



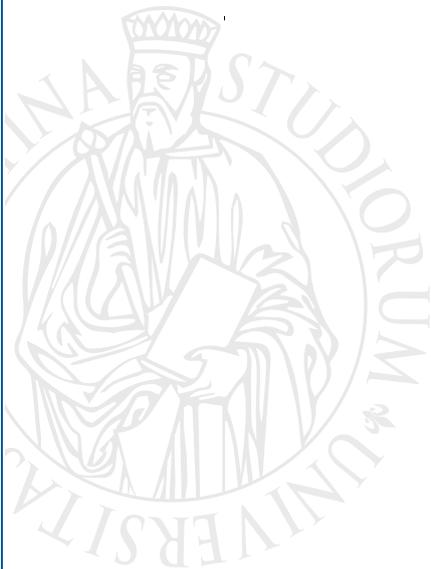
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Antecedents of 'Grey Divorces' in Europe: The Role of Children and Grandchildren

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Antecedents of ‘Grey Divorces’ in Europe: The Role of Children and Grandchildren

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Abstract

So-called ‘grey divorces’ – i.e. voluntary union dissolutions after age 50 – have received growing attention in the press as well as non-academic discourse. Nonetheless, while there is a vast amount of research on the socio-demographic, health-related and economic consequences of divorce at older ages, few studies have analysed the trends and correlates of grey divorces. Moreover, these studies are largely limited to the United States. This paper aims to fill this gap using data from six waves of the Survey of Health, Ageing and Retirement in Europe (SHARE). We document the antecedents of divorce in later life across Europe, shedding light on a rare but demographically and sociologically interesting phenomenon. Our results show that the determinants of grey divorce largely do not differ from the classical antecedents of divorce early in life. However, we also detected and discuss a few determinants specific to grey divorces, such as the presence of children and grandchildren.

Keywords: Grey divorces; Union dissolution; Children; Grandchildren; Ageing; Europe

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Introduction

In 1982, De Shane and Brown-Wilson published a paper entitled 'Divorce in Late Life: A Call for Research' in which they emphasised the near absence of late marital disruption from academic research, with only a few papers considering age as a control variable. A possible explanation for this lack of studies was the small scale of the phenomenon at the time. Nevertheless, the authors stressed both that the number of late divorces could increase in the future and that the antecedents and consequences of divorce at older ages could have important impacts on later phases of life, making the subject a stimulating new topic for gerontological literature on the family life course (De Shane & Brown-Wilson, 1982). In their call for research, they suggested some theoretical and operational issues. First, they wondered how the increasing acceptance of divorce in general might impact the incoming cohorts of older people, who until then had been less prone to voluntary marital disruption. Second, they stressed how women's widespread entrance into the job market had offered them interests and activities outside the household, suggesting a possible increase in divorce even later in life. Finally, they stressed the importance of later life transitions such as the 'empty nest phase' (for women) and retirement (for men) as potential important triggers for late divorce. De Shane and Brown-Wilson (1982) noted that the consequences of late marital disruption could affect the lives of older people in several important ways: it may generate a decline in support received from the couple's social network and reduced contact with children and grandchildren, especially for divorced men; it can have psychological consequences, such as self-pity and self-blame; it may induce divorce in subsequent generations of children; and it may have serious economic costs, especially for women. A few years later, in a study of 121 couples aged 60 and over filing for divorce, Weingarten (1988) reported that divorcing late in life was often associated with depression and feelings of guilt, supporting De Shane and Wilson-Brown's (1982) hypotheses. She also noted that relationships with children were one of the most important aspects influencing the process of deciding to divorce after age 60 (Weingarten, 1988).

In the following decades, as predicted by De Shane and Wilson Brown (1982), divorces after age 50 have increased in several developed countries, such as the United States (Brown & Lin, 2012; Kennedy & Ruggles, 2014), Canada (Wu & Penning, 1997) and the United Kingdom (ONS, 2017), while they have levelled in younger age groups. This increase has been imputed to the aging of the most divorce-prone cohort, those born in the Baby Boom (Cohen, 2019; Crowley, 2019) and to the elevated presence of older people in second or higher-order marriages, which are at greater risk of marital disruption (Brown & Lin, 2012; Crowley, 2019). The trend in more recent cohorts has been explained by later ages at marriage and higher levels of cohabitation, which have contributed to flattening divorce rates (Raley & Sweeney, 2020; Rotz, 2016). In spite of the increasing rates of divorce at older ages, however, the determinants of so-called 'grey divorces' – voluntary union dissolutions after age 50 – have been described in just a few studies, despite the wide consensus that late marriage dissolution may have critical consequences for both men and women. In addition, the few studies on divorce in later life are largely limited to the US context (Brown & Lin, 2012; Karraker & Latham, 2015; Lin et al., 2018). Surprisingly, the importance of the role of children and grandchildren originally emphasised by De Shane and Wilson-Brown (1982) and Weingarten (1988) has not received special attention.

Very little is known about European grey divorces. Information on the determinants of grey divorces may only be gathered from longitudinal surveys and few European studies have combined a longitudinal design with a large sample size that may allow such an infrequent event to be studied. Surveys with retrospective questions are unable to provide information on the previous partners of divorced people, and the potential determinants are collected at the time of the interview, not allowing for accurate measures of the causation of the phenomenon (Uhlenberg et al., 1990). While data from population registers may be used, they lack information on several determinants (such as physical and mental health and relations with children and grandchildren) that have been recognised as important for understanding divorce in later life. Additionally, while longitudinal surveys have surely improved the understanding of the divorce process, methodological problems arise when studying the determinants or consequences of marital disruption due to attrition, since divorce itself may be responsible for losing participants at follow-up.

This paper aims to fill the gap regarding the determinants of European late divorces using data from six waves of the Survey of Health, Ageing and Retirement in Europe (SHARE). We take an exploratory approach to (i) compare European determinants of grey divorce with the resulting predictors from previous research in Northern America and (ii) detect the role of the presence of children and grandchildren – which may represent a distinct feature of grey divorces – in facilitating or inhibiting marital duration.

Background

The rise of grey divorces

Recent demographic trends and the call for research in the 1980s generated a vast amount of literature concentrated on the socio-demographic, health-related and economic consequences of divorce at older ages. Divorce has been generally associated with poorer health in later life (Grundy & Tomassini, 2010; Tosi & Van den Broek, 2020) and wealth reduction, especially for women (Uhlenberg et al., 1990; Zagorsky, 2005). There is strong evidence in the United States, United Kingdom, Netherlands and Norway that family disruptions over the life course (particularly divorce) have deleterious consequences for support at older ages (Daatland, 2007; Kalmijn, 2007; Tomassini et al., 2007). These studies show how divorce decreases contact and relationship quality with adult children as well as perceived support from children (or any source), especially for divorced men (Kalmijn, 2007). Most of these studies have considered divorce as the starting point to understand the processes that follow in terms of their impacts on different outcomes (e.g. health, income, interactions with family and social networks). On the other hand, there is an extensive literature that considers divorce ‘not as a discrete event but as a process that begins while the couple lives together and ends long after the legal divorce is concluded’ (Amato, 2000, p. 3). These studies show how certain associations that may appear as a consequence of marital dissolution (e.g. mental problems such as psychological distress) are actually present before the disruption and not a consequence of it. Other studies suggest that selection may play an important role (the divorce selection hypothesis): for example, a history of depression before marriage has been found among divorced mothers

(Davies et al., 1997), suggesting that selection may minimise the effect of mental problems following divorce.

Literature published in recent decades has improved the understanding of the correlates and consequences of marital disruption thanks to the availability of large-scale longitudinal surveys that control for spurious associations and reverse causation, which could have affected previous research based on cross-sectional data (Glenn & Supancic, 1984). Using a longitudinal design sheds light on processes such as post-divorce adjustment (Bowen & Jensen, 2017) and helps understand the antecedents of marital disruption. In his review of the existing literature (mainly based in the United States), Amato (2010) identified the following main risk factors for divorce: marrying as a teenager, being poor, experiencing unemployment, low education, having a premarital birth, interracial marriages, being in a second marriage, and experiencing one's own parents' separation. Even though longitudinal studies have helped identify the antecedents and consequences of divorce in general, they have rarely been used to study late marital disruptions despite growing attention from the popular press and in non-academic discourses.

Only in the last 10 years has academic attention finally been devoted to the study of the factors associated with grey divorces. This literature has consistently concluded that gerontological research should not focus solely on widowhood but also on divorce and re-partnering in later life, as De Shane and Wilson Brown advocated in the 1980s. Below, we briefly review the factors associated with grey divorces. This review offers input for selecting potential determinants of grey divorces for our empirical analysis. Among these factors, particular consideration is devoted to the presence of children and grandchildren and the role they play in grey divorce among different cohorts of older people.

Factors (potentially) related to grey divorces

Most of the research on divorce has focused on young adults (see Lyngstad & Jalovaara, 2010, for a review). Therefore, we cite a number of studies related to divorce in adult life in order to integrate the scant knowledge about grey divorces, bearing in mind that these results are not directly transferable to divorces after age 50.

Birth cohort. Individuals belonging to different birth cohorts – or, similarly, to different union cohorts – have different values and thus bring different expectations to their unions, which may translate (for example) into a higher risk of union dissolution among younger cohorts (Lyngstad & Jalovaara, 2010). The social acceptance of union dissolution can also be different depending on birth cohort (e.g., the baby boom cohort; see Cohen, 2019), which we assume might especially be the case when considering dissolutions after age 50.

Partnership history. Wu and Penning (2018) addressed the impact of union biography and family biography (i.e. marital and fertility history) on union disruption in later life, highlighting how their effect on the risk of grey divorce differs in men compared to women. They stressed that 'short and long-term transitions, in turn, must be addressed within the context of individuals' cohort experiences as well as their location within the social structure as indexed by age, gender, and other factors' (Wu & Penning, 2018, p. 3). Union duration is usually included among the main control variables when studying the determinants of union dissolutions, since it has been found to be strongly related to the risk of divorce (Jalovaara,

2002; Kulu & Boyle, 2010). The literature shows that the risk of divorce is low in the first months of marriage, after which it begins to increase, reaches a maximum and thereafter begins to decline (Kulu, 2014). Studies about grey divorce have consistently found that divorce rates decline as marital duration increases (Brown & Lin, 2012; Wu & Pennig, 1997). The characteristics of the union (cohabitation vs. marriage, first marriage vs. higher-order marriages) may also contribute to the risk of grey divorce. Brown and Lin (2012) found that the rate of divorce was 2.5 times higher for those in remarriages than those in first marriages. A recent study based on Canadian data showed that although nonmarried cohabiting couples aged 45 and over had on average a 10-year-long union, they still had a higher risk of dissolution compared to married couples (Wu & Penning, 2017): this finding suggests that cohabitation in later life may appear stable but still not be as stable as marriage, even if the presence of biological children (rather than stepchildren) reduces such an association.

Educational level. Education may play a prominent role in shaping the risk of grey divorces, both as a proxy for socioeconomic status and through its correlation with earning potential and labour market activity. The majority of studies about divorces in the United States and in Scandinavian countries report a negative effect of both spouses' educational attainments on the risk of divorce (Hoem, 1997; Jalovaara, 2001; Martin, 2006; Ono, 1999; Pezzin & Schone, 1999), while evidence about the rest of European countries is mixed (e.g. Poortman & Kalmijn, 2002 [Netherlands]; De Rose, 1992, and Vignoli & Ferro, 2009 [Italy]; Blossfeld et al., 1995 [various European countries]). In general, the positive educational gradient weakens over time and even turns negative as divorce becomes democratised in a society (Matysiak et al., 2014). Regarding grey divorces, a study in Canada found that education had a positive effect on union disruption among both men and women (Wu & Penning, 1997). Studies in the United States have shown that educational level has only a limited effect on the probability of divorce (Brown & Lin, 2012; Lin et al., 2018).

Economic condition. Employment and earnings are protective against divorce (Amato, 2010), but the literature also suggests that the effect of employment and income is ambiguous among women.¹ When the wife is employed, she increases the family's total resources, which may have a positive effect on marital stability ('income effect'). The wife's greater resources might also have a divorce-promoting effect, known as the 'independence effect': rising employment rates among women make divorce a viable option, since employment provides women with the economic capacity to support themselves outside of marriage (Bukodi & Robert, 2003; Chan & Halpin, 2002; Svarer & Verner, 2006; Vignoli et al., 2018). How economic factors operate for older adults who are usually retired or relying on fixed incomes is unclear, and related evidence is scarce. In their study about divorce after age 50 in the United States, Brown and Lin (2012) found that unemployed and full-time workers are more likely to divorce than those who are out of the labour force and that economic factors tend to figure more prominently in women's divorce experiences. Finally, in the literature, the role of perceived financial situation is gaining importance as a factor associated with late divorce (e.g. Canham et al., 2014).

¹ We acknowledge the presence of gender-specific relationships between employment status and grey divorces; however, treating this issue goes beyond the aim of this paper, which is merely explorative. In order to discuss gender-specific dynamics in the link between employment and union dissolution, an ad hoc investigation is required.

Tenure. Economic condition does not depend only on employment or income. Among the various types of assets, housing is often the most significant in most Western countries. Homes appear to be the most important bequeathable wealth virtually everywhere, especially for older Europeans (Angelini et al., 2013). For the aged, a home property provides a financial buffer against contingencies such as ill health or economic difficulties and offers a nest egg for later life (Gaymu, 2003). Despite between-country differences in terms of welfare state protection, from a strictly economic point of view, exclusion from homeownership means the absence of the most important asset in old age (Vignoli et al., 2016).

Health. Research on health and divorce has mostly focused on the health-related consequences of union disruption for spouses and their children (Lyngstad & Jalovaara, 2010; Tosi & Van den Broek, 2020). The few studies that have investigated the effect of health factors on the risk of divorce found that individuals with high levels of psychological well-being are less likely to divorce (Mastekaasa, 1994) and that married persons reporting health complaints or chronic illnesses are more likely to divorce (Joung et al., 1998). In contrast, some studies found no association (Charles & Stephens, 2004). However, health may play a more prominent role in shaping the risk of grey divorce, since health problems increase with age. Physical illness may increase divorce risk via social processes by operating as a stressor on the marital union, leading to lower marital quality (Daniel et al., 2009; Yorgason et al., 2008). Research about health as a determinant of late-life divorce has confirmed that worsening health status deteriorates marital quality and increases divorce proneness (Booth & Johnson, 1994) and that differences in health status between wife and husband tend to increase divorce risk (Wilson & Waddoups, 2002). Examining a selected sample of couples who were physically healthy at the beginning of the study, Karraker and Latham (2015) found that only the wife's illness onset was associated with elevated risk of union dissolution in later life. In our study, we explore the role of health as an antecedent of grey divorces in terms of both physical and mental health.

Emptying the nest and filling the nest again: The role of children and grandchildren in grey divorces

One of the first studies on grey divorces found that relationships with children were one of the most important aspects in the process of deciding to divorce after age 60 (Weingarten, 1988). An extensive body of literature shows that the presence of children is usually a deterrent to divorce, especially when children are young (see Lyngstad & Jalovaara, 2010, for a review). Children can be important sources of support for older parents, providing functional, emotional and other forms of assistance (Brines & Joyner, 1999; De Jong Gierveld et al., 2016). This may contribute to the quality of marital unions and therefore have positive implications for such unions' stability. However, as parents (and children) age, 'older children tend to be detrimental to marital stability due to strained relationships associated with family conflicts, inheritance concerns and other issues' (Wu & Penning, 2017, p. 4), and such conflicts may jeopardise union stability. Furthermore, older parents may postpone their marital disruption until after 'the empty nest' phase for the sake of their children, since they no longer have support responsibilities for dependent children (Bair, 2007; Hiedemann et al., 1998). However, other studies have not found evidence for such a pattern and the empty nest phase has not been found to be significantly associated with divorce in later life (Lin et al., 2018).

To our knowledge, the role of grandchildren in shaping the risk of union dissolution after age 50 has not yet been considered. Grandchildren play a central role in shaping later life, even if quantitative data from longitudinal surveys on the importance of being a grandparent (and its associations with other demographic events) are still scarce (Hank et al., 2018). Numerous studies (e.g. Uhlenberg & Hamill, 1998) have examined the consequences of divorce on grandparent–grandchild relations, showing how divorced grandparents have significantly less contact with their grandchildren compared to their married counterparts. King (2003) found that many aspects of grandparenting were negatively associated with having experienced a marital disruption; for example, divorced grandparents were less likely to agree that a valuable part of grandparenthood is having grandchildren involved in their lives. Hence, grandchildren may play an important detrimental role in grey divorce, since grandparents assume new responsibilities and in a certain way ‘fill the nest again’ after their children have left.

Data and Methods

Sample

We used data from SHARE, a multi-domain longitudinal study that collects detailed information on adults aged 50 and over and their current partner (if living together), regardless of age. We used waves 1 (2004–2005) through 7 (2017), with the exception of wave 3, which was not used because it collected retrospective information and lacked most current socio-demographic and health variables. Therefore, our analysis is based on six time points. In order to observe changes in union status, we dropped countries that participated in only one wave. We also discarded countries in which the number of union dissolutions observed throughout the observation period was too small (i.e. less than 10). Our sample included respondents from 14 European countries: Austria, Belgium, the Czech Republic, Denmark, Estonia, France, Germany, Hungary, Italy, the Netherlands, Portugal, Spain, Sweden and Switzerland. To avoid underestimating the phenomenon, we studied union dissolution rather than divorce in the strict sense of the word. To this end, we restricted our sample to individuals who were (1) married or in a registered partnership or (2) in an informal stable relationship. However, the share of individuals in a registered or informal partnership in our dataset was negligible (less than 2%); thus, we did not distinguish between marriages and unions. Accordingly, in the text, we use the expressions ‘divorce’ and ‘union dissolution’ interchangeably, bearing in mind that the majority of events are actually divorces. Individuals who were ‘living with a partner’ but not in a formal relationship (marriage or registered partnership) were included in our analytic sample only if they were assigned a ‘couple ID’. Respondents who were married in one wave and reported being single in the following one were considered to have experienced a union dissolution. All individuals who were not at risk of experiencing union dissolution, such as older people living without a co-resident partner, were excluded from the sample. After exploratory analyses, we also excluded individuals who were married but living separately from their spouse (about 1% of the sample), because these individuals might have already experienced a union dissolution *de facto* or, in the case of very old people, their partner may reside in an institution while the couple remains legally married.

The initial sample consisted of 72,032 eligible individuals. To observe changes in individuals’ union status across waves, the dataset included only individuals who were interviewed at least

twice between wave 1 and wave 7. For this reason, 18,721 individuals (25.9%) were lost at follow-up. The models included a wide set of control variables, including all factors that were found to be significantly associated with sample attrition. Using as much information as possible about selection on observables in the data reduces the amount of residual and unexplained variation in the data due to attrition and is likely to reduce bias due to selection on observables (Alderman et al., 2001).

Our final sample included 53,311 individuals (26,001 men and 27,310 women), of whom 14,198 entered at wave 1; 5,474 at wave 2; 19,804 at wave 4; 11,310 at wave 5; and 2,525 at wave 6, and all of whom were present at least in one subsequent wave. Some individuals who responded to at least two waves did not remain under observation until the last wave (17,392 individuals, or about 32% of the final sample). However, among these respondents, 3,448 left the survey because they died (censored), and 135 left after having experienced union dissolution. Moreover, we were able to recover information about 1,831 respondents because their partners were still under observation. After having taken all possible measures to minimise the amount of information loss due to attrition, 41,333 respondents (about 80% of the sample) remained under observation until the end of the study period.

The dependent variable was the experience of divorce or union disruption between two waves for those who were married or in a relationship. The set of explanatory variables included gender; birth cohort (born before 1945, born between 1945 and 1955, born after 1955); education level (primary, secondary, tertiary education); employment status (retired, still working, other); union duration (measured as a continuous variable); number of children (childless, one child, two or more children); number of grandchildren (no grandchildren, one or two grandchildren, three or more grandchildren; included only in the models about parents); previous divorce experiences (has never divorced vs. has already divorced at least once); home ownership (yes or no); perceived financial distress (household makes ends meet with great difficulty, with some difficulty, fairly easily, easily); number of limitations in daily activities (scored from 0 to 6); depression level (a scale from 0 to 12 based on the EURO-D depression scale, where 0 is ‘not depressed’ and 12 is ‘very depressed’; see Prince et al., 1999); country of residence; and the wave in which the respondent entered the observation. Explanatory variables were measured at the first (observed) wave preceding union dissolution. If the respondent reported missing information at wave $t-1$ (which occurred for about 20% of union dissolutions), covariates were fixed at the previous wave ($t-2$) or at the closest wave with non-missing information. Descriptive statistics are reported in the Appendix (see Table A1).

Methodology

Using logistic regression, we modelled the probability of experiencing union dissolution between two waves for women and men separately, taking into consideration demographic, socioeconomic and health-related factors. The first model was estimated on the pooled dataset, while the second set of analyses (i.e. those about the role of grandchildren) addressed only individuals with at least one child. The standard errors were clustered at the country level in order to account for possible correlations in the error terms.

We present our results by computing the average marginal effects (AMEs) to facilitate substantive interpretations. AME expresses the effect on $P(Y = 1)$ as a categorical covariate

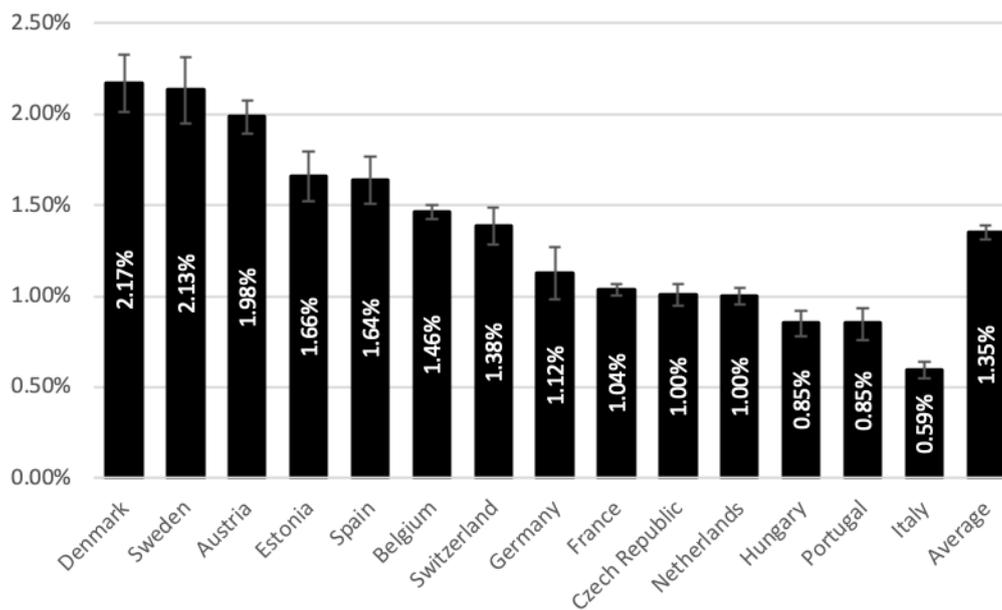
changes from one category to another or as a continuous covariate increases by 1 unit, averaged across the values of the other covariates included in the model equations. In some cases, we also present predicted probabilities with 95% confidence intervals for pair-wise comparisons. These intervals are centred on the predictions and have lengths equal to $2 \times 1.39 \times$ standard errors. This is necessary to have an average level of 5% for Type I errors in pair-wise comparisons of a group of means (Goldstein & Healy, 1995).

Unfortunately, two variables in our dataset were characterised by a non-negligible number of missing values: union duration (about 10% of the sample) and home ownership (about 3% of the sample). As these are key variables in our analysis, eliminating such a large share of respondents from the sample would significantly decrease the final number of observations. Furthermore, individuals with missing information could be a selected subgroup of respondents. For these reasons, we decided to keep them in the sample after having imputed the missing information. Missing data were imputed through multiple imputations by chained equations (MICE; see Lee & Carlin, 2010) using STATA. This technique allows each variable to be imputed using its own conditional distribution and specifying different models. Accordingly, union duration (a continuous variable) was imputed using a linear regression model, while home ownership (a dummy variable) was imputed using logistic regression. Multiple imputation estimates several values for each missing data point, bringing into the model the uncertainty associated with the missing data. These values are then used in the analysis and the results are combined following Rubin's (1987) rule. As a robustness check, all models estimated on the imputed dataset were replicated on the original (i.e. without imputations) dataset and are available upon request. The estimates remain virtually unchanged but clearly lose statistical precision.

Descriptive findings: Country differences

Figure 1 reports the (adjusted) predicted probability of union dissolution after age 50 by country. Denmark shows the highest probability among the countries considered (2.17%), followed by Sweden and Austria (2.13% and 1.98%, respectively). Estonia, Spain, Belgium and Switzerland also display above-average probabilities of union dissolution (1.35%). Central-Eastern European countries (the Czech Republic, Slovakia and Hungary) and the other Southern European countries (Italy and Portugal) lie in the second part of the chart with lower probabilities of union dissolution, together with France, Germany and the Netherlands. Italy has the lowest probability of union dissolution after 50 (0.49%). Overall, union dissolutions at later ages are still a quite rare demographic phenomenon; however, the countries analysed display interesting variability. Unfortunately, although we pooled six waves, the small number of grey divorces registered in each country does not allow for any country-specific (nor country-group-specific) analyses.

Figure 1 – Adjusted predicted probabilities of union dissolution by country.



Source: Authors' elaboration on SHARE data, waves 1-7 (wave 3 excluded).

Note: Grey divorce probabilities are adjusted by gender, birth cohort, education level, employment status, union duration, number of children, previous divorce experiences, home ownership, perceived financial stress, depression level, limitations in daily activities and entrance wave. Predicted probabilities refer to the population average.

Results

Sample attrition

Preliminarily, we investigated the factors associated with the probability of not entering our analytical sample (i.e. participating in the survey only once). Table 1 shows the results of a logistic regression for the probability of leaving the survey after only one interview. We reported AMEs with four digits in order not to incur rough approximations due to the small magnitude of coefficients. Respondents who died after their first participation are not included in the model ($n = 1,802$; about 10% of those who leave). The model shows no significant gender difference, while people born after 1955 are more likely to abandon the survey after one wave (it should be noted that leaving the survey due to death is not considered attrition). The probability of attrition is 2.67% lower among people with tertiary education. Regarding employment status, retired individuals are the least likely to leave the survey, while those who are still employed and otherwise non-retired have a higher attrition risk. Having children is protective against attrition: individuals with one child and those with two or more children are 2% and 6.6% less likely to leave the sample, respectively. Having already had previous divorce experiences does not significantly affect the probability of attrition. Home ownership is related to a lower probability of attrition, and people who can make ends meet easily are least likely to leave due to attrition. These last two findings suggest that individuals with higher socio-economic status may be less inclined to drop out. Finally, limitations in daily activities do not play a significant role, while depression is associated with lower attrition probability

(AME = -0.003). As anticipated, all the factors considered in Table 1 are included in the models on the probability of union dissolution because of their correlation with attrition probabilities.

Table 1 – Logistic model for the probability of leaving the survey after one wave. AMEs are reported

		AME		p-value
gender (ref. male)				
	<i>female</i>	-0.0022		0.63
birth cohort (ref. before 1945)				
	<i>1946-1955</i>	-0.0071		0.51
	<i>after 1955</i>	0.0274	*	0.10
education (ref. primary)				
	<i>secondary</i>	-0.0108		0.20
	<i>tertiary</i>	-0.0267	***	<0.01
employment status (ref. retired)				
	<i>still working</i>	0.0221	**	0.01
	<i>other (unemployed, homemaker, ...)</i>	0.0141	*	0.06
number of children (ref. childless)				
	<i>one child</i>	-0.0201	*	0.06
	<i>two or more children</i>	-0.0659	***	<0.01
has already divorced at least once (ref. no)				
	<i>yes</i>	-0.0054		0.54
home ownership (ref. no)				
	<i>yes</i>	-0.0294	***	<0.01
making ends meet (ref. easily)				
	<i>fairly easily</i>	0.0139	*	0.05
	<i>with some difficulty</i>	0.0135		0.22
	<i>with great difficulty</i>	0.0001		0.93
number of limitations with daily activities		0.0042		0.21
depression scale		-0.0030	**	0.04
Country fixed effects		YES		
Wave		YES		

Source: Authors' elaboration on SHARE data, waves 1–7 (wave 3 excluded).

Note: * p < 0.1; ** p < 0.05; *** p < 0.01.

Union dissolution

Table 2 illustrates the determinants of grey divorces by reporting AMEs from logistic regression models of the probability of experiencing union dissolution after 50. As expected, there is no difference by gender (AME = 0.0003, not significant). Individuals born between 1946 and 1955 and after 1955 (i.e. the baby boom cohorts) are significantly more likely to experience union dissolution than the oldest cohort. The model did not highlight significant

differences in the probability of grey divorce according to educational level (robust to different specifications of the education variable²). Regarding employment status, retired individuals are more likely to divorce than people who are still working or otherwise non-retired individuals. Our findings confirm that union duration is negatively related to union dissolution, meaning that the longer the marital duration, the smaller the probability of experiencing a grey divorce. Previous divorce experiences also play an important role in shaping the probability of grey divorce, with people who have already divorced at least once being 9.7% more likely to experience a(nother) union dissolution compared to first-time divorcers. Owning a house is negatively related to the probability of divorce; the related AME is -0.0065 and is highly significant. Regarding perceived financial stress, we found that people who could make ends meet with difficulty or with great difficulty had a higher probability of union dissolution after age 50. Interestingly, with regard to health, we noted different results depending on which health sphere was considered. The indicator for functional health revealed that a higher number of limitations in daily activities was related to a lower probability of union dissolution (AME = -0.0021), while an opposing correlation was found for depression (AME = 0.0011). Finally, people who entered the survey in the latest waves had a significantly lower probability of dissolution (because they spent less time in observation).

² We included education in the model as a binary variable with two different specifications: primary education vs. secondary or tertiary education, and primary or secondary education vs. tertiary education.

Table 2 – Logistic model for the probability of experiencing union dissolution after age 50.
AMEs are reported

		AME		p-value
gender (ref. male)				
	<i>female</i>	0.0003		0.73
birth cohort (ref. before 1945)				
	<i>1946-1955</i>	0.0091	***	<0.01
	<i>after 1955</i>	0.0090	***	<0.01
education (ref. primary)				
	<i>secondary</i>	-0.0014		0.51
	<i>tertiary</i>	0.0019		0.42
employment status (ref. retired)				
	<i>still working</i>	-0.0063	***	<0.01
	<i>other (unemployed, homemaker, ...)</i>	-0.0087	***	<0.01
union duration		-0.0006	***	<0.01
number of children (ref. childless)				
	<i>one child</i>	-0.0031	*	0.08
	<i>two or more children</i>	-0.0063	***	<0.01
has already divorced at least once (ref. no)				
	<i>yes</i>	0.0976	***	<0.01
home ownership (ref. no)				
	<i>yes</i>	-0.0065	***	<0.01
making ends meet (ref. easily)				
	<i>fairly easily</i>	0.0023		0.23
	<i>with some difficulty</i>	0.0041	**	0.02
	<i>with great difficulty</i>	0.0078	**	0.01
number of limitations with daily activities		-0.0021	*	0.06
depression scale		0.0011	***	<0.01
wave of entrance (ref. wave 1)				
	<i>wave 2</i>	0.0003		0.92
	<i>wave 4</i>	-0.0033	**	0.02
	<i>wave 5</i>	-0.0068	***	<0.01
	<i>wave 6</i>	-0.0130	***	<0.01
Country fixed effects		YES		

Source: Authors' elaboration on SHARE data, waves 1–7 (wave 3 excluded).

Note: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Children and grandchildren

The model discussed in the previous paragraph (Table 2) suggests that children are a protective factor against grey divorces, especially when couples have two or more children. Individuals who have at least one child are 0.3% less likely to experience a union dissolution after 50, while the probability of grey divorce is 0.63% lower for those who have two or more children. As a robustness check, we added an interaction term between the number of children and the country of residence in order to consider possible country-level differences but did not find any relevant result, probably because of reduced sample size. We made an additional robustness check

distinguishing between children who lived in the same household as their parents or who had left their parents' home but had daily contact with their parents, on the one hand, and those who had left their parents' home and reported having weak contact with their parents, on the other. No significant difference was detected. Bearing in mind that the lack of statistically precise results could be due to the small number of events in our sample (which is even smaller among parents), the latter result may suggest that the presence of children per se decreases the likelihood of union dissolution after 50, regardless of the intensity of family ties.

Next, we explored the role played by grandchildren. We replicated the analysis only on individuals with at least one child, adding number of grandchildren as an explanatory variable (no grandchildren, one or two grandchildren, three or more grandchildren). The direction and magnitude of the relationship between explanatory variables and the probability of experiencing grey divorce are very similar to those obtained from the model on the pooled dataset. Accordingly, for the sake of brevity, we do not report the whole model here (see Table A2) and show only the effects for number of grandchildren (Table 3). Having one or two grandchildren is associated with a lower (but not significantly different) probability of grey divorce compared to having at least one child but no grandchildren (AME = -0.0025). Nevertheless, having three or more grandchildren is associated with a 0.47% decrease in the probability of experiencing union dissolution after age 50 among people with at least one child.

Table 3 – Logistic model for the probability of experiencing union dissolution after age 50 among individuals with at least one child. AMEs are reported

	AME		p-value
number of grandchildren (ref. no grandchildren)			
<i>one or two grandchildren</i>	-0.0025		0.14
<i>three or more grandchildren</i>	-0.0047	**	0.01

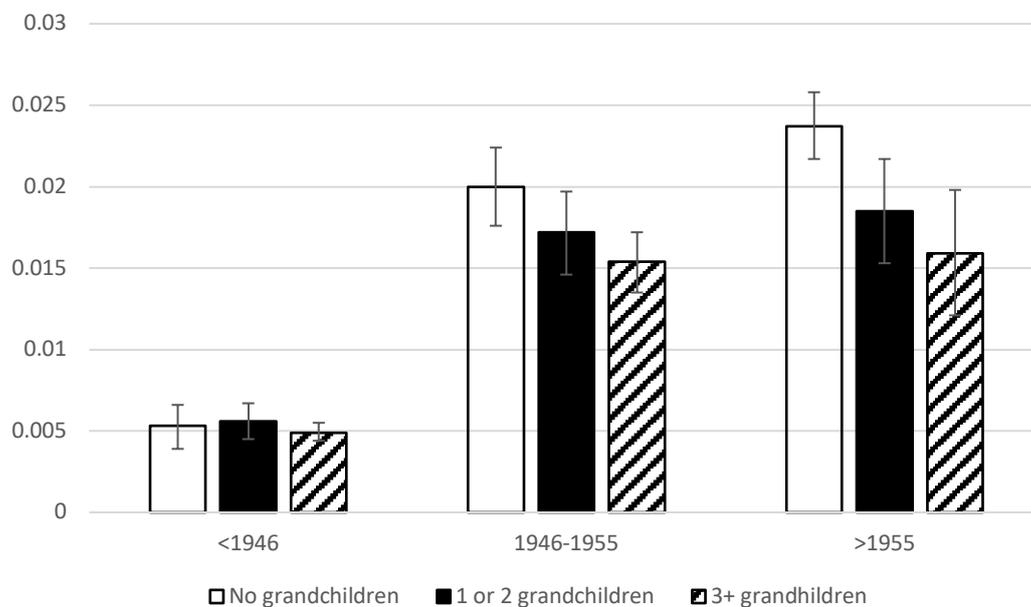
Source: Authors' elaboration on SHARE data, waves 1–7 (wave 3 excluded)

Note: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$. The model includes control variables for gender, birth cohort, education level, employment status, union duration, previous divorce experiences, home ownership, perceived financial stress, limitations in daily activities, depression level, wave of entrance and country fixed effects.

So far, the analysis suggests that even among parents – who already have lower chances of grey divorce than childless individuals – the presence of (more than two) grandchildren is associated with a further reduction in the risk of breaking a union after age 50. Additionally, the predicted probabilities of union dissolution by number of grandchildren were calculated for different birth cohorts to check whether the importance of the role played by grandchildren changed across generations. Figure 2 shows the predicted probability with confidence intervals of union dissolution for individuals with no grandchildren, with one or two grandchildren and with three or more grandchildren. First, the figure clearly shows that the probability of experiencing union dissolution after age 50 increases, on average, among recent cohorts, especially among individuals born after 1955. Moreover, the role of grandchildren in shaping divorce decisions has become more and more important in younger generations. There is a clear gradient among individuals born between 1946 and 1955 and those born after 1955,

suggesting that individuals with grandchildren are less prone to breaking their unions after 50, especially if they have three or more grandchildren. For example, the probability of union dissolution for individuals without grandchildren born after 1955 was about 2.4%, while it was about 1.8% for those with one or two grandchildren and less than 1.6% for those with three (or more) children. Such a gradient is slightly less evident in the 1946–1955 cohort, even if the difference in the probability of grey divorce between individuals without grandchildren and those with more than two grandchildren is significant. Finally, these differences virtually disappear in the oldest cohort (i.e. those born before 1946). In the oldest cohort, the (predicted) probability of breaking the union is much smaller than for the other cohorts and remains virtually unchanged among childless individuals, individuals with one child and those with two or more grandchildren.

Figure 2 – Adjusted predicted probability of union dissolution by number of grandchildren and birth cohort. Confidence intervals are reported



Source: Authors' elaboration on SHARE data, waves 1–7 (wave 3 excluded).

Note: predicted probabilities are adjusted by gender, birth cohort, education level, employment status, union duration, previous divorce experiences, home ownership, perceived financial stress, depression level, limitations in daily activities and entrance wave. Predicted probabilities refer to the population average.

Conclusions

Later-life marital dissolution increasingly occurs through divorce rather than widowhood. Over the past decades, voluntary union dissolution in later life has become increasingly relevant as a social and demographic phenomenon; however, the antecedents of grey divorces are still underexplored, especially in Europe. As Berardo (1982) said, 'the impact of marital breakdown at midlife and beyond is more devastating than in youth' (p. 1). Using data from six waves of

the SHARE dataset, we tested the role of several factors as potential antecedents of union dissolution in later life, with a special emphasis on the presence of children and grandchildren.

Our results show that the antecedents of grey divorce are not much different from those associated with divorce early in life. With regard to birth cohort, we found that individuals born after 1946 were more likely to experience union dissolutions than those born previously. This is in line with previous findings in the United States showing that the baby boom cohorts are the most prone to divorce and sparked the grey divorce phenomenon as they aged (Brown & Lin, 2012; Cohen, 2019; Lin et al., 2018). Union duration was confirmed to be a protective factor against grey divorce, since longer-lasting unions are less likely to break up, while previous divorce experiences proved to be important predictors of divorce at later ages. Retired individuals have a higher risk of experiencing union dissolution after 50 compared to the non-retired (e.g. employed, unemployed, homemakers). Regarding economic conditions, our findings suggest a positive correlation between financial stress and risk of grey divorce, since individuals who cannot easily make ends meet are more likely to dissolve their unions after age 50. The results for home ownership trend in the same direction, with homeowners having lower chances of union dissolution compared to those who do not own a house. The latter finding also suggests that a stable housing situation may improve the quality of marriage in later life. Finally, our study supports the hypothesis of a negative relationship between worsening health and union dissolution only for mental health (specifically depression), consistent with previous findings (Davies et al., 1997; Idstad et al., 2015; Kessler et al., 1998; Torvik et al., 2015). Conversely, we found that bad physical health, measured through the number of limitations in daily activities, was associated with a reduced likelihood of union dissolution. Education level had no significant relationship with outcome in our analysis. However, this is in line with existing studies showing that educational level has only a limited effect on the probability of grey divorce in the United States (Brown & Lin, 2012; Lin et al., 2016).

Regarding the role played by children, our analysis suggests that their presence is associated with a lower probability of experiencing grey divorce. Indeed, union dissolution is less likely when there are children, particularly two or more children. This finding is not surprising and is in line with prior research. Especially among the analysed birth cohorts, the presence of children is a well-established factor that consolidates a union (e.g., De Rose, 1992; Hoem & Hoem, 1992; Lyngstad & Jalovaara, 2010; White, 1990). Becker et al. (1977) observed that children are a ‘marital-specific capital’, thus representing a sign of family harmony with positive implications for union stability. It is as yet unknown whether this association will be confirmed in the next generations of grey divorcees.

The effect of grandchildren in shaping grey divorces is especially interesting. To explore this effect, we looked at patterns of grey divorce among individuals with at least one child, who are already less likely to experience union dissolution compared to their childless counterparts. Our findings indicate that the presence of grandchildren further reduces the risk of grey divorce, especially if there are three or more grandchildren. This is a new finding which may improve the understanding of the relationship between children and grey divorces. On the one hand, it is well known that having children is a strong deterrent against divorce at younger ages, i.e.

when children are young. However, as children (and parents) age, the relationship between the presence of children and the risk of union dissolution may weaken. At later ages, the presence of grandchildren – in addition to that of children – plays a role in shaping the probability of union dissolution. Interestingly, this correlation is not the same across different birth cohorts: while younger cohorts have higher divorce rates than older ones, our findings suggest that grandchildren are protective against grey divorce decisions only among those born after 1946. This result may be explained by the fact that more recent cohorts have very young grandchildren whose grandparents are more involved in childcare (which may be a form of positive engagement for the couple) compared to those with older grandchildren who are less in need of care.

Several limitations should be considered, however. First, the small number of cases did not allow for any country-specific analysis. This means that our findings are average effects computed across several countries and hide potential country-specific patterns. In addition, it is possible that we found no association between some factors (e.g. education) and grey divorce simply because opposing country-specific effects averaged out. Another limitation is related to attrition. Different solutions have been proposed to control for attrition, depending on the mechanisms generating loss at follow-up (see e.g. Enders, 2010; Little & Rubin, 2002). Even though attrition effects are present in most panel surveys to various extents, their consequences on model results are often disregarded in demographic research, which may lead to non-negligible bias (Alderman, 2001). Despite our effort to include a wide array of control variables in the models in order to mitigate the bias introduced by attrition, this solution can only reduce the consequences of attrition to the extent that it depends on observable characteristics. Nevertheless, it is important to note that previous analyses found little evidence of selective attrition bias in SHARE (Bergmann et al., 2017; Kneip et al., 2015). Other limitations are related to data. We were not able to carry out a couple approach because a substantial number of participants had (totally or partially) non-responding partners, which would have introduced a further selection in our analyses. Inconsistencies were found in marital and partner status across waves, e.g. individuals who were married in one wave and reported being single in the following one. Last but not least, around 5,000 individuals reported missing information about their union duration, and we opted to impute the missing values.

Despite these limitations, this paper sheds some light on the determinants of a rare but demographically and sociologically relevant phenomenon. Having children is known to inhibit union dissolution, especially among older cohorts. After all, parents may postpone their marital disruption after ‘the empty nest’ phase for the sake of their children. However, grandchildren may then ‘fill the nest again’ after a couple’s children have left, thus playing a new detrimental role in grey divorce as grandparents assume new responsibilities in the family and society. Our study, although mainly exploratory, expands the knowledge on the factors related to grey divorces in Europe and, we hope, will feed future research on the topic.

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Appendix

Table A1 – Sample characteristics (N=53,311)

Variable	% or mean with SD in brackets
Grey divorces	1.24%
Gender	
Men	48.77%
Women	51.23%
Birth cohort	
<1946	40.72%
1946-1955	36.42%
>1955	22.85%
Educational level	
Primary	39.86%
Secondary	37.12%
Tertiary	23.02%
Employment status	
Retired	45.26%
Still working	36.84%
Other (unemployed, homemaker, ...)	17.90%
Union Duration (in years)	34.81 (12.87)
Number of children	
Childless	5.89%
One child	16.97%
Two children or more	77.15%
Has already divorced at least once	2.74%
Home ownership	82.92%
Financial stress	
Can make ends meet easily	32.28%
Can make ends meet fairly easily	34.42%
Can make ends meet with some difficulty	24.99%
Can make ends meet with great difficulty	8.32%
Number of limitations with daily activities	
No limitations	92.36%
At least one limitation	7.64%
Depression scale	2.23 (2.13)
Wave of entrance	
Wave 1	26.63%
Wave 2	10.27%
Wave 4	37.15%
Wave 5	21.22%
Wave 6	4.74%

Source: authors' elaboration on SHARE data, waves 1-7 (wave 3 is excluded)

Table A2 – Logistic model for the probability of experiencing union dissolution after age 50 among individuals who have at least one child. AMEs are reported

		AME		p-value
gender (ref. male)				
	<i>female</i>	0.0007		0.32
birth cohort (ref. before 1945)				
	<i>1946-1955</i>	0.0086	***	<0.01
	<i>after 1955</i>	0.0077	***	<0.01
education (ref. primary)				
	<i>secondary</i>	-0.0011		0.62
	<i>tertiary</i>	0.0011		0.63
employment status (ref. retired)				
	<i>still working</i>	-0.0064	***	<0.01
	<i>other (unemployed, homemaker, ...)</i>	-0.0084	***	<0.01
union duration		-0.0006	***	<0.01
number of grandchildren (ref. no grandchildren)				
	<i>one or two grandchildren</i>	-0.0025		0.15
	<i>three or more grandchildren</i>	-0.0038	**	0.02
has already divorced at least once (ref. no)				
	<i>yes</i>	0.1008	***	<0.01
home ownership (ref. no)				
	<i>yes</i>	-0.0071	***	<0.01
making ends meet (ref. easily)				
	<i>fairly easily</i>	0.0020		0.30
	<i>with some difficulty</i>	0.0023		0.24
	<i>with great difficulty</i>	0.0065	**	0.02
number of limitations with daily activities		-0.0016		0.23
depression scale		0.0010	***	<0.01
wave of entrance (ref. wave 1)				
	<i>wave 2</i>	0.0016		0.63
	<i>wave 4</i>	-0.0025	**	0.04
	<i>wave 5</i>	-0.0067	***	<0.01
	<i>wave 6</i>	-0.0135	***	<0.01
Country fixed effects		YES		

Source: Authors' elaboration on SHARE data, waves 1–7 (wave 3 excluded).

Note: * p < 0.1; ** p < 0.05; *** p < 0.01.

