Effect of volunteering and pensions on subjective wellbeing of elderly–are there cross-country differences?*

Friday 20th December, 2019

We investigate the effect of pensions and volunteering on subjective wellbeing (SWB) of elderly using wave 6 of Survey of Health, Aging and Retirement in Europe (SHARE). This is the first study to consider pensions and volunteering simultaneously as a determinant of SWB among elderly across countries. We find that the effect of volunteering on SWB varies widely across countries. In some countries both effects are comparable, in other countries pensions have larger effect on SWB. In general, effects are larger in South and East. High European pensions may be unsustainable in the long run–we argue that promotion of volunteering is one way to increase elderly subjective wellbeing amidst tightening budgets. The study is cross-sectional and correlational– we do not claim causality.

Subjective Wellbeing (SWB), Life Satisfaction, Happiness, Aging, Elderly, Volunteering, Social Transfers, Social Capital, Survey of Health, Aging and Retirement in Europe (SHARE)

Recent Okulicz-Kozaryn and Valente (2018) find spatial patterns in wellbeing across Europe with North and West being most satisfied and South and East least. There are spatial patterns in many predictors of SWB, e.g., Fuentes et al. (2017) find that the relationship between binge drinking and SWB is moderated by region. In present study we want to find out how the effect of volunteering and pensions on SWB vary across European countries.

We expect large cross-national differences: what works in one country may not work in another. Population aging in Europe is a fact, and governments already grapple with spending pressures and budget deficits. What is the best way to care about our seniors and ensure decent levels of wellbeing? We aim to help to answer this important question.

There have been many studies on cross-country differences in SWB (e.g., Ahuvia 2002, Veenhoven 2009, Helliwell et al. 2014) and about differences in volunteering (e.g., Haski-Leventhal 2009, Salamon et al. 2017, Wahrendorf et al. 2006), but no study on the varying effect of volunteering and pensions on SWB across countries.

Among studies about volunteering across countries (Haski-Leventhal 2009, Hank and Erlinghagen 2005, Kohli et al. 2009, Hank and Erlinghagen 2009, Hank 2010, Huppert et al. 08, Wahrendorf et al. 2006, Wahrendorf and Siegrist 2010, Wahrendorf et al. 2016), no study compares the effect of pensions and volunteering on SWB across countries. We know that volunteering rate varies across countries (e.g., Hank and Erlinghagen 2009), but we don't know how its effect on SWB varies across countries. This study will focus on testing whether there is a varying effect from volunteering on SWB across countries. This study continues a line of research focusing on cross-country comparisons (Hank and Erlinghagen 2005, 2009). Note, however, the goal of the present study is not to investigate what predicts or affects volunteering cross-nationally as in Hank and Erlinghagen (2005, 2009). We focus on SWB as a consequence of volunteering; that is, we are not interested in antecedents of volunteering neither in other consequences of volunteering than SWB. We build on <**blind for peer review**>, just extend across countries.

Haski-Leventhal (2009) is one of the main studies in this area, although using the oldest, first wave of SHARE (we use recent wave 6). We also use a specificially designed for elderly measure of SWB: CASP index in addition to 10 point life satisfaction Likert scale. The main finding in Haski-Leventhal (2009) is a positive relation between volunteering and physical and psychological well-being. Volunteering rates differ among countries in the way known from earlier studies: the highest rates in Northern Europe and the lowest

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rates in Southern Europe. Volunteering influences perceived health and life satisfaction differently in different countries: relationship between volunteering and SWB is strongest in countries with least of it. This is not surprising, just like education in the US: states with fewest people taking SAT[1] (e.g., Texas) score highest: in general, if there are few test takers, they are ones with greatest inclination. Arguably the same applies to volunteering–if there are few volunteers, they are probably the ones with greatest inclination to volunteer. If large segment of the society volunteers, there are among them volunteers with low inclination to do so. Unfortunately, increasing volunteering may have diminishing marginal returns.

Another main studies in the area are those by Morten Wahrendorf. Wahrendorf et al. (2006) presents SWB results by volunteering status for each country in SHARE, but it is simple means without any test and only for 10 countries in an early wave of SHARE. While Wahrendorf et al. (2016) uses more recent wave and larger sample, there is only descriptive statistics at country level. Wahrendorf and Siegrist (2010) only controls for country dummies but does not break the effect of vulunteering by country. Also see useful visualizations by Morten Wahrendorf: `http://www.wahrendorf.de/lifecourses/chrono.html` and `http://www.wahrendorf.de/lifecourses/map_1.html`.

Again, the limitation of Haski-Leventhal (2009) and Wahrendorf et al. (2006, 2016), Wahrendorf and Siegrist (2010), as all other studies in this area, is that they do not consider simultaneously the effect of pensions and volunteering on SWB. Also, they use older versions of SHARE with fewer countries. We use Wave 6 containing Eastern Europe.

We would like to test a proposition that effects differ across countries. Duda and Oczkowska (2016) review several studies using SHARE that are finding a geographic pattern: again, North is happier than South. Again, we are interested here not just in descriptive statistics of spatial differences but in varying effect of volunteering and pensions across countries. We hypothesize that there are two clusters of countries North-Western and South-Eastern:

H_1 : Social transfers will have higher payoff in happiness in South-Eastern Europe; Volunteering will generate more happiness in North-Western Europe.

1 Subjective Wellbeing (SWB)

SWB is a well-established and widely studied construct. The SWB measures, even though self-reported and subjective, are reliable (precision varies) and valid (Myers 2000, Di Tella and MacCulloch 2006, Diener 2009). For elaboration and discussion see Diener (2009), Diener and Seligman (2004), Veenhoven (2008), Kahneman et al. (1999), Campbell et al. (1976). We use two measures of SWB, life satisfaction and CASP scale (Vanhoutte 2012, 2014). Life satisfaction is rather hedonic. CASP scale is more comprehensive and also includes some eudaimonic items. CASP can be conceptualized as Control, Autonomy, Self-realization, and Pleasure (Hyde et al. 2003a, 2015). CASP is based on the theory of satisfaction of needs (**?**). It assumes that quality of life depends on a degree of satisfaction of people's needs. It uses four main domains that are important at the early old age for the positive experience of life: the possibility of influencing one's own surroundings (Control), the right of a person to be free from unwanted interference by others (Autonomy), self-fulfillment (Self-realization) and enjoying life (Pleasure).

CASP is often referred to as quality of life (QOL) measure, however, it is probably better understood as SWB measure–QOL measures are rather objective (**?**Okulicz-Kozaryn and Valente 2018). We also follow Vanhoutte (2012, 2014) who considers CASP to be SWB measure.

Yet, CASP in some ways is problematic as pointed out by reviewerers. CASP is primarily directed at meaning/purpose and affective happiness, and the CASP-items create a rather self-evident correlation with volunteering, e.g.: volunteers are more likely to feel that

[1] A standardized test widely used for college admissions in the United States. Originally called the Scholastic Aptitude Test, it was later called the Scholastic Assessment Test.

'life has meaning' and to feel 'full of energy' and pensioners are more likely to feel that they are 'left out of things' and that 'age prevents me to do the things I like to do'.

2 Volunteering

Volunteering is simply an action for which the volunteer does not receive financial remuneration (Plagnol 2014).[2] Elders are often called "unused productive potential" that can be put into production through volunteering, a "productive aging strategy" (e.g., Wilson 2012b, Hank and Erlinghagen 2009). Volunteering is related to positive emotions and less depressive moods (Stavrova et al. 2013). As always in social science, relationships are complex. For instance, Choi's environmental factors and structural factors such as region, urbanicity, religion, life styles and social roles affect volunteering (cited in Hank and Erlinghagen 2009). Here, we are simply interested in the effect of volunteering on SWB.

3 Pensions

Pensions are understudied and overlooked in SWB literature, which mainly focuses on income when it comes to study of remuneration-SWB nexus (e.g., Okulicz-Kozaryn and Mazelis 2016, Kahneman and Deaton 2010, Frijters et al. 2004, Kushlev et al. 2015, Dolan et al. 2008, Veenhoven 2012). Yet pensions are critical. Europe, just as the rest of the developed World, is aging. Aging will be the key challenge of this century as governments are grappling with rising proportion of elderly and rising healthcare costs (Stolnitz 1992, Jürges and van Soest 2012). Lack of research on pensions-SWB relationship is in large part due to lacking data–most SWB datasets lack pensions variable. SHARE contains detailed information about pensions as discussed in next section.

4 Data and model

We use the Survey of Health, Aging and Retirement in Europe (SHARE) from `http://www.share-project.org`. SHARE is a multidisciplinary and cross-national panel covering health, socio-economic status, social and family networks of over 50,000 persons aged 50+. An advantage of SHARE is few missing values, and there is imputed dataset without any values missing (we collapsed the dataset by taking an average across categories on implicat variable). We use Wave 6 release 6.0 conducted in 2015. Specifically for this cross-country study the advantage of the recent wave 6 is the the most comprehensive country coverage of all SHARE waves so far: 18 countries. Countries along with country codes and sample sizes are listed in table 1.

[2] For elaboration and review of benefits of volunteering see Wilson (2012b), Anderson et al. (2014).

Table 1: List of countries, country codes, and country sample sizes in wave 6 of SHARE. Note: Czech Republic (CZE) will have very high coefficient on pensions, for which we don't have explanation, and Czech Republic is only included in appendix.

cs	iso	count
Austria	AUT	3,073
Belgium	BEL	5,466
Croatia	HRV	2,386
Czech Republic	CZE	4,568
Denmark	DNK	3,591
Estonia	EST	5,111
France	FRA	3,720
Germany	DEU	4,231
Greece	GRC	4,680
Israel	ISR	1,781
Italy	ITA	4,908
Luxembourg	LUX	1,461
Poland	POL	1,719
Portugal	PRT	1,472
Slovenia	SVN	4,007
Spain	ESP	4,962
Sweden	SWE	3,771
Switzerland	CHE	2,722

We exclude elderly in nursing homes (˜ 1%), who have limited opportunity for volunteering. And we only retain main respondents by dropping proxy respondents (˜ 5%). Finally, we drop respondents younger than 50 (˜ 2%)–SHARE is a study of elderly older than 50, but there were some individuals in the raw dataset who were younger. All money amounts are Purchasing Power Parity (PPP) adjusted.[3] Our SWB measure is life satisfaction and CASP scale. Life satisfaction question reads "On a scale from 0 to 10 where 0 means completely dissatisfied and 10 means completely satisfied, how satisfied are you with your life?" Our second SWB measure, CASP, is also widely used in the literature (e.g., Pérez-Rojo et al. 2017, Amit and Litwin 2010, Hyde et al. 2003a, 2015, 2003b, Kim et al. 2015). We used factor analysis with varimax rotation to make CASP scale from variables listed in table 2.[4] Cronbach's alpha is .82.

-0.50	My age prevents me from doing the things I would like to
-0.52	I feel that what happens to me is out of my control
-0.57	I feel left out of things
0.45	I can do the things that I want to do
-0.19	Family responsibilities prevent me from doing what I want to do
-0.38	Shortage of money stops me from doing the things I want to do
0.58	I look forward to each day
0.67	I feel that my life has meaning
0.49	On balance, I look back on my life with a sense of happiness
0.68	I feel full of energy these days
0.72	I feel that life is full of opportunities
0.74	I feel that the future looks good for me

Table 2: Factor loadings (with varimax rotation) for survey items in CASP scale. Cronbach's alpha is .82.

The main independent variables of interest are pensions and volunteering. Pensions are measured directly as money amounts: a sum of annual old age, early retirement pensions, survivor and war pension, annual private occupational pensions and other regular payments from private pensions.

[3]Purchasing power parity (PPP) measures prices in different places using a common good or goods to contrast the real purchasing power between different currencies. PPP produces an exchange rate that equals the price of the basket of goods at one location over the price of the basket of goods at a different location.

[4]Factor analysis is a data reduction method that combines multiple variables into a single variable based on correlations–variables with higher correlations receive more weight. For examples see **??**. Per CASP and factor analysis see Kim et al. (2015).

In addition we control separately for disability and unemployment benefits and social assistance. While old age pensions should increase SWB, disability and unemployment benefits and social assistance may decrease SWB as they indicate disadvantaged status, and possibly social stigma. We also control for disability and employment status.

Volunteering question reads: "Please look at card 34: which of the activities listed on this card - if any - have you done in the past twelve months?" "voluntary or charity work" coded as 0='no' or 1='yes' (ac035d1: original question ID).

There are several key variables related to volunteering that need to be control for to avoid confounding with volunteering and biased estimate of volunteering effect: age, lack of resources (free time), gender, race/immigrant status, education, labor force status, income, family of origin (Wilson 2012a, Haski-Leventhal 2009). We will control for all of them, except race/immigrant status–European elderly are still a fairly homogeneous group.

The key predictors of SWB that we will use as controls include income and unemployment (Di Tella et al. 2001b,a, Di Tella and MacCulloch 2006), broadly understood social capital and health (Blanchflower and Oswald 2011, Dolan et al. 2008, Bonsang and van Soest 2012), marital status (e.g., Myers 2000, Diener and Seligman 2004), and age (Ferring and Boll 2010). We also think that grandchildren matter for elderly SWB–they will affect SWB, and also time available to volunteering. All variables are defined in appendix.

We focus on cross-country differences in these relationships and estimate separate model for each country. In order to test our hypotheses, we will analyze data in regression framework. All regressions are survey-weighted using $[pw = cciw_{w6}]$ syntax in Stata. Happiness is an ordinal variable, and hence, it should be modeled using ordinal models. We will use ordinary least squares (OLS), however. When modeling SWB, OLS performs very well and results tend to be substantively the same as those from discrete models (Ferrer-i-Carbonell and Frijters 2004, Blanchflower and Oswald 2011), and OLS estimates are easier to interpret.[5] In addition, some observations on life satisfaction are fractions (life satisfaction comes from imputed dataset), and we use continuous CASP measure, hence, OLS is appropriate.

5 Results

We start with descriptive statistics. In figure **??**, in general, the more `voluntary or charity work`, the higher the `casp`, correlation is large, $r = .8$. This is surprisingly strong correlation because, of course, at country level there are many confounders such as income and culture, and one would not expect such high correlation between most of the variables. While due to other confounders, one should not give too much weight to this bivariate relationship, it is instructive to take a note how strong it is. Few outliers are present: elderly in Greece (GRC), Portugal (PRT), and Israel (ISR) are less happy than `voluntary or charity work` would indicate–note that all three countries are in South. Plagnol and Huppert (2010) argue that social, psychological, cultural, historical and institutional factors determine country's level of volunteering. Duda and Oczkowska (2016) in their review of several studies using SHARE data reach a similar conclusion. Not only culture, but also conformity and intrinsic motivation improve effect of volunteering on SWB (Oarga et al. 2015).

[5] Per OLS and discrete models see Gujarati (2002).

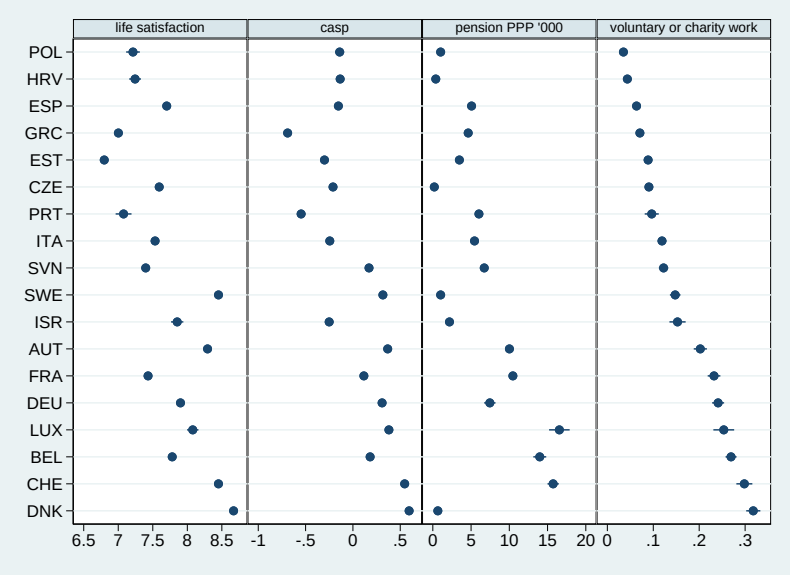

Figure 1: Means and 95 percent CI for life satisfaction, casp, pensions and volunteering and charity work, sorted on the latter.

Compare table 1 with Plagnol (2014), who shows rates for volunteering (and help) for all major European countries. Interestingly, formal and informal volunteering are positively correlated (Plagnol and Huppert 2010).

We also find as in Haski-Leventhal (2009) that highest volunteering is in Northern countries and lowest in Southern (and effect differs by country, as we show below).

Next we move to pensions in the same figure 1. In general, pensions are highest in Western Europe and lowest in Eastern Europe. What is interesting is relatively low correlation of `pension PPP` with `casp`: $r = .43$–only about half of that between `voluntary or charity work` and `casp`. The corressponding difference for life satisfaction is even more striking, about 3-fold–pairwise correlations are set in table 3.

	life satisfaction	pension PPP	casp	voluntary or charity work
life satisfaction				
pension PPP	0.26			
casp	0.84	0.43		
voluntary or charity work	0.74	0.62	0.8	

Table 3: Pairwise correlations, all significant at .1 level of significance except correlation between life satisfaction and pensions. Note: .1 level of significance used as there are only 18 observations.

This is striking, again, even despite other confounders, one would expect pensions to be highly correlated with SWB, definitely not at only about half of the correlation between volunteering and SWB. While the overall relationship between pensions and SWB is positive, there are several interesting outliers. The country with highest `casp`, Denmark (DNK) has one of the lowest pensions. Sweden (SWE) is similar. Greece (GRC) and Portugal (PRT) have low `casp` given pensions.

Next we move to analyze the effect of volunteering and pensions on SWB in regression framework. We use a full set of controls described in previous section. The usual practice of sequential elaboration of the model is not instructive for cross-country comparisons, and hence, we chose to postpone all regressions to appendix, and focus instead on plots of the coefficients for the two key variables of interest. They are shown in two figures: 3 and 5. We use both regular OLS coefficients and (fully) standardized ones (so called beta coefficients). The first one has different scales and shows coefficients for each key variable of interest more clearly.[6] It is useful to compare coefficients across countries for each pensions and volunteering separately. In some places both have about the same impact,

[6]Some countries have relatively strong positive impact, and hence, having same scales for both variables makes results unreadable because in some countries pensions have strong impact, close to 1std dev, and hence, smaller effects for volunteering are all visually squeezed next to zero line.

and in other places the effects differ widely.

In figure 3, largest effect of volunteering is observed in South–the less developed the country[7], the more volunteering matters. It is the a similar result to that in <**blind for peer review**> and in general the largest effects are observed for poorer countries such as Spain (ESP), Estonia (EST), Greece (GRC), Croatia (HRV), Italy (ITA), Portugal (PRT), and Slovenia (SVN). Note, the reason for a large confidence interval on Poland is that only 3.5 percent of Poles are volunteers, while the average for all countries is 15.5 percent. Likewise, effect of pension is larger in poorer countries, which is understandable (except SWE).[8] It makes sense–in poorer countries, economic resources are more important. Indeed as we hypothesized, there is most volunteering in South, which is also the poorest. Again, regression results (and more comparisons and discussion) are in appendix.

Figure 2: Life satisfaction: regular (not standardized) OLS coefficients with 95 percent CI. (Underlying regressions are in appendix.)

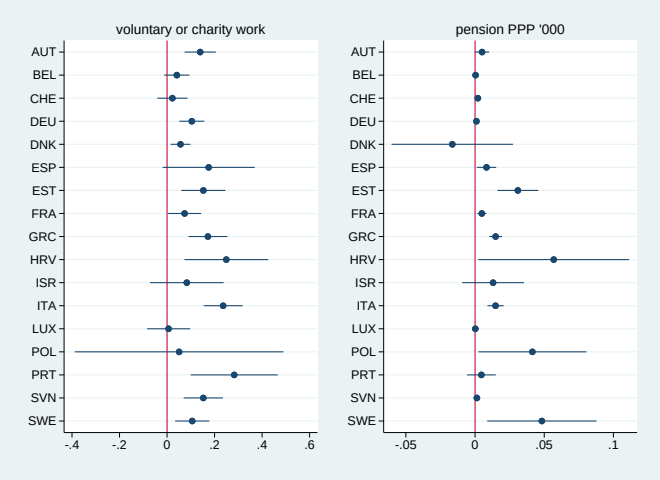

Figure 3: CASP: regular (not standardized) OLS coefficients with 95 percent CI. (Underlying regressions are in appendix.)

[7]Say as measured by per capita gross domestic product. In Europe, in general, East and South are less developed, and West and North are more developed.
[8]For which we do not have an explanation.

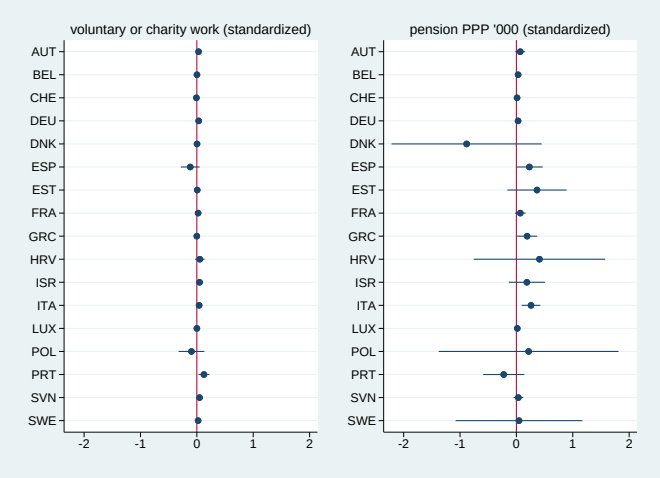

Figure 4: Life satisfaction: standardized (beta) OLS coefficients with 95 percent CI. (Underlying regressions are in appendix.)

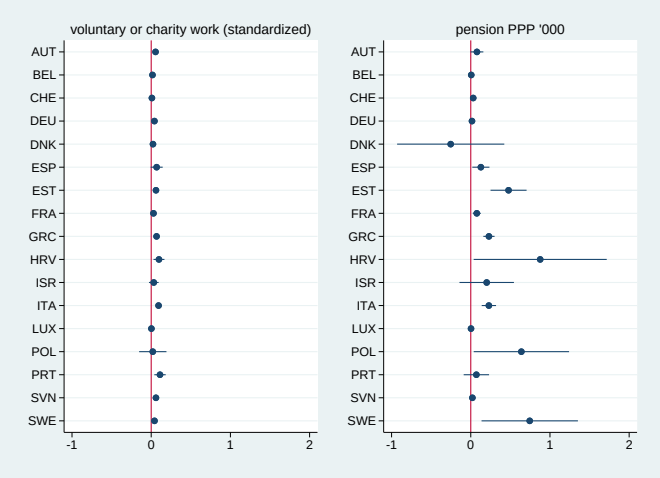

Figure 5: CASP: standardized (beta) OLS coefficients with 95 percent CI. (Underlying regressions are in appendix.)

What figure 5 shows is that for approximately 40 percent of countries, there is a comparable effect of pensions and volunteering, while remaining 60 percent of countries, pension has much higher impact relative to volunteering.

Again, we find that in poorer countries, economic resources are more important. Inglehart (1997) pictured the same concept in figure 6. At low levels of economic development economic gains or material goods matter–people need to satisfy their basic needs such as shelter or food. But once the basic needs are satisfied, there develop higher level needs related to life-style such as being connected and helping others, e.g., volunteering.

Our results directly relate to Plagnol and Huppert (2010), who showed that volunteering in low-volunteering countries is associated with greater SWB than in countries with higher rate of volunteering. Authors explain that where volunteering is less common, only those who are most likely to benefit from volunteering do volunteer.

Anther explanation is that in rich countries there is more volunteering, but it doesn't help much because almost everybody does volunteering and so it does not help much marginally. Also, these are typically welfare states, where help is provided by the state.

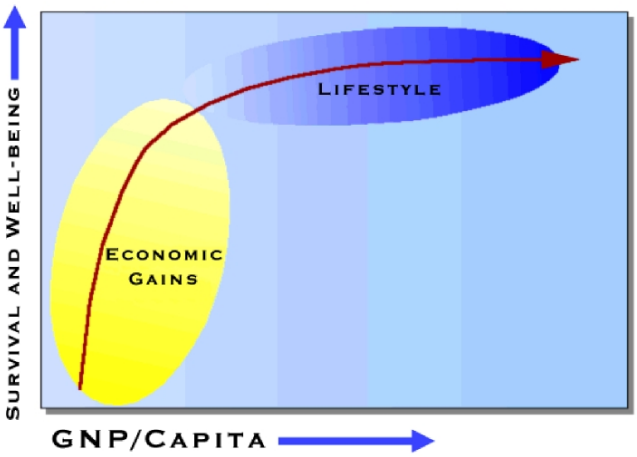

Figure 6: Well-being and income, (Inglehart 1997).

6 Conclusion and Discussion

Volunteering and pensions are related to SWB. We find that the effect of volunteering on SWB varies widely across countries. In some countries both effects are comparable, in other countries pensions have larger effect of SWB. In general, effects are larger in South and East.

Many European countries have very low rates of volunteering (below ten percent). So what are the practical implications? Volunteering could be induced (e.g., **?**)–there are many ways to activate this yet unused potential of idle elderly (e.g., Atkinson 2006, Henkin and Zapf 2006, Butler and Eckart 2007, Butts 2013, Howgate 2008, Zedlewski and Butrica 2007). And there is a role for institutions of higher education to promote civic engagement and community development in general, not only among the elderly. See, for instance, initiatives at Rutgers-Camden `http://www.camden.rutgers.edu/civic-engagement`. Such initiatives could be copied by institutions of higher education in European countries with low engagement, such as Poland.

On the other hand, it is not necessarily that volunteering can be easily increased. Volunteering is also a function of culture, history and norms (e.g., Haski-Leventhal 2009), and these are relatively stable. Some increase, however, especially taking into account wide variety in volunteering rates, is achievable, we argue.

While SHARE is a rich dataset, it does not contain any information about motives for volunteering. It is a limitation. We know that egoistic motives do not pay off much in SWB (Wiwad and Aknin 2017), and in general, extrinsic motives are better for SWB than intrinsic ones (Schmuck et al. 2000, Ryan et al. 1999, Morrison and Weckroth 2017). Hence, it matters for SWB, why one volunteers.

This research has found that the relationship between volunteering and SWB varies widely across countries, and we discuss several possible explanations, but leave the appropriate testing for future research. The goal of the present study was simply to document the overall relationship between volunteering and SWB across countries.

Pensions and volunteering affect SWB, but they are just two socific examples. Social welfare states in general provide more services (not only through pension) that covers the volunteering aspects of highly individualized countries with less social welfare. Hence, for the future research, it would be beneficial to not use only simple indicators such as volunteering or Purchasing Power Parity but reflect on the socio-economic system of the respective countries.

Future research can focus on cultural and value-related aspects of countries. For instance, interestingly, relationship between civic virtue in general and SWB depends on a country: where antisocial punishment is common and the level of justification of dishonest behaviors is high, virtuous behavior does not bring more SWB than non-virtuous behavior (Stavrova et al. 2013). The role of welfare appears to be a fruitful direction in exploring the nexus of pensions and volunteering. Welfare increases SWB in general population (Radcliff 2001, Pacek and Radcliff 2008a,b, Radcliff 2013, Okulicz-Kozaryn et al. 2014) and so it does help elderly in

Europe (Motel-Klingebiel et al. 2009, Niedzwiedz et al. 2014). Importantly, welfare was found not to crowd out the helping among people (Motel-Klingebiel et al. 2005). In fact, there is some evidence to the contrary, the more welfare (and civil liberties), the more volunteering (Hank 2010). There is however evidence, that familism (Banfield 1967), or Southern informal high level of relations and engagement within family networks tend to crowd out the formal forms of engagement such as volunteering (Kohli et al. 2009, Pichler and Wallace 2007). Being from Poland, we expect that similar mechanism may be at work in Eastern Europe.

There are limitations, as Haski-Leventhal (2009) acknowledges–definitions and perceptions of volunteering differ by country. Still cross-country study of volunteering is common (Haski-Leventhal 2009, Hank and Erlinghagen 2005, Kohli et al. 2009, Hank and Erlinghagen 2009, Hank 2010, Huppert et al. 08, Wahrendorf et al. 2006, Wahrendorf and Siegrist 2010, Wahrendorf et al. 2016), and we have followed this line of research here. The study is cross-sectional and correlational– we do not claim causality.

ONLINE APPENDIX

Table 4: Variable definitions: dependent variables.

name	description
life satisfaction	"On a scale from 0 to 10 where 0 means completely dissatisfied and 10 means completely satisfied, how satisfied are you with your life?" [imputed]
casp	casp scale: see table 2 [ac]

[imputed], [ac], and [ep] pertain to SHARE modules; ac: Activities, ep: Employment and Pensions.

Table 5: Variable definitions: social activities.

name	description
voluntary or charity work	"Please look at card 38: which of the activities listed on this card - if any - have you done in the past twelve months?" [ac]
how often done voluntary or charity work	"How often in the past twelve months did you [do voluntary or charity work]?" [ac]
attended an educational or training course	"Please look at card 38: which of the activities listed on this card - if any - have you done in the past twelve months?" [ac] [ac]
gone to a sport, social or other kind of club	"Please look at card 38: which of the activities listed on this card - if any - have you done in the past twelve months?" [ac] [ac]
taken part in a political or community-related organization	"Please look at card 38: which of the activities listed on this card - if any - have you done in the past twelve months?" [ac] [ac]
read books, magazines or newspapers	"Please look at card 38: which of the activities listed on this card - if any - have you done in the past twelve months?" [ac] [ac]
did word or number games (crossword puzzles/Sudoku...)	"Please look at card 38: which of the activities listed on this card - if any - have you done in the past twelve months?" [ac] [ac]
played cards or games such as chess	"Please look at card 38: which of the activities listed on this card - if any - have you done in the past twelve months?" [ac] [ac]

[imputed], [ac], and [ep] pertain to SHARE modules; ac: Activities, ep: Employment and Pensions.

Table 6: Variable definitions: social transfers.

name	description
annual old age, early retirement pensions, survivor and war pension PPP '000	EP078_1-2-3-7-8-9 (1-2-3-9-10-11 in w6) "After taxes, about how large was a typical payment of [your public old age pension/ your public old age supplementary pension or public old age second pension/ your public early retirement or pre-retirement pension/ your main public sickness benefits/ your main public disability insurance pension/ your secondary public disability insurance pension/ your Secondary public sickness benefits/ your public unemployment benefit or insurance/ your main public survivor pension from your spouse or partner/ your secondary public survivor pension from your spouse or partner/ your public war pension/ your public long-term care insurance/ your social assistance] in [STR (Year - 1)]?" [imputed]
annual private occupational pensions PPP '000	"After taxes, what was the approximate annual amount received from all your occupational pensions in [STR (Year - 1)]?" [imputed]
other regular payments from private pernsions PPP '000	"After any taxes and contributions, about how large was the average payment of [you life insurance payments from a private insurance company/ your private annuity or private personal pension payments/ your alimony/ your regular payments from charities/ your long-term care insurance payments] in [STR (Year - 1)]?" [imputed]
pension PPP '000	EP078_1-2-3-7-8-9 (1-2-3-9-10-11 in w6) from annual old age, early retirement pensions, survivor and war pension AND from annual private occupational pensions AND other regular payments from private pernsions [imputed]
disability/sickness benefits PPP '000	EP078_5-6 and EP078_3_6_10 (4-7 in w6) [from question in "annual old age, early retirement pensions, survivor and war pension"] [imputed]
unemployment benefits PPP '000	EP078_6 (8 in w6) [from question in "annual old age, early retirement pensions, survivor and war pension"] [imputed]
social assistance PPP '000	EP078_10 (12-13 in w6) [from question in "annual old age, early retirement pensions, survivor and war pension"] [imputed]

[imputed], [ac], and [ep] pertain to SHARE modules; ac: Activities, ep: Employment and Pensions.

Table 7: Variable definitions: control variables.

name	description
labor income PPP '000	"After any taxes and contributions, what was your approximate annual income from employment in the year [STR (Year - 1)]? Please include any additional or extra or lump sum payment, such as bonuses, 13 month, Christmas or Summer pays." AND "After any taxes and contributions and after paying for any materials, equipment or goods that you use in your work, what was your approximate annual income from self-employment in the year [STR (Year - 1)]?" [imputed]
household net worth PPP '000	calculated variable–see Release Guide 6.0.0 [imputed]
years of education	"How many years have you been in full-time education?" full-time education * includes: receiving tuition, engaging in practical work or supervised study or taking examinations * excludes: full-time working, home schooling, distance learning, special on-the-job training, evening classes, part-time private vocational training, flexible or part-time higher education studies, etc [imputed]
age	Age of respondent (based on interview year) "In which month and @byear@b were you born?" [imputed]
male	OBSERVATION Note sex of respondent from observation (ask if unsure)
self reported health	"Would you say your health is..." "Poor"..."Excellent" [imputed]
permanently sick or disabled	"Please look at card 7. In general, which of the following best describes your @bcurrent@b employment situation?" "1. Retired; 2. Employed or self-employed (including working for family business); 3. Unemployed; 4. Permanently sick or disabled; 5. Homemaker; 97. Other" coded 1 if "Permanently sick or disabled"; 0 otherwhise [EP]
mobility limitations	"Please tell me whether you have any difficulty doing each of the everyday activities on this card. Exclude any difficulties that you expect to last less than three months. 1. Walking 100 metres; 2. Sitting for about two hours; 3. Getting up from a chair after sitting for long periods; 4. Climbing several flights of stairs without resting; 5. Climbing one flight of stairs without resting; 6. Stooping, kneeling, or crouching; 7. Reaching or extending your arms above shoulder level; 8. Pulling or pushing large objects like a living room chair; 9. Lifting or carrying weights over 10 pounds/5 kilos, like a heavy bag of groceries; 10. Picking up a small coin from a table" [imputed]
married and living together	"What is your marital status?" [imputed]
employed	The following questions are about your current main job. "In this job were you a private-sector employee, a public sector employee or self-employed?" [imputed]
number of grandchildren	"Talking about grandchildren, how many grandchildren do you [and your/ and your/ and your/ and your] [husband/ wife/ partner/ partner] have altogether?" [imputed]

[imputed], [ac], and [ep] pertain to SHARE modules; ac: Activities, ep: Employment and Pensions.

CASP and life satisfaction correlate at $r = .6$, and while in general countries high on one and high on the other one and low on one and on the other one, there are some notable differences shown in figure 7. Again, casp was specifically designed for measurement of SWB among elderly and consists of multiple survey items, hence, we use casp only in this study.

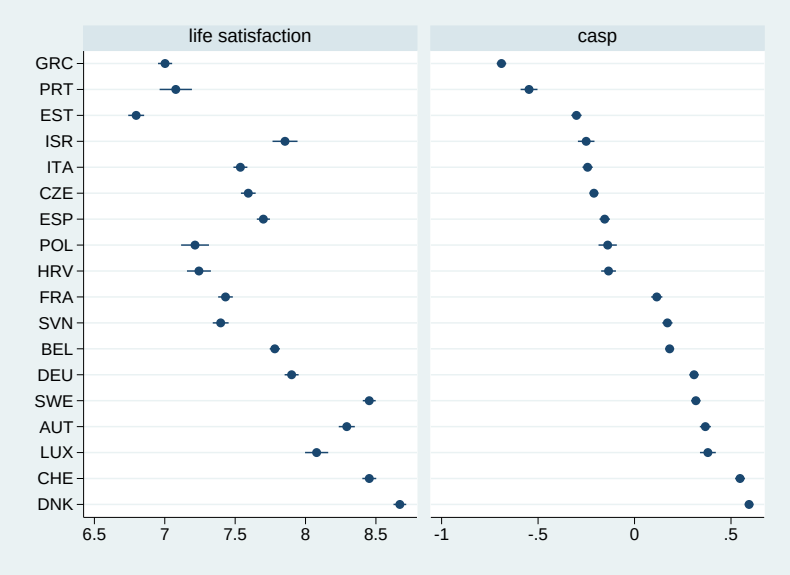

Figure 7: Life satisfaction and casp means.

With regressions, we are interested in comparisons across countries, not within, hence, it is instructive to look at regular coefficients, not beta coefficients that are useful for comparisons within country. Nevertheless some discussion of the differences between the two is instructive. If a regular coefficient is relatively large as compared to other countries, but beta coefficient is relatively small as compared to other countries, it means that for a particular country, there are other things that matter relatively more than volunteering despite the fact that raw effect (regular coefficient) is relatively large as compared to other countries.

In the first set of regressions in tables 8 and 9: Austria (AUT) has the large coefficient on `voluntary or charity work` in both tables. Countries that have insignificant effect on regular coefficient have, by definition, insignificant effect on beta coefficient: Belgium (BEL), Switzerland (CHE), and Czech Republic (CZE). While Denmark (DNK) has the coefficient of about the same size in both tables, Germany (DEU) and France (FRA) have regular coefficients about twice as large as beta coefficients. And for Spain (ESP) and Estonia (EST) the corresponding difference is threefold.

Regarding pensions in the same tables, 8 and 9: for most countries the effect is similar: about twice as large regular coefficient as that standardized, but for Spain (ESP) and Estonia (EST) the difference is severalfold.

Table 8: OLS of CASP on volunteering and pensions. OLS coefficients reported. All models include country dummies.

	AUT	BEL	CHE	CZE	DEU	DNK	ESP	EST	FRA
voluntary or charity work	0.14***	0.04	0.02	0.02	0.10***	0.06**	0.18+	0.15**	0.07*
pension PPP '000	0.01+	0.00	0.00**	0.21	0.00*	-0.02	0.01*	0.03***	0.00**
attended an educational or training course	0.11*	0.03	0.08*	0.02	0.05	0.07**	0.13	0.15***	0.03
gone to a sport, social or other kind of club	0.08**	0.04	0.04	0.13**	0.08**	0.06**	0.30***	0.09*	0.07*
taken part in a political or community-related organization	-0.04	0.11**	-0.03	0.00	-0.01	0.00	-0.00	0.08	0.10*
read books, magazines or newspapers	0.20***	0.12***	-0.05	0.31***	0.12**	0.10*	0.12*	0.23***	0.18***
did word or number games (crossword puzzles/Sudoku...)	0.08**	0.04+	-0.01	0.01	-0.00	0.04	0.11+	0.08**	0.03
played cards or games such as chess	0.14***	0.06*	0.11***	0.01	0.10***	0.02	0.03	0.02	0.02
labor income PPP '000	0.01***	0.00**	0.00	0.11	0.00***	0.00	0.01	0.01+	0.00*
unemployment benefits PPP '000	-0.00	-0.00	-0.01*	2.14***	-0.04**	-0.31**	-0.02	-0.02	0.01
social assistance PPP '000	-0.04*	-0.05*	-0.08**	0.40	0.02	-0.34	-0.08*	0.06	-0.01
disability/sickness benefits PPP '000	0.02**	-0.00	-0.00*	-0.76*	0.01	-0.01	-0.01	0.04**	0.01
household net worth PPP '000	-0.00	0.00***	0.00*	0.01	0.00***	0.00	-0.00	0.00**	0.00**
male	-0.06+	-0.04	-0.06+	0.03	-0.04	-0.03	-0.02	-0.14***	0.05
married and living together	0.20***	0.19***	0.10***	0.07+	0.12***	0.13***	0.11+	0.12***	0.13***
employed	0.06	-0.03	0.04	0.08	-0.01	0.03	0.05	0.11*	0.05
age	0.07**	0.03*	0.02	0.12***	0.07***	0.09***	0.12**	-0.00	0.09***
age2	-0.00**	-0.00*	-0.00	-0.00***	-0.00***	-0.00***	-0.00***	-0.00	-0.00***
years of education	-0.01*	-0.00	0.00	-0.01*	0.00	-0.01**	0.00	0.01**	0.00
number of grandchildren	0.01	0.01**	0.01	0.00	-0.00	0.01***	-0.00	0.03***	0.02***
permanently sick or disabled	0.22	-0.12	-0.11	0.29+	-0.15	-0.10	0.07	-0.12	-0.01
mobility limitations	-0.08***	-0.10***	-0.09***	-0.09***	-0.10***	-0.09***	-0.09***	-0.10***	-0.08***
self reported health	0.26***	0.28***	0.23***	0.22***	0.25***	0.21***	0.34***	0.27***	0.27***
constant	-3.30***	-2.07***	-1.15	-5.01***	-3.22***	-3.00***	-5.36***	-0.82	-4.06***
N	3020	5255	2652	4338	4106	3492	4766	4965	3555

+p<0.10 *p<0.05 **p<0.01 ***p<0.001, robust std err

Table 9: OLS of CASP on volunteering and pensions. Beta (fully standardized) coefficients reported. All models include country dummies.

	AUT	BEL	CHE	CZE	DEU	DNK	ESP	EST	FRA
voluntary or charity work	0.07***	0.02	0.01	0.01	0.05***	0.04**	0.04+	0.05**	0.04*
pension PPP '000	0.06+	0.01	0.05**	0.04	0.02*	-0.02	0.05*	0.09***	0.06**
attended an educational or training course	0.05*	0.02	0.05*	0.01	0.02	0.04**	0.03	0.06***	0.01
gone to a sport, social or other kind of club	0.05**	0.02	0.03	0.07**	0.05**	0.04**	0.10***	0.04*	0.03*
taken part in a political or community-related organization	-0.01	0.04**	-0.01	0.00	-0.00	0.00	-0.00	0.02	0.03*
read books, magazines or newspapers	0.07***	0.05***	-0.02	0.15***	0.05**	0.04*	0.06*	0.07***	0.09***
did word or number games (crossword puzzles/Sudoku...)	0.05**	0.02+	-0.01	0.00	-0.00	0.03	0.04+	0.04**	0.02
played cards or games such as chess	0.08***	0.03*	0.08***	0.01	0.06***	0.01	0.01	0.01	0.01
labor income PPP '000	0.12***	0.05**	0.03	0.03	0.07***	0.00	0.06	0.03+	0.06*
unemployment benefits PPP '000	-0.01	-0.01	-0.03*	0.02***	-0.07**	-0.05**	-0.02	-0.00	0.02
social assistance PPP '000	-0.05*	-0.03*	-0.08**	0.01	0.01	-0.04	-0.04*	0.01	-0.01
disability/sickness benefits PPP '000	0.06**	-0.01	-0.03*	-0.06*	0.02	-0.01	-0.03	0.05**	0.01
household net worth PPP '000	-0.00	0.08***	0.04*	0.04	0.06***	0.02	-0.00	0.04**	0.05**
male	-0.04+	-0.02	-0.04+	0.02	-0.02	-0.02	-0.01	-0.07***	0.03
married and living together	0.12***	0.11***	0.07***	0.04+	0.07***	0.09***	0.05+	0.06***	0.07***
employed	0.04	-0.02	0.03	0.05	-0.01	0.02	0.03	0.05*	0.03
age	0.88**	0.43*	0.35	1.40***	0.89***	1.23***	1.31**	-0.05	1.11***
age2	-0.86**	-0.40*	-0.35	-1.34***	-0.84***	-1.29***	-1.33***	-0.08	-1.12***
years of education	-0.04*	-0.01	0.00	-0.05*	0.01	-0.05**	0.01	0.04**	0.02
number of grandchildren	0.02	0.04**	0.02	0.00	-0.00	0.06***	-0.01	0.07***	0.05***
permanently sick or disabled	0.03	-0.03	-0.02	0.03+	-0.03	-0.03	0.01	-0.03	-0.00
mobility limitations	-0.22***	-0.25***	-0.20***	-0.24***	-0.25***	-0.22***	-0.23***	-0.26***	-0.19***
self reported health	0.33***	0.31***	0.32***	0.29***	0.29***	0.33***	0.37***	0.24***	0.31***
constant	***	***		***	***	***	***		***
N	3020	5255	2652	4338	4106	3492	4766	4965	3555

+p<0.10 *p<0.05 **p<0.01 ***p<0.001, robust std err

In the second set of regressions in tables 10 and 11 similar comparisons can be made. What really stands out is Croatia (HRV): regular coefficient is five times bigger than standardized coefficient. People in Croatia are much happier from volunteering than other nationals, but taking into account relative impact of other things within a country, volunteering in Croatia has only moderate effect.

Regarding pensions, in the same set of tables, 10 and 11: the effect is severalfold for most countries, except Sweden (SWE), where the effect is only two-fold.

Table 10: OLS of CASP on volunteering and pensions. OLS coefficients reported. All models include country dummies.

	GRC	HRV	ISR	ITA	LUX	POL	PRT	SVN	SWE
voluntary or charity work	0.17***	0.25**	0.08	0.24***	0.01	0.05	0.28**	0.15***	0.11**
pension PPP '000	0.01***	0.06*	0.01	0.01***	0.00	0.04*	0.00	0.00	0.05*
attended an educational or training course	0.08	0.15	0.03	0.25*	0.05	-0.02	-0.01	0.04	0.14***
gone to a sport, social or other kind of club	0.14***	0.14**	0.27***	0.16***	0.05	0.19	0.09	0.08*	0.01
taken part in a political or community-related organization	0.14***	-0.01	0.28**	-0.07	0.01	0.34+	-0.15	0.05	0.03
read books, magazines or newspapers	0.17***	0.24***	0.05	0.19***	0.22*	0.20*	0.08	0.16***	0.12*
did word or number games (crossword puzzles/Sudoku...)	0.08*	0.06	0.27**	0.19***	0.04	0.12	0.11	0.11***	-0.01
played cards or games such as chess	0.05+	0.03	0.16*	0.07+	0.13*	0.01	0.09	0.04	0.04
labor income PPP '000	0.01**	-0.02	0.00	0.00	-0.00	0.07	-0.01+	-0.01+	0.02
unemployment benefits PPP '000	-0.02	0.10+	-0.03	0.01***	0.01	-0.88	-0.08**	-0.02	-0.11
social assistance PPP '000	-0.06*	-0.48	0.00	-0.03	-0.01+	-0.30+	-0.22***	-0.04	1.89
disability/sickness benefits PPP '000	0.00	-0.02	0.00	0.01	0.00	0.08	0.02	0.00	0.02
household net worth PPP '000	0.00***	0.00***	0.00***	0.00***	0.00*	0.00	0.00***	0.00	0.00***
male	-0.01	-0.04	-0.04	0.08*	-0.05	-0.03	0.00	-0.04	-0.07*
married and living together	0.03	0.24***	0.04	0.21***	0.14*	0.13	0.04	0.13***	0.09**
employed	0.11**	0.14**	0.25	0.17**	0.00	0.02	0.04	0.19**	0.07*
age	0.05***	0.05+	0.06+	0.01	0.04	0.04	-0.00	0.08**	0.08***
age2	-0.00***	-0.00*	-0.00+	-0.00	-0.00	-0.00	-0.00	-0.00***	-0.00***
years of education	0.00	0.01	0.02+	-0.00	0.01	0.03*	-0.01	0.01+	-0.01**
number of grandchildren	0.00	-0.01	0.02**	0.02*	0.02*	0.01	-0.01	0.01+	0.01**
permanently sick or disabled	-0.01	-0.41*	-0.02	-0.27*	-0.02	-0.34+	-0.09	0.02	-0.31*
mobility limitations	-0.07***	-0.08***	-0.02	-0.10***	-0.11***	-0.11***	-0.09***	-0.09***	-0.06***
self reported health	0.22***	0.23***	0.18***	0.23***	0.24***	0.32***	0.23***	0.20***	0.22***
constant	-3.24***	-2.70**	-3.58*	-1.64*	-2.22	-3.09*	-0.56	-3.09***	-3.09***
N	4571	2341	1574	4816	1415	1677	1433	3895	3621

+p<0.10 *p<0.05 **p<0.01 ***p<0.001, robust std err

Table 11: OLS of CASP on volunteering and pensions. Beta (fully standardized) coefficients reported. All models include country dummies.

	GRC	HRV	ISR	ITA	LUX	POL	PRT	SVN	SWE
voluntary or charity work	0.05***	0.05**	0.03	0.08***	0.00	0.01	0.10**	0.06***	0.05**
pension PPP '000	0.10***	0.05*	0.05	0.09***	0.01	0.05*	0.04	0.01	0.06*
attended an educational or training course	0.02	0.02	0.01	0.04*	0.02	-0.00	-0.00	0.01	0.08***
gone to a sport, social or other kind of club	0.05***	0.05**	0.12***	0.05***	0.03	0.05	0.03	0.04*	0.01
taken part in a political or community-related organization	0.04***	-0.00	0.07**	-0.01	0.00	0.07+	-0.03	0.01	0.01
read books, magazines or newspapers	0.10***	0.12***	0.03	0.09***	0.08*	0.09*	0.04	0.08***	0.04*
did word or number games (crossword puzzles/Sudoku...)	0.03*	0.02	0.13**	0.07***	0.03	0.05	0.06	0.07***	-0.01
played cards or games such as chess	0.02+	0.01	0.06*	0.03+	0.07*	0.00	0.04	0.02	0.02
labor income PPP '000	0.04**	-0.01	0.00	0.02	-0.02	0.08	-0.07+	-0.05+	0.05
unemployment benefits PPP '000	-0.01	0.01+	-0.01	0.03***	0.02	-0.02	-0.10**	-0.02	-0.01
social assistance PPP '000	-0.04*	-0.03	0.00	-0.02	-0.04+	-0.03+	-0.15***	-0.03	0.01
disability/sickness benefits PPP '000	0.01	-0.00	0.00	0.01	0.02	0.03	0.02	0.01	0.01
household net worth PPP '000	0.10***	0.06***	0.16***	0.10***	0.05*	0.03	0.18***	0.03	0.06***
male	-0.00	-0.02	-0.02	0.04*	-0.03	-0.02	0.00	-0.03	-0.05*
married and living together	0.02	0.12***	0.02	0.10***	0.08*	0.06	0.02	0.07***	0.06**
employed	0.06**	0.06**	0.14	0.08**	0.00	0.01	0.02	0.10**	0.05*
age	0.67***	0.52+	0.67+	0.12	0.51	0.49	-0.05	0.93**	1.12***
age2	-0.74***	-0.56*	-0.72+	-0.14	-0.47	-0.39	-0.04	-1.00***	-1.26***
years of education	0.01	0.04	0.07+	-0.01	0.05	0.08*	-0.05	0.04+	-0.06**
number of grandchildren	0.00	-0.02	0.13**	0.04*	0.07*	0.04	-0.03	0.03+	0.05**
permanently sick or disabled	-0.00	-0.05*	-0.00	-0.04*	-0.00	-0.10+	-0.01	0.00	-0.06*
mobility limitations	-0.16***	-0.21***	-0.04	-0.22***	-0.26***	-0.28***	-0.30***	-0.27***	-0.14***
self reported health	0.26***	0.28***	0.22***	0.24***	0.30***	0.31***	0.25***	0.24***	0.33***
constant	***	**	*	*		*		***	***
N	4571	2341	1574	4816	1415	1677	1433	3895	3621

+p<0.10 *p<0.05 **p<0.01 ***p<0.001, robust std err

References

Ahuvia, A. C. (2002): "Individualism/collectivism and cultures of happiness: A theoretical conjecture on the relationship between consumption, culture and subjective well-being at the national level," *Journal of Happiness Studies*, 3, 23–36.

Amit, K. and H. Litwin (2010): "The subjective well-being of immigrants aged 50 and older in Israel," *Social indicators research*, 98, 89–104.

Anderson, N. D., T. Damianakis, E. Kröger, L. M. Wagner, D. R. Dawson, M. A. Binns, S. Bernstein, E. Caspi, and S. L. Cook (2014): "The benefits associated with volunteering among seniors: a critical review and recommendations for future research." *Psychological bulletin*, 140, 1505.

Atkinson, P. (2006): "Mobilizing retired people in ageing societies on a voluntary basis," *Paris, France: GEM Policy Brief*.

Banfield, E. (1967): *The moral basis of a backward society.*, Free Press.

Blanchflower, D. G. and A. J. Oswald (2011): "International happiness: A new view on the measure of performance," *The Academy of Management Perspectives*, 25, 6–22.

Bonsang, E. and A. van Soest (2012): "Satisfaction with social contacts of older Europeans," *Social indicators research*, 105, 273–292.

Butler, S. S. and D. Eckart (2007): "Civic engagement among older adults in a rural community: A case study of the senior companion program," *Journal of Community Practice*, 15, 77–98.

Butts, D. M. (2013): "Civic Engagement Alive And Well With Older Adults," *Huff Post*.

Campbell, A., P. E. Converse, and W. L. Rodgers (1976): *The quality of American life: perceptions, evaluations, and satisfactions*, Russell Sage Foundation, New York NY.

Di Tella, R. and R. MacCulloch (2006): "Some Uses of Happiness Data in Economics," *The Journal of Economic Perspectives*, 20, 25–46.

Di Tella, R., R. J. MacCulloch, and A. J. Oswald (2001a): "The macroeconomics of happiness," Warwick Economic Research Papers No 615.

——— (2001b): "Preferences over inflation and unemployment: Evidence from surveys of happiness," *American Economic Review*, 91, 335–341.

Diener, E. (2009): *Well-being for public policy*, Oxford University Press, New York NY.

Diener, E. and M. E. P. Seligman (2004): "Beyond Money: Toward an Economy of Well-being," *Psychological Science*, 5, 1–31.

Dolan, P., T. Peasgood, and M. White (2008): "Do We Really Know What Makes Us Happy A Review of the Economic Literature on the Factors Associated with Subjective Well-being," *Journal of Economic Psychology*, 29, 94–122.

Duda, D. and M. Oczkowska (2016): "Starzenie sie a satysfakcja z zycia-czynniki wplywajace na dobrostan osob starszych," *Polityka Społeczna*, 36–40.

Ferrer-i-Carbonell, A. and P. Frijters (2004): "How Important is Methodology for the Estimates of the Determinants of Happiness?" *Economic Journal*, 114, 641–659.

Ferring, D. and T. Boll (2010): "Subjective wellbeing in older adults: Current state and gaps of research," in *Ageing, health and pensions in Europe*, ed. by A. Z. Lans Bovenberg, Arthur van Soest, Springer, 173–212.

Frijters, P., J. P. Haisken-Denew, and M. a. Shields (2004): "Money does matter! evidence from increasing real income and life satisfaction in east germany following reunification," *American Economic Review*, 94, 730–740.

Fuentes, S., U. Bilal, I. Galán, J. R. Villalbí, A. Espelt, M. Bosque-Prous, M. Franco, and M. Lazo (2017): "Binge drinking and well-being in European older adults: do gender and region matter?" *The European Journal of Public Health*, ckw246.

Gujarati, D. N. (2002): *Basic Econometrics*, New York: Mcgraw-Hill.

Hank, K. (2010): "Societal determinants of productive aging: a multilevel analysis across 11 European countries," *European Sociological Review*, 27, 526–541.

Hank, K. and M. Erlinghagen (2009): "Dynamics of volunteering in older Europeans," *The Gerontologist*, 50, 170–178.

Hank, M. and K. Erlinghagen (2005): "Participation of older European in volunteer work," *MEA discussion papers, Mannheim, University of Mannheim*.

Haski-Leventhal, D. (2009): "Elderly volunteering and well-being: A cross-European comparison based on SHARE data," *Voluntas: International Journal of Voluntary and Nonprofit Organizations*, 20, 388–404.

Helliwell, J. F., H. Huang, S. Grover, and S. Wang (2014): "Good Governance and National Well-being: What are the Linkages?" *Paper Presented at 2nd Wellbeing and Public Policy Conference at Hamilton College*.

Henkin, N. and J. Zapf (2006): "How communities can promote civic engagement of people age 50-plus," *Generations*, 30, 72–77.

Howgate, D. (2008): *Increasing volunteerism among older adults: benefits and strategies for states*, NGA Center for Best Practices.

Huppert, F., N. Marks, A. Clark, J. Siegrist, A. Stutzer, J. Vitters, and M. Wahrendorf (08): "Measuring Well-being Across Europe: Description of the ESS Well-being Module and Preliminary Findings," *Social Indicators Research*, 91, 301–315.

Hyde, M., P. Higgs, R. Wiggins, and D. Blane (2015): "A decade of research using the CASP scale: key findings and future directions," .

Hyde, M., R. D. Wiggins, P. Higgs, and D. B. Blane (2003a): "A measure of quality of life in early old age: the theory, development and properties of a needs satisfaction model (CASP-19)," *Aging & mental health*, 7, 186–194.

——— (2003b): "A measure of quality of life in early old age: the theory, development and properties of a needs satisfaction model (CASP-19)," *Aging & mental health*, 7, 186–194.

Inglehart, R. (1997): *Modernization and postmodernization: Cultural, economic, and political change in 43 societies*, Princeton Univ Pr, Princeton NJ.

Jürges, H. and A. van Soest (2012): "Comparing the well-being of older europeans: Introduction," *Social indicators research*, 105, 187–190.

Kahneman, D. and A. Deaton (2010): "High income improves evaluation of life but not emotional well-being," *Proceedings of the National Academy of Sciences*, 107, 16489–16493.

Kahneman, D., E. Diener, and N. Schwarz (1999): *Well-being: Foundations of hedonic psychology*, Russell Sage Foundation.

Kim, G. R., G. Netuveli, D. Blane, A. Peasey, S. Malyutina, G. Simonova, R. Kubinova, A. Pajak, S. Croezen, M. Bobak, et al. (2015): "Psychometric properties and confirmatory factor analysis of the CASP-19, a measure of quality of life in early old age: the HAPIEE study," *Aging & mental health*, 19, 595–609.

Kohli, M., K. Hank, and H. Künemund (2009): "The social connectedness of older Europeans: patterns, dynamics and contexts," *Journal of European Social Policy*, 19, 327–340.

Kushlev, K., E. W. Dunn, and R. E. Lucas (2015): "Higher Income Is Associated With Less Daily Sadness but not More Daily Happiness," *Social Psychological and Personality Science*, 6, 483–489.

Morrison, P. S. and M. Weckroth (2017): "Human values, subjective well-being and the metropolitan region," *Regional Studies*, 1–13.

Motel-Klingebiel, A., L. R. Gordo, and J. Betzin (2009): "Welfare states and quality of later life: distributions and predictions in a comparative perspective," *European journal of ageing*, 6, 67–78.

Motel-Klingebiel, A., C. Tesch-Roemer, and H.-J. Von Kondratowitz (2005): "Welfare states do not crowd out the family: evidence for mixed responsibility from comparative analyses," *Ageing & Society*, 25, 863–882.

Myers, D. G. (2000): "The Funds, Friends, and Faith of Happy People," *American Psychologist*, 55, 56–67.

Niedzwiedz, C. L., S. V. Katikireddi, J. P. Pell, and R. Mitchell (2014): "Socioeconomic inequalities in the quality of life of older Europeans in different welfare regimes," *The European Journal of Public Health*, 24, 364–370.

Oarga, C., O. Stavrova, and D. Fetchenhauer (2015): "When and why is helping others good for well-being? The role of belief in reciprocity and conformity to society's expectations," *European Journal of Social Psychology*, 45, 242–254.

Okulicz-Kozaryn, A., O. Holmes IV, and D. R. Avery (2014): "The Subjective Well-Being Political Paradox: Happy Welfare States and Unhappy Liberals." *Journal of Applied Psychology*, 99, 1300–1308.

Okulicz-Kozaryn, A. and J. M. Mazelis (2016): "More Unequal In Income, More Unequal in Wellbeing," *Social Indicators Research*.

Okulicz-Kozaryn, A. and R. Valente (2018): "Livability and Subjective Wellbeing Across European Cities," *Forthcoming in Applied Research in Quality of Life*.

Pacek, A. and B. Radcliff (2008a): "Assessing the welfare state: The politics of happiness," *Perspectives on Politics*, 6, 267–277.

——— (2008b): "Welfare Policy and Subjective Well-Being Across Nations: An Individual-Level Assessment." *Social Indicators Research*, 89, 179 – 191.

Pérez-Rojo, G., N. Martín, C. Noriega, and J. López (2017): "Psychometric properties of the CASP-12 in a Spanish older community dwelling sample," *Aging & mental health*, 1–9.

Pichler, F. and C. Wallace (2007): "Patterns of formal and informal social capital in Europe," *European sociological review*, 23, 423–435.

Plagnol, A. (2014): "Volunteering Motives in Europe," *Encyclopedia of Quality of Life and Well-Being Research*, 299–311.

Plagnol, A. C. and F. A. Huppert (2010): "Happy to help? Exploring the factors associated with variations in rates of volunteering across Europe," *Social Indicators Research*, 97, 157–176.

Radcliff, B. (2001): "Politics, Markets, and Life Satisfaction: The Political Economy of Human Happiness," *American Political Science Review*, 95, 939–952.

——— (2013): *The Political Economy of Human Happiness: How Voters' Choices Determine the Quality of Life*, Cambridge University Press, New York NY.

Ryan, R. M., V. I. Chirkov, T. D. Little, K. M. Sheldon, E. Timoshina, and E. L. Deci (1999): "The American dream in Russia: Extrinsic aspirations and well-being in two cultures," *Personality and social psychology bulletin*, 25, 1509–1524.

Salamon, L. M., M. A. Haddock, and S. W. Sokolowski (2017): "Closing the gap? New Perspectives on volunteering north and south," in *Perspectives on Volunteering*, Springer, 29–51.

Schmuck, P., T. Kasser, and R. M. Ryan (2000): "Intrinsic and extrinsic goals: Their structure and relationship to well-being in German and US college students," *Social Indicators Research*, 50, 225–241.

Stavrova, O., T. Schlösser, and D. Fetchenhauer (2013): "Are virtuous people happy all around the world? Civic virtue, antisocial punishment, and subjective well-being across cultures," *Personality and social psychology bulletin*, 39, 927–942.

Stolnitz, G. J. (1992): "Demographic causes and economic consequences of population aging: Europe and North America." .

Vanhoutte, B. (2012): "Measuring subjective well-being: a review," *CCSR Woking Paper*.

——— (2014): "The multidimensional structure of subjective well-being in later life," *Journal of population ageing*, 7, 1–20.

Veenhoven, R. (2008): "Sociological theories of subjective well-being," in *The Science of Subjective Well-being: A tribute to Ed Diener*, ed. by M. Eid and R. Larsen, The Guilford Press, New York NY, 44–61.

——— (2009): "Well-being in nations and well-being of nations," *Social Indicators Research*, 91, 5–21.

——— (2012): "Evidence-based pursuit of happiness: What we should know, what we do know and what we can get to know," Tech. rep., EHERO.

Wahrendorf, M., D. Blane, K. Matthews, and J. Siegrist (2016): "Linking quality of work in midlife to volunteering during retirement: A European study," *Journal of population ageing*, 9, 113–130.

Wahrendorf, M. and J. Siegrist (2010): "Are changes in productive activities of older people associated with changes in their well-being? Results of a longitudinal European study," *European Journal of Ageing*, 7, 59–68.

Wahrendorf, M., O. von dem Knesebeck, and J. Siegrist (2006): "Social productivity and well-being of older people: baseline results from the SHARE study," *European Journal of Ageing*, 3, 67–73.

Wilson, E. O. (2012a): *On human nature*, Harvard University Press.

Wilson, J. (2012b): "Volunteerism research: A review essay," *Nonprofit and Voluntary Sector Quarterly*, 41, 176–212.

Wiwad, D. and L. B. Aknin (2017): "Motives matter: The emotional consequences of recalled self-and other-focused prosocial acts," *Motivation and Emotion*, 41, 730–740.

Zedlewski, S. R. and B. A. Butrica (2007): "Are We Taking Full Advantage of Older Adults Potential?" .