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Social cohesion as perceived by community-dwelling older people: the role of individual and neighbourhood characteristics

By HANNA M. VAN DIJK*, JANE M. CRAMM* & ANNA P. NIEBOER*

Abstract

Social cohesion in neighbourhoods is critical to supporting the rising number of community-dwelling older people. Our aim was thus to identify individual and neighbourhood characteristics influencing social cohesion among older people. We employed a cross-sectional study of 945 (66% response rate) community-dwelling older residents (70+) in Rotterdam. To account for the hierarchical structure of the study design, we fitted a hierarchical random-effects model comprising 804 older people (level 1) nested in 72 neighbourhoods (level 2). Multilevel analyses showed that both individual (age, ethnic background, years of residence, income and self-rated health) and neighbourhood characteristics (neighbourhood security) affect social cohesion among community-dwelling older people. Results suggest that policy makers should consider such factors in promoting social cohesion among community-dwelling older people. Policies aimed at improving neighbourhood security may lead to higher levels of social cohesion.

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Keywords: social cohesion, older people, neighbourhood security, neighbourhood services, community, multilevel.

Introduction

In answer to the growing demands of ageing populations, governments increasingly promote community-based care rather than investing in costly institutional care (Anderson & Hussey 2000; Sixsmith & Sixsmith 2008). Although this tendency towards ''ageing in place'' is driven by a need to reduce health and social care costs, research findings show that older people also *prefer* to live at home for as long as possible (Heywood et al. 2002; Hooyman & Kiyak 2008). Smaller social networks (McPherson et al. 2006; Oh & Kim 2009) and declining mobility (Shaw et al. 2007) render community-dwelling older people more dependent on their neighbours for support (Campbell & Lee 1992; Cannuscio et al. 2003; Forrest & Kearns 2001; Gray 2009; Nocon & Pearson 2000; Russell et al. 1998; Wiles 2005).

Governments across the western world increasingly invest in policies to promote social cohesion (Forrest & Kearns 2001; Höhn 2005; Morrison 2003), which may be particularly important in supporting older people to live healthily and independently (Forrest & Kearns 2001). In these debates, the neighbourhood is perceived as the key setting in fostering social cohesion (Forrest 2004; Forrest & Kearns 2001; Kawachi & Berkman 2003; Morrison 2003; Social Exclusion Unit 2001), especially for older people who spend a great proportion of their lives in the neighbourhood (Kellaher et al. 2004; Philips et al. 2005).

Social cohesion can be understood as patterns of social interaction among neighbours and the associated process of building shared values (Carpiano 2006; Fone et al. 2007; Kawachi & Berkman 2000; Maxwell 1996). Neighbourhoods with high levels of social cohesion are expected to generate values such as familiarity, interpersonal trust and norms of reciprocity (Carpiano 2006; Fone et al. 2007), which may be beneficial to the health and well-being of community-dwelling older people. Research has led to an increasing awareness of the importance of social cohesion on both mental (Ellaway et al. 2001; Fone et al. 2007; Mair et al. 2010; O'Campo et al. 2009) and physical health outcomes (Browning & Cagney 2002; Ellaway et al. 2001; Wolf & Bruhn 1993). Kawachi and Berkman

(2000) have argued that social cohesion contributes to better health through providing social support, adopting health-promoting behaviour, and facilitating access to services. Communities marked by high levels of social cohesion also mediate against the deleterious effects of stress (Rios et al. 2012) and adverse life events (Egolf et al. 1992), which has particular relevance for older people who are likely to face both (Hardy et al. 2002).

Although research supports the importance of social cohesion for health and well-being, we lack evidence on the *predictors* of neighbourhood social cohesion among community-dwelling older people. A few studies conducted among populations of all ages provide some insight, reporting higher levels of social cohesion among married (Farrell et al. 2003; Pampalon et al. 2007), older (Ellaway et al. 2001; Letki 2008; Pampalon et al. 2007; Skjaeveland & Garling 1997; Wilkinson 2008) and more highly educated (Buckner 1988; Pampalon et al. 2007; Robinson & Wilkinson 1995) people. For the population at large, research has consistently shown that residential stability exerts a positive influence on social cohesion (Buckner 1988; DiPasquale & Glaeser 1999; Ellaway et al. 2001; Robinson & Wilkinson 1995). Moreover, several studies demonstrated a relation between social cohesion and health outcomes. Whereas some studies argue that social cohesion contributes to positive health outcomes (Browning & Cagney 2002; Ellaway et al. 2001; Kawachi & Berkman 2000; Poortinga, Dunstan & Fone 2007), other studies argue the opposite, showing that people with poor health reported lower social cohesion scores (Robinson & Wilkinson 1995), presumably because their (physical) disabilities hinder establishing social relations and participation in neighbourhood activities (Paillard-Borg et al. 2009).

With respect to neighbourhood characteristics, several studies have reported that negative perceptions of neighbourhood security hinder social interaction among neighbours (Bellair 1997; Bursik & Grasmick 1993; Liu 2011; Markowitz et al. 2001; Oh 2003; Sampson & Raudenbush 1999) and inhibit social cohesion (Gibson et al. 2002; Saegert & Winkel 2004; Sampson 1991; Ziersch et al. 2005). Conversely, the existence of sufficient neighbourhood services and facilities promotes interaction (Baum & Palmer 2002; Flap & Völker 2005; Peterson et al. 2000; Völker et al. 2007), which in turn is found to increase the level of social cohesion in the neighbourhood (van Bergeijk et al. 2008).

Even though neighbourhood social cohesion seems to be an important source of support for older people and may buffer negative health consequences of ageing, it has received surprisingly little research attention. Insight into what contributes to social cohesion among community-dwelling older people will provide policy makers with valuable knowledge on how to support independent living. This study aims to identify individual and neighbourhood characteristics for social cohesion among community-dwelling older people. In line with previous research (see e.g. Cummins et al. 2005; Pampalon et al. 2007), we thus consider both individual *and* contextual factors, which enables us to understand the role of the (social) environment in relation to social cohesion more thoroughly.

Methods

We disposed of a randomly selected recruitment sample of 1440 independently living older persons aged 70 and over from 72 neighbourhoods in four Rotterdam districts (Lage Land/Prinsenland, Lombardijen, Oude Westen and Vreewijk) in 2011. Neighbourhoods were defined on the basis of four-digit postal codes designated by the government. The sample comprised approximately 420 persons per district, proportional to neighbourhood and age group (70–74; 75–79; 80–84; 85+), allowing us to account for different age groups within neighbourhoods.

Respondents were asked by mail to participate in the study by completing a written or online questionnaire. Respondents who did not respond first received a reminder by mail, then were reminded by telephone and finally, visited at home. All participants were rewarded with a 1/5 ticket in the Dutch State Lottery. Our final sample consisted of 945 respondents (66% response rate). No differences were found in gender and age compared to the original sample ($n = 1440$). We did however find a small but significant difference in ethnic background; 17% had another ethnic background in our study sample, compared to 22% in the original sample. Ethical approval was provided by the ethics committee of the Erasmus University Medical Centre of Rotterdam in June 2011. A detailed description of our study design can be found in our study protocol (Cramm et al. 2011).

Measurements

Dependent Variable

Our dependent variable was social cohesion in the neighbourhood. Following Fone and colleagues (2007), we used an eight-item instrument derived from Buckner (1988) to assess neighbourhood social cohesion. The measure covers feelings of trust, norms of reciprocity, and more tangible sources of support. Respondents were asked to assess their agreement (on a five-point scale ranging from "strongly disagree" (1) to "strongly agree" (5)) with the following statements: "I visit my neighbours in their homes"; "The friendships and associations I have with other people in my neighbourhood mean a lot to me"; "If I need advice about something I could go to someone in my neighbourhood"; "I believe my neighbours would help in an emergency"; "I borrow things and exchange favours with my neighbours"; "I would be willing to work together with others on something to improve my neighbourhood"; "I rarely have a neighbour over to my house to visit" (reverse coded); and "I regularly stop and talk with people in my neighbourhood." By summing the responses to these eight questions with equal weighting (mean: 24.39; standard deviation (SD): 5.38), we derived a social cohesion score (range: 8–39) with higher scores indicating higher levels of social cohesion. The Cronbach's alpha (0.75) of the score demonstrated reliability.

Individual-Level Indicators

We employed different individual characteristics relevant to an analysis of social cohesion: gender, age (measured in years), marital status (coded as a dummy variable), and ethnic background (country of birth). We included education and income as indicators of socioeconomic status. The first was measured by highest educational achievement on a seven-point scale ranging from 1 (primary school or less) to 7 (university degree). Net monthly income (including social benefits, pensions and salaries) was measured on a five-point scale ranging from 1 (€1000) to 5 ($>$€3050) divided by the number of household members. We asked for home ownership (owner versus renter) and established years of residence at the current address in five prescribed categories: <1 year (1), between 1 and 3 years (2), between 3 and 7 years (3), between 7 and 15 years (4), and ≥ 15 years (5).

Finally, we measured self-rated health with the question: ''How would you describe your overall state of health these days? Would you say it is (5) excellent, (4) very good, (3) good, (2) fair, or (1) poor?''. This measure is considered a valid and robust measure of general health status; previous studies demonstrate that self-rated health has high predictive validity for objective health measures such as mortality, physical disability and chronic disease status (Idler & Benyamanini 1997; Idler & Kasl 1995; Mossey & Shapiro 1982).

Neighbourhood-Level Indicators

Two explanatory variables on the neighbourhood level were included in our analysis: neighbourhood services and neighbourhood security. Neighbourhood services and neighbourhood security are examples of shared neighbourhood level characteristics. Therefore, both neighbourhood characteristics were aggregated from individual level variables. We measured them by using two dimensions of the Neighbourhood Quality Index (Yang et al. 2002). We assessed adequacy of neighbourhood services and facilities by asking respondents how strongly they agreed with the following statements: ''The neighbourhood has adequate lighting''; ''The neighbourhood has convenient transportation''; and ''The neighbourhood has adequate public facilities.'' Responses to these items were structured on a four-point Likert-scale ranging from total disagreement (1) to total agreement (4). The adequacy of services score was derived by summing the responses to each item and aggregating them to the neighbourhood level. The Cronbach's alpha of the neighbourhood services scale was 0.65.

We assessed perceived neighbourhood security by using responses to the following statements: ''The neighbourhood is quiet and peaceful''; ''The neighbourhood is spacious and roomy''; ''The neighbourhood is safe''; and ''The neighbourhood is orderly, with good public security.'' Responses were structured on a four-point Likert-scale ranging from total disagreement (1) to total agreement (4). A score was derived by summing the responses to each item and aggregating them to the neighbourhood level. The Cronbach's alpha of the scale was 0.83, indicating good reliability.

Analysis

We employed descriptive statistics and used univariate analyses (indicated by the Pearson's R) to assess the relationship between social cohesion and individual characteristics (gender, age, marital status, ethnic background, home ownership, years of residence, education, income and health).

First, we tested for the influence of the neighbourhood (level 2) on social cohesion. The results indicated that the neighbourhood did affect social cohesion (-2 loglikelihood 5650.082 vs. 5644.360: $p \leq 0.05$). Moreover, we also checked for clustering in neighbourhoods for security and services scores and found that the neighbourhood affects both security (-2 loglikelihood 4031.641 vs. 3981.478: $p \leq 0.01$) and services (-2 loglikelihood 3333.226 vs. 3322.560: $p \leq 0.01$). Therefore, we fitted a hierarchical random-effects model to account for the hierarchical structure of the study design.

We also checked for a three-level structure of the district level (level 3). Because these results indicated that district level did not affect social cohesion (-2 loglikelihood 5650.082), we used the two-level structure. The structure comprised 945 older people (level 1) nested in 72 neighbourhoods (level 2). Individuals were excluded when observations were missing for any outcome, leading to the inclusion of 804 people in our multilevel analysis. In view of the comparability of our findings, we standardised all of the independent variables.

We employed a two-level model (using maximum likelihood estimation) to examine the predictive role of individual- and neighbourhood-level indicators on social cohesion. The analyses were performed by multilevel linear regression analysis with a stepwise inclusion of the group of individual variables in model 3, neighbourhood services in model 4, and finally, neighbourhood security in model 5. Statistical Package for the Social Sciences (SPSS) software (version 17.0; SPSS Inc., Chicago, IL, USA) was used for all statistical analyses.

Results

Table 1 provides descriptive statistics for the independent variables and social cohesion. Respondents were mostly female (57%), had an average age of 77.5 (range: 70–101; SD: 5.8), and were married in about one-third

Table 1. Descriptive statistics

Demographic characteristics	Range	% or mean (SD)
Gender (female)		57%
Age (years)	70–101	77.5 (5.8)
Marital status (married)		35%
Ethnic background (Dutch)		83%
Home ownership (owner)		19%
Years of residence	1–5	4.34 (0.99)
<1 year		2%
1–3 years		6%
3–7 years		9%
7–15 years		22%
≥ 15 years		61%
Education	1–7	3.97 (1.70)
Income	1–5	2.18 (1.04)
Health	1–5	2.65 (0.95)
Neighbourhood security	8.75–14	11.4 (0.95)
Neighbourhood services	7.5–12	8.94 (0.51)
Social cohesion	8–39	24.39 (5.38)

(35%) of the cases. A vast majority was born in the Netherlands (83%) and had lived ≥ 7 years at their current address (83%), indicating residential stability (Ross et al. 2000).

Univariate analysis of the associations between individual-level indicators and social cohesion are presented in Table 2. Respondents' age ($p \leq 0.05$), ethnic background ($p \leq 0.01$), home ownership ($p \leq 0.01$), education ($p \leq 0.01$), income ($p \leq 0.001$) and self-rated health ($p \leq 0.01$) were significantly related to social cohesion. No significant correlations were found between social cohesion and gender, marital status, or years of residence.

Table 3 presents the results of the multilevel regression analysis. Looking at the individual characteristics in the final full model (5), age appeared to be negatively associated with social cohesion ($p \leq 0.01$). In addition, we found significant positive relations between social cohesion and Dutch background ($p \leq 0.05$), years of residence ($p \leq 0.05$), income ($p \leq 0.05$) and self-rated health ($p \leq 0.05$). Years of residence ($p \leq 0.05$) became significant once neighbourhood variables were included in the model (model 4 and 5).

Table 2. Associations among individual characteristics and social cohesion (r)

	Social cohesion	*n*
Gender (female)	0.03	911
Age	– 0.07*	911
Marital status (married)	0.02	911
Ethnic background (Dutch)	0.10**	911
Home ownership (owner)	0.11**	911
Years of residence	0.05	906
Education (1–7)	0.11**	890
Income (1–5)	0.15***	822
Health	0.10**	905

***$p \leq 0.001$; **$p \leq 0.01$; *$p \leq 0.05$ (two-tailed).

Gender, marital status, home ownership, and education were not significantly associated with social cohesion in our study population. Besides the individual-level indicators, neighbourhood security appeared to be important for social cohesion ($p \leq 0.01$). Adequacy of neighbourhood services was only found to be significant in model 4 ($p \leq 0.01$), but lost significance once neighbourhood security entered the equation in model 5.

The intra-class correlation (ICC = 0.03) showed that 3% of the total individual differences in older people's perceptions of social cohesion occurred at the neighbourhood level and might be attributable to contextual factors.

Discussion

In order to support growing populations of community-dwelling older people to live independently, social cohesion in the neighbourhood becomes increasingly important. Whereas research to date has tended to focus on the effects of social cohesion on health and was limited to younger populations, this multilevel study enhances our understanding of both individual and neighbourhood characteristics that contribute to social cohesion among older people in the neighbourhood.

The mean social cohesion score in this study (24.39 ± 5.38; range 8–39) was significantly lower than that reported by Fone and colleagues (2007)

Table 3. Hierarchical linear multilevel analyses of social cohesion ($n = 804$)

	1		2		3†		3‡		4†		4‡		5†		5‡	
Model	B	SE	B	SE	B	SE	B	SE	B	SE	B	SE	B	SE	β	SE
Constant	24.39	1.78	24.31	0.21	25.07	2.84	24.34	0.19	16.60	4.28	24.35	0.18	15.01	4.28	24.36	0.18
Individual characteristics																
Gender (female)					0.55	0.41	0.27	0.20	0.53	0.40	0.26	0.20	0.45	0.41	0.22	0.20
Age					− 0.08*	0.03	− 0.47*	0.19	− 0.08*	0.03	− 0.48*	0.19	− 0.09**	0.03	− 0.52**	0.19
Marital status (married)					0.38	0.45	0.18	0.21	0.35	0.45	0.17	0.21	0.29	0.45	0.14	0.21
Ethnic background (Dutch)					1.09*	0.52	0.41*	0.20	1.20*	0.52	0.45*	0.19	1.05*	0.52	0.39*	0.19
Home ownership (owner)					0.71	0.52	0.28	0.20	0.52	0.52	0.20	0.20	0.43	0.51	0.17	0.20
Years of residence					0.32	0.19	0.32	0.19	0.37*	0.19	0.36*	0.19	0.42*	0.19	0.42*	0.19
Education (1–7)					0.06	0.13	0.09	0.21	0.06	0.22	0.05	0.21	0.02	0.12	0.03	0.21
Income (1–5)					0.59**	0.22	0.61**	0.22	0.55**	0.22	0.57**	0.22	0.49*	0.22	0.50*	0.22
Health					0.44*	0.19	0.41*	0.19	0.41*	0.19	0.39*	0.19	0.41*	0.19	0.39*	0.18
Neighbourhood characteristics																
Neighbourhood services									0.97**	0.37	0.50**	0.19	0.49	0.41	0.25	0.21
Neighbourhood security													0.58**	0.22	0.55**	0.21
− 2 log likelihood	5650.082		5.644.360		4.919.360				4912.891				4906.212			
Explained individual variance																
-of the individual level 93.5					94.2%				94.2%				93.5%			
-of the total					5.7%				5.6%				6.3%			
Explained neighbourhood variance																
-of the individual level 93.5					70.3%				95.5%				99.9%			
-of the total					2.3%				3.0%				3.1%			

***$p \leq 0.001$; **$p \leq 0.01$; *$p \leq 0.05$ (two-tailed).

†unstandardised.

‡standardised.

(29.2 ± 5.5; range 8–40), which might be explained by the studies' respective samples: older people (70+) living in a metropolitan area (our study) versus 18–74-year-olds residing in a provincial town (Fone et al. 2007). Although previous studious among younger populations demonstrated that social cohesion is positively associated with age (Ellaway et al. 2001; Letki 2008; Pampalon et al. 2007), our multilevel analysis indicates that from a certain age upwards (70+) age may actually inhibit social cohesion. This finding may be explained by the fact that older people are increasingly faced with cognitive impairments and physical disabilities that hinder engagement in social activities (Paillard-Borg et al. 2009). Furthermore, older people are especially vulnerable to having fewer social network ties and less social interaction (McPherson et al. 2006; Oh & Kim 2009).

Consistent with previous research (Almeida et al. 2009; Buckner 1988; Ellaway et al. 2001; Obst et al. 2002; Prezza et al. 2001; Robinson & Wilkinson 1995), our study showed a positive association between residential stability and social cohesion. However, this association was only found when we accounted for neighbourhood characteristics in the analysis. This finding may suggest that the relationship between residential stability and social cohesion is strengthened by neighbourhood characteristics such as the adequacy of services and security in the neighbourhood. As indicated in prior studies, length of residence enables social relationships to develop and strengthens community attachment (Bridge 1994; Goudy 1990; Sampson 1988, 1991), leading in turn to higher levels of social cohesion (Wilkinson 2008). However, to allow residential stability among older people, there is an increasing need for governments to invest in appropriate and affordable long-term housing (Davey 2006). However, given our finding that social cohesion decreases from a certain age upwards (among people aged 70+ and over), governments should consider an age mix in the neighbourhood when building long-term housing. Previous research supports that older people prefer an age-mix in the neighbourhood (Gabriel & Bowling 2004). Governments may manage to attain an age mix through combining a variety of houses and services that suit both the needs of younger and older people (Morris et al. 2012; Thang 2001). Moreover, governments would be well advised to invest in regulations that allow second units to be built on the property of (single) family dwellings. Research shows that current regulations now often restrict older people from living near their children and grandchildren (Rosenberg & Everitt 2001).

Our multilevel analysis demonstrated no relation between home ownership and social cohesion; in line with previous research (DiPasquale & Glaeser 1999), the influence of home ownership on social cohesion may diminish or disappear when accounting for length of residence.

Our analysis revealed that self-rated health was associated with social cohesion, most likely because people in poor health are less able to establish social connections and participate in neighbourhood activities (Mulvaney-Day et al. 2007; Robinson & Wilkinson 1995). Policy makers may target interventions toward engaging older people with poor health, which will allow them to participate in the neighbourhood in spite of their (physical) impairments.

Furthermore, the results demonstrated an association between ethnic background and social cohesion. In line with previous research among younger populations (Curley 2010; Dekker & Bolt 2005), ethnic minority groups are found to have fewer social contacts with their neighbours and tend to focus on their own ethnic group for social contact. Since three out of four districts in our study comprise a large majority of Dutch neighbours, the likelihood of being surrounded by non-Dutch co-ethnics is low, which may constrain social cohesion among these groups.

Moreover, we found a positive relation between a higher income and social cohesion. This contrasts previous studies among younger populations that report lower cohesion scores for higher income people (Obst et al. 2002; Robinson & Wilkinson 1995), which is mostly explained by the fact that affluent people can afford (travel) costs that allow them to maintain social contact outside the neighbourhood (Musterd & Ostendorf 1998). However, given older people’s declining health and limited mobility, older people are more reliant on their neighbourhood for social contact (Shaw et al. 2007). Therefore, income may provide older people with financial resources to participate in neighbourhood activities, enabling them to maintain their social network *within* the neighbourhood (Scharf et al. 2004). This finding may highlight the need for policy-makers to invest in affordable social activities.

Unlike previous research, we did not find any evidence that gender (Glynn 1981) or marital status (Farrell et al. 2003; Prezza et al. 2001) predicted social cohesion among older people. This could indicate that, with age, differences between such socio-demographic indicators tend to diminish or become less decisive in explaining social cohesion. For example, the higher social cohesion scores that were reported among women (Farrell et al. 2003; Prezza et al. 2001) may be due to their larger amount of time spent in the neighbourhood. However, with rising age, women and men spend an equal amount of time in the neighbourhood (Horgas et al. 1998). Likewise, although previous studies among populations of all ages reported higher social cohesion scores among married people, both married and non-married or widowed older people (70+) may rely on previously established relationships with neighbours. The high level of residential stability we found among older people does provide evidence for this finding.

This multi-level study enabled us to demonstrate that over and above individual characteristics, neighbourhood characteristics affect social cohesion scores among community-dwelling older people. This study stresses the importance of positive perceptions of neighbourhood security for social cohesion, a finding that policy makers should heed. Next to improving *objective* security, which is often done through the identification and adaptation of physical features (such as street lighting) that may provide opportunities for crime (Lorenc et al. 2012; Welsh & Farrington 2008), policy makers should try to increase *perceptions* of security, which are found to represent an independent psychological dimension (Farrall et al. 2007; Lindström et al. 2003). They could target interventions toward engaging older people in voluntary associations and local decision-making processes, both of which positively relate to feelings of security and social cohesion (Laurence & Heath 2008; Lee 1983).

In accordance with previous research (van Bergeijk et al. 2008), our multilevel analysis demonstrated an association between neighbourhood services and social cohesion among older people. However, this effect disappeared once neighbourhood security was added to the model. This may indicate that neighbourhood security acts as a mediator between neighbourhood services and social cohesion; a finding that further stresses the importance of improving neighbourhood security. Moreover, our operationalisation of neighbourhood services may have been too limited. For example, we did not account for the proximity and use of (recreation) facilities, such as grocery stores and parks, which are found to act as meeting places (Völker et al. 2007), affecting social cohesion scores (van Bergeijk et al. 2008).

We should note some other limitations. Although this multilevel study enhances our understanding of both individual and neighbourhood level characteristics, the results were based on cross-sectional data, which limits the possibility of demonstrating causality. And, whereas our data indicated that feelings of security increase social cohesion, a large body of research has revealed that social cohesion diminishes feelings of insecurity and crime (e.g. Baum et al. 2009 and Putnam 2000). Likewise, our study showed that poor health status was negatively associated with social cohesion, which in turn may further affect health. Such a pattern of findings indicates that social cohesion, health, and security are dynamic social processes that affect each other in a reciprocal manner. Since older people (70+) report lower levels of social cohesion, report a higher sense of insecurity (de Donder et al. 2005), and are likely to experience illness and stressful life events (Hardy et al. 2002), further research to disentangle the interplay between these processes is particularly relevant for this group. Another limitation was that we had to exclude 141 individuals from our multilevel analysis due to missing observations for any outcome. We checked whether the 804 respondents differed from those with complete data and found no differences for ethnic background and age, but a small difference regarding gender. Given that we found no association between gender and social cohesion in our univariate analysis, we do not think this has affected our findings. Last, the selective nonresponse (i.e. the difference between our randomly selected recruitment sample and study sample) among people with another ethnic background should be noted. Lower response rates among ethnic minorities are common across Western countries (Eisner & Ribeaud 2007; Feskens et al. 2006), especially in urban areas (Feskens et al. 2007). Although we do not think the marginal underrepresentation of people with another ethnic background has affected our ability to gain insight in important individual and neighbourhood characteristics for social cohesion, future research may pay specific attention to social cohesion among older people with another ethnic background.

Conclusion

Our study contributed to our understanding of social cohesion among community-dwelling older people. Since research has indicated that neighbourhood social cohesion enhances both the health (Ellaway et al. 2001 and Kawachi & Berkman 2000) and well-being (Cramm et al. 2012) of older people, this study provides policy makers with valuable information on generating more social cohesion among the growing population of community-dwelling older people. Our analysis clearly showed that over and above individual (age, ethnic background, years of residence, income and self-rated health) characteristics, neighbourhood characteristics (neighbourhood security) are beneficial to social cohesion among older people in the community. We trust that these are interesting findings for policymakers, governments and municipalities aiming to promote social cohesion in neighbourhoods. To enable residential stability and in turn social cohesion among older people, consideration needs to be given to appropriate and affordable long-term housing that protects older people from being forced to move. Furthermore, given our finding that people with an older age (among people aged 70+), a non-Dutch background, lower income and poor self-rated health reported lower social cohesion scores, policy makers may pay specific attention to these groups in promoting social cohesion. Moreover, the improvement of security in neighbourhoods is an advisable policy goal for the enhancement of social cohesion. Last, our multilevel study prompts future research to account for the neighbourhood context when studying social cohesion among older people.

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Hello pension, goodbye tension? The impact of work and institutions on older workers' labor market participation in Europe

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Abstract

To sustain the welfare state, several EU countries agreed to take measures aimed at increasing the labor market participation of older workers (European Commission 2001). In this study, we developed a framework integrating individual, work, and institutional characteristics in order to explain the labor market participation of older workers. While prior studies focused mainly on individual characteristics, the present analysis investigated the impact of work and institutions more closely using the European Social Survey. Multilevel analyses across 21 countries showed that work characteristics increased the benefits from work, hence increasing the likelihood of participation among older workers, and that the generosity of institutions discouraged older workers to remain in the labor market.

Keywords: labor market participation, older workers, work characteristics, pension benefits, comparative research.

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Introduction

After a peak in the 1970s, the labor participation of older workers decreased rapidly, mainly because of the economic crisis and a diminishing demand for labor. Besides that, retirement schemes expanded and the general belief took hold that everyone should be able to enjoy the "golden years" of retirement (Van Dalen et al. 2006). However, with the aging of the population, one of the most pressing policy questions concerns retirement schemes in the near future (European Commission 2009; Komp & Béland 2012; Walker & Maltby 2012; Wise 2010). One policy response is reflected in the Stockholm target in which countries agreed to increase the labor market participation of older workers (55–64 years) to a level of 50% by 2010 (European Commission 2001). After the target year 2010, some countries achieved the 50% target; however, despite the agreement among the EU countries, great differences between countries persist. While in 2010 the labor market participation of older workers was about 70% in Sweden and Norway, it was about or below 30% in, for example, Austria, Belgium, or Poland (see Appendix C, Eurostat 2012).

Existing studies showed that individual, work, and institutional characteristics were related to the labor market participation of older workers (Blöndal & Scarpetta 1999; European Commission 2009; Liefbroer 2009; OECD 2011). Regarding *individual characteristics*, it was found that early retirement is higher among employees with poor health (Hayward et al. 1989, 1998; Mein et al. 2000; Schils 2008; Von Bohnsdorff 2009) and among women (Blöndal & Scarpetta 1999; European Commission 2009; OECD 2011). Besides that, human capital played a role. Job tenure was associated with a higher probability of non-participation (Hayward et al. 1989, 1998; Schils 2008). Education effects, however, turned out to differ between countries. While higher education was associated with later retirement in the UK (Schils 2008), the US (Hayward et al. 1989, 1998), and Norway (Blekesaune & Solem 2005), studies in other countries reported the opposite effect (Fischer & Sousa-Poza 2006). Finally, family and partners play a role: individuals who had a partner and those with children appeared to retire earlier in some countries (Damman et al. 2009; Schils 2008). Moreover, different strands of literature discussed that individual retirement decisions were often taken as a joint decision of spouses (see e.g., Blau 1998; Coile 2004) and that informal care obligations affected retirement planning (see e.g., Dentinger & Clarkberg 2002). With regard to *work characteristics*, studies showed that physical demand (Blekesaune & Solem 2005; Hayward et al. 1989, 1998) and part-time work (Damman et al. 2009; Hayward et al. 1998) decreased labor market participation. Findings regarding compensation were not straightforward. While higher hourly wages were related to earlier retirement in the US (Hayward et al. 1989, 1998) and the UK (Schils 2008), this association was the opposite in The Netherlands and Germany (Schils 2008). Also, there was some evidence showing that wealth related to later retirement (Damman et al. 2009). Results regarding *institutional characteristics* showed that a higher unemployment rate in a country and a lower gross domestic product (GDP) per capita was associated with earlier retirement, while employment protection did not affect early retirement (Blöndal & Scarpetta 1999; Fischer & Sousa-Poza 2006; Kim 2009).

The present study extends these prior investigations as follows. First, we aim at combining the results from previous work by using an integrated theoretical framework. The starting point of this model is the idea that individuals' decisions are (bounded) rational. This means, individual, work, and institutional characteristics might affect the utility (a benefit) or disutility (a cost) that individuals derive from participating in the labor market. By doing so, the analyses presented combine theoretical insights that explain individuals' labor market participation but have been treated separately to date. By including several work and institutional characteristics that have not been investigated before, the present study is wider in scope than earlier studies. In our theoretical model and the analyses, we include work characteristics, more specifically job resources, job demands, and work values; these were found to affect voluntary turnover but have not yet been used to explain the labor participation of older workers (Bakker & Demerouti 2006; Beehr 1986; Fasang et al. 2012; Forma 2008; Hayward et al. 1998; Lambert et al. 2001; Mein et al. 2000; Shultz et al. 1998; Siegrist & Wahrendorf 2010; Siegrist et al. 2006; Smith et al. 2011; Van den Broeck et al. 2011; Wang & Shultz 2009).

With regard to the institutional characteristics, this study provides two contributions. By including 21 European countries, the analyses are conducted on a broader range of countries than prior studies (Fischer & Sousa-Poza 2006; Kim 2009; Schils 2008; Siegrist & Wahrendorf 2010; Van Oorschot & Jensen 2009), thus enabling us to test more rigorously the link between macro level institutions and individual labor market behavior using multilevel analysis. Moreover, instead of focusing on general country characteristics such as GDP per capita, specific arrangements affecting older workers' labor market participation are taken into account, namely the generosity of retirement schemes and the labor market situations in the countries.

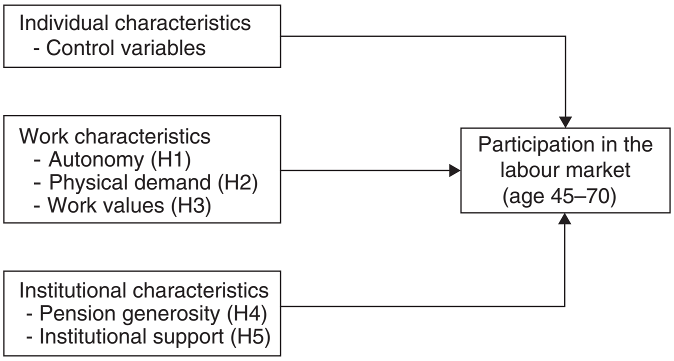
The resulting hypotheses are tested using the second wave of the European Social Survey (ESS 2004). We complement these data with pension indicators that were developed within the MULTILINKS project (Keck et al. 2009) and data from Eurostat and the OECD with information on the labor market situation. The total dataset includes information on 15,045 individuals from 21 European countries.

Theoretical Framework of Labor Market Participation

To arrive at a theoretical framework for the labor market participation of older workers, we start with the basic idea of labor supply in which individuals weigh the costs and benefits of participating (Wang & Shultz 2009). With regard to older workers, a central decision concerns the question whether one wants to stay in the labor market or withdraw from it through (early) retirement. In order to model the decision of whether or not to participate by means of a rational choice (Coleman 1990; Wang & Shultz 2009), individual, work, and national characteristics are assumed to provide a certain (dis)utility for participation (see Figure 1). The basic assumption is that the participation of older workers depends on the balance of utility and disutility derived from work. As long as the benefits of participation outweigh the costs, older workers will choose to remain in the workforce. This means that utility leads to participation and disutility contributes to non-participation.

In the present analysis, work and institutional characteristics are included based on the (dis)utility they offer to individuals. As individual

Figure 1. Individual, work and institutional factors relating to older workers' labor market participation


Individual characteristics
- Control variables
Work characteristics
- Autonomy (H1)
- Physical demand (H2)
- Work values (H3)
Institutional characteristics
- Pension generosity (H4)
- Institutional support (H5)
Participation in the labour market (age 45–70)

characteristics have been addressed in earlier research (Blöndal & Scarpetta 1999; Damman et al. 2009; European Commission 2009; Fischer & Sousa-Poza 2006; Hayward et al. 1989, 1998; Mein et al. 2000; OECD 2011; Schils 2008; Von Bohnsdorff 2009), we will not formulate specific hypotheses about their association with participation, but take them into account as control variables. First, the literature identified several so-called push and pull factors. Push factors, like bad health and bad jobs, move people towards retirement and pull factors, like welfare state arrangements, are circumstances providing an incentive for non-participation (Blekesaune & Solem 2005; Hofäcker & Pollnerova 2006; OECD 2006, 2011; Van Oorschot & Jensen 2009). In the model proposed here, we regard push and pull factors as a disutility from work.

Secondly, the Job Demands-Resources (JD-R) model of work also fits the (dis)utility framework (Bakker & Demerouti 2006; Fasang et al. 2012). Job demands refer to "physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort or skills and are therefore associated with certain physiological and/or psychological costs" (Bakker & Demerouti 2006: 321). Examples of job demands are work pressure and high physical efforts. Job resources in contrast are "physical, psychological, social, or organisational aspects of the job that are [. . .] (1) functional in achieving work goals; (2) reduce job demands and the associated [. . .] costs; (3) [or] stimulate personal growth, learning, and development." (Bakker & Demerouti 2006: 321). Career opportunities and autonomy are examples for job resources. While job demands refer to work-related characteristics that involve costs, job resources raise the benefits of the job. This way, job demands reduce the supply of labor due to the costs they involve, while job resources increase the supply of labor due to the benefits they accompany.

Thirdly, part of the literature examines the relationship between intrinsic and extrinsic work values and labor market participation (Frey 1997; Van den Broeck et al. 2011). These values can also be interpreted in terms of the utility that people derive from work, increasing their labor supply. This is based on the idea that individuals who value certain aspects of their work more derive a higher utility from work (Knoop 1994; Van den Broeck et al. 2011). Regarding their decision of whether or not to participate in the labor market, this means that they, due to the positive values, have higher incentives to remain in employment compared to those who do not intrinsically or extrinsically value their work.

Work-Related Characteristics

Job resources and individual resources can be regarded as a resource for older workers that increase the utility they derive from labor market participation. We regard autonomy in the workplace as a job resource and hypothesize that *older employees are more likely to participate in the labor market if they have more autonomy in their job* (autonomy hypothesis).

To a certain extent, job demands can contribute to the utility from work, as a challenging job can be interesting for employees. Nevertheless, if the challenges are too high, they turn into disutility from work. One clear example of job demands is the physical demand that workers experience in their work. We hypothesize that *older employees are more likely to participate in the labor market if their job is less physically demanding* (physical demand hypothesis).

Intrinsic and extrinsic values (Frey 1997; Ingelhart 1990) can increase the utility that people derive from work (Knoop 1994; Van den Broeck et al. 2011) and thus affect labor market participation. People who are motivated by intrinsic aspects of the job, such as having interesting work, find the content of the job and the possibilities for development important. Extrinsic values in contrast concern the importance of aspects such as receiving status or high earnings. It should be noted that intrinsic and extrinsic values do not have to contradict each other; employees can be motivated by both of them at the same time (Feather & O'Brien 1986). Intrinsic values can be identified as personal resources (Van den Broeck et al. 2011), because they provide a utility to participate in the labor market by lowering levels of stress (Knoop 1994). And, extrinsic values contribute to the utility from work as people will have little access to these aspects outside work. Our next hypothesis therefore reads that *older employees are more likely to participate in the labor market if their intrinsic or extrinsic work values are higher* (work values hypothesis).

Institutional Characteristics

At the national level, there are different institutional characteristics that may affect individuals' (dis)utility derived from work. Here, we focus on two classes of these institutional differences between countries.

The disutility from work can be related to the level of "decommodification" of the welfare state (Esping-Andersen 1990), meaning that countries can be distinguished based on how important it is for a person to have work in order to have an income. In other words, decommodification is high if welfare state benefits are encompassing and available to a broad group of people. A high decommodification appears in most social–democratic states, like Sweden or Finland. On the contrary, liberal welfare states, such as the United Kingdom or the United States, generally provide less encompassing welfare benefits that are available to fewer people. As pensioners are (at least partly) dependent on retirement benefits provided by the social benefit system of their country, the generosity of these benefits will promote differences between countries with regard to the participation rate of older workers. For example, the official retirement age, the mean retirement age or the minimum contribution period in a country can provide information on the "availability" of retirement benefits. The countries' net replacement rate or their minimum pension level gives insight into the coverage of the welfare state or its financial "generosity." In more generous welfare states, benefits will be available more easily and retirement will be financially more attractive. Following this argumentation, we hypothesize that *older employees are more likely to participate in the labor market if the retirement benefits of the country are less generous (with respect to availability and coverage)* (pension generosity hypothesis).

Next to differences in the countries' pension systems, the European countries have different types of labor markets, which as such provide varying utilities for individuals' labor market participation. The labor market characteristics of a country are a mixture of formal and informal institutions, such as policies concerning labor market protection, the unemployment rate among older workers, and the greying of the population. These institutional characteristics can be regarded from both a demand and supply perspective. On the one hand, a higher unemployment rate in the country might reduce workers' likelihood to supply labor. On the other hand, a higher unemployment rate might indicate that labor demand is lower. Additionally, these formal and informal norms may also reflect the public opinion about older workers. For example, if their employment position is protected, this may mean that more people are in favor of labor participation of older workers; and, in countries where more older worker participate, societal norms may also be more supportive. This way, the costs of workers' labor participation are reduced. We therefore hypothesize that *older employees are more likely to participate in the labor market in countries with more formal and informal norms directed towards participation of older workers* (institutional support hypothesis).

Data

To test the hypotheses, we used the second round of the European Social Survey (ESS 2004). We decided to use the second round, because, firstly, these data included the necessary individual information, such as labor market participation and work characteristics like individuals' motivation. And secondly, the 2004 data of the ESS allowed adding rich institutional level information from different sources. We added macro-level indicators that were established within the MULTILINKS project providing information about different welfare state characteristics, such as the official retirement age in a country for men and women and the net replacement rate for different career paths (Keck et al. 2009). Furthermore, we made use of country characteristics retrieved from the Eurostat and the OECD website. All country characteristics referred to 2004, the same year the ESS data were collected.

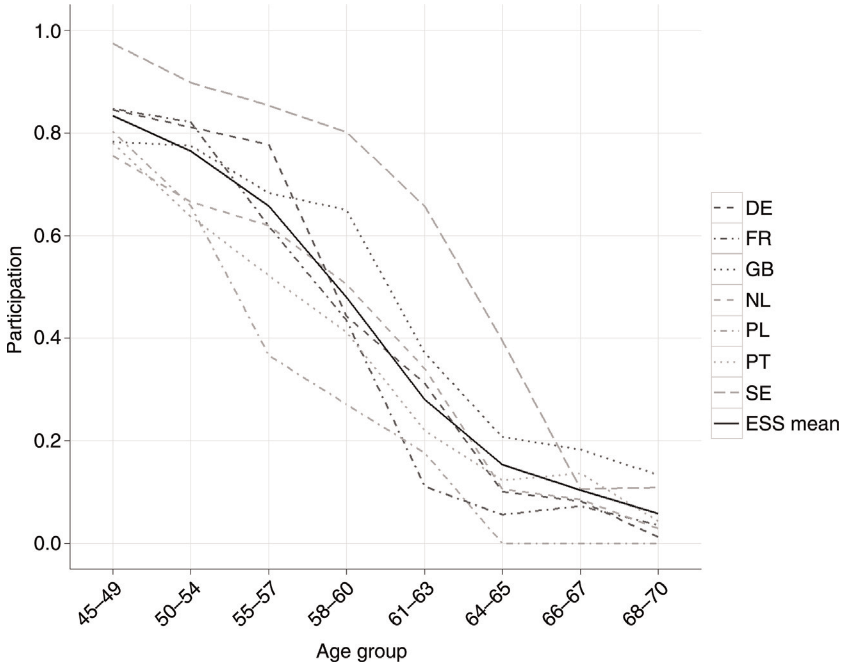
The second round of the ESS encompasses about 47,500 respondents from 25 European countries. Since country level data were not available for Switzerland, Iceland, Turkey, and the Ukraine, respondents from these countries were excluded. We furthermore restricted the analyses to older workers (aged 45–70 years). We chose 70 years as an upper limit, because even though the official retirement age is 65 years in most European countries, people can participate beyond the official retirement age. Last, we chose to include individuals who have not been retired longer than ten years. As a result, our analyses refer to 15,045 respondents from the following 21 countries: Austria, Belgium, Czech Republic, Germany, Denmark, Estonia, Spain, Finland, France, Great Britain, Greece, Hungary, Ireland, Luxembourg, the Netherlands, Norway, Poland, Portugal, Sweden, Slovenia, and Slovakia.

Operationalization

Dependent Variable: Labor Market Participation

The dependent variable *labor market participation* was generated using the variable asking the respondents about their main activity in the labor market. Those indicating to be "in paid work (or away temporarily) (employee, self-employed, working for your family business)" or "unemployed and actively looking for a job" were coded as participating and those not participating include the categories "unemployed, wanting a job but not actively looking for a job," "permanently sick or disabled," "retired," or "doing housework, looking after children or other persons." This operationalization is usually used to distinguish the active (labor force) population from the inactive population (Eurostat 2013). As stated above, we only included respondents who were between 45 and 70 years of age. Furthermore, we excluded respondents who had been retired for more than ten years. We did this because some work characteristics were asked for the last (or current) job. Respondents who were already retired thus provide information on their last job. By only including those who retired

Figure 2. Labor market participation of workers aged 45–70 in seven European countries and the average ESS participation. ESS 2004, own analyses



more recently, we aim at including information that is as reliable as possible. Robustness checks including respondents who retired five years ago or less are also discussed in the results section, but not reported due to space considerations.

Based on the ESS data used in this paper, we show in Figure 2 how participation of our sample (N = 15,045) decreases with increasing age. We depict the participation rates for the same eight age categories that are also used in the explanatory analyses (compare Tables 1 and 2). In general, this figure shows that labor market participation declines with the increasing age of workers. The black solid line signifies the average participation for the 21 countries included in our analyses. Between age 45 and 49, more than 83% of the respondents are participating in the labor market. This percentage is only 50% for those aged 58–60. In the oldest age group, only about 6% of the ESS respondents participate. Furthermore, we depict the participation in seven countries, namely Germany, France, Great Britain, the Netherlands, Poland, Portugal and Sweden, to show how great the variation is between countries. In Sweden (light gray, long dashed line), participation is highest of all countries in all age groups until age 65, while participation is generally lowest in Poland (light gray, dash dotted line). In our sample of the ESS data, the labor market participation of Polish respondents above the age of 64 years is zero. This reflects the very low average exit age from the labor force in Poland, which was 57.7 in 2004 (Eurostat 2013) and to a lesser extent also the low official retirement age of women, which is 60 years (see Appendix C). In Great Britain (dark gray, dotted line), participation is highest for the oldest workers. When comparing, for example, participation for workers aged 55–57 years, it becomes obvious that variation between countries is great: in Sweden more than 80% participate, while these are less than 40% in Poland.

Including the information whether individual workers participate at the labor market, does not consider the possibility that older workers reduce their participation, measured in work hours, before withdrawing from the labor market completely. Hence, studying participation at the extensive margin (participation) rather than at the intensive margin (working hours), cannot account for thoughts raised by research showing that jobs bridging between participation and retirement might become more important (Blau 1994; Cahill et al. 2006; Elder & Pavalko 1993; Gielen 2007; Hayward et al. 1998). We decide to study participation at the extensive margin, because assuming that work hours can be reduced as a means to withdraw from the labor market in a stepwise manner, disregards the fact that a continuous adaption of work hours is often dependent on norms regarding part-time employment. Older workers can adjust their working hours according to their wishes only in countries where part-time employment is offered as an option (to account for this, we include part-time work in a country as a control variable – see below). Our study compares countries where part-time employment is widely considered as a means to reduce work hours (e.g. Germany, the Netherlands) to countries where part-time employment is much less as a form of participation (e.g. Slovakia, Hungary, Greece) (see Appendix C). By studying participation rather than work hours, we therefore prevent a bias introduced by the divergent possibility of part-time employment.

Independent Variables: Individual Level

Job resources and job demands were measured with the following variables. *Work organization* measures the extent to which the respondents could decide how their work was organized and *work pace* is operationalized as the extent to which respondents could choose and change the pace of their work. These two variables were measured on a scale between 0 (“I had no influence”) and 10 (“I had complete influence”). *Physical demand* was retrieved from the ISCO-88 codes. We recoded each 4-digit code to its respective 2-digit code; a higher value represents a higher physical demand of the job. Respondents who indicated to work in “armed forces occupations” were coded to the mean 2-digit ISCO code.

Work values include extrinsic and intrinsic motivation. For *extrinsic motivation* we generated a sum scale, including three items asking respondents to indicate on a scale from 1 (“not important at all”) to 5 (“very important”) how important it was for them if they were choosing a job to have (a) a secure job; (b) a high income; and (c) good promotion opportunities. *Intrinsic motivation* was measured with the statement “the job enables them to use own initiative” (1 = not important at all; 5 = very important).

Independent Variables: National Level

The availability and generosity of welfare state benefits is indicated with a number of variables (see Appendix C). The *official retirement age* is the age a person may or must retire, without being subject to deductions from pensions. The official age at retirement is regarded separately for men and women. The range of the variable was recoded; the value zero refers to a retirement age of 65 years. Countries in which the retirement age is below 65 have values smaller than zero and countries with a higher retirement age have values greater than zero. *Mean retirement age* in a country was included to assess whether individuals in countries with a higher average retirement age participate longer. We use the *minimum contribution period* that provides information on how long individuals need to contribute to the social benefit system in order to be eligible for pension benefits. The *net replacement rate* (for a standard pensioner of 65 years who worked 40 years with average income) measures the height of the pension as a percentage of prior earnings; it is dependent on prior earnings, the composition of the household, or other household member's earnings (see e.g., Blöndal & Scarpetta 1999; Keck et al. 2009; OECD 2011). The *minimum pension levels* measures the minimum pension provision for pensioners with a certain contribution period, who have pension claims that are below the minimum defined threshold. The *expenditures on old age* indicate the public expenditures on pensions as a percentage of the GDP.

Regarding the labor market related characteristics, we operationalized the *employment protection legislation* as a measure for both the procedures and costs associated with the dismissal and hiring of workers. The *employment rate for older workers* referred to the labor market participation of workers between age 55 and 64. We also considered the *fraction of the old population*, this is the percentage of the population that is older than 65 in a country.

Control Variables

In prior research, several individual characteristics were included in analyses when investigating retirement age or older workers' participation. We included these variables as control variables; descriptive statistics can be found in Appendix A. We distinguished eight *age groups*. Gender was measured by a dummy variable referring to *male* respondents. *Education* was measured as the formal education in years; more than 20 years of education were recoded to the maximum value of 20 years. *Tenure* is the length of employment in the current (last) organization in years. *Health* is asked on a five-point scale ranging from "very good" to "very bad." We take the two categories "bad" and "very bad" together (because of few cases), and distinguish three dummy variables: "very good health," "good," and "fair health." Having a "bad/very bad health" constitutes the reference category. A bad health might have preceded non-participation, but it could also appear afterwards. According to OECD standards, *full-time* is a dummy variable indicating whether respondents work(ed) more than 30 hours per week in their current/last employment, this dummy takes value zero if they worked part-time. *Self-employment* (or working in a family business) is opposed to being employed in a firm.

We included a dummy variable indicating whether respondents were ever *unemployed* and seeking for work for a period of more than three months, because unemployment can be an indication of a disrupted career that forces older workers to work longer at old age. The *industry* of the (last) employment was measured in six categories; "Agriculture, Mining," "Manufacturing," "(Electricity, gas and water) Supply, Construction, Trade" (reference category), "Service," "Public, Community" and "Education, Health." Last we controlled for whether respondents had a *partner* and whether they had *children* below 12 years living in the household. *Income* is calculated with the variables measuring monthly household income and the percentage of income the respondent contributes to it. Household income was asked in twelve categories and each category was recoded to the respective income in Euro. While the higher bound value was taken for the lowest category (150 Euro or less), the lower bound value was taken for the highest category (10,000 Euro or more). For all other categories, the category mean was considered as the monthly household income. The household income was multiplied with the percentage the respondent contributes to it in order to retrieve individual monthly income. This measure was transferred to a logarithmic scale.

At the country level, prior research mostly included the GDP per capita and the Gini-coefficient to assess the relation with retirement age or participation. We therefore controlled in our analyses for *gross domestic product (GDP) per capita* in 1000 Euro because richer countries may on average have more opportunities to afford stopping to work at an earlier age than poorer countries. As a measure for *income inequality* (Gini), we included the Gini-coefficient. Furthermore, we control for the *incidence of part-time* work in a country, measured as the part-time workers as a percentage of the total employment. We do this to control for the fact that individuals can reduce their working hours in order to retire in a gradual way, especially in countries where part-time work is common.

Methods

Imputation

For all variables that have missing values, we imputed the missing values with imputation by chain equations in Stata 11 (StataCorp 2009).

This means that all variables in the imputation model are used to predict all the other variables. In the imputation equations, we included all variables that are used in the later regressions to predict participation. Appendix A shows descriptive statistics for the sample with and without imputation. Only for those variables that were imputed (i.e. missing observations, those where $N<15{,}045$) we reported the mean and standard deviation for the imputed sample (right columns). From this table, it is comprehensible which variables have been imputed (i.e. education, tenure, health, full-time, self-employed, the industry of employment, partner, children, income and the individual level independent variables) and that the mean of the imputed sample and the original sample hardly differ. We analyzed the eleven imputed datasets together with the original dataset and report the average relative variance increase due to nonresponse (RVI) in the results, which indicates to what extent the imputed data files vary.

Data Analysis

Given the hierarchical structure of our data, with individuals nested in countries, we specified two levels and apply a multilevel framework (e.g. Goldstein 1999). The advantage of using a multilevel framework in our case was that hierarchical models could take into account the layered (nested) structure of the data. Measuring errors were specified at each of the two levels. In this way, the error terms take into account that the individual observations within countries may be more alike than individual observations between countries. This means that individual participation behavior in for example Sweden might be more comparable to other older workers in Sweden, than a worker's participation in Sweden is to a worker's participation in Germany. Because we study the participation of older workers, we ran logistic multilevel regression in Stata 11. Besides the threshold of being in retirement for a maximum of ten years, for which we report the results in the regression tables, we performed robustness checks for participation if the threshold is set at a five-year retirement. We discuss these results if they differ from these main results with the ten-year retirement threshold.

In general, our regression equation can be specified in the following way.

$$Y_{ij} = \gamma_{00} + X_{ij}\gamma_{ij} + Z_j\gamma_j + u_j + \varepsilon_{ij}$$

Where X_{ij} is the vector constituting all individual independent and individual control variables on the lower level, that is, the individual level, and Z_j the vector including all institutional independent and institutional control variables on the higher level, that is the country level. The terms u_j and ε_{ij} signify the error terms on the higher and the lower level, respectively. This means that this model corrects for the fact that individuals might be more similar within countries than between countries. We do not include random slopes for coefficients, because we do not have explicit assumptions about how associations differ between countries. In the following analyses, we only included the institutional variables separately to the individual-level model. We did this for two reasons. Firstly, the institutional characteristics might be highly correlated and produce colinearity in the model (see Appendix B for correlations). Adding them separately prevented this problem. Secondly, by including several predictors on the country level, standard errors of higher-level variables might be inflated and provide unreliable estimations (Gelman & Hill 2007).

Results

Tables 1 and 2 show the multilevel analysis. We include the control variables (Model 1) and then income (Model 2). To this we add the individual work-related variables, both separately and in combination (Model 3). Because the coefficients as reported in Model 2 do not change substantially when including the work-related variables, we only report the coefficients of the work-related variables in Model 3. In Table 3, we include the country-level variables successively and separately to the model including all individual level control variables and work-related variables. We report odds ratios; odds ratios above one signify a positive relation with labor market participation, and odds ratios below one a negative relation.

Holding constant for all other variables in the model, Table 1 (Model 1) shows that individuals in older age groups are less likely to participate than those in younger age groups. Specifically, individuals above the age of 63 are less likely to participate than those between 61 and 63 years. The odds of participating in the age group 64–65 are, for example more than 60% lower than the odds of participating at age 61–63. On the contrary, individuals younger than 61 are more likely to participate than

Table 1. Odds ratios, multilevel logistic regression on participation (0/1), results for original sample and eleven imputed models (N = 15,045)

	Model 1		Model 2	
	OR		OR	
Age group (ref.: 61–63 years)				
45–49	51.137	***	52.095	***
50–54	24.559	***	25.365	***
55–57	10.828	***	10.473	***
58–60	3.672	***	3.655	***
64–65	0.384	***	0.400	***
66–67	0.210	***	0.227	***
68–70	0.100	***	0.114	***
Gender (Male = 1)	1.308	+	1.008	
Education (in years)	0.954		0.899	**
Education squared	1.007	***	1.007	***
Tenure	1.080	***	1.054	***
Health (ref.: very bad, bad)				
Fair	4.488	***	4.637	***
Good	7.273	***	7.360	***
Very good	8.923	***	8.842	***
Full-time employed (0/1)	0.719	***	0.720	***
Gender * full-time	1.298	+	1.181	
Self-employed (0/1)	2.165	***	2.307	***
Ever unemployed > 3 months	1.068		1.240	***
Industry (ref.: Supply, construction, trade)				
Agriculture, mining	0.741	**	0.770	*
Manufacturing	0.768	**	0.740	***
Service	0.985		0.888	
Public, community	1.159	+	1.075	
Education, health	1.372	***	1.174	+
Partner (0/1)	0.994		1.260	***
Child < 12 yrs (0/1)	0.492	***	0.529	***
Gender * child	4.949	***	3.977	***
Income (log)			1.764	***
Variance country level (log)	− 1.377	0.326	− 0.844	0.322
σ_u	0.502	0.082	0.656	0.105
ρ (rho)	0.071	0.022	0.116	0.033
Observations	15,045		15,045	
Countries	21		21	
Average RVI	0.042		0.034	

***$p < 0.001$; **$p < 0.01$; *$p < 0.05$; + $p < 0.1$.

Table 2. Odds ratios, multilevel logistic regression on participation (0/1), results for original sample and eleven imputed models (N=15,045) (holding constant for all variables as in Model 2)

	Model 3	
	OR	
Work-related variables (separately)		
Intrinsic motivation	0.952	
Extrinsic motivation	0.990	
Work organization	1.034	***
Work pace	1.027	***
Physical demand	1.002	
Work-related variables (combined)		
Intrinsic motivation	0.924	*
Extrinsic motivation	1.030	
Work organization	1.034	**
Work pace	1.010	
Physical demand	1.003	*
Combined model		
Variance country level (log)	− 0.879	0.322
σ_u	0.644	0.104
ρ (rho)	0.112	0.032
Observations	15,045	
Countries	21	
Average RVI	0.038	

***$p < 0.001$; **$p < 0.01$; *$p < 0.05$; $+ p < 0.1$.

those between age 61 and 63. Regarding the other control variables, we see that men participate significantly more than women, but this association disappears after including the interactions, and after including income. Education is related to participation in a decreasing u-shaped way. This indicates that in general the likelihood to participate decreases with increasing education; however, both lower and higher educated are more likely to participate compared to older workers with medium education. Tenure is positively related to participation. Older individuals who worked longer in the same organization are more likely to participate, holding constant for their age. Furthermore, we assess that the odds of healthier older workers to participate are higher compared to those with “very bad or bad” health. Respondents who work full-time have lower odds to participate compared to part-time workers. Additionally, the interaction between working full-time and being male appears to be marginally significant in Model 1, indicating that men who work full-time are more likely to participate. This relation is not significant when controlling for income (Model 2). Furthermore, older workers who are self-employed have higher odds to participate than wage-earners. Having been unemployed for longer than three months is positively (and in Model 2 significantly) related to participation. We find differences between the industries of employment. Older workers in “Agriculture and mining” and “Manufacturing” are less likely to participate than those working in “Supply, construction and trade” (reference), while those in “Education and health” are more likely to participate in the labor market. Last, having a partner is positively related to participation (Model 2). This means that older people with a partner are more likely to participate in the labor market. Furthermore, as the interaction between having children and gender illustrates, older women with a child that is younger than twelve years in the household appear to be less likely to participate, while older men who have a child are more likely to participate. These outcomes are the same in our robustness checks with the five-year retirement horizon and replicate the findings of earlier studies. Model 2 shows a positive and significant association between income and participation. This means that older individuals with a higher income are more likely to participate.

In Model 3 of Table 2, the work characteristics are included separately (first block) and combined (second block). This means that we first add each work-related characteristic separately to the control variables as in Model 2 (first block), and then add all work characteristics at once to the model (second block). Having autonomy in the work place (with respect to both work organization and work pace) positively relates to the likelihood of participation. Because the variables are highly correlated, the impact of work pace is not significant if both variables are included. These results mainly confirm the autonomy hypothesis, stating that workers with more autonomy are more likely to participate. The relation between physical demand and participation is not significant when included separately. The coefficient is even positive if other work characteristics are taken into account (see second block). This does not support our hypothesis that workers with higher physical demands are more likely to retire. Furthermore, our results refute the work values hypothesis; they show that intrinsic motivation is negatively related to the likelihood to participate (second block). This indicates that workers with a higher intrinsic motivation generally report a lower participation in the labor market. Furthermore, extrinsic motivation is not found to be significantly related to participation, indicating that older workers' participation is independent of their extrinsic motivation.

In Table 3, the national characteristics are added separately to the model with all earlier discussed variables (Model 3). The three national level control variables are associated to the labor market participation of older workers. GDP per capita has a negative relation with labor market participation; income inequality has a marginally significant positive relation with labor market participation; and the percentage of part-time workers in a country is also positively (and marginally significantly) related to older workers' labor market participation.

In the next steps, we investigate the relation of the institutional variables with the labor market participation of older workers as summarized in the pension generosity hypothesis. The official retirement age (for men and women) does not relate significantly to older workers' participation. The mean age at which people retire in a country is positively related to participation (this association is stronger if the five year retirement period is chosen). This means that, holding constant for all the individual characteristics, workers who live in countries with a higher mean actual retirement age are more likely to participate in the labor market. The model shows that the minimum contribution period is not significantly related to participation at the ten-year time horizon for retirement, while it is negative and significant at the five-year retirement period (not reported). And, the net replacement rate is negatively but not significantly related to the labor market participation of older workers at the ten-year period, but it becomes significant at the five-year time horizon (not reported). The minimum pension level in a country appears to be negatively and significantly related to individual's labor market participation. This means that the odds for older workers to participate decrease with an increasing net replacement rate and also if the minimum pension level is higher. Higher expenditures on old age are negatively related to participation

Table 3. Country level effects (holding constant for all variables as in Model 3)

	Control variables						Labor market characteristics					
	GPD per capita		Inequality (Gini)		Part-time workers as % of total employment[a]		Employment protection legislation[b]		Employment rate older workers (55+)		Percentage population older 65	
Odds ratio	0.977	**	1.055	+	0.977	+	0.946		0.998		0.981	
Variance country level (log)	− 1.169	0.325	− 1.028	0.324	− 0.985	0.331	− 0.937	0.331	− 0.879	0.322	− 0.882	0.322
σ_u	0.557	0.091	0.598	0.097	0.611	0.101	0.626	0.103	0.644	0.104	0.643	0.104
ρ (rho)	0.086	0.026	0.098	0.029	0.102	0.030	0.106	0.031	0.112	0.032	0.112	0.032

	Availability and generosity welfare benefits													
	Retirement age women (ref: 65 years)		Retirement age men (ref: 65 years)		Mean retirement age		Min. contribution period		Net replacement rate[c]		Min. pension level[c]		Expenditures on old age (as % of GDP)	
Odds ratio	0.990		0.976		1.152	*	1.001		0.988		0.968	*	0.912	+
Variance country level (log)	− 0.880	0.322	− 0.883	0.322	− 1.070	0.326	− 0.879	0.322	− 0.912	0.332	− 1.035	0.332	− 1.041	0.325
σ_u	0.644	0.104	0.643	0.104	0.586	0.096	0.644	0.104	0.634	0.105	0.596	0.099	0.594	0.097
ρ (rho)	0.112	0.032	0.112	0.032	0.094	0.028	0.112	0.032	0.109	0.032	0.097	0.029	0.097	0.028

***$p < 0.001$; **$p < 0.01$; *$p < 0.05$; + $p < 0.1$.

[a] Missing for Finland; [b] missing for Luxembourg; [c] missing for Norway.

(marginally significant). This means that higher expenditures for older people decrease the odds for older workers to participate. Put together, these results provide some support for the pension generosity hypothesis, stating that in countries with more generosity the labor market participation of older workers is lower.

Finally, we included several indicators relating to the labor market situation. Employment protection legislation is not significantly related to older people's labor market participation. Also, a higher employment rate of older workers in a country does not significantly relate to their labor market participation. Finally, the percentage of people older than 65 years in a country is not significantly related to participation. The outcomes are similar for both time horizons. The institutional support hypothesis can therefore not be supported.

Conclusion and Discussion

As the average age of the population of European countries increases, the policy question of what circumstances explain the labor participation of older workers becomes more and more relevant. Knowing more about the work and institutional characteristics encouraging and discouraging the willingness to work among the older age groups has the potential to provide means of supporting the labor market participation of these workers. The present article aimed at identifying such characteristics using a framework where individuals take (rational) decisions. The findings basically showed that while some of the work aspects increased the likelihood of labor market participation of older workers, the institutional characteristics mainly decreased the likelihood of their participation.

These findings have some practical implications. Most of all, it means that both employers and governments can play a role in stimulating the labor participation of older workers. Employers can do this by offering attractive work places that provide autonomy to older workers. Here, we have focused on characteristics of the job such as discretion in the organization of work. Nevertheless, employers can also use other human resource policies to be attractive for older workers. Such policies can for example include mentoring relationships, but also an interesting and stimulating workplace through, for example, learning and development might reduce older workers' intention to retire (Münderlein et al. 2013). As the results for the pension generosity showed, individual workers seem less prone to participate actively in the labor market if the monetary benefits from welfare are higher. This generally indicates that generous monetary welfare benefits alone do not keep people in the labor market. In order to increase older workers' labor market participation, governments might decrease the benefits, especially those stimulating early retirement. Recent discussions move in that direction: multiple European countries consider decreasing pension benefits or making early retirement fiscally less attractive. Such policies change the balance between the utility and disutility that people derive from work and retirement. Restricting pension policies may be a viable means of keeping older workers in the workforce. There are, however, some potential downsides. For example, decreasing the generosity may mainly have an impact on the participation of those who earn less and it may lead to unintended effects on those remaining in the workforce, like increased levels of work stress and decreasing work satisfaction. Future studies may be directed at investigating whether such effects occur.

The analyses presented here showed that the factors related to the labor market participation of older workers could be framed in terms of costs and benefits and several of the previously found associations where replicated in this study. Nevertheless, some results of this study differ and some of the expected hypotheses were refuted. An explanation for missing associations between national level variables and older workers' participation may be the convergence of social policies within the European Union. For example, the official retirement age is increasingly similar due to EU level agreements. In 2004, the lowest official retirement age can be found in the Czech Republic, with 57 years for women and 60 years for men, and in France with 60 years for both men and women. The highest official retirement age is 67 years for both men and women in Norway (see also Appendix C). Furthermore, out of the 21 countries included in our study, the official retirement age is 65 years for women in ten countries. For men, in two thirds of the countries the official retirement age is 65. This shows that the variation in the official retirement age is generally very small.

Some of the findings of the present study differed from earlier ones. In contrast with most other studies (Blekesaune & Solem 2005; Hayward et al. 1989, 1998; Schils 2008), educational level was negatively associated with the labor market participation of older workers. A possible explanation for this difference concerns the number of countries included. Only Fischer and Sousa-Poza's (2006) study, which also included a larger sample of countries, reports a result comparable with ours. In additional analyses (results available upon request), we included a random slope for education; analyses showed that educational level varied significantly across countries. This suggests that the impact of education differs between these countries. This should be taken into account in future studies investigating the labor market participation of older workers as it points in the direction of institutional differences and effects.

Regarding the negative relation between full-time employment and participation, our finding differed from prior research. Hayward and colleagues (1998) found that full-time working employees were less likely to retire than unemployed and Schils (2008) assessed that more working hours were related to a lower likelihood of (early) retirement. There may be two reasons for this difference. First, older workers may increasingly choose to work part-time instead of full-time, as they get older. If older workers are increasingly participating part-time, part-time employment (rather than full-time employment) would be positively related to participation. This rationale is supported by the fact that part-time work in Europe is mainly relevant for older and younger employees (Eurostat 2012). Recent research showed that older workers increasingly used part-time employment as a possibility to bridge work and retirement (Blau 1994; Cahill et al. 2006; Elder & Pavalko 1993; Gielen 2007; Hayward et al. 1998). This way, labor supply of older workers generally increases, but only at the extensive margin, while labor supply decreases when considering the working hours, that is, at the intensive margin (Gielen 2007). Especially in the Netherlands, and to a lesser extent also in the UK or Germany, part-time work is an alternative to full-time employment. A second interpretation concerns the measurement of how many working hours are considered as full-time employment, which differs across these studies.

Apart from the previously mentioned suggestions for future research, the present study can be extended in a number of directions. For instance, this study aimed at including work characteristics to explain differences in labor market participation of older workers. Due to data limitations, we were only able to include some of these characteristics. Including more work-related aspects, and in particular organizational policies, will increase our understanding even further. These work-related characteristics should therefore also be considered in future research. While we implicitly assumed that individual and work characteristics were similarly important for older workers independent of their age, it might be interesting for further research to develop theoretical arguments why some work characteristics play a greater role for the "younger older" workers, when compared to the "older older" workers. Related to that, future studies might consider two things. First, we use a measure for intrinsic and extrinsic motivation that is not taking into account whether employees can actually realize their motivations. It may be the case that employees for example find it very important to have an interesting job, but do not have this at their current workplace. In such a case, even though they have a high motivation, this misfit with what they want might lead to a lower work attachment (see e.g., Münderlein et al. 2013). Even though (intrinsic or extrinsic) motivation is generally measured with questions comparable to ours, future research might take into account that motivations might or might not be realized. Second, further research might investigate the role of personal resources and for example extend on this by including other activities than work, like voluntary work and informal care. Third, our operationalization of the dependent variable labor market participation subjoined different forms of withdrawal from the labor market in the category of non-participation, such as disabled persons or retired individuals. In future research it might be interesting to make a distinction between these possible forms of withdrawal (Blekesaune & Solem 2005). Finally, we investigated the effects of a number of institutional characteristics. One of the detriments of comparing countries is that one cannot provide an in-depth analysis of the welfare benefits or labor market policies in each of the countries. Future studies might, therefore, find it worthwhile including even more fine-grained indicators of countries' pension systems to investigate how this relates to the participation of older workers. In combination, this has the potential to combine different goals at different levels, namely the national (a sustainable pension systems), the organizational (have a satisfied and productive workforce), and the individual (having a challenging job).

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Appendix A. Descriptive results for original sample and sample with imputed variables

		Original sample			Imputed variables		
	Range	Obs.	Mean	SD	Obs.	Mean	SD
Participation	0/1	15,045	0.55				
Age group							
45–49	0/1	15,045	0.23				
50–54	0/1	15,045	0.22				
55–57	0/1	15,045	0.13				
58–60	0/1	15,045	0.12				
61–63 (ref.)	0/1	15,045	0.10				
64–65	0/1	15,045	0.07				
66–67	0/1	15,045	0.06				
68–70	0/1	15,045	0.07				
Gender (male = 1)	0/1	15,045	0.47				
Education (in yrs)	0–20	14,878	11.43	3.87	15,045	11.43	3.87
Tenure	0–65	13,568	31.08	10.38	15,045	30.87	10.57
Health							
Bad/very bad (ref.)	0/1	15,030	0.10		15,045	0.10	
Fair	0/1	15,030	0.33		15,045	0.33	
Good	0/1	15,030	0.41		15,045	0.41	
Very good	0/1	15,030	0.16		15,045	0.16	
Full-time employed	0/1	13,198	0.83		15,045	0.83	
Self-employed	0/1	14,278	0.19		15,045	0.19	
Ever unemployed $>$ 3 months	0/1	15,045	0.24				
Industry							
Agriculture, mining	0/1	13,900	0.07		15,045	0.08	
Manufacturing	0/1	13,900	0.20		15,045	0.21	
Supply, construction, trade (ref.)	0/1	13,900	0.19		15,045	0.19	
Service	0/1	13,900	0.20		15,045	0.20	
Public, community	0/1	13,900	0.13		15,045	0.13	
Education, health	0/1	13,900	0.20		15,045	0.20	
Partner	0/1	15,001	0.75		15,045	0.75	
Child $<$ 12 yrs	0/1	15,028	0.08		15,045	0.08	
Income (log)	0–9.21	11,902	6.35	1.95	15,045	6.24	2.04

Appendix A (*Continued*)

		Original sample			Imputed variables		
	Range	Obs.	Mean	SD	Obs.	Mean	SD
Independent variables (individual level)							
Intrinsic motivation	0–4	14,422	2.98	0.86	15,045	2.98	0.86
Extrinsic motivation	0–4	14,483	2.91	0.73	15,045	2.91	0.74
Work organization	0–10	14,112	6.20	3.60	15,045	6.12	3.63
Work pace	0–10	14,071	5.79	3.68	15,045	5.72	3.70
Physical demand	10–93	14,062	50.26	25.48	15,045	50.91	25.52

Appendix B. Correlations between macro characteristics (N=21)

		2	3	4	5	6	7	8	9	10	11	12	13
1	GPD per capita	− 0.35	0.74	− 0.16	0.49	0.14	0.46	0.47	− 0.53	0.51	− 0.05	0.40	− 0.21
2	Inequality (Gini)	1	− 0.24	0.10	0.09	0.02	− 0.05	0.19	0.38	− 0.38	0.09	0.32	− 0.01
3	Part-time workers as % of total empl.[a]		1	− 0.12	0.36	0.09	0.31	0.45	− 0.52	0.34	− 0.08	0.20	− 0.24
4	Employment protection legislation[b]			1	− 0.09	0.57	0.28	0.05	0.05	0.04	0.10	− 0.03	0.60
5	Employment rate older workers (55+)				1	0.21	0.37	0.28	− 0.56	0.21	− 0.19	0.78	− 0.49
6	Percentage population older 65					1	0.22	0.21	− 0.04	− 0.23	− 0.05	0.30	0.52
7	Retirement age women						1	0.64	− 0.33	0.26	0.28	0.58	− 0.15
8	Retirement age men							1	0.07	0.22	0.05	0.40	− 0.06
9	Min. contribution period								1	− 0.17	0.07	− 0.27	0.23
10	Min. pension level[c]									1	0.14	0.02	− 0.15
11	Net replacement rate[c]										1	0.16	0.17
12	Mean retirement age											1	− 0.43
13	Expenditures on old age (as % of GDP)												1

[a] Missing for Finland; [b] missing for Luxembourg; [c] missing for Norway.

Appendix C. Country level variables

		Control variables			Labor market characteristics		
	N (country)	GPD per capita	Inequality (Gini)	Part-time workers as % of total employment	Employment protection legislation	Employment rate older workers (55+)	Percentage population older 65
Austria	794	28.5	25.8	19.8	2.15	28.78	15.71
Belgium	622	27.9	26.1	21.4	2.50	29.98	17.18
Czech Republic	1,178	8.6	26.0	4.9	1.94	42.63	13.99
Denmark	587	36.5	23.9	22.2	1.90	60.31	14.98
Estonia	740	7.2	37.4	8.0	2.29	52.10	16.34
Finland	783	29.1	25.5	–	2.12	50.97	15.72
France	719	26.6	28.2	17.0	2.89	37.64	16.46
Germany	1,142	26.8	26.1	22.3	2.39	41.79	19.27
Greece	895	16.8	33.0	4.6	2.81	39.42	17.98
Hungary	555	8.2	27.6	4.7	1.75	31.06	15.55
Ireland	940	36.7	31.5	16.8	1.32	49.59	11.12
Luxembourg	594	59.9	26.5	16.4	–	30.38	13.98
Netherlands	802	30.2	26.9	45.5	2.27	43.70	13.94
Norway	689	45.4	25.2	29.2	2.61	68.00	14.72
Poland	519	5.3	35.6	10.8	2.19	28.01	13.05
Portugal	742	14.2	37.8	11.3	3.36	50.28	16.91
Slovakia	460	6.3	26.2	2.7	1.74	26.79	11.61
Slovenia	403	13.6	23.8	9.3	2.57	29.00	14.94
Spain	508	19.7	30.7	8.7	3.01	41.28	16.83
Sweden	744	32.4	23.0	23.6	2.49	69.53	17.21
United Kingdom	629	29.6	34.6	25.7	1.10	56.17	15.99
Total	15,045						

Appendix C (*Continued*)

		Availability and generosity of welfare state benefits						
	N (country)	Retirement age women (ref: 65 years)	Retirement age men (ref: 65 years)	Min. contribution period	Min. pension level	Net replacement rate	Mean retirement age	Expenditures on old age (as % of GDP)
Austria	794	− 5	0	15.0	40.8	80	58.8	12.51
Belgium	622	− 3	0	29.3	44.3	67	59.4	9.01
Czech Republic	1,178	− 8	− 5	15.0	34.0	79	60.0	7.32
Denmark	587	0	0	0.0	54.6	71	62.1	5.44
Estonia	740	− 5	− 2	15.0	18.0	41	62.3	5.33
Finland	783	0	0	0.0	26.2	63	60.5	8.44
France	719	− 5	− 5	0.3	33.8	80	59.0	12.30
Germany	1,142	0	0	5.0	16.9	63	61.3	11.48
Greece	895	0	0	17.3	34.1	105	62.7	11.71
Hungary	555	− 3	− 3	15.0	24.5	102	60.5	8.55
Ireland	940	0	0	9.8	38.5	78	62.8	3.38
Luxembourg	594	0	0	10.0	36.9	98	58.3	7.18
Netherlands	802	0	0	0.0	40.8	92	61.1	4.96
Norway	689	2	2	0.0	–	–	62.0	4.85
Poland	519	− 5	0	22.5	28.3	78	57.7	11.36
Portugal	742	0	0	15.0	41.4	91	62.2	10.33
Slovakia	460	− 3	− 3	15.0	33.9	82	58.5	6.18
Slovenia	403	− 4	− 2	10.0	33.2	63	56.2	9.88
Spain	508	0	0	15.0	25.9	97	62.2	8.13
Sweden	744	0	0	0.0	40.7	71	62.8	7.58
United Kingdom	629	− 5	0	10.5	27.5	82	62.1	5.57
Total	15,045							

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*REVIEWED by CHRIS GILLEARD**

Ageing is one in a series of books published by Polity Press under the general rubric of "key concepts." Written by one of the leading figures in social gerontology, the book consists of ten chapters divided into three sections. The first section outlines the socio-demographic nature of ageing, the second social divisions and inequalities in later life, while the third section addresses "new" pathways for later life. The aim is to outline the major characteristics and consequences of contemporary ageing societies and the changes in the institutions that once secured a place for old age.

The book begins with the acknowledgement that the ageing of populations represents a novel feature of the 20th century. The demographic transition that occurred during that century was associated with falling rates of mortality and fertility. The fall in mortality was initially evident amongst the young; in the latter decades it extended to the old. Rising life expectancies of people aged over 60 are the latest phase in that transition, leading to the ageing of the ageing population and the growth of "the oldest old." Chapter 2 starts by asking the question "is population ageing a problem?". The author concludes by arguing that what is required is a new generational politics, a new "agenda for change in preparing for an ageing society." I think that means "yes."

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The next chapters concern the development of ideas about age and ageing and of social theories of ageing (but not in that order). They pursue the theme of ''preparing a new agenda'' by taking stock of how societies have realised the idea of ageing within the individual life-course and how the social categorisation – or designation – of old age has been deployed. Different ways of realising and understanding ageing have different consequences for how society responds to its older citizens. Achieving a secure identity, Phillipson argues, is ''a major task for older people in the future.'' Part of the difficulty in securing such an identity is of course the presence and persistence of new and old divisions within the older population.

The second section addresses some of these social divisions in later life. The first chapter in this section examines later-life income – pensions – as one such source of division. The complexities of pension provision and future uncertainties concerning state pensions are highlighted. Understandably, given the book and the author's provenance, the discussion emphasises the position of older people in the United Kingdom. Securing later-life income is however a global issue; less national detail and more attention to the global issues of pension provision might hence have made for a better balance.

The next chapter deals with inter-generational relationships and the social ties of later life. While there is much discussion of changing family relationships, the emergence of new forms of community with more diverse relationships, and the variable sources of social capital that present-day seniors draw upon, little is said concerning the inequalities that such variety creates. Given the theme of inequalities and difference, the chapter does not clarify whether changing patterns of kin and non-kin relationships are leading, or may in future lead to, systematic patterns of unequal exchange.

Another key element in the ''divisions'' of later life is the ageing of later life itself. The contested construction of ''late old age'' forms the main topic of Chapter 8. The relative ''individualisation'' of later life noted in the previous chapter is treated as more problematic for addressing transitions in later life – especially those associated with poorer health and functional abilities. How best to render later life less unpredictable forms the substance of the final section.

Addressing the future of ageing, the author explores several "new pathways" based on extending working life and expanding educational opportunities. In a sense, such developments might be seen as reducing the institutionalisation of the life-course, enabling issues of education and work – normatively the prerogatives of youth and adulthood – to permeate the whole of life. The final chapter searches for new solidarities arising from population ageing based on inter-generational, caring, and international ties. The emphasis is upon developing policies to foster those links.

Overall, this is a little book packing a meaty punch – not a textbook, but a useful source to promote thinking about society and the direction in which population ageing seems to be taking it. For me there was a little too much emphasis upon the state as the lever of change and too little on the market, the media, and the cultural processes in which ageing is imbricated. The future may be imagined but I am not sure that it is realised by policy.

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Susan McDaniel and Zachary Zimmer (eds.) (2013). *Global Ageing in the 21^{st} Century. Challenges, Opportunities and Implications.* Farnham, UK & Burlington, USA: Ashgate, 324 pp. ISBN 978 1 4094 32708 (hardback)

*REVIEWED by MICHAEL FINE**

The ageing of the world's population is no longer a phenomenon restricted to wealthy or developed nations, but is evident in all continents, including Africa and all regions, including the Middle East. Clearly the time has come for us to take stock of the demographic transition at the global level to understand what population ageing on this unprecedented scale will mean for society, the economy, policy and the countless other things that are likely to be affected. This volume boldly confronts the issue, with some regard for the many who have gone before, but also with a refreshing energy that suggests that in the 21^{st} century and with the benefit of some experience, perhaps we can see the shape of things to come more clearly.

To address ageing on a planetary scale, the collection draws together a few truly global chapters with a larger number of individual chapters that present local or regionally based studies from an interesting variety of countries. The edited collection began as the proceedings of a conference held at the University of Utah in 2009 and soon grew larger to accommodate additional chapters, commensurate with the ambition expressed in its title. Yet it quickly becomes apparent, to the reader as well as the editors, that the enterprise is simply too extensive at the current point in time to be examined in a single, relatively short volume. Hence, the editors lament in the Introduction as well as in the concluding chapter that "no single volume, of course, can be comprehensively global ... no volume, no matter how lengthy, can include all dimensions of a topic as large as global ageing" (pp. 309–315). When ambition is this large, how do we measure success?

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One of the key lessons that the editors draw out of this impressive – if incomplete – survey of global ageing is that what we lack is a "theoretical framing" that could serve to organise, direct and integrate the analysis. As they point out, age is a structural yet changing feature of all societies. It has been subject to theorising and sociological analysis in both classic social theory and more social–psychological accounts of life and the life course such as disengagement and activity theories. Yet nowhere, except in the popular and the public political imagination, is population ageing seen as central to understanding the way that history operates. It would have been impressive if the volume had been able to advance the search, but alas, readers seeking such a framework will not find it in this volume. Is the absence of theory to be one of the ongoing features of global ageing in this century – a legacy of the failure and disappointment of theory in the preceding century?

The lack of a theoretical framework is presented as an important finding in the conclusion of the volume. In its place, the editors crafted out a rough-and-ready common-sense framework that covers a good number of the most important issues. Following a general introductory chapter in which the editors point out that ageing is now a global phenomenon, the reader is treated to a truly engaging and enlightening demographic analysis by the French demographer François Heran. The remainder of the work is then divided into three key topics: healthy ageing and health care; the ageing workforce, retirement and the provision of pensions; and shifting intergenerational relations. This loose framework enables the volume to draw together an impressive set of papers from a number of prominent and internationally well-respected scholars in the field. This is enough to ensure that a careful reading will reward most of those – academics, policy makers, practitioners and the general public – who are searching for a better understanding of this massive, but incompletely understood, social transformation that is taking place around us.

Heran's chapter on demography is succinct and masterful, an exposition worthy of inclusion in the readings of any tertiary-level course on ageing. So, too, are a number of other chapters in the collection. Codrina Rada, for example, presents a decisive analysis of the impact of ageing on the workforce and economy, demonstrating that demographic pessimism based on arguments about dependency ratios and the need to increase retirement age simply miss the point about productivity and the existing labour surplus. Sara Arber, too, provides a convincing examination of the demography of age, gender, marital status and intergenerational relations, demonstrating the power of a clear analysis of demographic statistics published by the United Nations. She shows the significance of gender for understanding the diversity of developments across a range of different nations. Focussing on the question of whether intergenerational relationships can support the increasing needs for financial support and care required by rapidly increasing ageing populations, she demonstrates how four social changes have different impacts in different international settings. The four changes she highlights are transnational and rural–urban migration, the increasing participation of women in paid work, the decreasing use of multigenerational households and the reduction in fertility and the impact of increases in childlessness. The final chapter by George Leeson and Hafiz Khan, using data from 26 quite diverse countries drawn from the Global Ageing Survey, is also interesting in the way that it challenges assumptions about the displacement of family support by state services.

A chapter by Eileen Crimmins and five others is an interesting but rather oddly fitting chapter in this collection. It is the only chapter based on medical analysis, comparing the physiological changes associated with ageing in seven diverse nations (United States, United Kingdom, Japan, China, Taiwan, Mexico and Indonesia) and among the Tsimane, a traditional tribal people from Bolivia with a life expectancy of just 42 years. The chapter presents measures from large national surveys in each country, demonstrating that many of the supposed health markers of ageing vary widely between countries. The body mass index, for example, is shown to vary considerably between countries, with inter-country variation being greater than the effect of age.

Between the chapters providing comparative international analyses are a number of much more focussed studies. Dorly Deeg's exposure of "new myths of ageing" is refreshing to read and surprisingly liberating. It is based on detailed data from the Netherlands, including the Longitudinal Aging Study Amsterdam. Although using data from just one small country, her conclusions undermine a number of new, generally overly optimistic myths about ageing that have taken hold well beyond the Dutch borders. Neena Chappell's account of filial caregiving amongst Hong Kong Chinese, Canadian Chinese and Caucasian Canadians, too, is powerful in that she links her analysis both to an exploration of the cultural and normative dimensions of familial caregiving and to theories of social cohesion and social capital.

Other chapters present accounts of topics and national settings not generally encountered in discussions of ageing. Alam's chapter on ageing in India demonstrates that here, too, the impact of population ageing is significant, contrasting with Kathrin Komp's paper on retirement and changing work patterns in Europe. Also interesting is an analysis of the impact of religious practice in Taiwan by Mira Hidajat and colleagues, as it explores questions about the link between religious affiliation and longevity in a very different, more spiritual and less communal context as compared to that of religion in the West. Perhaps most chilling is Kim Korinek's exploration of increasing loneliness and ageing in Russia and Bulgaria. She argues that there are several quality-of-life disadvantages facing older adults in Eastern Europe as these countries go through the transition from "red to grey". In Russia, the life expectancy of males has actually fallen quite dramatically, while in Bulgaria, the out-migration of younger generations adds to other facts to help produce significant isolation, loneliness and deprivation for many older people. Once again, gender is a key feature – in both countries studied, older men appear to be significantly more disadvantaged than women.

This is an interesting, although not definitive, collection on the topic of global ageing. It has a number of chapters worthy of further study. The need for theory, which the volume does little to remedy, is likely to be a vacuum which soon will see new contenders vying with old for attention. What the absence of theory can do is open up the space for such an eclectic collection as this.

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Merita V. Xhumari (2011). *Pension Trajectories in Western Balkans. Three case studies: Albania, Macedonia and Kosovo 1990–2010*. ERSTE Stiftung & UNFPA, 158 pp. ISBN 973 9928 124 24 1 (paperback)

*REVIEWED by DIRK HOFÄCKER**

The description of "greying economies" subject to "demographic ageing" has become a common phrase in both the academic and the public discourse on the major challenges that European societies are facing. Virtually all European countries have been witnessing a simultaneous appearance of an increase in longevity and a decline in fertility rates, resulting in a long-term increase in the relative (and partly also the absolute proportion) of people in older age groups. Particularly since the 1970s and 1980s, this trend has coincided with the increasing prevalence of early retirement, i.e. the withdrawal of older workers from active employment before reaching standard retirement ages. Only in more recent years, this "early exit" orientation has been replaced by policies supporting the late career employment of older workers.

The interplay of demographic ageing and early retirement is expected to shift the balance between social security contributors and recipients – a development that has been discussed particularly with regard to the future sustainability of pension systems. Already by the mid-1990s, supranational organisations such as the World Bank called for a rearrangement of national pension systems from a dominant state-financed pension to a multi-pillar system, dividing pension responsibility among national governments, employers and individuals (World Bank 1994). More recently, there have been several initiatives on the EU level to promote this trend. Recent reports have taken account of the progress that single countries have made with regards to their pension systems (e.g. European Commission 2012a) and have formulated next steps for future reforms (e.g. European Commission 2012b). Yet, most previous studies have largely focused on developments in EU member states, i.e. a rather homogeneous group of countries, sharing basic similarities in terms of their social and economic development.

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Countries located rather at the periphery of Europe, yet striving for future EU membership, have frequently been neglected in such comparative assessments. Merita Xhumari's book *Pension Trajectories in Western Balkans* sheds light onto this group of countries and thus fills an eminent gap in existing research. Her monograph intends to reconstruct the developmental trajectories of pension systems in three countries selected as case studies – Albania, Macedonia and Kosovo – in the early 1990s and the first decade of the new millennium. This purposeful selection of case studies is based on the assumption that while starting from a similar institutional heritage, the three countries have followed very different pension pathways after the system transformation. Methodologically, the study is based on a combination of desk research and document analysis with qualitative interviews and group discussions. Aggregate statistical figures from transnational data sets such as that of the OECD and ILO are added to provide additional quantitative evidence on the structure of labour markets or of demographic backgrounds.

Following a short introduction, Xhumari introduces the three country studies of Albania, Macedonia and Kosovo in single chapters, each of them following a parallel design, beginning with an overview of the situation of the respective country and its pension and relevant social security institutions right after the transition (i.e. in the early-1990s). Subsequently, developments in the post-transition period are described, focusing first on the first phase of (mostly parametric) pension reforms throughout the 1990s, followed by a discussion of reforms in the 2000s. Each chapter closes with a discussion of the major challenges that the three countries are currently facing.

In all of the three chapters, Xhumari succeeds to highlight the unique character of pension systems through a vivid but at the same time systematic description of nation-specific developments. *Albania* introduced a universal Bismarckian Pay-as-you-go (PAYG) system on a unified basis after 1993. It consists of a compulsory social insurance scheme – in which all rights acquired under the earlier pensions are preserved – and a voluntary supplementary scheme, as well as an additional supplementary social insurance that allows insured persons to either top up their benefits from the mandatory scheme or to continue their contribution record even in times of employment interruptions. The (largely parametric) pension reforms after 2002 kept the general structure of this system intact but lead to a "weakening of the link between contribution and benefits" (p. 28). Furthermore, increasing attention was focused on further developing private systems of insurance. This broadening of the basis for sustainable future pension systems was attempted in reaction to a situation in which foreseeable demographic ageing was accompanied by severe labour market strains enforced through high and long-term unemployment. Even though the parametric reforms aimed to strengthen "the financial sustainability of the system as a whole", they largely ignored "the social sustainability and adequacy of pensions" (ibid). In addition to these problems *within* the pension system, a large number of older Albanians are actually excluded from the pension system due to serious problems of insurance coverage, particularly among the self-employed and rural population. Future challenges for Albania are thus identified in the expansion of social security contributors, the guarantee of a sustainable minimum pension and the extension of second and third pillar pensions.

Developments in *Macedonia* initially exhibited similarities to the Albanian case, reflected in the introduction of a PAYG system in 1994 integrating earlier pension rights. Differences emerged in the early 2000s when – in response to demographic ageing and persistent labour market problems – a second, full-funded defined contribution pillar was introduced to which contributors could switch while still being able to take advantage of first pillar payments. In 2005, private agencies were first allowed to manage such funds; in 2008, the government additionally laid the ground for a voluntary third pillar based on private insurance. These reforms linked future pension outcomes more closely to market principles, justifying the description of Macedonia as exhibiting a "mixed pension system". The flipside of this broadening of the pension base, however, became apparent in 2008, when the global financial crisis led to a strong decline in pension fund returns. At the same time, the Macedonian pension system faces similar future challenges as the Albanian one: the under-coverage of self-employed and the erosion of its contributory base through low employment rates.

In historical terms, *Kosovo* deviates from the aforementioned examples, as its existence as an autonomous nation was established only in 2001, with full sovereignty only gained in 2008. Furthermore, Kosovo also represents a significant deviation to both Albania and Macedonia concerning its pension system trajectory. In 2002, the Kosovo government replaced the previous PAYG system by "a new liberal model" (p.91), relying on (i) a basic minimum pension for all residents irrespective of previous contributions, (ii) an additional fully-funded pension compulsory for all employees and (iii) a private voluntary pension. This radical re-orientation towards a minimum insurance supplemented by additional private opportunities seemed to be the only viable option in a situation where skyrocketing unemployment and widespread poverty called for the establishment of a pension at a basic subsistence level which at the same time was sustainable by limited public tax and social security contributions. Yet, when Kosovo gained independence in 2008, particularly the private pillar soon became subject to the adverse repercussions of the 2008 financial crisis so that the guarantee of a sustainable pension to prevent poverty remains among its major challenges.

Following the description of the nation-specific pension trajectories, Xhumari turns to the evaluation of their outcomes and consequences. In this part, she contrasts developments in the three country cases against the background of developments in other Balkan countries. "Poverty retirement" – i.e. the withdrawal from the labour market without adequate financial resources – is identified as a common problem of all these countries. Future prospects are meagre, given the still persistent crisis of national labour markets and foreseeable demographic ageing. Pension systems have been redesigned – either through parametrical reforms or through a more radical reorientation of their overall design – to meet these challenges; yet their long-term social sustainability remains at stake. To rise to future challenges, the author suggests a mutual learning process, following the practice of the EU Open Method of Coordination (OMC). Concrete suggestions for what each of the three sample countries could learn from the other two are developed in the final chapter, incorporating aspects of accessibility, governance, adequacy and financing.

Taken together, Merita Xhumari not only provides an excellent description of pension trajectories in the Balkans that is very recommendable for reading; her work also challenges many assumptions that are usually taken for granted in mainstream research on European pension systems. In such studies, it is often assumed that pension provision is largely universal, employment is – at least mostly – of a formal nature and pensions are generally financeable through taxes and social security contributions from employment. The study by Xhumari vividly demonstrates the dramatic consequences of what happens when such basic preconditions are missing. Under such conditions, even a rather favourable demographic background with only modest ageing trends and a qualified young labour force does not suffice to prevent severe pension consequences, such as high rates of poverty among the older population.

Given these specific preconditions in the Balkans, "standard recipes" for the reform of pension systems may prove insufficient. Yet, this is where the book still leaves some unresolved issues. Xhumari provides an excellent description of trends within her three sample cases, but does not attempt a more systematic explanation of *why* the three pension systems have developed in a specific way, and what factors may have been decisive for their national specificities (and the abandoning of other possible pathways). As a result, her conclusions for mutual learning may appear rather ad-hoc and less based on a theoretical model of pension system development. Yet, in a politically and economically still highly volatile and dynamic region such as the Balkans, such a model may be almost impossible to establish, and the best contribution any literature could make would be to give a systematic description of these dynamic trends that may become the starting point for future works. Without any doubt, the author has fully succeeded in providing this starting point.

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Sara Arber and Virpi Timonen (eds.) (2012). *Contemporary Grandparenting. Changing Family Relationships in Global Contexts*. Bristol, UK: The Policy Press, 270 pp. ISBN 978 1 84742 967 4 (paperback)

Reviewed by Peggy Edwards[*]

This edited volume provides an excellent addition to our understanding of contemporary grandparenting in diverse welfare stares and cultural contexts. It is not quite as global in scope as the title suggests but provides informative analyses from studies of grandparenting in rural China, the United States, Hong Kong, Norway, Singapore, the United Kingdom, Ireland, Portugal and Germany, as well as cross-references and summaries of findings from other developed regions of the world. The inclusion of a variety of countries highlights the reality that while grandparenting has some universal similarities, the forms and intensities and the lived experience of grandparenting differ markedly among various societal and cultural contexts. The editors were right to constrain the focus to the developed world – at 270 pages (including an Introduction, Conclusion and Index), the book could not have extended itself further. However, I found myself wanting to read about contemporary grandparenting in Africa and other developing regions where grandparents play particularly critical roles in raising orphaned grandchildren and in the economic and social future of their communities. Interesting perspectives, perhaps for a future book.

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This book considers ''grandparenting'' as an active, dynamic family practice with an emphasis on the why's and how's of ''doing'' grandparenting. Underlying this are the fundamental societal changes that shape the practices of grandparenting, including demographic changes (increases in longevity, declines in fertility and changes patterns of marriage, divorce and cohabitation) and changes in labour force participation (increased employment of women outside the home, migratory flows for paid employment, domestic workers in families and the effects of both early and delayed retirement).

Alongside these macro-level changes, public policies, socioeconomic inequalities and cultural contracts within any society play a profound role in influencing interpersonal relationships and roles within families. For example, where there is public provision of high-quality daycare (e.g. in Scandinavian countries), grandparents may *not* be constrained by daily grandchild care. While the employment of foreign domestic workers may be a solution to support mothers' paid work in mid- and high-income families in Singapore (Chapter 6), the domestic workers themselves may have left behind children and grandchildren in their native countries. In rural China, grandchild caring may be perceived as part of a social contract wherein money comes back to grandparent caregivers, thus elevating the economic and social status of the whole family.

The editors begin with an Introduction that overviews some known concepts and theoretical frameworks of grandparenting that are further advanced in the chapters to come, and suggest that these chapters will also provide new insights, including how grandparents themselves exert an influence on their role in diverse settings. Successive chapters are divided into two parts.

Part One, which is macro-focussed, explores grandparents' responses to modern economic, societal and family transformations. Structures, public policies and socioeconomic status have a critical influence on grandparenting practices and agency. For example, in societies with little public support for parents with young children, extensive and regular childcare by grandparents is often essential in enabling mothers to be active in the workplace (''mother savers''). In societies with welfare policies that reduce the work–family conflict, grandparents frequently serve a "family-saver" function by being available when extra support and help are needed. Although the "mother-saver" role generally includes childrearing, it differs considerably from the "child-saver" role, when grandparents take on a full-time parenting role without the presence of the middle generation.

Part Two focusses on grandparent identities and agency, which are micro-level constructs that are nonetheless powerfully shaped by macro-level influences. Key concepts examined are the almost universal norms of obligation and non-interference, and the ambivalence that arises with these norms. Grandparents' belief that they should not interfere with adult children's parenting is complicated by their wish to instruct them, and their concerns about the education and behaviour of their grandchildren. Another competing ideal concerns the commitment to "being there" for grandchild care as needed, and the values of personal independence and self-determination. Grandparents who are heavily involved in looking after grandchildren may not be able to actualize the increasingly prevalent ideals of doing what they want to do in retirement and to their own self-actualization, a key facet in healthy, active ageing.

As someone with an interest in grandparenting from a contemporary perspective and as a grandmother myself, I was pleased to see that the editors have ensured that the book consistently addresses both a gendered perspective and a three-generational approach. In reality and as shown by most of the case studies in this book, the term "grandparenting" most often reflects the care and support provided by grandmothers. However, men's roles and identities as grandfathers are insufficiently explored in the social science literature, reflecting a failure to take into account contemporary factors such as the emergence of more nurturing identities among fathers and grandfathers in this generation, as well as how new communication technologies enable grandfathers to interact with their grandchildren. In Chapter 9, Anna Tarrant shows that grandfathers' engagement with their grandchildren is primarily influenced by relationships with the middle generation and particularly by divorce in the family. She proposes that there is a need for a redefinition of grandfather identities and masculinities based on a framework that takes the intersection of gender, intergenerational relationships and changing family circumstances into account.

Several chapters explore the agency of each party within the intergenerational triad. In a refreshing look at "grandchilding" practices, Chapter 10 describes how adolescent grandchildren influence their emotionally closest grandparent. Gender and the intergenerational triad are intertwined – the gender of the grandparent, the grandchild and the middle generation all influence grandparenting practices.

Contemporary Grandparenting is primarily based on revised versions of papers presented at the International Sociological Association conference held in Sweden in 2010. The 18 contributors have impressive credentials, and editors Arber and Timonen have done an excellent job in establishing themes that set their research into a readable, thoughtful volume. Not surprisingly, they also suggest compelling ideas and topics for future research.

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Eugène Loos, Leslie Haddon and Enid Mante-Meijer (eds.) (2012). *Generational Use of New Media.* Farnham: Ashgate, 236 pp. ISBN 978 1 4094 2657 8 (hardback)

*REVIEWED by SELMA KADI**

The book *Generational Use of New Media* gives a good overview of a range of perspectives for studying new media use by different generations. The diversity of perspectives is a result not only of the multidisciplinarity of the presented research but also of the different types of links between the main topic and the specific research questions: generational use of new media is treated as a starting point for investigations of one generation's use, as a basis for exploring different generations' perceptions and experiences with the same media, and as a concept to be critically examined, either in terms of its accompanying assumptions or its analytical value. The book is divided into three parts, bringing together studies focusing on younger people's use, older people's use, and research that takes a comparative approach.

One thread that runs through many chapters is the discussion of the concept of digital immigrants and natives developed by Prensky (2001). He originally used these terms to describe differences between students and teachers, arguing that the latter have to adapt their teaching to a changed student population of digital natives. According to Prensky, younger people, who were born into digital society, are advantaged in comparison to everybody else who had to learn the skills necessary to use new media later in their lives. *Generational Use of New Media* also includes a discussion of indicators to determine the first cohort of digital natives, concluding that this first cohort varies by country, depending on the respective national history of media use. The authors of this volume also present empirical studies which critically interrogate the difference in skills between the digital native and digital immigrant generation, demonstrating, for example, a lack of skills among younger people and older people's content-related Internet skills, which are unmatched by younger people.

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The first part of the book focuses on younger people's media use, including studies on the use of new media by children, teenagers and students. Haddon distinguishes four different levels of mediation exercised by parents and compares the mediation of younger and older children's use. Cardoso, Espanha and Lapa study mediation by parents from the perspective of Portuguese teenagers. Bowens researches whether the Internet, as a peer-dominated space, shapes younger people's morality in a way which excludes parents. In the final chapter of the first part, Herold questions the concept of digital natives and digital immigrants. He distinguishes four different areas (technical problems, software problems, data-usage problems, critical awareness problems) in which his students lacked skills.

The second part of the book includes studies analysing new media use by the "oldest old," proposing guidelines for more accessible website design and suggesting improvements of rail ticket vending machines. Hagberg employs a techno-biographical approach to research information and communications technology (ICT) use among the oldest old in Sweden. He discusses different factors and mechanisms (e.g. anticipatory ageing) that contribute to the lower uptake of ICTs, resulting in the oldest old not renewing their "material room" in the "technological landscape" (ICTs available in their community). Hagberg argues that the oldest old have the right to have access to new media and asks whether they should, at the same time, have the right to refrain from using new technologies. Chisnell and Redish develop a detailed list of recommendations for designing websites for older people, arguing that they also increase accessibility for other groups. Schreder, Siebenhandl, Mayr and Smuc find that older people's lower usage of the studied ticket machines for rail travel is due to problems with the design of the interface and low self-efficacy beliefs of potential users.

The third part includes a comparison of the perception of new ICTs by digital natives and digital immigrants, an analysis of the prevalence of four types of Internet skills among different age groups and research on the navigating behaviour of younger and older people. Lugano and Peltonen demonstrate that digital immigrants and digital natives hold different views on specific communication media, such as postcards, email and social networking sites. Van Deursen analyses Internet skills of different generations and shows that younger people score higher on "medium-related skills" (operational and formal skills), but that "content-related skills" (finding information, the ability to reach a particular goal) increase with age. Loos and Mante-Meijer study differences in age in terms of navigating behaviour on websites through the analysis of eye movements. Although younger people complete certain tasks faster, the frequency of Internet use is more important for explaining differences in navigation behaviour than age.

In the second part of the book, which presents research on older people's use of new media, authors differ in their conceptualisations of age. Although there is a consensus that age includes more than physical decline, what else it is varies. Hagberg distinguishes three different aspects (biological age, social age and generation identity), Chisnell and Redish state that age is more than a collection of disabilities and Schreder et al. discuss it as a mixture of physical limitations, low self-efficacy beliefs, a lack of digital literacy and low motivation to use digital technology. In Chisnell and Redish's chapter, the authors emphasise that age is not sufficiently described through disabilities. However, their research perspective, which aims to generate design recommendations for improving the usability of websites for older people, seems to make this a particularly challenging task and leads them to effectively consider ageing only in terms of physical ageing processes.

Children's use is studied with a focus on mediation exercised by parents. While mediation by parents is certainly an important aspect, it would also be interesting to present findings from studies on children's use in which the involvement of parents is not the only focus. However, this emphasis on parents, either in terms of mediation or regarding questions around the uptake of peer versus parent morality, means that power relations are put upfront in these studies. If we assume that power relations, however different, also shape the use of new media by older people in some way, we find that there is much less concern with them in the chapters on older people's use. Another important point regarding research on ageing is Loos and Mantje-Meijer's call to theorise age more in studies that include it as an explanatory variable.

The main strengths of the book are the multiple perspectives which are brought together around the concept of generational media use and the critical examination of the description of older users as less and younger users as more skilled. This book is a valuable contribution to the fields of media studies, research on new media use by children and new media use in later life. It unites studies from multiple disciplines, including usability research, media studies and ageing research. The collection enables readers to gain a good understanding of various on-going debates linked to the concept of generations in research on new media use.

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The International Journal of Ageing and Later Life (IJAL) serves an audience interested in social and cultural aspects of ageing and later life development. The title of the journal reflects an attempt to broaden the field of ageing studies. In addition to studies on later life, IJAL also welcomes contributions focusing on adult ageing as well as relations among generations.

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