

LIFE SATISFACTION AND LEISURE TIME AMONG THE ELDERLY POPULATION

Abstract. The well-being of the elderly population has garnered significant attention as their numbers continue to grow. Life satisfaction serves as a key indicator to assess the quality of life among older adults. Among the factors that play a crucial role in shaping their overall life satisfaction, the allocation of time and how it is utilized has gained considerable attention. This paper aims to suggest a specification and estimation model of the relationship between time use patterns of the elderly and their life satisfaction, in Italy. Using data from the 2013 Use of Time Survey conducted in Italy by Istat, we estimate the relationship between life satisfaction and socio-demographic characteristics frequency of social interactions, identifying empirically the influence of time spent on unpaid work, media leisure, and non-media leisure activities of, respectively, young old and older old individuals. We found how engagement in unpaid work and media and non-media leisure activities, friendship, a good economic condition and belonging to a large family positively influenced life satisfaction, especially of the older old, while stress is negatively correlated with it.

1. Introduction

The evaluation of well-being and life satisfaction among the elderly population has emerged as a crucial area of research as the number of older adults continues to increase (United Nations, 2017). The increasing elderly population deserves to experience a life of dignity during the later stages of their lives (Smith, 2001). Life satisfaction represents an individual's subjective evaluation of their overall life conditions, encompassing various domains such as physical health, social relationships, and personal fulfilment. Life satisfaction, as defined by Diener (1984), refers to an individual's subjective evaluation of their own life, encompassing cognitive judgments and affective reactions. It is a global assessment that reflects the extent to which individuals perceive their lives as fulfilling and satisfying. Life satisfaction is influenced by various factors, including personal goals, values, expectations, and social comparisons. It is considered a key component of subjective well-being and an indicator of overall happiness and contentment in life (Diener, 1984; Diener, Emmons, Larsen, and Griffin, 1985; Meggiolaro and Ongaro, 2015).

Many studies have found a U-shaped relationship between age and life satisfaction, indicating that younger and older individuals tend to be more satisfied with life compared to those in middle age (Frey and Stutzer, 2010). One of the main interpretations of this relationship suggests that it reflects the influence of key life events (such as marriage, childbirth, retirement) that are closely tied to specific ages. In this respect, the objective of this paper is to analyze whether levels of satisfaction increase or decrease among the young old and the older old categories as a consequence of the different impact of the use of the time of the elderly people belonging to these two categories. In particular, we want to determine the extent to which the change in life satisfaction depends not only on socio-demographic factors, but also on leisure activities. Previous studies have found that, gender alone may not have a substantial impact in explaining the differences in life satisfaction (e.g. Wallace, 2008). Other researchers have found distinct outcomes and trends for men and women depending on social and cultural environment (Meggiolaro and Ongaro, 2015) as, for example, in the case of the elderly person who lives alone.

The results presented in this study provide preliminary insights into the associations between various factors and life satisfaction among the elderly population. The findings underscore the importance of social connections, engagement in leisure activities, and unpaid work in shaping subjective well-being. These insights have implications for developing targeted interventions and policies to enhance the quality of life for older adults.

The remainder of the paper is structured as follows. Section 2 reports a brief survey on previous studies regarding the influence of leisure time on older well-being; Section 3 describes the dataset

and the methodological instruments employed to reach our aims; Section 4 presents the results; Section 5 provides some discussion and concludes.

2. Background

Several studies have found that time employed in leisure activities may be consistently identified as influential factors in promoting life satisfaction among older adults (Brajša-Žganec *et al.*, 2011). Engaging in leisure activities not only provides individuals with a sense of enjoyment and fulfilment but also contributes to the formation of social connections and the enhancement of overall quality of life (Smith and Kawachi, 2014; Dykstra and Fokkema, 2011). Leisure activities can range from physical exercises and hobbies to cultural and social pursuits. Several studies have specifically emphasized the benefits of leisure activities for the elderly population (Chang *et al.*, 2012; Cheung *et al.*, 2018; Holt-Lunstad *et al.*, 2010). Moreover, strong social networks and meaningful social interactions have been consistently associated with higher levels of life satisfaction (Smith and Kawachi, 2014; Dykstra and Fokkema, 2011).

Certain studies indicate that the influence of social interactions on life satisfaction differs between men and women. For instance, research by Cheng and Chan (2006) suggests that communication with friends and acquaintances has a more significant impact on women's life satisfaction compared to men. Additionally, Oshio (2011) suggests that women tend to experience a stronger association between family ties and life satisfaction, while men may exhibit lower levels of life satisfaction following divorce or widowhood. Family status is also identified as a crucial determinant of life satisfaction among older individuals in Europe, with research indicating that married or partnered individuals tend to report higher well-being compared to those who are single (Buber and Engelhardt, 2008).

It is important to note that the literature on life satisfaction among the elderly population also acknowledges certain limitations in the interpretative capacity of the phenomenon (Baltes and Smith, 2003). One of the main limits of the studies on this topic is that self-reported measures used in these studies may introduce biases, as individuals' perceptions and subjective interpretations of well-being can vary (see, among others, Graham, 2012). Following the Graham reasoning (Graham, 2012), for example, this bias is due to the circumstance that synthetic measures of perceived life satisfaction often fail to capture individual differences in the experience and evaluation of objectively similar situations. To reduce the effect of this concern, the current study seeks to investigate the influence, on life satisfaction, of "at-least-in-part" exogenous predictors given by the individual measures of the use of the time, such as leisure time and unpaid or domestic activities using the time diary method. To accomplish this, data from the 2013 Use of Time Survey conducted by ISTAT in Italy will be utilized.

3. Data and Methodology

The data used in this work have been taken from the Time Use Survey, provided by the Italian National Institute of Statistics (ISTAT), a cross national database that collects information from a representative sample of households across Italy. The aim of the survey is to capture a comprehensive picture of individuals' daily routines and the distribution of time across various domains, examining aspects of daily life that are otherwise unobservable (Robinson and Godbey, 1997) with an extremely high level of accuracy (Raley, 2014).

Participants are asked to keep a self-administered time diary, recording their activities and the duration of each activity over a designated period. The 24 hours of each day were divided into 144 intervals of ten minutes each, and for each time interval, the respondents note their primary and secondary activities in their diaries, indicating where and with whom these activities were performed.

The data collected through the Time Use Survey allows researchers, policymakers, and social scientists to analyse trends, patterns, and disparities in time use within the population. It provides

a basis for understanding how individuals allocate their time, the impact of gender roles and socio-economic factors on time use, and the relationship between time use and well-being.

In Italy, this survey, conducted through a sampling method, is carried out every five years and covers the entire calendar year. The last edition was conducted from November 1, 2013, to October 31, 2014, on a sample of approximately 24,000 households (44,866 individuals), using the PAPI technique (PAper and Pencil Interview) and involves the use of a questionnaire and two paper diaries.

For the empirical analysis, we selected a sample of 9,581 older individuals, and we categorized them into two groups: the young old (aged 65-74 years; 50.39%) and the older old (aged >74 years; 49.61%), following previous research (Vilhelmson *et al.*, 2022).

In the following table (Table 1) we show the descriptive statistics of the sample by age.

Table 1 – Characteristics of the sample by age

	Overall obs. 9581		Young Old obs. 4828		Older Old obs. 4753	
	Mean or %	Std. Dev	Mean or %	Std. Dev	Mean or %	Std. Dev
Life satisfaction	6.72	1.90	6.96	1.74	6.47	2.02
Woman (yes)	0.43		0.47		0.39	
Years of schooling	7.35	4.23	8.42	4.34	6.27	3.82
South and Islands	0.37		0.36		0.37	
Marital status (ref Single)	0.06		0.06		0.06	
Married/cohabiting	0.57		0.69		0.45	
Sepeareted/divorced	0.05		0.8		0.03	
Widowed	0.32		0.17		0.46	
N° household members	2.02	1.00	2.20	1.01	1.84	0.95
Economic satisfaction:						
Not at all	0.14		0.14		0.14	
A little	0.33		0.31		0.35	
Quite a bit	0.50		0.52		0.48	
Very much	0.03		0.03		0.03	
Frequency seeing friends:						
No friends	0.03		0.02		0.05	
Never	0.11		0.06		0.16	
A few times a year	0.12		0.10		0.15	
A few times a month (<4)	0.19		0.20		0.18	
Once a week	0.16		0.18		0.13	
More than once a week	0.23		0.26		0.19	
Daily	0.16		0.17		0.15	
Feeling stressed:						
Never	0.40		0.37		0.44	
Sometimes	0.43		0.47		0.38	
Often	0.11		0.10		0.11	
Always	0.07		0.06		0.07	
Rely on other people (Yes)	0.85		0.83		0.86	
Trust in others: Most people are trustworthy	0.18		0.21		0.16	
Satisfaction with the time dedicated to oneself:						
Yes	0.82		0.80		0.85	
No, too much	0.04		0.03		0.05	
No, too little	0.14		0.17		0.10	
Log Media Leisure	199.18	134.07	186.10	125.14	212.46	141.36
Log Non-Media Leisure	208.23	134.95	209.43	138.52	207.02	131.23
Log Unpaid Work	221.01	164.21	248.46	166.23	193.13	157.32

Notes: Standard Deviations are reported only for continuous values

Considering the demographics of the sample, 43.21% were women, 57% had a low level of education, a percentage that decreased to 44% when considering only the group of young elderly, 57% were married, 37% lived in the south or islands. Considering the overall sample, the average minutes spent in unpaid work was 221.01 minutes (SD 164.21; range= 0-930), in media leisure

199.18 (SD 134.07; range= 0-850 minutes) and 208.23 in non-media leisure (SD 134.95; range= 0-930 minutes). When considering the two subsamples, it was found that the younger elderly group spends more time, on average, on unpaid work and non-media leisure activities compared to the older group. Specifically, regarding unpaid work, the young old group reported an average 248.46, while the older old group reported 193.13 minutes ($t = -16.73$, $p\text{-value} = 0.0000$), indicating a statistically significant difference. As for media leisure, the young old group reported an average of 186.10 minutes, while the older old group reported 212.46 minutes ($t = 9.67$, $p\text{-value} = 0.0000$), also showing a statistically significant difference. However, in the case of non-media leisure, the mean difference between the young old group (209.43 minutes) and the older old group was not statistically significant.

The dependent variable, "Life satisfaction," was assessed using the following question: "How satisfied are you with your life overall?" Participants rated their satisfaction on a scale of 0 to 10, where 0 represented "not satisfied at all" and 10 represented "very satisfied". The mean score of the overall sample was 6.72 ± 1.90 . Considering the two subsamples the level of life satisfaction was 6.96 ± 1.74 and 6.47 ± 2.02 for young old and older old, respectively ($t = -12.7433$, $p\text{-value} = 0.0000$).

The socio-demographic variables used in our analysis include gender (Woman: 1=yes; 0=otherwise), the education level of the subject expressed in years of schooling, a dummy variable that indicates whether he/she lives in Southern Italy/or islands (South and Islands: 1=yes, 0=otherwise).

Family structure is analysed by the following variables: the numbers of household members and the marital status. For this last variable, we consider the following four categories: single as reference, cohabiting or married, separated/divorced, widowed.

The Italian time use survey did not include information about the wages of adult members or family income. Therefore, we include as proxy of these variables the level of the economic satisfaction a categorical variable ranging from 1 to 4, where 1 (reference) represents "not at all" and 4 represents "very much".

To evaluate the relations with neighbours and the territorial context, we considered three variables indicating: i) the frequency of contact with friends; ii) if he/she can rely on people (excluding cohabiting family members) in case of need; iii) the level of trust in most people assessed using the following question "Do you generally think that you can trust most people?" (Dummy: 1=Most people are trustworthy; 0= otherwise).

Since there were no direct information about health status or self-perception of health, we considered the self-reported stress level as a proxy (feeling stressed: 1=No, never as reference; 2=Yes, sometimes; 3= Yes, often; 4= always).

Finally, we report the time spent by the subjects on the following activities:

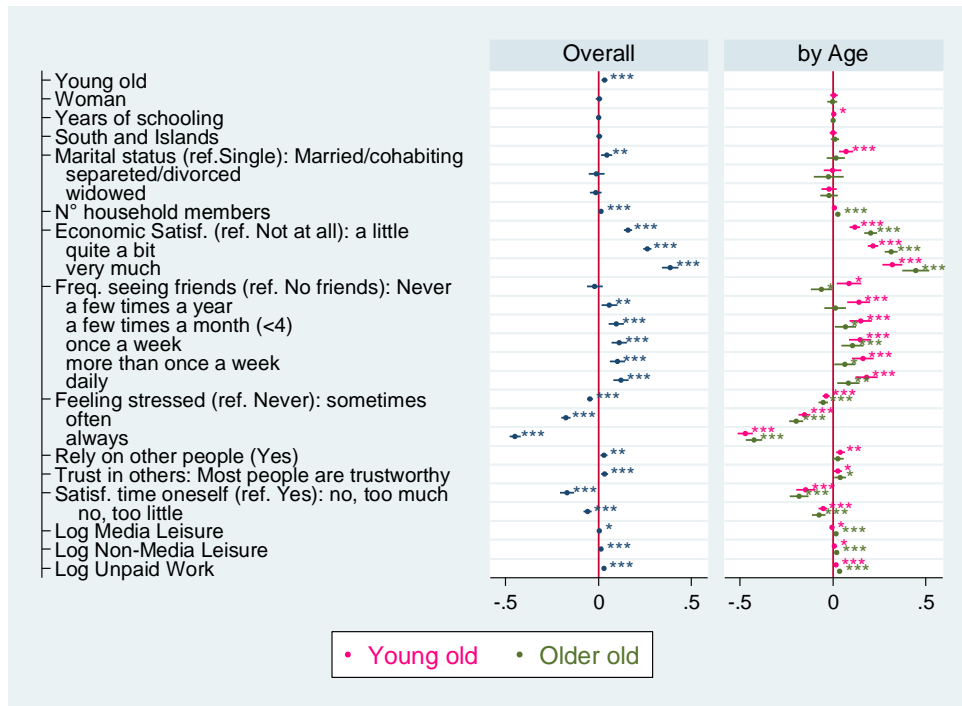
- Unpaid work (including housework and family care);
- Media Leisure (TV, radio, reading books and magazines);
- Non-Media Leisure (informal leisure activities that involve exchanging feelings and opinions, such as socializing, conversations, sports, hobbies, as well as formal activities that contribute to the cultural development of individual, such as voluntary work, aid to other families, social participation, religious activities, adult education, and cultural events (Robinson and Godbey, 2010)).

We employed three Ordinary Least Squares (OLS) regression models: one for the overall sample and two for each age subgroup.

4. Data and Methodology

In Fig. 1, we present the preliminary results of our analysis.

Figure 1 – Life Satisfaction: OLS Estimation Results



Notes: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

When considering the full sample (Overall), life satisfaction increases for young old, marital status (married/cohabiting/separated/divorced/widowed on respect to single), number of household members, economic satisfaction. Analysing the subsample (by Age), marital status, maintains statistical significance, but more relevant for the category of young old compared to older old. Also, number of household members and economic satisfaction maintain the same sign and statistical significance, but in this case the effect is higher for older old compared to young old. Moreover, as the frequency of socializing with friends increases, life satisfaction also increases, and this effect is most evident and significant for the young old. Feeling stressed reduces life satisfaction for all categories with a higher impact for young old.

Rely on other people, trust in others, log media and non-media leisure and unpaid work are all positively correlated to life satisfaction with a slightly higher effects for older old.

From the results just presented it emerged that having been in couple at least in a part of the individual's life (married/cohabiting/separated/divorced/widowed) increases life satisfaction especially of young old.

The perception of the own economic condition progressively produces a direct effect on the own overall satisfaction. Analogous significant effects are produced by the perceived stress. Years of schooling appears to produce positive effects on life satisfaction only for young old.

Older people who do not live alone show higher levels of satisfaction compared to those who live alone. These findings are supported by the positive and significant coefficient related to the number of household members. On the other hand, living in the southern regions or islands has not a statistically significant effect on life satisfaction neither for the Overall sample, nor for young old and older old.

The time spent to unpaid work and media and non-media leisure activities increases life satisfaction for both subgroups (overall, young old and older old). Trust in others is also a significant factor in the perception of greater life satisfaction.

Note as the influence of control variables on satisfaction are a bit more significant in the subgroup of the older old (Fig. 1).

We found that the estimation results of a life satisfaction function, obtained by introducing control variables as family size, economic satisfaction, media and non-media leisure and unpaid

work, reinforce the idea of a U-shaped trend of life satisfaction with respect to ageing, with an increased effect more for older old than for young old.

This aligns with existing literature highlighting the notion of the "paradox of aging," which suggests that individuals may experience improved well-being as they enter later stages of life (Gerstorf *et al.*, 2008; Paggi *et al.*, 2016).

Furthermore, our study reveals the importance of social connections and relationship status for life satisfaction among both young and older adults. Those who are in committed partnerships or living with other family members tend to report higher levels of life satisfaction, emphasizing the role of social support, companionship, and emotional well-being (Smith and Kawachi, 2014; Dykstra and Fokkema, 2011). These findings are in line with the social integration theory, which posits that social relationships and social support networks play a vital role in promoting well-being and satisfaction in later life (Berkman *et al.*, 2000). The estimations results are also reported in the appendix (Tab. A1).

5. Conclusion

Our study contributes valuable insights into the determinants of life satisfaction among the elderly population in Italy. The findings underscore engagement in leisure activities in shaping subjective well-being in later life. Engagement in unpaid work and non-media leisure activities emerged as positive contributors to life satisfaction among older adults. These activities provide a sense of purpose, fulfillment, and social connectedness, thereby enhancing life satisfaction and, consequently, overall well-being and life satisfaction.

Furthermore, our study confirms the positive impact of social connections and relationship status for life satisfaction, emphasizing the role of emotional support, companionship, and shared experiences in contributing to overall life satisfaction.

These findings have important implications for interventions and policies aimed at promoting life satisfaction and well-being among the elderly population. Facilitating social interactions, supporting stable relationships, and encouraging meaningful leisure activities can foster positive aging experiences and enhance the overall quality of life for both young and older adults.

It is important to acknowledge that this study has certain limitations. The cross-sectional design of the study limits our ability to establish causal relationships, and the use of self-reported measures may introduce biases. Further research is needed to expand upon these findings, employing robust study designs and considering diverse populations, to deepen our understanding of the factors that contribute to well-being among older adults.

Future research employing longitudinal designs and objective assessments could provide further insights into the dynamics of life satisfaction among older adults.

Appendix

In Table A1, we present the estimation results of our OLS models. The first column displays the coefficients for the full model (Overall), while the second column showcases the results for the Young old subsample. Finally, the last column presents the results for the Older old subsample.

Table A1 – Life Satisfaction: OLS Estimation Results

	Overall		Young old		Older old	
	Coef.	p.	Coef.	p.	Coef.	p.
Constant	1.3184	***	1.4721	***	1.2128	***

Young old (Yes)	0.0320 ***		
Woman (yes)	0.0029	0.0042	-0.0035
Years of schooling	0.0011	0.0024 *	-0.0002
South and Islands	0.0045	-0.0006	0.0104
Marital status (ref. Single)			
Married/cohabiting	0.0443 **	0.069 ***	0.0152
Separated/divorced	-0.0099	-0.0029	-0.0240
Widowed	-0.0156	-0.0209	-0.0209
N* household members	0.0151 ***	0.0074	0.0249 ***
Satisfaction Economic Situation (ref. Not at all)			
A little	0.1586 ***	0.1157 ***	0.2025 ***
Quite a bit	0.2632 ***	0.2137 ***	0.3118 ***
Very much	0.3854 ***	0.3198 ***	0.4456 ***
Frequency seeing friends (ref. No friends)			
Never	-0.0197	0.0858 *	-0.0637 *
A few times a year	0.0595 **	0.1378 ***	0.0114
A few times a month (<4)	0.0961 ***	0.1487 ***	0.0650 *
Once a week	0.1110 ***	0.1451 ***	0.1042 ***
More than once a week	0.1014 ***	0.1600 ***	0.0622 *
Daily	0.1211 ***	0.1792 ***	0.0822 **
Feeling stressed (ref. Never)			
Sometimes	-0.0453 ***	-0.0383 ***	-0.0533 ***
Often	-0.1748 ***	-0.1534 ***	-0.1982 ***
Always	-0.4488 ***	-0.4720 ***	-0.4249 ***
Rely on other people (YES)	0.0297 **	0.0382 **	0.0248
Trust in others: Most people are trustworthy	0.0322 ***	0.0258 *	0.0382 *
Satisfaction with the time dedicated to oneself (ref. Yes)			
No, to much	-0.1687 ***	-0.1474 ***	-0.1822 ***
No, too little	-0.0588 ***	-0.0546 ***	-0.0766 ***
Log Media Leisure	0.0054 *	-0.0071 *	0.0171 ***
Log Non-Media Leisure	0.0134 ***	0.0071 *	0.0185 ***
Log Unpaid Work	0.0283 ***	0.0147 ***	0.0361 ***
N° of observations	9581	4828	4753
R ²	0.2761	0.2651	0.2773

Notes: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

References

- BALTES M.M., SMITH J. 2003. New frontiers in the future of ageing: From successful ageing of the young old to the dilemma of the fourth age, *Gerontology*, Vol. 49, pp. 123-135.
- BERKMAN L.F., GLASS T., BRISSETTE I., SEEMAN T.E. 2000. From social integration to health: Durkheim in the new millennium, *Social Science & Medicine*, Vol. 51, No. 6, pp. 843-857.
- BRAJŠA-ŽGANEC A., MERKAŠ M., ŠVERKO I. 2011. Quality of life and leisure activities: How do leisure activities contribute to subjective well-being?. *Social Indicators Research*, Vol. 102, pp. 81-91.
- BUBER I., ENGELHARDT H. 2008. Children's impact on the mental health of their older mothers and fathers: findings from the Survey of Health, Ageing and Retirement in Europe. *European Journal of Ageing*, Vol. 5, pp. 31-45.
- CHANG Y.K., LABBAN J.D., GAPIN J.I., ETNIER J.L. 2012. The effects of acute exercise on cognitive performance: a meta-analysis, *Brain Research*, Vol. 9, No. 1453, pp. 87-101.
- CHENG S.T., CHAN A.C. 2006. Relationship with others and life satisfaction in later life: do gender and widowhood make a difference?. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, Vol. 61, No. 1, pp. P46-P53.
- CHEUNG D.S.K., LAI C.K.Y., WONG F.K.Y., LEUNG M.C.P. (2018). The effects of the music-with-movement intervention on the cognitive functions of people with moderate dementia: a randomized controlled trial, *Aging Mental Health*, Vol. 22, No. 3, pp. 306-315.
- DIENER E. (1984). Subjective well-being, *Psychological Bulletin*, Vol. 95, No. 3, pp. 542-575.
- DIENER E., EMMONS R.A., LARSEN R.J., GRIFFIN S. (1985). The Satisfaction with Life Scale, *Journal of Personality Assessment*, Vol. 49, No. 1, pp. 71-75.

- DYKSTRA P.A., FOKKEMA T. 2011. Relationships between parents and their adult children: A West European typology of late-life families, *Ageing & Society* Vol. 31, No. 4, pp. 545-569.
- FREY B.S., STUTZER A. 2010. *Happiness and economics: How the economy and institutions affect human well-being*. Princeton: Princeton University Press.
- GERSTORF D., RAM N., ESTABROOK R., SCHUPP J., WAGNER G.G., LINDENBERGER U. 2008. Life satisfaction shows terminal decline in old age: Longitudinal evidence from the German Socio-Economic Panel Study (SOEP), *Developmental Psychology*, Vol. 46, No. 4, pp. 1140-1149.
- GRAHAM, C. (2012). *Happiness around the world: The paradox of happy peasants and miserable millionaires*. Oxford: Oxford University Press.
- HOLT-LUNSTAD J., SMITH T.B., LAYTON J.B. 2010. Social relationships and mortality risk: A meta-analytic review. *PLOS Medicine*, Vol. 7, No. 7, e1000316.
- MEGGIOLARO S., ONGARO F. 2015. Life satisfaction among older people in Italy in a gender approach, *Ageing & Society*, Vol. 35, No. 7, pp. 1481-1504.
- PAGGI M.E., JOPP D.S., HERTZOG C. 2016. The importance of leisure activities in the relationship between physical health and well-being in a life span sample, *Gerontology*, Vol. 65, No. 3, pp. 299-309.
- RALEY S. 2014. Time use, inequality, and child well-being. In *Handbook of child well-being*, Netherlands: Springer, pp. 999–1031.
- ROBINSON J.P., GODBEY G. 2010. *Time for life: The surprising ways Americans use their time*. University Park: Pennsylvania State University Press.
- SMITH J. (2001) Well-being and health from age 70 to 100: Findings from the Berlin aging study, *European Review*, Vol. 9, No. 4, pp. 461-477.
- SMITH N.D.L., KAWACHI I. 2014. State-level social capital and suicide mortality in the 50 US state, *Social Science & Medicine*, Vol. 120, pp. 269-277.
- OSHIO T. 2011. Gender Differences Among Elderly Japanese: Importance of family and social relations for life satisfaction. *RIETI Discussion Paper Series 11-E-051*. <https://doi.org/10.1007/s10823-012-9169-y>.
- VILHELMSON B., THULIN E. ELLDÉR E. 2022. Is ageing becoming more active? Exploring cohort-wise changes in everyday time use among the older population in Sweden, *European Journal of Ageing*, Vol. 19, pp. 447–461.
- United Nations 2017. *World population prospects: The 2017 revision*. New York: Department of Economic and Social Affairs, Population Division. <http://esa.un.org/unpd/wpp/>.
- WALLACE T. 2008. *Life satisfaction in individuals age sixty-five years of age and older*. PhD thesis, Oklahoma State University. UMI Dissertations Publishing.