Subjective well-being key elements of Successful Aging: A study with Lifelong Learners older adults from Costa Rica and Spain

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A R T I C L E   I N F O

A B S T R A C T

Subjective well-being is a major psychological construct in the research tradition. Along with literature, authors have distinguished between hedonic and eudaimonic well-being. The aim of this study is to determine the role of some psychosocial variables plays in the perceived well-being is conceived from a hedonic or a eudaimonic perspective. The sample consisted of 1016 people of 55 years and older in a Spanish sample and 277 people of 55 years old or older from a Costa Rican sample. Both samples were part of the Longitudinal Older Learners (LOL) study. A structural model with latent variables was estimated with Mplus. The results point out that, the traditional variables included on successful aging models are relevant for explaining older adults' well-being in both countries with some differences on the hedonic and eudaimonic approach of successful aging on the Latin cultural context studied.

1. Introduction

The demographic changes that are happening worldwide, such as the increase in longevity, life expectancy and the specific weight of older adults as a social group have provoked a social reality that has not been studied profoundly in the aging process in Latin America (LA).

One of the major psychological construct that has deserved enormous research on the aging process, has been subjective well-being (SWB) (Diener, Oishi, & Lucas, 2003; Momtaz, Ibrahim, Hamid, & Yahaya, 2011; Pethtel & Chen, 2010), not only because is a construct concerning the optimal experience and functioning throw the lifespan (Deci & Ryan, 2008) but also, because nowadays it gets enormous attention to explain coping with old age (Charles & Hong, 2016). It is a complex construct with two traditions, the hedonic and eudaimonic perspectives (Lee & Carey, 2013). Kahneman (1999) emphasized that SWB has a hedonistic meaning, referring it as subjective well-being (Diener & Lucas, 1999). In this approach, life satisfaction is an essential component in older adults (Phelan, Anderson, LaCroix, & Larson, 2004; Ryan & Deci, 2001). Additionally, life satisfaction has been recommended as a gender free-bias indicator (Bowling, 2007; Cheng, 2013; Pinquart & Sörensen, 2001; Sanchez-Lopez, Lopez-Garcia, Dresch, & Corbalan, 2008). On the other side, the Eudaimonic paradigm is believed to come from fulfilling or realizing one's true nature (Waterman, 1993). Ryff and Keyes (1995) and Ryff and Singer (2000,

2001) developed a lifespan theory on SWB, where is "the striving for perfection that represents the realization of one's true potential" (Ryff, 1995, p. 100). Accordingly, Ryff and Keyes (1995) have presented a multidimensional approach to the measurement of SWB with six correlated dimensions of human actualization: autonomy, personal growth, self-acceptance, purpose in life, environmental mastery, and positive relatedness.

Evidence on the operationalization of SWB shows strong positive associations of life satisfaction with self-acceptance and environmental mastery and modest relationships with the remaining factors (Ryff & Keyes, 1995). They also found a strong positive relationship between the six components of Ryff's scale and life satisfaction in older people in different cultural contexts (Keyes, Shmotkin, & Ryff, 2002; Villar, Solé, Osuna, & Triadó, 2005).

On the other hand, the history of the successful aging (SA) paradigm began with Havighurst (1961) and his activity theory of aging. Nowadays, with the large amount of empirical data, this paradigm proposing a model with three main characteristics: maintaining physical health, sustaining good cognitive function, and having active engagement with other people and productive activities (Berg, Smith, Henry, & Pearce, 2007; Rowe & Kahn, 1998).

The definition of SA continues on discussion. For example, in an ethnographic approach study, the attitudinal or personal resources and social engagement components were found to be the most frequently

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mentioned, still above the physiological ones (Cosco, Prina, Perales, Stephan, & Brayne, 2013). In addition, there are studies that have related SA models with variables like life satisfaction and SWB in general. The social component (active engagement with others and productive activities), for instance, is a key component to explain SA outputs like the life satisfaction and SWB between older adults (Bishop, Martin, & Poon, 2006; Brown, Nesse, Vinokur, & Smith, 2003; Chan & Lee, 2006; Gow, Pattie, Whiteman, Whalley, & Deary, 2007; Gutiérrez, Tomás, Galiana, Sancho, & Cebrià, 2013; Okabayashi, Liang, Krause, Akiyama, & Sugisawa, 2004).

Physical health and SWB in older adults are also linked. Perceived health is an important predictor of life satisfaction (Michalos et al. (2007), Borg et al. (2006), Gwozdz and Sousa-Poza (2010); Kunzmann, Little, and Smith (2000)), and Smith, Borchelt, Maier, and Jopp (2002)). This suggests that health condition measured, both in subjective and objective ways, is related to SWB during old age (Cho, Martin, & Poon, 2015; Fernández-Ballesteros, Zamarrón, & Ruíz, 2001).

One of the promising topics related to SWB on older adults has been spirituality; that concerns "with one's personal relationship to larger, transcendent realities, such as God or the Universe" (Piedmont, Ciarrochi, Dy-Liacco, & Williams, 2009, p. 163). There is evidence on the relationships of spirituality and religiosity with mental SWB in different cultures (Khashab, Khashab, Mohammadi, Zarabipour, & Malekpour, 2015; Yoon et al., 2015; Hilton & Child, 2014; Dy-Liacco, Piedmont, Murray-Swank, Rodgerson, & Sherman, 2009; Miller & Kelley, 2005; Moreira-Almeida, Neto, & Koenig, 2006; Piedmont, 2007; Piedmont et al., 2009; Stifoss-Hanssen, 1999; Wink & Dillon, 2003; Jordan, Masters, Hooker, Ruiz, & Smith, 2014; Krause, Pargament, Hill, & Ironson, 2016).

On the other hand, Wink and Dillon (2002) found longitudinal evidence of a negative association between spirituality and the probability to experience negative life events in women. They studied the relations of spirituality with two dimensions of Ryff's model, and found a positive effect of spirituality on personal growth. Also Cowlishaw, Niele, Teshuva, Browning, and Kendig (2013)) found evidence for the mediation effect of spirituality on life satisfaction.

However, most of this research has failed taking into account the distinction between hedonic and eudaimonic SWB, although this distinction has been found to be adequate both theoretically and empirically (Delle Fave & Bassi, 2009; Joshanloo, 2011; Yoon et al., 2015).

It is repeatedly reported the important role that spirituality plays for older adults SWB (Cowlishaw et al., 2013; Crowther, Parker, Achenbaum, Larimore, & Koenig, 2002; Hilton, Gonzalez, Saleh, Maitoza, & Anngela-Cole, 2012; Kirby, Coleman, & Daley, 2004) and the link with life satisfaction (Beutel et al, 2009; Elliot and Hayward, 2009). For example, Kirby et al. (2004) found that spiritual beliefs positive and significantly predicted eudaimonic (psychological) SWB. Park (2007) pointed the lack of efforts to include spirituality in SA models, now with the Multidimensional Model of SA (Iwamasa & Iwasaki, 2011); the Spectrum Model of Aging (Martin & Gillen, 2014); the Proactive model of SA (Kahana, Kelley-Moore, & Kahana, 2012), and finally, the models by Matsubayashi and Okumiya (2012) and Mc Carthy (2011) that are in line with Flood (2005) this approach have been included to SA criteria. Most of these models, however, are mostly either theoretical or qualitative and have been designed from specific cultural contexts. Although religiosity and spirituality are central to Latino's cultural identity (Hoffman 2006), there is a lack of empirical studies that present evidence on these cultures, and more importantly, there is a complete lack of evidence comparing different Latino's subcultures such as those in European and Latin American countries. It should be noted that SA studies have mainly been done with Caucasian ethnic groups and some ethnic minorities in developed countries, but these analyses have been poorly extended to Latin America and Spanish contexts (Fernández-Ballesteros et al., 2008, in Spain, Brazil, Chile, Colombia, Cuba, Ecuador, Mexico and Uruguay), so research in this topic is urgently needed. Some research on this regard has been run in Latin America, for example, in Costa Rican context (Blanco-Molina & Salazar-Villanea, 2017) and others in Spain (Tomás, Sancho, Galiana & Oliver, 2016) that analyzed similar constructs, but they lack the cross-cultural evidence as the present study. Hispanics (and Latin Americans) are a collectivist and familiar culture, with a tendency to be group-oriented and they place a strong emphasis on family and community ties, focused on personal relations and maintain the belief that the individual can do little for themselves to modify fate (Marquine et al. 2015). Different studies have found that perceptions of successful aging vary across ethnic group, and regarding Latin American and Spanish cultures, spirituality and a sense of community are key components of aging well among them (Hilton, Gonzalez, Saleh, Maitoza, & Anngela-Cole, 2012). Additionally, in SA aging studies and LA and Mediterranean European public policies agenda, the study of older adults in lifelong learning university programs have not been fully integrated, and even there are even less cross-cultural evidences in this respect. However, there is evidence in across cultural contexts that showed the association of the participation in lifelong learning programs and well-being in older adults (Jenkins & Mostafa, 2015; Yamashita, López, Keene, & Kinney, 2015; Díaz-López, López-Liria, Aguilar-Parra, & Padilla-Góngora, 2016; Blanco-Molina & Salazar-Villanea, 2017; Oliver, Tomás, & Montoro-Rodriguez, 2017; Narushima, Liu, & Diestelkamp, 2018a, b).

With this background, two important questions are relevant. First, which are the effects of the subjective SA indicators over the SWB variables (hedonic and eudaimonic) in the older learners from Costa Rica and Spain studied. Second, we want to test if the model would be invariant on the samples studied; in other words, if the factors have the same effects regardless the cultural context.

2. Method

2.1. Design, participants and procedure

The research approach is a panel design of older adults attending University of Valencia (UV), during the academic year 2014–2015, and older adults attending National University, Costa Rica (CR), during the academic year 2015-2016. Only the first wave data was used for this work. These educational programs share common aims and syllabus, being the most consolidated lifelong learning university program in Spain (Sp) for students of 55 years old or older and the second most consolidated in CR. Education Ethics Committee of the UV gave its approval (reference 2014/H1403533342121) and in CR by the Vice-Rectory of Research (reference 2015/No. 0126-15, VI-UNA), all those attending the program were asked to give their informed consent. Those willing to participate were finally surveyed, with a response rate of 77.54% in Sp and 70% in CR.

The final sample consisted of 1016 people of 55 years old or older in Sp and 272 in Costa Rica. In Spain sample age ranged was from 55 to 92 years old (mean age 66.54 years, $SD = 6.73$). 70.3% were women. With respect to their educational level, 30.2% had up to primary education, 38.6% secondary, 30% tertiary education, and 1.1% were illiterate. Most of them were retired (72.9%), unemployed (10.5%), working 7.1%, and housekeepers 9.4%. 91.6% lived in their own houses. Finally, 49.7% were married, 18.2% widows, 26.3% single, and 6.1% divorced.

In CR sample age ranged was from 55 to 83 years old (mean age 64 years, $SD = 7.55$). 91% were women. With respect to their educational level, 29.6% primary education, 32.4% secondary, 38.1% tertiary education. Most of them were retired (42.5%), unemployed (3.5%), working 7%, and housekeepers were 45.2%. 90% lived in their own houses. Finally, 46.8% were married, 21% widows, 10.3% single, and 21.3% divorced.

Participants were asked to answer the survey in their classroom setting, in sessions of about thirty-minutes, carried on in presence of trained interviewers.

2.2. Instruments

The questionnaire comprised two sections: questions regarding demographic information; and scales to assess attitudes, perceptions, and behaviours related to the aging process.

a *Social dimension*. Spanish version of Lubben's scale (Lubben & Gironda, 2004) measures size, closeness and contact frequency of the social network with 12 Likert items. Six items measure social contact with relatives and the other six with friends, with internal consistencies of .80 and .84, (Spain) and .78 and .85 (Costa Rica).

b Spanish version of Duke-UNC-11 Functional Social Support Questionnaire (Bellón, Delgado, Luna del Castillo, & Lardelli, 1996) measures functional social support with 11 items, with a reliability estimate of .82 (Spain) and .89 (Costa Rica).

c *Perceived health*. A short version of the SF-36, the SF-8 Health Survey, was used (Ware, Kosinski, Dewey, & Gandek, 2001). This scale is comprised of 8 items. The internal consistency were .84 (Spain) and .81 (Costa Rica).

d *Spirituality*. The Spirituality Index for Elderly by Sánchez, González, Robles, and Andrade (2012)) was used. The index is composed of six items measuring spirituality without mention to religiosity. Psychometric analyses by the original authors included exploratory and confirmatory factor analyses. Both analyses found a one-factor solution with good fit. Convergent and discriminant validity data was also offered. Example items are "My spirituality helps me define my goals" or "My spirituality helps me understand the meaning of the situation I live in life". The scale had internal consistencies of .90 (Spain) and .96 (Costa Rica).

e *SWB*. From the eudaimonic perspective, the short 18-item version of the six-dimension of SWB scale by Ryff (Ryff & Keyes, 1995) was used. It measures six dimensions of well-being: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance, with an internal consistency of .83 (Spain) and .76 (Costa Rica). The Satisfaction with Life Scale (SWLS, Diener, Emmons, Larsen, & Griffin, 1985) was chosen from the hedonic perspective, with an internal consistency of .88 (Spain) and .87 (Costa Rica).

2.3. Statistical analyses

The analyses were based on the specification of structural equation models with latent variables (SEM), with the intention to test for the relationships among constructs in a multivariate context. The SEM were estimated in Mplus 7 (Muthén & Muthén, 1998-2011Muthén & Muthén, 1998-2011) with Robust Maximum Likelihood as the method of estimation, given the non-normality of some of the observed variables. The *a priori* structural model can be seen in Fig. 1

The SEM posited three exogenous latent variables to model the three studied dimensions of SA that were: social and physical functioning, and spirituality. Social functioning was modelled with three indicators, the two dimensions of social contact with relatives and friends in Lubbens' scale, and functional social support as measured in the Duke-UNC-11. PH was modelled with four item parcels coming from the eight items in the SF-8. Spirituality was measured with three item parcels from the Spirituality Index. There were two control variables: age and sex. Finally, two more endogenous latent factors were posited to model the hedonic and eudaimonic dimensions of SWB. The first endogenous latent factor was life satisfaction, which was modelled with three item parcels coming from the items in the SWLS. The latent factor that taps eudaimonic SWB was modelled with the six dimensions of Ryff's scale. Therefore, item parcels were used to model the constructs of PH, spirituality and LS. Item parcelling involves summing or averaging together two or more items and using that as the basic unit of analysis in the SEM. Item parcelling has been recommended in SEM when dealing with lengthy scales or small samples (Little, Rhemtulla,

Gibson, & Schoemann, 2013). In other words, it offers parsimony with respect to the sample size (Yang, Nay, & Hoyle, 2010). Parcelling also increases reliability of the indicators (Kishton & Widaman, 1994). Monte Carlo simulations have proved the efficiency of item parcelling (Nasser & Wisenbaker, 2003). Bandalos and Finney (2001) offered a note of caution with respect to item parcelling: it should be used only when items and scales are unidimensional. Several ways to group the items into parcels have been proposed, such as radial parcelling (most correlated items) or randomness. However, the most commonly used method for parcelling is to group items arranged contiguously on the scale. When unidimensionality is warranted almost every way to group the items into parcels produces adequate results (Bandalos & Finney, 2001). The item parcelling strategy was chosen because the Costa Rican sample was relatively small and we wanted parsimony of the model with respect to sample size for the shake of statistical power. In this particular research, adjacent pairs' method has been used.

Model fit was evaluated using a variety of fit indices and statistics. Specifically, chi-square statistic, the Comparative Fit Index (CFI), and two indices based on errors, the Root Mean Square Error of Approximation (RMSEA) and the Square Root Mean Residual (SRMR). The following cut-off criteria were used to determine good fit: CFI above .90 (better when higher than .95), SRMR and RMSEA below .08 (Marsh, Hau, & Wen, 2004). Additionally, the fit of the model was also evaluated by the strength and interpretability of the parameter estimates and the absence of large and meaningful modification indices.

The SEM was separately tested in Spanish sample and Costa Rican sample. Once fit was established in each sample separately, an invariance routine with several increasingly constrained models was estimated. The invariance routine included these models: (a) configural model, it tested the structural model in Fig. 1 simultaneously in both samples with no constraints across samples; (b) metric invariance model, it constrained all factor loadings to make them equal in Spain and Costa Rica samples; (c) Equal structural coefficients model, that further constrained structural coefficients (effects among constructs) to equality in both samples. Configural model worked as a baseline model for model fit against which to compare more constrained models. The metric invariance model is needed to hold if structural coefficients want to be compared (Kline, 2015). Finally, the equal structural coefficients model has substantive interest because it tests the hypothesis that the same effects (relationships among constructs) held in both countries. If this final model does not hold then constrains have to be released until good fit is achieved. The models in this invariance routine are nested models. Nested models can be compared with two rationales (Little, 1997), the statistical and the modelling one. The statistical rationale tests for χ^2-differences of the alternative models, with non-significant values suggesting cross-countries equivalence or invariance. This statistical approach has been criticized, mainly because of excessive statistical power. Accordingly, several authors have advocated a modelling approach that uses practical fit indices to determine the overall adequacy of a fitted model. From this rationale, if a parsimonious model (such as the ones that posit invariance) evinces adequate levels of practical fit, then the sets of equivalences are supported. Practical fit is usually determined with CFI differences lower than .01 (Cheung & Rensvold, 2002) or .05 (Little, 1997) indicating practical invariance.

3. Results

First a correlation matrix with all the variables of interest in the model has been calculated for both samples. These correlations are shown in Table 1. There were consistent and statistically significant relations among most of the constructs and variables in the model for both samples. Nevertheless, the correlations are bivariate, and the aim of the research is to test for a theoretical multivariate model in both countries, these correlations are only showed in a descriptive way. Firstly, the theoretical model in Fig. 1 has been first separately estimated in the two samples. This model fitted the data well in the Spanish
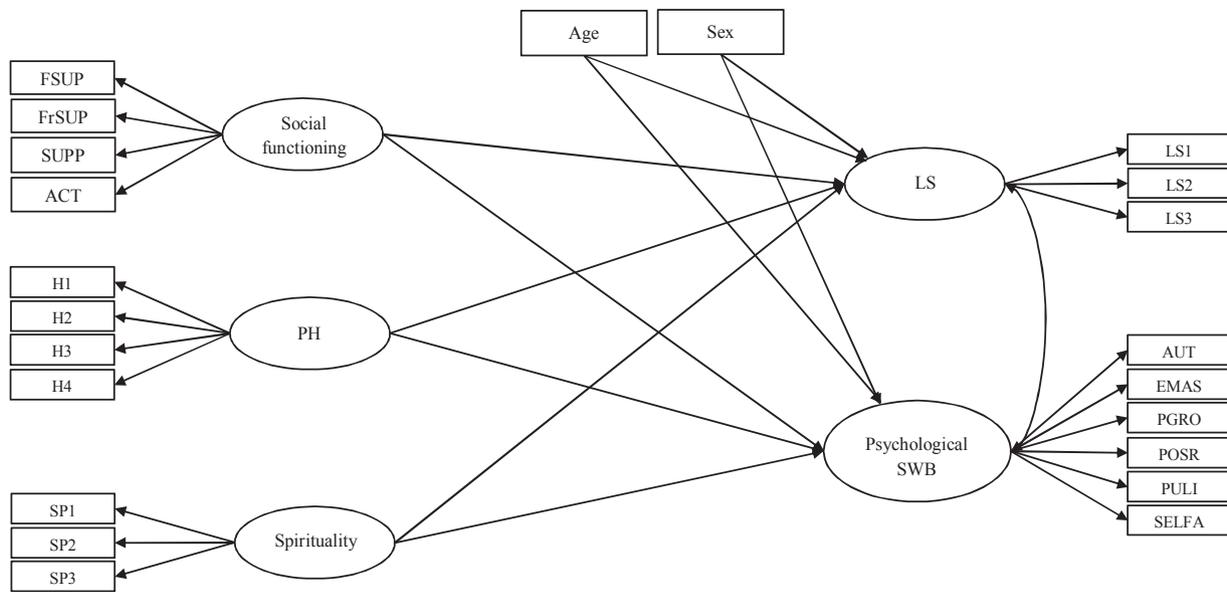
Fig. 1. A priori SEM with latent variables to predict hedonic and eudaimonic SWB.
Notes: Correlations among exogenous variables and factors not shown for clarity; FSUP = Family support; FrSUP = Friends support; SUPP = functional social support; H1-H4, Perceived Health; SP1-SP3, Spirituality; LS1-LS3, life satisfaction (LS); AUT = autonomy; EMAS = environmental mastery; PGRO = personal growth; POSR = positive relations with others; PULI = purpose in life; SELFA = self-acceptance.

sample: $\chi^2(170) = 1008.2$, p < .001, CFI = .912, SRMR = .062, and RMSEA = .063 [90% CI = .059–.068], and in the Costa Rican sample: $\chi^2(170) = 444.8$, p < .001, CFI = .889, SRMR = .079, and RMSEA = .078 [90% CI = .069–.086]. Once a reasonable model fit has been established in each separate sample, several multi-group structural models were specified.

The first multi-group model, the configural SEM, allows testing the same SEM in both samples simultaneously but with all parameters freely estimated in each sample. If this SEM holds it, means that the same structure of relationships holds in both samples, and its fit is used as a baseline model fit for subsequent (more constrained) models. SEM fit for the multi-group models, including the configural one, is shown in Table 2. This SEM fitted the data well.

Accordingly, a new, nested model with all factor loadings constrained to equality in both countries. This SEM is also known as metric invariance, and unless metric invariance holds, no meaningful comparisons with the effects among constructs can be done. Model fit for the metric invariance model can be consulted in Table 2 This model fitted the data well, and more importantly, there were neither statistically significant differences, nor practical ones. Indeed, the RMSEA even slightly improved with respect to the configural SEM. Factor loadings can therefore be considered equal in both samples in the population. Then a new SEM in which also the structural coefficients among the constructs of interest are constrained to equality was tested. Table 2 shows the fit statistics for this SEM. There were statistically significant differences between this model and the metric invariance one (p < .001), although the practical fit differences were almost irrelevant. Nevertheless, the RMSEA, and especially, the SRMR visibly deteriorated. Therefore, we carefully looked at the Modification

Indices, and these indices pointed out that only three structural coefficients were statistically different in both samples. Therefore, a new SEM in which all factor loadings and structural coefficients were equal across countries with the exception of the effects of spirituality on life satisfaction and health and age on SWB (three structural coefficients). This new model when compared with the model with equal loadings and structural coefficients showed a better fit in all indices, and the statistical difference was statistically significant. In sum, this final model with most parameters but three equal in the two countries was retained. The parameter estimates of this multi-group SEM are presented in Fig. 2. Correlations among the exogenous variables and latent factors are shown in Table 3 for both samples.

Standardized model's estimates may be seen in Fig. 2. For the shake of clarity in the figure, the correlations among the five predictors in the two samples are presented in Table 3. As already mentioned, the factor loadings are invariant, as well as most structural coefficients. Three structural coefficients were different in both countries and this can be seen in the figure because there are two parameters estimates in the corresponding arrows. With respect to Spain the three constructs had positive and significant effects on both hedonic and eudaimonic SWB. Age and gender also had significant but low effects on life satisfaction, a positive effect of age and a negative one of gender (women lower than men); and on eudaimonic SWB, again positive for age and negative for gender. Overall, the predictors explained 27.7% ($R^2 = .277$) of the variance in life satisfaction and 38.4% ($R^2 = .384$) of SWB in the Ss. With regard to the Costa Rican sample, factor loadings were all invariant as well as most structural coefficients, and therefore most effects were the same. However, there were three exceptions (see Fig. 2). The effect of spirituality on life satisfaction was larger in Costa Rica

Table 2
Goodness-of-fit indices for the set of nested SEM in the measurement invariance routine.

Model	$_R\chi^2$	df	p	$\Delta_R\chi^2$	Δdf	p	CFI	ΔCFI	RMSEA	90% CI	SRMR
Configural invariance	1309.6	340	< .001	–	–		.901	–	.067	.063 - .071	.071
Metric invariance	1324.1	354	< .001	22.45	14	.070	.901	.000	.065	.062- .069	.077
Equal structural coefficients	1382.9	364	< .001	64.50	10	< .001	.896	.005	.066	.062 - .070	.088
Some structural coefficients freely estimated	1331.0	361	< .001	80.70	3	< .001	.901	.005	.065	.061 - .068	.077

Notes: * = p < .05; $_R\chi^2$ = Robust chi-square; df = degrees of freedom; Δ = differences.
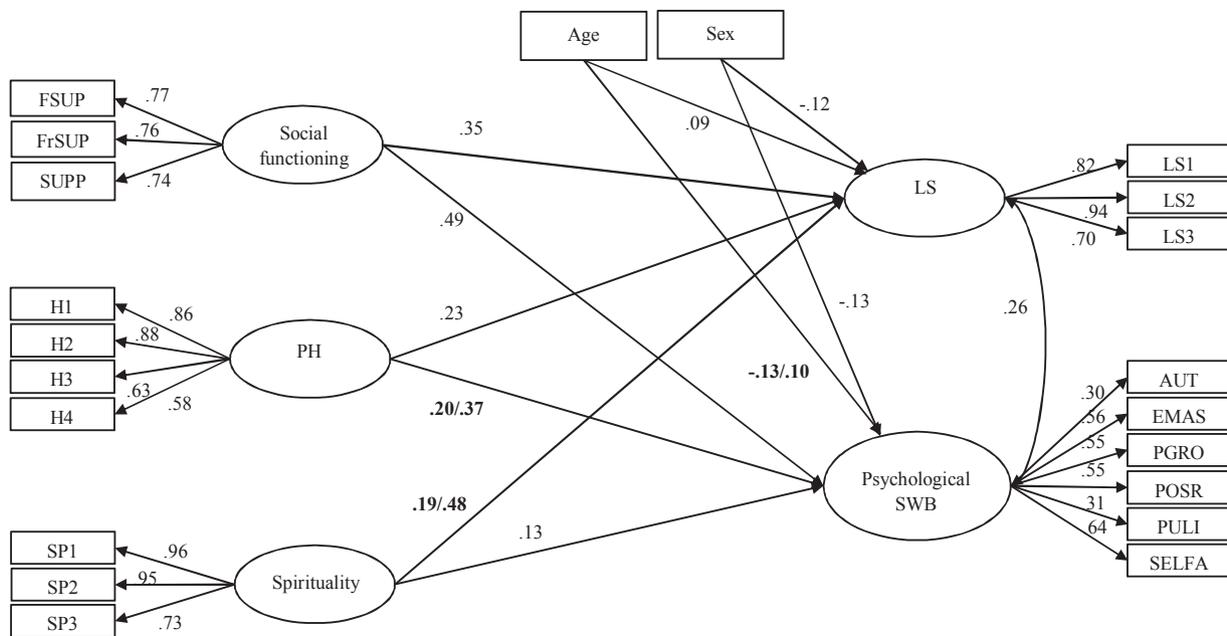
Fig. 2. SEM with latent variables to predict hedonic and eudaimonic SWB for the Spain and Costa Rica.

Notes: Correlations among exogenous variables and factors not shown for clarity; when two estimates are in the same arrow, the first value correspond to the Spanish estimate and the second to the Costa Rican estimate; all standardized coefficients statistically significant; FSUP = Family support; FrSUP = Friends support; SUPP = functional social support; SF1-SF8, items of perceived health (PH); SP1-SP6, spirituality; LS1-LS5, life satisfaction (LS); AUT = autonomy; EMAS = environmental mastery; PGRO = personal growth; POSR = positive relations with others; PULI = purpose in life; SELFA = self-acceptance.

Table 3
Correlations among the exogenous variables in the SEM.

Country		Sex	Age	SF	PH	S
Spain	Sex	1				
	Age	−.056ns	1			
	SF	.174**	−.126**	1		
	PH	−.089**	−.087**	.133**	1	
	S	.138**	.150**	.251**	.029ns	1
Costa Rica	Sex	1				
	Age	.034ns	1			
	SF	.221**	.084ns	1		
	PH	−.003ns	−.038 ns	.055ns	1	
	S	.248**	.269**	.332**	.009ns	1

Notes: SF. Social Funcionting; PH. Perceive Health; S. Spirituality; ** $p < .01$.

than in Spain (β = .19 in Spain and .48 in Costa Rica). The same pattern can be seen in the effect of physical health on SWB (β = .20 in Spain and .37 in Costa Rica). Finally, the effect of age on SWB was also different in both countries, but in this particular case even the sign of the effect changed. While the effect of age on SWB is negative in the Spanish sample (β= -.13), the estimate was positive in Costa Rica (β = .10). In the Costa Rican sample the percentage of variance explained by the SEM on life satisfaction was 53% (R^2 = .53), and the percentage of variance explained by the SEM on eudaimonic SWB was 39.3% (R^2 = .393).

4. Discussion

Its seems relevant to study the predictive power of the theoretical models of SWB within Successful Aging agenda, especially with a cross-cultural perspective. The proposed SEM posited three latent variables to predict SWB with sex and gender as control variables. The proposed SEM fitted well and we tested the moderation effect by country (culture). The multisampling sequence of models found that all latent variables had equal factor loadings and that most of the structural parameters were invariant in the two countries. However, there were three structural effects that differed in the two countries, and these

differences were not trivial.

Regarding the other control variable, age had a positive effect on life satisfaction in both samples, as the literature has shown regarding the hypothesis of the hedonic well-being paradox (Kunzmann, Little, y Smith, 2000; Pinquart & Sörensen, 2001), but its effect on the eudaimonic component of SWB was moderated by country: the effect was negative in Spain but positive in the case of Costa Rica. Accordingly the psychological SWB seems to slightly improve with age in Costa Rica but not in Spain, in which there is actually a decrease in psychological well-being with age. Returning to the initial vision of eudaimonic well-being of Ryff and colleagues (Riff & Keyes; 1995, Riff, 1995; Riff & Singer, 1998), psychological well-being involves personal development as a function of the presence of individual skills and the realization of the potential of the self. The temporal vision of happiness (hedonic well-being) seems to be complemented by this logic. Therefore, this eudaimonic wellbeing in the context of aging and old age could be marked by daily demands that imply the development of coping strategies against age-related changes, devising ways for managing them, learning from them and deepening the sense of meaning of life (Ryan & Deci, 2001). In this regard, it has been argued that the cultural values like independence and autonomy are more common in individualist cultures versus in collectivist cultures where greater importance is given to emotional interdependence in relationships with others to explain psychological well-being (Deci & Ryan, 2008; Diener, Napa-Scollon, & Lucas 2009). Therefore, according to our data the valuation of the sense of life (eudaimonic well-being) may not be determined by age, since its parameters between samples are not invariant. Although the results are inconclusive, other cultural aspects may come into play that, in the case of Spanish sample with respect to the Costa Rican sample, the indicators of autonomy, personal growth, personal control, self-acceptance purpose in life and positive relationships are valued differently for cultural reasons (Ryff & Singer, 2006).

Concentrating now in the predictive power of the indicator of SA, several parameters were invariant in the two samples (no moderation effect of country). The social/active dimension of SA arose as the single most important predictor of SWB, with large and positive structural effects on both dimensions, the hedonic and the eudaimonic in both

countries. These effects were expected and supported by a large body of scientific evidence. Several authors have found positive links among the well-being (in general) and specifically with life satisfaction, as already noted in the introduction (Bishop et al. (2006); Brown et al. (2003); Chan and Lee (2006); Cosco et al. (2013); Gow et al. (2007); Gutiérrez et al. (2013); Okabayashi et al. (2004), among others).

When the relations between perceived health and the two dimensions of well-being were examined, again the results were those expected in light of the literature, with a positive effect of perceived health on life satisfaction, as a large amount of literature has previously found (Fernández-Ballesteros et al., 2001; Gwozdz & Sousa-Poza, 2010; Kunzmann et al., 2000; Smith et al., 2002; Berg, Hassing, Johansson, & McClearn, 2006; Kunzmann et al., 2000; Meléndez, Tomás, Oliver, & Navarro, 2009), which is in line with the positive prediction of health on eudaimonic SWB found in this study, and this was the case even tough, these two samples were characterized for a self-reported very good health. Nevertheless, the effect of perceived health on psychological well-being was not country invariant: both effects were positive but the estimate (effect size) was larger for the Costa Rican than it was in Spain.

The results are also in line with those found in research by Joshanloo (2011), which found positive effects among spirituality and several measures of hedonic and eudaimonic SWB in young adults. This strong link of spirituality with SWB is more in line with our results in Costa Rica. Again a strong moderation effect was found by country on the relationship between spirituality and life satisfaction. In other words, spirituality is a much more important predictor of life satisfaction in Costa Rica than it is in Spain.

This partially contradictory results may be due to several reasons: a) the culturally different context (Spain/Costa Rica); b) age of cohort effects (young adults versus older adults); and/or c) the fact that Joshanloo (2011) did not statistically control for variables such social support, or perceived health, variables that are of key interest in SA models and were controlled for in this study. Nevertheless, spirituality has been systematically underestimated as a key element in well-being and aging studies (Moberg, 2008; Van Dierendonck, 2012). However, Tohit, Browning, and Radermacher (2012)) concluded that when in older people's physical health or function is deteriorated, their spirituality becomes more important to ageing well, like in Costa Rica it is noted when the indicator of life satisfaction was predicted by spirituality. Current results partially support that spirituality predicts eudaimonic SWB, even in the presence (or controlling for) other dimensions of SA, and the control variables. As pointed out by Moberg (2008), that spirituality should be analysed considering its wide variation within the same culture and even more between cultures, and spirituality has to be seen as existential and experiential focus upon an individual's internalized faith, values, and beliefs along with their consequences for daily behaviour. Therefore, it is a key issue to discuss on future research what are the common and differentiating elements between the two cultures. According to Hilton and Child (2014) for Latinos, spirituality plays a central role to cope to aspects related to old age providing meaning and SWB to their lives, provides an optimistic view of life despite adversity. Spirituality is also the way to transfer values/beliefs and social relations most used by cultural groups such as Latinos (Hilton & Child, 2014). Moreover, Hoffman (2006) said that for Latinos, faith, and family are extensions of each other and central to all what that they do. So the Latino culture embraces a faith that is more practical and experiential (and less doctrinal) than the European Catholic tradition. Latinos also prefer a more public and communal expression of their faith that enhances their access to supportive social networks than other cultures.

4.1. Conclusions

It can be concluded, that the Successful Aging indicators studied are relevant factors for older adults' subjective well-being. With respect to

spirituality, should be given more important role as one the dimension of the "SA" paradigm like have been proposed by Crowther et al. (2002). This is specially the case when well-being is understood from a eudaimonic approach.

The SEM tested in this study, provides evidence somehow in line with a holistic view of SWB in which spirituality could have a different role in the revision of a phenomena such as SA in both context, emphasizing variables with great explanatory power such as spirituality framed in cross-cultural analysis (Blanco-Molina & Salazar-Villanea, 2017; Tomás et al., 2016) considering that should be the emphasis on future studies on SA; this should be strengthened, especially in CR, Central America and South America, where systematically it has been little explored and much remains to be done.

This research has several limitations. Firstly, the cross-sectional nature of the data makes results predictive and not explanatory, or at least makes causal interpretations more difficult. Next waves in the longitudinal study would help to ascertain its causal nature. Secondly, Ryff's scales had relatively low reliability. This is the most widely used scale for measuring the multiple dimensions of eudaimonic SWB. It is also true that the multiple dimensions of eudaimonic SWB are included into a full structural model that takes into account measurement error (Bollen, 1989), in which the latent factor is the common or shared variance. Nevertheless, its low reliability makes necessary to be cautious when interpreting the results. Third, both samples in this study were homogenous, because had relatively high functioning, which should be taking into account when interpreting the results, given by sampling bias. Participants in the study also had high levels on social activities, as all participants were part of University lifelong learning courses. Future studies need to expand on this regard, looking for different aging profiles to test the models.

Declaration conflicts of interest

We declare to have no conflicts of interest to disclose.

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