



1 Article

2 **Dynamics of volunteering and life satisfaction in midlife and old**
3 **age: Findings from 12 European countries**

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5 **Abstract:** A growing literature shows that doing voluntary work not only helps the wider
6 community but can also improve one's own well-being. To date, however, few studies have
7 examined the relationship between volunteering and well-being in non-US and especially in
8 comparative data. We study this relationship using two waves of data of 18,559 individuals aged 50
9 and above from 12 European countries. We analyze life satisfaction impacts of change and stability
10 in volunteering status and in the intensity (frequency) of volunteering, and explore whether these
11 impacts differ according to life stage (age, employment status) and across countries with different
12 norms and supports for voluntarism. Findings show that net life satisfaction is higher among longer-
13 term, recent, and former volunteers than among stable (long-term) non-volunteers. There are no
14 significant life satisfaction differences between the three groups with volunteer experience. Equally,
15 similar levels of life satisfaction are observed among people who have increased and decreased their
16 frequency of volunteering. It thus seems to be the experience and not the dynamics (i.e. change or
17 persistence) of volunteering that is associated with well-being. Findings further suggest life course
18 variation in the association between volunteering and well-being, as the relationship is stronger for
19 older and long-term non-employed (mostly retired) individuals than for their middle-aged and
20 working counterparts. The relationship is also stronger in countries where volunteering is less
21 common and less institutionally supported.

22 **Keywords:** volunteering; older adults; life satisfaction; Europe

23

24 **1. Introduction**

25 With the ageing of the population, stimulating and enabling older people to remain actively
26 engaged in society sit high on Western political agendas (Walker et al. 2012). Voluntary work provides
27 a viable arena for social contributions and engagement in late life. Volunteering is a generic term that
28 refers to different types of helping behaviors that people undertake of their free will and without being
29 paid, to people outside of their household. One way to categorize these activities is by their formality
30 (Wilson & Musick 1997). Formal volunteering is any contribution of time and energy to activities of
31 organizations. Informal volunteering refers to help given directly, not mediated by formal
32 organizations, for instance to a friend or a neighbor (Lee & Brudney 2012). In Europe, the rate of
33 volunteering among older adults varies considerably across countries. The rate of seniors (age 60–79)
34 who have done voluntary work at least monthly during the last year ranges from 2–3 % in southern
35 countries such as Spain and Greece to 20–22% in northern countries such as the Netherlands and the
36 Nordic countries (Erlinghagen & Hank 2006, Hank & Stuck 2008).

37 The contribution of older volunteers is believed to benefit not only communities and society but
38 also older people themselves (WHO 2002, Principi et al. 2015). This expectation is tied to at least three
39 factors. First, that engaging in prosocial behavior may generate a greater sense of meaning, competence,
40 self-worth, and personal growth. Furthermore, that the physical activity aspect of volunteering may
41 have important health benefits and protect against health problems. Last, that volunteering may
42 broaden opportunities for positive social exchanges and social support (Pilkington et al. 2012).
43 However, the gains could be balanced or outweighed by any potentially negative aspects of
44 volunteering, such as role conflict and excessive time and energy demands.

45 There are several reasons for expecting that older people might experience greater benefits of
46 volunteering than middle-aged adults. First, older people, particularly if they are retired, should be less
47 prone to time strains and stress from multiple role obligations. Second, whereas younger people may
48 be expected to do some voluntary work as part of their work and parent roles, volunteering may be
49 more truly “voluntary” and intrinsically motivated in older age (Van Willigen 2000). A similar point is
50 that the nature of the activities is also different, as elders may be freer to choose the types of voluntary
51 work they find interesting and rewarding. US data suggest that older volunteers may benefit more
52 because they are active in the more psychologically beneficial types of voluntary work, such as church-
53 based voluntarism and senior center voluntarism (Van Willigen 2000). Finally, voluntary work may
54 play a particularly useful role in protecting against inactivity and physical decline among older people
55 (Fischer & Schaffer 1993). Seniors are less likely to have other social roles to keep them active, socially
56 integrated, and feeling productive (Van Willigen 2000). Indeed, older volunteers often report benefits
57 and joys from doing voluntary work. In a US study, almost 8 out of 10 older volunteers agreed that
58 voluntarism had enhanced their well-being and provided them with a larger social network. Three out
59 of four said they now used their time more meaningfully (Wilson & Musick 1999, Morrow-Howell
60 et al. 1999).

61 A vast literature confirms that volunteering is cross-sectionally associated with different indicators
62 of mental health and well-being among older adults (see Anderson et al. 2014; Casiday et al. 2008; von
63 Bonsdorff & Rantanen 2011 for reviews). However, the causal order is not clear from these studies
64 (Anderson et al. 2014). A growing number of prospective studies of the impact of volunteering on well-
65 being has emerged, mostly based on US data. Some of these studies indicate that volunteering improves
66 aspects of psychological outcomes, such as depression, happiness, and life satisfaction (Li & Ferraro
67 2006; Musick & Wilson 2003; Piliavin & Siegl 2007; Thoits & Hewitt 2001; Van Willigen 2000). Similar
68 effects have also been found in studies from Australasian countries (Mellor et al. 2009; Schwingel et al.
69 2009; Windsor et al. 2008). Some data also demonstrate that older adults (age 60+) receive greater mental
70 health and life satisfaction benefits from volunteering than middle-aged adults (Kim & Pai 2010; Li &
71 Ferraro 2006; Van Willigen 2000). Musick and Wilson (2003), for example, found that volunteering
72 decreased depression, but only for the 65+ age group. Yet there are studies of older adults that fail to
73 confirm prospective effects of volunteering on life satisfaction and happiness (Menec 2003) or
74 depression (Shmotkin et al. 2003). Several studies have also examined bidirectional effects. It has been
75 found that seniors with better health, social and economic resources, and higher self-esteem are more
76 likely to become volunteers (Anderson et al. 2014; Li & Ferraro 2005). Some prospective studies of older
77 adults only find evidence of well-being influencing volunteering, and not vice versa (Son & Wilson
78 2012). It is thus still unclear whether volunteering improves psychological well-being.

79 The literature on the relationship between volunteering and well-being has several other gaps.
80 First, few non-US and especially cross-national comparative studies exist. Little is thus known about
81 whether the effect of volunteering varies with cultural and institutional contexts. There are several
82 reasons to expect country differences in the association between volunteering and well-being. First, the
83 degree to which volunteering is encouraged, supported, and practiced may matter. In countries where
84 voluntarism is more normative and prevalent, such as the Northern European countries, the activity
85 may be especially rewarding because people may derive satisfaction and self-approval by conforming
86 to social norms and a sense of “doing one’s duty”. Volunteers in a low-volunteering country may not
87 experience the same social recognition and “moral” rewards. Furthermore, in low-volunteering
88 countries, those who contribute may not expect their contribution to be reciprocated, which is found to
89 be a condition for positive benefits of volunteering (McMunn et al. 2009). Similarly, in these countries,
90 the fact that few others volunteer may generate feelings of unfairness and resentment among those who
91 are active in this way. Second, volunteer satisfaction has been shown to depend upon institutional
92 support for the activity (Strom & Strom 1994). Voluntarism may thus be more beneficial when
93 governments encourage and support voluntary work, as in the northern European countries. Without
94 such support volunteering may be less attractive and more of a burden. These notions aside, arguments
95 can also be made for the benefits being lower in high-volunteering countries and stronger welfare states.
96 In these countries, volunteers may feel less needed—if they do not deliver the services, the state or

97 someone else will (Haski-Leventhal 2009). Concomitantly, in low-volunteering countries, the few who
98 volunteer may feel more special and receive more favorable social feedback. It may also be that in these
99 countries, perhaps because of missing infrastructure for volunteering, only those who are highly
100 motivated and most likely to benefit from volunteering actually volunteer. Hence, in these countries a
101 strong association between well-being and volunteering might reflect selection into volunteering rather
102 than causal effects. In sum, it is an empirical question whether and how the benefits of volunteering
103 vary across nations and by different macro-level characteristics.

104 Second, there is limited knowledge about life course variation in the associations between
105 volunteering and well-being. Some studies indicate that associations are stronger or only evident
106 among older (60+) individuals, but findings are mixed (Anderson et al. 2014; Jenkinson et al. 2013). Few
107 studies have explored the moderating role of other life course markers, such as retirement. Theoretical
108 arguments about age-differences (see above) often center, however, on retirement and not age. As
109 retirement may be more likely to affect the benefits of volunteering than age per se, the role of retirement
110 should be examined more directly.

111 Third, there is limited knowledge – especially in a cross-national setting – about how volunteering
112 effects may depend on the dynamics in the volunteer role. Little is for example known about the role of
113 consistency of volunteering; whether the benefits are larger for those who have volunteered regularly
114 over a longer period of time and whether effects of volunteering disappear when volunteering is
115 discontinued. US research suggests gradually stronger benefits the longer time (the more data waves)
116 older people have volunteered (Piliavin & Siegl 2007; Wilson & Musick 1999). US and UK data also
117 indicate that the positive effects of volunteering disappear when volunteering is discontinued (Binder
118 & Freytag 2013; Meier & Stutzer 2008).

119 Finally, few studies explore the effect of frequency of volunteering. A role theory perspective
120 would argue that the frequency of volunteering may be inconsequential because people derive
121 satisfaction merely from thinking of themselves, and being seen by others, as a volunteer (Son & Wilson
122 2012). By contrast, insofar as there are benefits of the actual volunteer activity, there could be a “dose-
123 response” relationship between frequency of volunteering and well-being (Son & Wilson 2012). Doing
124 too much volunteering, on the other hand, could lead to strain and decreased well-being. Indeed, US
125 findings suggest that high levels of volunteer activity may have diminishing returns or perhaps even
126 harmful effects on late-life well-being (Van Willigen 2000).

127 This study examines associations between voluntary work and life satisfaction in data from 12
128 European countries. The overarching aim is to assess whether volunteering is associated with greater
129 well-being and if the association varies by level of volunteering, life stage, and country. We address the
130 above-mentioned gaps in the literature by asking the following questions: What is the effect of change
131 (commencing, ending) and continuity in volunteering on life satisfaction? What is the relationship
132 between (change in) intensity of volunteering and life satisfaction? Do effects of volunteering vary
133 across age groups and between working and non-working individuals? Are the effects different in
134 countries with different rates, cultures, and institutional supports of volunteering?

135 2. Materials and Methods

136 *Data*

137 This study combines harmonized data from two datasets: the Survey of Health, Ageing and
138 Retirement (SHARE) and the Norwegian study on Life course, Ageing, and Generation (NorLAG).
139 SHARE has a representative sample of the population aged 50 and over in Sweden, Denmark, the
140 Netherlands, Belgium, France, Germany, Austria, Switzerland, Spain, Italy, and Greece (Börsch-
141 Supan 2017; Börsch-Supan et al. 2013). We use data from the first wave (w1) and second wave (w2)
142 of SHARE, collected in 2004–2005 and 2006–2007, respectively. Of the original w1 sample, 66%
143 (n=18,742) participated in both waves. All data are collected by face-to-face, computer-aided personal
144 interviews (CAPI), supplemented by a self-completion paper-and-pencil questionnaire. NorLAG
145 comprises representative data of Norwegians aged 40–80 (at w1). Data were collected in 2002–2003
146 (w1) and 2007–2008 (w2) by means of a combination of phone interview, postal questionnaire, and
147 registry information (Slagsvold et al. 2012). The w1 response rate was 67% (n=5,559), of which 72%

148 (n=3,796) took part at w2 (combined response rate 48). Together the analytical sample comprises
149 longitudinal information about 18,559 respondents (16,953 from SHARE and 1,606 from NorLAG)
150 aged above 50 from 12 countries (listwise deletion).

151 *Dependent and independent variables*

152 Our dependent variable is life satisfaction at w2. It is measured with a single item: "On a scale
153 from 0 to 10 where 0 means completely dissatisfied and 10 means completely satisfied, how satisfied
154 are you with your life?"

155 Voluntary work is in SHARE measured by asking if respondents have done voluntary or charity
156 work in the past month (yes/no). Those answering yes were then asked to report the frequency of
157 their participation, from "almost daily" (1) to "never" (5). NorLAG asks how often respondents have
158 done voluntary work for an association or organization, from "daily" (1) to "never" (6). We classify
159 respondents as (regular) volunteers if they volunteered monthly or more often, and as non-volunteers
160 if they did not volunteer or volunteered less than monthly. Based on this classification we define four
161 groups of change in volunteer status: stable non-volunteer (non-volunteer in both waves), stable
162 (longer-term) volunteer (volunteer in both waves), becoming a volunteer (non-volunteer at w1,
163 volunteer at w2), and cessation of volunteering (volunteer at w1, non-volunteer at w2).

164 We also consider change in the intensity (frequency) of voluntary work. We use the following
165 categories: stable non-volunteer (not volunteering or volunteering < monthly in both waves), stable
166 activity (volunteering at the same level – monthly, weekly, or daily – in both waves), less intense
167 (volunteering ≥ monthly at w1 and not volunteering or volunteering < monthly at w2), and more
168 intense (volunteering monthly or no activity at w1, volunteering > monthly at w2).

169 *Control variables*

170 To account for factors that may influence simultaneously life satisfaction and volunteering, we
171 include in the analysis a set of control variables (for an overview of the association of socio-
172 demographic and other factors with volunteering, see Wilson 2000). We control for age and gender,
173 and for change in partnership status (yes/no), as partnered individuals have been shown to do
174 voluntary work more often than their non-partnered counterparts (ibid.). We also control for
175 socioeconomic status (SES), which tends to be positively linked with volunteering (ibid.). SES is
176 indicated by education (high = tertiary) and subjective financial situation at w2 (ability to make ends
177 meet, 1-4). We control also for change in employment status (working/non-working) from w1 to w2.
178 Work status is included as a control because volunteering may compete with paid work for
179 individuals' time and effort.

180 Health may interfere with people devoting time and effort to volunteering. We therefore account
181 for change in subjective health and functional health. Subjective health, or self-rated general health
182 status, is measured with the response categories ranging from poor (1) to excellent (5). We also
183 measure longitudinal change (w2-w1) in subjective health. This results in the score 0 if no change
184 occurred and positive (negative) values for improved (reduced) health. Functional health is measured
185 as limitations with activities of daily life. SHARE asks, "For the past six months, to what extent have
186 you been limited in your daily activities because of a health problem? Responses include severely
187 limited, limited but not severely, and not limited. NorLAG asks, "Does your health now limit you a
188 lot, or a little, in tasks like moving a table, vacuuming, walking, or gardening?" Individuals are
189 classified as "limited" if they report at least some limitations ("limited but not severely" in SHARE
190 and "a little" in NorLAG). Scores are categorized into: no limitations in both waves; no limitations at
191 w1, limitations at w2; limitations in both waves; and limitations at w1, no limitations at w2.

192 The covariates also include an indicator of psychological well-being at w1, a measure of
193 depressive symptoms to control for baseline well-being (results are similar when we use a single-
194 item measure of happiness; not shown). Depressive symptoms is measured using the z-standardized
195 scores on two similar depression scales: for SHARE the EURO-D scale (Prince et al. 1999) and for
196 NorLAG the 20-item Center for Epidemiologic Studies Depression scale (Radloff 1977). We also
197 include "time between waves" to control for country differences in the time span between data
198 waves.

199 We use information about country-level rate of volunteering and social spending. Countries are
200 classified as low, medium, and high (based on tertiles) in terms of social spending (measured in US
201 dollars per capita) and rate of volunteering (see Table 1 below). This information is derived from
202 OECD (2016) and European Values Survey (EVS 2016).

203 [Table 1 about here]

204 3. Results

205 Table 1 shows the prevalence of regular (monthly or more often) volunteering for each country
206 at w1 and w2. Findings reveal a north-south gradient with the highest rates in the north-west (20–
207 30%) and the lowest in the south-east of Europe (<10%). Intra-country rates of volunteering are
208 somewhat higher at w2 than at w1, but the inter-country differences are stable across waves. Table 1
209 also shows the prevalence of change in regular (monthly or more often) volunteer work from w1 to
210 w2 for each country. We find higher rates of both starting and quitting volunteering in the Nordic
211 countries than in southern Europe. Similarly, having increased their frequency of volunteering from
212 w1 to w2 is more common in the north-west than in the south-east. As shown, weekly and monthly
213 volunteering but not daily volunteering is more common in the north-west than in the south-east.

214 [Table 2 about here]

215 [Tables 3 and 4 about here]

216 Table 2 shows associations between volunteering and life satisfaction. We find that stable
217 volunteering, entering volunteering, and exiting volunteering are all associated with significantly
218 higher life satisfaction (at w2) than stable non-volunteering. Supplementary tests (not shown)
219 indicate no significant differences in life satisfaction between the three groups with current or
220 volunteering experience. Hence, although life satisfaction at w2 is somewhat lower among former
221 volunteers than among current volunteers, this difference is not statistically significant at the .05 level.
222 When introducing controls for individuals-level covariates we explain some of the differences in life
223 satisfaction between people with volunteering experience and stable non-volunteers, but do not alter
224 the (non-significant) differences between the three groups with volunteer experience.

225 Table 3 presents the results of analyses of change in the intensity of volunteering. Similarly to
226 before, the main difference in life satisfaction is evident between people with volunteering experience
227 and stable non-volunteers. There are no significant differences between groups of individuals who
228 have become more or less active volunteers. This pattern is not affected by controlling for potential
229 covariates of volunteering.

230 Table 2 and Table 3 together show the results of eight interaction effects (all $ps < .05$). These
231 interactions are illustrated using marginal effect plots in figures 1 through 8. Overlap of the error bars
232 indicates whether there are significant differences or not. The difference in life satisfaction between
233 those with and those without volunteer experience is only significant in the oldest age group (65+)
234 (Figure 1 and Figure 2), among the (long-term) non-employed (Figure 3 and Figure 4), in countries
235 with a low-medium level of social spending (Figure 5 and Figure 6), and in countries with a low rate
236 of volunteering (Figure 7 and Figure 8).

237 [Figures 1–8 about here]



238 2.2. Figures, Tables and Schemes

239

	Social spending	Classification	Rate of volunteering	Classification
Norway	12889.9	High	38.81	High
Sweden	10968.3	Medium	30.41	Medium
Denmark	12109.2	High	37.03	High
Netherlands	9891.0	Medium	46.85	High
Belgium	11123.6	High	34.00	Medium
Germany	10466.5	Medium	23.76	Low
Austria	11555.9	High	26.49	Medium
Switzerland	9428.5	Low	36.56	High
France	11014.9	Medium	25.98	Medium
Spain	8367.4	Low	12.87	Low
Italy	9502.7	Low	23.04	Low
Greece	6905.2	Low	15.53	Low

240 Source: OECD (2016), EVS (2016)

241 **Table 1.** Country-level social spending and rate of volunteering

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	W1				W2				W1 to W2						
	Not ^a	Month ly	Weekl y	Daily	Not ^a	Month ly	Weekl y	Daily	Active (≥ monthly) volunteering				Intensity of volunteering ^b		
Country (N)									Inactive in both waves	Active both waves	Inactive →Active	Active → Inactive	Stable level ^c	Less ^d	More ^e
Norway (1,606)	74.2	15.6	8.9	1.4	68.4	16.7	13.3	1.6	61.2	18.4	13.1	7.4	12.5	9.3	17.1
Sweden (1,927)	80.7	8.2	8.4	2.8	77.7	8.9	10.0	3.5	70.7	12.3	10.0	7.0	6.4	9.4	13.5
Denmark (1,091)	80.3	7.8	10.1	1.8	76.4	8.8	11.5	3.4	68.8	12.2	11.5	7.5	7.1	9.4	14.7
Netherlands (1,587)	76.1	5.6	14.5	3.8	73.9	5.7	16.3	4.0	66.5	16.5	9.6	7.4	10.8	9.8	12.9
Belgium (2,559)	82.1	5.9	8.5	3.5	82.4	5.8	8.5	3.3	76.1	11.7	6.0	6.3	7.3	8.6	8.0
Germany (1,467)	86.1	5.2	6.2	2.5	84.9	4.8	8.1	2.2	78.8	7.8	7.3	6.1	4.4	7.6	9.1
Austria (1,051)	90.0	4.8	4.9	0.4	90.4	4.8	4.2	0.7	84.0	3.6	6.0	6.4	2.2	7.2	6.6
Switzerland (642)	84.9	6.4	6.9	1.9	82.9	6.4	8.3	2.5	75.2	7.5	9.7	7.6	3.9	9.2	11.7
France (1,652)	82.6	5.2	7.9	4.3	83.8	5.2	7.4	3.6	76.3	9.9	6.3	7.5	5.2	10.4	8.1
Spain (1,278)	97.1	1.7	0.6	0.6	97.1	0.9	1.3	0.7	95.4	1.2	1.7	1.7	0.6	1.8	2.2
Italy (1,597)	92.1	2.8	3.8	1.4	92.0	2.8	3.4	1.9	87.7	3.6	4.4	4.3	2.3	4.8	5.3
Greece (2,103)	96.5	1.7	1.4	0.5	98.0	1.1	0.8	0.1	95.7	1.2	0.8	2.3	1.1	2.4	0.9
Pooled (18,560)	85.1	5.9	6.9	2.2	84.0	5.9	7.7	2.3	78.2	9.1	6.9	5.8	5.5	7.4	8.9

247 ^a Not volunteering or volunteering less often than monthly. ^b Stable inactive is excluded as it can be read from the “Inactive in both waves” column. ^c Stable level (monthly, weekly, or daily). ^d ≥
 248 Monthly at w1, < monthly at w2. ^e ≤ Monthly at w1, > monthly at w2.

249 **Table 2.** Prevalence (%) of volunteering and various levels of volunteering at w1, w2, and between-wave change

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	Volunteer status	+ individual-level factors	+ country social spending	+ country rate of volunteering
<i>Volunteer status (VS) (ref: inactive in both waves)</i>				
Active in both waves	0.61 **	0.32 **	0.27 **	0.24 **
Active at w2 (starting)	0.64 **	0.35 **	0.31 **	0.28 **
Active at w1 (quitting)	0.43 **	0.22 **	0.18 **	0.16 **
Male		-0.14 **	-0.14 **	-0.15 **
Age		0.01 **	0.01 **	0.01 **
High education		0.01	-0.01	-0.01
Financial situation (ref: great difficulty)				
Difficult		0.54 **	0.49 **	0.49 **
Easy		1.01 **	0.90 **	0.87 **
Very easy		1.42 **	1.27 **	1.20 **
Change in subjective health				
Functional health (ref: no health limitations)				
Limitation in both waves		-0.26 **	-0.29 **	-0.28 **
Limitations in wave 2		-0.53 **	-0.56 **	-0.55 **
Limitations in wave 1		0.02	0.00	-0.00
Partner status (ref: no partner both waves)				
Partner both waves		0.33 **	0.35 **	0.36 **
Partner in wave 2		0.51 **	0.49 **	0.50 **
Partner in wave 1		-0.24 **	-0.24 **	-0.24 **
Employment status (ref: not employed both waves)				
Employed both waves		0.20 **	0.19 **	0.17 **
Employed in wave 2		0.30 **	0.29 **	0.28 **
Employed in wave 1		0.11 *	0.09 *	0.08

Time between waves		0.01 **	0.01 **	0.00
Depressive symptoms (wave 1)		-0.36 **	-0.37 **	-0.37 **
<i>Country social spending/rate of vol. (ref: low)</i>				
Medium			0.26 **	0.29 **
High			0.32 **	0.53 **
<i>VS interactions</i>				
VS × Age group			4.45 **	
VS × Employment status			2.24 *	
VS × Social spending			2.89 **	
VS × Rate of volunteering				3.77 **
R ²	0.02	0.23	0.23	0.24

252 Notes: Unstandardized regression coefficients or *F*-values. Interaction effects were tested entering one pair of predictors at a time in the regression equations. All parameters are *F*-values (with controls
 253 for main effects).
 254 ** $p < .01$, * $p < .05$.

255 **Table 3.** Regressing life satisfaction on change in volunteer status, individual- and macro-level controls, and interaction terms



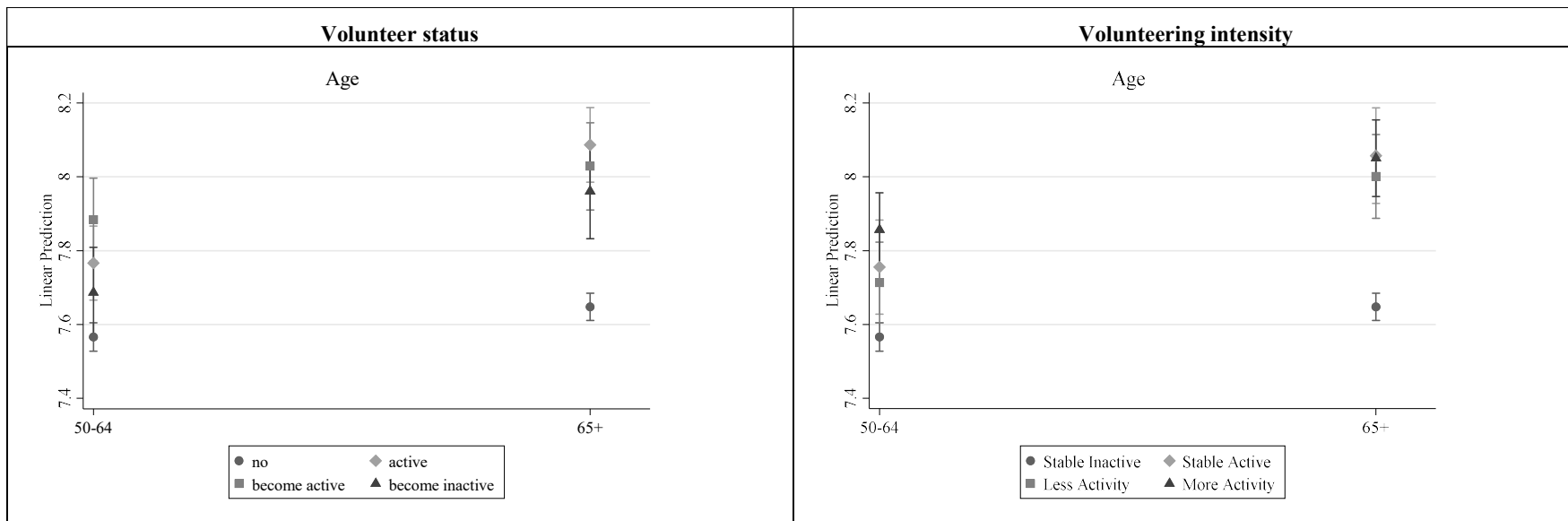
	Volunteering intensity	+ individual-level factors	+ country social spending	+ country rate of volunteering
Volunteering intensity (VI) (ref: stable inactive)				
Stable intensity	0.57 **	0.30 **	0.25 **	0.21 **
Decreasing activity	0.46 **	0.25 **	0.21 **	0.19 **
Increasing activity	0.66 **	0.35 **	0.31 **	0.27 **
VI interactions				
VI × Age group			3.96 **	
VI × Employment status			1.95 *	
VI × Social spending			2.63 **	
VI × Rate of volunteering				3.53 **
R ²	0.02	0.23	0.23	0.24

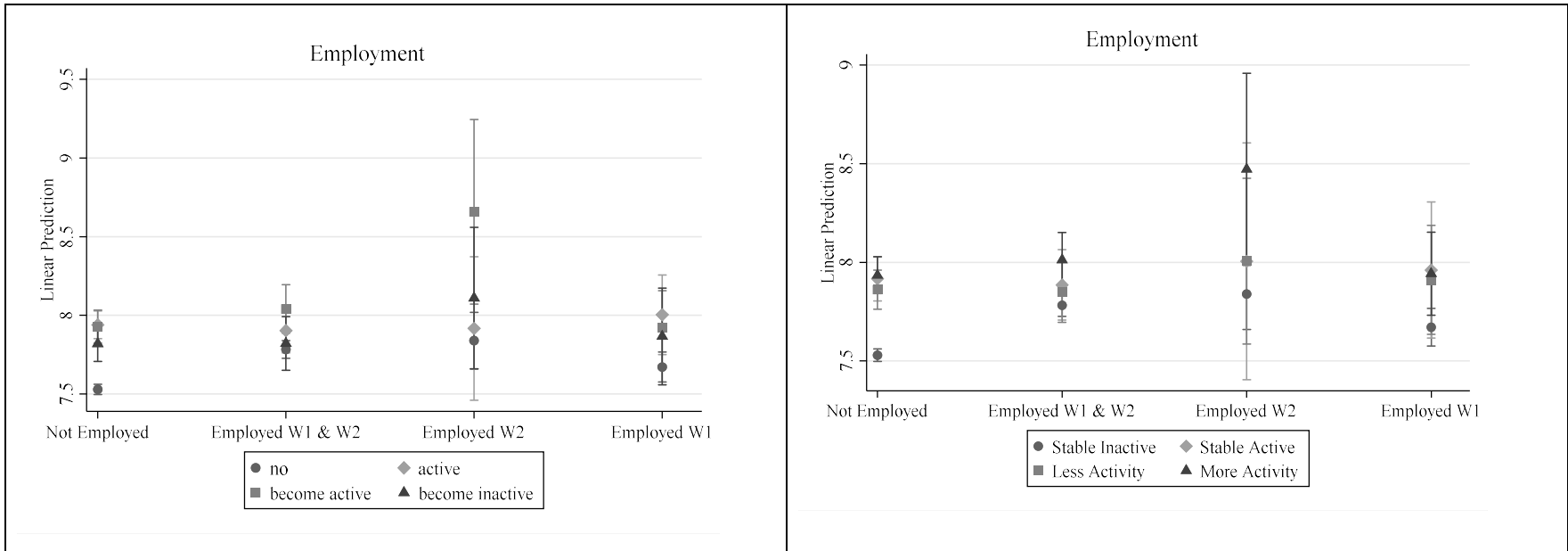
256 Notes: Unstandardized regression coefficients or *F*-values. Controls (same as in Table 2) not shown. Interaction effects were tested entering one pair of predictors at a time in the regression equations.
 257 All parameters are *F*-values (with controls for main effects).
 258 ** $p < .01$, * $p < .05$.

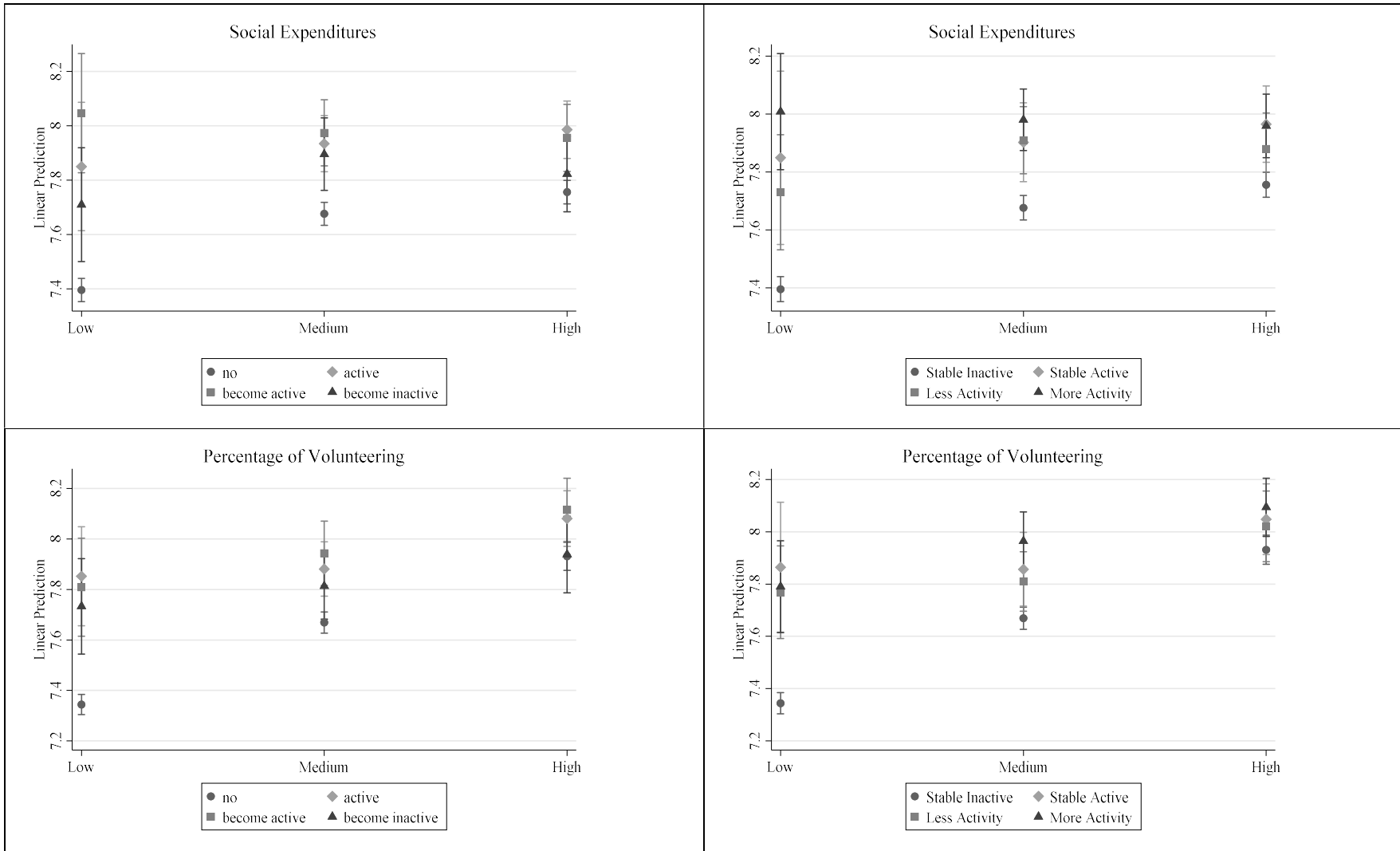
259 **Table 4.** Regressing life satisfaction on change in volunteering intensity, individual- and macro-level controls, and interaction terms.



Figures 1–8. Predicted life satisfaction in volunteer groups by age group (figures 1 and 2), employment status (figures 3 and 4), country-level social spending (figures 5 and 6), and country-level rate of volunteering (figures 7 and 8).







263 **4. Discussion**

264 This study explores associations between volunteering and life satisfaction among individuals
265 aged 50 and older in 12 European countries. More specifically, we examine how life satisfaction
266 relates to stability and change in (i) volunteering status and (ii) intensity (frequency) of volunteering.
267 We also examine whether effects differ by age and employment status, and across countries with
268 different macro-level characteristics.

269 Findings show that stable volunteering, entering volunteering, and exiting volunteering are all
270 associated with higher life satisfaction (at w2) than stable non-volunteering. There are no significant
271 life satisfaction differences between the three groups with current or prior volunteering experience.
272 Similarly, in the analyses of associations between change in intensity of volunteering and life
273 satisfaction, the main difference in terms of life satisfaction is evident between stable non-volunteers
274 and people with volunteering experience. Change in the frequency of volunteering does not seem to
275 play a major role, as there are no significant differences between groups of individuals who have
276 become more or less active volunteers.

277 The lack of an association between frequency of volunteering and satisfaction seemingly negates
278 a dose-response relationship between volunteering and well-being. Similarly, the observation that
279 prior volunteering has similar associated benefits as initiated or consistent volunteering also casts
280 doubt on causal linkage between volunteering and life satisfaction. Overall, the results thus seem
281 driven by selection of high-satisfaction individuals into volunteering rather than by volunteering
282 having a clear impact on life satisfaction. Selection may, for example, explain the relatively high
283 satisfaction among people who have exited or reduced their volunteer role. Consistent with this
284 interpretation, a similar previous longitudinal study only found support for selection, not causation
285 effects (Son & Wilson 2012).

286 A different interpretation is that our findings may also reflect causation. Most previous research
287 have shown simultaneous selection and causation effects (Anderson et al. 2014; Li & Ferraro 2005).
288 The high satisfaction among former volunteers may reflect that volunteering can have salutary effects
289 on, for example, self-esteem, health, and social integration that last well beyond the actual time spent
290 volunteering. Volunteering thus may matter, even if one stops doing it.

291 Findings furthermore suggest life course variation in the association between volunteering and
292 life satisfaction. Involvement in regular volunteering is associated with life satisfaction only among
293 the older (age 65+) and the longer-term non-employed, most whom are likely to be retired, but not
294 among the employed and/or younger people. Age seems to have a stronger moderating role than
295 employment status. This suggests that the associations come to the fore as a result of general age-
296 related losses in roles and relationships rather than the loss of employment specifically. It should be
297 noted, however, that the magnitude of these moderator effects is quite small and may be of limited
298 practical importance.

299 Finally, findings indicate some systematic differences in the associations between volunteering
300 and life satisfaction depending on country-level characteristics. Volunteering is more strongly
301 associated with life satisfaction in countries with low social spending and low rate of volunteering.
302 It is unclear whether this pattern reflects stronger selection or causation mechanisms in these
303 countries than in stronger welfare states. Regarding causation, findings may indicate that
304 volunteering is particularly beneficial in low-volunteering countries with their low level of public
305 funding and support of volunteering. In these countries, volunteers may feel more special and
306 needed—if they do not deliver the services, neither the state nor anyone else will (Haski-Leventhal
307 2009). Concomitantly, the few who volunteer in these countries may receive significant positive social
308 feedback. These experiences may in turn influence life satisfaction through self- and relational
309 esteem. Regarding selection, it may be that in low-volunteering countries, perhaps because of missing
310 infrastructure for volunteering, people who are highly motivated and with physical and
311 psychological resources are most likely to volunteer. Hence, in these countries a strong association

312 between well-being and volunteering might reflect selection into volunteering rather than causal
313 effects.

314 An important limitation of the current study is that we did not have information on life
315 satisfaction at w1, which might have helped decipher the causation–selection issue. In lieu of life
316 satisfaction at w1, and in an attempt to model change in life satisfaction, we have included a measure
317 of depressive symptoms as an indicator of psychological well-being at w1. Although this measure
318 correlates significantly with life satisfaction ($r=-0.30$), depressive symptoms are arguably a poor
319 proxy for life satisfaction. That said, we found a relationship between volunteering and satisfaction
320 that was not predicted by baseline levels of depressive symptoms, suggesting that there is at least
321 some component of the relationship between satisfaction and participation for which participation
322 temporally precedes satisfaction.

323 Some other limitations also warrant mentioning. There are some concerns over the
324 comparability of harmonized data. For example, the fact that waves of data collection are spaced by
325 two years in SHARE and five years in NorLAG could affect the results. Also, questions about
326 volunteering and other factors are posed somewhat differently in the two surveys. However, the fact
327 that results are similar for Norway (NorLAG) and Sweden (SHARE) suggests that these
328 inconsistencies do not play a major role for our main conclusions.

329 Furthermore, we lack proper measurement of public spending on volunteering and quality of
330 infrastructures of volunteering. We have used social spending as an indicator of these aspects, as
331 social spending has been shown to be strongly associated with a country’s financial and institutional
332 support of volunteering (CEV 2012). Future research should aim to use direct measures of state-level
333 volunteering supports and policies.

334 We are also limited in the scope of well-being indicators. First, in addition to a measure of the
335 cognitive aspect of well-being (life satisfaction), we would have liked to examine affective dimensions
336 such as positive and negative affect. Second, we are also unable to examine the effect of volunteering
337 on the eudaimonic conception of well-being, which has become influential in recent years (e.g. Ryan
338 & Deci, 2001; Seligman, 2002). Essential to eudaimonic well-being is engagement in challenging and
339 meaningful activities, especially those activities that require substantial effort and incorporate a
340 concern for others and “the greater good” (ibid.). Volunteering may be considered one such
341 “worthwhile cause”. Existential dimensions of well-being, such as meaning, purpose in life, growth,
342 and development, are important outcome variables in the eudaimonic approach to well-being.
343 Because these outcomes are closely linked to the volunteering experience, future research should
344 investigate theoretical and empirical links between volunteering and eudaimonic well-being.
345

346 5. Conclusions

347 Our findings indicate that people who are currently or previously involved with volunteering
348 report higher well-being than people without such experience. This pattern is more pronounced with
349 older age and in countries where volunteering is less common and less institutionally supported.
350 Although we cannot rule out the possibility of causation mechanisms, there seems to be more support
351 for the notion that volunteering is selective of individuals who already have high well-being. While
352 some observers have claimed that greater community involvement is a win-win situation, benefiting
353 not only the wider community but also the volunteers, this study and prior studies suggest more
354 caution is needed.

355 6. Patents

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