



Are mothers and daughters most important? How gender, childhood family dissolution and parents' present living arrangements affect personal care of parents.

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Are mothers and daughters most important? How gender, childhood family dissolution and parents' present living arrangements affect personal care of parents.

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Abstract: The study examines adult children's propensity to provide personal care to older parents in Sweden by gender of adult child, parental breakup in childhood and parent's living arrangements. Data are from the Swedish Generations and Gender Survey from 2012/2013. OLS regression analyses examined personal care separately for mother and fathers. Adult daughters are more likely than sons to provide personal care to older mothers and fathers. Parental breakup in childhood does not lead to differences in personal care. The only exception being that daughters who experience breakup provide more care for their mothers. Children, especially daughters, help lone parents more often than other parents, but children's care provision does not differ for parents living with the other parent and re-partnered parents. Gender of adult child and parent's living arrangements operate in slightly different ways regarding care provided for mothers and fathers, and living arrangements represent a central predictor for whether children provide filial care. Particularly, the dominant kinship pattern is care provided from daughters to mother and through the mother's line and to parents in vulnerable situations. The study discusses the results in relation to intergenerational solidarity theory, matrilineal care system and policy outlooks.

Keywords: Informal care, gender, parental breakup, parental partnership, single living, Nordic welfare state



Introduction

Parent-child relationships seem to be more or less universally enduring over the life course, albeit with different strengths and dependencies by context and social groups. Such relationships will become increasingly crucial in aging populations where the welfare system does not match their spending to increasing needs in an aging population. In large part, this has become a gendered question as it is first and foremost women who are affected as caregivers. The concept of intergenerational solidarity facilitates an understanding of the relationship, contact and primarily support and care between adult children and their parents. Such solidarity may depend on events occurring during childhood as well as the current situation, which may entail an older parent needing help. In this study, we are interested in what may influence provision of personal care of older parents by adult children. We ask whether parental breakup during childhood shapes adult children's provision of personal care of older parents and whether parents' present living arrangements influence caregiving, for example, when parents are living alone. We also pay particular attention to the gendered aspect of personal care. By personal care, we mean helping mothers and fathers to eat, get up, dress, bath, or use the toilet. These are intimate tasks, which are much less commonly provided compared to other intergenerational forms of care (Szebehely et al. 2014) and only if parents are ill and need regular care. Although it is often related to other forms of care (Jegermalm, 2006), personal care may not be directly generalizable to all types of parental care. We find that it is important to study personal care separately from other forms of care as it is often time-consuming and demanding as well as crucial to its recipients who are dependent on their care providers (Fine & Glendinning, 2005).

The questions of who performs and who receives personal care are posed in Sweden, known for a generous welfare state and where eldercare is by law a matter for the municipality, and

family responsibility supposedly takes place on a voluntary basis (Jegermalm, Hermansen, & Fladmoe, 2019). Furthermore, Sweden is known for strong norms of gender equality, including gender-egalitarian ideas of care responsibilities.

Sweden has one of the world's most aged populations, but public spending on eldercare has not increased in proportion to increases in the size of the aging population and the availability of eldercare has decreased since the 1980s (Szebehely & Meagher, 2018). Although there is still a statute right to eldercare, the overall informal caregiving has increased among both women and men (Jegermalm & Grassman, 2012; Szebehely, Ulmanen, & Sand, 2014) and the role of intergenerational caregiving is predicted to become increasingly important (Jegermalm et al., 2019). Sweden is also a particularly interesting case study since the country has had high divorce and separation rates since the mid-1970s and has also been among the highest over time compared to other countries (González-Val & Marcén, 2012). For instance, the relative divorce risk for women in the early 1970s was less than half (0.4) compared to the risk in 1980, while it further increased to 40 percent by the early 1990s (Andersson, 1995). The development of Swedish divorces rates started much earlier, largely related to women's labor force participation (Sandström, 2011).

While there are consistent findings across contexts that adult children, particularly adult daughters, provide help to their parents (Brandt, Haberkern, & Szydlik, 2009; Dwyer & Coward, 1991; Mureşan, 2017), most Swedish studies have not examined care provision with the distinction of who the care receiver is (see e.g., Jegermalm, 2006; Szebehely & Ulmanen, 2012). We extend the earlier literature by identifying both the provider and the receiver in adult child-parental relationships. Such results will be important for allocation of resources in the welfare state.

By using the population-representative Swedish Generations and Gender Survey (GGS) from 2012, the study illuminates the contemporary situation in a Nordic welfare context. The Swedish GGS includes parental breakup in childhood and present caregiving for adult mothers and fathers separately; hence, we can examine the gendered consequences of parental breakup. Previous studies, e.g., from the Netherlands, have shown that parents' partner status is central for caregiving, such that remarried parents are less likely to receive support from adult children, particularly fathers (Kalmjin, 2007). Hence, a new union may lead to less caregiving and partner status may be seen as an indicator of both constraints and availability of support. We are particularly interested in parents living alone because of their vulnerable situation, but we are also interested in parents living with new partners, where ties and solidarity between adult children and parents may be different.

Previous research on care for older parents

The focus of this study is on the gender of the child and parents, parental breakup and parents' current living arrangements. As mentioned, earlier findings indicate that daughters provide more help and mothers receive more help (Bonsang, 2007), but this has rarely been tested together with both the gender of the provider and receiver in focus (exception e.g. Kalmjin, 2007). In addition, U.S. studies, in particular, have found that adult children's potential caregiving may be influenced by earlier life events, such as childhood parental breakup, which may indicate a more distant relationship to parents, both in adolescence and adulthood (Coleman, Ganong, & Cable, 1997; Silverstein & Bengtson, 1997; Webster & Herzog, 1995). A few studies investigate how adult children's experience of parental breakup is associated with care to aging parents. For instance, a Dutch study found that adult children who experienced parental breakup in childhood provided less support to parents, particularly to fathers (measured by a support scale including several support items whereof practical

support was one of the items) (Kalmijn, 2007). In a cross-national study, Muresan (2017) found that adult children provide less personal care to divorced older fathers compared to married fathers, but help to mothers was the same regardless of the mother's partner status. An earlier study based on U.S. data from 1988 found that parental divorce during childhood was associated with an increase in time transfers to mothers and a decrease to fathers (Furstenberg, Hoffman & Shrestha, 1995). Other studies have investigated the same issue from the perspective of the older parents. For instance, Lin's (2008) study on the U.S found divorced parents received less personal care from children than did parents who were still married.

In addition to the association between parental breakup and parents' living arrangements, other predictors have been shown to be important in the analyses of children's care of parents. For instance, adult children of all ages engage in care to parents, but increasing age leads to greater likelihood of providing care to parents (Brandt et al., 2009). Whether and how much an adult child provides care may also depend on the partner status, and here the results are mixed across countries; a cross-national European study found that partnered individuals provide less care to parents (Brandt et al. 2009), while a Canadian study found that men's involvement in care to parents did not differ by marital status (Campbell & Martin-Matthews, 2003). Swedish studies indicate that partnered individuals engage most in caregiving in general (Jegermalm, 2006; Jegermalm & Grassman, 2012).

Moreover, regarding the associations between the adult child's education level and parent-care involvement, the results are mixed, often by type of care. For instance, Muresan (2017) found that middle- and highly educated children are more likely to provide financial and emotional support for parents but not personal care. In another cross-national study, higher

education was not found to associate with more time spent on care for parents (Bonsang, 2007), and a Swedish study found no differences by education levels in who was caring most (Jegermalm & Grassman, 2012).

Additionally, some studies have found that gainful employment and longer work hours are associated with providing less help to parents (Doty, Jackson, & Crown, 1998; Jegermalm & Grassman, 2012), while some studies have found no effect (Brandt et al., 2009). Jegermalm and Grassman (2012) found a decreasing gap in overall caregiving over time between those who were gainfully employed and those who were not in Sweden. Moreover, having other obligations, such as taking care of dependent children, may negatively influence caregiving for older parents (Brandt et al., 2009; Sarkisian & Gerstel, 2004). Previous research has indicated that having siblings eases the burden of care to parents (Gerstel & Gallagher, 2001), and a greater number of siblings decreases the likelihood of caregiving (Bonsang, 2007; Brandt et al., 2009; Grundy & Read, 2012; Jegermalm & Sundström, 2015). The number and gender of siblings seem to particularly affect the care intensities of sons (Roquebert, Fontaine, Gramain, & Coleman, 2018), while some of the higher care intensities of daughters come from situations where they have older brothers (Arnault and Fontaine, 2018). Other factors that positively influence adult children's care for parents are geographical closeness (Mureşan, 2017), good subjective relationship quality (Ganong & Coleman, 2006), and good health of the caregiver (Bonsang, 2007).

Theoretical framework and hypotheses

Biological and social explanations of intergenerational ties are in consensus in emphasizing that the strongest ties are found between biological parents and their children; from the parents' point of view, this may occur to genetically increase survival, or because of stronger

normative pressure or preferences. From the child's point of view, the biological bonds may then create the strongest sense of obligation of payback when the parents are in need of care. It seems that mothers are the generic kinkeepers in most societies, the ones who maintain, organize and conceptualize the relationships within a family system (Kalmijn et al., 2019), but it is not clear whether this is because of biological superiority of kinkeeping or whether norms, pressure, and preferences are also at play here. One explanation is gender-specific employment patterns that lead to women's higher family responsibilities (Chesley & Poppie, 2009).

To understand what leads to stronger ties and more readiness to help older parents, we draw on intergenerational solidarity theory, which suggests that the child-parent relationship is embedded in past and present family structures (Bengtson, Giarrusso, Mabry, & Silverstein, 2002; Bengtson & Oyama, 2010). The theory treats solidarity as multidimensional with both positive and negative aspects. *Affectual* solidarity reflects the sentiments held toward family members, and *consensual* solidarity is the degree of agreement in, for instance, opinions and attitudes. *Associational* solidarity is the frequency and type of contact between generations, while *normative* solidarity is the strength of commitment to meet familial obligations. Family members, such as adult children, represent a latent resource for an older parent, which can be activated in times of need as *functional* solidarity. Whether an older parent needs and receives support from a child is linked to *structural* solidarity, e.g., proximity to family members, size of family and health of family members. Positive aspects may here be feelings of affection and closeness between generations, while negative aspects include conflicts leading to weakened bonds, and in the worst case, terminate the relationship. What occurs early in life may have significant effects on later life family solidarity, and the relatively static role of structures and behavioral expectations is underscored, as it is challenging to break out of role

expectations and responsibilities. Structural, normative and functional solidarity are direct parts of the study's framework but we see all dimensions as related.

The gender difference in the bonds and solidarity between parents and children is found repeatedly (see, for example, (Daatland, 2007; Kalmijn et al., 2019; Silverstein, Gans, & Yang, 2006)). There is variation by type of care, but a common finding across context is that daughters provide care for family members more often than sons (Bonsang, 2007; Kalmijn, 2007). Additionally, Swedish descriptive studies indicate that women provide more informal care and are more engaged in personal care than men are (Jegermalm, 2006; Jegermalm, Malmberg, & Sundström, 2014; Szebehely et al., 2014). Based on these findings, the study's first hypothesis is that *adult daughters are more likely to provide personal care for older parents than adult sons* (Hypothesis 1). We expect gender differences among children to be relatively small in Sweden, as both women and men engage in paid labor throughout the life course, which previous studies have shown reduces the gender gap in the provision of help to parents (Sarkisian & Gerstel, 2004). There may also be more sense of “payback care” to a mother, and we thus expect mothers to receive more care than fathers. However, such an expectation is difficult to test even when controlling for health status of the parents as there are likely to be unobserved needs that are different for older women and men that underlie mothers' higher propensity to both ask for and therefore receive help from their adult children. We do not find that we can test such an expectation with the available data.

Solidarity theory would predict that divorce and remarriage weaken support to parents. Indeed, empirical studies have often found divorce and remarriage to have negative long-term effects on the child-parent relationship and may produce weaker feelings of solidarity, even after friendly separations (Daatland, 2007; Kalmijn, 2013; Kaufman & Uhlenberg, 1998; Webster & Herzog, 1995). Children may be faced with loyalty conflicts, which may make

them draw closer to one parent, often the mother (Amato & Afifi, 2006). Consequently, growing up with divorced parents may negatively influence intergenerational functional solidarity, especially for fathers because mothers most often are the caretakers, and over time the kinkeepers (Kalmijn, 2007, 2015; Mureşan, 2017). Sweden has had high divorce rates since the 1970s (Andersson, 1995) and a relatively high prevalence of informal care the last three decades, including personal care (see review in Szebehely et al., 2014), which forms a relatively uncommon context. Following the theoretical and empirical findings, we expect that *adult children who did not experience parental breakup in childhood are more likely to provide personal care to older parents than adult children who experienced parental breakup in childhood* (Hypothesis 2).

Moreover, as daughters seem to feel more filial responsibility and exhibit more supportive behavior than sons (Silverstein et al., 2006), they may be keener to conform to the role of caregiver even after experiencing parental breakup in childhood. Hence, we expect that *adult daughters who experienced parental breakup in childhood are more likely to provide personal care to older parents compared to adult sons with the same experience* (Hypothesis 3).

Structural solidarity would predict that living arrangements of the parents will indicate different care needs and lead to different obligations and opportunities to provide care for the adult children. Being in a coresidential union is often seen as protective, and studies have consistently found that older lone individuals are more vulnerable than partnered individuals, e.g., having less socioeconomic resources and higher morbidity and mortality (Burstrom et al., 2010; Weitoft, Burström, & Rosén, 2004). An older lone parent is likely to expect and need more support from an adult child than a partnered parent (Ikkink, van Tilburg, &

Knipscheer, 1999; Kalmijn, 2007). Thus, we expect that *adult children are more likely to provide personal care to older parents who live alone than to older partnered parents* (Hypothesis 4). As parental breakup and re-partnering often change the ties to parents, we additionally expect the association to differ depending on whether the parent is together with the “original” parent or has re-partnered (Daatland, 2007; Stuifbergen, Delden, & Dykstra, 2008); hence, we compare lone parents with partnered parents as well as re-partnered and intact parents separately. Structural solidarity indicates that the elevated vulnerable situation of lone parents will lead to both daughters and sons being likely to provide care. Hence, we expect that *there is no gender difference among adult children in providing personal care to older lone mothers and fathers* (Hypothesis 5).

Moreover, structural solidarity predicts that different types of partnerships are associated with different needs and levels of closeness to the parent. For instance, previous research has found that adult children with a re-partnered parent provide less support to the parent compared to adult children with two “original” parents living together (Ganong & Coleman, 2006; Kalmijn, 2007, 2013). Accordingly, we expect that *adult children are less likely to provide personal care to older re-partnered parents than to parents who live with the other parent* (Hypothesis 6).

As maternal bonds are often stronger than paternal bonds and may become stronger after a parental divorce (Kalmijn, 2007; Kaufman & Uhlenberg, 1998; Silverstein & Bengtson, 1997), we find it vital to examine the consequences of parental breakup and parents’ living arrangements on caregiving for mothers and fathers separately.

Data and methods

The study uses the Swedish GGS for 2012 (Thomson, Andersson, Dahlberg, & Tollebrant, 2015). The sample is representative of the Swedish population aged 18-79 years. In total, 9688 individuals participated in the survey, corresponding to a response rate of 54 percent. The questionnaire includes questions on personal care to parents, relationship histories, labor market attachment, socioeconomic status, health and well-being, and childhood events. As the study focuses on children's personal care for older mothers and fathers, we selected respondents who had mother, father or both parents alive and who were of the ages most likely to provide care to parents, i.e., 35-75 years at interview. The effective subsamples consist of 3571 respondents with a mother alive and 2466 individuals with a father alive, and the subsamples include both children who provide care to parents and those who do not. This design also means that a respondent can be in both subsamples if both parents are alive.

Dependent variable

The study employs logistic regression models in which the dependent dichotomous variables are personal care for mother or father separately, which is our measure of functional solidarity. The respondents were asked whether they regularly provided personal care, e.g., eating, getting up, dressing, bathing, or using the toilet. In total, 5 percent of daughters and 3 percent of sons reported providing personal care to the mother, and 4 percent of daughters and 2 percent of sons reported providing personal care to the father (Table 1). The forthcoming models are stratified by parent's gender, enabling us to easily distinguish gender differences.

Fewer adult children reported providing care to parents in the Swedish GGS, compared with other Swedish studies on care to relatives (see summarizing tables in Jegermalm et al. 2014). We focus on regular personal care, and the differences in prevalence between ours and other

studies are most likely due to different operationalization of care and that other studies have used select samples. Although personal care is related to other types of care (Jegermalm, 2006), it is a separable and intense type of care that fewer may regularly engage in. Jegermalm (2006) found that 15 percent provided personal care to someone outside the household of which two-thirds were women. Similarly, Szebehely and colleagues (2014) found that 17 percent of women and 8 percent of men provide personal care at least once a month, which was the least common care type. The higher share of providing care is likely due to their survey's target of middle-aged women and men, and its aim to map out care for someone outside the household, not only parents. To validate our data and findings, we estimate the prevalence of regularly providing personal care to parents in Sweden by using another high-quality and frequently used data source, the Survey of Health, Ageing and Retirement in Europe (SHARE). The fourth wave of SHARE for Sweden from 2011/2012 is highly comparable to the Swedish GGS, as the questions on personal care are very similar. In a subsample of the same ages (1492 individuals), 6 percent reported regularly providing care to a mother, and 2 percent to a father. These numbers are in line with those of the Swedish GGS. It is preferable to use the GGS in this study as it contains information on younger individuals, as well as parental break up and parents' present living arrangements, which SHARE does not have. Muresan (2017) also used the GGS to conduct a cross-national study (not including Sweden) and found that similar shares reported providing personal care to their parents in Norway (4 percent), France (3 percent), Germany (2 percent) and Poland (3 percent), while the percent was slightly higher in six other European countries.

Independent variables

Gender of the adult child, parental breakup in childhood and parent's present living arrangements are our central independent variables. For parental breakup, we follow the

Muresan (2017) definition of parental breakup occurring before age 15. We distinguish between four types of parental living arrangements: 1) parent lives with the other parent, 2) parent lives with a new partner (either married or cohabiting), 3) parent lives alone and 4) other living arrangements (e.g. relatives, residential home or the adult child). Unfortunately, we are not able to distinguish between parents who are divorced, never-married or widowed in the lone parents' category due to data limitations. Moreover, in many other countries, it would be relevant to include coresidence with children as a separate category, but only approximately two percent of adult children co-reside with parents in Sweden (Larsson, 2007). "Other living arrangements" are included in the analyses and presented in the forthcoming tables but are not the focus of the study and thus are not reported in the results. Table 2 displays the descriptive statistics of parental breakup and parents' present living arrangements, and descriptive tables of adult children's personal care for older parents by parental breakup and parents' present living arrangements are presented in the Appendix (Tables A1 and A2).

The analyses additionally include characteristics of the adult child that are likely to influence personal care, namely, age, activity status, education level, partner status, child living in the household, siblings, distance to parents and health status. Table 2 displays the descriptive statistics for these variables. Age is categorized in the descriptive statistics but continuous in the analytical models because age is expected to have a linear relationship with personal care. Activity status is categorized into 1) employed, 2) unemployed, 3) retired, and 4) other. The last category includes parental leave, sick leave, and studying. The variable representing children living in the household is a dichotomous variable that measures potentially conflicting multigenerational responsibilities. In contrast, having siblings may ease the burden of taking care of aging parents. The variable representing siblings is categorized into 1) no

siblings alive or ever, 2) one or more brothers, 3) one or more sisters and 4) mix of siblings. Distance to parents is assessed in terms of time in hours to mother and father (separately) and included as a continuous measure, as distance is expected to have a linear relationship to personal care (displayed as a categorical variable to show the distribution in Table 2). Regarding the respondent's health status, we employ the question: *How is your health in general? Would you say it is very good, good, fair, poor or very poor?* The variable is categorized into 1) very good or good, 2) fair, poor or very poor (of which 3 percent has poor or very poor health).

Results

Table 3 displays the results from multivariate logistic regression models in which the outcomes are whether (yes/no) the adult child regularly provides personal care to an older mother and an older father. It is important to note that our analytical strategy and data render our study unable to show whether the children provide personal care to either the mother or father but the prevalence to provide care separately to the mother and father, e.g., we cannot argue that children provide more care to mothers than fathers. We ran the models stepwise by first including parental breakup and parents' living arrangements in separate models (Models 1a-1b and 2a-2b), and in the final models (Models 3a-3b) both variables are included. The characteristics of the adult child are controlled for in all models. Bivariate results for the explanatory variables (not presented here) show similar results as the multivariate models.

First, we test whether adult daughters and sons differ in the likelihood of helping mothers and fathers to eat, get up, dress, bath, or use the toilet. Throughout Models 1-3 in Table 3, the results confirm the hypothesis, namely, adult daughters are more likely than sons to provide this type of personal care to both mothers and fathers (Hypothesis 1).

In Models 1a-b in Table 3, we find that those who experienced parental breakup in childhood do not provide less or more personal care, and the nonsignificant results are the same for care given to mothers and fathers. We thus do not confirm the second hypothesis that provision of personal care of parents in late life is influenced by parental breakup in childhood.

The study further hypothesized that adult daughters who experienced parental breakup in childhood are more likely than adult sons to provide personal care to parents (Hypothesis 3). To test this, two interaction terms were generated between gender and parental breakup in childhood. Selected results are displayed in Table 4 (in models otherwise identical to models 3a-3b in Table 3). We find that compared to sons who experienced a breakup, daughters who experienced a breakup tend to more often provide personal care to mothers. This result is significant only at the 5 percent level, however. Regarding care for fathers, the interaction term test by gender is of similar size but nonsignificant, which may be partly due to the limited sample size.

In the next step, we examine whether adult children are more likely to provide personal care to older parents who live alone than to parents who live with a partner (Hypothesis 4). First, we compare parents who live alone relative to partnered parents. The multivariate analyses (models not presented) show that adult children have a higher probability to provide personal care for lone mothers and fathers compared to partnered mothers and fathers (OR mothers: 2.44, p-value: 0.000, OR fathers: 2.30, p-value: 0.019). Second, we further separate parents who still live together and re-partnered mothers and fathers as they often differ in family bonds and therefore may produce different probabilities of personal care. The results are displayed in Table 5, and Model 1a shows that children more often provide personal care to a lone mother than to a mother who lives with the father. In Model 1b, we do not find that

children are more likely to provide personal care to lone mothers than to re-partnered mothers. Moreover, Model 2a does not show differences in the personal care provided to fathers when comparing lone fathers with fathers who live with the mother. However, adult children with a lone father are more likely to provide personal care to him compared to re-partnered fathers, displayed in Model 2b. In sum, the study finds that children provide personal care for lone mothers more often than for mothers living with the father and more personal care for lone fathers compared to re-partnered fathers. We conclude that parents living alone may trigger latent solidarity and generate incentives for more provision of personal care. This finding is, however, gendered. In vulnerable situations, care often follows the mother; re-partnered mothers receive the same care as lone mothers, and re-partnered fathers may receive help from the new partner's family. This indicates that the matrilineal family system is still of importance in Sweden, and it is in line with the idea of mothers as kinkeepers (Kalmijn et al., 2019).

We did not expect to find gender differences for adult children in providing personal care to older parents when the parent lives alone (Hypothesis 5). To assess this hypothesis, two separate interaction terms between the gender of the child and the mother's/father's living arrangements were conducted in models otherwise identical to 3a-3b in Table 3 (one model for each sample). Selected results from the interactions on only parents who live alone are displayed in Table 6, where the reference group is adult sons with a mother/father who lives alone (in both models). The results did not indicate any gender differences in providing personal care to lone fathers, but adult daughters with lone mothers are statistically more likely to provide personal care compared to adult sons with lone mothers. We conclude that the daughter-mother relationship may be more close than the son-mother relationship in situations of vulnerability.

Finally, we expected that adult children are less likely to provide personal care to older re-partnered parents than to parents who live with the other parent (Hypothesis 6). Models 3a-b in Table 3 offer no support for the notion that personal care provision differs for mothers living with the father and re-partnered mothers. However, children are less likely to provide personal care to re-partnered fathers, which is statistically significant at the 10 percent level.

Sensitivity analyses

We performed several sensitivity analyses to test whether the results are robust. First, we included measures on relationship quality with parents until age 15, and present relationship quality with parents. None of these predictors produced statistically significant results or changed the main associations. Second, as a proxy for the bonds between parents and children during childhood, we included whether the child lived with both parents up to age 15 instead of parental breakup in childhood. Similar to parental breakup, the results were nonsignificant for personal care provided to fathers but not for mothers, and daughters were more likely to provide care to mothers than sons. Third, we further considered the intergenerational family ties by operationalizing siblings without considering their gender. The result was nonsignificant, indicating that number of siblings did not relate to prevalence of providing personal care to aging parents. Concluding, the coherence between our main results and the sensitivity analyses with different measures of the strength of the relationship between the adult child and the parent as well as the intergenerational family ties give credence to our findings.

Discussion

This study investigated adult children's propensity to regularly help older parents with

personal tasks such as eat, get up, dress, bath, or use the toilet in relation to earlier life events and current situations. The gender of children and parents were here of particular interest as earlier studies have pointed out the importance of women as kinkeepers and carers within various family systems. We applied intergenerational solidarity theory and argued that the strength of feelings of obligation influence whether adult children care for aging parents. We also argued that parental breakup in childhood may weaken later life functional solidarity and hence the prevalence of providing personal care. Additionally, parents' present living arrangements can affect personal care and we particularly focused on the distinction of living with a partner, re-partnering and living alone.

In line with previous research, we found that compared to sons, daughters more often provide personal care to mothers and fathers. The gender difference was not large, perhaps because Sweden aims to be a gender-egalitarian society in which the most basic needs of older individuals are, or at least should, be provided by the municipality (Schmid, Brandt, & Haberkern, 2012). However, this result is in line with results on women as most important in keeping intergenerational ties. In contrast to expectations, parental breakup in childhood did not negatively associate with personal care provision. We consider two reasons to explain that parental breakup does not matter for personal care. First, conflict and solidarity can coexist, and as conflicts resolve, the relationship may improve (Bengtson et al., 2002). Second, it is possible that the negative effects of breakup on family ties weaken over time as divorce becomes more common and less stigmatized (Glaser, Tomassini, & Stuchbury, 2008), as it has in Sweden.

Notably, we found that adult daughters who experienced a parental breakup, compared to their male counterparts, tend to more often provide personal care to mothers in late life, but

there was no gender difference in the personal care provided to fathers. After a breakup, it is likely a daughter engages more in their mother's life than sons do. Daughters and sons may have similar strong (or weak) bonds with fathers after a breakup. Previous international research has found that care is predominately provided by women for women across generations and we find a similar pattern for Sweden.

While childhood parental breakup is not of great importance for caregiving, parent's living arrangements in late life are. We found that adult children more often provide personal care to lone mothers than to mothers living with fathers. Furthermore, it is the daughters that most often provide this type care. Drawing on intergenerational solidarity theory, a potential explanation is that lone mothers are in a more vulnerable situation and partnered mothers may be better off in terms social and economic resources. We also found that adult children with lone fathers are similarly likely to provide personal care as children with fathers who live with their mother and there is no difference between daughters and sons here. Seemingly, lone fathers are not perceived as more vulnerable than their married counterparts. A lone father may also have a more distanced relationship to children compared to married fathers, thus, may experience weaker intergenerational solidarity, which other studies have also found (e.g., Lin, 2008). The motivation to help, or, perhaps more accurately, not to provide personal care to fathers is most likely different here. A spouse is often the primary caregiver; thus, one explanation of this finding is that lone fathers receive less help due to a distant relationship to children and married partners may receive help from the adult child's mother. Although we are not contrasting care to mothers and fathers, matrilineal solidarity may help to explain why lone mothers potentially receive more personal care and lone fathers receive less as they tend to have weaker ties to children. Compared to lone fathers, lone mothers are also older and frailer, and thus, in greater needs of help. Women, in general, may also have greater skills to

communicate how they are doing and what help they need (Ek, 2015; Weisman & Teitelbaum, 1989).

In addition, re-partnering could potentially reduce parents' need for support from children, but a new partner does not seem to benefit the mother as we found that re-partnered mothers were similarly likely to receive help as lone mothers. We also found that re-partnered fathers receive less personal care than fathers who live with the child's mother. There may be a different explanation to why children help fathers. For instance, children may help disabled fathers in order to ease the mother's burden as she often is the main caregiver of the father. Moreover, in line with findings by Kaljmin (2007), we found that re-partnered fathers receive less care than lone fathers. This may imply that care to re-partnered fathers may instead be provided by the new partner's family. This is not an unlikely explanation as re-partnered older men often have younger partners who may have greater ability and resources to care for them. The findings are partly in agreement with conclusions drawn by Silverstein and Bengtson (1997), who found that children feel more obligated to care for divorced/separated/widowed mothers and that children have a more detached relationship with divorced/separated/widowed fathers.

In sum, this study indicates that the most prominent care providers are daughters to mothers, a matrilineal line that is stronger when the mother is not living with the father and is not negatively affected by parental breakup.

In line with many other studies on parent-child bonds (Furstenberg, et al., 1995; Larsson & Silverstein, 2004), our study shows the importance of matrilineal care structures, i.e., the dominant kinship pattern is personal care provided through the mother's line and from

daughters to mothers. For instance, in a recent study on intergenerational ties from the Netherlands comparing bonds with stepparents and biological parents, Kalmijn et al (2019) draw the conclusion that biology is more important for mothers and a partnership premium is more important for fathers. Thus, the intergenerational solidarity theory would benefit from integrating gender and lineage (i.e., whether the relationship is matrilineal or patrilineal), as analytical dimensions to facilitate the understanding of solidarity within the growing complexity of family ties.

We find that parents' living arrangements represent a central predictor for whether children provide care to parents, and late-life living arrangements often reflect living standards and health status. The demographic changes with increasing divorce rates (also in late life); remarriage and single-living individuals will change the older individuals' living arrangements as younger generations enter old age, making it important to further investigate this topic. The questions of whether and how children engage in care for parents with different living arrangements are crucial for understanding the potential support deficits that older individuals are likely to face. These deficits create gendered inequalities in old age and among their daughters and sons.

Policy implications

Eldercare in Sweden is part of the municipalities' responsibility, and solutions should be formulated at this actor, especially as providing care to aging parents may have negative consequences for adult children. For instance, frequent and time-consuming caregiving, such as personal care, may hinder full labor market participation and participation in other activities, such as leisure and recuperation (Berecki-Gisolf, Lucke, Hockey, & Dobson, 2008; Lilly, Laporte, & Coyte, 2007; Szebehely et al., 2014). Informal caregiving has overall been

shown to have an adverse influence on adult children's well-being (Borg & Hallberg, 2006; Pinquart & Sörensen, 2006). Relying on children's care to parents rather than providing generous care provision from the municipality will also lead to inequalities between older persons, not least by gender as seen in this study. Moreover, in countries with strong welfare support, such as Sweden, older individuals predominately prefer to receive formal care (Eurobarometer, 2007), and when the child is expected to provide help with getting up, eating, bathing, dressing or using the toilet, it may endanger the relationship quality. If personal care is sufficiently provided by the municipality, then the child-parent relationship can focus on the provision of emotional support, joy, and love. The negative aspects of a care deficit may increase as life expectancy is raised, thereby extending the period of filial responsibility for adult children. Obviously, this development may also be seen in a positive light, as lives are longer, and intergenerational relationships have longer lifespans.

Study limitations

The study has at least five limitations. First, the relatively low response rate and small case numbers for some groups may limit our analyses. However, we have compared our findings with other data sources in order to test the validity of the findings and we found it to be comparable and robust. A small sample size may explain why we obtain nonsignificant results, for instance for parental breakup, which other studies have found support for. We recommend this to be tested using a larger scale survey. Second, the measure of functional solidarity is dichotomous, which may, arguably, be too crude. However, the question is phrased in that way regarding adult children who help a parent with typical daily activities on a regular basis. Therefore, it is more likely that we actually catch children who provide this form of help to parents and eliminate the gray zones between, e.g., little help and no help. This may explain why we have a relatively small group who report regularly providing help

to parents. Additionally, personal care, helping the parent to eat, get up, dress, bath, or use the toilet, is relatively less common compared to other types of care, e.g., housework or grocery shopping (Szebehely et al. 2014). Moreover, previous research has found men less likely to perform instrumental care; however, we do not see that in this study, which may also be due to the phrasing of the question. Third, we do not know the health status of the parents and therefore do not know whether the parents require help from children. Fourth, as a control variable, it would be beneficial to have information on whether the parents use other types of care, for instance formal care provided by municipalities. Last, we acknowledge that this study does not provide information on preference from either children or parents that obviously also may be gendered.

Acknowledgments

This work was financially supported by the Swedish Research Council (Vetenskapsrådet) via The Linneaus Center on Social Policy and Family Dynamics in Europe (SPaDE), grant number 349-2007-8701.

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Tables to manuscript

Table 1. Prevalence of adult children's personal care provided to mothers and fathers

		<u>Sex of adult child</u>			
		Daughter		Son	
		n	%	n	%
Personal care to mother	Yes	101	5	52	3
	No	1744	95	1674	97
	Total	1845	100	1726	100
Personal care to father	Yes	44	4	21	2
	No	1235	96	1166	98
	Total	1279	100	1187	100

Table 2. Descriptive statistics of the samples where respondents had a mother or father alive

		Respondents with			
		Mother alive		Father alive	
		n	%	n	%
Sex of adult child	Women	1845	52	1279	52
	Men	1726	48	1187	48
Parental breakup in childhood	Yes	553	15	391	16
	No	3018	85	2075	84
Parent's present living arrangements	Lives with other parent	1236	35	1236	50
	Lives with new partner	394	11	416	17
	Lives alone	1387	39	417	17
	Other arrangements	554	15	397	16
Age of adult child	Under 30	502	14	441	18
	40-49	1558	44	1239	50
	50-60	1001	28	616	25
	Older than 60	510	14	70	7
Adult child's activity status	Employed	3008	84	2170	88
	Unemployed	77	2	46	2
	Retired	277	8	98	4
	Other	209	6	152	6
Adult child's education level	Primary or secondary	2243	63	1502	61
	Tertiary	1328	37	964	39
Adult child's partner status	Married	1979	56	1365	55
	Cohabiting	797	22	595	24
	Living-apart-together	252	7	159	6
	Divorced, currently single	235	6	140	7
	No information on relationship	308	9	207	8
Adult child has children living in household	Yes	2195	62	1710	69
	No	1376	38	756	31
Adult child's siblings	No siblings alive or ever	273	8	185	7
	Only brothers	1038	29	753	31
	Only sisters	974	27	685	27
	Mix of siblings	1286	36	843	34
Time distance to parent	Up to 1 hour	2101	59	1331	54
	1 hour	336	9	223	9
	2-3 hours	291	8	241	9
	4-9 hours	319	9	236	10
	10 or more (incl. abroad)	524	15	435	17
Adult child's general health	Very good or good	2928	82	2087	85
	Fair, poor or very poor	643	18	379	16
Total number of individuals		3571	100	2466	100

Table 3. Stepwise multivariate logistic regression models of child's personal care to parents, stratified by sex of parent (reference in parentheses)

		Child's personal care to				Child's personal care to				Child's personal care to			
		Mother (1a)		Father (1b)		Mother (2a)		Father (2b)		Mother (3a)		Father (3b)	
		OR	p	OR	p	OR	p	OR	p	OR	p	OR	p
Sex of adult child (Men)	Women	1.93***	0.000	1.84*	0.026	1.99***	0.000	1.91*	0.020	1.99***	0.000	1.91*	0.019
Parental breakup in childhood (No)	Yes	0.98	0.909	0.58	0.227					0.93	0.781	0.81	0.642
Parent's present living arrangements (Lives with other parent)	Lives alone					2.68***	0.001	1.66	0.153	2.72***	0.001	1.75*	0.016
	Lives with new partner					2.68	0.460	0.13*	0.046	1.46	0.431	0.14†	0.063
	Other arrangements					8.94***	0.000	3.67***	0.001	9.04***	0.000	3.75***	0.001
Age of adult child	Continuous	1.10***	0.000	1.07**	0.002	1.07***	0.000	1.05*	0.017	1.07***	0.000	0.80*	0.023
Time distance to parent	Continuous	1.06	0.124	1.10†	0.067	0.92*	0.051	0.96	0.531	0.92*	0.027	0.96	0.556
Adult child's activity status (Employed)	Unemployed	2.28*	0.049	2.67	0.125	2.07†	0.087	2.45	0.162	2.08†	0.086	2.49	0.155
	Retired	0.43**	0.006	0.62	0.386	0.42**	0.006	0.55	0.290	0.42**	0.006	0.56	0.296
	Other	1.12	0.749	0.81	0.726	1.20	0.622	0.75	0.636	1.21	0.621	0.76	0.651
Adult child's education level (Primary or secondary)	Tertiary	0.24	0.226	1.18	0.559	1.34	0.101	1.32	0.288	1.34	0.103	1.31	0.312
Adult child's partner status (Married)	Cohabiting	0.98	0.957	1.01	0.996	0.94	0.789	0.95	0.884	0.94	0.794	0.94	0.872
	Living-apart-together	1.69†	0.063	2.25†	0.056	1.61	0.100	2.07†	0.085	1.61	0.100	2.07†	0.084
	Divorced, currently single	0.93	0.831	2.11	0.750	0.97	0.923	0.77†	0.061	0.98	0.941	2.19†	0.062
	No information on relationship	1.26	0.448	0.83†	0.074	1.19	0.578	2.20	0.629	1.19	0.575	0.77	0.635
Children living in household (No)	Yes	1.15	0.509	0.88	0.675	1.19	0.423	0.93	0.814	1.19	0.420	0.93	0.813
Adult child's siblings (No siblings alive or ever)	Only brothers	0.91	0.761	1.11	0.904	0.94	0.858	1.06	0.898	0.94	0.848	1.06	0.901
	Only sisters	0.75	0.371	0.87	0.687	0.77	0.443	0.92	0.874	0.77	0.436	0.92	0.872
	Mix of siblings	0.93	0.812	1.03	0.815	0.93	0.817	0.99	0.984	0.93	0.817	1.01	0.998
Adult child's general health (Very good or good)	Fair, poor or very poor	0.99	0.980	0.96	0.942	1.01	0.956	0.95	0.897	1.01	0.960	0.005	0.911
Log likelihood		-584.14		-279.02		-553.93		-266.51		-553.89		-266.39	
Total number of individuals		3571		2466		3571		2466		3571		2466	

Significance levels *** p≤0.001, ** p≤0.01, * p≤0.05, †p≤0.1

Table 4. Selected results from multivariate logistic regression models of child's personal care to parents, interactions between sex of adult child and parental breakup in childhood, stratified by sex of parent

	<u>Child's personal care to</u>			
	Mother		Father	
	OR	p	OR	p
Adult daughter and parental breakup in childhood	1.88*	0.033	1.96	0.191
<i>Reference group:</i>				
Adult son and parental breakup in childhood				
Total number of individuals	3571		2466	

Notes: Significance levels *** $p \leq 0.001$, ** $p \leq 0.01$, * $p \leq 0.05$, † $p \leq 0.1$. Models include Sex of adult child, Parental breakup in childhood, Parent's present living arrangements, Age of adult child, Adult child's activity status, Adult child's education level, Adult child's partner status, Adult child has children living in household, Adult child's siblings, Time distance to parent and Adult child's general health.

Table 5. Selected results from multivariate logistic regression models of child's personal care to parents by parent's living arrangements, separate models by sex of parent

Parent's present living arrangements	<u>Child's personal care to mother</u>				<u>Child's personal care to father</u>			
	Model 1a		Model 1b		Model 2a		Model 2b	
	OR	p	OR	p	OR	p	OR	p
Lives with other parent	1		0.69	0.431	1		7.03†	0.063
Lives alone	2.72***	0.001	1.86	0.136	1.75	0.131	12.32*	0.016
Lives with new partner	1.46	0.431	1		0.14†	0.063	1	
Other arrangements	9.04***	0.000	6.20***	0.000	3.76***	0.001	26.41***	0.000
Total number of individuals	3571		3571		2466		2466	

Notes: Significance levels *** $p \leq 0.001$, ** $p \leq 0.01$, * $p \leq 0.05$, † $p \leq 0.1$. Models include Sex of adult child, Parental breakup in childhood, Parent's present living arrangements, Age of adult child, Adult child's activity status, Adult child's education level, Adult child's partner status, Adult child has children living in household, Adult child's siblings, Time distance to parent and Adult child's general health.

Table 6. Selected results from multivariate logistic regression models of child's personal care to parents, interactions between sex of child and parents who live alone in old age, separate models by sex of parent

	Child's personal care to			
	Mother		Father	
	OR	p	OR	p
Adult daughter and parent lives alone	2.03*	0.012	1.55	0.450
<i>Reference group:</i>				
Adult son and parent lives alone				
Total number of individuals	3571		2466	

Notes: Significance levels *** $p \leq 0.001$, ** $p \leq 0.01$, * $p \leq 0.05$, † $p \leq 0.1$. Models include Sex of adult child, Parental breakup in childhood, Parent's present living arrangements, Age of adult child, Adult child's activity status, Adult child's education level, Adult child's partner status, Adult child has children living in household, Adult child's siblings, Time distance to parent and Adult child's general health.

Appendix

Table A1. Adult children's personal care to older parents by parental breakup in childhood

Parental breakup in childhood	<u>Childs' personal care to</u>			
	Mother (%)		Father (%)	
	No	Yes	No	Yes
No	95.6	4.4	97.2	2.8
Yes	96.2	3.8	98.5	1.5
Total n	3418	153	2401	65

Table A2. Share of adult children's personal care to mother and father by the parent's living arrangements in old age

Parent's present living arrangements	<u>Childs' personal care to mother</u>				<u>Childs' personal care to father</u>			
	No support (n)	Support (n)	Total (n)	Share giving support (row %)	No support (n)	Support (n)	Total (n)	Share giving support (row %)
Lives with other parent	1120	16	1136	1.4	1214	22	1236	1.8
Lives with new partner	387	7	394	1.8	415	1	416	0.2
Lives alone	1325	62	1387	4.5	403	14	417	3.4
Other arrangements	486	68	554	12.2	369	27	397	6.8
Total	3418	153	3571	4.3	2401	65	2466	2.6

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