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Does transition to retirement increase frequency of volunteering: Findings from the Survey of Health, Ageing and Retirement in Europe

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Abstract

Objectives

Several studies have shown that retired older adults volunteer more than their working counterparts. However, there is a lack of research detecting whether the transition to retirement increases the frequency of volunteering over time and the extent to which this potential effect of retirement varies between sociodemographic groups.

Methods

We used seven waves of data from the longitudinal Survey of Health, Ageing and Retirement in Europe, collected between 2011 and 2018 from 19 countries. Within-person (or panel fixed-effect) regression models, which considered individual variations and person-specific changes over time, were conducted.

Results

Transition to retirement over time was associated with an increased frequency of volunteering among older Europeans. In addition, transition to retirement was more strongly associated with volunteering in countries with higher overall rates of volunteering, among more highly educated individuals, and among more religious people.

Discussion

Our findings supported the impact of time substitution and the centrality of social norms in shaping individual behavior. However, we were unable to find support for an influence of social tie replacement. Overall, transition to retirement tends to open up new ways to organize everyday life and increases the time spent volunteering among older Europeans.

Keywords: Active aging, SHARE, Unpaid activity

Introduction

Active aging has become a policy priority in contemporary Western countries due to their rapidly aging populations (Walker & Maltby, 2012); thus, the question of how older adults organize their everyday lives when they retire has become increasingly salient. Volunteering is one of the key examples of active aging that can improve both societal welfare (e.g., Musick & Wilson, 2008) and the wellbeing of older individuals engaging in such activities (e.g., Arpino & Solé-Auró, 2019; Burr et al., 2021). Volunteering can be defined as “an activity undertaken by an individual that is uncoerced, unpaid (or minimal compensation to offset costs), structured by an organization, and directed toward a community concern” (Morrow-Howell, 2010, p. 461). Hence, informal help and care given to family members and friends inside or outside the household are not considered as volunteering, nor are monetary donations to charitable organizations (Wilson & Musick, 1997). As one of the most important life course events experienced in later life, the transition to retirement induces new forms of life organization as older adults’ free time tends to increase and, thus, opportunities to engage in volunteering may also increase (Van den Bogaard et al., 2014).

An increasing number of studies have detected that retired individuals participate in volunteering more frequently than those who are still working (e.g., Erlinghagen, 2010; Hank & Erlinghagen, 2010a; Mutchler et al., 2003; but see Tang, 2016 who observed that retired individuals do not volunteer more often than their still-working counterparts). Prior studies on the association between retirement status and volunteering have almost exclusively compared working older adults with their retired counterparts, and there is a lack of research that has examined *how the transition from paid work to retirement affects the frequency of volunteering within individuals’ life courses*. To fill this gap, we used longitudinal data from 19 European countries and executed within-person regression models to explore whether the

transition to retirement is associated with an individual's increased levels of volunteering over time. Moreover, we investigate whether the effect of retirement on volunteering varies between sociodemographic groups as prior studies have indicated that several factors related to social norms and social networks are associated with levels of volunteering.

Theoretical Background and Hypotheses

Time Substitution

In previous studies, the association between retirement and volunteering has often been approached using continuity theory, which considers individuals' tendencies to seek stability during periods of change (Atchley, 1971, 1989). According to this theory, older adults will seek continuity and cohesion when they make the transition from paid work to retirement (Van den Bogaard et al., 2014). The idea is not that individuals try to maintain everything as it was when they were working, which is obviously impossible since change is unavoidable, but rather that they seek to generate consistency in their activities after they retire (Atchley, 1989). Besides a source of income, paid work may offer an individual many important benefits: It provides a concrete place to go, meaningful things to do, social ties, and social status and may even form a base for an individual's identity. Consequently, retirement may mean a loss of the meaningful and important advantages related to work (Van den Bogaard et al., 2014). According to continuity theory, these losses can be compensated for by participating in other activities (e.g., volunteering), which provide a way to use the additional available time after retirement. Therefore, we hypothesize that:

Hypothesis 1: Transition to retirement increases the frequency of volunteering.

Nevertheless, this increased amount of time is not the only thing that may encourage individuals to invest more in volunteering after retirement. Studies have demonstrated significant differences in the characteristics of, and motivations for, volunteering among older adults (e.g., Niebuur et al., 2018; Okun et al., 2016; Warburton et al., 2001). We

particularly focused on examining two mechanisms that are potentially linked to volunteering: social norms and social tie replacement.

Social Norms

Social norms can be defined as rules that control behavior in communities or societies, and it has been argued that they represent the overall requirements for the existence of prosocial behavior (House, 2018). In practice, individuals tend to behave in the way they believe others think they should behave and, thus, seek conformity. Social norms are, however, very flexible and tend to vary substantially from one community, group, or society to another (House, 2018). In the present study, we consider three sources of social norms that potentially influence individuals' prosocial behavior as volunteers: country of residence, religiosity, and their educational background.

The rate of volunteering varies substantially between European countries (e.g., Hank, 2011; Hank & Erlinghagen, 2010b; Hansen et al., 2018). Among older Europeans, the share of individuals participating in volunteer activities varies from 2% in Poland to 38% in the Netherlands, and there is a general trend indicating that people from northern and central European countries volunteer more than those from southern and eastern European countries (Morawski et al., 2020). The variation in volunteering rates may also reflect the strength of a welfare state; for instance, in Nordic welfare states, individuals may have more "spare" resources to spend on volunteering (Hank, 2011). In addition, in southern European countries, grandparenting after retirement is very important because young adults need grandparents to look after their grandchildren, meaning that the transition to retirement may be more associated with increased grandchild care than volunteering (Tanskanen et al., 2021). Whatever the reason, when a larger number of individuals in a country engage in volunteering activities, volunteering is also more likely to present itself as a social norm

(House, 2018). As entry into retirement potentially increases the time spent on prosocial activities, we predict that:

Hypothesis 2a: Transition to retirement increases volunteering more in countries with higher overall rates of volunteering.

Two common findings in the literature are that volunteers are more religious and more highly educated compared with non-volunteers (Niebuur et al., 2018; Musick & Wilson, 2008). As social norms are learned in social institutions, the norms encouraging participation in voluntary work are often adopted in schools and churches (Oesterle et al., 2004). One of the key missions of schools and religious communities is to instruct in prosocial norms (Son & Wilson, 2011). When individuals are part of social groups where most people volunteer, their own motivation to undertake prosocial actions may also increase as it is important to be like others (House, 2018).

Among churchgoers, participation in voluntary work is often an everyday chore that is performed with fellow parishioners (Musick & Wilson, 2008). However, the volunteering actions undertaken by religious individuals are not fulfilled only via the congregation; religious individuals tend to volunteer more often for secular reasons as well (Son & Wilson, 2012). Although it has been shown that religious people volunteer more than their non-religious counterparts both before and after retirement, few studies have tested whether religious individuals increase their frequency of volunteering more than non-religious individuals after retirement. As social norms are likely to lead religious individuals to volunteer more than non-religious individuals, it can be assumed that the increased free time after retirement will increase the frequency of volunteering more among religious than non-religious individuals. Hence, we predict that:

Hypothesis 2b: Transition to retirement increases volunteering more among religious than non-religious individuals.

An important aspect of many educational institutions is that they promote social norms that encourage prosociality (Son & Wilson, 2011). As advantaged education is likely to increase empathy toward the unfortunate, knowledge about social inequalities, and concerns about the public good, higher education is also associated with increased rates of a sense of duty to help others (Musick & Wilson, 2008). Thus, it is unsurprising that volunteering is more common among higher than lower-educated individuals, even after considering many potential confounding factors, such as health and wealth (e.g., Ajrouch et al., 2016; Hank & Erlinghagen, 2010b). However, a question remains regarding how the association between entering retirement and volunteering varies according to education level. As more highly educated individuals may have adopted more social norms that lead to volunteering compared to those with lower education levels, and entering retirement increases the free time that can be used for activities other than paid work, we assume that:

Hypothesis 2c: Transition to retirement will increase the frequency of volunteering more among more highly educated individuals than those with lower levels of education.

Social Tie Replacement

Paid work is an important source of social contacts. However, workplace colleagues are often lost when individuals retire (Van Tilburg, 2003). Social contacts are what individuals miss the most after they have retired (Damman et al., 2015) and are among the most important reasons to volunteer for older adults (Okun & Schultz, 2003). Hence, it has been suggested that an important function of volunteering after retirement is weak tie replacement; that is, by participating in volunteering, individuals can compensate for the loss of their work colleagues (Van den Bogaard et al., 2014). It can be assumed that weak tie replacement should be more important to those who initially have more colleagues in their social networks. According to the concept of weak tie replacement, we predict that:

Hypothesis 3a: Transition to retirement increases volunteering more among people with more colleagues in their social networks before retirement.

Volunteering may also serve as an important source of social contacts for older individuals without *strong* social ties, that is, for those who lack close kin relationships (Van den Bogaard et al., 2014). Having a spouse, children, or grandchildren provides continuity after retirement and means that instead of volunteering, individuals may prefer to spend more time with their spouse or increase their investment in their descendants (Tanskanen et al., 2021). However, when older adults do not have these key family connections, they may have a greater need for the social contacts offered by volunteering. In addition, the lack of a spouse or descendants may mean less time competition between different social tasks, meaning that individuals have more time to engage in non-familial social activities (Arpino & Bordone, 2017; Bolano & Arpino, 2020). According to the concept of strong tie replacement, we predict that:

Hypothesis 3b: Transition to retirement increases volunteering more among individuals without a spouse.

Hypothesis 3c: Transition to retirement increases volunteering more among individuals without children.

Hypothesis 3d: Transition to retirement increases volunteering more among individuals without grandchildren.

Methods

Sample

Longitudinal data drawn from the Survey of Health, Ageing and Retirement in Europe (SHARE) were used to study how the transition to retirement is associated with the frequency of volunteering among older adults. SHARE collects data on people aged 50 and older who speak the official language of their country of residence and who are not living abroad or in

an institution during the fieldwork period (Börsch-Supan et al., 2013). Computer-assisted personal interviewing is used as the SHARE data collection method. In the present study, the sample included respondents from the fourth, fifth, sixth, and seventh waves of the SHARE, which were conducted between 2011 and 2018 in 19 European countries, including Greece, Spain, Czech Republic, Poland, Croatia, Hungary, Portugal, Estonia, Austria, Italy, Sweden, Slovenia, Belgium, Denmark, France, Germany, Netherlands, Switzerland, and Luxembourg. The first and second wave data were not included because questions about volunteering were asked in a different manner than in later waves. Moreover, the third SHARE wave (called SHARELIFE) was excluded because it entailed the collection of retrospective life history information and employed a different questionnaire than the regular SHARE. Some respondents in the seventh wave completed the SHARELIFE questionnaire instead of the regular SHARE and were, thus, excluded.

In performing the analyses, we made several selections. Participants over 74 years old were excluded from the sample because such individuals rarely work and, therefore, did not experience the transition to retirement during the survey period. Moreover, respondents who were already retired, unemployed, chronically ill, homemakers, or were otherwise not in paid employment were excluded from the study sample because they did not undergo the changeover from employment to retirement between survey waves. Only participants who supplied data concerning all the studied variables were included. Finally, only respondents who were working at time1 (before retirement) and retired at time2 (i.e., they experienced the transition to retirement) were included in the models. These selections left us with a study sample of 11,488 person-observations from 5,744 individuals.

Measures

Frequency of volunteering was used as the dependent variable. In the SHARE, all respondents were first asked whether they had undertaken voluntary or charity work in the

past 12 months. Those who responded “yes” were then asked to report how often they had participated in such voluntary or charity work, choosing from the following responses: 1 = almost daily, 2 = almost every week, 3 = almost every month, and 4 = less often. Our dependent variable was rated on a scale with five classes: 0 = no volunteering, 1 = less than monthly, 2 = almost every month, 3 = almost every week, and 4 = almost daily.

The main independent variable was retirement status, and only those older adults whose status was employed or self-employed (0 = working) at time1 and fully retired (1 = retired) at time2 were selected. Only data from fully retired participants were analyzed because those who continue to work after retirement have fewer opportunities to participate in volunteering (Grünwald et al., 2021; Van den Bogaard et al., 2014). Additionally, participants who had retired due to illness were excluded from the sample as they are less able to volunteer (Morrow-Howell et al., 2018).

Since the association between retirement and volunteering frequency may vary due to different sociodemographic factors, we further stratified the data and investigated the differences according to country groups, religiosity, educational level, the presence of workmates in social networks, partnership status, parenthood status, and grandparenthood status. Country groups were used instead of specific countries to avoid a loss of statistical power. Countries were grouped by the overall rate of volunteering among older adults in three categories: (1) low (less than 10% of older adults volunteer; Greece, Spain, Czech Republic, Poland, Croatia, Hungary, Portugal, Estonia), (2) medium (10–20% volunteer; Austria, Italy, Sweden, Slovenia), and (3) high (over 20% volunteer; Belgium, Denmark, France, Germany, Netherlands, Switzerland, Luxembourg) (Morawski et al., 2020). Respondents’ years of education were used as a proxy for educational level and were classified into three categories: (1) low (lowest 25%), medium (middle 50%), and high (highest 25%). Religiosity was coded as 1 (religious) for those reported that they pray (at

least weekly) and 0 (non-religious) for those who did not pray. Finally, partnership status (0 = no spouse, 1 = has a spouse), parenthood status (0 = no children, 1 = at least one child), and grandparenthood status (0 = no grandchildren, 1 = at least one grandchild) were coded as dichotomous variables. All these factors were treated as time-invariant variables, that is, they were measured at time1 (before retirement). Descriptive statistics are listed in Table 1.

< Table 1 near here >

To achieve more robust results, several time-varying variables were controlled for in the analyses. These included respondents' ages at the time of the interviews, self-rated health, partnership status, and self-perceived financial condition, which have previously been shown to be associated with the frequency of volunteering (e.g., Hank & Erlinghagen, 2010b; Van den Bogaard et al., 2014). In addition, as we ran within-person regression models, all time-invariant factors were considered in the design itself, as discussed in the below Analysis section.

Analysis

We executed within-person (or panel fixed effect) regression models to investigate whether the transition to retirement is associated with the frequency of volunteering. Total (or random effect) regression models were not used as they include both within-person and between-person variation and, thus, the unobserved (time-invariant) heterogeneity may not be appropriately considered. As we were not interested in examining the differences between older adults who had retired and those who were still working, we excluded between-person variations and concentrated on within-person variations (Curran & Bauer, 2011; Morgan, 2013).

Within-person models consider person-specific changes and show an individual's variation over time, in this case, whether the transition to retirement increases or decreases the frequency of volunteering. In the within-person models, the repeated measures (i.e.,

person-observations) were nested within responding individuals. As within-person models require variation in the outcome variable (i.e., the frequency of volunteering), those participants who were involved in volunteering at the same level between study waves were excluded (Jokela et al., 2018). In the within-person models, the participants served as their own controls, and these models eliminated all time-invariant factors (Allison, 2009; Brüderl & Ludwig, 2015), meaning that factors whose values did not change between the study waves were controlled for regardless of whether they were available in the SHARE data (e.g., stable personality traits, as well as many genetic factors and other selection effects).

In the below tables, the magnitudes of the coefficients are presented as β -coefficients from the linear regression models and odds ratios from the logistic regression models. In the figures, we illustrate the results derived by calculating the adjusted means (or predictive margins) and 95% confidence intervals from the regression models (see Williams, 2012, for the margins command in Stata).

To gain more robust findings, we ran some sensitivity analyses. First, as participants' health may influence whether they retire or not, we ran a sensitivity analysis in which self-rated health was not controlled for. Second, as we focused on determining whether the transition to retirement changes the frequency of volunteering, for sensitivity purposes we considered only participants who were already volunteering before retirement. Third, although the frequency of volunteering variable was not normally distributed, we did not use logit models due to their limitations (Mood, 2010). Instead, we executed sensitivity analyses using logistic regression with different cut-off points. For the logistic regression models, we constructed three dichotomous volunteering variables: 0 = no volunteering, 1 = at least some volunteering (including all other classes); 0 = less often than almost monthly, 1 = at least almost monthly; and 0 = less often than almost every week, 1 = almost daily or every week.

Results

Table 2 presents the results from the within-person regression models. First, our findings showed that the transition to retirement was associated with an increased frequency of volunteering among individuals over time (Figure 1). We then ran the model without self-rated health as a control because health might affect retirement; this analysis provided similar results to the main analysis ($\beta = 0.14$, $p < 0.001$). We also considered those participants who already volunteered before retirement and detected that the transition to retirement was associated with an increased frequency of volunteering among these individuals ($\beta = 0.15$, $p < 0.001$). Finally, as the volunteering variable was not normally distributed, we ran sensitivity analyses with dichotomous variables using logistic regression. Three dichotomous variables were used (Model 1: 0 = no volunteering, 1 = at least some volunteering; Model 2: 0 = less often than almost monthly, 1 = at least almost monthly; Model 3: 0 = less often than almost every week, 1 = almost daily or every week). Significant associations between the transition to retirement and the increased probability of volunteering were found in all these logistic regression models (Appendix Table 1). Consequently, our findings provided support for Hypothesis 1.

< Table 2 near here >

Next, we investigated whether the association between the transition to retirement and frequency of volunteering varies between sociodemographic groups (Table 2). First, we tested the hypotheses related to social norms. When we stratified our data, it was revealed that the transition to retirement was associated with increased rates of volunteering only in countries with the highest overall rates of volunteering (low: $\beta = 0.05$, $p > 0.05$; medium: $\beta = 0.005$, $p > 0.05$; high: $\beta = 0.24$, $p < 0.001$), and the interaction term was significant (Table 2). These findings supported Hypothesis 2a (see Figure 2). Thereafter, we stratified our data by religiosity and found that although the transition to retirement was associated with increased rates of volunteering among both religious ($\beta = 0.20$, $p < 0.05$) and non-religious ($\beta = 0.10$, p

< 0.05) individuals, the effect was stronger among religious than non-religious individuals as the interaction term of retirement and religiosity was significant (Table 2). Thus, Hypothesis 2b was also supported (see Figure 3). The data was then stratified by education, and we observed that the transition to retirement was significantly associated with an increased rate of volunteering among the “medium” ($\beta = 0.15$, $p < 0.05$) and “high” ($\beta = 0.23$, $p < 0.05$) groups but not in the “low” group ($\beta = 0.01$, $p > 0.05$). As the interaction term of retirement and education was significant (Table 2), Hypothesis 2c was supported (see Figure 4).

After that, we tested the hypotheses related to social tie replacement. In terms of weak tie replacement, it was found that those who had more colleagues in their social networks did not participate in volunteering more frequently after retirement compared to those with fewer colleagues in their social networks (Table 2). This finding held even after the time-variant factor “number of friends” was added as an additional control variable (not shown in the tables). Hence, Hypotheses 4a was not supported.

We then considered strong tie replacement. We stratified the data by partnership status and found that the transition to retirement was associated with an increased frequency of volunteering among both those who were living with spouses ($\beta = 0.14$, $p < 0.05$) and those who were not ($\beta = 0.15$, $p < 0.05$). The interaction term of retirement and partnership status was insignificant (Table 2). Next, the data were stratified by parenthood status, and we found that the transition to retirement was associated with an increased frequency of volunteering among both childless individuals ($\beta = 0.20$, $p < 0.05$) and parents ($\beta = 0.14$, $p < 0.05$). No significant interaction effect was observed (Table 2). Finally, the data were stratified by grandparenthood status. It was detected that the transition to retirement was associated with an increased frequency of volunteering among both grandchildless individuals ($\beta = 0.14$, $p < 0.05$) and grandparents ($\beta = 0.15$, $p < 0.05$). When we added the interaction term of retirement and grandparenthood status, there was no significant difference between them (Table 2).

These findings provided no support for Hypotheses 4b, 4c, or 4d regarding strong tie replacement.

Discussion

Volunteering is a common unpaid productive activity among older adults. This study investigated whether the transition to retirement is associated with the frequency of volunteering among older Europeans. Unlike most prior studies that have compared two distinct groups of older adults (i.e., those who are still in paid work and those who have already retired), we focused on changes in the frequency of volunteering before and after retirement. Our findings demonstrated that when individuals retire, their contribution to volunteering work increases. We also found several differences in the association between the transition to retirement and volunteering according to sociodemographic groups.

It was detected that the transition to retirement was more strongly associated with volunteering in countries with higher overall rates of volunteering, which was in accordance with our prediction that the centrality of social norms shapes individual behavior. When a larger number of people in a given society participate in volunteering activities, engaging in these activities is also more likely to become a social norm (House, 2018), and the increased time available after retirement is used to participate in prosocial activities. In addition, we found that the transition to retirement was more strongly associated with an increased frequency of volunteering among more highly educated and more religious individuals. Although prior studies have indicated that more highly educated individuals tend to volunteer more than their less-educated counterparts, and religious people volunteer more than non-religious individuals (Musick & Wilson, 2008), the present study showed for the first time that more highly educated and more religious people use their increased free time after retirement more frequently to volunteer than less-educated or non-religious people. These findings also provided support for the important role of social norms in shaping the behavior

of older adults as volunteering is more likely a norm among more highly educated individuals, and prosocial behavior is a key value in religious communities (Son & Wilson, 2011).

Transition to retirement was not more strongly associated with volunteering among individuals with a high number of colleagues in their social networks. Thus, we did not find support for the effect of weak tie replacement. In a recent study from the Netherlands, Grünwald et al. (2021) found that full retirement was associated with increased rates of volunteering, while post-retirement work was not. The authors interpreted that this finding provides support for weak tie replacement since the social contacts gained via volunteering should be more important for full retirees who lose their work-related connections after retirement when compared with working retirees who can maintain professional ties. The present study directly measured the number of colleagues in participants' social networks before they retired; however, this was not a significant predictor of the frequency of volunteering after retirement, even after controlling for the time-varying number of friends and other factors. An individual's number of friends could be an important control factor as it tends to indicate the number of non-familial connections before and after retirement. We also tested hypotheses related to strong tie replacement, that is, whether the transition to retirement is more strongly associated with increased volunteering among individuals without spouses, children, or grandchildren but were unable to find support for these predictions. Hence, the present study did not support the effect of social tie replacement in terms of either weak or strong ties.

The present study has several strengths. We used population-based and cross-national data covering older adults from different parts of Europe. In the SHARE, the same individuals were interviewed repeatedly, making it possible to study the frequency of volunteering before and after retirement. To take full advantage of our panel data, we ran

within-person regression models, which concentrated on individuals' varying behaviors over time and removed all time-invariant factors. Using the within-person approach, we were also able to make more causal interpretations of the association between retirement and volunteering. Finally, with the SHARE data, it was possible to control for several time-variant factors and investigate how the transition to retirement is associated with the frequency of volunteering in different sociodemographic groups.

The present study has also some noteworthy limitations. First, the analyses included all participants who were working at time1 and retired at time2. However, participants who were already retired when they first participated in the survey and those who did not experience the transition to retirement between the study waves were not included, which reduced the sample size. Second, the within-person models included a limited number of participants who showed variations in the outcome measure between study waves; therefore, in some cases, the confidence intervals were quite long. Third, selective panel attrition is a common condition in longitudinal surveys where the same individuals are interviewed repeatedly. In the present study, selective panel attrition may have been present, for example, if those older adults who most frequently volunteer were also most likely to participate in follow-up surveys. Finally, although the within-person models considered all the time-invariant factors, they did not acknowledge time-variant factors: Although we controlled for several time-variant factors available in the SHARE data, it is hard, if not impossible, to take all such factors into account.

How older adults organize their everyday life after retirement is a salient question in aging societies and a topic of great policy importance. As engagement in unpaid productive activities is a significant predictor of a happy and healthy life in older adults (Burr et al., 2021) and benefits society overall (Musick & Wilson, 2008), it is unsurprising that the social engagement of older adults in these activities has been central in many policy debates.

Simultaneously, however, policymakers in aging societies are keen to extend careers and raise the age of retirement (European Commission, 2010). The present study shows that these two policy goals are conflicting because the consequence of extending working careers is a diminished number of volunteers. Hence, the fact that retirees can be an active and productive part of society should be carefully acknowledged by policymakers who aim to extend working careers.

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Table 1
Descriptive statistics

	% / Mean	Within person SD
Gender		
Male	51.9	
Female	48.1	
Age at interview	61.9	1.69
Self-rated health		
Poor	4.4	
Fair	23.8	
Good	39.9	
Very good	22.4	
Excellent	9.5	
Partnership status		
Living without spouse/partner	25.1	
Living with spouse/partner	74.9	
Educational level		
Low	23.3	
Medium	49.8	
High	26.9	
Financial condition		
Household manages financially		
With great difficulty	6.3	
With some difficulty	22.4	
Fairly easily	30.3	
Easily	40.9	
Parenthood status		
No children	9.1	
Has children	90.9	
Grandparenthood status		
No grandchildren	38.8	
Has grandchildren	61.2	
Religiosity		
Non-religious	56.9	
Religious	43.1	
Colleagues in social networks*		
0	90.9	
1	6.7	
2+	2.4	
Country group		
Low	40.1	
Medium	22.7	
High	37.2	

Note. n = 11,213 person-observations from 5,793 individuals.

*This question was asked only in waves 4 and 6; n = 9,402 person-observations from 4,845 individuals.

Table 2

Within-person associations between transition to retirement and volunteering including interaction terms between retirement and country group, retirement and education, retirement and religiosity, retirement and number of colleagues, retirement and number of friends, retirement and partnership status, retirement and parenthood status, and retirement and grandparent status

		β	SE	p	95% CI	
					lower	upper
Overall effect	Working	ref				
	Retired	0.14	0.02	<0.001	0.09	0.19
Country group	Retired	0.03	0.03	0.338	-0.03	0.10
	Retired x Low (ref)					
	Retired x Medium	0.04	0.04	0.334	-0.04	0.11
	Retired x High	0.22	0.03	<0.001	0.16	0.29
Education	Retired	-0.04	0.05	0.382	-0.14	0.05
	Retired x Education	0.09	0.02	<0.001	0.05	0.13
Religiosity	Retired	0.12	0.03	<0.001	0.07	0.17
	Retired x Religiosity	0.06	0.03	0.049	0.0004	0.12
Colleagues in social networks*	Retired	0.15	0.03	<0.001	0.09	0.20
	Retired x Colleagues	0.05	0.04	0.230	-0.03	0.13
Partnership status	Retired	0.15	0.03	<0.001	0.10	0.20
	Retired x Partnership status	-0.15	0.09	0.103	-0.34	0.03
Parenthood status	Retired	0.13	0.05	0.010	0.03	0.24
	Retired x Parenthood status	0.01	0.05	0.853	-0.09	0.11
Grandparenthood status	Retired	0.13	0.03	<0.001	0.07	0.19
	Retired x Grandparenthood status	0.02	0.03	0.423	-0.04	0.08

Note. All models control for the following time-variant factors: respondent's age at interview, partnership status, and financial condition. n = 11,247 person-observations from 5,748 unique individuals.

*This question was asked only in waves 4 and 6; n = 9,402 person-observations from 4,845 unique individuals.

Appendix Table 1

Within-person associations between the transition to retirement and volunteering with dichotomous volunteering variables

	OR	SE	p	95% CI	
				lower	upper
Model 1					
Working	ref				
Retired	1.77	0.20	<0.001	1.41	2.21
Model 2					
Working	ref				
Retired	1.95	0.25	<0.001	1.51	2.51
Model 3					
Working	ref				
Retired	2.33	0.36	<0.001	1.72	3.16

Note. All models control for the following time-variant factors: respondent's age at interview, partnership status, and financial condition. Model 1: n = 1,902 person-observations from 951 unique individuals; Model 2: n = 1,540 person-observations from 770 unique individuals; Model 3: n = 1,118 person-observations from 559 unique individuals.

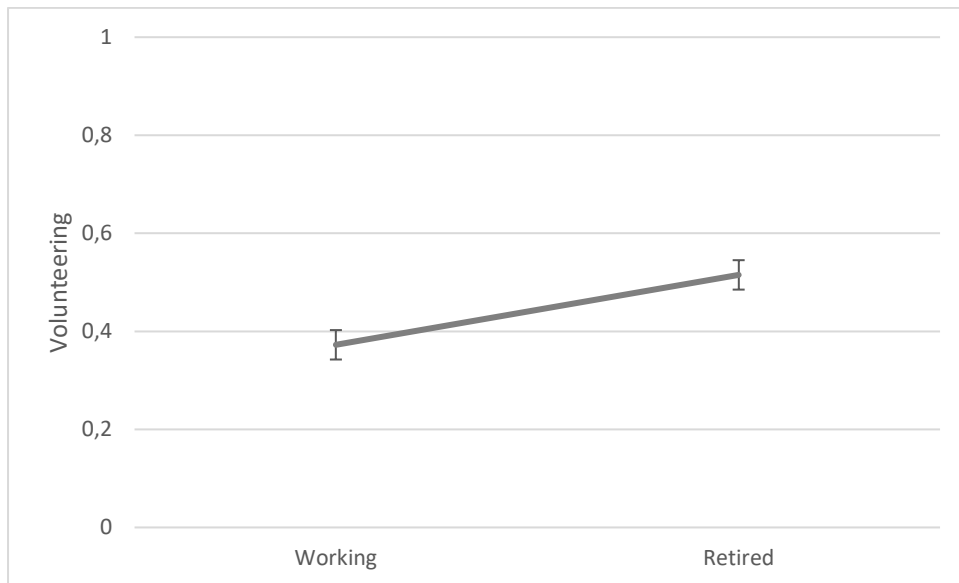


Figure 1. Within-person associations between retirement and volunteering (predictive margins and 95% CIs)

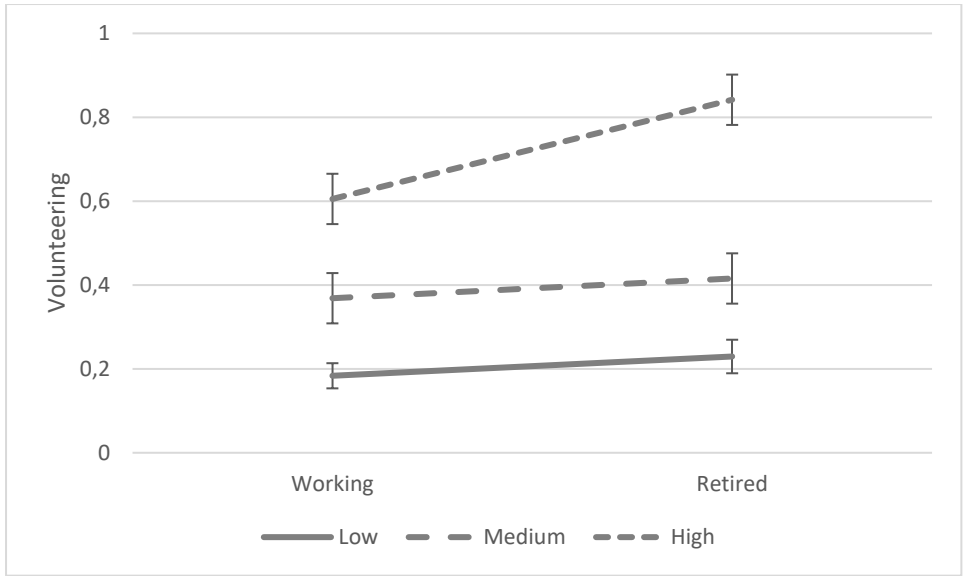


Figure 2. Within-person associations between retirement and volunteering by European country groups (predictive margins and 95% CI)

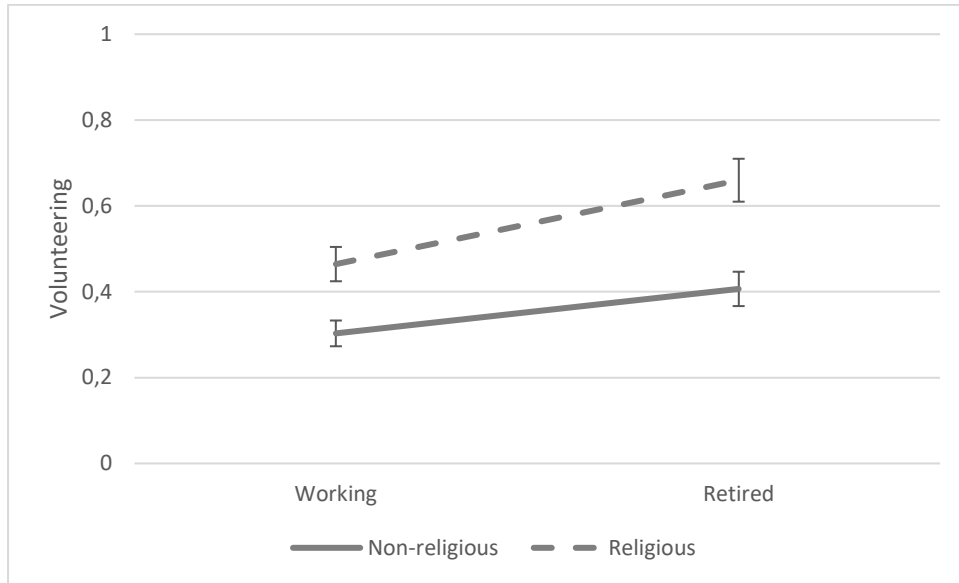


Figure 3. Within-person associations between retirement and volunteering by religiosity (predictive margins and 95% CI)

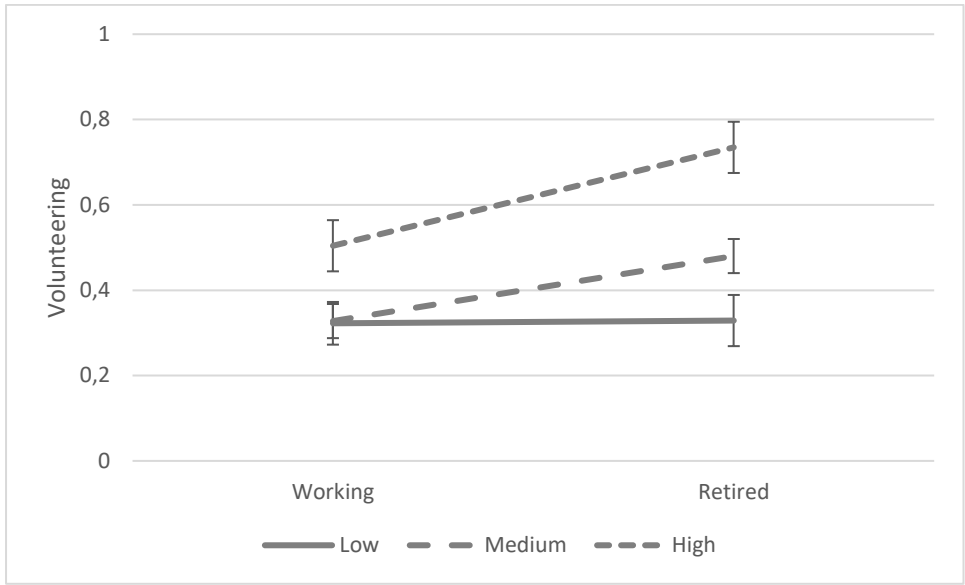


Figure 4. Within-person associations between retirement and volunteering by educational level (predictive margins and 95% CI)