

## RESEARCH ARTICLE

# Coresidence with a child and happiness among older widows in Europe: Does gender of the child matter?

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**Abstract**

Both coresidence patterns and the reported well-being of older people vary widely across Europe for a variety of economic, cultural, and historical factors. We investigate how far 2 indicators of well-being, happiness and life satisfaction, vary according to whether or not older women live with their children and, in particular, with son(s) or daughters(s). We compare outcomes for women who are unpartnered widows, the great majority of whom will have had children, so those with and without coresident children may be compared. We use data for 34 countries in Europe by combining 7 waves of the European Social Survey for the period 2002–2014 ( $N = 18,500$ ). We control for a range of other variables known to be associated with well-being including health status, socioeconomic position, and social support. Results show that widows living with a child were happier than those living without a child (generally alone) but that in Eastern and Southern Europe it was only living with a daughter that had this positive effect. Older age was associated with higher levels of happiness and life satisfaction. Other associations, and regional differences, were as expected with lower levels of happiness in Eastern Europe and for those with poorer health and fewer social resources. These findings indicate the important influence of contextual factors on associations between living arrangements and the well-being of older people and a need for further work on possible negative impacts of living alone on the well-being of older Europeans.

**KEYWORDS**

coresidence, Europe, happiness, older women, well-being

## 1 | INTRODUCTION

The ageing of European populations and gains in the further life expectancy of older people have prompted growing interest in the quality of these additional years. Extensive research has focused on the balance between gains in healthy and unhealthy years and of differentials in negative outcomes such as disability, depression, and loneliness (Murray et al., 2012). However, it is also important to examine variations in indicators of subjective well-being that encompass positive dimensions of ageing experiences (Bowling, 2005; Steptoe, Deaton, & Stone, 2015). Research in this area has consistently identified health, socioeconomic status, and social support as important and generalised influences on the well-being of older people (Bishop, Martin, & Poon, 2006; Read, Grundy, & Foverskov, 2016). These domains all interact with older people's living arrangements, but less is known about how these

are associated with well-being, as recognised in the Madrid International Plan of Action on Ageing, which called for more research on this topic (United Nations, 2002). This is particularly important given large changes in the living arrangements of older people, in (and beyond) Europe in the past half century (Elman & Uhlenberg, 1995; Pampel, 1992; United Nations, 2005; Tomassini, Glaser, Wolf, van Groenou, & Grundy, 2004). Substantial variations in living arrangements across Europe nevertheless persist, a diversity that presents an opportunity to investigate whether the relationship between living arrangement and later-life subjective well-being is modified by both individual and regional contexts. In this paper, we use data from 34 European countries to investigate whether older widows who live with a child are happier than those who live without a child (generally alone) and whether this association varies between regions of Europe. Our analysis includes a wide range of countries from all regions of Europe,

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including the Balkans and Eastern Europe; we additionally consider the effect of gender of coresident children.

## 2 | BACKGROUND

### 2.1 | Living arrangements of older Europeans

In the second half of the 20th century, older unmarried Europeans became increasingly likely to live alone and decreasingly likely to live with children or other relatives (Iacovou & Skew, 2011; United Nations, 2005; Tomassini, Glaser, et al., 2004). This trend has not been monotonic and economic, and social disruptions have led to some reversals in the overall shift towards less coresidence. For example, there is evidence from some Eastern countries that the collapse of the Soviet Union, which led to considerable economic hardship among older people affected by curtailment of former state supports, was associated with an increase in intergenerational coresidence (Bezrukov & Foigt, 2002). More recently, the economic downturn of 2008 also led to an increase in intergenerational coresidence in some European countries. In this case, the main driver was delayed home leaving (and returns home) among young adults, particularly 18–24-year-olds (Lennartz, Arundel, & Ronald, 2016), and so had most impact on middle-aged married couples rather than older unmarried women who are the focus of this paper. However, throughout Europe, the proportion of older unmarried people living with children is lower than half a century ago (United Nations, 2005) although there are large regional differences within Europe with intergenerational coresidence being much more usual in Southern than Northern countries (Attias-Donfut, Ogg, & Wolff, 2005; Glaser, Tomassini, & Grundy, 2004; Tomassini, Kalogirou, et al., 2004).

These regional differences in living arrangements have been linked to long-term historical influences (Hajnal, 1965; Reher, 1998; Murphy, 2008), socioeconomic conditions (Ruggles, 2009), and welfare regimes (Esping-Anderson, 1990; Glaser et al., 2004). All of these may also underlie, and interact with, patterns of intergenerational support beyond, as well as within, households. Numerous studies show continuing high levels of contact and mutual support between older people and their families, even if living separately, but that, as with living arrangements, both the extent and type of these vary across Europe, tending to be more frequent in Southern and Eastern than Northern countries, with some countries, such as Austria, falling in between (Albertini & Kohli, 2013; Albertini, Kohli, & Vogel, 2007; Brandt, Haberkern, & Szydlik, 2009; Daatland & Herlofson, 2003; Murphy, 2008). There are similar geographic variations in attitudes. Results from a 2007 Eurobarometer survey, for example, showed that only 4% of respondents in Sweden and the Netherlands, and 7% in Finland and Denmark, judged moving to live with a child the best option for an elderly parent who lived alone and could no longer manage without help compared with 40% or more in many Southern or Eastern European countries such as Poland, Greece, Slovakia, and Portugal (European Commission, 2007).

### 2.2 | Benefits and disadvantages of intergenerational coresidence

Potential benefits of coresidence (for both older and younger generations) include availability of intrahousehold companionship, emotional

and practical support, and economic benefits from economies of scale (Rendall & Speare, 1995; Ruggles, 2009; Grundy, 2000). Potential disadvantages are reduced autonomy and associated possible reductions in self-esteem, stress attendant on any intrahousehold conflict, and in some cases, overcrowding (Bordone, 2015). The balance of positive and negative effects is likely to vary according to individual characteristics, such as health and socioeconomic status, the availability of extrahousehold social connections and supports and the circumstances leading to coresidence. In terms of associations between living arrangements and subjective well-being, the focus of this paper, individual and societal preferences and the broader cultural, economic, and sociopolitical contexts are also relevant. Congruence between actual and desired circumstances is an important influence on subjective well-being (Brandtstadter, Wentura, & Greve, 1993; Gustavson & Lee, 2004), and social comparisons mediate between objective life circumstances and subjective well-being (Cheng, Fung, & Chan, 2008). This would suggest that the association between coresidence with a child and subjective well-being would vary depending on both personal and cultural preferences (Jylhä & Jokela, 1990; Russell & Taylor, 2009). Gender may also be highly salient as women's role as "kin keepers" means they have higher expectations of, and for, social relationships (Salari & Zhang, 2006).

## 3 | PREVIOUS RESEARCH

Research on associations between different types of living arrangement and subjective well-being in later life, and variations in associations by regional context, is limited, although a number of comparative studies have considered negative dimensions of well-being, such as loneliness or depressive symptoms. Many of these have focused on one or a few countries (Garcia, Banegas, Perez-Regadera, Cabrera, & Rodriguez-Artalejo, 2005; Netuveli, Wiggins, Hildon, Montgomery, & Blane, 2006) or have pooled samples for a wider selection of countries into one or two groupings (Aranda, 2015; Courtin & Avendano, 2016). With a few exceptions, most have considered only one or two Eastern European countries (Sundstrom, Fransson, Malmberg, & Davey, 2009), although this is a region of particular interest given the potential role of intergenerational coresidence as a bulwark against the social and economic stresses attendant on the collapse of the Soviet Union. Sundstrom et al. (2009), for example, investigated the association between living alone and loneliness in 11 European countries, including two Eastern ones, using data from the Survey of Health, Retirement, and Ageing in Europe. Results indicated an association between living alone and loneliness, especially for older people in poor health, and that both living with a partner and living in some other arrangement (usually with a child) appeared protective against loneliness. De Jong Gierveld, Dykstra, and Schenk (2012) in a study of three Eastern and two Western European countries based on analyses of the Gender and Generations Surveys found that in all of them those living alone were lonelier than those living with a spouse. In the Eastern countries, living with a child rather than alone also appeared to be protective, although they were unable to examine this in the two Western countries considered due to small sample sizes. Two recent papers, both based on analyses of Survey of Health, Retirement, and Ageing in Europe data, have examined consequences of increased intergenerational coresidence for older people's well-being following

the recession of 2008 and concluded that intergenerational coresidence was associated with reduced risks of depression among people aged 50 and older (Aranda, 2015; Courtin & Avendano, 2016). Both these papers attempted to identify underlying causal influences by using respectively propensity score matching and instrumental variable approaches. Aranda (2015) further distinguished two subregions of Europe and found that the beneficial effect of “doubling up” was confined to countries identified as part of Catholic Europe (France, Belgium, Austria, Italy, and Spain) with little effect in a Protestant Europe region (Sweden, Denmark, Germany, the Netherlands, and Switzerland). Consistent with this, a study of the United Kingdom, also considered part of Protestant Europe, reported that older people living with at least one child (and no partner) had similar risks of depressive symptoms to those living with a partner or living alone. This study also found that mental health improved among those who made a transition from living with a child to living alone (Stone, Evandrou, & Falkingham, 2013).

We were able to identify only a few studies focusing on associations between living arrangements and positive dimensions of well-being, and these consider one country only. Positive associations between living with relatives and satisfaction with life in general and specifically with living arrangements have been reported from studies conducted in Spain (Garcia et al., 2005; Zunzunegui, Beland, & Otero, 2001). However, a study of people aged 50 and older in England found that, after control for a range of health and social factors, people living alone scored better on a measure of quality of life than those in other living arrangements (Netuveli et al., 2006).

### 3.1 | Other correlates of subjective well-being among older people

As already noted, health, socioeconomic status, and social support (particularly reciprocated social support) have been identified in previous studies as predominant influences on older people's subjective well-being (Bishop et al., 2006; Read, Grundy, & Foverskov, 2016). Women appear to have slightly worse subjective well-being than men (and a higher prevalence of depression), even after controlling for gender differences in widowhood, health, and socioeconomic status (Pinquart & Sorenson, 2001). Associations with age are less clear and may vary by region. Blanchflower and Oswald (2008a, 2008b) in a large international study concluded that the association between age and psychological well-being was U shaped with a low point in middle age, but their analysis extended only up to the age of 70. Some studies of older people suggest a decline in life satisfaction and quality of life after age 65 or 70 (Netuveli et al., 2006; Ploubidis & Grundy, 2009); others find little variation with age after control for factors such as health, marital status, and income (Larson, 1978). Studies of national differences show that within Europe the populations of the Nordic countries report the highest levels of happiness and those in East European countries the lowest (Djankov, Nikolovab, & Zilinskyc, 2016; Lehtinen, Sohlman, & Kovess-Masfety, 2005; Ploubidis & Grundy, 2009). Steptoe et al. (2015) analysed data from the 2006–2010 rounds of Gallup's World Poll and found notable differences between world regions in associations between age and various aspects of subjective well-being. In high-income English-speaking countries aspects of well-being, including

happiness, tended to be lowest among 45–54-year-olds and then improve in older age groups, but in countries of the former Soviet Union and Eastern Europe, lack of happiness increased with age. In Latin America and the Caribbean and Sub-Saharan Africa there was less variation with age. This analysis was only able to consider patterns up to ages 65–74.

## 4 | AIMS AND RESEARCH QUESTIONS

In this study, we analyse associations between living arrangements and happiness among older widows in Europe. We focus on the widowed because they are the group for whom living with children is most likely to be an alternative to living alone. We focus on women mainly for pragmatic reasons (numbers were too small for regional analysis among men), but, regardless of this, our research question is of particular relevance to women because of their poorer levels of subjective well-being, much higher chances of being widowed, and possible greater needs for kin contact. We therefore confine analysis to unpartnered widowed women excluding the small proportion, 1.2%, who were cohabiting; for convenience, we refer subsequently to this group simply as “widows.” We consider not just effect of coresidence with a child but also whether there are differing effects depending on the gender of the child. Studies in European populations have often found that mothers' bonds with daughters may be stronger than those with sons and that daughters provide more contact and social support to parents than sons (Bishop et al., 2003; Kahn, McGill, & Bianchi, 2011; Silverstein, Gans, & Yang, 2006; Grundy & Shelton, 2001). Additionally, older widows who need personal care may find having their needs met by a daughter more appropriate than being tended by a son (or daughter-in-law). These factors would all suggest that coresidence with a daughter might have more positive associations with well-being of mothers than coresidence with a son. Possibly, in some poorer or more rural populations in which coresidence is a response to economic need or arises because of a shared economic enterprise such as a family farm, living with a son might be preferred. However, we were unable to find any earlier studies that have examined the effect of gender of child on well-being of coresident unmarried parents in European populations.

We hypothesised that living without children would have negative (or less positive) associations with happiness in populations, such as those of Southern and Eastern Europe, with more “familial” attitudes in which older people might regard coresidence positively, whereas in North-Western European countries, living without a child (predominantly alone) would be associated with better subjective well-being. We also hypothesised that coresidence with daughters would have a more positive impact than coresidence with sons. Due to the lack of previous literature, we had no specific hypotheses as to whether this latter association might vary between regions of Europe.

## 5 | METHODS

### 5.1 | Data

We used data from the European Social Survey (ESS), a biennial multicountry cross-sectional survey that includes almost all European

countries. A strength of the ESS (2004) is that there are clear and detailed central survey specifications that all country studies adhere to and close collaboration on protocols to ensure correct translations to multiple languages. We pooled the seven rounds of data from 2002 to 2014 available at end of 2016 (only a subset of surveys from the 2014 round is available). We used variables from the core parts of the 2002 to 2014 surveys, which were mostly identical and included in all rounds. Questions and scales have been evaluated for reliability and validity (ESS, 2004). The sample comprised 18,488 widows aged 65 or older and not living with a partner with information on whether they had a child living in the household. There were 258 cases with missing data on happiness giving a final analysis sample of 18,230. A further 1,376 cases had missing data on the other covariates so were excluded from those analyses. Sample sizes for life satisfaction analyses were marginally larger.

## 5.2 | Country groupings

Small sample sizes for individual countries meant that it was necessary to group countries for the main analysis. There are a number of different methods of grouping European countries based on welfare state regimes, family-related policies, and extent of transfers to older people, kin interactions, and cultural, historical, and geographical contexts (Arts & Gelissen, 2002; Bambra et al., 2008; Esping-Anderson, 1990; Millar & Warman, 1996; Reher, 1998; Glaser et al., 2004). In general welfare regime typologies produce fairly similar groupings and mostly identify the Nordic countries as one group and the Mediterranean countries as another (for reviews, see Arts & Gelissen, 2002; Murphy, 2008). However, the number of groups identified ranges from three to five, and the position of some countries, particularly the Netherlands and the United Kingdom, is contested. More importantly, for our analyses, few consider Eastern European countries, where the welfare context has in any case changed dramatically in recent decades, and it remains unclear whether the Balkans fits more naturally with Southern or Eastern Europe or has a distinctive pattern. Taking account of these previous classifications, we grouped countries included in the analysis into four categories. These comprised North-Western Europe (the Nordic countries of Denmark, Finland, Iceland, Norway, and Sweden; and Western Europe counties of Austria, Belgium, France, Germany, Ireland, Luxembourg, the Netherlands, Switzerland, and United Kingdom), Southern Europe (Cyprus, Greece, Italy, Spain, and Portugal), the Balkans (Albania, Bulgaria, Croatia, Kosovo, Romania, and Slovenia), and Eastern Europe (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Russia, Slovakia, and Ukraine). These groups are not strictly geographical and combine countries with similar characteristics, so that, for example, Eastern Europe contains Estonia along with other former communist countries, whereas the United Nations regional classification includes it in Northern Europe. Although Nordic countries are often analysed separately, we combined them with Western European countries both because they are much more similar when compared with other European regions and because the number of older people living with children is insufficient for separate analysis. Table A1 shows sample sizes and information on the marital status of older people in each region for the ESS sample countries, which includes the great majority of the European population.

## 6 | MEASURES

### 6.1 | Coresidence indicator

We trichotomised our main explanatory variable, living arrangement of unpartnered widows, into those living without any child (including step, adopted, and foster children), those living with son(s) but no daughter, and those living with at least one daughter (mainly cases including no son). The great majority of those living without children were living alone, and preliminary analyses showed that excluding people living with friends and relatives other than children had only trivial effects on results.

### 6.2 | Outcome variables

Indicators of two aspects of subjective well-being, happiness and life satisfaction, were available. Life satisfaction measures are theorised to capture cognitive evaluations of one's self and life, whereas happiness generally represents the emotional component (Pinquart & Sorenson, 2001). In this paper, we mainly present analyses of differentials in happiness, although we also undertook parallel analyses of the life satisfaction variable, results of which were very similar, and comment on these where appropriate. The happiness and life satisfaction items were derived from responses to the questions "taking all things together, how happy would you say you are" and "all things considered, how satisfied are you with your life nowadays?" For both of these, respondents rated their answer on a scale of 0 (*extremely dissatisfied or unhappy*) to 10 (*extremely satisfied or happy*).

### 6.3 | Covariates

The highest educational level, classified using the International Standard Classification of Education (ISCED), was used as an indicator of socioeconomic status distinguishing four categories ranging from less than completed lower secondary schooling (ISCED 0 and 1 including the small 0.2% "other" group not classifiable using ISCED), lower secondary (ISCED 2), upper secondary and postsecondary nontertiary education (ISCED 3 and 4), and tertiary (ISCED 5 and 6).

Indicators of social ties were based on three measures: frequency of meetings with friends, relatives, and colleagues (seven categories ranging from *never* to *every day*), which we collapsed into four groups as monthly or less (including the small proportion replying *never*), more frequently but weekly or less, several times a week, and every day; perceived frequency of taking part in social activities relative to others of the same age (five categories ranging from *much less* to *much more* than most, which we collapsed into three groups of less, similar, and more); and availability or not of a confidant (someone to discuss intimate and personal matters with). We included an indicator of the presence of an illness or disability that hampered daily activities because there is a strong association between physical and mental health and well-being. This distinguished three groups: those not hampered, those hampered to some extent, and those hampered a lot. All analyses included age as a continuous variable. In preliminary analysis, we also included age as a quadratic term but found this was not significant and made no difference to results, so we did not retain it in our models.

## 7 | ANALYSIS

We initially fitted ordinal logit models of variations in happiness by coresidence with a son or daughter and other covariates. However, although happiness (and life satisfaction) were measured on 11-point scales, we found that an ordinal logistic model did not meet the proportional odds requirement, and a multinomial model with 11 groups made reported results unmanageable. In order to make comparisons between areas with different overall levels of well-being, we therefore constructed a binary outcome variable indicating whether or not an individual was in the top half of the well-being distribution within their country of residence; the cut points were chosen at the level that divided the population into two groups as closely as possible to a 50–50 split. We chose this procedure because levels of happiness vary very substantially between countries and using a fixed cut-off value for the happiness questions would produce very different proportions in different parts of Europe.

Analyses were carried out separately by region because of the large differences in proportions widowed (and so selection to widowhood) and known differences in subjective well-being. ESS sample designs in a number of countries did not give all individuals the same chance of selection into the survey, and we used a design weight to adjust for this.<sup>1</sup> We used a second weight to adjust for country size and different number of times countries were included in Rounds 1–7 so that regional and overall results reflect the population sizes of different countries. We also present results from average marginal effects models.

## 8 | RESULTS

### 8.1 | Descriptive results

Table A1 shows the distribution of the whole ESS sample of people aged 65 and older by gender, marital status, and regional grouping. The proportions widowed differ substantially across Europe and by gender. These differences reflect well-documented regional differences in past nuptiality patterns and in the extent of gender differences in mortality, which are particularly high in some Eastern European countries (Grundy, 1996). In all regions, this widowed sample population was predominantly female, particularly in Eastern Europe.

Figure 1 shows information on living arrangements of older women at country level (although the relatively small sample sizes should be acknowledged). The proportions of the total age 65 and older (community-based) population living alone (Figure 1a) ranged from about 6% in some countries in Southern European and the Balkans to 40% in some of the Nordic countries. The situation in the other areas was generally intermediate, with the main axis of differentiation being north–south rather than east–west as in the case of the Hajnal line from St Petersburg to Trieste (Hajnal, 1965). The proportion of widows living with a child (Figure 1b) showed a broadly inverse pattern to living alone with low values in the north-western countries and high values across Southern

Europe and the Balkans, although some of the highest values were found in Eastern countries such as Poland and the Ukraine. Proportions of widows living with a child are shown for the regional groupings we use in Table 1. In the Balkans, Southern Europe, and Eastern Europe, this proportion was some 3 to 4 times higher than in North-Western Europe.

Table 1 also gives the distribution by gender and other covariates used in the analysis for each region and for the total sample. The mean age of the total sample was 76, ranging from 75 in the Balkans and Eastern Europe to 78 in North-Western Europe. There were regional differences of varying extent in all the variables we consider. Thus, for example, the proportion of older people with less than lower secondary education was over twice as high—and the proportion with upper secondary or higher level education much lower—in Southern Europe than elsewhere. Differences between the other areas in levels of education were much smaller, although a higher proportion of the Eastern European sample had postsecondary level education. In the case of health, the main difference was between Eastern Europe and the other areas. In Eastern Europe, nearly three quarters of respondents reported that their daily activities were hampered by illness or disability compared with just over a half of those in other regions, even though the average age was slightly lower.

Patterns of social interaction also varied by region. About 40% of those in Eastern Europe and one third of those in Southern Europe and the Balkans reported infrequent social meetings, less than monthly, compared with 15% of respondents in North-Western Europe. Those in Southern Europe included the highest proportion—about one quarter—with daily social meetings; in the Balkans and Eastern Europe, where this proportion was lowest, only about one in 10 people had daily social meetings. Perceptions of social participation levels compared with others of the same age also differed with those in countries in North-Western Europe being more likely to consider that they had similar levels of social activities as their peers, whereas those in the other countries believed they had lower-than-average levels. The proportion reporting having a confidant was highest in North-Western Europe and lowest in the Balkans.

Happiness and life satisfaction were highest (best) in North-Western Europe, followed by Southern Europe, and lowest in the East and the Balkans. Country-level differences in mean scores on these measures are shown in Figure 2a,b. In some cases, sample sizes were relatively small, but they also suggest some within-region differences, such as the rather poor performance of Portugal compared with other countries in Southern Europe.

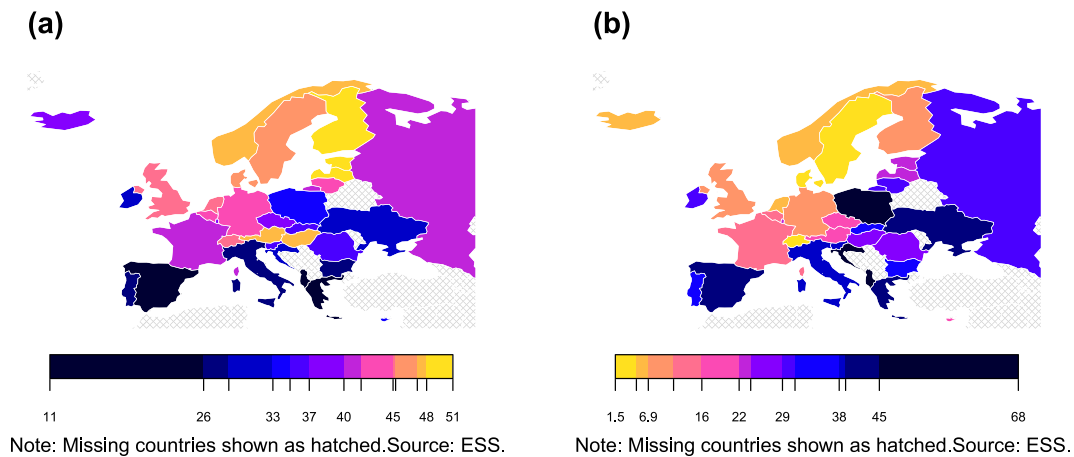
## 9 | HAPPINESS AND LIFE SATISFACTION

### 9.1 | Results from multivariable analysis

We start by presenting overall results from the analysis of the association between living with children and happiness and life satisfaction in Table 2 before considering regional differences. Results are presented for age-adjusted and fully adjusted models including all covariates. The coefficients presented indicate the odds ratios of having an above-average score on the relevant scale. Higher odds ratios therefore indicate better levels of happiness or satisfaction with life.

<sup>1</sup>Sampling weights were not available for Latvia, Kosovo, and one round of Romanian data. We find that these made little difference to our estimates, which relate to large regional aggregates, so these samples have been retained. In addition, the educational level question was not included in the Albania and Kosovo surveys, so these are not included in the analyses with covariates, but they form a relatively small fraction of the regional population.





**FIGURE 1** Living arrangements of older European women. (a) Living alone: all women aged 65 and older, percent. (b) Living with child: unpartnered widows aged 65 and older, percent

Across Europe, the odds of being in the top half of the happiness distribution are 12% higher for widows living with a child than if they do not in a simple logistic model including only age. When the covariates discussed above were included, this figure increases to 29%. We repeated this analysis but disaggregated widows living with a child into those living with a son and those living with a daughter and found that the benefits of coresidence appear to differ considerably for these widows. The odds of being in the happier group are 34% higher if a daughter is present in the age-adjusted model, but if only a son is present (possibly including others but no daughter), the value is 5% below that for living without a child. If controls are included, both values increase by about 16 percentage points so that although there is a positive effect of living with a son versus living with no child, the differentials between living with daughters or sons remains about 40 percentage points. These gender differentials were similar if we included cases with both sons and daughters together with sons, rather than daughters as above, or as a separate category. Coefficients for life satisfaction are very similar, but in all cases, the coefficients are slightly attenuated, probably reflecting the fact that family context has more importance for happiness than for overall life satisfaction, which is based on a question of how “satisfied are you with your life as a whole”.

The coresidence variable retains its explanatory power even when a range of controls known to be associated with happiness and life satisfaction are included. Including these controls is important because the relationship between coresidence and well-being is confounded as those living with children were more likely than those living without children to have characteristics associated with lower levels of well-being such as poor health or lower contact with friends and relatives. Availability of a confidant was the main exception in the list above because there was little difference between those living with children and their peers not doing so.

## 10 | REGIONAL VARIATIONS IN ASSOCIATIONS

Because there is considerable variability across European societies, we now analyse these differences at regional level. We present results for

happiness in Table 3, and corresponding results for satisfaction with life in Table A2.

### 10.1 | Results for happiness

In all regions, widows were generally happier if they lived with children than if they lived alone (or with others) in both the simple and fully adjusted models, with the notable exception of widows living with sons in Southern and Eastern Europe. The coefficients were higher in all regions for those living with daughters than with sons. In Southern Europe, this difference by gender of child was particularly large and those living with sons reported themselves as substantially less happy not only than those living with daughters but also than those living without children. For widows in Eastern Europe, living with a son was also negatively associated with happiness in the age-adjusted model (top panel), but this association disappeared when the other covariates were included. The inclusion of controls tends to reduce the difference between the effect of living with sons or daughters, which become essentially equal in North-Western Europe and the Balkans. Another effect of these controls is to increase the magnitude and statistical significance of these variables, suggesting that child coresidence has independent explanatory power.

### 10.2 | Results for life satisfaction

Living with a child was usually positively associated with life satisfaction in Europe (Table A2), although the only statistically significant relationship in the initial models was for Eastern European widows living with a daughter (note that the sample sizes differ substantially between regions and genders, which will affect the statistical significance of similar-magnitude coefficients in different subpopulations). As with happiness, inclusion of controls increases the magnitude and statistical significance of findings, and the coefficients for living with sons become closer to those for living with daughters.

### 10.3 | Associations between outcomes and other covariates

Before looking at the implications of coresidence for well-being at the population level, we consider associations with other covariates. Older

**TABLE 1** Summary of variables used in the analysis, unpartnered widows aged 65 and over by region, European Social Survey Rounds 1–7 (2002–2014)

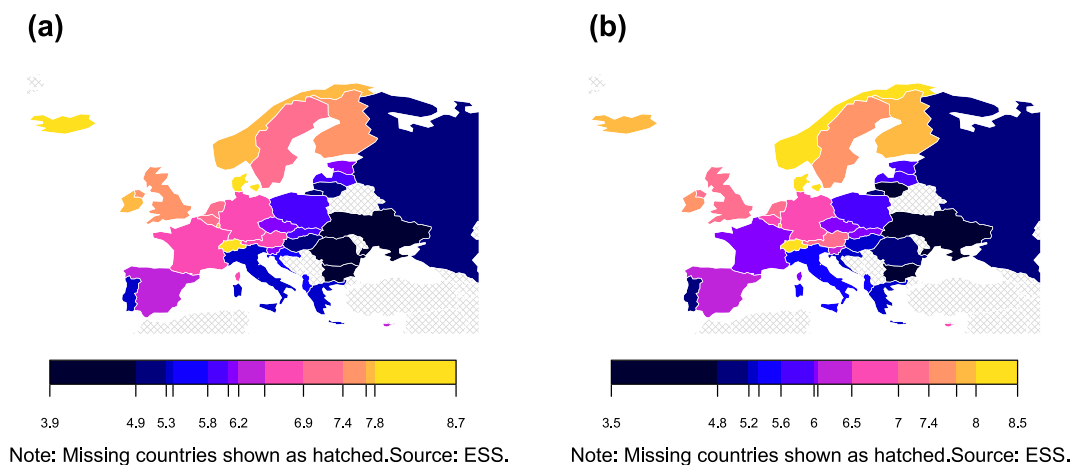
Variables	North-Western Europe	Southern Europe	Balkans	Eastern Europe	Total
<i>Child in household (%)</i>					
No child	88.9	65.3	59.7	68.5	75.1
Son(s) only	6.4	16.9	24.4	14.7	12.7
Daughter(s)	4.8	17.8	16.0	16.9	12.2
<i>Educational level (%)</i>					
Less than lower secondary education (ISCED 0 and 1)	39.6	88.3	26.0	23.9	40.4
Lower secondary education completed (ISCED 2)	26.6	4.8	38.1	29.3	25.2
Upper secondary education completed (ISCED 3 and 4)	23.3	3.9	28.7	31.4	23.6
Tertiary education completed (ISCED 5 and 6)	10.5	3.0	7.3	15.5	10.8
<i>How often socially meet with friends, relatives or colleagues (%)</i>					
Once a month or less	15.4	31.7	36.4	41.7	29.3
Less than monthly to weekly	32.2	24.1	34.1	30.5	30.5
Several times a week	37.0	19.9	19.2	17.6	25.7
Every day	15.3	24.3	10.4	10.2	14.5
<i>Anyone to discuss intimate and personal matters with (%)</i>					
No	13.4	20.4	27.3	21.7	18.7
Yes	86.6	79.6	72.7	78.3	81.3
<i>Take part in social activities compared to others of same age (%)</i>					
Less than most	40.3	62.2	55.6	52.5	49.4
About the same	36.1	31.4	32.7	35.8	35.0
More than most	23.6	6.4	11.7	11.7	15.6
<i>Hampered in daily activities by illness/disability/infirmary (percent)</i>					
Yes, a lot	15.6	16.3	20.3	24.0	19.2
Yes, to some extent	33.8	36.6	36.6	47.0	39.2
No	50.6	47.1	43.0	28.9	41.6
<i>Age (years)</i>					
Mean	77.5	76.6	74.9	75.0	76.2
SD	7.2	7.0	6.5	6.5	7.0
<i>How happy are you? (scores 0 to 10)</i>					
Mean	7.4	5.7	5.1	5.5	6.3
SD	1.9	2.2	2.7	2.4	2.4
<i>How satisfied with life as a whole? (scores 0 to 10)</i>					
Mean	7.4	5.6	4.8	5.3	6.1
SD	2.1	2.4	2.8	2.6	2.6
Sample size	7,200	2,914	1,757	6,617	18,488

Note. Distributions and summary statistics based on weighted values. Sample sizes are unweighted numbers. Sample size includes covariate missing values. ISCED = International Standard Classification of Education. Source: European Social Survey Rounds 1–7.

age was positively associated with happiness and with life satisfaction for older people in all regions, with odds ratios increasing by 2% to 4% for each additional year of age in the final models. Although results are not shown here, we found the association with age was stronger in the widowed population than for the older population as a whole: This may be because younger widowed people may feel themselves worse off than their partnered peers, whereas at older ages, many will be in a similar situation. The patterns of association of educational level with both happiness and life satisfaction are similar, but educational coefficients are neither monotonic within regions nor similar across regions. Differences in north-western countries were small and almost all non-significant. In the other regions, those with some education (ISCED 2

and above) were generally happier than those with elementary education only, especially in Southern Europe.

In contrast to education, associations between frequency of social meetings and happiness were general stronger and ordered so that the more favoured the category, the higher the level of reported well-being, although some regional variations also exist. In North-Western Europe, those with the most frequent social contacts were particularly happy; a similar pattern was evident for associations with life satisfaction. Having a confidant was significantly positively associated with happiness and, in most cases, with life satisfaction. Those who judged their participation in social activities to be greater than for others of the same age tended to be happier. In all regions, those with no health



**FIGURE 2** Well-being indicators, unpartnered widows aged 65 and over. (a) Average happiness score. (b) Average life satisfaction score

**TABLE 2** Odds ratios for happiness and life satisfaction

Child in household	Happiness		Life satisfaction	
	Age adjusted	Fully adjusted	Age adjusted	Fully adjusted
Any child	1.12** (0.07)	1.29*** (0.08)	1.09 (0.08)	1.21** (0.09)
Son(s) only	0.95 (0.06)	1.12 (0.08)	0.96 (0.08)	1.08 (0.09)
Daughter(s)	1.34*** (0.10)	1.50*** (0.12)	1.25*** (0.10)	1.36*** (0.13)
Sample size	18,230	16,854	18,260	16,869

Note. Results are presented for odds ratios relative to cases with no coresident child for two sets of logistic regressions: those with any child and son(s) only or daughters. Robust standard errors based on country clusters in parentheses. Source: European Social Survey Rounds 1–7.

\* $p < .05$ .

\*\* $p < .01$ .

\*\*\* $p < .001$ .

limitations due to illness were the happiest, and those limited to some extent were generally happier than those reporting a greater degree of limitation. In general, results were similar for happiness and life satisfaction, but coefficients were generally attenuated for life satisfaction, suggesting that wider socioeconomic and political factors contribute more to perceptions of life satisfaction than to happiness.

#### 10.4 | Average marginal effects

Regression coefficients indicate the relationship between covariates and the outcome measure; they do not directly show the impact of these independent variables on the outcome at the population level. We therefore present results in the form of marginal estimates showing how living with children affects individuals' happiness and life satisfaction (Muller & MacLehose, 2014). The average marginal effect for a respondent living with a daughter is computed as follows. The regression model coefficients are used to compute the probabilities that each respondent would be in the top half of the happiness distribution if she were and were not living with a daughter while keeping all her other independent variable values unchanged. The difference in these two computed probabilities is the marginal effect for that respondent. The average of all these marginal effects over the whole

sample gives the average marginal effect for living with a daughter, and similarly for other variables.

The earlier logistic regression results are based on covariates with different numbers of response categories, some of which have already been collapsed. In order to facilitate comparisons across the covariates shown in Tables 2 and 3, those with more than two responses have been combined to form binary variables. These covariates have a natural ordering, and as before, we divide the population in each country into two groups of as equal size as possible, so that, for example, the contact variable identifies those with above-average and below-average contact in their country. Having a confidant is already a binary variable and was retained. Because our specific interest is in child coresidence, we have retained the division between son-only and daughter configurations.

Figure 3 shows the average marginal effect of an individual being in the top half of the well-being distributions according to whether they live with a child or not using the margins procedure in Stata 14 (StataCorp, Texas). As before, we present information for values adjusted only for age as an additional covariate and fully adjusted ones including all covariates. The initial model including child coresidence and age shows that living with a daughter is associated with an increased probability of being in the top half of the happiness distribution, ranging from just over 5% in North-Western Europe to just over 10% in Southern Europe (Figure 3a). In contrast, there is little increase in happiness associated with living with a son; indeed, in Southern Europe and Eastern Europe, the value is negative. Results for overall life satisfaction are similar to those for happiness, with positive values for living with a daughter in all regions, but with little if any benefit of living with a son (Figure 3b).

The effect of including additional covariates does not substantially alter the main patterns for the coresidence variables (Figure 3c,d). We therefore conclude that the results are not explained by these additional factors. We can also compare the relative contribution of different variables to well-being by showing the corresponding model values for all variables included. Sample sizes in some cases mean that values are not necessarily significant. Nevertheless, these results show the relationship with well-being is in the expected direction in all cases, with beneficial effects of better health, having a confidant, and higher levels of social contact, activity, and education. There are some variations such as higher contact with friends and relatives having less



**TABLE 3** Associations between presence of a child in the household, and other covariates, and happiness by region of Europe

	North-Western Europe	Southern Europe	Balkans	Eastern Europe
<b>Age adjusted model</b>				
<i>Child in household (reference: none)</i>				
Son(s) only	1.10 (0.10)	0.81 (0.11)	1.10 (0.10)	0.93 (0.09)
Daughters	1.27 (0.20)	1.56*** (0.27)	1.34** (0.19)	1.30*** (0.08)
Age	1.02*** (0.00)	1.01 (0.01)	1.01*** (0.00)	1.01*** (0.01)
Constant	0.20*** (0.08)	0.66 (0.44)	0.40*** (0.11)	0.32*** (0.11)
Observations	7,160	2,876	1,718	6,476
<b>Fully adjusted model</b>				
<i>Child in household (reference: none)</i>				
Son(s) only	1.33*** (0.14)	0.81 (0.12)	1.36** (0.17)	1.02 (0.12)
Daughters	1.34* (0.21)	1.77*** (0.34)	1.37*** (0.13)	1.29*** (0.101)
Age	1.03*** (0.00)	1.02** (0.01)	1.03*** (0.01)	1.04*** (0.01)
<i>Educational level (reference: less than lower secondary education, ISCED 1)</i>				
Lower secondary completed (ISCED 2)	1.00 (0.14)	1.42 (0.46)	1.16 (0.295)	1.26 (0.18)
Upper secondary completed (ISCED 3)	1.01 (0.17)	2.12*** (0.24)	1.59* (0.41)	1.40*** (0.16)
Postsecondary completed (ISCED 4 and 5)	1.08 (0.15)	2.05** (0.66)	1.55 (0.69)	1.64*** (0.14)
<i>How often socially meet with friends, relatives, or colleagues (reference: once a month or less)</i>				
Less than monthly to weekly	1.46*** (0.10)	0.97 (0.06)	0.94 (0.08)	1.44*** (0.08)
Several times a week	2.14*** (0.18)	1.00 (0.16)	1.47** (0.24)	1.62*** (0.13)
Every day	2.75*** (0.27)	1.23** (0.11)	1.16 (0.17)	1.67*** (0.17)
<i>Anyone to discuss intimate and personal matters with (reference: no)</i>				
Yes	1.55*** (0.12)	1.94*** (0.24)	1.20** (0.10)	1.34*** (0.08)
<i>Take part in social activities compared to others of same age (reference: less than most)</i>				
About the same	1.22** (0.11)	1.39*** (0.06)	1.55*** (0.22)	1.46*** (0.10)
More than most	1.54*** (0.10)	3.41*** (0.30)	2.48*** (0.59)	1.86*** (0.17)
<i>Hampered in daily activities by illness-disability-infirmary (reference: yes a lot)</i>				
Yes to some extent	1.40*** (0.11)	1.94*** (0.27)	1.76*** (0.20)	1.92*** (0.17)
No	1.92*** (0.20)	3.31*** (0.47)	2.92*** (0.37)	2.75*** (0.27)
Constant	0.02*** (0.01)	0.03*** (0.02)	0.02*** (0.01)	0.01*** (0.01)
Observations	6,922	2,665	1,509	5,758

Note. Odds ratios with robust standard errors based on country clusters in parentheses. ISCED = International Standard Classification of Education. Source: European Social Survey Rounds 1–7.

\* $p < .05$ .

\*\* $p < .01$ .

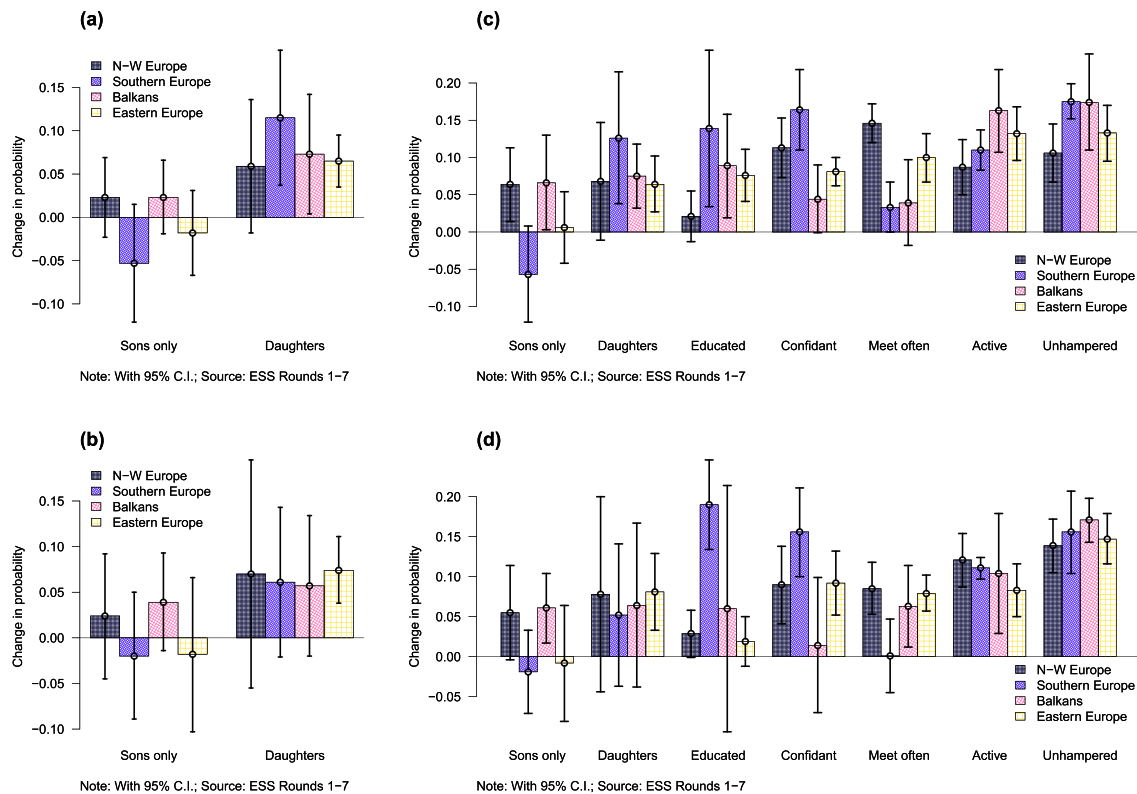
\*\*\* $p < .001$ .

impact in Southern Europe and the Balkans (possibly as there is more contact within the household, given the much higher levels of coresidence), and higher educational level has a much stronger impact in Southern than in North-Western Europe (although the highly educated are a smaller and more selected group in Southern Europe). The effect of coresidence with a daughter is positive in all regions and is comparable in magnitude to the effect of these other variables; however, living with a son has a negative impact on well-being in Southern Europe and no benefit in Eastern Europe.

## 11 | DISCUSSION

These analyses of cross-sectional data from these 34 European countries firstly showed the expected large regional variations in the living arrangements of older Europeans. The proportions of older unpartnered widows living with children ranged from about 10% in North-Western Europe to one third or more in the other parts of Europe. In general, differences by

European region in happiness and life satisfaction were also consistent with previous studies in showing the highest levels of well-being among those in North-Western European countries and the lowest among those in the Eastern European countries included in the analysis. In counterpoint to pessimistic views of the effect of individual ageing, older age was associated with higher levels of happiness and life satisfaction. This may partly reflect differences in expectations, but other studies have also provided evidence to challenge the common assumption that older age is associated with reduced life satisfaction (Bowling, 2005). We found the increase in happiness with older age in all regions, including Eastern Europe, whereas the prevalence rates previously reported by Steptoe et al. (2015) showed a tendency for lack of happiness to increase with age in Eastern Europe. However, in addition to some differences in the countries included, results presented by Steptoe and colleagues relate to proportions of women (and men) who did not report a lot of happiness yesterday shown for 10-year age groups, undifferentiated by marital status, up to ages 65–74.



**FIGURE 3** Average marginal effects, unpartnered widows aged 65 and over. (a) Happiness, initial model. (b) Life satisfaction, initial model. (c) Happiness, full model. (d) Life satisfaction, full model

Overall, our results showed that widows living with a child were happier than those living without a child (mainly alone) but that there was an important influence of gender of child, which varied by region. In our fully adjusted analyses, living with a daughter or with a son had similar associations with happiness in North-Western Europe and the Balkans, but in Eastern, and particularly Southern, Europe it was only living with a daughter that had this positive effect and indeed in Southern Europe the coefficient for living with a son was below 1 (indicating less happiness) although not significantly so.

In assessing the importance of these findings, a number of limitations of the data and analyses need to be considered. These include the fact that although the sample size was over 18,000, relatively small national sample sizes precluded country-level analyses. Additionally, we lacked information on some potentially important variables; for example, we had no information on support exchanges within the household. This is an important limitation as whereas some older adults may be living with children because of their own needs or preferences, in other cases, they may be providing support to a child unable to manage independently and this in itself might be a source of stress. More detailed information on household structure, including presence of children-in-law; on kin availability, including number of children; on the composition of social networks; and on proximity to and support exchanges with relatives outside the household would have enabled a more detailed analysis of the effects of living arrangement, taking fuller account of other forms of interaction. Coresidence may also be a response to economic stress, and the implications for well-being for those living together for this reason may be very different from implications for those living together by choice. Additionally, there may be factors not controlled for in these analyses, which influence both living arrangement and

subjective well-being. Poor relationships with children, for example, are likely to reduce chances of coresidence with them as well as being a source of unhappiness, and certain psychological characteristics may influence both living arrangement and subjective well-being. Most importantly, the cross-sectional nature of the data meant we were unable to identify pathways to living arrangement at the time of the study or associations between changes in well-being and changes in living arrangements. Further research using longitudinal data sets is needed to uncover possible mechanisms underlying the results we report.

Nevertheless, these findings extend our knowledge, particularly as there are relatively few similar comparative studies that include Eastern European countries and none that we have been able to identify that consider the effect of gender of coresident child, which we found to be important, but in a region-specific way. Our results suggest a pressing need to investigate further possible negative implications for well-being of living alone for older women in different parts of Europe using larger longitudinal data sets. Although regional differences are substantial, the relative contribution of historical, cultural, political, and economic factors cannot be established. Information is incomplete especially in parts of Europe with low happiness and life satisfaction levels such as former Yugoslavia, Belarus, and Russia (where the sample size is smaller than that in Estonia although its population is 100 times as great). More detailed country-specific studies, including qualitative ones, are also needed to elucidate associations between living arrangements and well-being, and the factors underlying them. Further research is needed to uncover why, in some parts of Europe, living with a daughter is so much more beneficial than living with a son. Given increases in the proportion of older people, the trend towards greater residential independence, and past reductions in family sizes, which

affect the likelihood of having a daughter, answering these questions is of considerable policy importance, especially as happiness and other indicators of subjective well-being are known to be associated with subsequent mortality risks (Steptoe et al., 2015).

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## APPENDIX A

**TABLE A1** Marital status distribution (percent) by regions and gender, people ages 65 and older

	North-Western Europe	Southern Europe	Balkans	Eastern Europe	Total
<i>Female</i>					
Married	49.7	53.8	48.8	33.8	44.1
Divorced or separated	8.6	2.7	2.8	6.2	6.3
Widowed	36.4	38.5	45.7	56.8	45.3
Never married	5.4	5.0	2.7	3.1	4.3
Sample size	18,594	6,345	3,393	11,728	40,060
<i>Male</i>					
Married	76.1	80.7	81.4	73.8	76.6
Divorced or separated	7.2	2.2	1.2	3.7	4.8
Widowed	12.2	11.7	16.1	20.6	14.7
Never married	4.6	5.4	1.3	1.8	3.8
Sample size	16,213	4,709	2,421	6,470	29,813

Note. Distributions based on weighted values. Sample sizes are unweighted numbers. "Widowed" includes both males and females. ISCED = International Standard Classification of Education. Source: European Social Survey Rounds 1–7.

**TABLE A2** Associations between presence of a child in the household, and other covariates, and life satisfaction by region of Europe

	North-Western Europe	Southern Europe	Balkans	Eastern Europe
<b>Age adjusted model</b>				
<i>Child in household (reference: none)</i>				
Son(s) only	1.10 (0.15)	0.92 (0.13)	1.17 (0.13)	0.93 (0.16)
Daughters	1.33 (0.35)	1.28 (0.21)	1.26 (0.20)	1.35*** (0.10)
Age	1.02*** (0.00)	1.01 (0.01)	1.01 (0.01)	1.02** (0.01)
Constant	0.28*** (0.07)	0.40* (0.20)	0.56 (0.28)	0.29** (0.15)
Observations	7,155	2,853	1,735	6,517
<b>Fully adjusted model</b>				
<i>Child in household (reference: none)</i>				
Son(s) only	1.28** (0.16)	0.93 (0.11)	1.33*** (0.13)	0.95 (0.15)
Daughters	1.36 (0.34)	1.27 (0.23)	1.28 (0.30)	1.35*** (0.14)
Age	1.03*** (0.00)	1.03*** (0.01)	1.03*** (0.00)	1.03*** (0.01)
<i>Educational level (reference: less than lower secondary education, ISCED 1)</i>				
Lower secondary completed (ISCED 2)	0.93 (0.09)	1.77 (0.62)	1.17 (0.31)	1.03 (0.12)
Upper secondary completed (ISCED 3)	0.92 (0.11)	2.97*** (0.32)	1.39 (0.595)	0.96 (0.12)
Postsecondary completed (ISCED 4 and 5)	1.14 (0.14)	2.11*** (0.36)	1.87 (1.28)	1.26*** (0.10)
<i>How often socially meet with friends, relatives, or colleagues (reference: once a month or less)</i>				
Less than monthly to weekly	1.27*** (0.07)	0.935 (0.20)	0.93 (0.12)	1.22** (0.10)
Several times a week	1.55*** (0.09)	0.86 (0.14)	1.33** (0.17)	1.28** (0.14)
Every day	1.80*** (0.16)	1.10 (0.12)	1.37*** (0.13)	1.20 (0.17)
<i>Anyone to discuss intimate and personal matters with (reference: no)</i>				
Yes	1.42*** (0.15)	1.90*** (0.29)	1.05 (0.19)	1.41*** (0.11)
<i>Take part in social activities compared to others of same age (reference: less than most)</i>				
About the same	1.32*** (0.09)	1.52*** (0.13)	1.30*** (0.10)	1.38*** (0.075)
More than most	1.92*** (0.20)	2.21*** (0.31)	2.08*** (0.32)	1.58*** (0.15)
<i>Hampered in daily activities by illness-disability-infirmary (reference: yes a lot)</i>				
Yes to some extent	1.67*** (0.17)	1.90*** (0.25)	1.36*** (0.13)	1.97*** (0.11)
No	2.48*** (0.25)	2.99*** (0.37)	2.37*** (0.19)	3.00*** (0.24)
Constant	0.02*** (0.01)	0.02*** (0.01)	0.05*** (0.01)	0.02*** (0.02)
Observations	6,920	2,642	1,524	5,783

Note. Odds ratios with robust standard errors based on country clusters in parentheses. ISCED = International Standard Classification of Education. Source: European Social Survey Rounds 1–7.

\* $p < .05$ .

\*\* $p < .01$ .

\*\*\* $p < .001$ .