.4
4	5.8
5	28.0
6	26.8
7	19.3
8	10.9
9	1.1
10	1.2
Household income (€/month) (N: 964; Miss: 122) (1)	
< 300	0.0
301-600	6.2
601-900	12.0
901-1,200	16.0
1,201-1,500	13.1
1,501-1,800	13.1
1,801-2,400	15.6
2,401-3,000	9.0
3,001-3,600	5.2
3,601-6000	8.1
> 6,000	1.8
Municipality size (number of inhabitants) (N: 1,357; M: 430,626.1; SD: 883,024.1; Min: 1,177; Max: 3,265,038)	
< 10,000	24.0
10,001 - 50,000	23.7
50,001 - 100,000	10.0

100,001 - 500,000	24.7
> 500,000	17.7
N: number of cases; Miss: number of missing cases; M: mean; SD: Standard Deviation; Min: Minimum; Max: Maximum.	
(1) Differences in number of cases are related to the phase or type of the questionnaire.	

According to the age and gender-based structure of the people aged 50 years and over in Spain, more than half of the sample were women and two thirds of the participants were 60 and older; seven out of ten were married or living with a partner, and households with 2 or more people predominated.

More than a third of respondents had less than primary studies, but almost 23% completed college. At the time of the interview, and according to the relationship with current activity status, 43% were already retired, but almost 28% were still working. With regards to social status, over 45% of respondents belonged to social classes related to manual jobs and unskilled workers, but 27% had the status of managers. The self-perceived household economic status was relatively low and did not reach the average, 6 out of 10.

Although most of the surveyed population resided in urban municipalities of intermediate size and up to 18% in large urban areas, almost a quarter of the older population lived in settings with less than 10,000 inhabitants.

In relation to household economic status, 6% of respondents reported an income below €600 per month, and more than half of the older adults fell in the €601-€1,800 per month ranges. Approximately 11% of respondents did not answer the question on total monthly household income, especially sensitive information among the interviewee population, although this non-response rate is below that observed in other studies (Rodríguez-Rodríguez et al., 2011).

A statistical description of the applied measures is given in Table 2.

Table 2: *Statistical description of rating scales results.*

Scales	Mean	Std. Deviation	Minimum	Maximum
Self-perception of health (1: bad to 5: very good)	3.7	0.7	1.0	5.0
Number of chronic medical conditions	2.6	2.3	0.0	13.0
Functional ability	90.9	9.8	32.0	96.0
MMSE	28.1	2.4	2.0	30.0
CES-D 10	2.0	2.4	0.0	10.0
SPANE balance	12.7	6.7	-17.0	24.0
Cultural, educational and travel-tourism activities (1)	0.0	1.0	-1.2	8.2
Activities in the residential (household, neighbourhood) and social environment (1)	0.0	1.0	-2.5	3.0
Associative participation (1)	0.0	1.0	-1.9	5.6
LS	2.2	1.7	0.0	6.0
DUFSS	42.5	9.0	11.0	55.0
Size of family network	7.8	4.0	0.0	30.0
Size of social network	5.0	5.6	0.0	100.0
Size of the habitat of residence	430,626.1	883,024.1	1,177.0	3,265,038.0
Number of amenities in the building where the house is located	2.1	1.3	0.0	6.0
Number of amenities in the house	4.9	0.9	2.0	7.0
Number of the amenities in home	9.2	1.8	3.0	11.0

(1) Standardized latent variables obtained through FA based on the performance of leisure activities.

CES-D 10: Center for Epidemiological Studies Depression Scale, 10 items; DUFSS: Duke-UNC Functional Social Support Questionnaire; LS: the 6-item De Jong Gierveld Loneliness Scale; MMSE: Mini-Mental State Examination; SPANE Balance: Scale of Positive and Negative Experience, Balance score.

Summary of the psychometric properties of the PWI

Data quality, distributions of scores and acceptability parameters of the PWI instrument are shown in table 3. The item 'satisfaction with your spirituality or religion' was excluded from the PWI total score due to its low score in the CITC (0.24) based on the criterion value of ≥0.30 (Rodriguez-Blazquez et al., 2011); thus, excluding this item, the scaling assumptions of the PWI scale for seven items based on theses coefficients ranged 0.45-0.59 (items 'health' and 'safety', respectively).

Table 3: *Descriptive statistics, data quality and acceptability parameters of the PWI (%SM).*

PWI items	Fully computable (%)	Mean	Median	Standard Deviation	Minimum	Maximum	Floor effect (≤14.9%SM) (%)	Ceiling effect (≥85.0%SM) (%)
1- Standard of living	99.9	71.4	70.0	16.9	0.0	100.0	0.5	18.6
2. Health	99.8	69.6	70.0	18.3	0.0	100.0	0.9	18.4
3. Achieving in life	99.4	73.9	80.0	16.3	0.0	100.0	0.4	22.1
4. Relationships	99.8	82.2	80.0	13.6	0.0	100.0	0.0	41.6
5. Safety	99.6	78.8	80.0	15.8	0.0	100.0	0.2	34.8
6. Feeling part of your community or group of people	99.5	77.0	80.0	16.3	0.0	100.0	0.6	28.8
7. Future security	91.6	67.8	70.0	17.8	0.0	100.0	0.7	12.4
8. Spirituality/ religion	95.3	74.2	80.0	24.3	00.0	100.0	4.9	31.6
PWI 7 items score	90.5	74.5	75.7	11.1	14.3	100.0	0.0	16.3
Satisfaction with life as a whole	99.9	77.1	80.0	16.0	0.0	100.0	0.2	29.2

The PWI was fully computable for 90.5% of cases, due to the lower response rate of item 'future security', but the rest of the items as well as SWLW were answered by over 99% of cases. The difference between observed mean and median was 1.20. PWI showed a ceiling effect just over the standard limit (scored for values 85+%SM: 16.3%) but no floor effect (scored for values 0-15%SM: 0.0%); all items, except 'future security', showed a mild/moderate ceiling effect (maximum accepted value of 15%). Skewness value was -0.60, (accepted limits of -1.00 to +1.00), ranging from -1.17 and -0.57, for items 'feeling part of your community of group of people' and 'health', respectively.

As regards internal consistency, the Cronbach's α was 0.80, falling within the limits of the PWI standards, 0.70-0.85, (International Well-being Group, 2006; Cummins et al., 2003). Following the accepted criterion values of ≥ 0.30 (Rodriguez-Blazquez et al., 2011), the homogeneity index was 0.36 and the CITC ranged from 0.45 to 0.59. FA helped to determine the structure and the coherence of the scale, and revealed a unidimensional component based on the eigenvalue greater than 1.0. The correlation matrix met the assumptions of the measure of sampling adequacy of KMO = 0.82, interpreted as meritorious (Hair et al., 1998), and the Bartlett's Test of Sphericity of p<0.001. The seven items loaded between 0.74 ('safety') and 0.58 ('health') on the extracted component and accounted for 45.7% of the total variance. The precision of PWI, assessed through the SEM, was 5.0 (considering that 1/2SD = 5.6).

To test the construct validity and determine the unique contribution of the domains of PWI to SWLW, the seven domains were correlated and regressed against SWLW (Table 4). All domains correlated significantly with the general item of SWLW. Results of the regression analysis showed that the total explained variance of SWLW was (adjusted R^2) 48%. The domains had an unequal contribution to unique variance (12%), as the square of part coefficients, where the highest

contribution was in relation to shared variance (35%). The largest unique contribution was made by item 'standard of living' (0.05), followed by 'achieving in life' (0.02) and 'health' (0.02). The 'future security' domain was not significant in the model.

Table 4: *Bivariate correlation and regression of the seven domains of PWI on Satisfaction with Life as a Whole.*

Personal domains	Correlation with 'satisfaction with life as a whole'	Regression: 'satisfaction with life as a whole' is dependent variable		
		B Coefficients	Beta Coefficients	sr^2 (1)
1- Standard of living	0.53*	0.26*	0.28	0.05
2- Health	0.44*	0.14*	0.16	0.02
3- Achieving in life	0.53*	0.19*	0.19	0.02
4- Relationships	0.42*	0.15*	0.13	0.01
5- Safety	0.44*	0.14*	0.14	0.01
6- Feeling part of your community or group of people	0.39*	0.11*	0.11	0.01
7- Future security	0.37*	-0.01 (ns)	-0.01	0.00
* p<0.001; (ns): non-significant				
R^2: 0.48; Adjusted R^2: 0.48				
Total explained unique variability: 0.12; Total explained shared variability: 0.36				
(1) sr^2 (part coefficient squared): amount of unique variance contributed by each item.				

Satisfaction ratings of PWI and SWLW related to demographic and socioeconomic characteristics

The SWLW showed a slightly higher average rate than PWI (77.1%SM vs. 74.5%SM, respectively) (see Table 3). Among the analyzed population, the highest-scoring personal well-being items were satisfaction with 'personal relationships' (82.2), 'personal safety' (78.8) and 'feeling part of your community or group of people' (77.9). By contrast, the lowest level of satisfaction was found with 'standard of living' (71.4%SM), 'health' (69.6%SM) and 'future security' (67.8%SM).

Concerning validity for known groups, Table 5 shows the means of PWI and SWLW, according with demographic and socioeconomic characteristics of the participants. Regarding gender and age, SWLW showed a significant association with gender, being lower for women, while PWI showed a lower score for the oldest people, with significant differences between 65-74 years old and 75 or more.

Table 5: *PWI and SWLW ratings according to*
socio-demographic and socioeconomic characteristics.

Variables	PWI	SWLW
Mean value	74.5	77.1
Gender		
Male	74.9[a]	78.6[a]
Female	74.1[a]	75.9[b]
Age		
50-64	74.4[a,b]	76.4[a]
65-74	75.7[a]	77.7[a]
75 years old and more	73.5[b]	77.9[a]
Marital status		
Single	73.2[a,b]	75.0[a,b]
Married, living with a partner	75.3[a]	78.4[a]
Widower/widow	72.7[b]	74.3[b]
Divorced/Separated	70.7[b,c]	71.6[b,c]
Household size (number of persons)		
1	72.6[a]	74.6[a]
2	75.4[b]	78.3[b]
3 and more	74.3[a,b]	76.9[a,b]
Level of education		
Less than primary	72.7[a]	75.6a
Primary	75.4[b]	77.3a,b
Secondary	74.8[a,b]	77.2a,b
University	76.1[b]	79.4b
Relationship with current activity status		
Working	74.8[a,b]	76.1[a]
Retired	75.9[a]	79.7[b]
Housework, care	73.3[b]	74.7[a]
Inactive (unemployed, students, disabled, other)	71.8[b,c]	74.6[a]
Social status		
Non-manual workers (Managers, professionals, supervisors)	75.8[a]	78.1[a]
Manual workers (skilled, semiskilled, unskilled workers)	73.7[b]	77.1[a]
Municipality size		
Less than 10,000 inhabitants	73.6[a]	76.4[a]

10.001 - 100.000	74.2[a]	77.6[a]
100.001 - 500.000	75.2[a]	77.0[a]
500,001 and more	75.3[a]	77.5[a]

Notes:

Subscript ('a', 'b', 'c') identifies means of the variable with significant differences at p< 0.05 in the two-sided test of equality for column means. Values in the same column and subtable not sharing the same subscript are significantly different.

Tests are adjusted for all pairwise comparisons within a column of each innermost subtable using the post hoc Bonferroni correction.

Being married or living with a partner was the best category in terms of satisfaction in both measures, SWLW and PWI, in contrast with being divorced or separated or to be widower/widow. Single people did not differ with the rest of the categories. Living in a household with another person were more likely to be satisfied with life as a whole and having a higher PWI score than people living alone or in households with 3 or more people.

Statistical differences were also found between levels of education categories. Thus, having less than primary studies implied lower SWLW and PWI, in contrast with having a university level of education. PWI score was also statistically different between people with primary studies versus those with less than primary. According to their relationship with current activity status, retirees showed higher SWLW scores than the rest of people, with statistical differences in the comparisons within groups. Retired people also enjoyed a better personal well-being in contrast with inactive people and housewives. Non-manual workers had better PWI scores, but no significant difference was found in terms of SWLW, although lower score is shown for manual workers. SWLW and PWI did not show differences based on municipality size.

Which QoL important domains explain PWI 7 items score?

The regression model of the PWI explained 34.2% of the variance (Table 6). The PWI scale was associated to a lower depression level (CES-D 10, standardized beta= -0.25, p<0.001), less perceived loneliness (beta= -0.16, p=0.001), a better health perception (beta=0.14, p=0.001), more social support (beta=0.10, p=0.033), less health problems (beta= -0.14, p=0.002), higher age (beta=0.12, p=0.004), higher self-perceived economic status (beta=0.08, p=0.026), and more activities in the physical and social environment (beta=0.07, p=0.047).

Table 6: *Variables included in the linear regression models,
and standardized beta coefficients, for PWI total and items.*

Independent variables (1)	PWI total	PWI Items						
		1. Standard of living	2. Health	3. Achieving in life	4. Relation-ships	5. Safety	6. Feeling part of your commu-nity or group of people	7. Future security
(Constant)	*-54.86*	*-32.3*	*-29.82*	*-50.17*	*-82.81*	*-68.78*	*-75.66*	*-53.16*
Demographic								
Sex (0: men; 1: women)				0.10		0.15		
Age	0.12	0.11		0.10		0.15		0.13
Health								
Self-perception of health	0.14	0.10	0.3	0.10	0.11			
Number of chronic medical conditions	-0.14		-0.23			-0.17	-0.10	-0.11
Functional ability			0.11			-0.09		
Psychological								
CES-D 10	-0.25	-0.19	-0.2	-0.29	-0.17	-0.20	-0.16	-0.16
SPANE Balance				0.15	0.12			
Family and Social Network								
LS	-0.16				-0.20		-0.12	-0.17
DUFSS	0.10				0.14	0.18	0.65	
Size of friends network in number of individuals					0.08		0.09	
Economic resources								
Household income		0.18			-0.16		-0.16	
Self-perceived economic status (0: very poor to 10: very rich)	0.09	0.22						
Leisure activities								
Activities in the residential and the social environment	0.08						0.12	
Residential environment								
Number of amenities in the building where the house is located				0.10				
R²	0.34	0.20	0.39	0.18	0.18	0.15	0.18	0.13

CES-D 10: Center for Epidemiological Studies Depression Scale, 10 items; DUFSS: Duke-UNC Functional Social Support Scale; LS: Loneliness Scale; SPANE Balance: Scale of Positive and Negative Experience, Balance score.

Empty cells: non-significant variables. All beta coefficients are significant at p<0.05 level.

(1) In addition to those presented in the table, the following variables were included in the models: marital status, education, social class, relationship with current activity status, cognitive status (Mini-Mental State Examination, MMSE), size of family network, participation in cultural, educational and travel-tourism activities, participation in associations, size of the habitat of residence and number of amenities in the house and in the home.

When analyzing the PWI dimensions separately (Table 6), the explained variance ranged between 0.13 ('future security') and 0.39 ('health'). Depression (CES-D 10) was a consistent determinant of all well-being dimensions, with standardized beta coefficients from -0.16 to -0.29.

'Standard of living' was also significantly associated with a higher age (0.11), better self-perception of health (0.10), and higher economic resources (household income, 0.18; and self-perceived economic status, 0.22). Besides depression, satisfaction with 'health' was significantly associated with three health indicators, namely self-perception of health (0.30), number of chronic health conditions (-0.23) and functional ability (0.11). Women (0.10) and older people (0.10) were more satisfied with their 'achievement in life', as well as those with higher self-perception of health (0.10) and positive feelings in the SPANE balance scale (0.15), and a larger number of amenities in the building. The significant determinants for satisfaction with 'relationships' were self-perception of health (0.11), psychological indicators (positive feelings in the SPANE balance scale, 0.10, besides depression), family and social network indicators (lower loneliness, -0.20; higher social support, 0.14; and larger friends network, 0.08), but a lower household income (-0.16). Satisfaction with 'safety' was significantly related with socio-demographic variables (being a woman and higher age, 0.15 for both), two health indicators (lower number of chronic medical conditions, -0.17, but lower functional ability, -0.09), and higher social support (0.18), besides depression. Similarly to relationships, satisfaction with 'feeling part of your community or group of people' was significantly associated with three family and social network indicators (lower loneliness, -0.12; higher social support, 0.65; and larger friend network, 0.09) and lower household income (-0.16). In addition to depression, 'feeling part of your community or group of people' was also related to a lower number of chronic medical conditions and more activities in the social and physical environment (0.12). Finally, the following were also significant determinants of 'future security': higher age (0.13), lower number of chronic medical conditions (-0.17), less loneliness (-0.17).

Discussion

This study was conducted with a twofold objective; firstly, to explore the psychometric properties of the scale of measurement used, the PWI, in people aged 50 years old or older and living in family housing in Spain; and secondly, to ascertain the level of personal well-being and its associated factors, these being considered from the domains most frequently mentioned as important in quality in later life (Fernández-Mayoralas et al., 2011), and the residential environment in old age as the context of ageing at home (Rojo-Perez et al., 2001).

The analysis presented here is not the first validation of the instrument in Spain. The PWI was successfully used with adolescent population and young university students in Catalonia (Spain) (Casas et al., 2009), and with community-dwelling older adults (Rodriguez-Blazquez et al., 2011). However, now it has been applied to people aged 50 or more, and the measuring range is in a unipolar response format with an anchoring of 0-10. Furthermore, this analysis is the starting point for the longitudinal study of aging in Spain (ELES Project).

The PWI has also demonstrated good psychometric performance in other geographic contexts, such as Austria in Europe (Renn et al., 2009) and other countries in Africa (Tiliouine, Cummins & Davern, 2006), Asia (Chen & Davey, 2009; Lau, Cummins & Mcpherson, 2005; Rato & Davey, 2012; Webb, 2009), South America and Canada (Wills-Herrera, 2009; Wills-Herrera, Islam & Hamilton, 2009) and Australia (Cummins et al., 2003; Lau, Cummins & Mcpherson, 2005).

Data quality and acceptability were satisfactory, and reflected that most items (except spirituality/religion) were adequate for and relevant to the respondents. However, the percentage of lost cases (9.5%) exceeds the limits accepted as standard values (≤5%), because the 'future

security' item had a non-response rate of 8.4%. Yet the low non-response rate for the rest of the items proves their acceptance in the questionnaire.

All items covered the full range of scores (0.0-100.0). PWI did not demonstrate any floor effect but a mild/moderate ceiling effect was observed for the grouped scores of 85+%SM, and was higher in satisfaction with 'personal relationships' and with 'personal safety', in line with other studies that reached scores of 15.9 (Renn et al., 2009) and 16.9 (Rodriguez-Blazquez et al., 2011) in personal relationships.

The internal validity based on the homogeneity of the items was explored through several measurements. Firstly, the CITC coefficients led us to exclude item on 'spirituality/religion' from the total sum of the PWI score, because its score (0.24) was lower than the standard values (>0.30). This result is consistent with other studies that reported a very low correlation, although significant (Casas et al., 2009; Tiliouine, 2009), and opposed to that explored in Colombia, where the contribution of this item to the explanation of SWLW is relevant (Wills-Herrera, 2009). The grouping of the PWI items has resulted in a single dimension according to the AF, accounting for 47.5% of the variance. This unidimensionality has also been reported in other studies using the complete instrument (PWI and NWI). The variance explained by the factor structure is lower than that found in a previous study by the authors (60.1%) (Rodriguez-Blazquez et al., 2011). However, this value is higher than reported for other age groups: 28.1% in Austria (Renn et al., 2009), 34.8% in Zhuhai city (South of China) (Chen & Davey, 2009), 37.5% in Algeria (Tiliouine, Cummins & Davern, 2006), and is in line with that found by Smyth, Nielsen & Zhai (2010) for urban China (46.7%) and Lau et al. (2005) in the study of a sample for Hong-Kong (47%) and Australia (40.8%).

The value of 0.80 for Cronbach's α demonstrated good reliability and fell within the established range of 0.70-0.85 by the International Well-being Group (2006). It was comparable to the findings of pre-existing for general population in South of China (Chen & Davey, 2009) and for the adult population (18 years old and more) in Hong-Kong (Lau, Cummins & Mcpherson, 2005). Our result is higher than that found for Australia (idem, 2005), urban population in China (Smyth, Nielsen & Zhai, 2010) and cities of Bogota (Colombia), Belo-Horizonte (Brazil) and Toronto (Canada) (Wills-Herrera, Islam & Hamilton, 2009), but slightly lower than that founded in Spanish older adult population in previous study (Rodriguez-Blazquez et al., 2011), and in young-adult population in Austria (Renn et al., 2009).

Related to convergent validity, and as expected, results showed a high level of correlation between PWI score and SWLW (r = 0.67; p≤ 0.001), higher than this found in researches with other demographic groups and geographical contexts, i.e. Bogota (Colombia) Belo Horizonte (Brazil), (Colombia) and Toronto (Canada) (Wills-Herrera, Islam & Hamilton, 2009). With regards to the relationships between SWLW and the items of the PWI through MLRA (Table 4), all domains, except 'future security', contributed significantly with life as a whole. The domains that made the single biggest contribution were satisfaction with 'standard of living', 'achieving in life' and 'health', and in a less extent, 'personal safety' and 'relationships'. In the same line, Smyth, Nielsen & Zhai (2010) found that the largest contribution for explaining SWLW in urban China were the former, but health had no contribution. In the case of Hong-Kong and Australia, Lau, Cummins & Mcpherson, (2005) discovered that those were the domains with significant contribution with life as a whole. In Austria, Renn et al. (2009) identified that health and feeling part of your community had no statistical significance explaining SWLW, in a model that explained less proportion of variance than that obtained in our study.

SWLW showed an average rating slightly higher than PWI (77.1%SM vs. 74.5%SM, respectively), in line with those established as standard range values, 70-80%SM, obtained from the barometer of Australians' satisfaction with their life, conducted since 2001 (Cummins, 2003; Cummins et al., 2003; Cummins et al., 2009; Cummins, 2010; Cummins et al., 2012). Among the population under study, the highest-scoring personal well-being items were satisfaction with

'personal relationships', 'personal safety' and 'feeling part of your community or group of people' and to a less extent, below the PWI score, 'achieving in life' and 'standard of living'. This is consistent with results reported in a previous research (Rodriguez-Blazquez et al., 2011). In line with this study, other authors showed that future security obtained the lowest score, and this is due to the fact that the young population involved in the education process have no secure future yet (Renn et al., 2009). In our case, but in the opposite sense, the explanation might be based on the fact that the old people are sensitive to a lack of or less security regarding a shorter life span and, therefore, their satisfaction with security in the future is lower (Rodriguez-Blazquez et al., 2011). The relative less score of satisfaction with 'health' is consistent within this population, and could be related to the decreasing level of health with age (Rodriguez-Blazquez et al., 2012).

The results obtained concerning well-being's association with personal, social and residential environmental-related factors, are conditioned by the profile of the individual respondents and, especially, by some specific features of Spanish society, which has been ageing for several decades and adapting to a period of prolonged life expectancy. The population life course is a distinctive element in this analysis. In this regard, ageing means, among other issues, certain physical, mental, familial and social losses and not adapting to the physical environment, but it also implies a certain way of rating satisfaction and individual well-being, as a result of the 'adaptation' to their living conditions (Villar Posada et al., 2003).

The relatively moderate proportion of variance explained in the regression models of the PWI total score and items indicates that there are several factors that were not accounted for and that could play an important role in the assessment of the participant's well-being. However, albeit a bit lower, these values were similar to the ones found for other studies (Rodriguez-Blazquez et al., 2011). Depression was the most important determinant for the PWI total score, and the only one that was significant for all PWI dimensions, indicating that more depressed people aged 50 years or over have a perception of lower well-being, as in other studies on QoL, well-being and depression in older adults (Delgado-Sanz et al., 2011; Rodriguez-Blazquez et al., 2011; Rodriguez-Blazquez et al., 2012).

One of the clearest factors favouring life satisfaction and well-being is the family through the coexistence that is generated. In this case, living together, either as a married or unmarried couple, or a two-person household, are categories that are closely related to individual well-being or satisfaction with life, in contrast to other types of families and kinds of cohabitation. Family and social indicators were significant determinants of PWI and satisfaction with 'relationships' and the 'feeling part of the community or group of people', indicating the importance that the feelings of loneliness, perceived social support and friends network had on the general well-being of older adults (Ahmed-Mohamed et al., in press; Prieto-Flores et al., 2011). Perceived social support was a relevant determinant of 'personal safety' showing that the support the people perceive is almost as much as they would like (Ahmed-Mohamed et al., in press).

Household income and self-perceived economic status were the strongest predictors of 'standard of living', although the latter predicted PWI in a relatively low proportion, in line with other studies on personal well-being that found a positive relationship of income and well-being (Rato & Davey, 2012; Tiliouine, Cummins & Davern, 2006; Wills-Herrera, Islam & Hamilton, 2009). Yet contrary to what might have been expected, a higher household income was related to lower satisfaction with relationships and the feeling part of the community or a group of people. Although significant, the effects were of small magnitude (-0.16). With regard to this factor, a relatively high level of satisfaction with economic resources among those who reported a low income may be associated with a process of adaptation to the economic situation as a survival mechanism that is common among older people and inherited from their life story (Rodríguez-Rodríguez et al., 2011).

Although one might have expected different patterns of behaviour in well-being due to the universal differentiation between men and women, based on a wide variety of aspects (biology,

access to resources and opportunities, power structures, etc.) (Tesch-Römer, Motel-Klingebiel & Tomasik, 2008), the results found are not so explicit. Thus, men reported being more willing to feel satisfied with life in general, but no differences were found in terms of personal well-being (Table 5). Men, at older ages and generally speaking, tend to have a higher level of satisfaction than women (Liberalesso Neri, 2002), although objectively the latter declare more social, family and community support as part of that well-being (Meléndez Moral, Tomás Miguel & Navarro Pardo, 2011). Along these lines, in the overall analysis of the PWI determinants (Table 6), gender was not significant, although we found that women rated their well-being as higher than men on two dimensions ('achieving in life' and 'safety'). According to different studies, the gender-based comparison is unclear, since there is research that has obtained in the PWI differences, with women reporting the worst scores (Rodriguez-Blazquez et al., 2011), while in other cases women reported a higher level of well-being (Tiliouine, Cummins & Davern, 2006; Webb, 2009). In turn, and in line with our results, other authors found no significant differences (Chen & Davey, 2009; Rato & Davey, 2012; Smyth, Nielsen & Zhai, 2010).

As occurs with gender, the relationship between subjective well-being and age is far from clear. Theories of age effects argue that personal well-being is influenced by the objective conditions of life, and these tend to worsen with age (Lucas & Grohm, 2000). However and broadly speaking, older people maintain a relatively standard level of satisfaction as they adapt their individual and family needs to life expectations (Liberalesso Neri, 2002; Villar et al., 2003), especially in areas such as health or personal security (Meléndez Moral, Tomás Miguel & Navarro Pardo, 2008). Thus, relative to the impact of age on PWI, we found that older age was associated with increased personal well-being (global score and in four dimensions: 'standard of living', 'achieving in life', 'safety' and 'future security'), while controlling for other variables (Table 6). When comparisons within groups are made, PWI increased with age up to the group of 65-74 years old (Table 5). This pattern fits the studies that reported higher PWI values in the higher ages of the samples analyzed (Smyth, Nielsen & Zhai, 2010; Tiliouine, Cummins & Davern, 2006), but differs from that found in previous studies conducted by the authors (Rodriguez-Blazquez et al., 2011). In this line, the homeostasis theory, that proposes that well-being can be maintained, or even improved at older ages (Cummins et al., 2003), can explain our results regarding the age.

Other socio-demographic variables such as marital status, education, social class and relationship with current activity status had no statistical significance in the regression models. In the ELES pilot study, two essential types of population are mixed in relation with the level of education and their relationship with current activity status, throughout the life course: on the one hand, those who have not been able to complete their education as opposed to those who have, and, in the other hand, those who have retired from the job market and those who have not done so yet. In the group analysis (Table 5), these categories stated opinions that differentiated from one another in the measures analyzed, PWI and SWLW, because they obviously have vital experiences with very different meanings. By contrast, higher levels of personal well-being or with life satisfaction as a whole were observed among retirees versus those who stated they did household chores or were carers and other inactive respondents. The same interpretive pattern can be recognized between the two poles of the social class, non-manual and manual workers, the latter giving lower score opinions about well-being and life satisfaction.

In short, the PWI in a unipolar response format demonstrated evidence of its utility for measuring personal well-being in community-dwelling population aged 50 years or older in Spain. Adequate and good sensitivity, validity and reliability were displayed. Yet no consistency with the scale was shown by the 'spirituality/religion' item through the analyses done. In the context of older people in Spain, religious belief and practice is intense (Pérez Ortiz, 2007), and some studies have linked higher levels of religiosity/spirituality to a lower perception of the state of health (Prieto-Flores et al., 2011). Therefore, if religious beliefs and spiritual life can help address vulnerabilities and, consequently, to prevent a decline in one's level of personal well-

being, this domain, namely 'spirituality/religion', should be reconsidered for reformulation and study among the surveyed population. However, its exclusion from the PWI total score does not invalidate the usefulness of the instrument in the surveyed population.

The proposal put forward in this article is cross-sectional in nature, although it is essential for reflecting on the instruments applicable to the analysis of the ageing population. Yet achieving this entails considering several limitations. The first is the difficulty of clearly defining the concepts to be analyzed and operationalize them through measures consistent with the research. Nor, in light of the international literature on population ageing, it is easy to discriminate between the factors involved, sometimes used as determinants and others as effects on individual behaviour. Also worth noting is the effect of the sample designs in generalizing the results to a population group, namely the elderly, who are heterogeneous by nature.

In contrast, the explanatory power of a longitudinal study is greater because it exceeds the limitations of a cross-sectional analysis and detects the changing conditions of the people who will reach an advanced age in the coming years. Its usefulness in using the life course perspective, to support changes in personal and social behaviours, along with a multidimensional approach to the ageing process, are complementary elements of value in longitudinal studies.

Having managed to verify that the instruments used to assess satisfaction with life as a whole and aspects of personal well-being are statistically consistent in their internal structure, and are validated with the results obtained in other contexts, ensures that there are sufficient conditions to apply them in a longitudinal direction.

Acknowledgements

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Abbreviations:

CAPI	Computer-Assisted Personal Interviewing
CES-D 10	Center for Epidemiological Studies Depression Scale, 10 items
CITC	Corrected Item-Total Correlation coefficients
DUFSS	Duke-UNC Functional Social Support Questionnaire
ELES-PS	ELES Pilot Survey (Spanish Ageing Longitudinal Study)
FA	Factor Analysis
KMO	Sampling adequacy test Kaiser-Meyer-Olkin
LS	The 6-item De Jong Gierveld Loneliness Scale
MLRA	Multiple Linear Regression Analysis
MMSE	Mini-Mental State Examination
PWI	Personal Wellbeing Index
QoL	Quality of Life

SEM   Standard Error of Measurement
SPANE Balance   Scale of Positive and Negative Experience, Balance score
SWLW   Satisfaction With Life as a Whole
%SM   Percentage of Scale Maximum