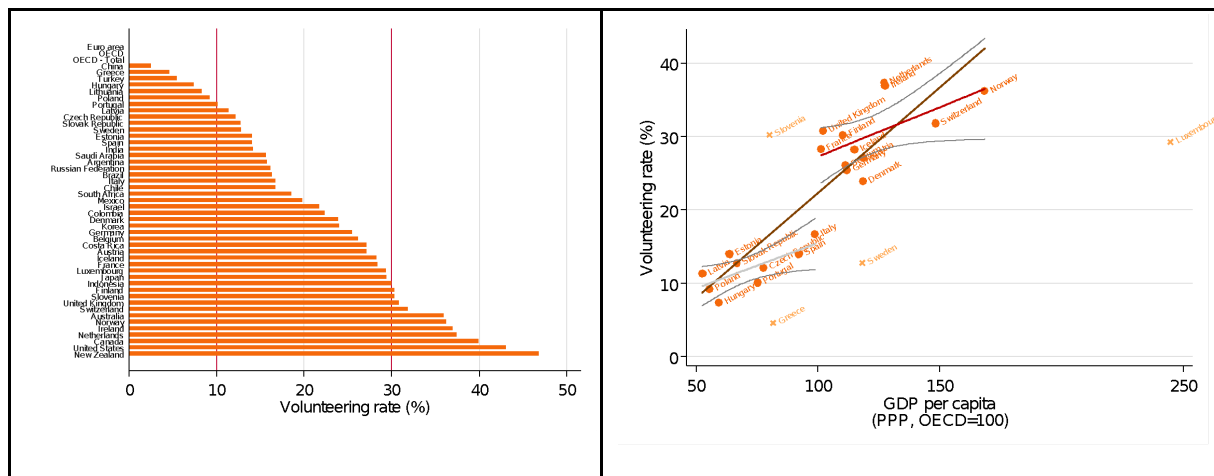


Introduction

1. Haski (2009) as the main reference. A list of empirical papers on volunteerism among elderly (Erlinghagen and Hank, 2006; Wahlendorf and Siegriest, ?)
2. Main findings in Haski (2009)
 - a. positive relation between volunteering and physical and psychological well-being.
 - b. volunteering rates differ among countries in the way known from earlier studies - the highest rates in Northern Europe and the lowest rates in Southern Europe
 - c. volunteering influences perceived health and life satisfaction differently in different countries
 - d. puzzle : no clear relation between impact of volunteering on health and quality of life and extend of volunteering (Italy compared with the Netherlands) in the wave 1 of SHARE
3. Research question (robustness check) – Is it possible to find association between extend of volunteering and health and quality of life using different data (SHARE wave 6 instead of SHARE wave 1)
4. Extensions in our paper
 - a. Wave 6 instead of wave 1
 - b. New formulation of question on volunteering (12 months instead of 4 weeks)
 - c. New countries (Eastern Europe)
 - d. New measure of association between popularity of volunteering and its relation to subjective health and life satisfaction (Kendall's tau-b instead of Pearson's correlation)
 - e. New measure for life satisfaction (casp instead of 4 point Likert scale)
5. Summary of results ...

II. Volunteering among elderly – what do we currently know ?

1. “Society at Glance 2016” (OECD) – differences in rates
 - a. Very large dispersion of the rates – from 2.4% in China to 46.8% in New Zealand.
 - b. The rates are higher in high developed countries
 - c. significant estimates in unrestricted regression of volunteering rates on GDP per capita in PPP terms for European countries
 - d. Two groups of countries in Europe – in both positive relation can be found but restricted relations are weaker than the unrestricted (pooled European countries)
 - e. Groups as in other analysis – Western and Northern Europe vs. Southern and Eastern Europe



Note. Volunteering rate is measured as ... (Gallup Data) GDP per capita an average value for 2006-2012. Partial effect of GDP per capita on volunteering rate is 0.28 with p-value less than 0.1% in the unrestricted model. In the lower group the effect is 0.13 and in the upper 0.12. Both effects are statistical significant on 5% level.

Source. OECD database (more)

Fig. 1 Volunteering rates among people 50+ and its relation to economic development in Europe

2. “Society at Glance 2016” (OECD) – differences in rates conditional on age (structural differences)
 - a. Differences in age (or cohort) structures
 - b. Volunteering among elderly less popular in CEE – inverted U shaped structure or increasing rates in age in WE vs. decreasing rates in age in CEE
 - c. Young population in CEE more like young population in WE, but old population in CEE is very different to old population in WE
 - d. Does history matters ? Is it age (health) or cohort (history) effect ?

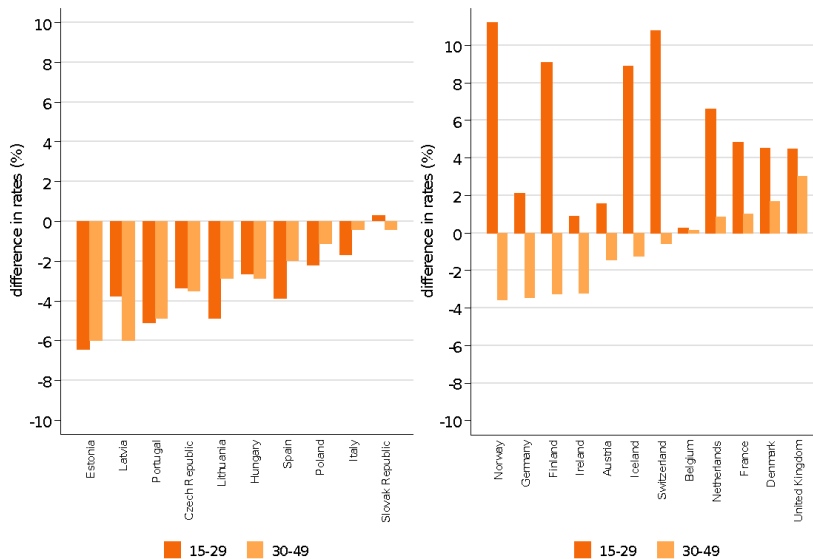


Fig. 2 Volunteering rates among 50+ in relation to volunteering among young (15-29) and mid-age people (30-49)

Note. The difference is defined as the rate for the group of 50+ minus the rate for another group.

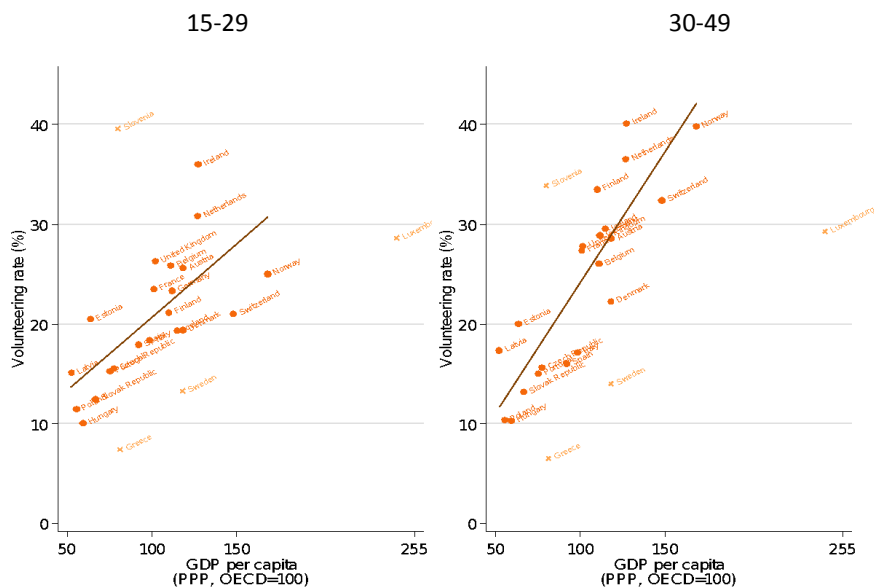


Fig. 3 Volunteering rates among “15-29” and “30-49”

Source. [OECD database \(more\)](#)

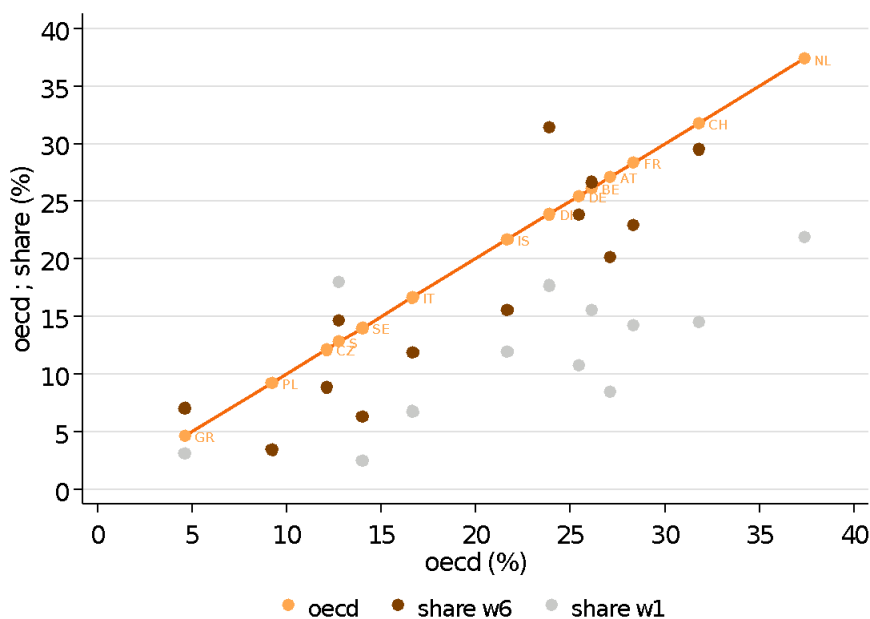
3. Research question (hypothesis)

- The rates differs among European countries
- What are possible associations between popularity of volunteering and health and quality of life ? Should we expect stronger associations in countries with high rates or a just opposite case should be expected ? – I DO NOT HAVE LIT

- c. Problem of possible double causation or bilateral relationships between volunteering and subjective health and quality of life
- d. **Our goal – descriptive – to identify an association between X (the volunteering rate) and ‘correlation’ between the rate and Y (health or QoL)**
- e. Importance of these associations (?) – necessary for presenting motivation for the paper. -> any policy oriented implications ?

III. Data, variables and methods

1. SHARE survey
2. Wave 6 vs. Wave 1
 - a. New formulation of the source question used for volunteering identification [4 weeks replaced by 12 months]
 - b. New countries
3. How the rates were calculated in Haski (2009) ? How they are different to reported in the OCED report and what is the relation between the OECD rates and the rated from Wave 6
4. SHARE wave 6 rates are different to the OECD rates but ordering is sustain

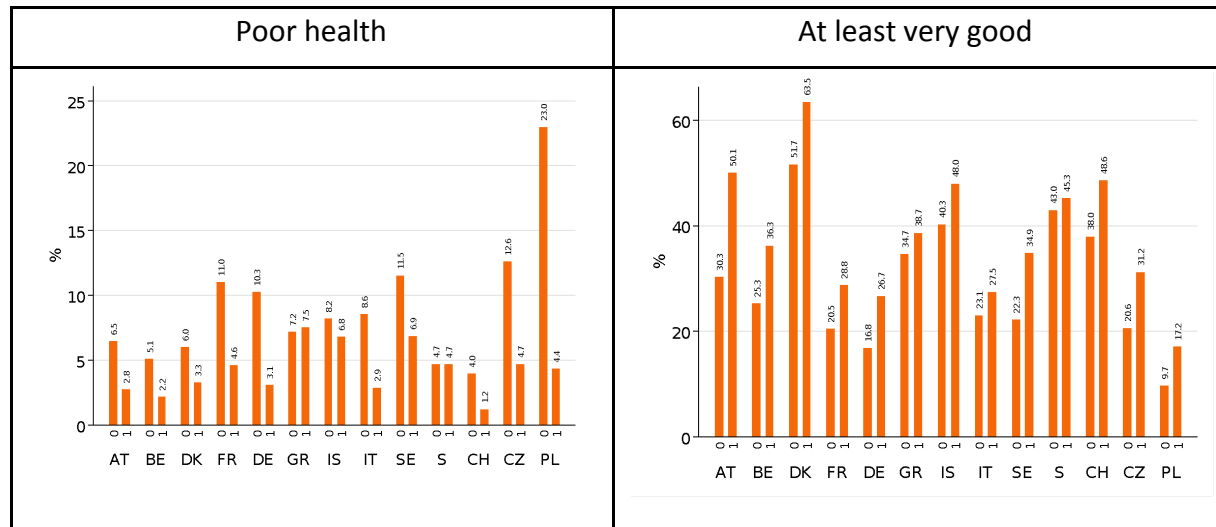


5. Subjective health variable –
 - a) formulation and cumulative distributions for W6

country H	poor	fair	good	Very good	Excellent
CH	3.2	18.0	59.0	89.0	100.0
DK	5.2	22.3	44.7	79.2	100.0
S	4.7	24.8	56.7	83.2	100.0
BE	4.3	25.3	71.7	92.5	100.0
IS	8.0	28.6	58.6	89.3	100.0
GR	7.2	30.6	65.1	93.1	100.0
AT	5.7	31.7	65.7	91.5	100.0
FR	9.6	34.8	77.6	93.6	100.0
SE	11.3	38.6	77.0	92.2	100.0

IT	7.9	40.3	76.4	93.5	100.0
CZ	12.0	40.5	78.5	95.3	100.0
DE	8.7	40.9	80.9	95.1	100.0
PL	22.1	51.7	89.9	98.0	100.0
	9.9	38.1	76.8	93.5	100.0

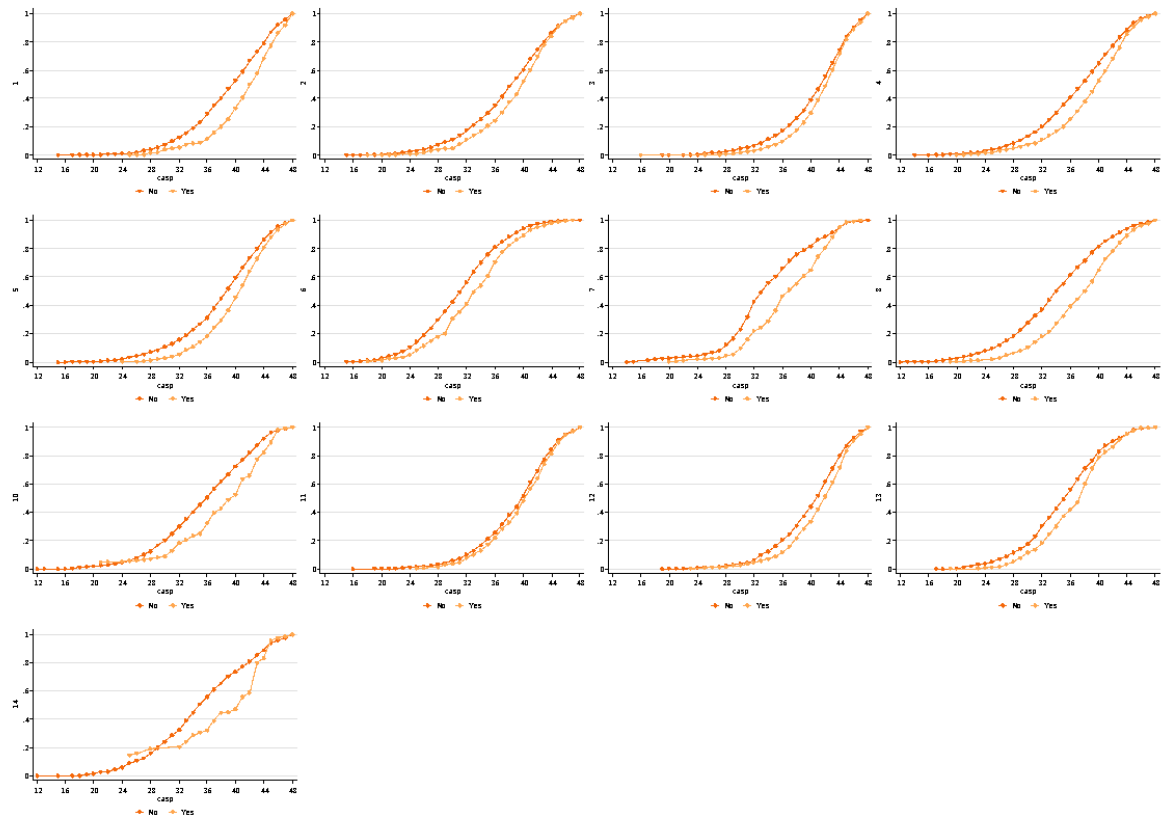
a) ... and volunteering



- ⇒ Participation in volunteering associated with less frequent declaration of poor health
- ⇒ Participation in volunteering associated with more frequent declaration of at least good health

6. CASP – quality of life amongst elderly

- a. Description of CASP
- b. CDF distributions



- c. It is like FSD (first order stochastic dominance) what means that welfare (wellbeing) of those volunteering is higher than those non-volunteering for each welfare function having casp as an argument of the welfare function.

7. Kendall tau-b as measurement tool for investigating association between popularity of volunteering and health and QoL

1. Definition

IV. Results

1. Values for each country
 - a. Volunteering-subjective health
 - b. Volunteering- QoL (casp)
2. Significance tests for differences in volunteering-health associations as measured by tau-b (p-values)

	AT	FR	BE	CH	DE	DK	CZ	IT	SE	PL	IS	GR	S
Rate	20.1%	22.9%	26.6%	29.5%	23.9%	31.4%	8.9%	11.8%	14.7%	3.4%	15.5%	7.0%	6.3%
Tau-b	16.2%	12.5%	12.3%	12.1%	11.2%	9.9%	8.5%	8.2%	8.1%	7.3%	4.0%	2.1%	1.7%
AT													
FR	7.9%												
BE	4.5%	90.4%											
CH	7.1%	84.5%	92.0%										
DE	1.5%	49.7%	53.9%	67.5%									
DK	0.3%	20.2%	20.8%	33.0%	52.8%								
CZ	0.0%	4.1%	3.6%	9.8%	16.8%	49.0%							
IT	0.0%	2.2%	1.7%	6.4%	10.8%	38.0%	86.4%						
SE	0.0%	1.7%	1.3%	5.3%	9.0%	34.1%	81.1%	94.6%					
PL	0.0%	2.9%	2.7%	6.1%	10.1%	28.3%	60.1%	68.8%	72.3%				
IS	0.0%	0.1%	0.1%	0.3%	0.5%	2.5%	7.6%	9.1%	9.8%	25.8%			
GR	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	2.7%	44.6%		
S	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	2.2%	38.3%	86.4%	

- ⇒ Only partial ordering but 5 groups may be identified
 1. France, Belgium, Switzerland, Germany, Denmark
 2. Germany, Denmark, Czech Rep., Italy
 3. Denmark, Czech Rep., Italy, Spain, Poland
 4. Poland, Israel [get rid of ?]
 5. Israel, Greece, Sweden.
- ⇒ For example: Austria, France, Belgium, Switzerland, are different to Czech Rep., Italy, Spain, Poland
- ⇒ Germany and Denmark are between

- ⇒ Denmark, Czech Rep., Italy, Spain are different Israel, Greece, Sweden, with Poland being between
- ⇒ There are signs of a relation between economic development and association between volunteering and health

3. Significance tests for differences in volunteering-QoL associations as measured by tau-b

	IS	AT	IT	FR	DE	SE	BE	PL	CH	GR	DK	CZ	S
Rate	15.5%	20.1%	11.8%	22.9%	23.9%	14.7%	26.6%	3.4%	29.5%	7.0%	31.4%	8.9%	6.3%
Tau-b	15.4%	14.1%	14.4%	12.3%	10.9%	10.3%	10.1%	9.0%	8.6%	8.2%	6.4%	5.3%	3.3%
IS	58.4%												
IT	64.1%	87.9%											
FR	19.0%	36.2%	23.7%										
DE	5.0%	8.9%	3.6%	43.4%									
SE	2.1%	3.4%	0.9%	24.0%	71.1%								
BE	1.8%	2.6%	0.6%	20.3%	63.6%	91.4%							
PL	1.5%	2.5%	1.0%	13.6%	38.0%	53.8%	59.3%						
CH	0.6%	0.9%	0.3%	6.7%	23.8%	36.2%	41.0%	84.3%					
GR	0.2%	0.1%	0.0%	2.2%	11.7%	20.1%	24.1%	71.4%	87.5%				
DK	0.0%	0.0%	0.0%	0.2%	1.5%	2.7%	3.5%	24.6%	30.9%	31.6%			
CZ	0.0%	0.0%	0.0%	0.0%	0.1%	0.2%	0.3%	8.5%	10.5%	8.7%	54.6%		
S	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	1.2%	0.6%	10.9%	28.1%	

- ⇒ Different ordering than for health
- ⇒ ...

4. How associations are related to volunteering rates ?

Subjective health	Quality of life (CASP)
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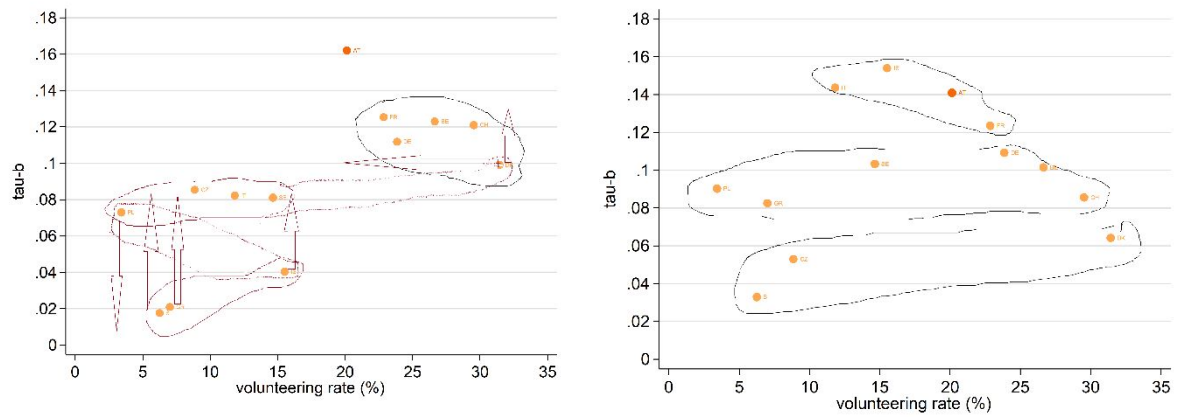


Fig. X ...

- ⇒ “switching model” for health or Denmark as outlier. In both cases a rather linear association showing that more volunteers means higher “correlation” between volunteering and better subjective health
- ⇒ More “non-linear” association for quality of life with the maximum around 15% (Denmark)

Discussion and conclusion

- ⇒ Any idea how these results fit to the literature and how associations between subjective health and volunteering (more linear) and QoL and volunteering may be explained ?