DOES GENDER TRUMP FAMILY TIES?
INTRA-COUPLE AND INTER-SIBLINGS SHARING OF CARING RESPONSIBILITIES FOR ELDERLY PARENTS AND IN-LAWS

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This paper aims to understand more about the relationship between elderly care provision and family ties, in its distribution across family members. It contributes to the literature by comparing high-intensity care provision in a range of European countries, by focusing on both providers' and recipients' characteristics. SHARE data and probit multilevel model are used to explore the extent to which care responsibility towards elderly care extends across family's members. Results indicate that intense elderly care is still very much a gendered activity: daughters are more likely to provide it than sons, and mothers are more likely to receive it than fathers. We found that intense elderly care is a "children' issue", for which sister are more likely to share the responsibility compared to brothers. The three generations framework reveals how upward and downward caring responsibilities might be conflicting, but also how individuals more inclined to provide care to their parents are also more likely to provide it to younger generations.

Keywords: Elderly care; gender; siblings; in-laws; family ties, intergenerational relations

Demographic, economic and social changes – population aging, decreased fertility, shrinking family size, increase in female activity rates – have radically increased the demand for elderly care in all advanced countries. Additionally, increasing life expectancy has amplified the individual and family probability to experience bi- and even tri-intergenerational relationships, with the relative bidirectional care responsibilities. Despite the falling birth rate and delayed childbearing, the share of people in three- and four-generation families is raising in the last decades (Bengtson *et al.*, 1990; Bengtson *et al.*, 2003; Harper, 2003; Véron *et al.*, 2007). These demographic and social changes indicate a growth in care needs and at the same time a reduction of the family care capacity. Focusing on later life intergenerational care

relationships, the literature has considered different aspects: crowd-in and crowd-out effects of formal support in relation to family caregiving (Keck, 2008); cultural and institutional determinants in care relationships (Brandt *et al*., 2009); the gender division of caring activities (Chesley & Poppie, 2009; Sarkisian & Gerstel, 2004); and the types of transfer between generations (Albertini & Kohli, 2003). What is still missing in the literature, to the best of our knowledge, is an analysis of the distribution of care responsibilities across family ties, when parents' health conditions call for an intense care need that might spread beyond their household, investing descendants at a time when it may coincide with care responsibilities toward the newest generations, as children and grandchildren.

Considering that families are still the main agency in care provision (Folbre & Bittman, 2004; Saraceno, 2008), social and demographic transformations indicate that a large pressure in terms of caring activities is -and increasingly will be- on the shoulders of the 'sandwich generation'. Thus to those who may have care responsibilities towards their (grand)parents and (grand)children at once. While child rearing represents a long-term commitment that could be envisaged and planned by the parents, elderly care constitutes a more temporally framed and concise involvement, characterized by a higher intensity relationship and, even if usually limited to old age, tends to be sudden and episodic, with a much smaller degree of predictability. The greater unpredictability of care needs in old age suggests the importance to shift the focus, in the analysis of care relationships, from an individual perspective to a couple and family perspective (Chesley & Poppie, 2009; Henz, 2010; Lee *et al.*, 2003). In case of prompting care needs, the responsibility can invest initially the (often co-resident) partner but, when this is not available or unable to cope with the high demands for care need, the responsibility may trigger down to the adult children and their families, following the descendants' lines (Szinovacz & Davey, 2008). It is thus important to disentangle the care relationships within families and between family members, to understand how care is shared

and how cultural and socio-demographic factors, and institutional contexts affect this process. Lastly, further attention should be paid to the bidirectional nature of care responsibilities (Grundy & Henretta, 2004; Hagestad, 2006; Saraceno, 2010) to understand if older and younger generations are competing over the same care providing source -indicating thus a trade-off or hierarchization between care responsibilities- or if care provision is more related to family attitudes and dispositions (Hagestad, 2006; Grundy & Henretta, 2004). Downward care responsibilities may conflict with upward ones exposing either care-recipients or care-givers to an uneven likelihood and intensity of care. We ought to understand more of how carers' structural constraints, as full-time employment or health status, interact with bi-directional care responsibilities.

As previous literature suggests, there are different models of family care provision to the elderly across countries (Dykstra *et al.*, 2013; Dykrstra & Komter, 2012; Kalmijn & Saraceno, 2008; Nazio & Saraceno, 2013; Saraceno, 2008 & 2010; Saraceno & Keck, 2010;). Further research on European countries on bi-directional care between parent and adult children has reconsidered the geographical gradient's role in differentiating between intergenerational care approaches (Dykstra & Fokkema, 2010; Glaser *et al.,* 2004; Fokkema *et al.,* 2008). Even beyond the cultural and institutional influences, the existence of different typologies of adult children-parent relationships, transversal to the European welfare state models, demands to further investigate the individual and family characteristics in the analysis of intergenerational care relations. To this end, our analysis focuses on three specific aspects, which are the (i) couples' distribution of care between parents and parents-in-law, (ii) the role of horizontal ties, i.e. siblings, and (iii) the impact of downward care responsibilities on adult children-parents care relationships. Specifically, the analysis focuses only on intensive care commitment (about daily or on a daily basis), provided by adult children and/or their partner to their parent(s). Intense care relations indicate a real and

demanding involvement that cannot be sporadic and occasional that, in our perspective, allows investigating care sharing in times of substantial and demanding care-load needs. The study, first, argues about the importance to focus on intense care exchanges in intergenerational analysis and discusses the differences across European countries. It then explores the role that individual and family characteristics have in influencing the care activities children perform for their parents. The last two sections are dedicated to the empirical analysis through probit multilevel models and the discussion of the results. The analyses are based on the Survey of Health, Ageing and Retirement in Europe (SHARE), which facilitates the comparative investigation of intergenerational family relations in 7 European countries— Denmark (DK), France (FR), Belgium (BE) Italy (IT), the Netherlands (NL), Spain (ES) and Sweden (SE) - grouped in three care regimes: Nordic (DK and SE), Continental (BE, NL and FR) and Southern (IT and ES).

THEORETICAL FRAMEWORK

Intense care relation and welfare state: reasoning and empirical evidence

Recent social and demographic changes suggest that families' transformations ought to bring along also changes in caring responsibilities. Dystra and Fokkema (2011) have shown that a longer life expectancy and falling birth rates have led to the so-called ‘bean pole’ families (Bengtson *et al.,* 1990), with a relatively large number of vertical ties and comparatively few horizontal ties. In addition, the increase in divorce and re-partnering has boosted complexity in family ties (Bengtson, 2001; Hagestad, 1998; Matthews & Sun, 2006; Seltzer *et al.*, 2005). These socio-demographic changes have important implications for families and intergenerational care provision in both directions, upward and downward. The increased importance of ‘non-traditional families’ and the ‘verticalization’ of the family structure (Bengston *et al.,* 1990 & 2001) suggest that individuals, often late-middle age women, can experience the simultaneous responsibilities of caring for (grand)children and adult parents

(Grundy & Henretta, 2006). While care toward the younger generation represents a long-term and continuous commitment (with decreasing intensity over time), researchers have shown that time transfers to elderly parents are driven by both recipients' needs and providers' constraints and opportunities (Brandt *et al*, 2009). Older adults are more likely to be engaged in care relationship with their offspring in case of disabilities (Pillemer, 2006), whereas time constraints, as full-time employment or other dependants, on the other hand, tend to limit adult children's availability to provide support to their parents (Henz, 2009; Stoller, 1983; Ungerson, 1987). An increase in needs, as a severe disability implies, is associated with a greater probability to receive informal support from the younger generation (Silverstein, 2002; White-Means & Rubin, 2008), even in countries with generous welfare state and Long Term Care sectors (Motel-Klingebiel *et al*, 2005; Künemund & Rein, 1999). Thus, we expect that high-intensity care activities -usually associated with intense needs- tend to be less affected by institutional features, to be less sporadic and less discretionary, but highly demanding for the family care providers. In a context of increasing verticalization of family structures and greater competition between generations on the (finite and shrinking) families' care resources (Grundy & Henretta, 2006), it is relevant to focus on high intense elderly family support in order to better understand how intergenerational care responsibilities and care relationships are distributed across and between family ties when need surges. While several studies have focussed on the intergenerational care dynamics between elderly population and their offspring, no research, to the best of our knowledge, has yet addressed this issue focussing on the intense care relationships in a comparative framework. Intense care relations are of utmost importance for the caregivers' life organization. Intense care commitments can influence labour-market participation of the family members who take up care responsibilities (Ettner, 1995; Naldini *et al*, 2014), especially women (Henz, 2004; Stoller, 1983), reduce their financial independence (Lai, 2012), and affect their physical and

mental health (Ingersoll-Dayton *et al.*, 1996; Schultz & Scherwood, 2009). Intergenerational care relationships have so far been investigated distinguishing different kinds of support provided between elderly parents and their children, as practical help and care (Brant *et al.*, 2009). However, when intergenerational care relationships are based on intense time transfer, this differentiation, although real and important, loses importance, because of the demanding commitment that these relationships entail.

Cross-national variations in parental care provision

Introducing the care dimension as a category of welfare state analysis in the debate over welfare state organization, Daly and Lewis (2000) as well as the literature on care regimes (Albert, 1995; Anttonen & Sipilä, 1996; Bettio & Plantenga, 2004; Jensen, 2008; Orloff, 1993; Saraceno & Keck, 2010) have proposed a reconceptualization of the traditional welfare state typologies (Castles & Mitchell, 1990; Esping-Andersen, 1990). According to this strain of literature - focused mainly on European countries - typologies of regimes have been identified, which only partially overlap with typologies not based on the care dimension (e.g. Esping-Andersen, 1999; Ferrera 1996). A Nordic model characterized by a broad and universalistic coverage of services (SE and DK). The conservative or continental model, which can be subdivided into countries in which there is a supportive system for the family through their direct involvement in the care processes (FR, BL), and those in which there is a more clear-cut differentiation between family and state, which acts as a primary care agency, especially in relation to elderly care (NL). The Mediterranean model, where families operate as 'social clearinghouses' (Bettio & Plantenga, 2004: 99) with frequent diversified exchanges within family networks and with weak formal public support (ES, IT).

The welfare state literature on care, however, must be contextualized around intense intergenerational care relations. The ‘specialization hypothesis’ sustains that the availability of formal social services tends to limit the needs of (intense) family supports (Daatland &

Herlofson, 2003). While the combination of the preference toward cash benefits solution- instead of in in-kind services - and the recognition of families as primary care agency tend to be associated to a higher recourse to (intense) family care (Fokkema *et al.,* 2008). In contrast to the 'specialisation hypothesis', studies find complementarity between family care and services availability, suggesting that welfare state generosity does not crowd out family intergenerational solidarity and exchange (Attias-Donfut & Wolff, 2000; Attias-Donfut *et al.*, 2005; Knijn & Komter, 2004; Kohli, 1999; Künemund & Rein, 1999; Motel-Klingebiel *et al,* 2005). This crowd in scenario well applies to less frequent and less intense care provision, where family members complement the provision secured by public services. In the case of intense care relations, however, we would expect that in regimes with a substantial amount of public care provision, being provided regardless of the filial characteristics, individual's gender and siblings' presence (along siblings' gender) may have less of an effect on the likelihood to become intense care provider. Conversely, individuals residing in countries with scant provision of care services for the elderly may experience a higher likelihood to provide intense care to their parents, or in-Laws, when needed. Here, when more potential carers are available, gender might most easily display its effect among children.

INTERGENERATIONAL CARE WITHIN FAMILIES: DRIVERS AND EMPIRICAL EVIDENCES

Sharing upward care

Researches on adult children-parent relationship have widely investigated how caring responsibilities and duties are shared within family, especially between spouses/partners (Cancian & Oliker, 2000; Gerstel & Gallagher, 1994; Szinovacz & Davey, 2008) and, along descendant line, between siblings (Horowitz, 1985; Finch, 1989; Spitze & Logan, 1990), highlighting the predominant gender division of labour. Grundy and Henretta (2006: 708), state that '[m]*uch of the current research and policy interest in three-generation families has*

been on women in a broad age group, late-middle age'. Indeed, as Saraceno (2010) suggests, when a parent becomes widow, adult children (mainly daughters) become primary carers. These works have clarified the role of and the burden posed on women - daughters and female spouses - in intergenerational care relations, but little is known about how family ties influence the gender division of care. Indeed, two other aspects should be considered in analyzing care relationships among family kinships: the filial responsibility for own parents and parent-in-laws, and the horizontal sharing of care duties among siblings. Studies on the parental care support of children and children-in-laws have yielded contrasting results. Some studies suggested that parental care is more prevalent among blood ties, but others have shown minor or no difference in support to parents and parents-in-laws (Henz, 2009; Ingersoll-Dayton *et al.,* 1996; Lee *et al.,* 2003; Merrill, 1993; Peters-Davis *et al.,* 1999; Shuey & Hardy, 2003). Care to parent and in-law is also affected by carers' gender. In relation to the US and the UK, findings suggest that men are more likely to be involved in caring activities towards their parents-in-laws, but they actually provide fewer hours of care than daughters-in-laws once they are involved (Gerstel & Gallagher, 2001; Henz, 2009; Lee *et al.,* 2003). Few studies have investigated siblings' effect in parental care within family kinships. Brandt *et al.* (2009), in their work on 11 European countries, indicate that the probability to provide practical help decreases with each additional sibling, but when care, instead of help, is considered this finding is not consistent. This result could have been influenced by not having considered the gender of siblings, which plays an important role in the division of care responsibilities among them. US studies on adult children-parent(in-law) care relation indicates that sisters substitute sons in parental care commitment (Gerstel & Gallagher, 2001). In particular, the availability of sisters reduces the amount of time that men spend helping relatives. Matthews and Heidorn (1998) found that while men in brother-only sibling sets draw on the labor of their wives in caring for elderly parents, men with sisters

relied on them as primary caregivers. What is still lacking is a better understanding of how the gender division of labor influences not only care toward own parents and parents-in-law but also, moving beyond the household to extended kin, how the availability of siblings - especially sisters- influences parental care in the distribution of intergenerational care responsibility across available carers. In this regard, it is important to analyse the intergenerational care relations along the lines of the four possible carers-care receivers relations: to mothers, fathers, mothers-in-law and fathers-in-law.

Does downward care affect upward care?

One of the most relevant aspects in relation to the 'sandwich generation' is the bidirectional nature of care relations, highlighted by the increasing attention posed in the literature on family care dynamics when call for support can potentially be claimed by younger generation, as children, and by frail elderly persons (Brody, 1981; Gianrusso *et al.*, 1996*;* Grundy & Henretta, 2006; Fokkema *et al.* 2008; Dykstra, 2010). These researches mainly adopt a three-generational perspective, in which the family carers are 'squeezed' between upward care, toward parents, and downward care, toward their own children. Because of the increased healthy life expectancy, an additional 'layer' has to be added to this perspective, namely, the caregivers' grandchildren. Indeed, to provide a more detailed picture of the possible intergenerational care dynamics within families, in our analysis we consider not only care provided to the caregivers' children but also to their grandchildren. This four-generational perspective can provide further insights on the debate about conflicting needs of the ascendant and descendant generations. Previous research indicates that children, or downward care responsibilities, are to be considered as competing obligations rather than an opportunity when care towards parents is considered (Brandt *et al.*, 2009). Conversely Henz (2010), in her study on the parent care between spouses in UK, found that the presence of dependent children does not affect the possibility to provide care to parents or in-laws. The

hypothesis of ‘family solidarity’ that Grundy and Henretta (2006) elaborated starting from the work of Silverstein and Bengtson (1997) on two generations care exchanges, provides a further step in this direction. In their work on intergenerational relations in UK and US, Grundy and Henretta (2006, 718) found that ‘*providing help to one or more adult children increased the probability of also giving help to an elderly parent or parent-in-law, and vice versa* [, indicating that] *some families are more engaged in intergenerational exchange than others*’. These findings suggest that, even in a three-generation perspective, the commitment to intergenerational exchange depends on the degree of solidarity between family members. Families with stronger solidarity preferences tend to assist both generations rather than prioritising recipients, as dependants, while those with low preference for solidarity seem least likely to help multiple generations. Intense care relations between parents and adult children represent a good 'test' for these discordant approaches. Engagement in intense parental care relations can also be influenced by the internalised propensity to provide care of the individual or of the families, which in turns can result in a higher propensity to provide care towards younger generations. (Grundy and Henretta, 2004; Hagestad, 2006).

The effects of socio-economic status on upward care

Researches on bi-directional support between adult parents and their children have shown that intergenerational relationships are influenced by different factors. Besides cultural and institutional characteristics that can explain national differences (Saraceno, 2010), intergenerational support seems driven by individual needs, constrains and motivations. On the supply side, whether adult children provide help mainly tends to depend on time availability, and the cost of their foregone activities. In their study on solidarity between parents and their adult children in Europe, Fokkema (*et al*., 2008) found that the highest income groups and more highly educated have the weakest sense of duty related to family care towards older adults, children and grandchildren. Brandt (*et al.*, 2009) provided instead

opposite findings. In relation to intergenerational help, Brandt and colleagues highlight that adult children with medium and high educational level - compared to low educated -, and those not exposed to material deprivation, are more prone to provide support to their parents. For what concerns care activities, instead, no class effects were identified. These findings suggest that, once institutional and cultural factors are controlled for, adult children are more likely to provide a kind of support which better fits with their own constrains, as less demanding support, namely, help activities. Thus, in a context of mixed economy of care, in which family can opt for privately purchasing care to integrate or substitute public and informal care, the household income could be related to the care burden left to the family (Henz, 2010). In case of high intensity family care, although transversal to adult children's socio-economic characteristics, well off families could reduce their direct care engagement through services purchasing on the care market.

HYPOTHESES

The following set of hypotheses stem from the above discussion and from previous findings. If sharing mechanisms were in place between spouses, with gendered expectations in face of the long-practiced gender division of labour (Hochshield, 1979; West & Zimmerman, 2009), we would expect that women have a greater probability to provide care to parents, but also to parents-in-law, than men (Hp. 1). Alternatively, in relation to sharing along descendants' lines, with other living siblings, we expect that the likelihood of being involved in intense care provision would reduce with the presence of sisters (for sharing responsibility) more than with living brothers (Hp. 2). In line with recent studies from the UK and USA (Grundy & Henretta, 2006; Hagestad, 2006; Hagestad & Dykstra, 2016), suggesting that upward caring, toward needy aged parents(in-laws), might be more likely combined with downward caring for grandchildren, with some families being 'high exchangers' in both directions, probably supported by a higher attitude/preference for family-based care provision. We thus

expect that those who are more likely to provide intense support to their parents (in-law) are also more likely to support downward generations (Hp 3). Dependency and related care needs, in later life, tend to be transversal to adult children's income and educational levels. However, the relatively limited temporal dimension of intense care-giving to frail elderly and the resource dependence of the possibility to outsource caregiving responsibilities suggest that educational level and household income may influence adult children's propensity to provide care to their elderly parents. We expect to find an inverse relation between both children's income and their educational levels and their likelihood to provide intense informal care (Hp 4).

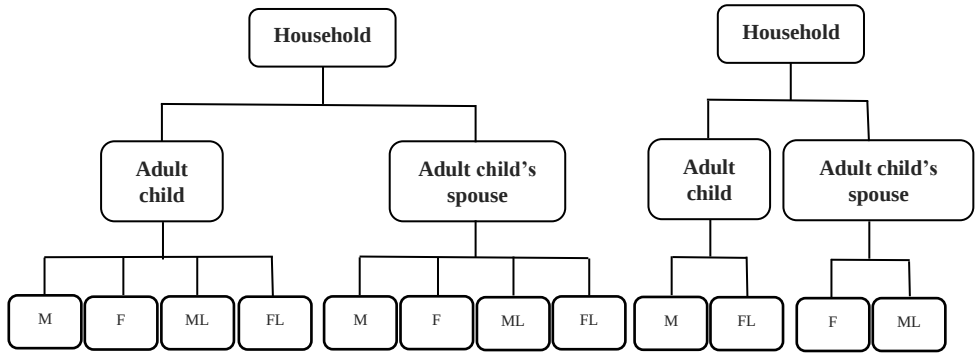
METHOD

Sample

The Survey of Health, Ageing and Retirement in Europe (SHARE) is a multidisciplinary and cross-national panel database of micro data on health, socio-economic status and social and family networks of individuals aged over 50 years in several EU countries. We use the data from the second, fourth and fifth wave of SHARE, fielded between 2006 and 2013. The first and the third wave are not included in the analysis because in wave 1 both households' and individuals' income measures are reported in gross terms and wave 3, SHARELIFE, focuses only on people's life histories failing to provide comparable information. Since we retain data from the most recent wave of longitudinal respondents, the analytical sample comprises around 60% respondents interviewed in the last wave (2013). Our analyses focus on the child-parent relations, and, to allow exploring the within couple and between siblings sharing of care responsibilities, we select couples or singles with at least one parent (or in-Laws) alive at the household level, for a total of 19570 observations, 10020 women and 9550 men, aged 22-90 (M=56.76, SD=6.4). Analytically, we believe that the ideal unit of observation is the couple rather than single individuals. It is indeed households' capacities to provide help

that are triggered in case of need: if the more tightly linked family member (usually the child) is unable to provide the necessary assistance, their spouse or other family members (siblings) may step in their place. As figure 1 shows, in order to identify the between households (across siblings) -and within households (between partners)- family ties, we have traced the adult children-parent (/in-law) relationship for each couple member within a household[c]. No distinction is made between marital and cohabiting relationships, thus "parent-in-Law" status is attributed to the partner's parents regardless of the couple's legal bonding. In our design each respondent (parents' adult child) has potentially up to four living parents or in-Laws to whom they could be providing care. As Figure 1 shows, the hierarchical structure of the dataset sees has three levels, wherein parent and parents-in-law are nested within the adult children and their spouses (one's parents will become the other's in-Laws), which in turn are nested within the households.

Figure 1. Hierarchical structure of the data.



Note: mother (M); father (F); mother-in-law (ML); father-in-law (FL).

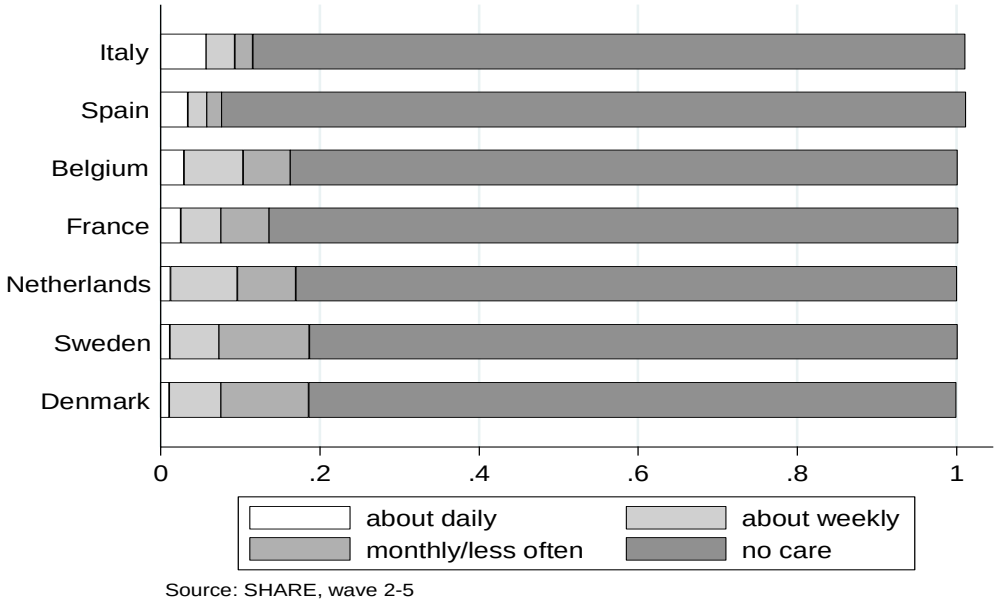
Dependent and independent variables

Unlike other research (Brant *et al.*, 2009) in this work carers are classified as adult children that in the last 12 months have provided both practical help and/or care to their parent on a (about) daily basis. We chose not to differentiate between the types of support provided by adult children for two reasons. First, we believe that providing support to elderly on a daily basis, regardless of the intrinsic characteristics of this support, can strongly challenge the

adult children's daily life routine. Support is a finite and not differentiable resource in terms of time, and since the parents' average age in our sample is 84.29 years (SD=7.4) -an age in which individual independence is limited-, adult children are often involved in different tasks to fulfil their parents' necessities. Secondly, the fifth wave of the SHARE questionnaire makes impossible to differentiate between the different kinds of support provided and received by the respondents.

Our hypotheses were empirical tested using multilevel mixed-effects Probit models comprising three levels: the (up to 4) dyadic relationships of individuals to their living parents and parents in law (Level 1); the care-providing individuals themselves (Level 2) and their households when in couple (Level 3). The dependent variable was a dummy scoring 1 if daily or about daily care was provided to the corresponding elderly, 0 otherwise. Figure 2 illustrates the proportion of caregivers among children and their partners by intensity of care provision. As figure 2 shows our chosen dependent variable is derived from one measured at scale level with values ranging from 1 (no care provision in the past 12 months) to 4, representing the highest frequency, on about a daily basis.

Figure 2. Share (%) providing care to parents(/in Laws) by intensity/frequency, by country.



Countries of residence were included as controls in the analysis, where weights were not applied. The chosen multilevel framework responds to the unbalanced design of the analytical sample: individuals may be either single or in couple, and can have all, or only some of the parents and in laws alive, thus couples may have one to four ties to potential elderly in need. Further upper levels allow controlling for the likely similarity between observations referred to the same individual, given the nested nature of dyads within individuals, and the possible sorting of (more alike) individuals within couples (DiPrete & Forristal, 1994; Snijders & Bosker, 1999). Finally, multilevel models allow to control for the characteristics at the corresponding level of either care recipients (elderly parents or in laws) or caregivers (individual providers). A standard approach, disregarding these similarities and asymmetries, might have resulted in biased estimation of the coefficients and standard errors in the analyses.

We estimated two separate models: a first "Model 1" includes co-resident elderly parents while a second "Model 2" excludes them (-448 observations). Controls at the household level include income (measured in quintiles), presence of any small grandchild (below 14 years) and if living with a spouse or partner. Controls at the children's level include age (with a linear and a quadratic term); level of education and current occupational status; if single child or –if not- whether has sisters and-or brothers alive and if caring towards children or grandchildren and related frequency . At the parental (dyadic) level controls include parental (or in-laws) age, self-perceived health status, if residing with a partner, a measure of the distance to the child/in-law and the dyadic relation parent-child(/in-Law) by sex of each (female adult child to her father being chosen as the reference category). Finally, a set of dummy variables control for the country care regime clusters: Southern (IT and ES) or Continental (BE, NL and FR) versus Nordic (DK and SE chosen as reference category).

RESULTS

Preliminary descriptive statistics (Table 1) on the rate of adult providing intense elderly care by gender and family tie in the selected country regimes reflect differences between genders, relations and institutional contexts. The figures suggest the presence of a clear association between the gender of providers and recipients, as well as their role within the family (biological vs legal bonding). Daughters (left part of the table: Female) tend to provide more often intensive care than sons (right part of the table: Male) especially to own parents, and mothers tend to receive it more frequently than fathers; direct offspring also tend to be more involved than their spouses (Hp. 1). However, gender differences become smaller as intense care frequency decreases across country-regimes. Indeed, as expected, we also observe higher levels of intense care provision in Southern countries, followed by Continental and lower levels in the Nordic countries.

Table 1. Share (%) providing high intensity elderly care by gender and family tie, by regime.

	Female					Male				
	Mother	Father	Mother in Law	Father in Law	N	Mother	Father	Mother in Law	Father in Law	N
Nordic	2.16	0.93	0.70	0.32	2718	1.29	1.60	0.76	0.23	2580
Continental	5.60	2.15	0.95	0.45	4257	3.13	1.33	0.76	0.32	4000
Southern	9.54	7.14	2.39	1.34	3045	4.44	2.87	1.90	1.35	2971
tot	5.91	3.41	1.29	0.55	10020	2.94	1.86	1.10	0.62	9551

Source: Authors' calculation on SHARE data (waves 2-5, unweighted)

To discount for compositional effects, our hypotheses are tested more accurately by estimating the probability of providing intense caregiving while controlling for both providers and recipients' characteristics.

Results of the multivariate analyses (Table 2) show more clearly that intensive care for elderly parents does not seem to transfer over to spouses (section Parents-Dyads in the table). The likelihood of providing intensive care to in-laws is much lower than that to one own parents, for both men and women, whose set of coefficients display negative and strongly statistically significant effects. Results also confirm that care is still a female issue: more women tend to provide it but also (only marginally significant) to receive it. Average predicted probabilities (Figure 3) more clearly depict the pattern of results by gender (of caregiver and recipients) and relational bonding.

Figure 3. Average predicted probabilities of adult children providing intensive care to parents(-in-law)

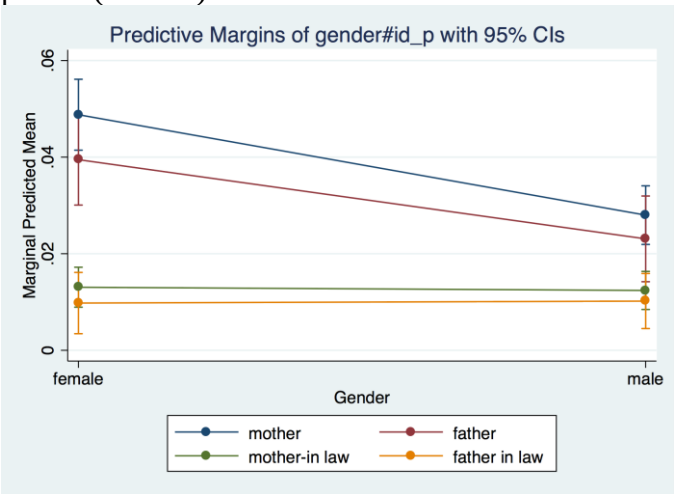


Figure 3 shows how daughters (female, on the left side) are on average around double as likely to provide intensive care to their parents than sons (male, on the right side). No statistically significant difference between fathers and mothers for neither genders, though the average estimated probability to assist mothers seem somewhat higher, all else controlled for. No difference is also revealed, and a much lower average likelihood for both male and female, in intensively assisting their in-laws (lower lines in Figure 3) (Hp. 1).

The elderly spousal status is a significant predictor of children's activation: having a living partner or spouse lowers the risk that children will provide intense care, and the opposite is true for children familial status, where non partnered children are more likely to be invested

with intense caring responsibilities. As expected, geographical distance is a strong predictor that mediates the likelihood to provide care on very frequent basis: the closer the potential provider to the elderly, the more likely to become a caregiver However, with cross-sectional data this association cannot be read causally, since a shorter distance might have been triggered by an increased need on either sides, more likely by the elder, although residential moves are associated to substantial logistic, organizational and monetary costs and are not very likely at later ages. The same occurs with children's perception of the elderly's health status: the more compromised health (poor and to a smaller extent fair), the more likely to trigger intense caregiving.

Table 2. *Multivariate model results, multilevel mixed-effects model*

		Model 1		Model 2	
Categories		Coefficient	*SE*	Coefficient	*SE*
Household – couple level					
Household income quintile	1° quintile (r.c.)				
	2° quintile	0.04	0.14	-0.02	0.15
	3°quintile	-0.07	0.15	-0.21	0.17
	4° quintile	0.19	0.14	0.13	0.16
	5° quintile	0.31**	0.15	0.17	0.17
Cohabit with partner	cohabitation (r. c.)				
	not cohabitation	0.61***	0.13	0.52***	0.15
Presence of (grand)children	no (grand)children <14y (r. c)				
	(grand)children <14y	-0.36***	0.11	-0.35***	0.12
Adult children/partners					
age (centered)		0.21**	0.09	0.12	0.1
age (squared)/100		-0.19**	-0.18	-0.12	0.08
Level of education	up to lower-secondary (r. c.)				
	upper-secondary	0.12	0.1	0.11	0.12
	tertiary	-0.01	0.12	0.01	0.14
Current job situation	retired (r. c.)				
	employed (or self-)	-0.41***	0.13	-0.54***	0.15
	unemployed	0.05	0.2	-0.06	0.23
	permanently sick/disable	-0.51**	0.24	-0.58**	0.27
	homemaker	0.13	0.15	0.09	0.17

	other	-0.24	0.39	-0.24	0.43
Care toward children	no care (r. c.)				
and grandchildren	about daily	0.72**	0.19	0.82***	0.22
	about every week	0.55***	0.15	0.67***	0.17
	about every month	0.49**	0.19	0.56**	0.21
	less often	0.35*	0.19	0.39*	0.2
Sisters alive	no sister alive (r. C.)				
(female resp.)	at least one sister alive	-0.17	0.12	-0.17	0.14
Sisters alive	no sister alive (r. C.)				
(male resp.)	at least one sister alive	-0.23	0.15	-0.36**	0.17
only child	sibling(s) alive (r. c.)				
	no sibling(s) alive	0.06	0.13	0.03	15
Parents-dyads level					
Self-perceived parent(s)	excellent/good (r. c.)				
health status	fair	0.39***	0.11	0.45***	0.12
	poor	1.15***	0.12	1.17***	0.13
	don't know	0.56**	0.25	0.28	0.3
Age (centered)		0.03***	0.008	0.05***	0.009
Partnership status	single (r. c.)				
	couple	-0.57***	0.12	-0.50***	0.13
Relation parent(in-law)	female-father (r. c.)				
adult child/partner	female-mother	0.22*	0.12	0.20	0.14
	female-mother-in-law	-1.03***	0.18	-1.15***	0.21
	female-father-in-law	-1.27***	0.29	-1.76***	0.38
	male-mother	-0.34*	0.18	-0.29	0.2
	male-father	-0.52**	0.23	-0.46*	0.26
	male-mother-in-law	-1.08***	0.21	-1.07***	0.24
	male-father-in-law	-1.24***	0.28	-1.17***	0.31
Geographical distance	>=25 km (r. c.)				
	5-25 km	0.75***	0.17	0.79***	0.18
	1-5 km	1.39***	0.18	1.45***	0.19
	<1 Km and same house	2.51***	22	2.38***	0.24
	don't know	0.62	0.72	1.08	0.77
Regime	Nordic (r. c.)				
	Southern	0.46***	0.15	0.36**	0.17
	Continental	0.36***	0.14	0.35**	0.15
Random-effect Parameters		Variance		Variance	
	Level 2: adult children/partners	1.43***	0.3	1.17***	0.34
	Level 3: households/couples	0.71***	0.26	1.34***	0.42
Model characteristics					
IntraClassCorrelation households (null model)		0.46 (0.55)		0.33 (0.54)	

IntraClassCorrelation adult children (null model)	0.68 (0.76)	0.72 (0.75)
n dyads: child-parent-relationship (level 1)	19570	19122
n individuals: responding child (level 2)	12052	11578
N households (level 3)	6838	6639

*Note: Source. SHARE release 5.0.0. own calculations. sample weights are not used. Multilevel mixed-effects probit models. seven integration points. * P<0.10. ** P<0.05. ***P<0.01 (two-tailed tests).*

Adult children's circumstances, occupational status, health conditions and partnership status all seem to affect the likelihood of care provision: employment (or self-employment) seems conflicting with the provision of intensive care; poor health conditions or disability also prevent from engaging in an often demanding activity; whereas being single (rather than in a couple) increases the risk to providing intense care. Interestingly, against our expectations, neither income nor educational levels seem associated to the likelihood of intense care provision, once other potential recipient and caregiver characteristics are being controlled for (Hp. 4). In line with the expectations instead the institutional context seems associated with the likelihood of care provision: Southern and Continental countries are marked by a greater risk of intense caring than Nordic countries. Notwithstanding, the small difference between Continental and Southern regime cannot be seen as a supporting element for the specialization hypothesis. Interestingly, actively contributing to downward care towards small children or grand-children below 14 years, seems not to conflict with care toward elderly (positive and statistically significant coefficients) (Hp. 3). In line with Hagestad (2006) findings and Grundy and Henretta (2006) hypothesis, the results suggest that who provides an intense care to parents or parents in-law, is inclined also to provide care toward children and grandchildren. This finding is further reinforced looking at the reduced likelihood of providing intense care associated to the sheer presence of young children and/or grandchildren: the conflict between upward and downward care responsibilities seems mediated by the household's attitude or propensity to care (Hp. 3).

Moving to the second model (Model 2), with exclusion of co-resident elderly reveals a noteworthy empirical result: once discounting for the co-residence of elderly with their adult children, it is the presence of living sisters (but not brothers) that lowers the risk of providing intense care to the parents for men, but not for women to the same (statistically significant) extent. This result suggests that parental caregiving might still be perceived more as a daughters' responsibility (not shared equally among siblings insofar as brothers' presence has no significant association with a lower risk), thus more frequently shared among (or shifted to) sisters by sons. Daughters do not seem to benefit instead from the same amount of sharing with their siblings, or sisters (Hp. 2).

DISCUSSION

This article examined the intense care provision to elderly by adult children's and their spouses controlling, among others, for the presence (and gender composition) of siblings and the presence of potential conflicting demands for downward care (towards children or, more often, grandchildren). Drawing on SHARE data it brings new empirical evidence on the effects of the presence of siblings and partner/spouses on the shifting of responsibilities around becoming intense caregiver for their elderly parents, or in-laws. The analyses reveal that intense caregiving activities towards the elderly are still very gendered, and mainly run through blood-ties (direct parent/filial, or shared among siblings, especially sisters to reduce male siblings' burden) rather than other family bonding (between spouses within households, for the respective parents). Male children have thus a much lower likelihood to provide it than female do (halved), which seems not achieved through sharing the responsibility with, or shifting it to, their (female) partners. The gendering of upward generations intense caring duties plays within the framework of (mainly) a filial lineage from which sons seem disburdened by their sisters, in a way that female children are not (from their siblings). In

other words, it does not seem to be the presence of siblings per se to favour a more widespread sharing of responsibilities (lowering the burden of intense caring), but again their gender: sister(s)' presence is positively associated with a lessened likelihood of intense caregiving for sons, in a way that the presence of brother(s) is not (nor it is for daughters). Results suggest that, all else equal, male are less likely to participate in parental intense care, but not through marital bonding (shifting it to their spouses). Male investment with intense elderly caring increases when sisters are not available. Whereas distance plays a crucial role in mediating the provision of care, together with the residential arrangements of both children and parents, with living single more prone to receive intense care among parents, and prone to offer it among children, in line with previous literature, income and education do not seem to have a significant effect. Downwards caregiving (for children or grandchildren) does not seem necessarily to conflict with, or reduce the probability of upward intense caregiving (to ones parents). On the contrary, individuals more prone to actively care for one's elderly parents are also more likely to activate along both directions. Looking at the future demographic trends, these findings suggest a possible paradoxical implication. The shrinking of family size with the reduced number of sibling could result in a more even gender distribution of care within family ties. At the same time, in a context of aging population, the reduction of family horizontal ties, and the related possibility of sharing care responsibilities, leads to an overtaxing of family (self-)help, undermining its compensatory and vital role within (elderly) care organization, especially in southern and continental welfare state.

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Appendix

A1. Summary Statistics for Variables Included in Analyses

Variables	Vales	%[Ø]	Remarks
Adult children			
age		[56.76]	Age in interview year [Quadratic and centred (mean)]
Gender	Male	48.80	Adult children's sex
	Female	51.20	
Household income quintile	1° quintile	17.97	Computed at country and wave level on non-equivalised household income
	2° quintile	18.59	
	3°quintile	19.62	
	4° quintile	20.80	
	5° quintile	23.01	
Level of education	up to lower-secondary	36.74	Summarized classification according to International Standard Classification of Education (ISCED)
	upper-secondary	33.03	
	tertiary	30.23	
Current job situation	retired	19.42	Respondent's declaration, EU classification SHARE
	employed (or self-)	60.53	
	unemployed	5.37	
	permantent sick/disable	4.41	
	homemaker	9.03	
	other	1.24	
Care toward children and grandchildren	no care	76.75	Highest intensity of care provided to children and grandchildren
	about daily	3.30	
	about every week	7.71	
	about every month	6.10	
	less often	6.13	
Presence of grandchildren	no grandchildren	72.68	The variable refers to grandchildren aged 13 years or less
	one or more grandchildren	27.32	
Cohabit with partner	respondent cohabits with partner	90.84	
	not cohabiting respondent	9.16	
Sisters alive (female resp.)	no sister alive	68.12	0 include male respondent with sister alive
	at least one sister alive	31.88	
Sisters alive (male resp.)	no sister alive	69.05	0 include female respondent with sister alive
	at least one sister alive	30.95	
only child	Respondent with sibling(s) alive	84.13	
	respondent with no sibling(s) alive	15.87	
Parents			
Self-perceived parent(s) health status	excellent/very good/good	39.91	Respondent's estimation, summarized classification according to EU categorization SHARE
	fair	34.60	
	poor	21.51	
	don't know	3.98	
age		[84.29]	Parents' age, obtained through adult children declaration [centred (mean)]
Household status	single	58.91	Proxy: if both parents in same

	couple	41.09	living distance
Dyads			
Relation parent(in-law)	mother-female	22.15	
-respondent	mother-male	16.38	
	father- female	9.78	12.470 dyads with an average number of parents (in-law) alive of 1.6
	father-male	6.39	
	mother-in-law-female	13.87	
	mother-in-law-male	17.99	
	father-in-law-female	5.39	
	father-in-law-male	8.05	
Geographical distance	>=25 km	36.55	
	5-25 km	22.87	
	1-5 km	20.60	
	<1 Km and same house	19.46	
	don't know	0.53	
Regime			
	Nordic	27.07	SE and DK
	Continental	42.19	FR, BE and NL
	Southern	30.74	IT and ES

Source SHARE wave 2°, 4° and 5°, release 5.00, own calculation, n=20.183, dyads 12.470 and 7 countries

A1.Multivariate model results, multilevel mixed-effects model

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