LIFE SATISFACTION OF CZECH SENIORS: WHAT ACTUALLY MATTERS?

Lea Kubíčková, Vladimír Hajko, Naďa Hazuchová, Martina Rašticová

Abstract: We estimate the influence of various factors on life satisfaction of Czech seniors in a large survey sample. We find that good health, more education and awareness of voluntary work participation, employee satisfaction and being currently employed are the main factors that contribute to being satisfied with the current quality of life in the group of Czech seniors. Surprisingly enough, increasing self-reported financial sufficiency is negatively associated with the quality of life. The main factors contributing to the life dissatisfaction are associated with being socially separated. The worst outcomes are recorded for those living in social homes and living alone. Any reported expectations of expected life changes (both positive and negative expectations) are associated with lower probability of life satisfaction.

Keywords: Seniors, Employee Satisfaction, Life Satisfaction, Well-being, Logit.

JEL Classification: J26, J28.

Introduction

The proportion of older people in the population is increasing and this long-enduring demographic trend (resulting from the so-called age pyramid) will only become more and more pronounced. The increasing number of seniors influences all areas of social and economic development across the EU. Demographic aging is a new challenge for 21st century society, both in terms of economic growth, and new forms of social integration (Čevela, Kalvach, Čeledová, 2012). The positive representations of ageing, which also include the image of active old age, form hand in hand with discussions pointing out the increasing number of older adults in the population as a negative phenomenon (Hasmanová Marhánková, 2017). Among the major emerging topics in this context in the individual countries is the life satisfaction of seniors.

Studies suggest the quality of life of elderly is influenced by physical health, mental status, personal conviction, social relationships, and interaction of many other social, health, economic and environmental conditions that affect human and social development. From the psychological point of view, it is mainly the subjective well-being of individuals and life satisfaction (Hnilicová, Benko, 2005). The possibility of declining life satisfaction levels over the retirement transition, retirees with low levels of individual pension income with a paid job are much better off – financially and psychologically – than retirees in the same position without a paid job (Dingemans, Henkens, 2014). The ageing process is characterized by physical and cognitive slowdown (Cullati et al. 2014), and health issues correlate with and determine life satisfaction (Gana et al. 2013). As individuals become older, health status is characterized by high heterogeneity (Mitnitski et al. 2017).

As stated by Gabriel and Bowling (2004), European research in particular has often focused on the positivist and functionalist aspect of aging (i.e., the attempt to describe available social welfare resources or to normalize the appropriate limits for "ensuring" an "adequate quality of life"). Attention has thus been paid almost

exclusively to the negative aspects of aging. The subjective perception of one's satisfaction is, however, remarkably neglected – although, as noted by, for example, Kolosnitsyna, Khorkina and Dorzhiev (2017), the life satisfaction of most people can be represented by a U-shaped curve with the lowest satisfaction roughly in middle-age – an increase in life satisfaction can actually be expected in elderly. Instead, the general anticipation is a decline associated with negatively perceived aspects, for example in the deterioration of health.

Considering this persistent lack, this article analyzes the primary data to identify the factors which influence the perceived life satisfaction of seniors in the Czech Republic. Conclusions can be used in policy design and also provide the evidence on the significant importance of these cognitive findings in addition to the normative approach – as recommended e.g. in Kolosnitsyna, Khorkina, and Dorzhiev (2017).

1 Statement of a problem

The issues of life satisfaction of seniors are investigated in Diener and Suh (1998), Borg et al. (2006), Cheng and Chan (2006) or Baird et al. (2010). Existing literature focuses mainly on psychological factors, health quality (especially frequent in medical research), or relatively broadly conceived quality of life estimates (QoL). While without a doubt all these areas relate to life satisfaction, nevertheless the perceived life satisfaction remains relatively outside the focus of interest. Šolcová and Kebza (2004, p. 21) argue that from a psychological point of view, the well-being is linked to the subjective assessment of the quality of life as a whole, a long-term state in which the satisfaction of the individual with his or her life is reflected. Gabriel and Bowling (2004) draw attention to the fact that most existing QoL models do not take into account the views and priorities of seniors and have not adequately tested their validity.

Personal well-being must be understood and measured through cognitive components (life satisfaction, moral principles), emotional ones (positive and negative emotions) and characterized by consistency in different situations and stability over time. Some studies focus only on "psychological well-being" – e.g. Hao (2008) deals with the psychological well-being of seniors. Surveys related to the life satisfaction of elderly and their determinants are quite rare. Kolosnitsyna, Khorkina and Dorzhiev (2017) conducted a survey of life satisfaction among Russian elderly and found the strongest correlation with indicators of family status, state of health, social status and personal income. However, they point to significant gender differences in life satisfaction factors, when having a job and higher education increases the satisfaction of women, but not men.

Multiple factors can influence the perceived satisfaction with the life situation of seniors. Baird et al. (2010)performed a comparison of two representative panel studies in Britain and Germany that assessed changes in satisfaction over the course of one's life. In both panels they found that life satisfaction dropped sharply in people over 70. Similarly, Diener and Suh (1998) examined subjective well-being among many nations and found life satisfaction to be fairly stable. From the British results analyzed by Baird et al. (2010), however, a slight increase in life satisfaction could be observed from 40 to 70 years. Hamarat et al. (2002), however, did not find any differences in life satisfaction among groups of people between 45 and 89 years. Blanchflower and Oswald (2008), on the other hand, offer international evidence that there is a link

between life satisfaction and age. In addition, Walker (2005), Pinquart and Sorensen (2000, 2001) and Bourque et al. (2005) are inclined toward the claim that the determinants of life satisfaction may vary by age, gender, family status and cultural context, which in particular indicates the need for specific research within individual groups (especially those to be targeted by a specific policy, i.e. seniors).

2 Methods

As existing studies suggest, life satisfaction is influenced by a number of socioeconomic characteristics in elderly (such as the income situation, the form of housing, whether the given person is still working, etc.) along with the state of health, social relations, place of residence but also unevenly represented interventions resulting from government or local policies (e.g. accessibility of social care centers, etc.). Because of the complex character of the issue on hand, we analyze the data from several points of view. We use three mutually complementary approaches.

First we examine the existing secondary data from Eurostat EU-SILC Survey (European Union - Statistics on Income and Living Conditions). In 2014, questions directly related to life satisfaction were added to the survey.

Primary data on satisfaction with the life situation of Czech seniors were collected as a part of TAČR Beta project No. TB05MOSV004 "Survey on the Quality of Life of Elderly Citizens in the Czech Republic". This article uses the primary quantitative data obtained from the questionnaire survey among the Czech seniors in 2016.

The total number of respondents surveyed was 3,045, while the number of *complete* observations obtained for quantitative analysis was 2931. Of these, 36.73% of respondents were men and 63.27% of respondents were women. The respondents' age ranged from 55 years and over. The largest part consisted of respondents aged 66-70, a total of 39.5%, almost a third (33%) of respondents were in the youngest category 55-65 years, less than a fifth (18.3%) of respondents were aged 71-75 And almost 10% of respondents were over 76 years of age (of which 3.1% of respondents were over 81 years of age). The original questionnaire contained more than 100 questions, but only 19 variables were quantitatively applicable. The description of the variables and their values is available in the appendix. Data are represented by categorical variables (X3, X4, X5, X6, X10, X116, X117), binary (dummy) variables (X1, X8, X11, X34, X35, X101, Ysafe, X115) and ordinal variables (X2, X39, X49, X100). For estimation, the categorical variableswere broken down into individual categories (note the values of the coefficients of the categorical variables in the model therefore express the contrast with the basic category. For example in Tab. 1, X117val2 represents the dummy variable with the value of 1 for observations of X117 = 2 (i.e. "How did you perceive retirement?" = "I cannot identify with it so far"), and 0 otherwise. The coefficient value for X117val2 reported in Tab. 1 thus records the effect of this category compared to the basic category (of negative perception). Note that default categories are marked with the asterisk (*) symbol in Tab. 3 in the appendix).

To identify the important factors that positively or negatively affect the subjective perception of life satisfaction of seniors in the Czech Republic, the article uses the so-called binomial logistic regression model.

3 Problem solving

EU-SILC data provide some information about the satisfaction of Czech seniors with the selected areas of life. Seniors are understood here to be a person aged 50 years or more, Fig. 1 illustrates in greater detail the level of seniors' satisfaction with selected areas of life. It is clear that most of the seniors are dissatisfied with the financial situation of households (37%) and with the amount of free time (28%), which is related to the fact that working seniors (persons over 50) are included in this analysis. On the contrary, they are most satisfied with housing (70%) and personal relationships (70%). Overall, it is clear from the EU SILC data that Czech seniors are more satisfied (52%) than dissatisfied (29%) and 16% of people have expressed a neutral attitude. The most satisfied are people in the 60-65 age group (54%).

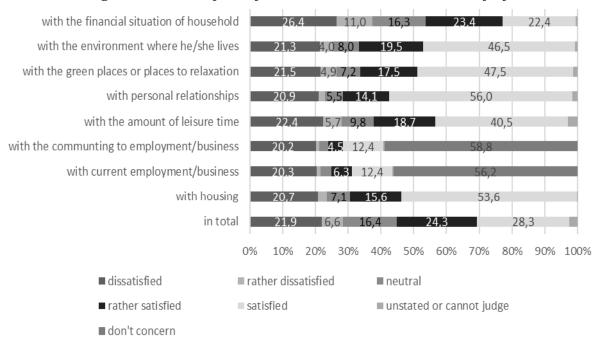


Fig. 1: The level of satisfaction with the selected areas of life

Source: (EU-SILC, own calculations, 2018)

The satisfaction of seniors is closely related to seniors' anticipation of the development of their life situation for the future. Fig. 2 shows the anticipated development of the overall life situation of Czech seniors. The EU SILC data suggests that most seniors assume that their situation will not change or it will worsen and only a small percentage across all the relevant age categories assume their life situation will improve.

70 years and more 2.04 46,75 25,30 25,91 47,33 60-69 years 21,78 27,00 50-59 years 44,22 15,06 31,82 in total 50+ 46,17 28,30 0% 20% 30% 40% 50% 60% 70% 10% 80% 90% 100% ■ unstated or cannot judge ■ no change ■ get worse

Fig. 2: Predicted development of the overall life situation

Source: (EU-SILC, own calculations, 2018)

The identification of factors that positively or negatively affect the perception of the feeling of satisfaction of Czech seniors is based on the binomial logit model. The results of the model estimates (after top-down sequential elimination) are summarized in the following table (Tab. 1).

Tab. 1: logit model for X115A, N = 2931

			standard	p-
	coefficient	Odds ratio	error	value
Financial sufficiency (X100)	-0.37196	0.6893834	0.042125	0.000
Dependence on social benefits (X101A)	-0.68031	0.5064606	0.270226	0.012
Life situation will get worse (X116val3)	-0.54858	0.5777705	0.249375	0.028
Life situation will get better (X116val4)	-1.38541	0.2502202	0.574107	0.016
Positive perception of retirement (X117val1)	-1.200716	3.322494	0.432884	0.006
I cannot identify with retirement (X117val2)	-1.35062	0.2590804	0.385176	0.000
Awareness of voluntary work participation (X34A)	0.580033	1.786096	0.245019	0.018
Health quality (X39)	1.277264	3.586812	0.176704	0.000
Housing – social home (X4val1)	-2.40202	0.0905353	0.440569	0.000
Housing – Rented apartment (X4val2)	-0.80857	0.4454957	0.283746	0.004
Living alone in a social home (X5val4)	-0.69175	0.5006999	0.247546	0.005
High school education (X6val2)	0.930934	2.536876	0.263308	0.000
University/college education (X6val3)	0.901156	2.462447	0.33014	0.006
Currently employed (X8A)	0.603184	1.82793	0.315751	0.056
_cons	1.387253		0.587531	0.018

Source: (authors, own calculations, 2018)

Significant variables positively influencing the perceived life situation are X39 (with a better health condition the probability of choice 1 increases, with an additional increase on the given scale, the odds ratio for satisfaction with their current life situation increases 3.5 times), X117val1 (i.e. a well-perceived retirement – a surprising

finding is that X117val2 indicates that the inability to identify with retirement reduces satisfaction with the current life situation, even compared to a poorly perceived retirement (Sic!)), knowledge of the possibility of the involvement of seniors in volunteering and whether the person has attained secondary or higher education (both cases with virtually the same influence, i.e. the education attained increases the odds ratio by approximately 2.5 times).

The remaining regressors depict a negative effect on the probability of choice 1 (= good life situation of the seniors). The most significant impact is then apparent in the X4 variable, i.e. the fact whether a person lives in a social facility (compared to their own home, with an odds ratio about 91% less than the odds ratio compared to the situation of seniors living in their own house) or in a rented flat (a 54% lower odds ratio than seniors living in their own home). The negative effects on the X116 variable categories indicate that the expectation of a change in the current situation reduces the satisfaction of seniors, both in cases of improvement and worsening.

Surprisingly, the growth of the perceived sufficiency of finances (X100) has a negative effect, as does the use of social security benefits (X101A). As expected, a person living alone (X5val4) has a negative effect on the probability of choice 1 for the explained variable (the odds ratio is roughly half that of cohabitation with a husband / wife).

The p-value of the Hosmer-Lemeshow test (0.432) indicates that the model matches the data well. The value of pseudo \mathbb{R}^2 is 0.405 and the area under the ROC curve is 0.932, indicating the good classification capability of the model as a whole. However, given the significantly unbalanced share of the values of the explanatory variable, it is naturally desirable to pay attention to the exchange matrix (Tab. 2).

Tab. 2: Exchange matrix

	terrores e man	- ***			
		Observed			
		1	0	total	
classified	1	2400	12	2412	
	0	421	98	519	
total		2821	110	2931	
	•			<u> </u>	
	Sensitivity	Specificity	Correctly classified (total)		
	85.08% 89.09% 85.23%		85.23%	, ,	

Source: (authors, own calculations, 2018)

The model as a whole is able to correctly classify a total of 85.2% of the cases (let us note, however, that given the uneven representation of values 0 and 1, this value is not very informative, because even the naive model always assuming choice 1 (i.e. with zero specificity!)) will be able to classify the vast majority of observations correctly). The more accurate indicators, i.e. the sensitivity and specificity of the chosen model with a threshold value maximizing Youden's J-index, are relatively high (over 85%), which already signifies the very good classification ability of this model both for cases of the value 0 = "bad" and 1 = "good" explained variables ("What is your current life situation?").

If the logit model is supplemented by a simple descriptive analysis of the results of the questionnaire survey, it can be stated that most Czech seniors (52.23%) assess the

current life situation as good or very good (see the graph in Fig. 4), more than forty percent (43.86%) perceive the situation as acceptable, only a marginal part of the respondents evaluate their life situation as bad or very bad (3.91%) — note the consistency with the aforementioned statement that the satisfaction with the life situation is relatively high for seniors, as indicated, for example, by the assumption of the U-curve describing the relationship between satisfaction and age, with the bottom at middle-age.

4 Discussion and conclusion

The results of secondary data analysis show that Czech seniors are mostly satisfied with their life situation – the most satisfied are seniors aged between 60 and 65 years. Most seniors in the Czech Republic, however, expect their life situation to remain unchanged (about 46%) or worsen (about 20%). Discontent can be traced, according to EU-SILC data, especially to the area of the financial situation. The qualitative surveys showed that the seniors are generally satisfied with their life situation (it can even be observed that the expectation of a change in the current life situation is not desirable) and all the groups surveyed in the primary data survey indicate that their overall life situation will be determined by the development of their state of health. This is in line with the findings of Gabriel and Bowling (2008).

Good relationships in the family have a positive effect on the feelings of satisfaction. Similar results can be found in Bryla et al. (2013), who consider participation in family meetings as a factor that significantly contributes to the quality of life of seniors. This is consistent with our findings that a significant negative effect on the feeling of satisfaction is also manifested in the fact of whether a seniors citizen lives alone or in a social care home.

Analyzing quantitative primary data has made it possible to refine the perception of the current life situation of seniors and the prediction of their development. The results are in line with the findings based on EU SILC survey data. Most seniors (52.23%) assess their life situation as good or very good, while on a positive note 22.76% of those who perceive their life situation positively think that it will not change and only 12.34% of these seniors are expecting a worsening of the life situation. It is possible to declare that, among Czech seniors, it is not possible to prove the influence of gender on the perception of the current life situation, which is in line with results in Borg et al. (2008) and in contrast with Gaymu and Springer (2010), who argued that the factors that can most affect life satisfaction are not the same for men and women. For Czech seniors, however, only a relationship between gender and the assessment of the development of the life situation was identified, when men are clear that their life situation will not change.

Logit model was used to identify factors that influence the perception of the life situation in more detail.

The significant and positive impact of the health status of seniors is confirmed, this finding is also supported by e.g. the results of Gaymu and Springer (2010) and Berg et al. (2009).

The most striking negative effect on the life satisfaction is whether some seniors person lives in a home for seniors, in social facilities or in a rented apartment. This

finding is in line with the conclusions of Borg et al. (2008), who point to the higher satisfaction of respondents living in a regular home. The fact whether an individual lives in his/her home alone also negatively affects the satisfaction of Czech seniors. This finding is in line with assertion in Kucharova (2002), that the feeling of loneliness leads to the fact that the person does not feel safe, and if the need for safety is not met as one of the key needs, it will affect the perception of the overall life situation negatively.

Although it is quite difficult to generalize the results on a European or global scale, since according to Bourque et al. (2005), life satisfaction determinants may differ in cultural context, and Gaymu and Springer (2010) also point out that the factors that most affect life satisfaction are not the same for the European countries under consideration, there is some substantial consistency with the existing results, especially the fact that health determinants and family relationships (for which cohabitation with a partner and place of residence can be beneficial proxies) are the determining factors for seniors.

Thus, it may be questioned whether the functionalist approach of government policies, often oriented towards the construction of social facilities, or social benefits aimed at adjusting the income situation of seniors are indeed what will lead to the greater satisfaction of their intended recipients.

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Contact Address

doc. Ing. Lea Kubíčková, Ph.D.

Mendel University in Brno, Faculty of Business and Economics, Department of Marketing and Trade

Zemědělská 1, 613 00, Brno, Czech Republic

Email: lea.kubickova@mendelu.cz Phone number: +420545132323

Ing. Vladimír Hajko, Ph.D.

Mendel University in Brno, Faculty of Business and Economics, Department of Business Economics

Zemědělská 1, 613 00, Brno, Czech Republic

Email: vladimir.hajko@mendelu.cz Phone number: +420545132636

Mgr. Ing. Nad'a Hazuchová, Ph.D.

Mendel University in Brno, Faculty of Business and Economics, Department of Marketing and Trade

Zemědělská 1, 613 00, Brno, Czech Republic

Email: nada.hazuchova@mendelu.cz Phone number: +420545132333

doc. PhDr. Martina Rašticová, Ph.D.

Mendel University in Brno, Faculty of Business and Economics, Department of Law and Social Sciences

Zemědělská 1, 613 00, Brno, Czech Republic

Email: martina.rasticova@mendelu.cz Phone number: +420545132644

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Appendix

Tab. 3: Variable names and encoding¹

Gender	Age	Family status	Housing	Who do	What is your	Are you
				you live	highest	currently
				with?	attained	employe
					education?	d?
X1A	X2	X3	X4	X5	X6	X8A
Male	Less than 65	Widowed	Social	Partner	Vocational	No
			home		education	
Female	66-70	Divorced	Rented	*Husband	High school	Yes
			apartment	/wife		

¹ Categorical variables: X3, X4, X5, X6, X10, X116, X117, note that * indicates the default category; Binary (dummy) variables: X1, X8, X11, X34, X35, X101, Ysafe, X115

Ordinal variables: X2, X39, X49, X100,

	71-75	Single	Rented house	Family/ne xt of kin	University/c ollege	
	76-80	*Married/regi stred partnership	Own apartment	Alone	*Elementary	
	81 or more		*Own house	Alone in so	ocial home	
				Alone in a	rented place	
Type of settlement where you lived for the majority of your life?	Do you consider moving?	Are you aware of the possibility of voluntary work participation?	Do you participat e in voluntary work?	How is your health?	Do you have a health condition limiting your activities?	Financial sufficien cy (higher is better)
X10	X11A	X34A	X35A	X39	X49	X100
Capital city	No	No	No	Very bad	No	1
NUTS3 (region) city center	Yes	Yes	Yes	Bad	Yes, but it is not limiting	2
*City/town				Average	Yes and it is somewhat limiting	3
Village				Good	Yes and it is very limiting	4
Very good						5 6 7 8 9
Do you depend on social benefits?	How do you expect your overall life situation will develop?	How did you perceive retirement?	Do you feel safe?	How do you perceive your overall life satisffacti on?		
X101A	X116	X117	YsafeA	X115A		
No	I cannot say	Good	No	Bad		
Yes	*Will not change	I cannot identify with it so far	Yes	Good		
	It will get worse	As a natural part of life				
	It will get	*Bad				

Source: (authors, own calculations, 2018)