



## Empirical Articles

## Cross-Cultural Differences in Adjustment to Aging: A Comparison Between Mexico and Portugal

Neyda Ma. Mendoza-Ruvalcaba\*<sup>a</sup>, Sofia von Humboldt<sup>b</sup>, Elva Dolores Arias-Merino<sup>a</sup>,  
Isabel Leal<sup>b</sup>

[a] University of Guadalajara, Guadalajara, Mexico. [b] William James Center for Research (WJCR), ISPA – Instituto Universitário, Lisbon, Portugal.

### Abstract

**Objective:** To compare Adjustment to Aging (AtA) and Satisfaction with Life in a Mexican and a Portuguese older sample.

**Method:** A total of 723 (n = 340 Mexican and n = 383 Portuguese) older adults were included and assessed with the AtA Scale (ATAS) and the Satisfaction with Life Scale (SWL). Informed consent was obtained from all participants. Portuguese participants were significantly older than Mexicans (mean age 85.19 and 71.36 years old, respectively) and showed higher education level ( $p < .001$ ). No significant differences on gender and marital status were found.

**Results:** Mexicans considered all aspects of AtA absolutely more important than their Portuguese counterparts ( $p < .001$ ). For Mexicans, being cherished by their family (82.1%), being healthy, without pain or disease (75.9%), having spiritual religious and existential values (75%) and having fun and laughter (75%) were the most important for AtA, compared to having curiosity and an interest in learning (22.5%), creating and being creative (20.1%) and leaving a mark and seed for the future (18.0%) for Portuguese participants. Mexicans also reported a higher SWL than Portuguese participants. Mean scores were 6.10 (SD = 0.76) and 3.66 (SD = 1.47) respectively ( $p < .001$ ). AtA and SWL were correlated in the Mexican sample ( $p = .001$ ), but not in the Portuguese ( $p = .100$ ).

**Discussion:** Differences on AtA between Mexican and Portuguese older adults should be explained considering their cultural and social context, and their socio-demographic characteristics. The enhancement of AtA, and its relevance to improve well-being and longevity can become a significant resource or health care interventions.

**Keywords:** adjustment to aging, cross-cultural, Mexican, Portuguese

Psychology, Community & Health, 2017, Vol. 6(1), 117–127, doi:10.5964/pch.v6i1.179

Received: 2016-09-07. Accepted: 2017-02-13. Published (VoR): 2017-08-04.

Handling Editor: Sofia von Humboldt, William James Center for Research (WJCR), ISPA – Instituto Universitário, Lisbon, Portugal

\*Corresponding author at: Campus CU Tonalá Av. Nuevo Periférico No. 555 Ejido San José Tatepozco, C.P. 48525, Tonalá Jalisco, México. Telephone contact: +52 (33) 3540-3020 Ext 64052. E-mail: nmendoza\_ruvalcaba@yahoo.com.mx



This is an open access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/3.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

There has been a fast increase of population aged over 60 years old, as a result of longer life expectancy and declining mortality and fertility rates (World Health Organization [WHO], 2012). While population aging is a global phenomenon, the aging process is more advanced in some regions than in others. The older population in Portugal (16.4%) exceeded, for the first time, the proportion of youth (16.0%). The expected proportion of older adults in Portugal in 2050 is 31% of the total population (Instituto Nacional de Estatística, 2005; WHO, 2012). In Mexico, 10.4% of the population was 60 years and older in 2015 (Instituto Nacional de Estadística y Geografía [INEGI], 2016) and this percentage is expected to rise to 14.8% (20.4 million persons) in 2030 and to 28% in 2050. The aging process is most visible in developed countries or in high income countries. The

population aging is substantially faster in developing countries, thus, these countries must adapt more quickly to the aging of the population and often with lower levels of national income, compared to the experience of countries which developed much earlier (United Nations, Department of Economic and Social Affairs, Population Division, 2015).

The worldwide growth of the older population has stressed the need for considering what it takes to go through this phase of life with a sense of quality. In fact, aging is a process requiring continuous adjustment (Birren & Schaie, 2006; von Humboldt, Leal, Pimenta, & Niculescu, 2012). Havighurst (1948) pointed out that the key notion of adjustment was a dynamic process, which requires the individual to continually adapt throughout the cycle of life (von Humboldt et al., 2012). Moreover, Atchley (1999) highlighted that adjustment comprised two processes: fitting oneself into given environments and shifting the environment to fit one's needs or values (von Humboldt, 2016; von Humboldt et al., 2012). Adjustment to aging (AtA) is pertinent for a multidimensional approach focused on well-being, health, and adapted functioning in old age (Brandtstädter & Rothermund, 2003; Schafer & Shippee, 2010; von Humboldt, 2016; von Humboldt et al., 2012). However, not sufficient attention has been given to this construct as proximate, yet different, from other constructs such as quality of life (Low & Molzahn, 2007), sense of coherence (Antonovsky, 1993) and well-being (Kesebir & Diener, 2008; von Humboldt, 2016; von Humboldt et al., 2012).

Some authors pointed out that AtA is a multidimensional function of the dynamic interaction of elements such as autonomy, control, self-acceptance, personal growth, positive social network or purpose in life (Bauer & McAdams, 2004; Keyes, Shmotkin, & Ryff, 2002; Staudinger & Kunzmann, 2005; von Humboldt, 2016; von Humboldt et al., 2012). Jopp and Rott (2006) suggested that some resources (e.g., cognition, health), attitudes toward life (e.g., optimistic outlook) and self-referent beliefs (e.g., self-efficacy) were crucial for AtA in late adulthood (von Humboldt, 2016; von Humboldt et al., 2012).

Research shows that the process by which individuals adjust to aging has been insufficiently assessed. Moreover, literature has emphasized what are considered to be outcomes and predictors of the adjustment process, namely, mental and physical health and well-being (Hatch, 2000). Research on the subject of AtA has enlarged and now encompasses both theoretical and empirical studies, the process itself and diverse resources and other factors which contribute to this process; and additionally, the results of AtA (von Humboldt, 2016).

Satisfaction with life (SwL) represents the cognitive dimension of subjective well-being (Pavot & Diener, 2004) and it is defined as an overall cognitive and judgmental assessment of one's life including the current life (Diener, Emmons, Larsen, & Griffin, 1985). SwL is pertinent for aging well (Brown, Bowling, & Flynn, 2004) and comprises the assessment of older individuals' goals and outcomes throughout life (Litwin, 2005).

Socio-economic, biological and demographic differences provide unparalleled circumstances to examine the interaction of culture change in the process of AtA. Additionally, cultural interactions are predominantly relevant to understanding aging well. To our best knowledge, there is a small number of comparison studies concerning AtA, being these mostly qualitative (von Humboldt, 2016; von Humboldt et al., 2013). Moreover, we found no studies comparing AtA and Satisfaction with Life (SwL) using a Mexican and Portuguese older sample. In this context, the aim of this study is to compare the AtA and SwL in a sample of Mexican and Portuguese older adults.

## Method

### Study Design

A cross-sectional survey was conducted among older adults in Mexico and Portugal. In Mexico the study site was located in Guadalajara city (State of Jalisco) at the western region of the country; in Portugal it was in Great Lisbon and in the Algarve region.

### Participants

A total of 723 older adults participated in the study. 340 participants were Mexican and 383 were Portuguese. Inclusion criteria for Mexican was being 60 years and older, while the Portuguese study included 75 years and older participants. All participants scored in the normal range on the Mini-Mental Status Exam (Folstein, Folstein, & McHugh, 1975). The score  $>26$  was considered for Portuguese participants while for Mexicans participants was used the standardization for Mexican older adults adjusted by education, age and gender proposed by Arias-Merino et al. (2011). None of the participants had any history of psychiatric or neurological illness, or history of drug or alcohol abuse, which might compromise cognitive function. Cases with incomplete data were excluded.

### Procedure

For both samples older adults were recruited in community senior centres. Individuals willing to participate were face-to-face interviewed. A written informed consent was obtained from all participants.

### Instruments

Adjustment to aging was measured by answering the 22 items of the Adjustment to Aging Scale (AtAS) (von Humboldt, 2016; von Humboldt et al., 2013). Responses to this questionnaire were given in a 7-point Likert-type scale (sample item: "Having spiritual, religious and existential values"), with scores ranging from 1 (*not important at all*) to 7 (*absolutely important*). The measure showed a high internal consistency ( $\alpha = .89$ ).

The AtAS showed overall good psychometric properties, in terms of distributional properties, statistical significant factor weights, factorial, convergent, discriminant, content, criterion and external related validities, as well as reliability. In the adjustment and aging model, the 'zest and spirituality' dimension showed the highest variance explained by factor (18.8%) and the second highest reliability (Cronbach's  $\alpha = .927$ ). The 'aging in place and stability' dimension showed the lowest reliability (Cronbach's  $\alpha = .862$ ) and the third highest variance explained by factor (14.8%). The 'social support' dimension showed the highest reliability (Cronbach's  $\alpha = .932$ ), the highest average variance extracted (.840) and the lowest variance explained by factor (11.2%) in our adjustment to aging model. Hence, AtAS is an adequate cross-cultural measure for research and health care practice (von Humboldt, 2016; von Humboldt et al., 2013). The original AtAS was in English, it was translated into Spanish, adapted specifically for Mexican population, and reviewed by experts in the field of psychology or gerontology. In order to avoid cultural differences, interviewers were previously trained, pilot evaluations were conducted and analysed in terms of language comprehension. AtAS showed a high internal consistency ( $\alpha = .867$ ).

Satisfaction with life was measured by the Satisfaction with Life Scale (Diener et al., 1985). The SwLS is a brief 5-item Likert-type scale (sample item: “I am satisfied with life”) and rated from 1 (*strongly disagree*) to 7 (*strongly agree*). The internal consistency was shown to be good ( $\alpha = .78$ ) (Diener et al., 1985).

## Data Analyses

Statistical analyses were performed with SPSS software, version 18. Data were processed to obtain descriptive statistics (proportions, mean value, and standard deviation) from socio-demographic variables. For differences in AtA between countries, a Student’s t-test was performed. Due to significant differences in age between samples, a linear relationship between age and AtA was tested through regression analyses. Analyses of covariance (ANCOVA) were conducted for removing the effect of age while looking at the effect of nationality on AtA and SwL. The Pearson’s correlation test was used to find association between AtA and SwL.

## Results

Socio-demographic data of the participants are shown in Table 1.

Table 1

*Socio-Demographic Data of Participants*

Variable	Mexico		Portugal		<i>p</i>
<b>Age, years: <i>M (SD), Range</i></b>	71.60 (6.71), 60 – 95		85.19 (6.55), 75 – 100		< .001 <sup>a</sup>
	<b>%</b>	<b><i>n</i></b>	<b>%</b>	<b><i>n</i></b>	
<b>Age, years</b>					< .001 <sup>b</sup>
60 – 64	15.6	53	-	-	
65 – 69	27.6	94	-	-	
70 – 74	25.9	88	-	-	
75 – 79	19.1	65	25.6	98	
80 – 84	8.2	28	27.7	106	
85 – 89	3.2	11	18.8	72	
90 and more	0.3	1	27.9	107	
<b>Sex</b>					.391 <sup>b</sup>
Women	55.9	190	57.2	219	
Men	44.1	150	42.8	164	
<b>Education</b>					< .001 <sup>b</sup>
Lower than high school	91.5	311	36.0	138	
High school and more	8.5	29	64.0	245	
<b>Marital status</b>					.073 <sup>b</sup>
Married or in a relationship	52.9	180	47.3	181	
Not married or in a relationship	47.1	160	52.7	202	

<sup>a</sup>t test. <sup>b</sup>Pearson chi-square.

As expected, significant differences in age and education were observed. Portuguese participants are older and have a higher level of education than Mexicans. No significant differences were found in marital status, although the major proportion of Mexicans reported being married or in a relationship (52.9%), while most

Portuguese older adults were not married nor in a relationship (52.7%). There were no significant differences in gender proportions between countries; women represented 55.9% in Mexico and 57.2% in Portugal.

After comparing AtA between countries (Table 2), we found that Mexican older adults reported higher scores, in general and also in all specific aspects of AtA, than Portuguese participants.

Table 2

*Comparison of the Score and Level of Importance for Aspects of Adjustment to Aging by Country*

Adjustment to Aging	Score				Absolutely important		Not important at all	
	Mexico		Portugal		Mexico	Portugal	Mexico	Portugal
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	%	%	%	%
Being active and working at something that I like***	6.59	0.78	4.91	1.46	69.1	17.2	0.0	1.3
Having curiosity and an interest in learning***	6.40	0.91	4.79	1.64	56.2	22.5	0.0	2.1
Creating and being creative***	6.27	0.99	4.79	1.69	49.4	20.1	0.3	5.0
Leaving a mark and seed the future***	6.33	1.12	4.91	1.49	57.1	18.0	1.5	1.6
Laughter and having fun***	6.62	0.83	3.45	1.16	75.0	2.1	0.0	5.2
Having spiritual, religious and existential values***	6.64	0.77	3.46	1.12	75.0	1.8	0.0	4.2
Accepting changes***	6.32	0.89	3.84	1.85	49.9	15.1	0.0	11.0
Making the best of my age***	6.51	0.82	3.30	1.12	62.6	1.3	0.6	6.5
Feeling relaxed about the future***	6.38	1.03	3.19	1.66	57.9	3.4	1.2	23.8
Being healthy, without pain or disease***	6.69	0.63	3.85	1.50	75.9	12.8	0.0	5.2
Sports and outdoor activities***	6.44 <sup>a</sup>	.104 <sup>a</sup>	3.55 <sup>a</sup>	.096 <sup>a</sup>	55.6	7.8	0.6	18.5
Living autonomously and at my own rhythm***	6.45	0.85	3.74	1.67	59.4	11.0	0.0	9.9
Not being dependent on medication or treatments***	6.29 <sup>a</sup>	.088 <sup>a</sup>	3.84 <sup>a</sup>	.081 <sup>a</sup>	51.2	12.0	0.3	5.2
Appreciating my body and appearance***	6.46	0.86	3.68	1.58	61.8	11.0	0.0	8.4
Having mobility and getting out of the house***	6.58	0.77	3.90	1.39	66.5	4.2	0.6	6.5
Supportive neighbours***	6.41	1.02	3.86	1.72	62.1	5.7	0.9	10.2
Good climate***	6.37	0.99	3.84	1.70	56.8	8.9	0.9	11.0
Safety***	6.58	0.83	3.93	1.70	70.0	5.7	0.3	11.5
Having comfort and economic stability***	6.37	1.10	4.01	1.70	60.0	9.7	1.8	6.5
Sharing intimacy with a partner***	5.65	1.85	3.56	1.59	45.9	3.9	6.2	13.8
Having a good partner in life***	5.91	1.68	3.66	1.65	49.4	3.9	5.3	13.3
Being cherished by my family***	6.66	0.94	3.55	1.56	82.1	3.4	0.3	14.1
<b>Global Adjustment to Aging score***</b>	<b>6.39</b>	<b>0.52</b>	<b>3.89</b>	<b>0.69</b>	-	-	-	-

<sup>a</sup>Data covariate with age, then adjusted Means by age and standard error (*SE*) are reported.

\*\*\* $p < .001$ .

Responses also showed that participants considered as “absolutely important” different aspects of AtA. For 82.1% of Mexicans, ‘being cherished by their family’ is the most important aspect for AtA, ‘being healthy without pain or disease’ (75.9%) was the second, ‘having spiritual religious and existential values’ (75%) and ‘having fun and laughter’ (75%) were in third place. For Portuguese older adults, ‘having curiosity and an interest in learning’ (22.5%) was the more relevant aspect for AtA, ‘creating and being creative’ (20.1%) was the second, and ‘leaving a mark and seed the future’ was reported by 18.0% of the participants.

It can be observed that, not only the main aspects were different, but also, in general, Mexicans rated each aspect of the AtA with a higher level of importance.

Aspects majorly considered as “not important at all” for Mexicans were those related to a partner (‘sharing intimacy with a partner’ with 6.2% and ‘having a good partner in life’ with 5.3%); while for Portuguese were ‘feeling relaxed about the future’ (23.8%) and ‘sports and outdoor activities’ (18.5%). In this case, Portuguese reported higher percentages for those items considered not important by the participants.

After analyses, it has been found that Adjustment to Aging was not related to sex, neither in Mexico nor in Portugal ( $p > .05$ ). A significant association to age was found in only two items for Mexican participants (“Sports and outdoor activities” and “Not being dependent on medication or treatments”).

Regarding to Satisfaction with Life (see Table 3), our findings showed that Mexican older adults reported more SWL than their Portuguese counterparts, for both the total score and the items. A great number of Mexican older adults considered that they are satisfied with life compared to Portuguese older adults (62.1% and 1.8% respectively).

Table 3

*Satisfaction With Life Comparison by Country*

Item	Score				Strongly agree		Strongly disagree	
	Mexico		Portugal		Mexico	Portugal	Mexico	Portugal
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	%	%	%	%
In most ways my life is close to my ideal***	5.96	1.24	3.56	1.68	34.1	5.2	2.1	14.9
The conditions of my life are excellent***	6.04	1.23	4.17	1.80	44.1	6.5	0.3	12.5
I am satisfied with my life***	6.51	0.75	3.44	1.46	62.1	1.8	0.3	14.1
So far I have gotten the important things I want in life***	6.31	1.04	3.58	1.67	54.7	5.7	0.9	14.4
If I could live my life over, I would change almost nothing***	5.71	1.72	3.56	1.68	42.6	5.2	5.6	14.9
<b>Total Satisfaction with Life Score***</b>	6.10	0.76	3.66	1.47	-	-	-	-

\*\*\* $p < .001$ .

The correlation test indicated that there was a significant positive correlation between adjustment to aging and life satisfaction in the Mexican sample, contrary to the Portuguese sample, where this association was not found (see Table 4).

Table 4

*Correlation Between Adjustment to Aging and Satisfaction With Life in Mexican and Portuguese Older Adults*

Satisfaction with life	Adjustment to Aging	
	Mexican	Portuguese
Pearson correlation	.302	-.084
<i>p</i>	<.001	.100
<i>N</i>	340	383



## Discussion

In this study, Mexican older adults reported more AtA than Portuguese participants, as well as higher Satisfaction with life. For the Mexican sample, both AtA and SWL were positively related, while in the Portuguese sample this association was not significant.

These results should be understood from a cultural scope.

For the Mexican participants, family is an important component for the AtA; in this country, the major proportion of older adults reported to live with at least one family member, and only 12% of women and 9.2% of men live alone (Instituto Nacional de las Mujeres, 2010). In Mexico, family represents the main source of support (social and economic), due to the fact that social and health security is not universal (Montes de Oca, 2005). Religion was also reported as an important component for AtA; in this sense, it is well known that Mexico is a country essentially religious, where 95.7% of older adults indicated to have a religion (mainly catholic) (INEGI, 2010). Religion in older adults has been positively related to happiness (Blazer & Palmore, 1976), physical and mental health (Hank & Schaan, 2008), and general well-being (Krause, 2003); conversely, it has been negatively related to depression (Beit-Hallahmi & Argyle, 1997), anxiety and stress (Koenig et al., 1997).

Portuguese older adults reported that 'having curiosity and an interest in learning' was the more relevant aspect for AtA, followed by 'creating and being creative' and 'leaving a mark and seed the future'. For these participants, 'feeling relaxed about the future' and 'sports and outdoor activities' were the least important items, which does not corroborate previous literature suggesting that social and physical activities appear to be positively related to well-being among older adults (Oerlemans, Bakker, & Veenhoven, 2011).

Previous literature points out that older adults feel conscientious, driven and more agreeable than middle-aged and younger adults (Allemand, Zimprich, & Hendriks, 2008) and that being active in old age may satisfy various personal needs (Ryan & Deci, 2000). Furthermore, productive activities contributed to older adults' well-being (Wahrendorf & Siegrist, 2010) and that professional engagement, especially with peers (Stevens-Ratchford, 2005), productive creativity (Brodsky, 1988) and status (Hatch, 2000) contributed to aging well. Additionally, literature suggests that success in fulfilling challenges and leaving a mark may yield a more positive perceived age (Kleinspehn-Ammerlahn, Kotter-Grühn, & Smith, 2008; Ward, 2010).

Western cultures, such as the European, which support the prevalence of individualistic experiences, frequently stress the importance of the internal psychological attributes and individualistic values of their members. Contrariwise, in non-Western collectivist cultures, where interdependency is prominent, older adults are predominantly drawn to social cues. The cultural grounds for experiencing AtA appear to differ between these two cultural perspectives (von Humboldt, 2016).

Our outcomes showed that Mexican older adults reported more SWL than their Portuguese counterparts, for both total score and items. Additionally, we found no significant correlation between AtA and SwL in the Mexican sample. Portugal and other Eastern European countries showed lower outcomes for well-being, life satisfaction and happiness, in comparison to their European counterparts (Immerfall & Therborn, 2011).

Considering the difference in SwL, previous studies have found that people who felt healthier, were married or in a partnership, were more religious, felt comfortable living on their income, and had more social contact

reported higher levels of subjective well-being (Swift et al., 2014). It is important to underline that a higher SwL does not mean that Mexican older adults are in better circumstances than Portuguese. In this sense, there have been proposed psychological mechanisms to explain how the individual's SwL can be maintained in later life, by minimizing age-related declines and by adjusting their aspirations and personal to reduced resources and competencies (Rapkin & Fischer, 1992).

Growing cross-cultural research on AtA has suggested cultural variance concerning older adults' perspectives toward this construct. In fact, different cultures have dissimilar perceptions and interrelate in different forms to stimulate a good old age (von Humboldt, 2016).

This study involves relevant strengths; the support of the cultural variety of AtA presented in this paper is an important contribution to the under-developed potential of this concept. In this context, the present study represents a fore step in the development of comparison studies concerning an evaluative instrument designed to measure AtA in old age and is part of a larger-scale quantitative investigation examining subjective well-being and sense of coherence. Most of the previous cultural studies concerning AtA results have been grounded on qualitative data. The present study is the first involving a quantitative cross-cultural comparison. The results of this study can be part of a broad cultural assessment for AtA among older adults. The collaboration between scholars, researchers and gerontologists from different areas of the globe will help to shed light on the cultural diversity of aging well.

Future work should circumvent limitations of this study. While a diverse sample of participants was recruited, the use of a convenience sampling method could have resulted in some selection bias, and participants may not be representative of both countries older people; in this sense, population based studies are desirable involving community-dwelling older adults instead of only senior centres' users. Differences in age between samples may also represent a bias; although in this study age and AtA were not, in general, related, age comparable samples should be considered in future studies. Additional research is needed concerning the conceptual framework of AtA for older adults. Multi-assessment research is also needed to obtain a higher confidence in conclusions across cultures. Future studies may include other nationality groups, in order to cover the diversity of perspectives concerning AtA in late adulthood.

Despite having a number of wellbeing indicators, we should go deep in this discussion in developing and developed countries, at North, Central America and EU level, to be able to settle what intervention strategies may be engaged for improving older adults AtA.

## Funding

We kindly acknowledge the Portuguese Foundation for Science and Technology (FCT), for the grant [grant number SFRH/BD/44544/2008] which supported this research. The fund approved the design and aims of the study but did not play any role in the collecting of data, interpretation of results, or preparation of this article.

## Competing Interests

The second author (SvH) is a member of Psychology, Community and Health's Editorial Team and one of the Guest Editors of this Special Issue. SvH did not intervene in any form in the peer review procedure or similar.



## Acknowledgments

The authors have no support to report.

## References

- Allemand, M., Zimprich, D., & Hendriks, A. A. J. (2008). Age differences in five personality domains across the life span. *Developmental Psychology, 44*(3), 758-770. doi:10.1037/0012-1649.44.3.758
- Antonovsky, A. (1993). The structure and properties of the sense of coherence scale. *Social Science & Medicine, 36*(6), 725-733. doi:10.1016/0277-9536(93)90033-Z
- Arias-Merino, E. D., Ortiz, G. G., Mendoza-Ruvalcaba, N. M., Arias-Merino, M. J., Velázquez Brizuela, I. E., Morales-Sánchez, A. E., & Lara, R. M. (2011). El Mini-mental State Examination el efecto de la edad, género y niveleducativo en una población mexicana. In L. M. Gutiérrez-Robledo (Ed.), *Tópicos de Actualización en neurobiología envejecimiento y neurodegeneración* (pp. 359-371). Guadalajara, Mexico: Universidad de Guadalajara.
- Atchley, R. C. (1999). *Continuity and adaptation to aging*. Baltimore, MD, USA: The Johns Hopkins University Press.
- Bauer, J. J., & McAdams, D. P. (2004). Growth goals, maturity, and well-being. *Developmental Psychology, 40*(1), 114-127. doi:10.1037/0012-1649.40.1.114
- Beit-Hallahmi, B., & Argyle, M. (1997). *The psychology of religious behavior, belief, and experience*. London, United Kingdom: Routledge.
- Birren, J. E., & Schaie, K. W. (2006). *Handbook of the psychology of aging* (6th ed). San Diego, CA, USA: Elsevier Academic Press.
- Blazer, D., & Palmore, E. (1976). Religion and aging in a longitudinal panel. *The Gerontologist, 16*, 82-85. doi:10.1093/geront/16.1\_Part\_1.82
- Brandstädter, J., & Rothermund, K. (2003). Intentionality and time in human development and aging: Compensation and goal adjustment in changing developmental contexts. In U. M. Staudinger & U. Lindenberger (Eds.), *Understanding human development: Dialogues with lifespan psychology* (pp. 105-124). doi:10.1007/978-1-4615-0357-6\_6
- Brodsky, S. L. (1988). *The psychology of adjustment and well-being*. New York, NY, USA: Holt, Rinehart and Winston.
- Brown, J., Bowling, A., & Flynn, T. (2004). *Models of quality of life: A taxonomy, overview and systematic review of the literature* (Project report, European Forum on Population Ageing Research). Sheffield, United Kingdom: Department of Sociological Studies.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with lifescale. *Journal of Personality Assessment, 49*, 71-75. doi:10.1207/s15327752jpa4901\_13
- Folstein, M. F., Folstein, S. E., & McHugh, P. R. (1975). Mini-mental state: A practical method for grading the cognitive state of patients for the clinician. *Journal of Psychiatric Research, 12*, 189-198. doi:10.1016/0022-3956(75)90026-6
- Hank, K., & Schaan, B. (2008). Cross-national variations in the correlation between frequency of prayer and health among older Europeans. *Research on Aging, 30*, 36-54. doi:10.1177/0164027507307923

- Hatch, L. R. (2000). *Beyond gender differences: Adaptation to aging in the life course perspective*. Amityville, NY, USA: Baywood Publishing Company.
- Havighurst, R. J. (1948). *Developmental tasks and education*. New York, NY, USA: Longmans, Green, and Company.
- Immerfall, S., & Therborn, G. (2011). *Handbook of European societies: Social transformations in the 21st Century*. Cambridge, United Kingdom: Springer.
- Instituto Nacional de Estadística y Geografía. (2010). *Panorama de las religiones en México 2010*. Retrieved from [http://www.inegi.org.mx/prod\\_serv/contenidos/espanol/bvinegi/productos/censos/poblacion/2010/panora\\_religion/religiones\\_2010.pdf](http://www.inegi.org.mx/prod_serv/contenidos/espanol/bvinegi/productos/censos/poblacion/2010/panora_religion/religiones_2010.pdf)
- Instituto Nacional de Estadística y Geografía. (2016). *Estadísticas a propósito del día mundial de la población*. Aguascalientes, Mexico: INEGI.
- Instituto Nacional de Estatística. (2005). *População estrangeira em Portugal. Destaque: Informação à comunicação social*. Lisbon, Portugal: Author.
- Instituto Nacional de las Mujeres. (2010). *Situación de las personas adultas mayores en México*. Retrieved from [http://cedoc.inmujeres.gob.mx/documentos\\_download/101243\\_1.pdf](http://cedoc.inmujeres.gob.mx/documentos_download/101243_1.pdf)
- Jopp, D., & Rott, C. (2006). Adaptation in very old age: Exploring the role of resources, beliefs, and attitudes for centenarians' happiness. *Psychology and Aging, 21*(2), 266-280. doi:10.1037/0882-7974.21.2.266
- Kesebir, P., & Diener, E. (2008). In pursuit of happiness: Empirical answers to philosophical questions. *Perspectives on Psychological Science, 3*, 117-125. doi:10.1111/j.1745-6916.2008.00069.x
- Keyes, C. L. M., Shmotkin, D., & Ryff, C. D. (2002). Optimizing well-being: The empirical encounter of two traditions. *Journal of Personality and Social Psychology, 82*(6), 1007-1022. doi:10.1037/0022-3514.82.6.1007
- Kleinspehn-Ammerlahn, A., Kotter-Grühn, D., & Smith, J. (2008). Self-perceptions of aging: Do subjective age and satisfaction with aging change during old age? *Journals of Gerontology: Series B. Psychological Sciences and Social Sciences, 63B*(6), 377-385. doi:10.1093/geronb/63.6.P377
- Koenig, H. G., Hays, J. C., George, L. K., Blazer, D. G., Larson, D. B., & Landerman, L. R. (1997). Modeling the cross-sectional relationships between religion, physical health, social support, and depressive symptoms. *The American Journal of Geriatric Psychiatry, 5*(2), 131-144. doi:10.1097/00019442-199721520-00006
- Krause, A. (2003). Religious meaning and subjective well-being in late life. *The Journals of Gerontology: Series B. Psychological Sciences and Social Sciences, 58B*(3), S160-S170. doi:10.1093/geronb/58.3.S160
- Litwin, H. (2005). Correlates of successful aging: Are they universal? *International Journal of Aging & Human Development, 61*, 313-333. doi:10.2190/DUGV-AQPU-PT28-B8D7
- Low, G., & Molzahn, A. E. (2007). Predictors of quality of life in old age: A cross-validation study. *Research in Nursing & Health, 30*(2), 141-150. doi:10.1002/nur.20178
- Montes de Oca, V. (2005). *La seguridad social y la familia en México: La interrelación entre los apoyos formales e informales entre la población adulta mayor*. Retrieved from <http://iussp2005.princeton.edu/papers/52526>

- Oerlemans, W. G. M., Bakker, A. B., & Veenhoven, R. (2011). Finding the key to happy aging: A day reconstruction study of happiness. *The Journals of Gerontology: Series B. Psychological Sciences and Social Sciences*, *66B*(6), 665-674. doi:10.1093/geronb/gbr040
- Pavot, W., & Diener, E. (2004). The subjective evaluation of well-being in adulthood: Findings and implications. *Ageing International*, *29*(2), 113-135. doi:10.1007/s12126-004-1013-4
- Rapkin, B. D., & Fischer, K. (1992). Framing the construct of life satisfaction in terms of older adults' personal goals. *Psychology and Aging*, *7*, 138-149. doi:10.1037/0882-7974.7.1.127
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *The American Psychologist*, *55*, 68-78. doi:10.1037/0003-066X.55.1.68
- Schafer, M. H., & Shippee, T. P. (2010). Age identity, gender, and perceptions of decline: Does feeling older leads to pessimistic dispositions about cognitive aging? *The Journals of Gerontology: Series B. Psychological Sciences and Social Sciences*, *65B*(1), 91-96. doi:10.1093/geronb/gbp046
- Staudinger, U. M., & Kunzmann, U. (2005). Positive adult personality development: Adjustment and/or growth? *European Psychologist*, *10*(4), 320-329. doi:10.1027/1016-9040.10.4.320
- Stevens-Ratchford, R. G. (2005). Occupational engagement: Motivation for older adult participation. *Topics in Geriatric Rehabilitation*, *21*(3), 171-181. doi:10.1097/00013614-200507000-00003
- Swift, H. J., Vauclair, C. M., Abrams, D., Bratt, C., Marques, S., & Lima, M. L. (2014). Revisiting the paradox of well-being: The importance of national context. *The Journals of Gerontology: Series B. Psychological Sciences and Social Sciences*. doi:10.1093/geronb/gbu011
- United Nations, Department of Economic and Social Affairs, Population Division. (2015). *World Population Ageing 2015* (ST/ESA/SER.A/390). New York, NY, USA: United Nations.
- von Humboldt, S. (2016). *Conceptual and methodological issues on the adjustment to aging: Perspectives on aging well*. New York, NY, USA: Springer. doi:10.1007/978-94-017-7576-2
- von Humboldt, S., Leal, I., Pimenta, F., & Maroco, J. (2013). Assessing adjustment to aging: A validation study for the Adjustment to Aging Scale (AtAS). *Social Indicators Research*, *119*(1), 455-472. doi:10.1007/s11205-013-0482-9
- von Humboldt, S., Leal, I., Pimenta, F., & Niculescu, G. (2012). Adjustment to aging, subjective age and age representation: Assessing a nationally-diverse population of older adults. *Psychology, Community & Health*, *1*(3), 285-299. doi:10.5964/pch.v1i3.50
- Wahrendorf, M., & Siegrist, J. (2010). Are changes in productive activities of older people associated with changes in their well-being? Results of a longitudinal European study. *European Journal of Ageing*, *7*(2), 59-68. doi:10.1007/s10433-010-0154-4
- Ward, R. A. (2010). How old am I? Perceived age in middle and later life. *International Journal of Aging & Human Development*, *71*(3), 167-184. doi:10.2190/AG.71.3.a
- World Health Organization (WHO). (2012). *Ageing and life course – Interesting facts about ageing*. Retrieved from <http://www.who.int/ageing/about/facts>