

Characteristics of psychophysical health, generativity and integrity level in elderly people considering previous and current financial status

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Abstract

Objectives. The aim of the research presented in this paper is to determine characteristics of psychophysical health, the degree of generativity and integrity with respect to the past and current financial condition of the old.

Material and methods. The research sample consisted of elderly persons from the vicinity of Novi Pazar (N=101), whose average age was 71.7 years old. The instruments used for data collection were as follows: The questionnaire for examining sociodemographic characteristics (designed for research purposes), The RAND-36 Health Survey, Loyola Adapted Generativity Scale and Integrity scale. The data analysis used the descriptive statistical methods, t-test and one-way analysis of variance.

Results. The results show that there are statistically significant differences in only one dimension of mental health - emotional well-being, as well as in the degree of generativity and integrity concerning the earlier family material situation in elderly persons. Concerning the current financial status, statistically significant differences were observed in even four dimensions of psychophysical health: emotional well-being, social functioning, physical functioning and general health. Significant differences have also been shown in the dimension of integrity between the groups with the poor and the good economic background.

Conclusions. Elderly in Novi Pazar, mostly assess their earlier and current material status as medium or good. They also link better health state to a better financial situation and assess mental health as better than physical. The respondents in this study report a relatively high degree of generativity, which speaks of an active relationship towards the environment and achieving integrity.

Keywords: elderly, health, material status, generativity, integrity.

Introduction

Old age is the last period of development throughout the life cycle that can be defined according to chronological age, social roles or according to functional status (Despot Lučanin, 2003). According to the WHO criteria, old age is divided into early (65-74 years), middle (75-84 years) and deep old age from 85 and over (Papalia and Wendkos, 1992, in Brajković, 2010). It is

common to associate reduced body strength and poorer health with this period of human life. According to research by Schaie and Willis (2001), the likelihood of disease is increasing dramatically in the age after 65, accounting for approximately 12.5% of the population and for 30% of the national health costs in America. As the study underlines, the elderly use 25% of all the total medicines issued and account for 40% of the total visits to doctors (Schaie and Willis, 2001). In Serbia, the sixth of the population is 65 years old and older, and the number of persons aged 65 or more is expected to increase by a third in 2052 and represent 22.0% to 27.1% of the total population (Satarić, Rašević and Miloradović, 2009). The percentage of chronic diseases among the general population of old people age 70 and older is 81%.

It is known that the economic status of an individual is an important micro-determinant of individual health status. Its impact on the disease has been studied in many European countries, and the results of the research showed a clear correlation between the socioeconomic determinants and the health status of the respondents (Kaikkonen et al., 2009). The more difficult socio-economic condition of people, the more likely they are to assess their own health as being worse with the more frequent presence of health symptoms and chronic conditions (Domínguez-Berjón et al., 2006). The impossibility to afford the necessary goods for the daily subsistence for Bulgarian and Romanian elderly are associated with reporting of a poor health status (Faludi, 2015). All European countries are affected by poverty, whether in absolute (inability to meet basic living needs) or relative (economic status of an individual relative to the community in which he lives) sense (***WHO, 2002). The unemployed, uneducated, displaced persons, rural population, disabled people, homeless people, children aged 7-14 are at special risk but also the old persons (65 years and older). In Europe, the percentage of poverty and social deprivation risk in people aged 65 years or more ranges from 6.1% in the Netherlands to 51.8% in Bulgaria. In Serbia, the poverty rate is 25.5% and the old-age poverty rate 19.1% (***Republic Statistical Office, 2016). The risk of poverty in the elderly is 35.2% (***Eurostat, 2016).

Talking about the effects of material status on the well-being of the elderly, a poor socioeconomic situation has been proven to cause more concern for their health, and it is quite understandable that it is associated with negative life events, which contribute to poorer welfare (Kahneman and Deaton, 2010). Old people with poor maternal status also prove to have worse health both physical and mental (Franks, Gold and Fiscella, 2003).

Various studies emphasize different dimensions that are of particular importance for health self-assessment. Perhaps the most important dimension of all is the physical health (Bailis et al., 2001), but on the other hand, two others proved to have a potentially important relationship with health self-assessment: mental well-being and general social health (Bambauer et al., 2005; Dunn, Veenstra and Ross, 2006). This study examines the dimensions of physical and mental health that arose from the Medical Outcomes Study (MOS). These dimensions are also a part of the 36-Item Short Form Health Survey (SF-36) (Hays and Shapiro, 1992; Stewart et al., 1992), described in detail in the instruments section.

Generativity and integrity within the Erikson model of psychosocial development of the entire life cycle

Erikson's concept of generativity at the end of the twentieth century became one of the very often mentioned constructs in the literature on the development of personality in adulthood. His model of psychosocial development seeks to unify psychological and spiritual development by solving the crises of the initially established eight stages of the life cycle. He defined generativity as

“concern for generating and guiding the next generation” (Erikson, 1984, p. 240, in Lacković-Grgin and Tucak, 2006a). He considered generativity to be the dominant feature of the seventh stage of development (middle adulthood), as well as that resolution of any, even the seventh stage of development is not necessarily limited time-wise, generativity in one of its forms being just as much present in other stages of development. When we talk about generativity in the older age, it is defined as the attitude towards life and the world in terms of understanding our own position in the sequence of generations. The resolution of the crisis of this stage, reaching the ego integrity and the overcoming of despair, implies adequate acceptance of one's own life continuity as unique and unchangeable. Adults who achieve integrity feel calm, peaceful, complete, and satisfied with their achievements (Schaie and Willis, 2001). The evidence of such claims has shown that generativity is positively related to psychological maturity and well-being in adult and also in older age (Stewart, Ostrove and Helson, 2001), the satisfaction with life and the meaning of life (An and Cooney, 2006; Busch and Hofer, 2012; Cox et al., 2010; Grossbaum and Bates, 2002; Hofer et al., 2008; Rothrauff and Cooney, according to Hofer et al., 2016).

Newer models of generativity

There are many different concepts about the notion of generativity in contemporary theories. One of the more prominent is Bradley's status model of generativity (Bradley, 1997). The model assumes two criteria for finding the generativity status: involvement and inclusivity. Involvement refers to taking care of oneself and the others, while inclusion refers to the breadth of active care for others. By combining these two criteria, there are five status of generativity, as follows: a) generative status (high degree of involvement and inclusivity both for oneself and for others); b) activity status (high degree of involvement and inclusion for one self, but not for others); c) communal status (high involvement for others, but not for one self, which is sometimes perceived as blocking others independence or as intrusiveness); d) conventional status (high involvement rate and low degree of inclusivity for one self and others; and e) stagnating status (low involvement and low inclusion both for one self and for others). These statuses are analyzed in different areas of life (family, friendship, work, own interests and goals) (Lacković-Grgin, 2014).

Another model of generativity was given by Stewart and Vandewater (1998) and belongs to developmental models of generativity. It refers to three stages: a) a phase of desire for generativity (in early adulthood); b) a phase of feeling generative capacity; and c) a generational achievement phase. Due to the very characteristic of the generativity development model checking, a longitudinal research plan is required, so it is very difficult to trace any research based on this model (Stewart and Vandewater, 1998).

However, the model of McAdams and de St. Aubin (1992) is considered as the most comprehensive model of generativity today. It includes seven interconnected components, gathered around the common goal of promoting the welfare of future generations: cultural requirements; internal desire; care for the next generation; faith in the species; commitment; agency; respectively generative story. They emphasize that generativity is a component of a healthy adult personality, which gradually develops during the adult life, and that the generative process involves the creation of a generative product, i.e. agency, which is one of two general tendencies of human behavior. In her research, Tucak-Junaković (2010) checked the adapted model of McAdams and de St. Aubin (1992), used in our research, and found the high predictive value of several components of generativity on integrity, which Erikson determines as a sense of purpose and meaning of life and which is achieved in the eighth stage of development.

Materials and methods

The aim of this paper is to examine the characteristics of psychophysical health, the level of generativity and integrity in the elderly, given the earlier and current material status of the elderly. Below is a description of all the observed variables, as well as the results of the research.

Sample.

The sample of the research consists of elderly people from Novi Pazar (N=101), whose average age is 71.7 years, with a range from 65 to 85 years. Out of the total number of respondents, 57% were women, while 43% were male respondents. The research covered 34% of the elderly who reside in the Home for the elderly, while 66% live in their own households.

The research was conducted from September 2015 to January 2016. The questionnaire was used as instrument for data collection. The survey was organized in cooperation with professional associates at the premises of the Home for the elderly in Novi Pazar, as well as in the households of the elderly who were involved in the research. The selection of respondents was random, regardless of the presence of acute or chronic mental and physical illnesses. The survey was anonymous and the process of completing did not last longer than 45 minutes.

Instruments.

The questionnaire for examining the socio-demographic characteristics was designed for research purposes and intended to collect general data on respondents and socio-demographic information from their families.

The RAND-36 Health Survey (Version 1.0) (Hays and Shapiro, 1992; Stewart, et al., 1992) was designed to assess the physical and psychosocial health of healthy adult individuals as well as chronically ill ones. It consists of eight subscales, and they are grouped in the following way: *Dimensions of psychosocial health* - emotional well-being, role limitations due to emotional problems, social functioning, energy fatigue; as well as the *dimensions of physical health* - physical functioning, role limitations due to physical health, physical pain and general health. In addition to demographic data, there is another additional item in the questionnaire, which is an indicator of the perceived change in the health status of the respondents. The scale consists of 36 questions and those are identical to the questions that were applied by Hays and Shapiro in their Medical Outcomes Study MOS (Hays and Shapiro, 1992; Stewart et al., 1992). High scores on all subscales speak of a better health condition of the individual. The reliability of the instruments on our sample is within reasonable limits, with Cronbach's alpha coefficients ranging from 0.78 to 0.95.

The Adapted Loyola Generativity Scale (ALGS) (McAdams and de St. Aubin, 1992; Lacković-Grgin and Tucak, 2006a) is based on the McAdams and St. Aubin model and is designed to estimate generative cares, which are a key component of generativity. It consists of 12 claims that contain several forms of generativity, such as: transferring knowledge and skills, contributing to the community and society, endeavoring to be creative and productive, and so on. The ALGS is treated as a single-factor scale and, based on a five-step scale, the respondents assess the extent to which the content of a particular claim is characteristic for them. The theoretical minimum on this scale is 12 points, and the maximum is 60, where the higher score indicates a higher degree of generativity presence. In our research, the scale showed high internal consistency ($\alpha = 0.93$).

The Scale of Integrity (SI) (Lacković-Grgin, Čubela Adorić and Nekić, 2006b) is intended to measure integrity as an integrated system of all components of personality. It is based on Erikson's theory of psychosocial development, where the eighth stage of development represents the evaluation, summarization, and integration of previous life. The SI is used as a single-factor scale and consists of 11 items, where respondents on a five-step Likert type scale evaluate how each of

these claims relates to their past life. The theoretical minimum on this scale is 11 points, and the maximum is 55, where the higher score indicates a higher degree of integration of the respondents. The reliability of the scale on our sample is $\alpha = 0.85$.

Results

On the basis of the average values in Table 1, we can see that the lowest values occurred in the dimensions of role limitations due to physical health ($M=30.42$), followed by role limitations due to emotional problems ($M=44.33$) and the dimension general health ($M=45.96$). This means that the majority of elderly persons had the most problems with these dimensions, while with social functioning ($M=66.50$) and emotional well-being ($M=60.54$) they had the least problems. By calculating the total score for the assessment of the psychosocial and physical health of the respondents, the global psychosocial health ($M=54.65$) proved to be better than the global physical health ($M=45.39$) (data not shown in Table 1).

Table 1. Descriptive data for the dimensions of the psychosocial and physical health of the respondents

<i>Variable</i>	<i>N</i>	<i>M</i>	<i>SD</i>
Physical functioning	100	51.11	30.33
Role limitations due to physical health	100	30.42	43.23
Role limitations due to emotional problems	100	44.33	47.39
Energy fatigue	97	47.23	22.19
Emotional well being	97	60.54	22.40
Social functioning	100	66.50	29.29
Pain	97	54.07	28.46
General health	100	45.96	21.96

In Table 2, the data reveal that the degree of generativity and degree of integrity in the old ones were estimated as relatively good. The degree of integrity ($M=36.63$) was slightly higher in relation to the degree of generativity ($M=35.64$).

Table 2. Descriptive data for the dimensions of the generativity and integrity of the respondents

<i>Variable</i>	<i>N</i>	<i>M</i>	<i>SD</i>
Generativity	100	35.64	12.63
Integrity	100	36.63	9.25

Based on the data in Table 3, it is evident that half of the respondents (53.5%) considered the former financial situation as medium, 26.7% thought it was good, while 19.8% considered that the material situation was worse before. When the current material situation is in question, 55.4% of the elderly estimated that it was medium, 30.7% that it was good, and 13.9% that it was below the average.

Table 3. The presentation of the previous and current material status of the respondents

<i>Material status Categories</i>	<i>Former</i>		<i>Current</i>	
	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
Bad (mostly we could not afford everything we needed)	20	19.8%	14	13.9%
Medium (usually we could afford everything we needed, but it happened that we did not have enough money)	54	53.5%	56	55.4%
Good (we could afford everything we needed)	27	26.7%	31	30.7%

The results in Table 4 show statistically significant differences in only one dimension of psychosocial health - emotional well-being ($F=3.73$, $p < 0.05$), as well as in the degree of generativity ($F=4.20$, $p < 0.05$) and integrity ($F=4.94$, $p < 0.001$) when regarding the earlier family financial situation of the elderly. In families of poorer financial background, the lowest levels of emotional well-being ($M=49.26$) and integrity ($M=32.45$) were registered, while a reduced level of generativity proved to be specific to the families with middle-income ($M=32.75$).

Table 4. The differences according to the earlier financial status on the dimensions of psychophysical health, generativity and integrity

<i>Variable</i>	<i>Earlier material state</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
Physical functioning	bad	20	41.25	31.49	1.66	0.20
	medium	54	51.03	28.82		
	good	27	57.42	31.71		
	Total	101	50.80	30.33		
Role limitations due to physical health	bad	20	22.50	41.28	1.42	0.25
	medium	54	27.16	42.25		
	good	27	41.67	45.47		
	Total	101	30.12	43.12		
Role limitations due to emotional problems	bad	20	33.33	47.14	1.60	0.21
	medium	54	41.36	47.11		
	good	27	56.79	46.97		
	Total	101	43.89	47.36		
Energy fatigue	bad	19	40.26	24.63	1.18	0.31
	medium	53	47.33	21.66		
	good	26	50.51	22.39		
	Total	98	46.80	22.48		
Emotional well being	bad	19	49.26	25.96	3.73	0.03
	medium	53	61.36	19.97		
	good	26	66.92	21.75		
	Total	98	60.49	22.29		
Social functioning	bad	20	53.75	32.97	2.99	0.05
	medium	54	66.43	27.02		
	good	27	74.54	29.31		
	Total	101	66.09	29.44		

Pain	bad	19	51.58	28.54	0.28	0.75
	medium	53	52.59	28.69		
	good	26	57.21	29.50		
	Total	98	53.62	28.66		
General health	bad	20	40.00	22.59	1.04	0.36
	medium	54	46.02	22.62		
	good	27	49.31	20.19		
	Total	101	45.70	22.01		
Generativity	bad	20	36.53	15.48	4.20	0.02
	medium	54	32.75	11.20		
	good	27	41.03	11.44		
	Total	101	35.71	12.59		
Integrity	bad	20	32.45	10.82	4.94	0.01
	medium	54	36.08	8.17		
	good	27	40.56	8.72		
	Total	101	36.56	9.23		

Considering the current material state of the elderly, Table 5 shows that statistically significant differences were observed in four dimensions of psychophysical health: emotional well-being ($F=6.19, p<0.01$), social functioning ($F=4.64, p<0.01$), physical functioning ($F=5.05, p<0.01$) and general health ($F=3.62, p<0.05$). In all of these dimensions, poor health status was registered for respondents with poor material status. Significant differences had also been shown in the dimension of integrity between the groups with poor and good material status, as well as between the groups with medium and good material status.

Table 5. The differences according to the current material state on the dimensions of psychophysical health, generativity and integrity

<i>Variable</i>	<i>Category</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
Physical functioning	bad	14	28.21	25.54	5.05	0.01
	medium	56	53.05	28.33		
	good	31	56.94	32.05		
	Total	101	50.80	30.33		
Role limitations due to physical health	bad	14	17.86	37.25	1.55	0.22
	medium	56	27.53	42.93		
	good	31	40.32	45.04		
	Total	101	30.12	43.12		
Role limitations due to emotional problems	bad	14	19.05	38.60	2.69	0.07
	medium	56	44.64	47.26		
	good	31	53.76	48.44		
	Total	101	43.89	47.36		
Energy fatigue	bad	13	36.92	21.27	1.91	0.15
	medium	54	46.60	21.29		
	good	31	51.29	24.29		
	Total	98	46.80	22.48		

Emotional Well being	bad	13	41.23	25.00	6.19	0.00
	medium	54	63.33	19.62		
	good	31	63.61	22.16		
	Total	98	60.49	22.29		
Social functioning	bad	14	44.64	27.17	4.64	0.01
	medium	56	69.20	26.65		
	good	31	70.16	31.90		
	Total	101	66.09	29.44		
Pain	bad	13	43.65	23.11	1.68	0.19
	medium	54	52.27	29.06		
	good	31	60.16	29.32		
	Total	98	53.62	28.66		
General health	bad	14	31.43	20.32	3.62	0.03
	medium	56	47.68	20.31		
	good	31	48.59	23.82		
	Total	101	45.70	22.01		
Generativity	bad	14	35.93	18.82	1.47	0.24
	medium	56	33.97	10.78		
	good	31	38.77	12.12		
	Total	101	35.71	12.59		
Integrity	bad	14	31.86	10.01	5.59	0.00
	medium	56	35.51	8.50		
	good	31	40.58	8.89		
	Total	101	36.56	9.23		

Discussions

The results of this research show that the old people in Novi Pazar and its surroundings assess their global psychosocial health as better than global physical health. Analyzing the more detailed results of this study, one might come to the conclusion that the greatest dissatisfaction is attributed to two dimensions of physical health (role limitations due to physical health), as well as one dimension of mental health (role limitations due to emotional problems), while social functioning and emotional well-being are described as the most satisfactory. These results coincide with other studies, which show that despite worse physical health, social losses, and increasing dependence on others, the old age is still accompanied by a positive sense of well-being (Myers and Diener, 1995, according to Ranzijn and Luszcz, 1999), thus that the old do not withdraw from social contacts. English (2013) states that participation in social activities positively affects emotional well-being and life satisfaction, while Marmot's (2007) study points to the fact that the ability to engage and participate in social activities is crucial for good health, a feeling of well-being, as well as for the longevity of the elderly. The study of Agnew and South (2014) states that interpersonal relationships in persons of third-age have a beneficial effect on the spiritual health as well. According to the theory of selectivity, social interactions do not fall suddenly in the older age but

are more selective. Thus, the possible explanation for our results is the fact that, according to this theory, the old ones actually socialize only with those whom they connect pleasant emotions with (Berk, 2008), and there is the explanation for the relatively good social functioning and emotional well-being of the elderly in our sample.

The average scores of the observed respondents tell us about the relatively good integrity and generativity of the elderly. The obtained findings provide support to Erikson's theoretical considerations on the preconditions for successful resolution of the eighth stage crisis, i.e. achieving ego integrity and avoiding despair. Most of our respondents have achieved a sense of integrity on the basis of these results, and they feel complete, full and satisfied (Krstić-Joksimović and Mihić, 2013). Consequently, it does not hurt to mention the studies of Carlson, Seeman and Fried (2000), which indicate the significance of generativity in a healthy aging process, as well as Vaillant's (2007) study, which highlights generativity as a key concept of successful adaptation in the old.

By examining and comparing the earlier and the current material state of the old, the results of our research show that the former material conditions of half of the respondents (53.5%) are assessed as medium; each fourth respondent estimates that it is good, while the fifth considers the previous material state bad. When the current material situation is in question, the group with good material status increases by almost 2% compared to the earlier economic status; 4% of the elderly estimate that they have a better material status than before, while 6% consider it worse than the past one. These results are somewhat unexpected, having in mind that old people are one of the financially most vulnerable groups both in Serbia and the entire world. However, since it is about the self-assessment of the elderly, as well as the fact that their tendency to account of stressful situations is far lesser as compared to the young adults due to more developed stress management strategies (Paykel, 1983), such an assessment of the financial situation is nevertheless taken with reserve. On the other hand, some authors (Johnson and Barer, 1993) claim that at a high age of life there is a declining interest in material possession. However, there is an indication that the interest in material possession does not go away, but only its manifestation changes. While in the younger age this interest is expressed in the continuous acquisition of material goods, in the old age it changes into the preservation of what was previously acquired (Hellvik, 1996, according to Lacković-Grgin, 2014). A possible explanation is that a number of elderly people live in the care homes for the elderly, and therefore do not feel the daily challenges and difficulties in purchasing drugs, food, etc., which are automatically provided in the home. On the other hand, the wishes of the elderly are generally less expensive compared to active young adults and, therefore, they assess the financial situation as satisfactory. This issue certainly remains to be examined in the subsequent research.

Talking about the health state of the elderly and the differences in relation to the earlier and present material situation, the disparities between groups with good and poor material status have proved to be significant in more dimensions of health. Differences have been shown for the following dimensions: emotional well-being, social functioning, physical functioning and general health. The earlier material situation makes the difference between groups in only one dimension, emotional well-being, but it also makes a difference in generativity and integrity, while the current material situation makes a difference only in the level of integrity of the elderly. This kind of information certainly points to Raphael's statement that the material situation is quite an important health determinant of the degree to which a person has physical, social and personal resources to identify and achieve personal aspirations, and can help satisfy the desire for self-sufficiency and self-integrity (Raphael, 2009). On the other hand, the results of several studies (Keyes and Ryff, 1998) show that generativity grows from the age of thirty to fifty, while being the most developed in middle age. It is possible that our respondents also linked the importance of achieving close

relations and generative acting as a concern for the benefit of future generations with earlier good material conditions.

Conclusions

On the basis of all this, it can be concluded that the old people in Novi Pazar mostly assess their earlier and current material status as medium or good. They also link better health state to a better financial situation and assess mental health as better than physical. The respondents in this study report a relatively high degree of generativity achievement, which fits the theory of activity and the model of successful aging, as it speaks of an interaction with their environment and their achieved integrity (Baltes and Baltes, 1990).

This study and its results contribute to the state of the art on this subject, certain limitations and objections should be noted. Firstly, the results of our paper are based on the self-evaluation of the elderly. In order to obtain an adequate picture of the health of third age persons, the next study should include other family members or professionals, to examine the type of material and psychological help that old people receive. On the other hand, the examination of differences among the elderly in view of other socio-demographic variables would be very useful.

It is also very important to develop future programs to reduce socio-economic inequalities in health, so it is necessary to intervene on socially vulnerable groups, especially for elderly people aged 65 years. This means that the health of socially vulnerable groups cannot be improved only by providing health services, but it is necessary to work on other health determinants that are present in their everyday lives.

Bibliography

1. Agnew, C., South, S., 2014. *Interpersonal Relationships and Health Social and Clinical Psychological Mechanisms*. Oxford: University Press.
2. Bailis, D.S., Segall, A., Mahon, M.J., Chipperfield, J.G. and Dunn, E.M., 2001. Perceived control in relation to socioeconomic and behavioral resources for health. *Social Science & Medicine*, 52(11), pp.1661-1676.
3. Baltes, P.B. and Baltes, M.M., 1990. Psychological perspectives on successful aging: The model of selective optimization with compensation. In: P.B. Baltes and M.M. Baltes, eds. *Successful aging: Perspectives from the behavioral sciences*. Cambridge: Cambridge University Press. pp. 1-34.
4. Bambauer, K.Z., Aupont, O., Stone, P.H., Locke, S.E., Mullan, M.G., Colagiovanni, J. and McLaughlin, T.J., 2005. The effect of a telephone counseling intervention on self-rated health of cardiac patients. *Psychosomatic Medicine*, 67(4), pp.539-545.
5. Berk, L., 2008. *Exploring lifespan development*. Boston, MA: Pearson Allyn and Bacon
6. Bradley, C.L., 1997. Generativity – stagnation: Development of a status model. *Developmental Review*, 17, pp. 262-290.
7. Brajković, L., 2010. *Pokazatelji zadovoljstva životom u trećoj životnoj dobi (Indicators of life satisfaction in the third age)*. PhD. Sveučilište u Zagrebu: Medicinski fakultet.
8. Carlson, M.C., Seeman, T. and Fried, L.P., 2000. Importance of generativity for healthy aging in older women. *Aging Clinical and Experimental Research*, 12(2), pp.132–140.

9. Currey, S.S., Rao, J.K., Winfield, J.B. and Callahan, L.F., 2003. Performance of a generic health-related quality of life measure in a clinic population with rheumatic disease. *Arthritis & Rheumatology*, 49(5), pp.658-664.
10. Despot Lučanin, J., 2003. *Iskustvo starenja (The experience of aging)*. Jastrebarsko: Naklada Slap.
11. Domínguez-Berjón, F., Borrell, C., Rodríguez-Sanz, M., and Pastor, V., 2006. The usefulness of area-based socioeconomic measures to monitor social inequalities in health in Southern Europe. *European Journal of Public Health*, 16(1), pp. 54–61.
12. Dunn, J.R., Veenstra, G. and Ross, N., 2006. Psychosocial and neo-material dimensions of SES and health revisited: Predictors of self-rated health in a Canadian national survey. *Social Science & Medicine*, 62(6), pp.1465-73.
13. English, E., 2013. The effect of community participation on subjective well-being in community dwelling elders, [online] Available at: <http://digitalcommons.iwu.edu/psych_honproj/161> [Accessed 8 March 2017].
14. Faludi, C., 2015. Aranjamentele de viață, starea de sănătate și singurătatea la vârstnicii din Bulgaria, România și Rusia (Living arrangements, health status and loneliness among the elderly in Bulgaria, Romania and Russia). In: C. Rada and C. Faludi, eds. *Funcții și disfuncții ale familiei contemporane. O abordare socio-psiho-medicală (Functions and dysfunctions of the contemporary family. A socio-psycho-medical approach)*. București: Editura Universitară, pp.84-124.
15. Franks, P., Gold, M.R. and Fiscella, K., 2003. Sociodemographics, Self-Rated Health and Mortality in US. *Social Science and Medicine*, 56, pp.2505-2514.
16. Hays, R.D., Shapiro, M.F., 1992. An Overview of Generic Health-Related Quality of Life Measures for HIV Research. *Quality of Life Research*, 1, pp.91-97.
17. Hofer, J., Busch, H., Au, A., Poláčková Šolcová, I., Tavel, P., Tsien Wong, T., 2014. For the benefit of others: generativity and meaning in life in the elderly in four cultures. *Psychology and aging*, [online] 29(4) , pp.764-75. doi: 10.1037/a0037762. Epub 2014 Nov 3. Available at: https://www.researchgate.net/publication/267753293_For_the_Benefit_of_Others_Generativity_and_Meaning_in_Life_in_the_Elderly_in_Four_Cultures#pfb [Accessed Nov 12 2017].
18. Hofer, J., Busch, H., Au, A., Poláčková Šolcová, I., Tavel, P. and Tsien Wong, T., 2016. Generativity does not necessarily satisfy all your needs: Associations among cultural demand for generativity, generative concern, generative action, and need satisfaction in the elderly in four cultures. *Developmental Psychology*, 52, pp.509-519.
19. Johnson, C. I. and Barer, B.M., 1993. Coping and a sense of control among the oldest old: An exploratory analysis. *Journal of Aging Studies*, 7, pp.67-80.
20. Kahneman, D. and Deaton, A., 2010. High income improves evaluation of life but not emotional well-being. *Proceedings of the National Academy of Sciences*, 107(38), pp.16489-16493.
21. Kaikkonen R, Rahkonen O, Lallukka T, Lahelma E., 2009. Physical and psychosocial working conditions as explanations for occupational class inequalities in self-rated health. *European Journal of Public Health*, 19, pp.458–463.
22. Keyes, C.L.M. and Ryff, C.D., 1998. Generativity in adult lives: Social structural contours and quality of life consequences. In: D.P. McAdams & E. de St. Aubin, eds. *Generativity and adult development: How and why we care for the next generation*. Washington, DC: American Psychological Association. pp. 227–264.

23. Krstić-Joksimović, K. And Mihić, Lj., 2013. Developmental processes and mental health in old age: contribution to Erikson's psychosocial theory of Personality development. *Primenjena psihologija (Applied psychology)*, 6(4), pp.423-441.
24. Lacković-Grgin, K. and Tucak, I., 2006a. Adaptirana Loyola Skala generativnosti (Adapted Loyola generativity scale) (ALGS). In: V. Čubela Adorić A. Proroković, Z. Penezić K. Lacković-Grgin, ed. *Zbirka psihologijskih skala i upitnika. Svezak 3 (Collection of psychological scales and questionnaires. Notebook No.3)*. Zadar: Sveučilište u Zadru. pp.1-5.
25. Lacković-Grgin, K., Čubela Adorić, V. and Nekić, M., 2006b. Skala integriteta (Integrity scale). In: V. Čubela Adorić A. Proroković, Z. Penezić K. Lacković-Grgin, eds. *Zbirka psihologijskih skala i upitnika. Svezak 3 (Collection of psychological scales and questionnaires. Notebook No.3)*. Zadar: Sveučilište u Zadru. pp. 19-23.
26. Lacković-Grgin, K., 2014. Novo u psihologijskim razvojnim teorijama: Modificiranje ranijih, te formuliranje i provjera novih teorija i koncepata (New in psychological development theories: The modification of earlier and formulation and testing of new theories and concepts). *Suvremena psihologija (Contemporary psychology)*, 17(2), pp.199-228.
27. Marmot, M., 2007. Achieving health equity: from root causes to fair outcomes. *Lancet*, 370(9593), pp.1153-63.
28. McAdams, D. P. and de St. Aubin, E., 1992. A theory of generativity and its assessment through self-report, behavioral acts, and narrative themes in autobiography. *Journal of Personality and Social Psychology*, 62, pp.1003-1015.
29. Paykel, E.S., 1983. Methodological aspects of life events research. *Journal of Psychosomatic Research*, 27, pp.341-352.
30. Ranzijn, R. and Luszcz, M.A., 1999. Acceptance: a key to well-being in older adults? *Australian Psychologist*, 34(2), pp.94-98.
31. Raphael, D., 2009. Social Structure, Living Conditions, and Health. In: D. Raphael, ed. *Social Determinants of Health: Canadian Perspectives*. 2nd Edition. Toronto: Canadian Scholars' Press. pp. 61-74.
32. Satarić, N., Rašević, M. and Miloradović, S., 2009. *Oni ne mogu da čekaju. Studija o siromašnim starijim licima u Srbiji (They cannot wait. A study on poor elderly in Serbia)*. Beograd: INPRESS.
33. Schaie, K.W., Willis, S.L., 2001. *Adult development and Aging*. New York: Harper Collins College Publishers.
34. Stewart, A.L., Sherbourne, C.D., Hays, R.D., Wells, K.B., Nelson, E.C., Kamberg, C.J., Rogers, W.H., Berry, S.H. and Ware, J.E.Jr., 1992. Summary and Discussion of MOS Measures, In: A.L. Stewart & J.E. Ware, Jr., eds. *Measuring Functioning and Well-Being: The Medical Outcome Study Approach*. Durham, NC: Duke University Press. pp. 345-371.
35. Stewart, A.J., Vandewater, E.A., 1998. The course of generativity. In: D.P. McAdams and E. de St. Aubin, eds. *Generativity and Adult Development: How and Why We Care for the Next Generation*. Washington, DC: APA Press. pp. 75-100.
36. Stewart, A.J., Ostrove, J.M. and Helson, R., 2001. Middle Aging in Women: Patterns of Personality Change from the 30s to the 50s. *Journal of Adult Development*, 8(1), pp.23-37.
37. Tucak-Junaković, I., 2010. Skala nade u budućnost čovječanstva (Hope for the future of humanity Scale). In: I. Tucak Junaković, V. Čubela Adorić, Z. Penezić, A. Proroković, eds. *Zbirka psihologijskih skala i upitnika. Svezak 5 (Collection of psychological scales and questionnaires. Notebook No.5)*. Zadar: Sveučilište u Zadru. pp. 39-45.

38. Vaillant, G.E., 2007. Generativity: A form of unconditional love. In: S.G. Post, ed. *Altruism and health*. New York: Oxford University. pp. 219–229.
39. ***World Health Organization. The European health report 2002. Part two – The major determinants of health. 2002 [online] Available at: http://www.euro.who.int/data/assets/pdf_file/0007/98296/E76907.pdf > [Accessed 13 May 2017].
40. ***Republic Statistical Office of Serbia, *Poverty and social inequality*, 2016 [online] Available at: http://www.stat.gov.rs/WebSite/repository/documents/00/02/45/24/PD10_087_srb_2016.pdf > [Accessed: 1 July 2017].
41. ***Eurostat, *People at risk of poverty or social exclusion*. 2016 [online] Available at: http://ec.europa.eu/eurostat/statisticsexplained/index.php/People_at_risk_of_poverty_or_social_exclusion [Accessed: 15 July 2017].