Soledad en personas mayores de España y México: un análisis comparativo

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Resumen

Se ha encontrado evidencia de que la soledad incrementa la probabilidad de presentar problemas de ansiedad y depresión en personas mayores, razón por la cual se hace importante el estudio de las consecuencias negativas de este fenómeno sobre la salud mental y física de estas personas. El objetivo de este trabajo fue analizar la influencia de la soledad en la vejez y en la forma de convivencia de los adultos mayores, así como determinar si existen diferencias en función del grupo cultural analizado (España y México). Para esto, se utilizó un diseño cuantitativo con alcances comparativos, en el que participaron 691 adultos mayores (hombres = 40.2 %, mujeres = 59.8 %) de 60 o más años (M = 71.49, DE = 7.41), residentes de España (42.7 %) o México (57.3 %), seleccionados por medio de un muestreo por conveniencia. Para el análisis, por medio de la aplicación de un apartado sobre datos sociodemográficos y la escala ESTE de soledad —que mide los déficits existentes en el soporte del sujeto a nivel familiar, conyugal y social, así como los sentimientos resultantes de tales déficits—, se procesaron pruebas de hipótesis con el coeficiente χ^2, el coeficiente de contingencia y la prueba *t* para muestras independientes —con un nivel de p ≤ .050—. Los resultados demostraron que las diferencias culturales según el país de pertenencia tienen peso sobre la prevalencia de situaciones de soledad en el adulto mayor; que en ambas submuestras las características demográficas hacen diferencia en la caracterización de la soledad; y que hay evidencia de una relación entre los factores sociodemográficos de las personas mayores y la aparición de la soledad. El estudio subraya la importancia del entorno cultural y de las características demográficas sobre la soledad, elementos que se deben tener en cuenta como factores de riesgo para el desarrollo de soledad en las personas mayores.
Palabras clave: soledad, soledad familiar, soledad conyugal, soledad social, adultos mayores.

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Loneliness in older people from Spain and Mexico: a comparative analysis

Abstract

It has been found that suffering loneliness increases the probability of anxiety and depression. The importance of studying loneliness is due to the negative consequences that this phenomenon can generate on the mental and physical health of elderly people. The objective of this study was to analyze the influence of loneliness in old age and their form of coexistence, and determine whether there are differences depending on the cultural group analyzed, Spain or Mexico. A quantitative design with a comparative scope was used. A total number of 691 older adults (40.2% men and 59.8% women) age 60 years-old or older from Spain (42.7%) and Mexico (57.3%) were selected to take part in this study through convenience sampling. Instruments included a sociodemographic data section, consisting of questions about age, sex, education, marital status and with whom the participants lived. Also the ESTE scale of loneliness was used, which measures the existing deficits in the support of the individual at family, marital and social level, as well as the feelings resulting from such deficits. Hypothesis tests were processed using the χ^2 coefficient, the contingency coefficient and the t-test for independent samples, with a significance level of $p \leq .050$. Results showed that cultural differences according to the country of origin have weight on the prevalence of situations of loneliness in the elderly. Evidence was found that in both samples, demographic characteristics such as sex, education, and marital status, make a difference in the characterization of loneliness, and that there is a relationship between the demographic factors of elderly people and the onset of loneliness. The study underlines the importance that cultural background and demographic characteristics have on loneliness and how these aspects should be considered as risk factors for the development of loneliness in the older adults.

Key words: loneliness, family loneliness, marital loneliness, social loneliness, older people.

Introduction

In the last few years, the study of loneliness in older adults has become important again, not only because of its prevalence (Abellán, Ayala, & Pujol, 2017) but also because the negative consequences that this phenomenon may have on elderly people's mental and physical health. In Spain, 22.4% of people age 65 years-old or older live alone in their homes. (*Instituto de Mayores y Servicios Sociales* [IMSERSO, for its Spanish acronym], 2017). In the case of Mexico, 1.6 million people above 60 years old live alone. These numbers have increased compared to prior years, which means this is an important social concern.

In old age, declining health levels and changes in social life may lead older people to isolate from an environment that generates dissatisfaction. Furthermore, it has been found that suffering from loneliness increases the probability of depression and anxiety (Acosta, Tanori, García, Echeverría, Vales, & Rubio, 2017; Carreira & Facal, 2017; Portellano-Ortiz, Garre-Olmo, Calvó-Perxas, & Conde-Sala, 2016) which has been related to health status (Rico-Uribe et al., 2016) and to an increased risk of neurodegenerative diseases such as Alzheimer (Boss, Kang, & Branson, 2015; Donovan et al., 2016).

However, living in solitude or being lonely does not always generate dissatisfaction. Sometimes, people themselves want it. In other situations, an older person is surrounded by her/his family and friends and still feels uncomfortable.

Loneliness can be defined in different forms. When speaking of loneliness, it refers to the condition where people have uncomfortable emotions when they are alone, feel rejected or misunderstood by the people who surround them (Rubio, 2007). It is also related to an unfavorable experience that affects personal, family, and social level (Cardona, Villamil, Henao, & Quintero, 2013), as well as being considered a subjective experience that arises from deficient social relationships (Buz & Adánez, 2013) that affects the quality of life of elderly people (Perissinotto, Stijacic, & Covinsky, 2012). Therefore, this feeling of loneliness produces suffering which affects people emotionally and this may lead to other problems. However, different research suggests that both the background and the consequences of loneliness con change throughout life (Böger & Huxhold, 2017).

On the other hand, loneliness may affect different spheres, and occur only in certain areas and not in others. For instance, widowhood is a risk factor to suffer a type of loneliness which affects the subject's marital support but no other types of social support such as family. Thus, loneliness has been classified in different dimensions such as family, social, marriage, or existential depending on the area an elderly person is being affected. (Rubio & Aleixandre, 1999).

Given the importance of loneliness in elderly people, factors and variables related to it have been analyzed. For example, a relationship has been proposed between older

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adults' sociodemographic characteristics such as gender, age, marital status, or place of residence, and the onset of loneliness, as well as the transition to retirement and the presence of disease.

In the case of gender, studies have proven that women 50 years-old or older have higher levels of loneliness (Beutel et al., 2017; Domènech-Abella et al., 2017), and that these increase depending on the level of poverty of the woman who lives alone, especially in Spain (Estrada & Mula, 2015) or more specifically in the marital loneliness sphere (Rubio, Pinel, & Rubio, 2011). Meanwhile, in other studies, men are likely to have higher levels of loneliness in the family and social spheres (Acosta, García, Vales, Echeverría, & Rubio, 2017; Dahlberg & McKee, 2014).

Regarding age, the results obtained in previous research are also contradictory. In some cases, an increase of loneliness has been observed as age rises, but only in women (Rubio et al., 2011). Other studies show that in both sexes people between 60 and 75 years old experience less loneliness than people over 75 years old (Acosta et al., 2017), Also, it has been observed that loneliness decreases with age (Beutel et al., 2017).

Marital status seems less controversial, as it has been found more consistently that widowed or single older people present higher levels of loneliness than those who are married or in a relationship (Acosta et al., 2017; Beutel et al., 2017), although in another study, a relationship with gender was found, where loneliness was present only in men without a significant other (Botterill, Gill, McLaren, & Gómez, 2016).

With respect to the place of origin, differences have been observed according to the cultural background of older people. For example, when assessing loneliness in urban and rural areas the results indicate that in rural areas loneliness is higher (Dong & Simon, 2010); moreover, widowhood, financial difficulties, area deprivation, and physic and mental health impairment, predict loneliness (De Koning, Stathi, & Richards, 2017), and in contexts with low educational and economic levels, loneliness is higher (Hawkley, Hughes, Waite, Masi, Thisted, & Cacioppo, 2008).

On the other hand, there is evidence that after retirement, older adults in solitude are at a greater risk of experiencing an imbalance in their daily routine and social environment since this condition requires a greater self-directed effort to continue being part of society (Segel-Karpas, Ayalon, & Lachman, 2018). In relation to the presence of diseases, feeling lonely, instead of being alone, is associated with a higher risk for dementia (Holwerda et al., 2014). Moreover, another study shows that mortality with the older population is higher among solitary and socially isolated participants

(Steptoe, Shankar, Demakakos, & Wardle, 2013). However, some longitudinal studies show that as years go by, the feelings of loneliness do not increase, but instead, this feeling is influenced by the social and health-related dimensions than by sociodemographic variables do (Dahlberg, Agahi, & Lennartsson, 2018a) despite having one or two diseases (Olaya et al., 2017).

Other studies on cultural differences between Mexico and Spain have found that the conception of quality of life and its components is different in each country. In Spain, external elements such as social relationships and feeling satisfied with the environment are considered more important for the quality of life, whereas in Mexico, the most important factors are internal elements such as health and functional capacity (Santacreu, Bustillos & Fernandez-Ballesteros, 2016). Moreover, a study about social loneliness, which was carried out in 21 countries belonging to OECD, shows that Mexico was one of the countries with the highest levels of social loneliness, where 14.1% of people manifested that they rarely, or never, spent time with friends, colleagues or other social groups, against 6.8% of the Spanish population (The Organization for Economic Co-operation and Development [OECD], 2005).

It has been suggested that culture influences the relationship between personality and life satisfaction, which is mediated by affective balance. A study comparing samples of individualistic cultures such as Germany and the United States and collectivistic cultures such as Ghana or Mexico, showed that culture does not modify the influence that personality has on affective balance, but it does influence the impact of emotional balance over life satisfaction, in a way that is more important to individualistic cultures (Schimmack, Radhakrishnan, Oishi, Dzokoto, & Ahadi, 2002). Therefore, the emotional value given to different situations of daily life and how it influences happiness is determined by cultural background. Consequently, the same may occur with emotional experiences such as loneliness, where its interpretation may be determined by the culture of an older person who is alone. In the case of the present study, Spain has a more individualistic culture than Mexico, hence, the subjective perception of loneliness may be different in both countries (Hofstede Insights, 2019).

It is possible that in the same way that there are differences in both cultural backgrounds, there may be differences in the perception of loneliness in different countries because of their social, cultural, and economic context. The interpretation given by the context and the social and family structure make the difference from one country to another. In addition, there is a lack of comparative research about loneliness in different countries as well as a deficiency of

longitudinal studies (Dahlberg, Andersson, & Lennartsson, 2018b).

Taking into account the above, the objective of this research was to analyze the influence of loneliness in old age and living arrangements (alone or with a partner), and based on the cultural group analyzed, determine whether there are differences in Spain or Mexico.

Method

Design

This study takes on a quantitative approach using an *ex post facto* cross-sectional design, as well as comparative or contrastive scopes based on demographic variables (Hernández, Fernández & Baptista, 2014).

Participants

In this study a total number of 691 older citizens from Mexico and Spain with ages over 60 years-old took part, selected through a convenience sampling. The only inclusion criterion was to be 60 years-old or older. Participants from Spain came from five senior centers from Granada, the capital city. Senior centers are managed by the City Council and facilitate opportunities for free educational and physical exercise activities for people age 55 years-old or older. This sample consisted of 295 people (Age=73.75 years old, SD= 7.40) who lived in their own home, 35% were men and 65% women. A 21.6% of the participants presented a disease that limited their ability to perform Daily Life Basic Activities (ABVD, for its Spanish acronym) and 86.3% performed physical activity weekly. Regarding their current occupation, 79% of participants were retired and receiving a retirement pension whilst 21% continued working. Regarding their health status, 48.9% of the sample considered their health was good and 15.8% esteemed it was very good or ideal.

For the Mexican sample, 396 adults age 60 years-old or older (M= 69.8, DT=6.96) from the cities of Saltillo, Coahuila and Mexico were interviewed. In the sample, 55.8% were women and 44.2% were men, with ages ranging from 60 to 94 years-old (M age= 69.81, SD = 6.96). The selection method used was a convenience sampling. The data collection was conducted in the waiting room at *Centro Estatal del Adulto Mayor* (a state-run facility for the elderly) and during the series of conferences that the Human Rights Commission of the State of Coahuila de Zaragoza (CDHEC for its Spanish acronym) carry out monthly. 86.1% indicated that they had a disease that limited their ability to perform ABVD, and only 17.7% performed physical activity daily. A little more over half of the sample had worked to earn a salary (58.6%); 87.7% had health insurance and 62% were retired. 79.8 percent of the elderly people considered their health as good and 8.8% thought it was ideal, and 94.7% felt satisfied with their life.

Instruments

In order to characterize the study population, a section with demographic data integrated by five items was used: *age*, with in an open question; *sex,* with two response options (male, female); *educational level*, with five response options: cannot read nor write, elementary school, junior high school, high school, baccalaureate, or university; *marital status,* with five options: single, married, widow/widower, divorced, or consensual union; and, *members of the family living with the elderly person* with four response options: alone, with a partner, with children, with partner and children.

To assess the degree of loneliness in the participants of the sample, the ESTE loneliness scale was applied (Rubio & Aleixandre, 1999). It is an instrument which consists of 34 items with five response options ranging from *1= never* to *5= always*; it has been designed to determine existing deficits within the subject's support system at the family, marital and social levels, as well as the resulting emotions of said deficits. Therefore, the questionnaire has four subscales: *family loneliness* (14 items, for example: "I feel lonely when I am with my family"), *marital loneliness* (five items, for example: "I have a partner that supports and encourages me"), *social loneliness* (seven items, for example: "I have friends whom I can turn to when I need advice"), and *existential crisis* (nine items, for example: "I feel that as I get older, things get worse for me"). In previous validation studies, the scale had shown consistency values of .91 in the original version (Rubio, 2009), and of .92 in the revised version for the Latino population (Cerquera, Cala-Rueda & Galvis-Aparicio, 2013). For the present study, internal consistency measured through the Cronbach´s alpha value was high, both for the Spanish sample (α= .92), as for the Mexican sample (α= .92).

Procedure

First, to gather the sample from Spain, the researchers went to the City Council to request their collaboration with this research, explaining the objectives of the study, the data collection process, and the instrument to be used. Once permission was obtained, they visited five senior centers and asked older people who were part of those centers to participate voluntarily.

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Second, to gather the sample from Mexico, the researchers visited the *Centro Estatal del Adulto Mayor* and the Human Rights Commission of the State of Coahuila de Zaragoza and spoke with the manager explaining the objectives and scopes of this project in order to obtain the respective authorization.

In both countries, the process of informing potential participants and signing the informed consent was carried out individually with each person. Thus, before beginning the application of the questionnaire, each participant was informed about the purposes of the investigation, the possibility of ceasing their participation at any time, and was asked to sign the consent. In both countries, once this was performed, the questionnaires were applied as a self-conducted interview individually and in groups. Each participant was given a notebook that comprised the socio-demographic variables and the ESTE scale of loneliness to be filled out and delivered to the interviewer at the end. This process took approximately 10 minutes.

Data analysis

Once data were obtained, the information was processed with the IBM SPSS 24 statistics package with the purpose of performing an appropriate statistical analysis. Particularly, comparisons of sociodemographic characteristics were made in both samples with respect to gender, educational level, marital status, and cohabitation. To determine whether there were differences in the factors of loneliness between the Mexican and Spanish samples —by gender and to whether they had or not a partner—*t*-test hypothesis for independent samples as well as χ^2 coefficient were performed.

For *t*-test, compliance with the assumptions of the test was verified; the skewness and kurtosis coefficients were lower than two points in the pooled sample as well as in the data analysis by gender and by country. In order to assess the variance homogeneity, Levene's test was used, which accepted the null hypothesis of equal variances in the test by gender and country. On the other hand, although the Kolmogorov-Smirnov test rejected the null hypothesis of no differences in the normal distribution of the four subscales ($p \leq .050$), the statistical *d* value was considered to assess the magnitude of the effect of the differences in test distribution. According to the recommended cut-off points (Domínguez-Lara, 2019), *family loneliness* presented a d value of =.066; *marital loneliness*, *d*=.267, *social loneliness*, *d*=.087, and *existential crisis,* d= .080. The magnitude of the effect from .10 to .30 is considered as a little deviattion from normal distribution. In other words, it is acceptable to perform parametric procedures on these variables.

Ethical considerations

During the whole process of this study, the principle of confidentiality was fulfilled through the anonymity of data in the samples from Spain and Mexico, following the criteria from each country. In Spain, the notebook that contained sociodemographic questions, and the instrument to assess loneliness, did not allow for the collection of personal identification data from participants to guarantee their anonymity. The procedure fulfilled the ethical standards from the University of Granada. In the case of Mexico, the principles of respect and autonomy of elderly people, the knowledge of the procedures, and the confidentiality of data were all fulfilled as described by the International Ethical Guidelines for Biomedical Research Involving Humans proposed by the Council for International Organizations of Medical Sciences (CIOMS, 2002), in collaboration with World Health Organization.

Results

As it can be seen in Table 1, a cross-tabulation was made between the country of origin and the educational level per gender which elderly people have in Spain and Mexico (See Table 1). In general, Spanish older adults who took part in this study showed a higher level of education than the Mexican older people who took part in this study, since the majority of the Spanish participants had Primary education studies(M=51.5%, F=50.5%), followed by older men with University studies (19.4%), as well as older females with Secondary studies (26.6%). In Mexico's case, a high percentage of the sample showed no ability in both reading and writing (M=36.6%, F=26.7%), and the percentage of older people who had attained elementary studies was close to the Spanish sample. However, the percentage of Mexican participants with High School or University studies was lower than among Spanish participants, with a slightly higher percentage of Mexican older females (17.2%) attaining higher educational level than Mexican older males (14.8%). There are significant differences in the demographic data samples, such as education level (χ^2=89.502, p=.000).

Similarly, when analyzing the marital status (See Table 2), it was found that older Spanish males (60.2%) were married, which almost doubles the percentage of the older Spanish females (31.8%), unlike Mexico, where the samples by gender show similar percentages in those who are married. The percentage of widowed Spanish females stands out (52.6%), since it is higher than the one reported in Mexico. There is a higher number of Spanish singles- both men and women- than Mexican singles and there are more older Mexican divorcees than Spanish divorcees, with similar percentages

in both genders, showing a difference of almost six percent in both countries. The difference between the proportions of the samples is significant ($\chi2=50.288$, *p*=.000).

When analyzing living arrangements among the participants (See Table 3) it was found that there is a higher percentage of those who live alone in Spain, with a higher number of females (50%) which comprised half of the sample, unlike the Mexican participants of whom less than 15% in both genders lived alone. With respect to the participants who live with their partners, more than 50% of both Mexican males and females lived with their partner, whilst among the the Spanish participants, almost a double percentage of the Spanish males (48.5%) lived with their partner when compared with Spanish females (22.4%). It was also found that in Mexico, when the spouse has died, most older people go to live with their children, which is the case for 30% of elderly Mexican people. The differences in these demographic data are significant ($\chi2=169.203$, p=.000).

Regarding the ESTE loneliness scale, prior to testing the hypothesis, descriptive statistics were obtained for each sample according to the country of origin (See Table 4). In both groups, the profile of the contrasting variables was similar to the normal distribution, since both the skewness coefficient (S) and the kurtosis (k) resulted in values lower than two points, a reason why the analysis was done in parametric mode.

A comparative analysis was made between the country of origin and the total percentages obtained in each dimension that comprise the ESTE scale (See Table 5). To do so, first an analysis was performed with the total number of elderly people in each country, followed by an analysis of only those who mentioned not having a partner, and lastly those who reported living with their partners.

The sample analysis shows significant statistical differences in the four dimensions of the scale, since family loneliness, social loneliness, and existential crisis steer towards the Mexican sample, whilst marital loneliness points towards the Spanish sample. When analyzing differences in types of loneliness among single participants in Spain and in Mexico, statistically significant differences were found in Family and marital loneliness and in adaptation crisis, while no statistically significant difference was found in social loneliness. Family loneliness and existential crisis once again had a heavier load on the Mexican sample, whilst marital loneliness is associated with the Spanish sample. In the analysis made on elderly people with a partner, there were significant differences between family loneliness, social loneliness, and existential crisis, differences that had a heavier load on the group of older people in Mexico.

Table 1

Cross-tabulation of the sample by country and gender regarding level of schooling

| Level of schooling | Country | | | |
| | Spain | | Mexico | |
	Man	Woman	Man	Woman
Doesn't read or write	1 (1.0%)	11 (5.7%)	64 (36.6%)	59 (26.7%)
Elementary	53 (51.5%)	97 (50.5%)	70 (40.0%)	104 (47.1%)
Junior High	13 (12.6%)	51 (26.6%)	15 (8.6%)	20 (9.0%)
High School	16 (15.5%)	20 (10.4%)	13 (7.4%)	16 (7.2%)
Bachelor	20 (19.4%)	13 (6.8%)	13 (7.4%)	22 (10.0%)
Pearson´s $\chi2$	20.772	p=.000	4.909	p=.111
Contingency coefficient	.256	p=.000	.297	p=.297

Table 2

Cross tabulation of the sample by country and sex regarding marital status

| Marital Status | Country | | | |
| | Spain | | Mexico | |
	Man	Woman	Man	Woman
Single	5 (4.9%)	19 (9.9%)	3 (1.7%)	10 (4.5%)
Married	62 (60.2%)	61(31.8%)	105 (60.0%)	121(54.8%)
Widow	29 (28.1%)	101 (52.6%)	44 (25.1%)	57 (25.8%)
Divorced	5 (4.9%)	9 (4.7%)	18 (10.3%)	24 (10.9%)
Consensual union	2 (1.9%)	2 (1.0%)	0 (0.0%)	2 (0.9%)
Pearson´s $\chi2$	24.242	p=.000	2.849	p=.415
Contingency coefficient	.277		.086	

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Table 3

Cross tabulation of the sample by country and gender regarding cohabitation

Cohabitation	Country			
	Spain		Mexico	
	Man	Woman	Man	Woman
Alone	29 (28.2%)	96 (50.0%)	23 (13.2%)	27 (12.3%)
Partner	50 (48.5%)	43 (22.4%)	99 (56.9%)	116 (53.0%)
Son/Daughter	7 (6.8%)	18 (9.4%)	46 (26.4%)	61 (27.9%)
Partner & son/ daughter	17 (16.5%)	35 (18.2%)	6 (3.5%)	2 (6.8 %)
Pearson´s χ2	22.727	p=.000	2.196	p=.533

Table 4

Descriptive statistics by country

Loneliness	Spain				Mexico			
	M	SD	S	k	M	SD	S	k
Family	26.90	8.43	.525	-.228	31.51	10.39	.248	-.638
Marital	18.15	7.43	-.748	-1.08	13.64	8.04	.371	-1.64
Social	17.34	5.46	.542	.257	17.69	6.22	.250	-.685
Adaptation crisis	23.22	6.42	-.092	-.813	24.24	7.37	.444	-.127

Within the comparative analysis per gender performed in Spain and Mexico (See Table 6), in the sample as a whole, there were statistically significant differences in the four dimensions that comprise the scale. Marital loneliness was the only dimension in which the Spain participants scored lower than the Mexican participants, meanwhile the Mexican participants scored lower than the Spanish participants in family loneliness, social loneliness, and the existential crisis.

When comparing only Spanish and Mexican male participants, statistically significant differences were found in three of the four dimensions of the ESTE scale (with the exception of marital loneliness), with higher scores for the Mexican participants. Meanwhile, when comparing only Spanish and Mexican female participants, statistically significant differences were found in the family and in marital loneliness dimensions with higher scores in family loneliness among the Mexican older women and higher scores in marital loneliness among Spanish older females. Family loneliness steered towards the group of females living in Mexico, whilst marital loneliness steered towards elderly females living in Spain.

Discussion

The analysis performed in this study suggest that cultural differences are important for the prevalence of situations of loneliness among older adults. Results of this study show there were differences between the two subsamples in terms of demographic characteristics such as sex, education, and marital status. The results of this study confirmed the relationship between older adults' sociodemographic characteristics and the onset of loneliness, found in previous studies [...] (Acosta et al., 2017; Beutel et al., 2017; Botterill et al., 2016; Dahlberg & McKee, 2014).

When the levels of loneliness were compared between the samples from Spain and Mexico, differences were found in the four dimensions of loneliness in elderly people. The Spanish sample showed a higher level of marital loneliness, whilst the Mexican sample obtained a higher existential crisis and family and social loneliness. These results support the hypothesis of the effect of cultural background on the levels of loneliness previously proposed by other authors (Dong & Simon, 2010). Moreover, another study performed earlier, showed higher levels of social loneliness in Mexico when compared to the Spanish sample (OECD, 2005). On the other hand, in the study carried out by Santacreu et al. (2016), social relations were more important to the quality of life in Spain, although being satisfied with family and the number of friends, neighbors, and family were more important in social relationships in Mexico than in Spain. Also, it has been found in the present study that the sample of elderly people from Mexico has, in general, a lower educational level than the sample from Spain. This has been related in prior studies to a higher level of loneliness (Acosta et al., 2017; Hawkley et al., 2008).

Table 5
Comparative analysis by country on the level of loneliness in older adults

Group	Type of Loneliness	Country	M	SD	t	df	p
Sample	Family	Spain	26.77	8.441	-7.673	677.322	.000
		Mexico	32.17	10.01			
	Marital	Spain	16.39	7.971	5.267	688	.000
		Mexico	13.15	8.012			
	Social	Spain	17.07	5.360	-2.305	674.789	.021
		Mexico	18.09	6.245			
	Adaptation crisis	Spain	22.88	6.645	-2.769	688	.006
		Mexico	24.35	7.061			
Without a partner	Family	Spain	29.30	8.407	-4.695	292.290	.000
		Mexico	34.38	10.81			
	Marital	Spain	21.79	4.803	3.560	270.371	.000
		Mexico	19.38	7.064			
	Adaptation crisis	Spain	24.36	5.773	-2.808	284.290	.005
		Mexico	26.51	7.809			
With a partner	Family	Spain	23.43	7.264	-7.715	307.094	.000
		Mexico	30.19	8.938			
	Social	Spain	15.32	4.722	-3.220	301.820	.001
		Mexico	17.14	5.671			
	Adaptation crisis	Spain	20.94	7.221	-2.346	222.697	.020
		Mexico	22.70	5.972			

Table 6
Comparative analysis of the level of loneliness in older adults by country and sex

Group	Type of Loneliness	Country	M	SD	t	df	p
Men	Family	Spain	26.52	8.483	-5.889	233.113	.000
		Mexico	33.02	9.457			
	Social	Spain	16.56	5.144	-2.924	246.913	.004
		Mexico	18.59	6.248			
	Adaptation crisis	Spain	22.25	7.035	-2.644	275	.009
		Mexico	24.49	6.663			
Women	Family	Spain	26.9	8.437	-4.972	409.157	.000
		México	31.51	10.396			
	Marital	Spain	18.15	7.438	5.91	409.364	.000
		Mexico	13.64	8.04			

Mexico has lower objective values of quality of life than Spain, whilst subjective values such as life satisfaction, positive affect and happiness are higher. In other words, Mexicans are happier than Spanish, but these subjective values decrease as age increases (Fernández-Ballesteros, Arias, Santacreu, & Ruvalcaba, 2011). The variable of counting or not with a partner made a difference in the onset of loneliness in older people. There were differences in three out of four dimensions of loneliness when considering the cases that did not report having a partner, whether they are widowed, divorced or separated. In the case of older people who do not have a partner, the Mexican sample had a higher level of family loneliness and crisis of adaptation, whilst the Spanish sample had higher levels of marital loneliness in older people without a partner. As Rubio and Aleixandre (1999) proposed, certain life situations may affect loneliness and it can influence only some spheres, for example, the elderly people who are widowed have a greater probability

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to present marital loneliness. Other prior studies showed that in Mexico and other cultural backgrounds, widowed or single older people present more loneliness than those who have a partner or are married (Acosta et al., 2017; Beutel et al., 2017; De Koning, Stathi, & Richards, 2017).

On the other hand, when analyzing differences in loneliness by sex, it was found that Mexican men have higher levels of social loneliness, family loneliness, and crisis of adaptation than Spanish men. Meanwhile, the case of Spanish women presented more marital loneliness in comparison with Mexican women, who have more family loneliness. These results complement the ones found in prior research, since in several studies a greater prevalence of loneliness in women has been found (Beutel et al., 2017; Domènech-Abella et al., 2017), and thus being a woman is a risk factor for loneliness (Rubio et al., 2011). Moreover, in Spain, various studies also showed that there is higher loneliness in elderly women (López-Villanueva, & Pujadas-Rubies, 2018), especially at marital level (Rubio et al., 2011), which matches with the results of this study. However, in Mexico does not occur the same, since men have higher levels of family and social loneliness (Acosta et al., 2017) and greater existential crisis associated with their low educational level (Acosta et al., 2017).

Finally, it is important to mention that this research has some limitations. In the first place, it is a cross-sectional study which restrains determining whether the observed differences are due to the cultural influence in the course of life cycle or only throughout old age. Consequently, further research should use longitudinal analysis. On the other side, although Mexico could be considered as a more collectivist culture than Spain, it would be important to expand the cross-cultural study including more individualistic countries as the United States to validate the observed differences between Mexico and Spain. Also, the differences in the educational level between both samples could have affected the understanding of the questionnaire and the results. Lastly, the magnitude of the effect observed in the *t*-test is not high, which means that the differences between the samples are not very wide.

It is also relevant to point out that social relationships are more important in Mexico than in Spain, although in Spain these relations contribute more to the quality of life. Thus, it is understandable how in Mexican population there is a greater impact on family, social loneliness and existential crisis, when they perceive their relationships as poor or inexistent

Despite the aforementioned limitations, it can be concluded that this study brings important information regarding how cultural background can affect the perception of loneliness in older people, and how differences in loneliness depending on gender and marital status may be influenced by culture and can be considered as risk factors.

It is recommended to continue with further research regarding loneliness in old age in different populations, to give an account of specific characteristics from each culture, as well as carrying out specific studies about each existing type of loneliness in order to identify contextual aspects that have an impact on this phenomenon.

References

Abellán, A., Ayala, A., & Pujol, R. (2017). Un perfil de las personas mayores en España, 2017. Indicadores estadísticos básicos. *Informes Envejecimiento en red, vol. 15.* Recuperado de http://envejecimiento.csic.es/documentos/documentos/enred-indicadoresbasicos17.pdf

Acosta, C. O., García. R., Vales, J. J., Echeverría, S. B., & Rubio, L. (2017). Confiabilidad y validez de una escala de soledad en adultos mayores mexicanos. *Enseñanza e Investigación en Psicología, 22*(3), 364-372. Recuperado de: http://www.redalyc.org/articulo.oa?id=29255775010

Acosta, C. O., Tanori, J., García, R., Echeverría, S. B., Vales, J. J., & Rubio, L. (2017). Soledad, depresión y calidad de vida en adultos mayores mexicanos. *Psicología y Salud, 27*(2), 179-188. Recuperado de: https://www.researchgate.net/publication/319092767_Soledad_depresion_y_calidad_de_vida_en_adultos_mayores_mexicanos_Loneliness_depression_and_quality_of_life_in_Mexican_older_adults

Beutel, M. E., Klein, E. M., Brähler, E., Reiner, I., Jünger, C., Michal, M., ... & Tibubos, A. N. (2017). Loneliness in the general population: prevalence, determinants and relations to mental health. *BMC psychiatry, 17*(1), 17:97. Doi: 10.1186/s12888-017-1262-x

Böger, A., & Huxhold, O. (2017). Do the Antecedents and Consequences of Loneliness Change from Middle Adulthood into Old Age? *Developmental Psychology, 54*(1), 181-197. Doi:10.1037/dev0000453

Boss, L., Kang, D. H., & Branson, S. (2015). Loneliness and cognitive function in the older adult: a systematic review. *International Psychogeriatrics, 27*(4), 541-553. Doi: 10.1017/S1041610214002749

Botterill, E., Gill, P. R., McLaren, S., & Gomez, R. (2016). Marital status and problem gambling among Australian older adults: the mediating role of loneliness. *Journal of gambling studies, 32*(3), 1027-1038. Doi: 10.1007/s10899-015-9575-5

Buz, J., & Adánez, G. P. (2013). Análisis de la escala de soledad de de jong gierveld mediante el modelo de rasch. *Universitas Psychologica, 12*(3), 971-981. Doi:10.11144/Javeriana.UPSY12-3.aesd

Cardona Jiménez, J. L., Villamil Gallego, M. M., Henao Villa, E., & Quintero Echeverri, A. (2013). El sentimiento de soledad en adultos. *Medicina* UPB, 32(1), 9-19. Recuperado de

https://revistas.upb.edu.co/index.php/Medicina/article/viewFile/2122/1919

Carreira, C., & Facal, D. (2017). Ansiedad en las personas mayores de 50 años. Datos de un estudio representativo de la población mayor en España. *Revista Española de Geriatría y Gerontología, 52*(4), 197-200. Doi: 10.1016/j.regg.2017.02.008

Cerquera Córdoba, A. M., Cala Rueda, M. L., & Galvis Aparicio, M. J. (2013). Validación de constructo de la escala ESTE-R para medición de la soledad en la vejez en Bucaramanga, Colombia. *Diversitas: Perspectivas en Psicología*, *9*(1), 45-53. doi:https://doi.org/10.15332/s1794-9998.2013.0001.03

CIOMS (2002). *Pautas éticas internacionales para la investigación biomédica en seres humanos*. Recuperado de: http://www.ub.edu/rceue/archivos/Pautas_Eticas_Internac.pdf

Dahlberg, L., Agahi, N., & Lennartsson, C. (2018a). Lonelier than ever? Loneliness of older people over two decades. *Archives of Gerontology and Geriatrics*, 96-103. Doi: 10.1016/j.archger.2017.11.004

Dahlberg, L., Andersson, L., & Lennartsson, C. (2018b). Long-term predictors of loneliness in old age: results of a 20-year national study. *Aging and Mental Health*, *22*(2), 190-196. Doi:10.1080/13607863.2016.1247425

Dahlberg, L., & McKee, K. J. (2014). Correlates of social and emotional loneliness in older people: evidence from an English community study. *Aging & mental health*, *18*(4), 504-514. Doi: 10.1080/13607863.2013.856863

De Koning, J. L., Stathi, A., & Richards, S. (2017). Predictors of loneliness and different types of social isolation of rural-living older adults in the United Kingdom. *Ageing and Society*, *37*(10), 2012-2043. Doi:10.1017/S0144686X16000696

Domènech-Abella, J., Lara, E., Rubio-Valera, M., Olaya, B., Moneta, M. V., Rico-Uribe, L. A., & Haro, J. M. (2017). Loneliness and depression in the elderly: the role of social network. *Social psychiatry and psychiatric epidemiology, 52*(4), 381-390. Doi: 10.1007/s00127-017-1339-3

Domínguez Lara, S. (2019). Magnitud del efecto para pruebas de normalidad en investigación en salud. *Investigación en Educación Médica*, 7(27), 92-93. Doi: http://dx.doi.org/10.22201/facmed.20075057e.2018.27.1776

Dong, X., & Simon, M. A. (2010). Health and aging in a Chinese population: urban and rural disparities. *Geriatrics & gerontology international, 10*(1), 85-93. Doi: 10.1111/j.1447-0594.2009. 00563.x

Donovan, N. J., Okereke, O. I., Vannini, P., Amariglio, R. E., Rentz, D. M., Marshall, G. A., ... & Sperling, R. A. (2016). Association of higher cortical amyloid burden with loneliness in cognitively normal older adults. *JAMA psychiatry, 73*(12), 1230-1237. Doi: 10.1001/jamapsychiatry.2016.2657

Estrada, J. G., & Mula, J. M. (2015). Factores que inciden en la soledad residencial de las personas mayores que viven solas. *Gerokomos*, *26*(1), 3-9. Doi: http://dx.doi.org/10.4321/S1134-928X2015000100002

Fernández-Ballesteros, R., Arias, E. D., Santacreu, M., & Ruvalcaba, N. (2011). *Quality Life in México and in Spain*. Nova Science Publishers, Inc. Ed. Jason L. Powell et al., pp 4-24. Recuperado de http://www.web.teaediciones.com/Ejemplos/Fernandez-Ballesteros-Quality-of-Life-in-mexico-and-in-Spain.pdf

Hawkley, L. C., Hughes, M. E., Waite, L. J., Masi, C. M., Thisted, R. A., & Cacioppo, J. T. (2008). From social structural factors to perceptions of relationship quality and loneliness: the Chicago health, aging, and social relations study. *Journals of Gerontology series B Psychological Sciences Social Sciences*, *63*(6), 375-384. Recuperado de: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2769562/pdf/nihms146905.pdf

Hernández, R., Fernández, C. & Baptista, M. P. (2014). *Metodología de la Investigación*. México: McGrawHill. Sexta Edición

Hofstede Insights. (2019). *The culture compass* [Software]. Recuperado de https://www.hofstede-insights.com

Holwerda, T. J., Deeg, D. J. H., Beekman, A. T. F., van Tilburg, T. G., Stek, M. L., Jonker, C., & Schoevers, R. A. (2014). Feelings of loneliness, but not social isolation, predict dementia onset: results from the Amsterdam Study of the Elderly (AMSTEL). *Journal of Neurology, Neurosurgery Psychiatry*, *85*(2), 135-142. Doi: 10.1136/jnnp-2012-302755.

Instituto de Mayores y Servicios Sociales [INMERSO]. (2017). *Informe Anual INMERSO*. Secretaria de Estado de Servicios Sociales e Igualdad. Gobierno de España. Recuperado de https://www.imserso.es/InterPresent2/groups/imserso/documents/binario/informeanual2017.pdf

Instituto Nacional de Estadística y Geografía. (2016). *Encuesta Nacional de Ingresos y Gastos de los Hogares 2016.* Aguascalientes, México: Instituto Nacional de Estadística y Geografía. Recuperado de: http://www.beta.inegi.org.mx/contenidos/proyectos/enchogares/regulares/enh/2016/doc/enh2016_resultados.pdf

López-Villanueva, C., & Pujadas-Rubies, I. (2018). Vivir solo en España. Evolución y características de los hogares unipersonales en la vejez. *Panorama Social, 28*(2), 93-115.

Olaya, B., Domènech-Abella, J., Moneta, M. V., Lara, E., Caballero, F. F., Rico-Uribe, L. A., & Haro, J. M. (2017). All-cause mortality and multimorbidity in older adults: The role of social support and loneliness. *Experimental Gerontology*, *99*, 120-126. Doi: 10.1016/j.exger.2017.10.001

Perissinotto, C. M., Stijacic Cenzer, I., & Covinsky, K. E. (2012). Loneliness in older persons: A predictor of functional decline and death. *Archives of Internal Medicine*, *172*(14), 1078-1083. Doi:10.1001/archinternmed.2012.1993

Portellano-Ortiz, C., Garre-Olmo, J., Calvó-Perxas, L., & Conde-Sala, J. L. (2016). Depresión y variables asociadas en personas mayores de 50 años en España. *Revista de Psiquiatría y Salud Menta 11(4), 216-226l.* Doi: 10.1016/j.rpsm.2016.10.003

Garza-Sánchez, R.I., González-Tovar, J., Rubio-Rubio, L. & Dumitrache-Dumitrache, C.G.

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Rico-Uribe, L. A., Caballero, F. F., Olaya, B., Tobiasz-Adamczyk, B., Koskinen, S., Leonardi, M., ... & Miret, M. (2016). Loneliness, social networks, and health: a cross-sectional study in three countries. *Plos One, 11*(1), e0145264. Doi: 10.1371/journal.pone.0145264

Rubio, R. (2007). La problemática de la soledad en los mayores. *International Journal of Developmental and Educational Psychology, 2*(1), 11-28. Recuperado de: http://www.redalyc.org/articulo.oa?id=349832315001

Rubio R. (2009). La soledad en los mayores, una alternativa de medición a traves de la Escala ESTE. Universidad de Granada. Informe de investigación con el apoyo de Imserso. recuperado de: http://envejecimiento.csic.es/documentos/documentos/rubio-soledad-02.pdf

Rubio, R., Pinel, M., & Rubio, L. (2011). Tres interrogantes sobre la soledad social en los adultos mayores de Granada, España. *Revista de Psicología de Trujillo, 13*(2), 166-173. Recuperado de: http://revistas.ucv.edu.pe/index.php/R_PSI/article/view/169/81

Santacreu, M., Bustillos, A., & Fernandez-Ballesteros, Multidimensional/Multisystems/ Multinature Indicators of Quality of Life: Cross-Cultural Evidence from Mexico and Spain . R. Social Indicators Research (2016) 126: 467. https://doi.org/10.1007/s11205-015-0906-9

Segel-Karpas, D., Ayalon, L., & Lachman, M. E. (2018). Loneliness and depressive symptoms: the moderating role of the transition into retirement. *Aging and Mental Health*, *22*(1), 135-140. Doi:10.1080/13607863.2016.1226770

Steptoe, A., Shankar, A., Demakakos, P., & Wardle, J. (2013). Social isolation, loneliness, and all-cause mortality in older men and women. *Proceedings of the National Academy of Sciences*, *110*(15), 5797-5801. Doi:10.1073/pnas.1219686110

Schimmack, U., Radhakrishnan, P., Oishi, S., Dzokoto, V., & Ahadi, S. (2002). Culture, personality, and subjective well-being: Integrating process models of life satisfaction. Journal of *Personality and Social Psychology*, *82*(4), 582-593. doi:10.1037/0022-3514.82.4.582

The Organization for Economic Co-operation and Development [OECD]. (2005). *Society at a glance: OECD social indicators*. Paris, Francia: OECD. Recuperado de https://www.oecd.org/sdd/37964677.pdf