# Predicting determinants of satisfaction with the life in a sample of elderly students through(a) structural equation model

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## Abstract

The goal of this work is to examine the benefits of the Universities of Third Age in Portugal territory on the life of its senior students. It intends to verify if there could be any positive effect on the quality of life of these students, on their vital satisfaction and on their isolation and loneliness. Therefore, it seeks to determine the existence of depressive and anxiety symptoms in subjects. What if the activities offered by the Universities of Third Age promote the decrease of depressive and anxiety symptom. For this study, was collected a sample throughout the Portuguese territory, covering various Universities of the Third Age. The sample was composed only by elderly people who attend the University of the Third Age. The results of this study show that the Universities of the Third Age may allow the combat of social isolation and the decreasement of certain pathological symptoms, such as depression and anxiety. In general, older people who attend these institutions have a very high level of satisfaction with life, do not show feelings of loneliness and show less depressive and anxiety symptoms.

Keywords: Universities of Third Age. Quality of Life. Satisfaction with Life; Isolation.

#### Introduction

Population aging is a reality in our actual society. This fact should be considered as a challenge, an opportunity and not as a burden. Such profound changes demand that we consider related social problems. Thus, it becomes crucial to invest in measures for social inclusion, for the integration of older people, so that aging reflects not only the adding of years to life but also life to years (AZE-VEDO, 2001; MOURA, 2006; OSÓRIO, 2007).

Universities of the Third Age (UTA) have emerged as a social measure to promote the quality of life of older people

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and to fight social isolation. They have as their main advantages the fostering of lifelong education, promoting intergenerationality, maximizing of intellectual capacities, integrating into society of elders, developing of sports and recreational activities, strengthening the bonds of friends and thus countering isolation, and transmitting of knowledge and, therefore, promoting feelings of usefulness and trust (SILVA, 2002). The older people in UTAs set new goals, experiencing renewed sense of importance and purpose. UTAs act as a stimulus to (1) learning; (2) improving self-esteem; (3) recovery of autonomy and independence; (4) social interaction; (5) reducing stigma; (6) improving health; (7) increased satisfaction (JACOB; POCINHO, 2013). They serve as a stimulus to learning since the production of knowledge is a continuous and ongoing process. As they learn, the elderly and exercise stimulate cognitive and intellectual functions, retaining their mental faculties at an optimal level (CACHIONI; NERI, 1998; POCINHO et al., 2013; SPIRDUSO, 2005). Self-esteem improves since they participate in various recreational activities, older people feel more active and therefore more interest and enthusiasm for life. The recovery of autonomy and independence is possible in the sense that retirement, in many cases, is a risk factor for the persistence of negative feelings of uselessness and worthlessness (VILHENA; NOVAES; ROSA, 2014). By participating in social activities, the elders return to feeling useful, valued, which makes them feel confident in themselves again (SANTOS et al., 2013).

According to Silva (2002), the UTAs have proved excellent opportunities for social interaction, learning and training in specific skills. Education at this stage of life, as occurs in other stages, has benefits psychologically (SWIN-DELL, 2002; PINTO, 2007; SWINDELL; THOMPSON, 1995; OSÓRIO, 2007) and socially (MARTÍN, 2007; SWINDELL, 2002). UTAs as a social response which promotes lifelong learning, fight against stereotypes and prejudices related to aging, promote self-esteem, encouraging autonomy, independence, self-expression and social reintegration, with the ultimate target being successful aging (POCINHO et al., 2013). Activities that provide the elderly with pleasurable experiences, satisfaction with life, that make them feel good about themselves, valued, respected and socially integrated, are beneficial and promote successful aging. According to Cachioni and Neri (1998), education for the elderly has a transformative character and can promote successful aging in that it promotes cognitive flexibility, personal adjustment, subjective well-being and the social image of this population.

A study reported by Jacob and Pocinho (2013) verified the perception of quality of life in elderly students of UTAs. They concluded that the UTAs have, in fact, a positive and significant impact on quality of life in this population. Of all students, 76% rated their quality of life as good or very good, compared to a rate of 23% in the group of older people who do not attend the UTA. The results of the study showed that the group of elderly people in UTA has less depressive

symptoms compared with the group of people that didn't participate in UTA. The authors have questioned "In the last four weeks how often have you felt happy?" and 77% of students responded that they felt happy always, mostly or enough of the time. Comparing with the group of elderly people that did not participate in UTA, only 42% said they feel happy. This result may underline the importance of leisure, occupation and social interaction in improving the quality of life of older people.

Jesus (2010) conducted a study on the importance of the UTA in quality of life and loneliness of older students. He recruited two groups: (1) elderly people who frequented the UTA; (2) elderly residents not attending the UTA. He reported that participants in the UTA had a higher quality of life when compared with the group of non-regulars. The same results were found in loneliness. with UTA attendance being linked to lower loneliness. Additionally, the author assessed the relationship between loneliness and quality of life in the two sample groups. He found that the physical component and quality of life was significantly correlated with lower levels of loneliness. The better is the perception of physical condition and quality of life lower is the feeling of loneliness. There is a link between loneliness and psychological components of quality of life. The author also said that these finding can explain why older people sign up to the UTA: in order to minimize social isolation, reduce feelings of sadness and depression, being actives in their lives and seek enriching and rewarding activities

that bring a new meaning to life. This investigation lent support to the results of other investigations in this specific area: the UTAs, as a social response, have a set of actions and strategies to reduce social isolation and loneliness and improve quality of life by promoting active and successful aging for their elderly students.

Chambel, Castro, Ramos and Cruz (2012) conducted an investigation in order to ascertain to what extent the frequency of attendance in the UTA is a predictor of satisfaction for individuals. The study sample consisted of two groups: (1) a group of seniors from the UTA's students; (2) older people attending a day center. The authors found that individuals attending the UTA have a high level of satisfaction with life. In turn, individuals who attended day care had an average value of satisfaction. With respect to students at the UTA, 90.48% showed satisfaction as opposed to the day center where only 40% showed satisfaction levels. Thus, the authors concluded that the UTA have a important rule in the increasement of satisfaction and quality of life in this specific population.

Marconcin and Real (2010) conducted a study to examine what the UTA meant to the elderly. They reported four themes: (1) increase knowledge; (2) increase social contact; (3) allows students occupy their free time in a useful way; (4) returns me to the past. The participants have mentioned that the "social contact" is the most important, followed by "increasing knowledge". According to Silva (1999), increased social contact

allows an increase in subjective well-being, enhances personal resources and sense of autonomy. Social relationships are a key factor in successful aging and the perception of quality of life since a positive social network promotes the strengthening of personal resources, facilitates social comparison, and restructures self-judgment and self-concept.

The various studies conducted in this area point to the benefits that participation in the Universities of the Third Age has on quality of life of older people, physical, psychological and social level. This work intends to analyze the impact of activities offered by UTA in the quality of life of older people. Specifically, it was important to verify if the participation of older people in the UTA improves quality of life, through a decrease in depressive symptoms and anxiety, satisfaction of life, and promotes the combat of social isolation.

#### Method

## Sample

The sample of this study was collected in various Universities of the Third Age at the national level. We intended to represent the Portuguese territory in all its regions. We were unable to obtain data on the Algarve, since there was no such flexibility on the part of the Third Age Universities in that geographic area. Thus, the sociodemographic study consisted in northern, central, Alentejo (south) and archipelagos (Madeira and Acores).

We did not put limits of age to the participate in this study, and the inclu-

sion criterion was to be a student of an University of the Third Age in Portugal.

The sample was composed of 363 elderly students, of whom 70% were female (253) and 30% were male (110). The average age was 67 years (SD = 7.59), with a range from 48 to 90. In terms of educational attainment, 40.8% completed basic education, 47.7% completed second level and 11.6% finished higher education. As regards relationship status, 6.1% were single, 62.3% married, 23.9% widowed and 7.7% divorced. The vast majority, 98.3%, were retired. Occupations included 16.5% managers (16.5%), skilled workers (25.9%), technicians (14.9%), unskilled workers (11.6%) and administrative employees (4.4%). Finally, in relation to the number of years at the university 15.7% had studied for less than one year, 9.6% for a year, 22.3% for two years, 22% for three years, 8% for four years and 22.3% for more than five years.

#### Procedure

The approach used consisted of a study based on self-report instruments protocol and subsequent quantitative analysis of the results. Convenience sampling was employed. Seniors were enrolled in university programs for older people in different Portuguese universities during 2012-2013.

Prior to completion of the questionnaire participants were briefed on how to answer the questions; the questionnaire was them self-administered under the supervision of trained psychologists, during a class. In all administrations participants received a set of instructions which was explained succinctly, the general objectives of the study, ensuring the confidentiality and anonymity of all data provided.

Participants were volunteers and completed the necessary informed consent documentation.

The administration had an average duration of 30 minutes, does not impose any time limit for completion of the questionnaires. The implementation of the instruments was performed in an order that was respected for all participants. The completion of the questionnaires was carried out in a peaceful area and isolated from noise and external stimuli that could interfere with the performance.

All protocols were subsequently coded and entered into a database subject to statistical treatment. The data analyses were performed using SPSS program 20.0.

#### Instruments

The instruments present in the evaluation protocol were selected taking into account the analysis of objectives of this study, as well as the population? sample. We had the care of establishing an order of the administration of the instruments for one specific question: we did not wanted that the fulfillment of the scales relating to depressive and anxiety symptoms influenced the response of the participants in the other instruments (for example, the satisfaction with life). It was intended thereby to obtain reliable data of the participants regarding the perception of frequency for universities and senior perception that it was not contaminated. The evaluation protocol filling had an average duration of 30 minutes and its administration to respect the following order: Socio-demographic Questionnaire; Satisfaction with Life Scale (DIENER et al., 1985); Loneliness Scale UCLA (RUSSELL, 1988; NETO, 1999); Geriatric Depression Scale 30 (GDS-30) (YESAVAGE et al., 1983; BARRETO et al., 2008), Geriatric Anxiety Inventory (GAI) (PACHANA et al., 2007); trial version (RIBEIRO et al., 2011). The instruments for the assessment protocol will be then presented.

The Satisfaction with Life Scale (DIENER et al., 1985) was developed with the purpose of measuring the level of satisfaction with the life. The scale is composed of 5 items. The internal consistency index for the original scale was  $\alpha = .87$ . The item-total correlations for the five SWLS were: .81, .63, .61, .75 and .66 again showing a good level of internal consistency for the scale. The psychometric properties have been successfully tested in Portuguese samples (NETO, 1999).

University of California Los Angeles Loneliness Scale (UCLA-6) RUSSELL, 1988) is composed of 6 items with four response options, ranging from never = 1 to 4 = often. Higher scores indicated greater loneliness The Cronbach´s alpha for the Russel´s scale was acceptable:  $\alpha = .70$ .

Geriatric Depression Scale (15-GDS) YESAVAGE et al., 1983) is a widely used depression screening device specifically for the elderly The 15 items of the short form require a yes/no answer and therefore the scale is particularly easy to administer. Although it is a self-report

measure, it can also be filled by an interviewer. The scale focuses mainly on the worries of the participant and the way they conceive and interpret their quality of life. It is designed to register a cognitive dimension of depression. The Cronbach's alpha for the scale was quite high:  $\alpha = .90$ .

Geriatric Anxiety Inventory (GAI) (PACHANA et al., 2007) is a 20-item self-report measure constructed specifically for use with older adults. The Conbranch alpha for the 20 item was .91 among normal elderly people and .93 in the psychogeriatric sample. All 20 items had corrected item-total correlations of .39 or above, with most above .50. Concurrent validity with several measures was demonstrated in both samples (PACHANA et al., 2007). The Cronbach's alpha for the scale was quite high:  $\alpha$  = .96.

#### **Analysis**

All of these elements are used in the Multiple Indicators Multiple Causes (MIMIC) model estimation. The data were analyzed using AMOS module 18 (JÖRESKOG; SÖRBOM, 1979). With this procedure we analyzed and tested a theoretical model of direct effects between latent variables of study (COOK; CAMPBELL, 1979). The method employed was generalized least squares and only the standardized values were considered.

In order to assess model fit, several fit criteria have been used, as recommended in the literature (BENTLER, 1990), Chi Square and its associated probability level (*p*) were used, as were

goodness of fit index (GFI) and adjusted goodness index, with values greater than 90 indicating good fit in both the latter cases (STEIGER, 1990). RMSEA (Root Mean Error of Approximation Square) values less than 0.08 are also commonly considered acceptable and ratings around 0.06 indicate a very good fit between the model and the data (HU; BENTLER, 1999).

The most common of these indices is the chi-squared test. However, several problems arise with its use, in particular those due to the chi-squared test's nature: it is based on restrictive assumptions, depends on sample size and a model is an approximation to reality rather than an exact representation of the observed data. In particular, with a sample size of 363, this may be a consideration for the present study. To overcome these problems, there is a broad consensus that no single measure of model overall fit should be relied on exclusively; therefore, researchers are advised to use a variety of different indices from different families of measures (GUTIERREZ et al., 2013; TANAKA, 1993).

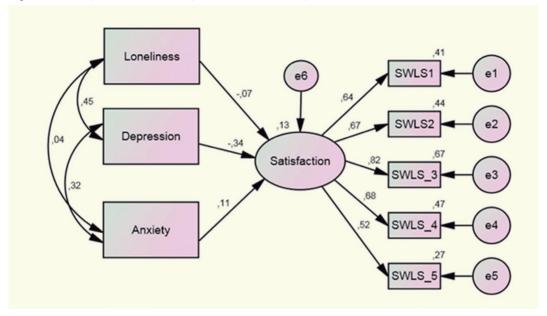
# Results

A structural MIMIC model was hypothesized to relate anxiety, loneliness and depression on satisfaction with the life in a sample of elderly students from Universities of the Third Age. The model had an acceptable rationale; as literature has shown, and two variables may predict elderly people's life satisfaction and therefore may be potential predictors of successful satisfaction during

early retirement. All these variables were hypothesized to directly impact on

satisfaction with the life, as presented in Figure 1.

Figure 1 - Multiple Indicators Multiple Causes Model to predict satisfaction with life



The theoretical model (Figure 1) fitted the data reasonably well:  $X^2$  = 62.58, p < .0005, CMIN/DF = 3.62, GFI = .953, AFGI = .901, CFI = .910 and RMSEA = .09. After the fit of this model, no post-hoc modifications were made, as new solutions did not improve the initial results of the theoretical model. Accordingly, the model was retained as a sufficient representation of the data, and its standardized parameter estimates are presented in Figure 1. In terms of life satisfaction prediction, the main predictor was depression (-0.34, p < 0.01). Other effects were statistically significant but very modest, such as, loneliness (-0.07, p< 0.05). Moreover, the last predictor was not statistically related to satisfaction with the life: anxiety (0.11, p > 0.05). Overall, the amount of variance of life satisfaction explained by all predictors in the model was very weak ( $R^2=0.12$ ).

Moreover, the Table 1 shows descriptive data, correlations between the predictor variables and satisfaction with life, and Cronbach's Alpha indexes of predictor variables in the proposed theoretical model.

	M	DT	α	Kurtosis	Skewness	1	2	3
SWLS	25,99	4,20	.768	3,51	-1,38			
UCLA	30,59	5,49	.756	-,632	0,144	-,193**		
GDS	5,74	3,73	.669	1,94	1,27	-,261**	,418**	
GAI	6,47	9,02	.896	31,77	4,93	,005	,053	,292**

Table 1 – Correlations among predictors within the MIMIC model and satisfaction with the life

Note: \*\* p < .01; \* p < .05; Note: N = 363; standard error kurtosis = .128; standard error Skewness = .255; SWLS= Satisfaction with Life Scale; UCLA = University of California Los Angeles Loneliness Scale; GDS = Geriatric Depression Scale : GAI = Geriatric Anxiety Inventory

#### Discussion

This study focused on an investigation of the UTA of the Portuguese national level. We attempted to analyze the positive effects that these spaces can have on students' lives. In particular we asked whether these effects would lead to improvement of the quality of life of older people, through a decrease in depressive symptoms and anxiety. It is important to know if senior students attending the UTA have high levels of satisfaction with life. Quality of life is the optimal level of physical, mental, social and physical functioning, integrating various aspects of individuals' lives: social relations, perception of health, physical fitness and life satisfaction. Individuals are seen in the light of successful aging theory as proactive subjects that regulate their quality of life and accumulate resources that enable them to adapt to changes, including those resulting from the aging process. UTA, as a social response, have as main objectives the fight against stereotypes and prejudices related to aging, promotion of self-esteem, encouragement of autonomy, independence, self-expression

and social reintegration, seen as the final product of successful aging (POCINHO et al., 2013). Therefore, the activities that provide the elderly pleasurable experiences, satisfaction with life, that make them feel good about themselves, valued, respected and socially integrated, are beneficial and promote successful aging. According to Cachioni and Neri (1998), education for the elderly has a transformative character and can promote successful aging in that it promotes cognitive flexibility, personal adjustment, subjective well-being and the social image of this population.

This study found that senior students attending the UTA are people who claim to have life satisfaction upon its entry in these spaces. This life satisfaction is observed regardless of the students are male or female and there were no gender differences. Regard to age, one notes a life satisfaction across various age groups, even at older ages. This work shows that the UTA may promote social interaction, the enlargement of the social network and combating social isolation.

With regard to the existence of pathological symptomatology, the present study demonstrated that the pilot sample showed no depressive symptoms or anxiety, whether men or women, that is, there were no differences in gender.

UTA is a very positive social response that allows the promotion of quality of life in old age, helps to combat social isolation and the reduction or prevention of depressive symptoms and anxiety in the elderly.

In this sense, we cannot forget the importance of the Universities of the Third Age as a fundamental part of social policies across the country and also for Portugal. Thus appear as fundamental structures of primary prevention of health, both physical and psychological known, as is the case of the positive effects on the population regardless of gender, geography area where they live, education level, etc. They seem to have an influence so powerful, if not more so, than other institutions for the elderly, and its much lower economic cost and acting as a moderator variable between aging and some of its negative effects. That is why we must recover its maintenance and extension as esencial part not only of academic activities, but also social.

This study had the limitation of not being fully representative of the senior population that attends the Universities of the Third Age. It is only a sample pilot that showed that the Universities of the Third Age had a positive impact on the lives of their students, living with a higher quality of life. Another limitation was the lack of data from a geography area of Portugal: Algarve. This limitation is due to the inexistence of flexibility on the part of management of the elderly universities to allow us to recruit data.

Thus, it is an incomplete study of the characterization of student profile for the UTAs in Portugal, because we haven't data from this geographical area.

Despite the limitations, this study allows us to understand the importance that the UTA have on quality of life of older people. Allowed to give information to be used in a subsequent study in which the sample is representative of the Portuguese population including the whole territory without exception. With these data it would be able to make an investigation into the possibility of different profiles of older students between geographical regions. An important study would also carry out an analysis of data at the specific moment that the students integrate the UTA and repeating this analysis after the first year of participation. This would permit us to verify specifically the prevention of depressive and anxiety symptoms. On the other hand, the positive effect on the quality of life would be better understood.

# Prevendo determinantes da satisfação com a vida em uma amostra de estudantes idosos através de modelo de equações estruturais

#### Resumo

O objetivo deste trabalho é analisar os benefícios das Universidades de Terceira Idade, localizadas em território português, sobre a vida de seus alunos mais antigos. O trabalho pretende verificar se poderia haver algum efeito positivo sobre a qualidade de vida desses estudantes, em sua satisfação vital e sobre o seu isolamento e solidão. Para tanto, busca-se determinar a existência de sintomas depressivos e ansiosos nesses indivíduos. E aventa se as atividades oferecidas pelas Universidades de Terceira Idade podem promover a diminuição dos sintomas de depressão e ansiedade. Para este estudo, foram coletadas amostras em todo o território português, abrangendo diversas universidades. A amostra foi composta apenas por pessoas idosas que frequentam essas instituições. Os resultados deste estudo mostram que as Universidades da Terceira Idade têm condições de combater o isolamento social e o aparecimento de certos sintomas patológicos, tais como depressão e ansiedade. Em geral, as pessoas mais velhas que frequentam estas instituições têm um nível muito elevado de satisfação com a vida, não mostram sentimentos de solidão e apresentam menos sintomas depressivos e ansiosos.

Palavras-chave: Universidades de Terceira Idade. Qualidade de Vida. Satisfação com a Vida. Isolamento.

# References

AZEVEDO, A. L. Velhice e seus processos socio-históricos. Lisboa: Argumento, 2001.

BARRETO, J. et al. Escala de Depressão Geriátrica. In: GRUPO DE ESTUDOS DE ENVELHECIMENTO CEREBRAL E DE-MÊNCIAS (Ed.). Escalas e testes na demência. Lisboa: GEECD, 2008. p. 69-72.

BENTLER, P. M. Comparative fit indices in structural models. *Psychological Bulletin*, Washington, v. 107, p. 238-246, Jan. 1990.

CACHIONI, M.; NERI, A. Educação e velhice bem-sucedida no contexto das universidades da terceira idade. In: NERI, A.; YASSUDA, M. (Ed.). *Velhice bem-sucedida*: aspetos afetivos e cognitivos. Campinas: Papirus, 2008. p. 29-50.

CHAMBEL, A. et al. Universidade Sénior como fonte de satisfação para adultos Sénio-

res. In: POCINHO, R. et al. (Coord.). *Envelhecer em tempos de crise*: respostas sociais. Porto: Legis, 2012. p. 139-145.

COOK, T. D.; CAMPBELL, D. T. Quasi-Experimentation: Design and Analysis for Field setting. Chicago: Rand McNally, 1979.

DIENER, E. et al. The Satisfaction with Life Scale. *Journal of Personality Assessment*, London, v. 49, n. 1, p. 71-75, Jun. 1985.

GUTIERREZ, M. et al. Predicting life satisfaction of the Angolan elderly: a structural model. *Aging and Mental Health*, Oxford, v. 17, n. 1, p. 94-101, 2013.

HU, L.; BENTLER, P. M. Cut off criteria for fit indexes in covariance structure analysis: conventional criteria versus ne alternatives. *Structural Equation Modeling*, London, v. 6, n. 2, p. 1-55, Dec. 1999.

JACOB, L.; POCINHO, R. Educação Sénior em Portugal. Lisboa: Edição Rutis, 2013.

JESUS, A. A importância da universidade sénior na qualidade de vida e solidão dos seniores em Gondomar. 2010. Dissertação (Mestrado em Gerontologia Social) – Instituto Superior de Serviço Social do Porto, Porto. 2010.

JÖRESKOG, K. G.; SÖRBOM, D. Advanced in factor analysis and structural equation models. New York: University Press of America, 1979.

MARCONCIN, P.; REAL, N. A representação das Universidades Seniores, o bem estar subjetivo e a prática da atividade física em idosos. *Revista Transdisciplinar de Gerontologia*, Porto, v. 3, n. 2, p. 17-26, 2010.

MARTIN, A. V. Gerontologia educativa: enquadramento disciplinar para o estudo e intervenção socioeducativo com idosos. In: OSÓRIO, A. R.; PINTO, F. C. (Org.). As pessoas idosas: contexto social e intervenção Educativa. Lisboa: Instituto Piaget, 2007.

MOURA. A. Século do envelhecimento. Loures: Lusociência, 2006.

NETO, F. As pessoas idosas são pessoas: aspetos psicossociais do envelhecimento. *Psicologia, Educação e Cultura*, Vila Nova de Gaia, v. III, n. 2, p. 297-322, 1999.

OSÓRIO, A. R. Os idosos na sociedade atual. In: OSÓRIO, A. R.; PINTO, F. C. (Org.). *As pessoas idosas*: contexto social e intervenção Educativa. Lisboa: Instituto Piaget, 2007. p. 107-138.

PACHANA, N. A. et al. Development and validation of the Geriatric Anxiety Inventory (GAI). *International psychogeriatrics*, Cambridge, v. 19, n. 2, p. 103-114, 2007.

PINTO, F. C. A terceira idade: idade da realização. In: OSÓRIO, A. R.; PINTO, F. C. (Org.). As pessoas idosas: contexto social e intervenção educativa. Lisboa: Instituto Piaget, 2007.

POCINHO, R. et al. Solidão e abandono social na terceira idade. In: POCINHO, R. et al. (Coord.). *Envelhecer hoje*. Viseu, Portugal: Psicosoma, 2013. p. 45-73.

RIBEIRO, O. et al. Portuguese version of the Geriatric Anxiety Inventory: Transcultural adaptation and psychometric validation. *Aging & Mental Health*, Oxford, v. 15, n. 6, p. 742-748, 2011.

RUSSELL, D. The measurement of loneliness. In: PEPLAU, L. A.; PERLMAN, D. (Ed.). *Loneliness*: sourcebook of current theory, research and therapy. New York: Wiley, 1988. p. 81-104.

SANTOS, E. et al. Desequilíbrios demográficos e respostas sociais. In: POCINHO, R. et al. (Coord.). *Envelhecer hoje*. Viseu, Portugal: Psicosoma, 2013. p. 73-87.

SILVA, D. K. Atividade física e qualidade de vida relacionada à saúde de mulheres com doenças vascular periférica. 2002. Dissertação (Mestrado em Educação Física) – Universidade Federal de Santa Catarina, Florianópolis, 2002.

SILVA, F. P. Crenças em relação a velhice, bem-estar subjetivo e motivos para frequentar Universidade da terceira Idade. 1999. Dissertação (Mestrado em Gerontologia) – Faculdade de Educação, Universidade Estadual de Campinas, Campinas, 1999.

SPIRDUSO, W. W. Dimensões físicas do envelhecimento. São Paulo: Manole, 2005.

STEIGER, J. H. Structural modeling evaluation and modification: an interval approach. *Multivariate Behavioral Research*, London: Routledge, v. 25, n. 3, p. 173-180, June 1990.

SWINDELL, R. U3A Online: a virtual university of the third age for isolated older people. *International Journal of Lifelong Education*, London, v. 21, n. 5, p. 414-429, 2002.

SWINDELL, R.; THOMPSON, J. An international perspective on the University of the Third Age. *Educational Gerontology*, London, v. 21, n. 5, p. 429-447, 1995.

TANAKA, J. S. Multifaceted conceptions of fit in structural equation models. In: BOLLEN, K. A.; LONG, J. S. (Org.). *Testing structural equation models*. Newbury Park, CA: Sage, 1993. p. 10-39.

VILHENA, J.; NOVAES, J. V.; ROSA C. M. A sombra de um corpo que se anuncia: corpo, imagem e envelhecimento. *Revista Latinoamericana de Psicopatologia Fundamental*, São Paulo, v. 17, n. 2, p. 251-264, mar. 2014.

YESAVAGE, J. et al. Development and validation of a geriatric depression screening scale: a preliminary report. *Journal of Psychiatry Research*, California, v. 17, n. 1, p. 37-49, Jan. 1983.