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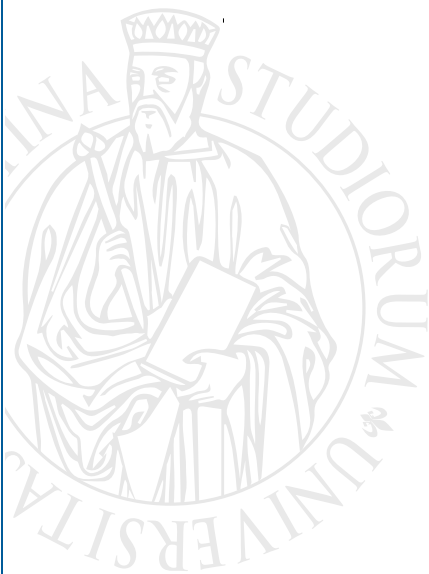
Partners' Health and Silver Splits in Europe: A Gendered Pattern?

Daniele Vignoli[1], Giammarco Alderotti[1] & Cecilia Tomassini[2]

[1]*University of Florence;* [2]*University of Molise*

Abstract

Objective

As populations age, family dynamics are inherently intertwined with health issues. This paper addresses the correlates of silver splits – i.e., voluntary union dissolutions after the age of 50 – in Europe by focusing on the role of partners' health status.

Background

Family diversity at later ages is growing in wealthy countries, with late union dissolutions increasingly occurring through separation and divorce rather than widowhood. Nonetheless, we know little about the correlates of silver splits in Europe, especially regarding the role of health status.

Method

We use data from the European Survey of Health, Ageing and Retirement, and employ discrete-time event history analysis to model the probability of silver splits, separately for couples in which both partners are aged 50–64 and for couples in which at least one partner is 65 or older. We inspect three different health dimensions for both partners within a couple: the self-rated health, the Global Activity Limitations Index, and depression.

Results

Our results indicate a non-negligible association between health status and union dissolution among couples aged 50–64, with gender playing a crucial role. When the male partner has poor self-rated health or activity limitations, but the female partner is healthy, the risk of union dissolution remains

similar to that of healthy couples. However, if the female partner has poor self-rated health or activity limitations while the male partner is healthy, the risk of union dissolution increases significantly. Additionally, poor mental health in either partner (or both) raises the risk of union dissolution. The results regarding couples in which at least one partner is aged 65 are less informative, suggesting that the role of health in shaping silver splits may weaken with age.

Conclusion

Researchers should consider how health operates as a stressor on union stability and should exercise caution in interpreting cross-sectional studies as evidence of the benefits of unions. Among couples in the early phase of old age (50–64), gendered health-related selection effects are at play, with men struggling more than women with a partner's deteriorating health, jeopardizing the couple's stability.

Introduction

Population aging may well be the greatest challenge facing Europe in the 21st century. This demographic shift is having profound impacts on many different aspects of society, including family life (Furstenberg et al., 2020). With longer life expectancies, the odds of unions ending through death are lower, but the duration of exposure to the risk of union dissolution is longer. Family diversity at later ages is thus growing, with late union dissolutions increasingly occurring through separation rather than widowhood (Uhlenberg & Myers, 1981). As older adults experience union dissolutions, or witness them among their friends and family members, they are likely to be more accepting of union disruption as a viable option for ending a marriage or a cohabitation. Additionally, a growing share of older adults are in higher order unions, reflecting divorce experienced at earlier stages of the life course. Previous research has shown that second or higher-order unions are more likely to end in divorce than first unions (Brown & Lin, 2012).

In the US, approximately 5 in 1,000 married persons aged 50 and older experienced a divorce in 1989. By 2010, the number doubled to 10 per 1,000 (Brown & Lin, 2012), even if a more recent study showed a decline to 9.64 per 1,000 in 2019 (Brown & Lin, 2022). A similar pattern has been found in England and Wales from the 1990s to 2019 (ONS, 2023). Silver splits are on the rise in Europe as well. In France, for example, the divorce rate among people aged 50–54 has increased from approximately 5% in 1990 to 12% in the early 2010s; in the same period, among those aged 55–59 the divorce rate has increased from approximately 3% to 8% (Solaz, 2021). In Belgium, the percentage of divorced couples in which at least one former partner was over the age of 50 at the time of divorce rose from 21% in 2002 to 40% in 2018 (Zilincikova & Schnor, 2021). Union dissolution is increasingly occurring not only in marriages, but also among cohabitations (Alderotti et al., 2022). As a result, silver splits – i.e., voluntary union dissolutions after the age of 50 – are now commonplace among older adults in Europe and constitute a sizeable share of all union dissolutions.

Research on the correlates of silver splits in Europe is in its initial stages (Alderotti et al., 2022). This paper extends prior studies by recognising that as populations age, family dynamics are inherently intertwined with partners' health issues (Boddi et al., 2015; Rastrelli et al., 2012). Poor health may negatively affect marital quality and reduce stability, thereby increasing the odds of divorce (Yorgason et al., 2008). Additionally, being partners the primary caregiver, the stress derived from caring activities may lower relationship quality (Booth & Johnson, 1994), potentially leading to union dissolution. Only a handful of studies have explored the link between poor health and union dissolution, and the results have been inconclusive (Joung et al., 1998; Wilson & Waddoups, 2002; Charles & Stephens, 2004; Teachman, 2010). These studies have typically focused on relatively young populations, however, despite the effects of poor health on divorce may become more significant as individuals age (Uhlenberg & Myers, 1981). During late middle age and early older ages, people often experience the start of severe health issues. As divorce is more accepted and occurs more frequently, an illness could be an increasingly significant risk factor for divorce among current generations of older Europeans.

In this study, we adopt a dyadic, couple approach to the study of silver splits in Europe and focus on the relationship between partners' health status and the risk of union dissolution after age 50. We use data from the European Survey of Health, Ageing and Retirement (SHARE), and employ discrete-time event history analysis to model the probability of union dissolution (i.e., divorce or separation) among heterosexual couples between two waves, separately for couples where both partners are aged 50–64 or where at least one partner is aged 65 or older. We examine three different health dimensions: self-rated health (SRH), the Global Activity Limitations Index (GALI), and depression (EURO-D).

Our results suggest a non-negligible association between health status and the risk of experiencing a silver split among couples with partners aged 50–64. Both in terms of self-rated health and activity limitations, the association is gendered: when the male partner has poor self-rated health or when he experiences activity limitations while the female partner is in good health, the risk of union

dissolution remains similar to that of couples in which both partners are in good health. Conversely, when the female partner reports poor self-rated health or faces activity limitations while the male partner is in good health, the risk of union dissolution increases significantly. Finally, the risk of union dissolution rises when either partner (or both) report poor mental health. The results regarding couples in which at least one partner is aged 65 mostly yield non-informative results, suggesting that the role of health in shaping silver split risk may weaken as people age.

Background

Health status and silver splits

Studies for the US have suggested that factors traditionally associated with union dissolution among younger adults were also salient for older adults (Berardo, 1982; Hammond & Muller, 1992; Uhlenberg & Myers, 1981). Birth cohort, educational level, presence of children, and previous divorce experience have been identified as the key correlates of silver splits (e.g., Lin et al., 2018). Recent evidence has illustrated that the European antecedents of silver splits are similar to those found for the US (Alderotti et al., 2022). Surprisingly, the role of health status in shaping silver splits has been partly neglected in family demography. Nonetheless, there are at least three potential mechanisms through which health may affect silver splits (Karraker & Latham, 2015a).

Physical limitations can increase the likelihood of union dissolution by causing stress and reducing the quality of the marital relationship (Amato, 2010; Daniel et al., 2009; Yorgason et al., 2008). As people age, they are more likely to experience chronic health problems (Crimmins & Beltrán-Sánchez, 2011), and advances in medical treatment have prolonged the lives of people with serious illnesses, despite their poor health (Crimmins, 2004). This means that some individuals may live with chronic conditions for longer periods, which could raise their risk of silver splits by contributing to relationship strain. Recent research, exemplified by Galinsky and Waite (2014), has highlighted the significance of sexual activity and psychological well-being as possible mechanisms in the

association between declining physical health and diminishing marital quality. Research into health as a determinant of divorce in old age has confirmed that worsening health deteriorates marital quality and increases the likelihood of divorce (Booth & Johnson, 1994), as do differences in spouses' health status (Wilson & Waddoups, 2002; Butterworth & Rodgers, 2008).

When one spouse becomes ill, roles within a relationship can change. Indeed, the healthy partner can witness an increase in their caregiving responsibilities, which can strain the dynamics of the relationship. The unhealthy individual may require assistance with daily personal care tasks, and the partner is usually the primary caregiver (Wolff & Kasper, 2006). While caregiving can be a rewarding and fulfilling experience, it can also be emotionally and mentally taxing since spousal caregiving is often provided with continuous high intensity. Caregivers may experience a range of negative emotions, such as stress, anxiety, depression, and frustration, as they navigate the challenges of providing their partner with care (Schulz & Beach, 1999). The psychological strain of caregiving can be attributed to several factors. One is the physical demands of caregiving, such as helping with daily-living activities, managing medications, and providing transportation. Another factor is the emotional burden of caregiving, which can involve coping with the person's illness or disability, dealing with changes in their behaviour or personality, and managing their emotions. Additionally, caregivers may experience social isolation as they spend more time caring for their loved one and less time engaging in activities with friends and family (Glaser et al., 2006). Choi and Marks (2006) found that caregiving may alter marital dynamics, causing distress, particularly if the initial marital quality was low.

Economic factors might represent an additional mechanism through which health status can affect silver splits. Illness can lead to a decrease in household income as one or both spouses may be unable to work (Teachman, 2010). This income reduction may also contribute to relationship strain. One spouse's illness can impact household income by interfering with the other's ability to engage in employment. Research has linked both job loss and earnings shocks to increased risk of divorce (Charles & Stephens, 2004; Weiss & Willis, 1997). However, Singleton's (2012) study revealed that

work-preventing disability onset had a greater impact on divorce among younger and better-educated men. This suggests that lost potential earnings may not be as significant a factor for older couples. Brown and Lin (2012), in their study on divorce after the age of 50 in the US, found that unemployed individuals and full-time workers are more prone to divorce compared to those outside of the workforce, especially for women. In a more recent US-based study, Lin et al. (2018) found that retirement of either spouse is not correlated with the likelihood of grey divorce. Moreover, perceived financial circumstances are gaining traction in the literature as a factor associated with late divorce (e.g., Canham et al., 2014). For example, Alderotti et al. (2022) found that the risk of silver split is higher among individuals experiencing high financial distress.

Health dimensions

Diverse health dimensions may be differently correlated to silver splits. In this paper, we concentrate on three interrelated but distinct health dimensions: self-rated health (SRH), activity limitations (through the GALI, the Global Activities Limitation Indicator), and depression (through the EURO-D index).

SRH is a subjective measure of an individual's perception of their own health status. It is typically assessed by asking individuals to rate their overall health on a scale from excellent to poor. SRH has been widely used as a reliable and valid measure of health status and has been found to be a strong predictor of mortality, morbidity, and healthcare use (Mossey & Shapiro, 1982). Despite being subject to drawbacks, such as gender differences in health-rating styles (Grol-Prokopczyk et al., 2011), an individual's SRH can provide insights into their actual health status and their likelihood of developing health problems in the future. Older adults who perceive their health as poor may be more likely to experience marital or non-marital partnership dissolution compared to those who rate their health more positively. Being SRH a general health assessment, this could be due to various reasons, such as health-related limitations in daily activities, increased healthcare needs, and financial strain. Wilson and Waddoups (2002) illustrated that, for the US, marriages in which only one spouse

experienced lower levels of SRH had a higher risk of divorce compared to marriages where both spouses were healthy. However, this was only the case among marriages where both spouses reported high levels of marital satisfaction. Perchesky and Meyer (2018) found that, among married couples with young children, mothers' poor SRH is positively associated to divorce.

A person's health status can be operationalised through disability indicators. Measures of disability are designed to evaluate the extent to which an individual is limited in their ability to perform daily activities, such as self-care, mobility, communication, and participation in social roles. These measures can include such tools as the GALI, which is a single-item survey instrument that belongs to the family of disability indicators. It targets scenarios where health issues have affected individuals' regular activities and has been found to show good agreement with other objective and subjective measures of limitations, including the activity of daily living (ADL) score, and the instrumental activities of daily living (IADL) score (Jagger et al., 2010). In contrast, measures of health (e.g., SRH) or mental health may not provide a comprehensive assessment of the specific demands placed on caregivers of individuals with disabilities. For example, a person with a disability may rate their mental well-being as 'good' despite inducing significant stress to their caregiver. Therefore, disability measures may provide a more accurate reflection of the caregiver's stress levels because they consider the specific needs of the person with a disability and the demands placed on the caregiver. Han et al. (2021) found that spousal activity limitations are associated with depressive symptoms for wives but not for husbands, while own activity limitations and depressive symptoms are related to depression for both spouses.

Finally, mental health – or a person's overall psychological and emotional well-being – is another health dimension potentially associated with silver splits. Mental health problems can significantly impact marital or partnership quality, especially at older ages. These conditions may affect communication, emotional regulation, and decision-making abilities, making it difficult for partners to navigate challenges and maintain healthy relationships. For example, depression can lead to

negative thinking patterns, low self-esteem, and social withdrawal, which may hinder maintaining intimacy or emotional connection with a partner. Studies on the risk of divorce among young adults have found that individuals with higher levels of psychological well-being are less likely to divorce (e.g., Mastekaasa, 1994). However, other studies have found no such association (Charles & Stephens, 2004). Regarding older adults, Alderotti and colleagues (2022) found a positive association between depression – operationalised as a continuous variable on the EURO-D depression scale – and silver splits in Europe. Investigating the link between health and union dissolution among parenting couples, Percheski and Meyer (2018) found that fathers' depression (either at the baseline or developed between the baseline and the subsequent interviews) predicts union dissolution. Furthermore, Bulloch et al. (2009), relying on longitudinal data for Canada, found the link between depression and marital disruption to be bidirectional, as they noted both an increased probability of marital disruption among depressed individuals and a higher risk of depression among the divorced or separated.

Gender differences

Gender may moderate the relationship between poor health and marital dissolution. Theoretically, middle-aged and older couples may be at a higher risk of union dissolution when the female partner, rather than the male partner, is in poor health (Karraker & Latham, 2015a). This may be due to several reasons, both demographic and social in nature. The share of women at older ages outnumbers those of men due to the former's greater longevity (UN, 2022). Additionally, men tend to marry women who are younger than they are (Presser, 1975; Esteve et al., 2009). Consequently, older men have a larger pool of potential partners in the remarriage market than older women. The union market is further skewed by the stronger normative value placed on youthful beauty for women, resulting in women being more devalued than men as potential partners as they age (England & McClintock, 2010). Additionally, not only are men much more likely to remarry than women (Shafer & James, 2013), but they also tend to have a larger age gap with their wives at the time of remarriage (England

& McClintock, 2010). In addition, gender norms regarding role changes that often accompany illness may contribute to gender differences in the relationship between health status and silver splits. For example it has been found that differences in individuals' well-being across partner care arrangements are influenced by various factors, such as care-induced stress, concordance in physical and emotional health between partners, socioeconomic status, and relationship quality, with gender moderating the association by reinforcing normative caregiving roles, particularly for midlife and older women who are more strongly socialised into caregiver roles compared to their male partners (Floridi et al., 2022). However, wives receiving care are more likely to report experiencing gaps in necessary caregiving from their spouses compared to husbands (Allen, 1994). Given the gendered nature of caregiving and care receiving, as well as the often stressful nature of caregiving, it is plausible that situations in which female partners are dependent on male partners for care are more stressful than the reverse.

Empirically, clinical studies have reported a higher risk of divorce when wives, rather than husbands, are diagnosed with cancer (Glantz et al., 2009; Kirchhoff et al., 2012), or when women are affected by cancers that only affect them, such as cervical cancer (Carlsen et al., 2007). However, these findings are limited to relatively young or small samples and focused specifically on cancer. While the gender differences in the impact of illness on divorce risk found in clinical studies are suggestive, these results have yet to be replicated in large-scale social surveys or across a range of illnesses. In their retraction, Karraker and Latham (2015b) concluded that no differences emerged in the relationship between gender, pooled illness onset, and divorce. Their study was based on a specific group of couples who were initially healthy, meaning that their results cannot be generalised to all older married individuals in the US who face the possibility of divorce in later life (Lin et al., 2018).

Sociodemographic confounders

A series of sociodemographic factors – or confounders – may simultaneously affect health status and the risk of silver splits. Age and health are inextricably linked, with the aging process often bringing a higher prevalence of health issues and unique pathologies (Robert et al., 2009). As individuals grow

older, the likelihood of developing chronic illnesses, such as cardiovascular disease, arthritis, and dementia, increases significantly. Not only do these illnesses impact the individuals directly affected, but they also profoundly influence family dynamics. To better examine these dynamics in old age, it is essential to distinguish younger senior couples from their older counterparts. Couples in the 50–64 age range may face different health-related challenges compared to those aged 65 and above, where illnesses might be more severe and multifaceted. Understanding these distinctions allows for a more nuanced analysis of how health influences family relationships, caregiving responsibilities, and union stability.

Marital biographies, including marriage order, duration, and age gaps, significantly influence divorce risk (Wu & Penning, 2018). Second or subsequent marriages are more prone to divorce, as those who have divorced may be more willing to do so again (Sweeney, 2010). Additionally, the risk of divorce decreases with longer marital duration, as dissatisfied couples are more likely to separate over time, leaving more stable unions intact. In later life, remarriages may face challenges, such as strained relationships with adult stepchildren, and conflicts over wills, assets, and healthcare decisions, which can undermine marital stability. These factors may affect women's and men's divorce risks differently, as women are less likely to remarry after divorce and more likely to marry older men.

While ample studies have highlighted the deterrent effect of having (young) children on divorce rates (Lyngstad & Jalovaara, 2010), limited evidence exists regarding late-life union dissolutions. Weingarten (1988) emphasised the role of children as sources of support for older parents, contributing to marital quality and stability after the age of 60. However, as parents and children age, strained relationships and conflicts may arise, potentially undermining union stability (Wu & Penning, 2018). Moreover, a recent study suggested that experiencing grandparenthood may lower the likelihood of late-life divorce (Brown et al., 2021). For Europe, Alderotti et al. (2022) found that having children, and notably having grandchildren, is associated with a lower risk of silver split. The post-divorce loss of contact with grandchildren can in fact lead to reduced psychological well-being

(Drew & Silverstein, 2007; Drew & Smith, 2002). Various sociodemographic perspectives suggest that having children is related to greater union stability by serving as 'union-specific capital'. While having children, especially when they are young, usually discourages divorce, scant evidence is available about late union dissolutions, and the influence of older children on marital stability can be mixed (Brown & Lin, 2012). Frequent contact with children in later life may, on the one hand, indicate strong family solidarity, which is positively associated with well-being. On the other, it may also be related to health issues that require frequent visits from children.

Education may play a noteworthy role in influencing the likelihood of silver splits, acting both as a proxy for socioeconomic status and reflecting earning potential and labour market engagement. Older studies on silver splits have noted a positive correlation between education and late divorce among both genders (e.g., Wu & Penning, 1997, for Canada). Conversely, more recent studies conducted in the US (e.g., Brown & Lin, 2012; Lin et al., 2018) and Europe (Alderotti et al., 2022) have suggested that educational attainment has only a modest impact on the likelihood of a late union dissolution. Higher education is also related to better health in adulthood. Throughout all life stages, individuals with higher educational achievements or longer durations of education tend to exhibit fewer health risk factors, experience lower incidences of disease, have lower mortality rates, and report better SRH (Link & Phelan, 1995; Mirowsky & Ross, 2003). For example, high education is protective against health risks and the dangers of low-skill jobs and improves social support, which is a potent buffer against health issues (see Lynch & von Hippel, 2016, for a detailed discussion).

Research questions

With the increasing prevalence of silver splits among older Europeans, we aim to address three main research questions:

1. What role does health play as a correlate of union dissolution in later life? Previous research has mainly focused on the health consequences of union dissolution, while health itself may influence the likelihood of union dissolution among older individuals.

2. Do the different dimensions of health (SRH, activity limitations, and mental health) have similar associations with the probability of experiencing a union dissolution in later life? Investigating the relationship between various health dimensions and silver splits may help clarify the channels of this potential association.

3. Are these health determinants of union dissolution shaped by gender? Previous studies have shown that, due to the traditional female role in caregiving, women may be less affected by the health status of their partner.

Data and Variables

The SHARE data

Our study draws upon data obtained from SHARE, a comprehensive longitudinal investigation covering various domains. This survey collects detailed information on individuals aged 50 and older, along with their current cohabiting partner, irrespective of their age. We used Waves 1 (2004–2005) through 9 (2021–2021), but excluded Wave 3 because it collects retrospective information and lacks most current sociodemographic and health variables. To capture late union dissolutions, we excluded countries that contributed data for only a single wave. Thus, the analytical sample included respondents from 18 European countries: Austria, Belgium, Bulgaria, the Czech Republic, Croatia, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and Switzerland.

We considered union dissolution rather than divorce in the strict sense of the word. Therefore, our sample was limited to individuals aged 50 or over who either (1) were married or in a registered cohabitation, or (2) were engaged in an informal cohabiting arrangement. We incorporated individuals classified as 'living with a partner' but not in a formal relationship (such as marriage or registered cohabitation) only if they were assigned a 'couple ID'. In the SHARE dataset, individuals

are given a couple ID if they share a residence with a partner. Therefore, all individuals in a cohabiting relationship are assigned a couple ID (including the respondent's partner regardless of age; for more details on the surveying characteristics of SHARE, please refer to Alcser et al., 2005). However, the proportion of couples in either registered or informal cohabitations within our dataset was minimal, accounting for less than 5% compared to the predominance of married cohabitations, constituting approximately 95% of the sample. Consequently, in the empirical analysis, we opted not to differentiate between marriages and cohabitations. Starting with 148,085 individuals, we excluded those not within a union, thus reducing the size to 111,864. We also had to eliminate individuals who were in couple but whose partner's interview was not available, leading to a sample of 97,664 individuals (i.e., 48,832 couples).

To observe late union dissolutions across waves using a couple approach, we only retained individuals who participated in at least two waves alongside their partners (thus losing an additional 23,290 couples). This approach ensured that we would capture potential union dissolutions by observing individuals who were in a union in one wave and potentially divorced in a subsequent wave. In cases of union dissolution, only one member of the couple was surveyed in subsequent waves, resulting in asymmetrical observations within the couple. Subsequently, we obtained a dataset in which each record corresponds to a couple-year – i.e., each couple appears in the dataset as many times as the partners are interviewed before the (potential) union dissolution occurs. Couples enter the observation in the first wave they both participate in the survey, and are observed until union dissolution or until they leave the sample for attrition (e.g., death).

Our final sample consists of 25,542 heterosexual couples – 5,331 entering in Wave 1; 2,170 in Wave 2; 7,567 in Wave 4; 4,536 in Wave 5; 2,532 in Wave 6; 3,406 in Wave 7; and 176 in Wave 8.

Dependent variable

The dependent variable examined was the occurrence of divorce or union dissolution among couples who were either married or in a relationship (n = 275). Specifically, we defined a couple as having

experienced a divorce or separation if one partner reported being single or divorced at Wave *t*, while they both reported being married or cohabiting at Wave *t-1*. In instances where the couple was not observed at Wave *t-1*, we considered data from Wave *t-2* (or the earliest available wave).

Key independent variables

For each health dimension, we constructed variables that captured various combinations of both partners' health conditions per wave. For SRH, individuals were categorised into two groups: those reporting excellent, very good, or good SRH (labelled as 'good SRH'), and those reporting fair or poor SRH (labelled as 'poor SRH'). To capture mental health, we used the depression level (a 0-to-12 scale based on the EURO-D depression scale, where 0 is 'not depressed' and 12 is 'very depressed') (see Prince et al., 1999). Following previous studies (e.g., Uccheddu et al., 2019), we considered individuals with a score of 4 or higher as depressed. Finally, to address the role of functional limitations, we used the GALI, which assessed the extent to which individuals have been restricted due to health issues in activities typically performed by people over the past six months. Responses included: not limited, moderately limited, or severely limited. We categorised individuals who reported being not limited or limited, but not severely so, as 'not limited'. This operationalisation arises from the fact that individuals with severe disabilities are more likely to require care, potentially inducing caregiver stress in their partners.

Subsequently, we created couple-level variables for each health dimension. For each variable, the first category comprises couples in which both partners are in good health across all three indicators. This means that both members report good SRH, have no severe functional limitations, and are not experiencing depression. The second and third categories represent couples in which one partner has a health issue while the other partner does not. For instance, in the second category, one partner may have poor SRH, severe functional limitations, or depression, while the other remains in good health across all three indicators. The fourth category includes couples in which both partners have health issues across the dimension under consideration. This means that both members report poor SRH,

have severe functional limitations, or are experiencing depression. A final residual category encompasses couples with health combinations unaccounted for in the previous categories. For instance, in this category, one partner may have poor SRH, while the other experiences severe functional limitations but reports good SRH and is not depressed.

Accordingly, the three variables appear as the following. For SRH: (1) 'both partners are in good health'; (2) 'the man has poor SRH, the woman is in good health'; (3) 'the man is in good health, the woman has poor SRH'; (4) 'both partners have poor SRH'; and (5) 'residual category'. For EURO-D: (1) 'both partners are in good health'; (2) 'the man is depressed, the woman is in good health'; (3) 'the man is in good health, the woman is depressed'; (4) 'both partners are depressed'; and (5) 'residual category'. For GALI: (1) 'both partners are in good health'; (2) 'the man has severe limitations, the woman is in good health'; (3) 'the man is in good health, the woman has severe limitations'; (4) 'both partners have severe limitations'; and 5 'residual category'.

As can be seen from Table 1, which provides descriptive statistics for all variables, the residual categories of the variables concerning couples' health comprise non-negligible proportions of observations. To investigate whether this may have introduced bias into our results, we conducted a robustness check by altering the formulation of the variable pertaining to couples' health. For each health dimension, the revised categorisation scheme maintained the distinction between couples based on their health status, but without generating residual categories. Specifically, the first category included couples in which both partners are in good health according to that specific indicator (e.g., both reported good SRH). The second and third categories encompassed couples in which one partner had poor health while the other did not, with reference to that specific indicator (e.g., one partner had poor SRH while the other had good SRH, regardless of the other health indicators). The fourth category comprised couples in which both partners experienced health issues across the dimension under consideration. This modified categorisation ensured that all couples were assigned to one of the four categories, eliminating residual categories. Importantly, while the main findings of our

analyses remained valid under this alternative formulation, the results were generally less clear cut: we surmise that this might be due to the fact that the alternative formulation did not examine the situation in which one partner had bad health while the other was in good health (across all health indicators), thus hindering proper interpretation. For instance, under the alternative categorisation, couples classified in the second and third categories might consist of scenarios in which the male partner experiences severe limitations while the female partner does not; however, the female partner may still be experiencing depression, thus rendering the health contrast between the partners somewhat ambiguous. Accordingly, we chose to retain the original categorisation due to our belief that it more accurately identifies couples with divergent health statuses (the results of the alternative categorisation are available upon request).

Sociodemographic variables

We accounted for several sociodemographic variables that could potentially confound the relationship between health and the risk of union dissolution. These included both partners' age as continuous variables. Age was also employed as a stratification variable, as the analyses were conducted separately for couples in which both partners were aged between 50–64, and for couples in which at least one of the partners was aged 65 or older. We controlled for union duration, categorised as: (1) 'less than 20 years'; (2) '20–39 years'; (3) '40 or more years'; and (4) 'missing information'. Additionally, we considered the experience of previous divorce(s) by adding a dummy variable, categorised as either (0) 'has never divorced', or (1) 'has already divorced at least once'. We included a time-varying variable denoting the presence of children and/or grandchildren within the couple, categorised as: (1) 'the couple has no children'; (2) 'at least one member of the couple has children, but no grandchildren'; and (3) 'at least one member of the couple has children and grandchildren'. We also controlled for educational level, with categories indicating: (1) 'both partners have tertiary education'; (2) 'only the woman has tertiary education'; (3) 'only the man has tertiary education'; and (4) 'both partners have secondary education or lower'. Lastly, we controlled for

country group, distinguishing between: (1) 'Southern Europe', (2) 'Western Europe', (3) 'Northern Europe', and (4) 'Eastern Europe'.

Economic-related variables

We considered two more variables that may operate as channels in the relationship between couples' health and the risk of union dissolution. These include the couple's employment status (time-varying), categorised as (1) 'both partners are employed'; (2) 'only the man is employed'; (3) 'only the woman is employed'; and (4) 'both partners are non-employed or retired'; and financial distress, accounted for with a time-varying variable distinguishing between two categories: (1) 'the household is able to make ends meet easily' and (2) 'the household is able to make ends meet with difficulty'.

Descriptive statistics for all the variables are reported in Table 1.

Table 1 – Descriptive statistics (N = 80,276 couple-years)

		% or mean	
		Ages 50-64	Ages 65+
Silver split		0.61	0.16
SRH:	Both are in good health	48.62	36.49
	Only man has poor SRH	12.64	14.49
	Only woman has poor SRH	13.80	15.68
	Both have poor SRH	12.90	23.11
	Residual category	12.05	10.22
GALI:	Both are in good health	48.62	36.49
	Only man has severe limitations	4.83	5.22
	Only woman has severe limitations	4.97	5.76
	Both have severe limitations	2.02	3.75
	Residual category	39.56	48.78
Depression:	Both are in good health	48.62	36.49
	Only man is depressed	2.66	2.41
	Only woman is depressed	7.67	6.22
	Both are depressed	2.79	3.56
	Residual category	38.26	51.32
Mean age (man)		58.8	72.4
Mean age (woman)		56.8	69.1
Union duration:	Less than 20 years	8.56	4.19
	20-39 years	68.11	16.05
	40+ years	11.41	72.02
	Missing information	11.93	7.74

Education:	Both tertiary	13.69	10.46
	Only woman tertiary	9.97	6.90
	Only man tertiary	10.47	11.39
	Both secondary or lower	65.87	71.25
Children/grandchildren:	The couple has no children	20.14	19.14
	The couple has children but no grandchildren	32.40	10.15
	The couple has children and grandchildren	47.46	70.71
Have previous divorce experiences		3.64	2.48
Country group:	Southern EU	21.96	25.30
	Western EU	36.29	33.49
	Northern EU	11.17	12.12
	Eastern EU	30.57	29.09
Employment:	Both employed	36.65	1.54
	Only man employed	19.71	3.35
	Only woman employed	14.81	6.68
	Both non-employed/retired	26.05	86.97
	One of the two missing	2.78	1.46
Financial distress:	Couple makes ends meet easily	62.77	65.65
	Couple makes ends meet with difficulties	37.18	34.24
Couple-years		31,915	48,361

Source: Authors' elaboration on SHARE data

Methods

We employed discrete-time event history models to analyse the relationship between the probability of experiencing union dissolution and both partners' health status, separately among couples where both partners are aged 50–64 and for couples in which at least one partner is aged 65 or older. For each dimension, we excluded couples falling in the residual category. We employed a multistep modelling approach: first, we ran a univariate model, which included only the dependent variable (late union dissolution) and the specific health dimension under consideration. Subsequently, to account for potential sociodemographic confounding factors, we implemented a multivariate model. This model incorporated such control variables as age, education level, presence of children and/or grandchildren, experience of previous divorce(s), union duration, wave, and country group. Finally, we extended our analysis by introducing additional variables possibly serving as potential mediators. Specifically, we included time-varying employment status and financial distress in addition to the aforementioned control variables. However, we observed no remarkable variations in the results after

adding new covariates; thus, we opted to only show results from the full models. Finally, to address potential correlations in the error terms, we clustered the standard errors at the country level.

Predicted probabilities of late union dissolution were calculated for each combination of partners' health conditions, facilitating the interpretation of the results. Furthermore, we computed the average marginal effects (AMEs) related to each health dimension based on the full models. We visually represented the predicted probabilities and the AMEs along with confidence intervals to facilitate pairwise comparisons (5% significance level), estimated at 83.4% (e.g., Goldstein & Healy, 1995).

Results

This section presents the results separately for the two groups of couples in which both partners were aged between 50 and 64, and couples in which at least one partner was 65 or older. The complete models are reported in Tables 2–4 in the appendix.

Ages 50–64

Figure 1 illustrates the results regarding the effects of SRH, activity limitations, and depression on the risk of silver split for couples in which both members are aged 50–64. Starting with SRH, we found higher predicted risks of silver split whenever one or both members of a couple have poor SRH, compared to cases in which both members have good SRH. However, the increase in the risk of silver split appears to be especially substantial (and statistically significant) only when the female partner reports bad SRH while the male reports good SRH (0.49% vs. 0.82%). Considering the GALI, our results show that the risk of silver split remains virtually unchanged when the man has severe limitations while the woman has no limitations, compared to couples in which both members are in good health. Conversely, the risk of silver split increases when the woman reports severe limitations while the man has no limitations (0.58% vs. 0.95%). The risk of silver split is highest when both members have severe limitations (1.38%), despite the large statistical uncertainty around the estimate,

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likely due to the small number of cases. The AMEs confirm that the increase in risk of silver split among couples in which either only the woman or both members have severe limitations is significant compared to couples in which both partners are in good health. Finally, depression plays a significant role in shaping the risk of silver splits. Our findings indicate that the risk of silver split increases when either member of the couple is depressed (while the other is in good health) or when both members are depressed. Interestingly, the risk of silver split peaks when the man is depressed while the woman is in good health (1.53%). However, both the estimate of predicted risk and the AME show large confidence intervals due to the small number of cases. When the woman is depressed while the man is not, the risk of silver split is also significantly higher compared to couples in which both partners are in good health (0.53% vs. 0.83%). Additionally, when both partners are depressed, the risk of union dissolution is higher, though not statistically significantly, compared to healthy partners.

Figure 1 – Predicted risk of silver split by partners' health status in terms of SRH, activity limitations (GALI) and depression, with relative Average Marginal Effects (AMEs). Ages: 50–64
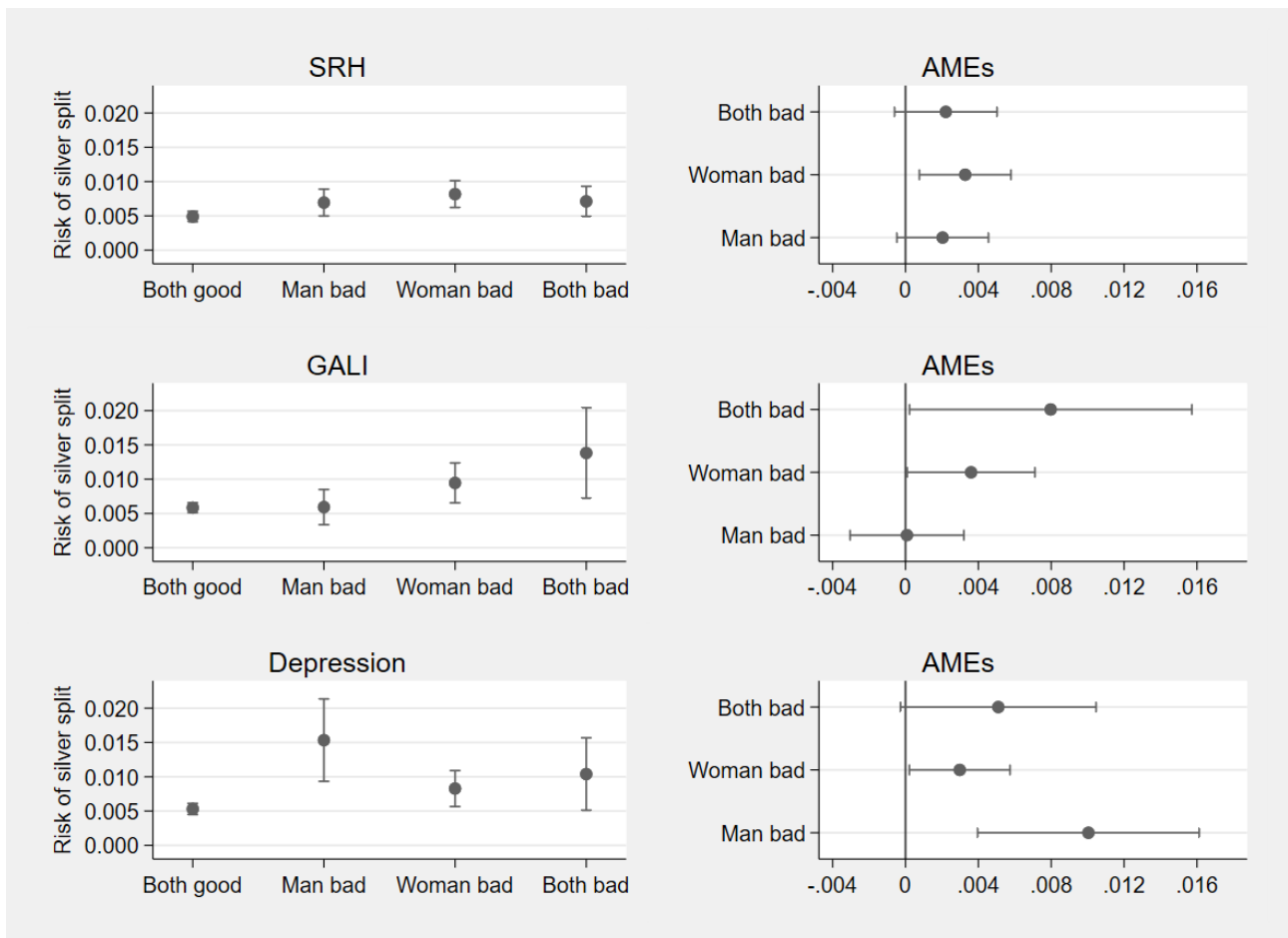
Note: Models control for age, education level, presence of children and/or grandchildren, union duration, experience of previous divorce(s), wave, country group, employment status, and financial distress. Confidence intervals for predicted probabilities are at 83.4%, while those for the AMEs are at 90%.

Source: Authors' elaboration on SHARE data.

Ages 65 and over

The same set of analyses discussed in the previous paragraph were repeated on couples in which at least one member is aged 65 or older, with the results displayed in Figure 2. First, it should be noted

that the risks of silver split were generally much lower compared to younger couples. When considering SRH, the results show a relatively flat trend, with predicted risks of silver split not changing substantially across the various types of couples. Compared to couples in which both individuals are in good health, the risks of silver split are slightly higher when either one or both partners have poor SRH (0.12% when both partners are in good health, and between 0.18% and 0.20% in the other cases). However, none of these differences are statistically significant. Larger variations are found when activity limitations are considered. We found a higher risk of silver split when either the male or female partner has severe limitations, while the other has none (0.36% and 0.20%, respectively), and when both report severe limitations (0.35%) compared to couples in which both partners are in good health (0.13%). However, none of these differences were found to be statistically significant. Finally, we also observed depression to increase the risk of silver split. Couples in which the man is depressed while the woman is not, and couples in which both partners are depressed, showed higher – but not statistically significant – risks of silver split compared to couples in which both partners are in good health (0.22% and 0.42%, respectively, vs. 0.12%). Conversely, couples in which the woman is depressed while the man is not displayed a significantly higher risk of silver split compared to the reference group (0.37%).

Figure 2 – Predicted risk of silver split by partners' health status in terms of SRH, activity limitations (GALI) and depression, with relative Average Marginal Effects (AMEs). Ages: 65 and over
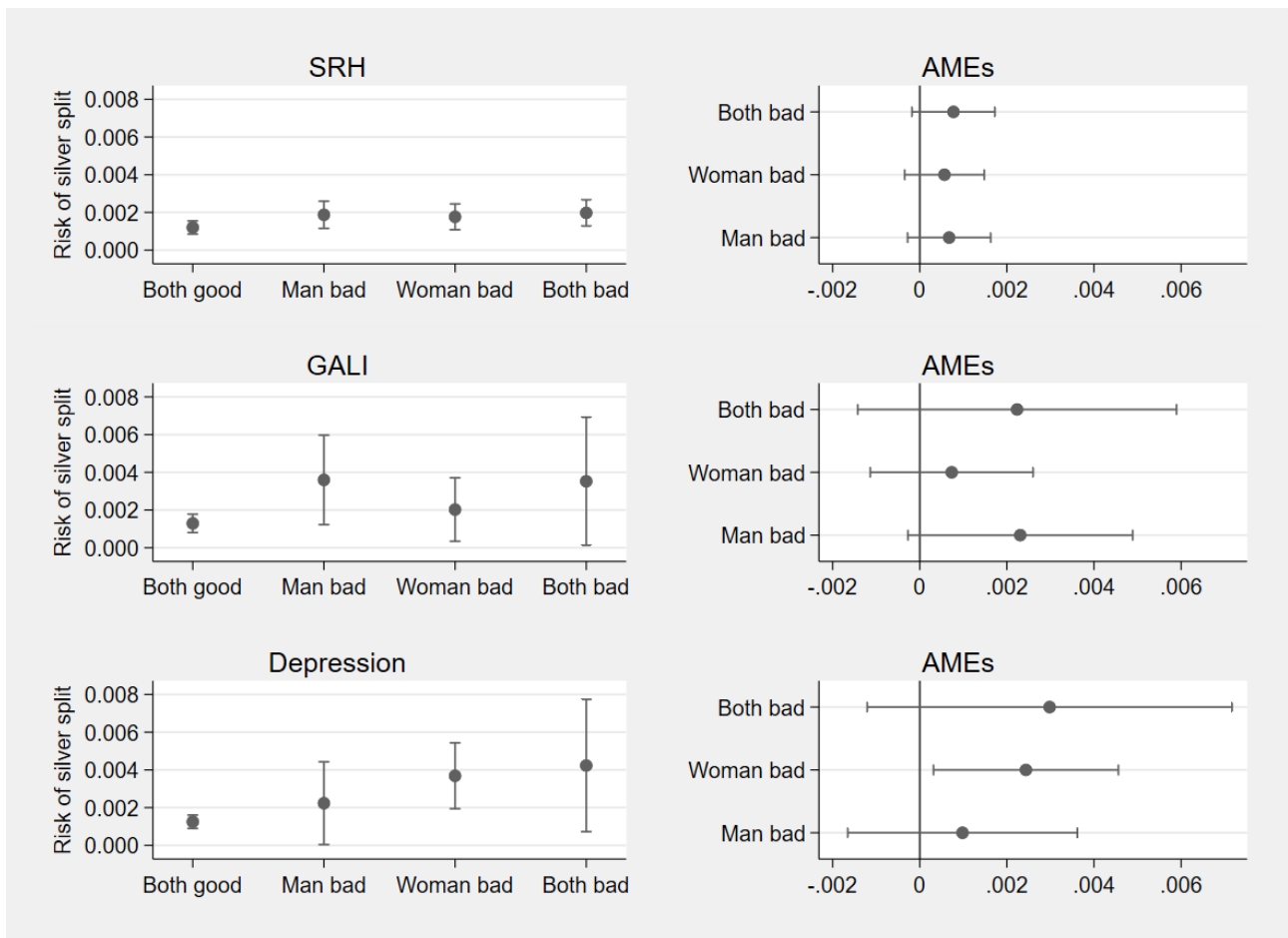
Note: *Models control for age, education level, presence of children and/or grandchildren, union duration, experience of previous divorce(s), wave, country group, employment status, and financial distress. Confidence intervals for predicted probabilities are at 83.4%, while those for the AMEs are at 90%.*

Source: *Authors' elaboration on SHARE data.*

Further analyses and robustness checks

Although not reported in the main text due to space constraints, we conducted additional analyses and robustness checks, which we briefly discuss here.

The results presented thus far illustrate the link between each health domain and silver split, separately. However, the three health domains considered are not independent of one another. Therefore, we conducted further analyses by replicating the above models, but without distinguishing the nature of the health concern. Specifically, we categorised couples based on whether only the man, only the woman, or both partners had at least one health problem (i.e., either poor SRH, severe limitations, or depression). The results remain consistent and confirm that, in general, the risk of silver split increases in response to poor health conditions by one or both partners; however, the risk of silver split is significantly higher – compared to couples with two healthy partners – only among couples in which the woman has a health problem while the man is in good health, confirming the existence of a gendered link between health and union dissolution risk. The results are available upon request.

We tested the robustness of our findings by replicating the analyses using different age thresholds to divide our sample into younger and older couples (i.e., ages 64 and 66 instead of 65). The results remain virtually unchanged and are available upon request. Similarly, we repeated our analysis of mental health by changing the EURO-D indicator threshold to distinguish between depressed and non-depressed individuals. The results remained unchanged when defining individuals with a score of 3 (instead of 4) or higher, but the estimates notably lost statistical precision if we defined individuals with a score of 5 (instead of 4) or higher as depressed.

Discussion

Despite extensive research on the causes and consequences of population aging, our understanding of family diversity in aging societies, and in particularly the reasons behind increasing union dissolution rates in old age, remains limited. By recognising that the lives of coupled individuals (married or cohabiting) are typically interconnected, particularly among older couples experiencing

health problems (Robb et al., 2008), this paper extends previous research on silver splits in Europe by focusing on the role of health status from a gender perspective.

Our main results can be summarised as follows: health status is a significant determinant of union dissolution in later life, especially before age 65, although to different extents depending on the health dimension considered. Our analysis, in fact, reveals no significant disparity in the likelihood of experiencing silver splits among couples in which at least one partner is aged 65 or older (except for the increased risk when the woman is depressed while the man is in good health). On the other side, our results concerning the role of SRH, activity limitations, and depression among couples aged 50–64 underscore the pivotal role of health in influencing the risk of later-life union dissolution across Europe. We found that couples aged 50–64 in which the woman reports poor SRH or faces severe activity limitations, while the man maintains good health, exhibit a higher risk of silver splits compared to couples in good health, aligning with our expectation of a gendered effect of health on silver split probability. Conversely, we observed that the probability of silver splits does not change significantly when the man experiences disability compared to couples in good health. This may indicate that men have more difficulties than women in coping with the stress of caregiving, especially in cases involving activity limitations, which can threaten the couple's cohesion. The degree and duration of disabilities can lead to various implications for the burden of caregiving, work limitations, and reduction in other areas of life. Consequently, disability measures may offer a more precise depiction of the caregiver's stress levels, as they consider the distinct requirements of the person with a disability and the caregiving demands imposed on the caregiver. Interestingly, such gender inequality does not emerge among couples aged 50–64 when depression is taken into consideration: issues with depression in either partner elevate the risk of union dissolution.

It is important to acknowledge that our study has several limitations. First, in order to adopt a couple approach, we had to apply restrictive criteria to our sample selection, as we had to drop all individuals with non-responding partners or whose partners were not interviewed. Second, due to the small

number of cases, it was not possible to conduct a country-specific analysis, not even by grouping by age or countries. This limitation is significant because previous studies have demonstrated that, while health measures reveal increasing gender differences with age, the extent of these varies depending on the type of indicator and the country under study (Schmitz & Lazarevič, 2020). Their findings indicate that Southern Europe exhibits larger disparities in the disadvantages faced by women in terms of poor SRH, activity limitations, and depression. In contrast, Northern Europe shows relatively small gender differences in multimorbidity, depression, and SRH compared to other European regions. Therefore, our findings represent average effects across multiple ages and countries, and any potential country-specific patterns may have been obscured. This opens the possibility for future investigations into the relationships proposed in this paper using more extensive longitudinal (country-specific) datasets. Third, we could not explore specific mechanisms in the possible causal chain from health issues to silver splits as the data used did not collect related information (i.e., partners' sexual activity) or because they contain too many missing values to be reliable (partners' caring activity). Finally, attrition is a known issue in panel analyses. Various solutions have been proposed to effectively control for attrition, depending on the mechanisms that generate loss at follow-up stages (Enders, 2010; Little & Rubin, 2002). Despite our efforts to include a wide range of control variables to address attrition bias, this approach can only reduce the consequences of attrition to the extent that it depends on observable characteristics. Previous analyses have found little evidence of selective attrition bias in SHARE (Bergmann et al., 2017; Kneip et al., 2015). We also acknowledge that our analysis has limited power to inform about causal relationships. We cannot rule out the possibility that individuals with certain health issues may also systematically vary in their propensity to dissolve a union. Nonetheless, our goal was to document any (gendered) relationship between the partners' health conditions and the risk of observing a silver split, not to make inferences about causation.

Conclusion

Population aging is a significant challenge for Europe, with family diversity being one of its manifestations. With rising life expectancies and increasing union dissolution rates, family structures are becoming more diverse and complex, especially among middle- and older-aged adults. Previous studies have mostly focused on the socioeconomic and health-related consequences of late union dissolutions, while the correlates of silver splits remain overlooked, especially in Europe. In this article, we found a non-negligible association between health status and the likelihood of separation among European couples aged 50–64. Notably, this relationship is gendered in the case of SRH and disability indicators: if the female partner reports poor SRH or has severe limitations, while the male is in good health, the risk of separation increases. Conversely, if it is the man who reports poor SRH or faces limitations, while the woman is in good health, the risk of separation does not significantly change in reference to couples in good health. This gendered effect, however, was not evident when considering mental health.

By placing emphasis on the nexus between health status and silver splits during middle and older ages, we enhance our comprehension of the factors that increase the likelihood of late-life union dissolution. This demographic group now represents a larger proportion of all dissolutions. Researchers should consider how health operates as a stressor on union stability, and should exercise caution when interpreting cross-sectional studies as evidence of the benefits of being in a union. Gendered health-related selection effects are clearly at play among older couples in Europe, with men struggling more than women with a partner's deteriorating health, thus jeopardizing the couple's stability.

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Appendix

Table 2 – Discrete-time event history analysis on SRH and the probability of experiencing silver split.

AMEs are reported; full models (SRH). N=72,241 (couple-years)

	Ages 50-64		Ages 65+	
	AME		AME	
SRH (ref. both good health)				
Only man has poor SRH	0.0020		0.0007	
Only woman has poor SRH	0.0032	**	0.0006	
Both have poor SRH	0.0022		0.0008	
Age (man)	-0.0002		-0.0002	***
Age (woman)	0.0000		0.0000	
Union duration (ref. less than 20 years)				
20-39 years	-0.0078	***	-0.0023	
40+ years	-0.0128	***	-0.0035	**
Missing information	-0.0081	***	-0.0001	
Education (ref. both tertiary)				
Only woman tertiary	-0.0014		0.0001	
Only man tertiary	-0.0042	**	-0.0015	**
Both secondary or lower	-0.0027	*	0.0001	
Children/grandchildren (ref. no children)				
The couple has children but no grandchildren	0.0009		-0.0001	
The couple has children and grandchildren	0.0000		0.0000	
Previous divorce experiences (ref. no)				
Yes	0.0027		-0.0008	
Country group (ref. Southern EU)				
Western EU	0.0017		0.0014	***
Northern EU	0.0070	***	0.0020	**
Eastern EU	0.0007		0.0009	**
Employment (ref. both employed)				
Only man employed	0.0012		-0.0007	
Only woman employed	-0.0010		0.0007	
Both non-employed/retired	-0.0025	**	0.0000	
One of the two missing	0.0025		-0.0001	
Financial distress (ref. couple makes ends meet easily)				
Couple makes ends meet with difficulties	0.0015		0.0002	

Note: * p<0.10; ** p<0.05; *** p<0.01

Source: Authors' elaborations on SHARE data

Table 3 – Discrete-time event history analysis on activity limitations and the probability of experiencing silver split. AMEs are reported; full models (GALI). N=44,428 (couple-years)

	Ages 50-64		Ages 65+	
	AME		AME	
GALI (ref. both in good health)				
Only man has severe limitations	0.0001		0.0023	
Only woman has severe limitations	0.0036	*	0.0008	
Both have severe limitations	0.0079	*	0.0022	
Age (man)	-0.0002		-0.0001	*
Age (woman)	0.0000		0.0000	
Union duration (ref. less than 20 years)				
20-39 years	-0.0080	***	-0.0024	
40+ years	0.0000		-0.0032	*
Missing information	-0.0061	*	0.0015	
Education (ref. both tertiary)				
Only woman tertiary	-0.0001		0.0007	
Only man tertiary	-0.0038	*	-0.0010	
Both secondary or lower	-0.0013		0.0003	
Children/grandchildren (ref. no children)				
The couple has children but no grandchildren	0.0012		0.0005	
The couple has children and grandchildren	-0.0004		-0.0007	
Previous divorce experiences (ref. no)				
Yes	0.0024		-0.0009	
Country group (ref. Southern EU)				
Western EU	0.0026	*	0.0015	**
Northern EU	0.0072	***	0.0025	**
Eastern EU	0.0011		0.0003	
Employment (ref. both employed)				
Only man employed	0.0011		0.0002	
Only woman employed	-0.0011		0.0006	
Both non-employed/retired	-0.0031	*	0.0008	
One of the two missing	0.0032		0.0000	
Financial distress (ref. couple makes ends meet easily)				
Couple makes ends meet with difficulties	0.0008		-0.0004	

Note: * p<0.10; ** p<0.05; *** p<0.01

Source: Authors' elaborations on SHARE data

Table 4 – Discrete-time event history analysis on depression and the probability of experiencing silver split. AMEs are reported; full models (EURO-D). N=44,661 (couple-years)

	Ages 50-64		Ages 65+	
	AME		AME	
Depression (ref. both in good health)				
Only man is depressed	0.0100	**	0.0009	
Only woman is depressed	0.0030	*	0.0024	**
Both are depressed	0.0051		0.0030	
Age (man)	0.0000		-0.0001	
Age (woman)	-0.0001		-0.0001	
Union duration (ref. less than 20 years)				
20-39 years	-0.0078	***	-0.0058	**
40+ years	-0.0130	***	-0.0060	**
Missing information	-0.0091	***	-0.0024	
Education (ref. both tertiary)				
Only woman tertiary	0.0007		0.0002	
Only man tertiary	-0.0015		-0.0002	
Both secondary or lower	-0.0004		0.0006	
Children/grandchildren (ref. no children)				
The couple has children but no grandchildren	-0.0004		0.0000	
The couple has children and grandchildren	-0.0009		-0.0008	
Previous divorce experiences (ref. no)				
Yes	0.0036		-0.0001	
Country group (ref. Southern EU)				
Western EU	0.0035	**	0.0002	
Northern EU	0.0064	***	0.0019	
Eastern EU	0.0018		-0.0008	
Employment (ref. both employed)				
Only man employed	-0.0020		0.0011	
Only woman employed	-0.0026		0.0002	
Both non-employed/retired	-0.0030	*	0.0011	
One of the two missing	0.0009		0.0000	
Financial distress (ref. couple makes ends meet easily)				
Couple makes ends meet with difficulties	0.0025		-0.0013	**

Note: * p<0.10; ** p<0.05; *** p<0.01

Source: Authors' elaborations on SHARE data