Article

The social connectedness of older Europeans: patterns, dynamics and contexts

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Summary Using longitudinal data from the *Survey of Health, Ageing and Retirement in Europe* (SHARE), our article shows that the population aged 50 or older is socially connected in several ways. The various dimensions of social connectedness turn out to be complementary rather than substitutive, except for the relationship between informal social relations and family relations, which tends to be characterized by substitution. Our longitudinal analysis reveals that the dynamics of formal and informal social relations as well as family relations tend to be driven by individuals' resources and needs. While the associations between elders' social connectedness and individual characteristics are very similar across countries, we find significant regional variation regarding the levels and the dynamics of social connectedness.

Key words SHARE, social integration, social networks, ageing, social participation,

Introduction

Maintaining social connectedness through the transitions of later life, with their potential for isolation, is an important prerequisite for 'successful ageing' (cf. Rowe and Kahn, 1998; Sirven and Debrand, 2008). Social relationships of various kinds have been shown to buffer the effects of spousal bereavement (e.g. Ferraro, 1984; Li, 2007), to reduce mortality risks (e.g. Moen et al., 1989; Musick et al., 2004), or to serve as a social protection mechanism (e.g. Lyberaki and Tinios, 2005; Wall et al., 2001).

Despite frequently raised concerns about a lack of social integration of older people in modern societies (see Cornwell et al. [2008] and de Jong Gierveld and Havens [2004] for overviews of the discussion), there is now a broad body of findings which emphasize the ongoing integration of elders into family relationships (Attias-Donfut, 1995) and into networks of social participation (Kohli and Künemund, 1996). Recent research using data from the 2004 baseline wave of the *Survey of Health, Ageing and Retirement in Europe* (SHARE) has confirmed both of these points by providing evidence for close family relations and frequent family exchanges at older ages (e.g. Albertini et al., 2007; Hank, 2007) as well as for a strong participation of elders in a variety of socially productive activities on a wider scale, such as volunteering (e.g. Hank and Stuck, 2008; Wahrendorf et al., 2006; see Cornwell et al. [2008] and Hyde and Janevic [2003] for related evidence from England and the United States).

While the currently available SHARE data have a limited potential for assessing only the causal *impact* of elders' social connectedness on, for example, well-being (but see Siegrist and Wahrendorf in this issue; Sirven and Debrand, 2008), the new longitudinal data from the first two waves of SHARE allow us to investigate, first, the *patterns* of social connectedness – whether the relationship between kin and non-kin social networks is characterized by complementarity or by substitution (see Hank and

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Stuck [2008] for a related discussion); second, the *dynamics* of kin and non-kin social relations – whether these relations are maintained, initiated or terminated depending on the changes in a variety of elders' life domains (e.g., Shaw et al., 2007; Utz et al., 2002; van Tilburg and Broese van Groenou, 2002); and third, the *contexts* – whether these relations vary between countries which represent different 'regime' types. The latter issue seems of particular interest, because recent studies suggest that the by now classic typology of 'welfare regimes' – introduced by Esping-Andersen (1990; 1999) – also provides a useful conceptual framework for the cross-national analysis of various forms of social participation and exchange, showing that strong welfare states do not crowd out civic engagement or family solidarity but rather protect older people from social exclusion (cf. Hank and Stuck, 2009; Kohli and Albertini, 2007; Künemund and Rein, 1999; Ogg, 2005; Oorschot and Arts, 2005).

Conceptual framework and literature review

That older people are at risk of social isolation has been one of the founding ideas of modern ageing research. In a classic statement, Cumming and Henry (1961) conceived of 'disengagement' as a functionally necessary process of the individual retreating from society and the society releasing its hold on the individual – necessary in order to minimize the disruption caused by the individual's eventual physical decline and death. In a less optimistic vein, Burgess (1960) spoke of ageing as a 'roleless role', and thus a life phase at risk of losing its social connectedness. Many authors asserted this to be a consequence of societal modernization, with its devaluation of the productive capacities of elders and its dissolution of family solidarity beyond the nuclear household (e.g. Cowgill and Holmes, 1972).

But this is not borne out by most studies to date. With regard to family integration, the literature today comes to the conclusion that intergenerational family bonds usually remain strong throughout adulthood and old age, and may even become more important for well-being over the life course than nuclear family ties (cf. Bengtson, 2001). This has been shown for several Western countries such as France (Attias-Donfut, 1995), Germany (Kohli, 1999), and the USA (Bengtson, 2001). These bonds range across different areas that have been conceptualized as dimensions of intergenerational 'solidarity': affectual, associational, consensual, functional, normative and structural (Bengtson, 2001). It is especially functional solidarity – the giving and receiving of support – that has drawn most attention in recent years. The stylized results may be summarized in the following points (cf. Kohli et al., 2008):

- Adult children and their elderly parents live close to each other (although mostly not in the same household), feel close to each other emotionally, have frequent contact with each other, and mutually support each other with several types of help.
- Financial transfers and social support are (still) frequent and substantial. They occur mostly in the generational lineage, and their net flow is mostly downward, from parents to children.
- Financial transfers inter vivos are complemented by bequests. Inter vivos transfers often go to children in need ('altruism'), while bequests are distributed equally among all children.

With regard to socially productive activities of older people, their long-time neglect has now been redressed as well (e.g. Erlinghagen and Hank, 2008; Künemund, 2001). They range from the continuation of gainful work to voluntary work of various sorts, and may even include 'hobby work' (Kohli et al., 1993). The conceptualization of social connectedness in this respect has changed over time. Originally, the emphasis was on activities as such: first on the roles still available to elders (Rosow, 1974), and later on the properties of the social fields in which they participated (Kohli et al., 1993; Kohli and Künemund, 1996). In recent years, there has been a shift 'away from conceptualizations of social integration that focus on roles and activities […] toward more network-oriented treatments' (Cornwell et al., 2008: 185) and the discussion of social capital (for example, Pichler and Wallace, 2007: 423).

The activity, network and social capital approaches are often treated as mutually exclusive alternatives. In our view, this is not appropriate. The category of 'activity' takes up the opportunities and demands for individuals to be socially productive, while the category of 'network' focuses on the social relationships which come with such opportunities and demands. The category of 'social capital' highlights

the profit or dividend which individuals can draw from activities and networks. For our examination of the modes of keeping socially connected through the later stages of the life course, the three approaches can thus fruitfully be articulated with each other (also see Gray, 2009).

There is mounting evidence for the beneficial effects of social connectedness in old age on a variety of individual life outcomes. The most obvious one may be material well-being. Family support is a social protection mechanism and an informal insurance for life-course risks such as unemployment or divorce (Kohli et al., 2008), and may be critical in alleviating poverty, especially in the absence of appropriate public support (Lyberaki and Tinios, 2005; Wall et al., 2001). Other benefits include increased emotional well-being (e.g. in buffering the effects of spousal bereavement: Ferraro, 1984; Li, 2007), better health (Lum and Lightfoot, 2005; Sirven and Debrand, 2008), and even increased longevity (Moen et al., 1989; Musick et al., 2004). In the present article, we do not go into these outcomes of social connectedness but restrict ourselves to the patterns of connectedness itself. Here it is important to examine all the relevant forms of social participation and their relationships, to do this longitudinally in order to assess under which micro-level (individual) conditions social participation is initiated or terminated, and to examine the differences among macro-level (country) conditions. Our approach is therefore comprehensive, dynamic and contextual. We use longitudinal data from the first two waves of SHARE to investigate: (1) the issue of complementarity or substitution of participation in kin and non-kin networks and activities; (2) the changes (take-up or termination) of social participation; (3) the potential role of national contexts – that is, of structural, cultural and institutional variation. These areas are elaborated below:

1. Although formal social participation (in associations, clubs, or other formal organizations) as well as informal social participation (with neighbours, colleagues or friends) and family solidarity have been subject to numerous separate studies, the cumulative involvement in these different activities and networks among elders has been neglected so far. It seems plausible at first sight to assume that each individual's limited time and energy budget would lead to competition and substitution among forms and fields of social participation, but this idea was discredited already by the classical study of the impact of unemployment (Jahoda et al., 1975) which produced evidence for (negative) cumulation instead of substitution of formal and informal activities. This result has been confirmed by some recent studies of the relationship between participation in gainful and voluntary work (Brand and Burgard, 2008; Künemund, 2001). These studies have also shown that various types of non-gainful activities, including participation in informal networks and in family exchanges, have some identical correlates and predictors – health and education in the first place – so that a positive correlation among them should be expected. Other studies, however, have raised scepticism about the complementarity of family-based and non-family-based social organization, and have suggested these are two mutually exclusive principles of social connectedness. For example, Banfield (1958), in his classical study of the causes of the backwardness of the Italian *mezzogiorno*, argued that strong family ties may block the development of a more encompassing sociability and civil society ('amoral familism'; see Heady and Kohli [forthcoming] for more recent evidence). There are thus reasons to expect a pattern of substitution between family solidarity and informal – and possibly also formal – participation.
2. Most of our knowledge about activities and social inclusion in old age is based on cross-sectional evidence. As a consequence, correlations remain equivocal regarding the direction of causality. The longitudinal design of SHARE allows for a simultaneous analysis of changes in participation patterns and in their possible predictors in terms of life events and living conditions. Since the longitudinal depth is still limited (no continuous data and only two time points of observation), this represents not a definitive assessment but a first approach to the questions of causality. This applies again to the issue of complementarity vs substitution. Some arguments point to complementarity; for instance, health deterioration is expected to reduce the capabilities for participation in most activities. Other arguments point to substitution; for instance, the transition to retirement may be expected to increase participation through extending the available time budget.

3. The most recent advance in the research on intergenerational family exchanges and productive activities has been the shift towards comparative studies, made possible through comparative surveys such as the OASIS project (Lowenstein and Ogg, 2003) and especially SHARE (Börsch-Supan et al. in this issue). The differences among countries in family structure and exchanges revealed by these studies are substantial (Albertini et al., 2007; Attias-Donfut et al., 2005; Hank, 2007; Kohli and Albertini, 2007). The same applies to formal and informal volunteering (Hank and Stuck, 2008; Wahrendorf et al., 2006). These studies now provide a window on the potential effects of context. While some authors remain sceptical about the possibility of grouping countries (Attias-Donfut et al., 2005), we have found that differences among countries tend to be clustered along well-known typifications such as those between welfare state regimes (Albertini et al., 2007; Kohli and Albertini, 2007). There are also broad differences in Europe among family and kinship structures which go back several centuries (see Viazzo [forthcoming] for an overview of the historical and anthropological literature). Other authors have proposed to differentiate between family regimes (e.g. Leitner, 2004) or social capital regimes (Pichler and Wallace, 2007). In our work on family exchange, we have introduced a distinction between structural, institutional and cultural factors, and also between the macro and the micro level (Kohli and Albertini, 2007: 5). Macro-level factors comprise, for example, the structure of the population and the labour force, the distribution of resources, the institutional landscape of publicly regulated benefits and obligations, and the cultural patterns of values and attitudes. Micro-level factors comprise the resources and needs of the participants, their preferences and motives, and the characteristics of their relationships. Macro-level factors can be conceptualized as the distal causes for social participation, micro-level factors as the proximate causes. A contextual analysis not only has an obvious descriptive interest, but also a theoretical one by providing access to the interplay of proximate and distal factors. While the available studies have not yet succeeded in systematically testing the impact of the various structural, cultural and institutional factors, they have yielded some broad patterns, such as a clear North–South gradient in intergenerational co-residence, family values and the giving of support. We therefore expect to find similar patterns across countries.

Data and method

Data source

The analysis presented here is based on a pre-release of longitudinal data from the *Survey of Health, Ageing and Retirement in Europe* (SHARE; cf. Börsch-Supan et al. in this issue). The survey is the first European dataset to combine extensive cross-national and longitudinal information on socio-economic status, health and family relationships of the older population. The 2004–05 SHARE baseline sample contains information on some 30,000 individuals aged 50 or older in 12 countries, representing Europe's economic, social, institutional and cultural diversity from Scandinavia to the Mediterranean (including Israel). Baseline data from two Central European countries – the Czech Republic and Poland – were collected in parallel to the first longitudinal round of SHARE in 2006–07, which did not include Israel. The response rate in Wave 1 was 62 percent; attrition in Wave 2 amounts to 28 percent (further methodological details are contained in Börsch-Supan and Jürges, 2005; also see Börsch-Supan et al., 2008).

Dependent variables

We distinguish three dependent variables, representing different dimensions of social connectedness. The first one – *formal social relations* – represents non-kin social relationships tied to some kind of formalized group membership. It is coded 1 if the respondent reported active participation in voluntary associations, in educational courses, in sport, social, or other kinds of clubs, or in religious or political organizations during the month preceding the interview; 0 otherwise. Our second dependent variable – *informal social relations* – refers to non-kin social interaction outside the boundaries of formal organizations (e.g. clubs). Unfortunately, we cannot take into account here getting together with neighbours or friends just to chat or for social visits because this information is not available in the

SHARE data. The variable is coded 1 if the respondent reported having received or given practical help[1] primarily from/to friends, neighbours, colleagues, or other acquaintances during the last 12 months preceding the interview (in the longitudinal survey: since the last interview); 0 otherwise. Since we are interested in social connectedness per se, we do not consider whether the individual is the provider or the recipient of help (e.g. Litwin et al., 2008) – the main thing is that the older person is involved in some kind of social exchange at all.[2] This also holds for our third and final dependent variable, which is conceptualized as a broad measure of *family relations*. This variable indicates intergenerational exchange of functional support in particular. It is coded 1 if the respondent reported having at least one cohabiting child and/or having received or given practical help (including grandchild care) primarily from/to a family member from outside the household during the last 12 months preceding the interview (in the longitudinal survey: since the last interview); 0 otherwise.[3]

Explanatory variables

Our selection of micro-level control variables is based on previous research suggesting that the individual's demographic characteristics, education and employment status, as well as his or her health condition matter for level of social connectedness (e.g., Ajrouch et al., 2005; Mutchler et al., 2003; Shaw et al., 2007; Utz et al., 2002; van Tilburg and Broese van Groenou, 2002).

Demographic characteristics included in the analysis are the respondent's sex, birth cohort (1940–54, 1930–39, 1929 or older) and partnership status (living with or without a partner). Information about *employment and education* is measured by the individual's self-reported employment status (employed, not employed, retired) and the highest educational degree ever achieved (low, medium, or high, based on the ISCED 97 classification[4]). *Health* is measured by a binary indicator of self-perceived general health ('very good or better' versus 'less than very good').

The main explanatory variables which we are interested in here are our *indicators of social participation* and *family relations* (which also serve as dependent variables) and changes therein. Last but not least, we include a full set of *country indicators* in the logistic regression models, for which we apply effect coding to highlight each country's deviation from the grand mean of all countries in the sample.[5]

We use these *time-constant* (sex, cohort, education, country) and *time-varying* (partner, work, health, networks) variables to estimate logistic regressions for the three dependent variables described above at *baseline* (Table 4) and for *changes* in these variables between the first two waves of SHARE (Table 5).

Empirical findings

Descriptive findings

Almost one-third of the Europeans aged 50 and older were involved in *formal social relations* (in voluntary associations, clubs, or organizations) in the month before the interview (cf. Table 1). Behind this overall number, however, we find large country differences, ranging from 16 percent in Italy to 53 percent in Switzerland in the first wave, and from 15 percent in Poland to 57 percent in Denmark in Wave 2. With the exception of Greece and Switzerland, there is a North-South gradient in the prevalence of formal social relations, with the two Scandinavian countries (together with the Netherlands and Israel) ranking highest, the Western continental countries in the middle, and the Mediterranean countries of Italy and Spain taking the lowest ranks (see Hank and Stuck [2008; 2009] for related evidence). The two post-socialist countries are also at the low end, possibly reflecting the difficulty of (re)constructing civil society after the transition from socialist rule.

At the country level, we observe substantial intertemporal differences in the prevalence of formal social relations amounting to as much as 10 percentage points. Some of this variation across waves might be attributed to our measure's sensitivity to the short time frame in the respective question wording, as SHARE's focus on the month preceding the interview may result in a greater impact of the changing seasonal patterns of formal social relations. At the individual level, though, we find remarkable stability. In most countries, those reporting formal relationships in both waves (28%) clearly outweigh those who have either started (13%) or stopped (12%) them.

For *informal social relations* (Table 2), cross-sectional prevalence rates are lower and the dynamics between waves are greater. Between 5- (Spain and Greece) and 22 percent (Netherlands) of the population aged 50 and older were involved in the exchange of

Table 1 Formal social relations (FSR) across SHARE Waves 1 and 2

Country	*FSR in Wave1*[a]	*FSR in Wave 2*[a]	*FSR in Wave 1&2*[b]	*Start FSR in Wave 2*[b]	*Stop FSR in Wave 2*[b]
Austria	37.3	30.7	19.9	10.9	19.8
Germany	36.8	37.2	27.9	12.2	12.6
Sweden	43.6	52.7	35.1	17.0	11.3
Netherlands	46.3	54.7	38.3	14.9	12.1
Spain	20.0	21.3	8.0	14.5	10.5
Italy	16.3	21.0	10.1	10.5	7.5
France	30.7	38.8	23.9	12.0	10.9
Denmark	46.7	56.6	38.6	17.3	11.2
Greece	45.3	36.7	30.3	8.0	14.4
Switzerland	53.0	54.0	38.1	16.6	17.1
Belgium	39.1	43.9	31.9	12.1	10.4
Israel[b]	42.4	–	–	–	–
Czech Republic	–	24.8	–	–	–
Poland	–	14.7	–	–	–
All countries	*30.9*	*32.1*	*27.6*	*12.8*	*12.0*

Notes:
[a] Cross-sectional weights applied.
[b] No weights applied.
Source: SHARE Wave 1(Release 2.0.1) and SHARE Wave 2 (Release 1.0.1), own calculations.

practical help with friends, neighbours, colleagues or other acquaintances during the last 12 months, and in most countries this share did not change much from Wave 1 to Wave 2. Only a minority of those involved in informal social relationships, however, did so continuously across both waves (4–5%), whereas the majority (8–9%) reported such exchange either in Wave 1 or in Wave 2. This may reflect the importance of changing needs and resources as reasons for informal social support (cf. Kohli et al., 2008). Non-kin informal social relationships are least often reported in the Mediterranean countries (cf. Pichler and Wallace, 2007), followed by Austria and France.

Table 2 Informal social relations (ISR) across SHARE Waves 1 and 2

Country	*ISR in Wave 1*[a]	*ISR in Wave 2*[a]	*ISR in Wave 1&2*[b]	*Start ISR in Wave 2*[b]	*Stop ISR in Wave 2*[b]
Austria	11.5	11.2	2.9	7.8	8.9
Germany	16.9	17.7	5.4	12.3	11.6
Sweden	18.7	18.1	5.5	10.4	11.1
Netherlands	20.8	21.6	7.3	12.9	12.6
Spain	4.8	4.8	1.0	3.7	3.6
Italy	10.9	9.9	2.7	6.8	7.8
France	12.4	10.3	2.7	6.8	10.9
Denmark	21.2	16.0	7.3	9.8	13.1
Greece	7.2	5.3	3.4	1.9	3.8
Switzerland	18.3	15.2	5.7	11.2	13.0
Belgium	16.0	15.0	5.7	9.1	10.2
Israel[b]	5.9	–	–	–	–
Czech Republic	–	13.2	–	–	–
Poland	–	7.7	–	–	–
All countries	*13.1*	*12.2*	*4.5*	*8.1*	*9.4*

Notes:
[a] Cross-sectional weights applied.
[b] No weights applied.
Source: SHARE (Release 2.0.1) and as for Table 1, own calculations.

Table 3 Family relations (FR)-exchange of functional support – across SHARE Waves 1 and 2

Country	*FR in Wave 1*[a]	*FR in Wave 2*[a]	*FR in Wave 1&2*[b]	*Start FR in Wave 2*[b]	*Stop FR in Wave 2*[b]
Austria	56.2	57.6	41.3	14.4	17.7
Germany	58.9	57.1	46.9	12.3	17.9
Sweden	64.1	63.5	52.0	12.4	14.1
Netherlands	66.1	64.7	53.2	10.0	16.3
Spain	65.2	61.5	51.3	11.2	17.9
Italy	66.6	67.6	59.4	9.4	12.7
France	61.4	60.8	47.2	11.3	16.0
Denmark	66.8	66.8	54.1	11.0	14.1
Greece	70.8	69.1	62.0	4.4	9.2
Switzerland	56.1	55.9	41.1	12.6	16.8
Belgium	70.2	68.7	59.1	8.7	13.6
Israel[b]	71.8	–	–	–	–
Czech Republic	–	67.9	–	–	–
Poland	–	74.2	–	–	–
All countries	*63.0*	*62.7*	*53.2*	*10.2*	*14.6*

Notes:
[a] Cross-sectional weights applied.
[b] No weights applied.
Source: SHARE Wave 1 (Release 2.0.1) and Wave 2 (Release 1.0.1), own calculations.

On average, about two-thirds of the SHARE respondents exchanged *functional support* with family members (practical help, including co-residence with children, cf. Table 3). While we detect significant regional variation, family relations are strong throughout Continental Europe (and Israel in particular). This is consistent with previous cross-sectional research showing that adult children and their aged parents have frequent contact with each other, live very close to each other (although not in the same household in most Western Europe countries), and mutually support each other with several types of help (e.g. Albertini et al., 2007; Hank, 2007). We also detect great stability of functional support between waves, indicating that family relations tend to be more stable over time than informal social relations, which might be more dependent on situational factors.

Multivariate results – baseline

Table 4 summarizes the results of our logistic regression models for all three dependent variables at baseline (note that only those countries represented in both waves of SHARE are included here). Women are more likely than men to be involved in formal social relations or, particularly, in functional exchange with family members, while the probability of being socially connected in one of the ways considered in our study is unequivocally lower in older cohorts. Partnership status does not bear a statistically significant association with formal social relations, but having a partner is negatively correlated with the probability of reporting informal relationships and is positively associated with family support (supposedly driven by the existence of greater kin networks). Education appears to be an important resource for formal and informal social relations, whereas the role of employment status in older people's kin and non-kin social relations is less clear. While the individual's self-perceived health seems to be unrelated to his or her family relations, we find a statistically significant – though differential – association with formal and informal social relations: less than very good health is paralleled by a lower propensity to report formal relationships, while poor health is positively correlated with informal relations (possibly reflecting health-related needs).

Controlling for the above mentioned individual characteristics in the multivariate model does not change the general regional picture of social connectedness suggested by our bivariate descriptive analysis. Older Spaniards and Italians are found to exhibit significantly below-average probabilities of being involved in formal and informal social relations, but score high on the propensity to exchange functional support within the family. The latter, however, is also true for Danes, who – at the same time – are more likely than the average to report non-kin social relationships, just like the Swedes. A noteworthy

Table 4 Social connectedness[a] in the SHARE baseline wave (2004) – logistic regression models using effect coding

	FSR	*ISR*	*FR*
Gender (female)	1.08[d]	0.97	1.32[d]
	(0.03)	(0.04)	(0.04)
Cohort 1940–54[b]	1.00	1.00	1.00
Cohort 1930–39	1.01	0.82[d]	0.61[d]
	(0.04)	(0.04)	(0.02)
Cohort 1929 or older	0.70[d]	0.61[d]	0.44[d]
	(0.03)	(0.04)	(0.02)
Living with partner	1.03	0.58[d]	1.55[d]
	(0.03)	(0.02)	(0.05)
Low education[b]	1.00	1.00	1.00
Medium education	1.31[d]	1.26[d]	1.01
	(0.04)	(0.06)	(0.03)
High education	2.14[d]	1.33[d]	0.98
	(0.08)	(0.07)	(0.04)
(Self-)Employed[b]	1.00	1.00	1.00
Retired	1.07	1.23[d]	0.90[c]
	(0.04)	(0.07)	(0.04)
Not employed (other)	0.97	1.15[c]	0.99
	(0.04)	(0.07)	(0.04)
Self-perceived health	0.70[d]	1.12[d]	1.03
(less than very good)	(0.02)	(0.05)	(0.03)
Austria	.99	.71[d]	.70[d]
	(.05)	(.05)	(.03)
Germany	0.96	1.22[d]	0.78[d]
	(0.04)	(0.06)	(0.03)
Sweden	1.28[d]	1.45[d]	1.00
	(0.05)	(0.07)	(0.04)
Netherlands	1.53[d]	1.68[d]	1.09[c]
	(0.06)	(0.08)	(0.04)
Spain	0.49[d]	0.39[d]	1.11[c]
	(0.03)	(0.04)	(0.05)
Italy	0.38[d]	0.84[c]	1.21[d]
	(0.02)	(0.06)	(0.05)
France	0.82[d]	0.98	0.93
	(0.03)	(0.05)	(0.04)
Denmark	1.23[d]	1.57[d]	1.17[d]
	(0.06)	(0.10)	(0.06)
Greece	1.47[d]	0.54[d]	1.31[d]
	(0.06)	(0.04)	(0.06)
Switzerland	1.82[d]	1.35[d]	0.67[d]
	(0.11)	(0.11)	(0.04)
Belgium	1.08[c]	1.30[d]	1.32[d]
	(0.04)	(0.06)	(0.05)
Family relations	1.30[d]	0.54[d]	–
	(0.04)	(0.02)	
Informal social	1.61[d]	–	0.54[d]
relations	(0.06)		(0.02)
Formal social	–	1.62[d]	1.30[d]
relations		(0.06)	(0.04)
Pseudo-R^2	*0.07*	*0.06*	*0.05*
Observations	*27,284*	*27,284*	
27,284			

Notes: Coefficients are represented as odds ratios (standard errors in parentheses); [a] FSR = formal social relations; ISR = informal social relations; FR = family relations; [b] reference category; [c] significant at 5% level; [d] significant at 1% level.
Source: SHARE, Wave 1 (Release 2.0.1), own calculations.

outlier from the rough North–South pattern of decreasing involvement in non-kin social relations is Greece, where older people's probability of engaging in formal social relationships (as well as in family relations) is relatively high.

As to the issue of complementarity vs substitution of the three forms of social connectedness, we find that:

- the association between formal and informal social relations tends to be positive (complementary);
- the association between formal social relations and family relations characterized by the exchange of functional support also tends to be positive (complementary);
- the association between family relations and informal social relations tends to be negative (substitutive).

There is thus a strong case for the hypothesis of cumulation; that is, some individuals engage in both forms of non-kin social relationships while others are not connected by either of them. More surprising is the fact that those engaged in formal social relations are also more often a party in family exchange. The negative association of family relations and informal social relations may be explained in two ways. First, we might assume that family help and informal participation are exclusive in the sense employed by Banfield (1958); that is, strong family relationships may prevent informal relationships for reasons of normative orientations and social organization. Second, receiving informal social support may be more necessary and common where there is no (or insufficient) family help available, so that the negative association is the result of informal relationships stepping in for inefficient or missing family support (or vice versa).

Multivariate results – longitudinal

Our longitudinal analysis of correlates of the dynamics of kin and non-kin social relations across the first two waves of SHARE (see Table 5) confirms our cross-sectional findings suggesting that age and education are important determinants of elders' social connectedness. Those born pre-1940 as well as the less educated tend to be less likely to start (more likely to stop, respectively) having kin or non-kin social relations than their younger or more highly educated counterparts. Turning to our time-varying control variables, we barely detect a significant association between (changes in) partnership status and any of the dependent variables. The evidence for an association between (changes in) employment status and social connectedness is not very clear, but those being continuously out of the labour force seem to be somewhat more likely to start (less likely to stop, respectively) being engaged in formal and informal social relations, while the reverse pattern tends to hold for the exchange of functional support within the family. Older individuals' self-perceived health – and changes therein – only bear a statistically significant association with the propensity to start (and stop, respectively) formal social relations: reporting less than very good health throughout or experiencing a health decline between waves is associated with a lower probability to start (higher probability to stop) being involved in formalized relationships.

For formal and informal social relations in particular there is some evidence suggesting a pattern that elders living in countries scoring high (low, respectively) on one of these dimensions of social connectedness cross-sectionally also tend to exhibit higher (lower, respectively) probabilities of taking up new relationships on this particular dimension (the reverse being true for giving up social relations). Greece is – once more – an outlier because here respondents exhibit a statistically significant below-average dynamics of social connectedness in any direction.

Turning finally to the dynamic interrelationship between (changes in) different dimension of social connectedness, we find that:

- those who did not report exchanging functional support with family members at all or did so in the SHARE baseline wave only are less likely to start (more likely to stop) having formal social relations and more likely to start (less likely to stop) informal social relations, compared to the reference group of older people;
- those who did not report having informal social relations at any point in time or did so in the SHARE baseline wave only are less likely to start (more likely to stop) having formal social relations and more likely to start (less likely to stop) functional support with family members, compared to the reference group of older people;
- those who did not report having formal social relations at any point in time or did so in the SHARE baseline wave only are less likely to start (more likely to stop) having informal social relations or family relations characterized by functional support, compared to the reference group of older people.

These longitudinal findings show that also in a dynamic perspective the relationship between various dimensions of social connectedness tends to be complementary rather than substitutive, except for the relationship between informal social relations and family relations, which is characterized by substitution.

Conclusions

Using longitudinal data from the first two waves of the *Survey of Health, Ageing and Retirement in Europe*, the present article showed that Europe's population aged 50 or older is socially connected in several ways: roughly one-third of the respondents report having some kind of formal social relationships, more than one-tenth provide or receive informal social support, and two-thirds exchange functional support with family members outside their household.

A *first* result of our multivariate analyses is that the relationship between these various dimensions of social connectedness is complementary rather than substitutive (see also Hank and Stuck, 2008) – both cross-sectionally and in a dynamic perspective. An important exception is the relationship between informal social relations and family relations, which tends to be characterized by substitution. Whether this is mainly a result of strong family relationships preventing informal relationships or of informal relationships stepping in for inefficient or missing family help (or vice versa) remains open for further analysis. Our longitudinal analysis revealed, second,

Table 5 Dynamics of social connectedness[a] between SHARE Waves 1 and 2 – logistic regression models using effect coding

	FSR		*ISR*		*FR*	
	start	*stop*	*start*	*stop*	*start*	*Stop*
Gender (female)	1.15[d]	0.98	0.93	0.92	1.06	0.87[d]
	(0.06)	(0.06)	(0.06)	(0.09)	(0.07)	(0.04)
Cohort 1940–54[b]	1.00	1.00	1.00	1.00	1.00	1.00
Cohort 1930–39	0.98	1.09	0.86[c]	1.40[d]	0.68[d]	1.62[d]
	(0.07)	(0.08)	(0.07)	(0.18)	(0.06)	(0.10)
Cohort 1929 or older	0.58[d]	1.69[d]	0.75[d]	1.60[d]	0.73[d]	2.24[d]
	(0.05)	(0.16)	(0.07)	(0.25)	(0.06)	(0.17)
Low education[b]	1.00	1.00	1.00	1.00	1.00	1.00
Medium education	1.42[d]	0.81[d]	1.20[c]	1.05	0.97	1.02
	(0.09)	(0.05)	(0.09)	(0.12)	(0.07)	(0.06)
High education	2.09[d]	0.64[d]	1.12	0.95	0.80[c]	1.04
	(0.15)	(0.05)	(0.09)	(0.12)	(0.07)	(0.07)
Continuity & change in partnership						
Partner, cont.[b]	1.00	1.00	1.00	1.00	1.00	1.00
Partner, never	1.05	1.02	2.07[d]	0.37[d]	1.00	0.94
	(0.16)	(0.19)	(0.43)	(0.12)	(0.21)	(0.13)
Single → partner	1.92	1.38	1.19	0.56	1.37	1.14
	(0.87)	(0.60)	(0.68)	(0.42)	(0.68)	(0.52)
Partner→ single	1.04	0.93	1.34	0.57	1.24	0.88
	(0.16)	(0.17)	(0.27)	(0.17)	(0.27)	(0.12)
Continuity & change in employment						
(Self-)Employed, cont.[b]	1.00	1.00	1.00	1.00	1.00	1.00
Retired, cont.	1.26[d]	0.62[d]	1.23[c]	0.64[d]	0.97	1.26[d]
	(0.10)	(0.05)	(0.11)	(0.09)	(0.09)	(0.09)
Not employed, cont.	1.07	0.62[d]	1.25[c]	0.65[d]	1.14	1.19[c]
	(0.09)	(0.06)	(0.12)	(0.10)	(0.12)	(0.09)
Employed → retired	1.63[d]	0.53[d]	1.14	1.21	1.19	0.93
	(0.20)	(0.08)	(0.16)	(0.34)	(0.20)	(0.12)
Employed → not employed	1.35	0.81	1.63[d]	0.57	0.87	1.35
	(0.21)	(0.16)	(0.29)	(0.17)	(0.20)	(0.21)
Retired/not employed → employed	0.92	1.02	1.14	0.94	1.81[c]	1.23
	(0.19)	(0.20)	(0.26)	(0.33)	(0.46)	(0.22)
Continuity & change in health						
Very good or better, cont.[b]	1.00	1.00	1.00	1.00	1.00	1.00
Very good or better, never	0.57[d]	1.48[d]	1.00	1.01	1.05	1.01
	(0.04)	(0.11)	(0.08)	(0.13)	(0.09)	(0.07)
Less than very good →	0.90	1.08	0.98	1.20	1.06	1.19
very good or better	(0.09)	(0.12)	(0.11)	(0.23)	(0.13)	(0.11)
Very good or better →	0.70[d]	1.50[d]	0.90	1.01	1.12	1.13
less than very good	(0.06)	(0.13)	(0.09)	(0.16)	(0.12)	(0.09)
Time gap & country indicators						
Time between interviews (months)	1.00	1.03[d]	0.99	1.02	0.96[d]	1.02[d]
	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)
Austria	0.69[d]	1.97[d]	0.91	1.42	1.27[c]	1.35[d]
	(0.07)	(0.18)	(0.10)	(0.28)	(0.12)	(0.11)
Germany	0.76[d]	0.91	1.76[d]	0.76	1.26[c]	1.24[d]
	(0.06)	(0.08)	(0.15)	(0.11)	(0.12)	(0.09)
Sweden	1.59[d]	0.73[d]	1.48[d]	0.88	1.21[c]	1.01
	(0.11)	(0.06)	(0.12)	(0.11)	(0.10)	(0.07)

Table 5 *(Continued)*

	FSR		*ISR*		*FR*	
	start	*stop*	*start*	*stop*	*start*	*Stop*
Netherlands	1.52[d]	0.63[d]	2.05[d]	0.62[d]	1.11	1.02
	(0.12)	(0.05)	(0.17)	(0.08)	(0.11)	(0.07)
Spain	0.96	2.17[d]	0.46[d]	1.91	1.37[d]	1.11
	(0.08)	(0.27)	(0.07)	(0.66)	(0.14)	(0.09)
Italy	0.58[d]	1.43[d]	1.08	0.99	1.17	0.68[d]
	(0.05)	(0.16)	(0.11)	(0.18)	(0.12)	(0.05)
France	0.84[c]	1.03	0.80[c]	2.23[d]	0.74[d]	1.34[d]
	(0.07)	(0.10)	(0.09)	(0.42)	(0.08)	(0.11)
Denmark	1.50[d]	0.67[d]	1.33[d]	0.80	1.41[d]	0.93
	(0.13)	(0.06)	(0.14)	(0.12)	(0.16)	(0.08)
Greece	0.59[d]	0.77[d]	0.22[d]	0.48[d]	0.38[d]	0.47[d]
	(0.05)	(0.06)	(0.03)	(0.08)	(0.04)	(0.04)
Switzerland	2.08[d]	0.86	1.58[d]	1.12	0.94	1.37[d]
	(0.24)	(0.10)	(0.19)	(0.22)	(0.12)	(0.15)
Belgium	0.90	0.85	1.13	0.94	0.77[c]	0.94
	(0.08)	(0.08)	(0.12)	(0.15)	(0.08)	(0.08)
Continuity and change in social connectedness						
Family relations, continuous[b]	1.00	1.00	1.00	1.00	–	–
Family relations, never	0.76[d]	1.43[d]	1.92[d]	0.40[d]	–	–
	(0.05)	(0.10)	(0.14)	(0.04)		
Family relations, start	1.07	1.19	0.86	1.87[d]	–	–
	(0.08)	(0.11)	(0.10)	(0.31)		
Family relations, stop	0.75[d]	1.59[d]	1.87[d]	0.67[d]	–	–
	(0.06)	(0.12)	(0.14)	(0.10)		
Informal social relations, continuous[b]	1.00	1.00	–	–	1.00	1.00
Informal social relations, never	0.68[d]	1.99[d]	–	–	2.97[d]	0.75[c]
	(0.09)	(0.25)			(0.42)	(0.09)
Informal social relations, start	1.03	1.27	–	–	1.31	1.36[c]
	(0.15)	(0.19)			(0.23)	(0.19)
Informal social relations, stop	0.76	1.88[d]	–	–	3.88[d]	0.66[d]
	(0.11)	(0.27)			(0.61)	(0.10)
Formal social relations, continuous[b]	–	–	1.00	1.00	1.00	1.00
Formal social relations, never	–	–	0.57[d]	1.73[d]	0.79[d]	1.37[d]
			(0.04)	(0.19)	(0.06)	(0.08)
Formal social relations, start	–	–	0.89	1.23	1.11	1.03
			(0.08)	(0.18)	(0.11)	(0.08)
Formal social relations, stop	–	–	0.67[d]	1.97[d]	0.82	1.55[d]
			(0.07)	(0.30)	(0.09)	(0.12)
Pseudo-R^2	*0.07*	*0.06*	*0.07*	*0.09*	*0.05*	*0.05*
Observations	*10,809*	*7,152*	*15,422*	*2,527*	*5,779*	*12,182*

Notes: Coefficients are represented as odds ratios (standard errors in parentheses); [a] FSR = formal social relations; ISR = informal social relations; FR = family relations; [b] reference category; [c] significant at 5% level; [d] significant at 1% level.
Source: SHARE Wave 1 (Release 2.0.1) and Wave 2 (Release 1.0.1), own calculations.

that the dynamics of kin and non-kin social relations tend to be driven by age, educational attainment and – to some degree – by health; that is, by individuals' resources and needs. While the associations between elders' social connectedness and these individual characteristics turned out to be very similar across the various parts of Continental Europe covered by SHARE (details of regionalized models not shown

here), we find, third, significant regional variation regarding the levels and the dynamics of social connectedness.

The 'geography' of formal and informal social and family relations portrayed here corresponds to some degree to the basic geography of the different 'welfare', 'family' or 'social capital' regimes described in the literature. However, the exceptions from a simple North–South gradient which we observe also alert us to the need for further contextual differentiation. Country-specific traditions of associations, churches and other organizations, which may require further refinements of existing regime typologies (cf. Salamon and Sokolowski, 2003; Smith and Shen, 2002), are likely to play a prominent role here.[6]

Taken together, our study underlines the importance of taking a comprehensive, dynamic and contextual perspective in order to better understand the ways in which older people are socially connected. Building on the findings presented here, future studies – based on more waves of longitudinal SHARE data, for example – should, first, aim to investigate further the causal *impact* of social connectedness on elders' well-being, including the potential role of the societal context in this relationship (for initial accounts see Siegrist and Wahrendorf in this issue; Sirven and Debrand, 2008). Second, deeper insights into the *quality* of different types of older people's social relations – for example, their respective level of reciprocity (Siegrist and Wahrendorf in this issue) – are highly desirable. Moreover, it would be important to consider, third, the role of changes in the *intensity* of one dimension of social connectedness (e.g. hours of volunteering) in explaining the dynamics of social relations in other domains (e.g. level of exchange with family members), so as to provide a more differentiated picture of the association between formal and informal, kin and non-kin social relations than the one portrayed here. Accounting for relationship quality and intensity should also result in an improved model fit; that is, a higher proportion of explained variance. A fourth – and final – issue for future research which we propose is to extend the *cross-national* component of our study by assessing more specifically which particular dimensions of societal context (or which interactions between different dimensions) contribute to a better explanation of the variation in older people's social connectedness across Europe.

Notes

1 'Practical help' refers to support in the domains of personal care, household chores, or paperwork.
2 While a more detailed analysis considering the *intensity* of social exchange would be possible for specific dimensions of social connectedness, this is not feasible in our study, which considers multiple dimensions of social relationships with different time frames (previous month, last 12 months) in one model.
3 It seems important to include cohabitation here because we have suggested 'that co-residence is *the* Southern European way of transferring resources from parents to children and vice versa' (Albertini et al., 2007: 326; original emphasis). Grandchild care refers to looking after grandchildren in the absence of parents only (for a detailed analysis see Hank and Buber, 2009).
4 'Low' = lower secondary level of education or less; 'medium' = upper secondary or post-secondary, non-tertiary level of education; 'high' = first stage of tertiary education or higher.
5 Effect coding uses contrast weights, resulting in tests of deviations of group means from the intercept coefficient, which inherits the value of the grand mean.
6 It should also be noted that countries may not always be the most appropriate level of aggregation. For example, formal social participation in East Germany tends to be lower than in West Germany (for a detailed discussion see Gensicke, 2008: Section 3), again as a result of the destruction of civil society through the four decades of socialist rule; and Southern Italy has been singled out for its weak civil society (Banfield, 1958) compared to the north of the country.

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