



# **The intermediate effect of geographic proximity on intergenerational support. A comparison of France and Bulgaria**

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## 1. Introduction

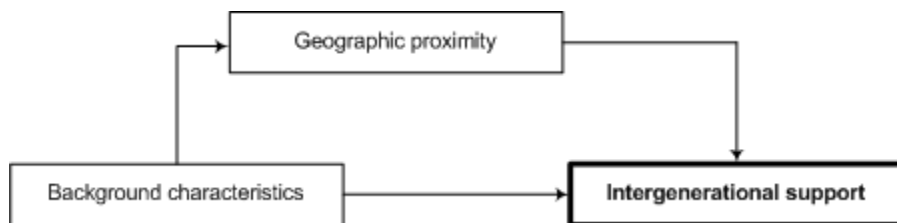
The geographical distance between parents and their adult children has proven to be a key factor in understanding actual care provision (Komter and Vollebergh 2002; Mulder 2007; Rogerson, Burr and Lin 1997). Many studies point to geographical distance as an important determinant of intergenerational support: living nearby increases the amount of mutual support (Knijn and Liefbroer 2006). These studies introduce geographic proximity as independent variable, as an explanation of the level of intergenerational support. Yet geographic proximity itself can be considered a dimension of intergenerational solidarity as it potentially reflects well-defined choices of both parents and children (Tomassini et al. 2003; Mulder and Kalmijn 2006; Konrad et al. 2002}. Within this respect, both family structure and family norms have shown to influence the geographical distance between family members (Shelton and Grundy 2000). For instance, couples with young children may choose to live closer to their parents to benefit from nearby parents as potential low-cost sources of childcare (Tomassini, Wolf and Rosina 2003).

During the last decades many concerns raised about the level of intergenerational support. The increasing intergenerational separation, and more specifically the massive decrease in coresidence among adult family generations, is considered one of the foundations of this concern (Kohli 1999; Malmberg and Petterson 2007; Shelton and Grundy 2000). Other studies on the other hand state that intergenerational ties are still strong and 'intimate but distant' relationships still allow for support (Bengtson 2001; Daatland and Herlofson 2003). In the latter case, a feedback to the geographic proximity may offer valuable insights. Understanding who lives further away, whether this explains differences in intergenerational support and whether or not these are vulnerable groups is of specific importance within this respect (Glaser and Tomassini 2000; Rogerson, Weng and Lin 1993).

In this study, we explicitly focus on the endogenous nature of geographic proximity as we aim to unravel the intermediate effect of geographic proximity on intergenerational support (see Figure 1). This approach adds to our understanding of the mechanisms preceding intergenerational support. Most studies on intergenerational support study the independent

effects of the socio-demographic features on intergenerational support controlling for and therefore irrespectively of the geographic proximity. Since the correlates of geographic proximity are often considered important determinants of intergenerational support as well, some socio-demographic features may indirectly affect intergenerational support, through the geographical distance (Kalmijn and Saraceno 2008; Knijn and Liefbroer 2006). While both direct and indirect effects may reinforce each other, it is equally plausible that some socio-demographic features may have direct and indirect effects in opposite directions. One background feature may directly trigger support. Nevertheless, if this background feature implies a larger distance, the positive effect can be counteracted.

Figure 1: Conceptual model



For the analyses we build on data from the Generations and Gender Survey (GGS). From this dataset we selected a Western European country, France, and an Eastern European country, Bulgaria. These two countries strongly differ in terms of geographic proximity of adult children towards their parents. Intergenerational coresidence is a well-established living arrangement in Bulgaria (Ahmed and Emigh 2005), whereas in France intergenerational coresidence and living nearby are less likely (Hank 2007). Furthermore, both countries are confronted with similar socio-demographic trends as the ageing of the population, the declining fertility rate, the increase in non-marital cohabitation and the increasing divorce rate (Hoem and Kostova 2008; Puur et al. 2010). The pace with which these changes occur differs (de Jong-Gierveld, de Valk and Blommestijn 2001). Because of the similarities in socio-demographic trends but differences on the macro level a comparative analysis of these two countries has *‘the potential for aiding*

*our understanding of family support'* (Glaser, Tomassini and Grundy 2004 :64). The comparison of these two countries may specifically contribute to the debate on 'the decline of the family' versus 'intimate but distant' relationships as France and Bulgaria reflect two different European contexts, specifically in terms of geographic proximity (see also Bordone 2009).

## **2. Theoretical background**

The level of intergenerational support both depends on personal as well as contextual features (Marcoen 2005). The first paragraph considers the individual, personal correlates. In this, we specifically distinguish between direct effects on intergenerational support and indirect effects, through the geographical distance. Intergenerational support entails different kinds of support such as financial, emotional and instrumental support (Attias-Donfut, Ogg and Wolff 2005). As geographic proximity is considered specifically of importance for instrumental support (Mulder and van de Meer 2009; Rogerson, Burr and Lin 1997), we focus on this type of support. In the second paragraph, the hypotheses are situated within the specific context of both countries, i.e. France and Bulgaria.

Since family support is characterized by long term reciprocity and thus runs in two directions (Rossi and Rossi 1990), we will consider both the support upwards, from adult children to their older parents, and downwards, from older parents to their adult children. The Generations and Gender Survey offers information on help with childcare for children younger than 14 living in the household for the support downwards. This grandparent role is considered of specific importance in terms of intergenerational support (Hank and Buber 2009). With regard to the support upwards we take into account the personal care given to parents. As we will look at actual support, we focus on the relationship between adult children and their mothers. Women tend to function as kin-keepers in the family (Rossi and Rossi 1990). More specifically, childcare by grandparents is generally provided by grandmothers (Hank and Buber 2009). The number of grandfathers providing actual support is much lower.

Whether or not people receive support mostly depends on the need for support (Kalmijn and Saraceno 2008; Mulder and van de Meer 2009). Therefore we restrict ourselves to those adult children and mothers with a potential need for support. With respect to the support downwards, help with childcare, we select the adult children with young children (<14 years) living in the same household. Regarding the support upwards, we focus on the mothers of the adult children expected to be in need of support, more specifically mothers who are unable to carry out normal every day activities due to a physical or mental health problem or disability.

## **2.1 Micro level determinants**

On the micro level, we distinguish socio-demographic, cultural and socioeconomic determinants of intergenerational support as well as of the geographic proximity (Hank 2007). In the hypotheses we explicitly distinguish between direct effects on intergenerational support and indirect effects, through the geographical distance. We first consider the support received. Next we turn to the support given, i.e. personal care.

### **2.1.1 Receiving support: childcare**

With regard to the socio-demographic correlates, the family constellation is considered an important determinant of actual support. This holds both for the family constellation of the adult child as well as for the family situation of the older mother. In addition, recent studies showed that this family constellation strongly affects the geographical distance (Heylen and Mortelmans 2009; Michielin, Mulder and Zorlu 2008).

With respect to the partner status, we expect single parents to receive more help with childcare as singles cannot count on a partner for support (Putney and Bengtson 2005; Smits 2010). In addition, single parents are expected to live closer to their parents as an adaptive strategy: the need for support may trigger a move towards the parents (Bumpass and Raley 1995). The direct

and indirect effect may reinforce each other in this case.

Also of importance is the marital status of the mother. Divorced older mothers are expected to give less support as they tend to have a higher need for support themselves (Knijn and Liefbroer 2006; Shelton and Grundy 2000; Tomassini, Glaser and Stuchbury 2007). The geographical distance between divorced parents and their adult children tends to be higher as well (Michielin, Mulder and Zorlu 2008).

Other important socio-demographic correlates are age, health, gender and the number of siblings. Younger parents, and specifically mothers, are more likely to receive grandparent care (Hank and Buber 2009). Indirectly, through the geographical distance, we expect a negative effect of age since older adult children generally live further away (Shelton and Grundy 2000). When the mother has a health problem this may limit her possibility to offer grandparent care (Hank and Buber 2009). When the adult child is in poor health, on the other hand, the need for grandparental care may be higher. The health status however would not relate to the geographical distance (Heylen and Mortelmans 2009). With respect to gender, women would receive more support (Stuifbergen and Van Delden 2008). On the other hand, daughters are expected to live further away compared to sons (Pettersson and Malmberg 2009). The number of siblings is hypothesized to have a negative direct and indirect effect. First of all, a larger family size may restrict the exchanges from parents towards their children due to competing needs of other children (Tomassini et al. 2004; Tomassini, Wolf and Rosina 2003). Secondly, when the number of siblings is high the obligation to support your parents is expected to be lower. Both the larger family size and the lower obligation to support, may negatively affect the geographic proximity in case of high number of siblings.

With regard to the cultural correlates, we take into account the views on parental responsibility. These would positively correspond with the actual support received as well as with the geographic proximity (Mulder and van de Meer 2009). If feelings of family obligations are correlated with the distance, this implies that the choice of residence still depends on family ties

(Malmberg and Petterson 2007).

With respect to the socio-economic status in conclusion, working adult children with young children in the household have a higher need for support, i.e. childcare and are therefore expected to receive more help from their mother (Hank and Buber 2009). On the other hand, adult children who are working and have higher income levels or are higher educated are expected to live further away (Hank 2007). For those who are unemployed the nearby presence of parents can offer an '*unemployment insurance*' (Malmberg and Petterson 2007 :698).

### **2.1.2 Giving support: personal care**

With respect to the personal care given to older mothers who are in poor health, the socio-demographic determinants are of specific importance as well. Regarding the family constellation of the adult child, singles are expected to give more support compared to those living with a partner (Rossi and Rossi 1990) as lower competing demands may result in more support. With respect to the indirect effect, through the geographical distance, we expect single adult children more often to (still) live with their parents. When they live separately, they tend to live further away (Shelton and Grundy 2000) as the time before family formation allows them to spread their wings. A divorce may negatively affect the intergenerational relationships as well. Yet, with regard to the support upwards, most researches find little or no differences (Dykstra 1999). We do expect a negative indirect effect on the personal care given as divorced adult children tend to live further away from their mother (Heylen and Mortelmans 2009). Young children in the household may imply more constraints on the time available to give support. Other studies on the other hand found that specifically young women with children in the household give more support (Knijn and Liefbroer 2006). This may be attributable to the fact that adult children with young children tend to live closer to their parents (Michielin and Mulder 2007).

Also of importance is the marital status of the mother. When both parents of the adult child are



alive and still living together, the partner often functions as care provider (Mulder and van de Meer 2009). Divorced single older mothers are therefore more likely to receive support of the adult child (Stuifbergen and Van Delden 2008). Yet the geographical distance between divorced parents and their adult children tends to be higher (Michielin, Mulder and Zorlu 2008).

Age is expected to positively affect the personal care given as with increasing age the needs for support from the mother may rise as well due to increasing frailty (Mulder and van de Meer 2009). However, the indirect effect is hypothesized to be negative as older adult children live at a greater distance (Shelton and Grundy 2000). A poor health status of the adult child would negatively affect the support given. We do not expect a negative indirect effect of the health status (cf. supra). Women give more support than men (Stuifbergen and Van Delden 2008). On the other hand, as mentioned above, daughters are expected to live further away than sons (Pettersson and Malmberg 2009). Here again the number of siblings is expected to have a negative direct and indirect effect on the personal care given. Firstly, the obligation to support is expected to be lower (Rogerson, Weng and Lin 1993). Secondly, a higher number of siblings corresponds with a larger geographical distance (Tomassini et al. 2004).

Regarding the cultural correlates, we expect a positive direct and indirect effect of the filial norms. People with stronger feelings of filial obligations are expected to give more support (Stuifbergen and Van Delden 2008), specifically to mothers (Silverstein, Gans and Yang 2006). Furthermore, they tend to live closer to their parents which may reinforce this positive effect (Lee, Netzer and Coward 1994; Stein et al. 1998).

A lower socio-economic status to conclude would imply more informal care from kin (Broese van Groenou et al. 2006). Adult children with higher incomes have more possibilities to purchase formal care which may negatively affect the level of instrumental support given to mothers (Attias-Donfut, Ogg and Wolff 2005; Silverstein, Gans and Yang 2006). Yet, with regard to educational level, highly educated people are expected to have a higher sense of duty to support (De Koker 2009). On the other hand, a higher socio-economic status, and specifically a

higher educational level, corresponds with a larger geographical distance (Hank 2007). Due to opposite direct and indirect effects, we expect these effects to cancel each other out resulting in no significant differences according to educational level in the actual support given (De Koker 2009).

## **2.2 Macro level: the Bulgarian and French context**

On the macro level, we selected two European countries which strongly differ in their cultural orientation, economic resources and welfare regimes. These cultural and structural differences on the societal level are generally expected to explain differences in geographic proximity as well as differences in intergenerational support (Broese van Groenou et al. 2006; Hank 2007). Bulgaria can be characterized as a 'strong' family society, whereas France represents, what Reher (1998) called a 'weak' family society. In Bulgaria, the ties with family are closer than in France, specifically when it comes to providing care (Hank 2007). This reflects itself in a higher prevalence of extended households in Bulgaria, where in Western Europe more individualistic norms prevail. The Bulgarian family system used to be characterized by a *"patrivirilocal-lifecycle complexity"*: *'newly-weds live with the groom's parents and any other of his married brothers or unmarried siblings'* (De Vos and Sandefur 2002 :23). Due to this cultural tradition, we expect Bulgarian adult men more often to coreside with their mother (Ahmed and Emigh 2005). The higher preferences for autonomy in France correspond with the tendency to live in nuclear households. The structural differences, such as socio-economic conditions, have a strong effect on the prevalence of multigenerational households as well. In Bulgaria, household extension is used as an adaptive strategy, specifically for the poor. Coresidence allows them to pool economic resources. Furthermore, kin care needs trigger coresidence as well, specifically for single mothers and retirees (Ahmed and Emigh 2005). Recent trends also point to a "neolocal-nuclear" residence pattern (De Vos and Sandefur 2002). In France, the nuclearization of families resulted in a decline of multigenerational households and an increase of older people living alone or as a couple (Kalmijn and Saraceno 2008). France and Bulgaria strongly differ with regard to their welfare regime as well. France is characterized by a high degree of de-

familialization, both with respect to the obligations towards elderly as well as towards children. In this case the family responsibilities and dependencies are reduced by the individualization of social rights. In addition, in case of young children, the intergenerational regime in France is identified as supported familialism as well. This implies that policies support families in keeping up their financial and caring responsibilities. Bulgaria on the other hand is characterized by a high degree of familialism by default. The support to families is not publicly provided nor financially supported (Saraceno and Keck 2010). We therefore expect a higher level of intergenerational support in Bulgaria, specifically with regard to the care for older parents. Other studies showed that high levels of welfare support can strengthen families support for older adults (Motel-Klingebiel, Tesch-Römer and Kondratowitz 2005), and therefore not necessarily imply less support.

The comparison of intergenerational support and its antecedents in these two different European societies can add to our understanding of the impact of new family constellations and changing family norms on actual support (Lowenstein 2007). By comparing the conceptual model which specifically focuses on the intermediate effect of geographic proximity in a country characterized by low levels of coresidence and larger travelling distances between family members compared to a country with high levels of multigenerational coresidence, we aim at gaining insight into the manifestation of intergenerational solidarity in contemporary societies (Glaser, Tomassini and Grundy 2004). How does the different opportunity structure for support in France compared to Bulgaria relates to the actual support in both countries?

### **3. Data & methodology**

For the analyses we build on data from the Generations and Gender Survey. This is a panel survey of a nationally representative sample of the 18-79 year-old non-institutionalized population (Vikat et al. 2007). The data were collected in 2004 for Bulgaria (V.1.5) and 2005 for France (V.1.7).

For the help with childcare received from the mother of the adult child, the respondents were asked whether or not they get regular help with childcare from relatives or friends or other people for whom caring for children is not a job and if so, from whom? The other dependent variable, personal care given to mother, is measured by the question: *“Over the last 12 months, have you given people regular help with personal care such as eating, getting up, dressing, bathing or using toilets?”*. Here again respondents were asked whom they helped.

As mentioned in the introduction, for both analyses we selected respondents expected to be in need of support. With regard to childcare, adult children with children younger than 14 years living in the household are selected. For the analyses on personal care, respondents whose mother is limited in her normal daily activities due to health problems are retained. Making this selection already cancels out some of the variation in geographic proximity. This selection does not impose any problems as our aim is not to unravel the diversity in geographic proximity but to test whether and in which manner the geographical distance functions as a mediator between the background variables and the actual support. For this reason, selecting the respondents based on their need is necessary as the research question is: *“In case of a need for support, how do the background variables relate to the actual level of support and which intermediating role does the geographic proximity plays?”*.

The mediator variable, the distance between the respondent and their mother, is measured in minutes: the time it takes to get from the respondent’s home to where their mother is living at present. As multigenerational coresidence is highly prevalent in Bulgaria, we also want to include the coresiding adult children in our analyses. Therefore we constructed an ordinal variable where coresiding corresponds with the first category. Since the mean travelling distance strongly differs between Bulgaria and France, the other categories of the ordinal variable are based on the relative distribution of this distance measure. For this purpose we calculated the quartiles of the distance measure for those not coresiding with their mother (see Table 1). Using these quartiles improves the comparability of the analyses within both countries. Living at a travelling distance of 45 minutes not necessarily means the same in

Bulgaria as in France. Where in Bulgaria this may be relatively far (compared to the total population) this may be relatively close in France. As table 1 shows 50% of the respondent's who are not coresiding with their mother live at a travelling distance of half an hour in both countries. If we look at the 25% of the respondents living the furthest away from their mother on the other hand the travelling distance strongly differs between the two countries. In Bulgaria the third quartile lies at 60 minutes compared to 150 minutes in France.

Table 1: Quartiles travelling distance in minutes by country

	Bulgaria	France
Q1	10	10
Median	30	30
Q3	60	150

The socio-demographic variables included in the analyses are living with a partner or not, ever being divorced, whether or not the older mother is divorced (only for France, no sufficient information for Bulgaria), age, sex, number of siblings, the subjective health status, the health status of the mother (only for childcare) and having children of their own living in the household (only for personal care). For the cultural determinants we included two latent factors measuring filial and parental responsibility. The two factors are included as correlating factors in the model. For filial responsibility this latent factor is based on four items regarding the view on filial obligations to be answered on a 5-point Likert scale<sup>1</sup>. Parental responsibility is measured by three similar items referring to feelings of parental obligations<sup>2</sup>. The socio-economic background features included are educational level, being employed or not, being a homeowner or not, the ability to make ends meet on household level and a class variable. Based on his or her ISCO88 occupational unit group--indicator (UN-ILO 1990) we derive the respondents class position in the ESeC class schema (Rose and Harisson 2010), collapsing the resulting nine class model into three categories, i.e. "salaried" (Class I), "intermediate" (Class II) and "working class" (Class III). In the analyses of childcare received, we also take into account whether or not

<sup>1</sup> Bulgaria: Cronbachs  $\alpha = 0,77$ ; France Cronbachs  $\alpha = 0,75$

<sup>2</sup> Bulgaria: Cronbachs  $\alpha = 0,82$ ; France Cronbachs  $\alpha = 0,68$

the respondents make use of formal childcare.

The different models were estimated using the general latent variable modelling framework, implemented in Mplus 6.0 (Muthén 2002). This approach allows for the use of standard pathanalytic methods and interpretations, while adequately dealing with the categorical nature of the mediating and dependent variables. The robust weighted least squares estimator (WLSMV) provided by Mplus further guards against violations of non-normality (Brown 2006), while the use of bias corrected bootstrapped standard errors for the standardized indirect effects conforms to current best practices (Cheung 2009).

In a first model, we include all respondents, including those who live with their mother. Since a large proportion of the adult children coresides with their mother in Bulgaria, the question can be raised whether geographic proximity functions as a mediator when we exclude the coresiding adult children. Therefore in a second model the analyses are run excluding the coresiding adult children.

The results of the multivariate analyses are represented in figures<sup>3</sup>. This enables a simultaneous picture of the direct and indirect effects, mediated by the geographical distance, on the actual level of support.

## **4. Results**

### **4.1 Descriptive results**

In Bulgaria, 28% of the adult children with young children in the household received help with childcare from their mother, whereas in France this percentage lies around 24%. With regard to the personal care given to the mother the differences between the two countries are stronger.

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<sup>3</sup> In the appendix the tables with the probit regression coefficients for childcare, personal care and distance can be found. This appendix also contains a table with the total effects, based on the indirect and direct effects.

In Bulgaria, 15% gives personal care to their mother if she is limited in her normal daily activities due to health problems; in France this is 6%.

Next we turn to the distribution of geographic proximity by country. For the descriptive analyses, we do not use the quartile measure but an ordinal variable based on the actual travelling distance to show how this travelling distance differs between the countries. Strong differences appear, as hypothesized. In Bulgaria 38% of the adult children with their mother alive coresides with their mother compared to 9% of the French adult children (see Table 2). At the other utmost 25% of the Bulgarian adult children lives at a travelling distance of more than half an hour. This is much higher in France, 45%.

Table 2: Relative distribution geographical distance by country

	Bulgaria			France		
	All respondents	Respondents with young children in hh	Respondents with disabled mother	All respondents	Respondents with young children in hh	Respondents with disabled mother
Living in same household	37,64	18,01	31,85	8,66	0,37	0,06
< = 10 minutes travelling distance	17,16	25,00	20,05	25,40	30,97	30,67
11-30 minutes travelling distance	20,55	28,38	20,30	21,32	23,80	25,14
More than 30 minutes travelling distance	24,65	28,61	27,79	44,62	44,88	44,12
<i>N</i>	<i>8374</i>	<i>3076</i>	<i>788</i>	<i>6141</i>	<i>2244</i>	<i>702</i>

In addition, this table clearly shows that the geographic proximity differs according to other background variables as we look at the columns for respondents with young children in their households and respondents whose mother has health problems. Both in Bulgaria and France, adult children with young children of their own in the household less often coreside with their mother. The percentage living close to their mother is higher compared to the total population. Being a parent implies less multigenerational coresidence but having a child of one's own is

positively related to proximity (Malmberg and Petterson 2007). A same phenomenon is apparent for coresidence with an older mother who is having health problems. Both in France and Bulgaria the percentage coresiding with their mother in this case is lower compared to the total population which can be explained by the higher mean age of these respondents. The need for support may have triggered a move of both the parent or the adult child (back) to coresidence (Smits 2010).

Table 3 shows the distribution of help with childcare from the mother and personal care given to the mother by geographical distance for Bulgaria. As hypothesized the geographic proximity strongly correlates with help received and given. Among the adult children living in the same household as their mother and having young children in the household 59% receives help with childcare from their mother. This percentage gradually diminishes as the geographical distance increases. For those adult children living at the greatest distance only 11% gets help from their mother with childcare. The same tendency holds for care given to the mother. 23% of those coresiding with their disabled mother give personal care compared to 9% of those living the furthest away. Among those belonging to the first quartile the percentage giving personal care is 9% as well. The largest differences prevail between the coresiding and non-coresiding adult children.

Table 3: Percentage receiving and giving help by geographic proximity (row percentages), Bulgaria

	Help with childcare	Care to mother
Living in same household	58,76	22,92
First quartile	35,68	9,26
Second quartile	25,39	16,15
Third quartile	15,85	8,40
Fourth quartile	10,94	8,99
<i>N</i>	3080	788
<i>Chi</i> <sup>2</sup> -test	<i>Chi</i> <sup>2</sup> =420,98, <i>df</i> =4, <i>p</i> <0,0001	<i>Chi</i> <sup>2</sup> =24,95, <i>df</i> =4, <i>p</i> <0,0001

When we turn to the results for France (see table 4), the findings are similar for help with



childcare. As the number of respondents with young children in the household who are co-residing with their older mother is very low, the first two categories are combined for the bivariate analyses. The adult children living close to their mother are far more likely to receive help from their mother with childcare compared to those living far away. Among the adult children living at a travelling distance of more than 150 minutes (~ fourth quartile) only 4% receives help with childcare from their mother compared to 43% of the adult children living within a travelling distance of ten minutes (~ first quartile). With regard to the personal care given to the mother there are no significant differences according to geographic proximity.

Table 4: Percentage receiving and giving help by geographic proximity (row percentages), France

	Help with childcare	Care to mother
Living in same household & first quartile	42,59	7,50
Second quartile	33,44	6,21
Third quartile	16,89	5,05
Fourth quartile	3,83	3,26
<i>N</i>	2244	1591
<i>Chi<sup>2</sup>-test</i>	<i>Chi<sup>2</sup>=268,27, df=3, p&lt;0,0001</i>	<i>n.s.</i>

## 4.2 Multivariate analyses

### 4.2.1 Receiving support: help with childcare

Figure 2 shows the results of the multivariate analyse for help with childcare in both countries. The effects shown are standardized. The analyses first of all show a strong negative direct effect of geographic proximity on actual support received in both countries. The larger the distance, the less support received.

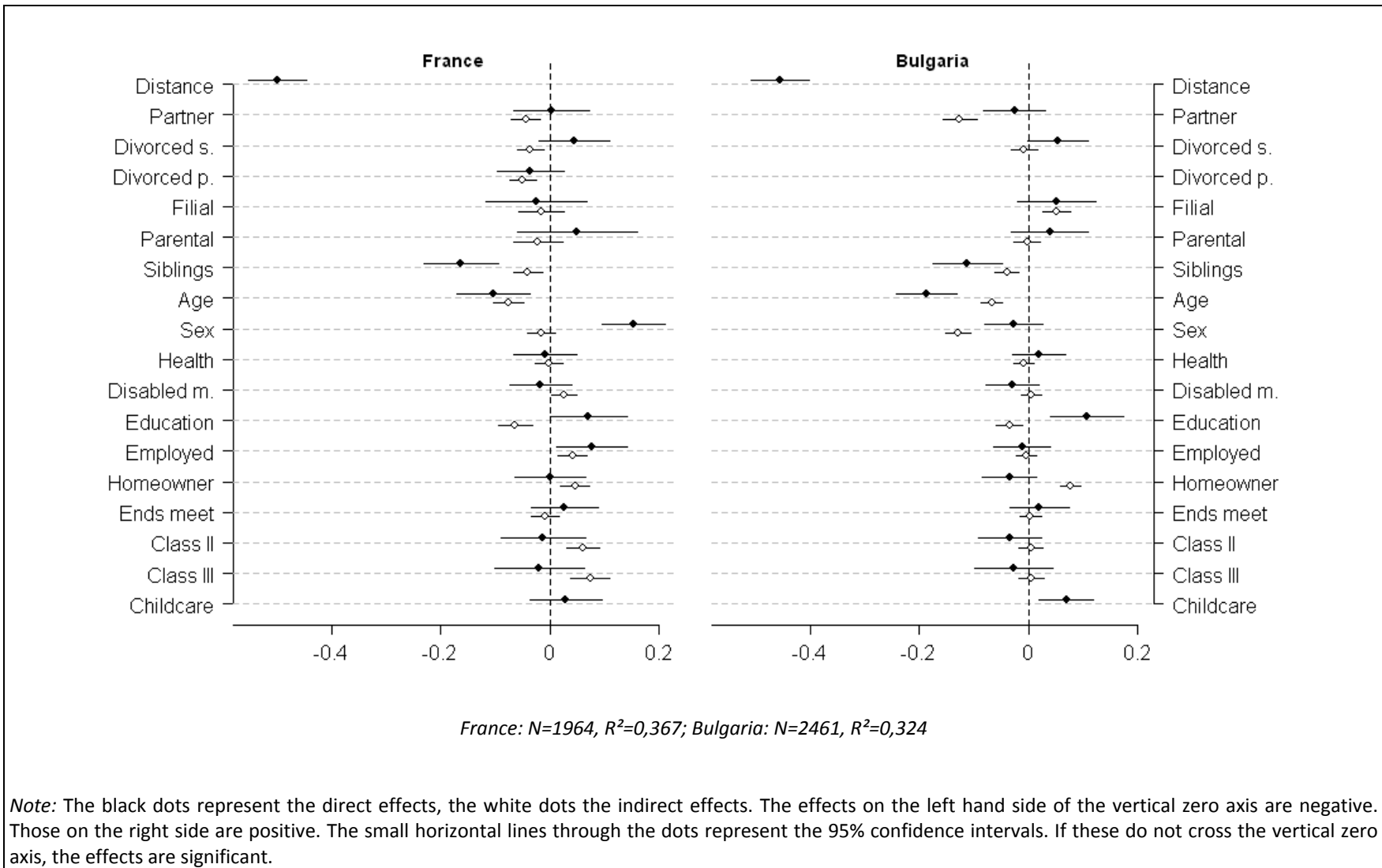
The family constellation of the adult child explains large differences in support received as well. In both countries, adult children living as a couple receive less help with childcare as they tend to live further away. Or formulated the other way around: single parents receive more help as

they live closer to their mother. Whether or not the adult child ever experienced a divorce has no direct effect on support. When we take the geographical distance into account, divorced adult children on the other hand receive less help with childcare in France as they live further away. In Bulgaria, there is no indirect effect. In addition, a parental divorce has a negative indirect effect on support given in France. An ever divorced mother gives less help with childcare as the distance towards the adult child is larger. The family norms make no differences, neither directly nor indirectly through the geographic distance.

When we look at the other socio-demographic and socio-economic correlates, we notice that women in France receive more help from their mothers. In Bulgaria, women receive less help as they more often live further away or separately from their mother. The older adult children receive less help with childcare in both countries. These negative effects are reinforced by the fact that the older adult children live further away from their mothers. With respect to the number of siblings, we notice a strong negative effect, both directly and indirectly, in both countries.

Also of interest is the effect of the educational level. In Bulgaria, highly educated respondents receive more grandmother care. The indirect effect runs in the other direction. This also holds for France. The higher educated adult children live further away and therefore receive less help from their mother. Similarly in France, the higher classes live at a larger distance and therefore receive less help with childcare from their mother. On the other hand and irrespective of the other indicators, the French respondents who are working receive more help. They also tend to live closer to their mother.

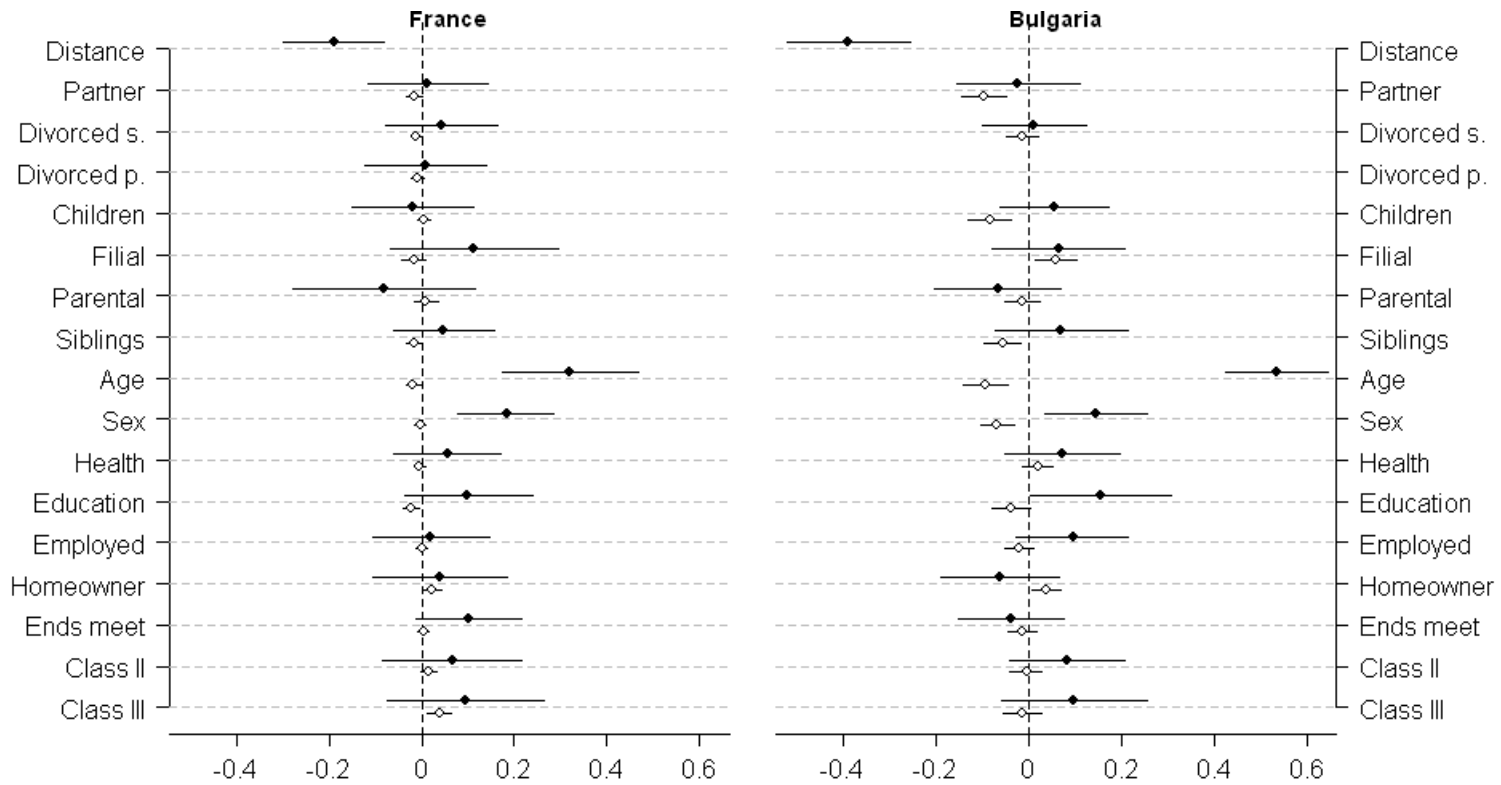
Figure 2: Direct and indirect effects on childcare received by country



#### **4.2.2 Giving support: personal care given to mother**

Next, we turn to the results for the personal care given to the mother (see Figure 3). For these analyses, we selected the respondents whose mother is not able to do normal activities of daily living due to a physical or mental problem and therefore can be expected to be in need of care. Here again the geographical distance between older mothers and their adult children has a strong negative effect on the personal care given to the mother. The indicators of the family constellation of both the adult child and the mother exert little effect on support. Indirect effects are only apparent in Bulgaria. Adult children living with a partner and having children living in the same household give less support, as they tend to live further away. This also holds true for the number of siblings: a larger number of siblings means a larger distance and therefore less support given. The familial norms exert no effect on the support upwards. Daughters give more support in France. This is also the case in Bulgaria. The indirect effect runs in the other direction: adult daughters give less support as they live further away. The older respondents give more support in both countries. This effect is weakened in Bulgaria by the indirect effect as older respondents live further away. The health status and the indicators of socio-economic status exert little or no direct and indirect effects.

Figure 3: Direct and indirect effects on personal care given by country



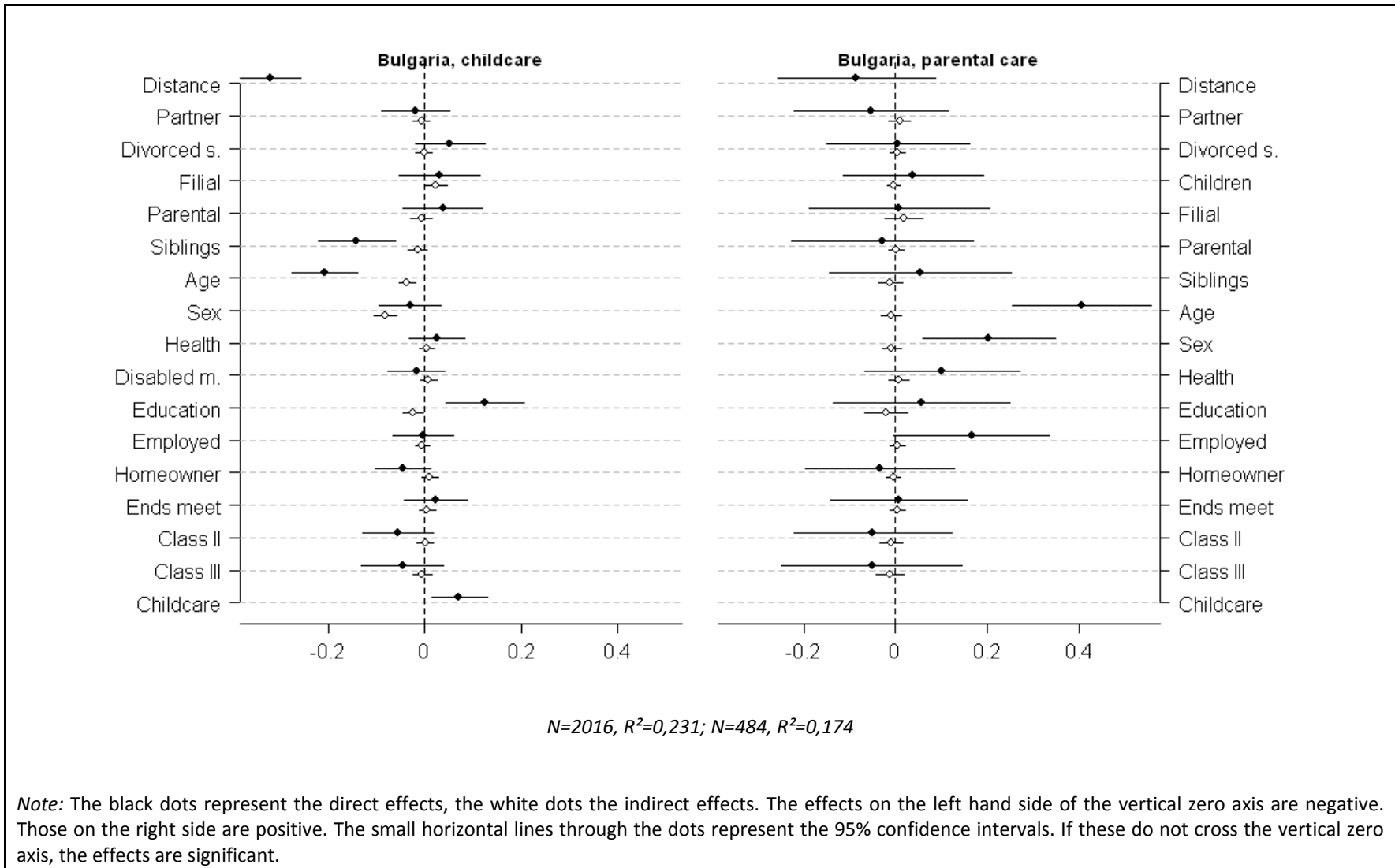
France:  $N=1636$ ,  $R^2=0,192$ ; Bulgaria:  $N=684$ ,  $R^2=0,302$

Note: The black dots represent the direct effects, the white dots the indirect effects. The effects on the left hand side of the vertical zero axis are negative. Those on the right side are positive. The small horizontal lines through the dots represent the 95% confidence intervals. If these do not cross the vertical zero axis, the effects are significant.

### **4.2.3 Additional analyses: impact of coresidence**

As coresidence is such a prevalent living arrangement in Bulgaria, the question can be raised whether the indirect effects, through the distance, remain similar if we exclude the category 'coresidence with older mother'. Therefore, in a final analysis the coresident adult children are excluded from the sample, both in France and Bulgaria, to test whether the effect of sociodemographic features through the geographical distance on the actual support can be explained by living far away instead of nearby or by coresiding or not. For France, no significant differences prevail, which can be attributed to a very low percentage coresiding with their older mother (results not shown). In Bulgaria, the distance still negatively affects the help received: those living further away receive less care (see Figure 4). Yet, in this model the indirect effect of living with a partner disappears. This implies that single parents more often live with their mother and therefore receive more help with childcare. For personal care the effect of geographic proximity is not significant anymore and therefore none of the indirect effects either once again suggesting that the need for care is addressed by coresiding.

Figure 4: Direct and indirect effects on childcare received and personal care given for non-coresiding respondents, Bulgaria



## 5. Discussion

In general, the results point to the importance of taking into account the intermediate effect of geographical distance between adult children and their mother. Geographic proximity proved not only to be a key determinant of actual support, several socio-demographic features affected the geographical distance between adult children and their mother as well and therefore, indirectly the level of intergenerational support. The geographic proximity can itself be considered as a dimension of solidarity (Tomassini, Wolf and Rosina 2003): as a latent form of solidarity it functions as a mediator between the individual background features and the manifest functional solidarity.

Of specific interest are the effects of the indicators of the family constellation on support received and given. Our analyses showed that the need for support of single parents is not only directly addressed by the mother, but single parents get more help as well because they tend to live closer to their mother, or in the case of Bulgaria, more often (still) live with their mother. This supports the hypothesis that single parents live closer to their parents as an adaptive strategy.

Irrespective of the current partner status, a divorce means less grandparental care as the distance between adult children and their mother is larger in France. This also holds for the case the older mother is divorced. For Bulgaria, no sufficient information was available concerning the parental partner status. These results imply that a divorce has no direct negative effect on the level of intergenerational support between adult children and their mothers as such. When we take into account the greater intergenerational separation in case of a divorce in either generation the balance is negative in terms of grandparental care.

With regard to the other socio-demographic features, the results confirm the kin keeper role of women. Both in France and Bulgaria women give more support. They receive more help with childcare as well in France. In Bulgaria this direct positive effect is counterbalanced by a negative indirect effect. As hypothesized, women less often live in the parental house than their



male siblings which has a negative impact on the level of intergenerational support. In line with our hypotheses, we found that older adult children receive less help with childcare, possibly because of the higher mean age of their young children. They also give less support, which can be attributed by the higher mean age of the older mothers. In both cases, the need for support to be received and given and the age of the adult child correlate. The indirect effect is in both countries and in both cases negative: older adults generally live at a greater distance from their mother. This negative effect has the most detrimental impact for the support given to the older mother as with increasing age her need for support is expected to be higher. The hypothesized sibling effect in conclusion is apparent in the direct and indirect effects in both countries. A higher number of siblings means less support given and received *and* a larger geographical distance. On the one hand, a higher number of siblings may imply less exchanges between mothers and their adult children and on the other hand a lower obligation to support which manifests itself in terms of the actual support and the distance.

The feelings of family obligations exert no effect on the actual level of support, neither directly nor indirectly. In the face of need, people may adapt their family norms according to their actual commitment (Van Bavel et al. 2010).

The socio-economic determinants are of specific importance in explaining the differences in grandparental childcare. On the one hand, as hypothesized, working corresponds with more help with childcare. Due to their working situation adult children may have higher needs for support. On the other hand, in many cases these positive effects are counteracted by the fact that a higher socio-economic status also implies a larger geographical distance. When we take into account that people with a lower socio-economic status generally live closer to their mother, the differences in terms of support received disappear. For those adults with a lower socio-economic status living close to their mother offers a similar degree of “social capital” compared to the higher educated respondents: an *‘informal insurance policy’* in times of need (Silverstein, Gans and Yang 2006 :1081). Contrary to our hypothesis, having more resources makes no direct difference in terms of support received and given.

The analyses also confirm the importance of considering the reciprocal nature of intergenerational ties. Older adults are not only care receivers but also important care givers. The geographical distance between adult children and their mothers strongly affects both the support given and the support received and in both cases functions as a mediator between the background features and the actual support. The 'choice' of residence is therefore important for both generations.

On the macro level, we tested the conceptual model in two European countries representing two different contexts. With regard to the actual intergenerational support, the level of childcare by the grandmother is comparable within the two countries. The percentage giving personal care to their older mother when she is limited in her normal activities of daily living is much lower in France than in Bulgaria. With regard to the support for elderly, France is characterized by a high degree of de-familialization whereas in Bulgaria the support to families is not publicly provided nor financially supported (Saraceno and Keck 2010). Several studies showed that stronger welfare regimes do not "crowd out" family support (Motel-Klingebiel, Tesch-Römer and Kondratowitz 2005). Yet, the type of support may differ: less intensively and more occasionally. Personal care generally asks for a stronger commitment, often resulting in more intense care. Within this respect, Brandt et al. (Brandt, Haberken and Szydlik 2009) conclude that in stronger welfare regimes, such as France, families are more likely to provide less demanding help whereas physical care is taken over by professional providers. Yet with regard to grandparental care, de-familialization may create an opportunity structure fostering maternal employment. Occasional grandparental care can still be necessary to complement the publicly provided child care (Hank and Buber 2009).

In both countries the geographic proximity functions as a mediator between the background variables and the actual level of support (see figure 1). Of specific interest is the fact that the manifestation of geographic proximity as a determinant of instrumental support differs between Bulgaria and France. Whereas in France living further away implies less

intergenerational support, living separately in Bulgaria makes the difference. Both countries represent two different contexts, specifically with respect to the geographical distance between family members. A typical argument in the debate on the decline of the family has been that the residential independence of older adults equals the loss of intergenerational support (Silverstein, Bengtson and Lawton 1997). These results suggest that living separately not necessarily means no support in a country characterized by “weaker” family ties. Living nearby has replaced living together as an antecedent of support (Kohli, Künemund and Lüdicke 2005). Nevertheless, it is important to keep in mind that increases in the distance between adult children and their mother will result in lower exchanges of support (Knijn and Liefbroer 2006). On the other hand, several studies in different countries showed no increase in this distance during the past decades (Malmberg and Petterson 2007; Shelton and Grundy 2000). For Bulgaria on the other hand, the same conclusion applies as for the Southern European countries (Albertini, Kohli and Vogel 2007) namely that coresidence is the ‘*way of transferring resources from parents to children and vice versa*’ (Albertini, Kohli and Vogel 2007 :326). Living separately and, even more so, far away, may (still) be a sign of weak family ties (Bordone 2009).

In general, by simultaneously considering geographic proximity as a dependent and independent variable we were able to picture how differences in geographic proximity relate to differences in actual support. Nevertheless, we have to be aware of the limitations of this study. First of all caution is needed as we only focused on two countries. The fact that coresidence makes the difference in actual support in Bulgaria, does not imply that this holds for all Eastern European countries or countries with a high prevalence of multigenerational coresidence. Similarly, the conclusion that living nearby in France functions as a latent form of solidarity does not mean that this is the case in “similar” countries. As more countries of the GGP become available, we will be able to perform formal statistical tests on the context. Nevertheless, in both countries which represent two different contexts the geographic proximity can be understood as a latent form of solidarity which turns out to be a crucial mediator in times of need when it comes to the actual support (Silverstein, Bengtson and Lawton 1997).

Secondly, in the analyses we only took into account the involvement in intergenerational support and not the intensity of care. This tends to be much higher between household members compared to extra-resident care (De Koker 2009). Living close by in France offers a good opportunity structure for intergenerational support. Nevertheless, the intensity with which support is given may be much lower compared to Bulgaria where coresidence explains differences in intergenerational support.

Thirdly, our results only apply for the support between adult children and their mothers. The conclusions cannot be generalized to the situation of the older fathers; several studies indicated that strong gender differences are apparent in terms of intergenerational support in later life (see e.g. Shapiro 2003).

## **6. Conclusions**

Many studies stress the importance of geographic proximity in explaining the actual level of intergenerational support. Similarly, several studies considered the endogenous nature of geographic proximity, showing that geographic proximity strongly varies according to several socio-demographic, socio-economic and cultural features (e.g. Shelton and Grundy 2000). This study offered new insights as it combined both perspectives. By using path analyses we were able to unravel the intermediate effect of geographic proximity. This approach revealed differences in actual support which would otherwise be invisible. In addition, some background determinants considered important determinants of actual support turned out to be of no significance when we took into account the intermediate effect of geographic proximity. To understand differences in actual, manifest solidarity it is important to consider differences in the opportunity structure (*i.e. structural solidarity*) as well. These results confirm the importance of taking into account the complexity of intergenerational solidarity.

## References

- Ahmed, P. and Emigh, R. J. (2005). Household composition in Post-Socialist Eastern Europe. *International journal of sociology and social policy* 25(3): 9-41.
- Albertini, M., Kohli, M. and Vogel, C. (2007). Intergenerational transfers of time and money in European families: Common patterns - different regimes? *Journal of European Social Policy* 17(4): 319-334.
- Attias-Donfut, C., Ogg, J. and Wolff, F.-C. (2005). European patterns of intergenerational financial and time transfers. *European Journal of Ageing* (2): 161-173.
- Bengtson, V. L. (2001). Beyond the nuclear family: the increasing importance of multigenerational bonds. *Journal of Marriage and the Family* 63: 1-16.
- Bordone, V. (2009). Contact and proximity of older people with their adult children: a comparison between Italy and Sweden. *Population, space and place* 15: 359-380.
- Brandt, M., Haberken, K. and Szydlik, M. (2009). Intergenerational help and care in Europe. *European Sociological Review* 25(5): 585-601.
- Broese van Groenou, M., Glaser, K., Tomassini, C. and Jacobs, T. (2006). Socio-economic status differences in older people's use of informal and formal help: a comparison of four European countries. *Ageing & Society* 26(5): 745-766.
- Brown, T. A., (2006). *Confirmatory Factor Analysis for Applied Research*. New York: The Guilford Press.
- Bumpass, L. L. and Raley, K. R. (1995). Redefining single-parent families: cohabitation and changing family reality. *Demography* 32(1): 97-109.
- Cheung, M. W. (2009). Comparison of methods for constructing confidence intervals of standardized indirect effects. *Behavior Research Method* 41(2): 425-438.

Daatland, S. O. and Herlofson, K. (2003). 'Lost solidarity' or 'changed solidarity': a comparative European view of normative family solidarity. *Ageing & Society* 23: 537-560.

de Jong-Gierveld, J., de Valk, H. and Blommestijn, M. (2001). Living arrangements of older persons and family support in more developed countries. *United Nations Population Bulletin* (Special issue Nos. 42/43): 21.

De Koker, B. (2009). Socio-demographic determinants of informal care giving: co-resident versus extra-resident care. *European Journal of Ageing* 6(1): 3-15.

De Vos, S. and Sandefur, G. (2002). Elderly living arrangements in Bulgaria, the Czech Republic, Estonia, Finland and Romania. *European Journal of Population* 18: 21-38.

Dykstra, P. (1999). The effects of divorce on intergenerational exchanges in families. *The Netherlands' Journal of Social sciences* 33(2): 77-93.

Glaser, K. and Tomassini, C. (2000). Proximity of older women to their children: a comparison of Britain and Italy. *The Gerontologist* 40(6): 729-737.

Glaser, K., Tomassini, C. and Grundy, E. (2004). Revisiting convergence and divergence: support for older people in Europe. *European Journal of Ageing* 1: 64-72.

Hank, K. (2007). Proximity and contacts between older parents and their children: a European Comparison. *Journal of Marriage and the Family* 69: 157-173.

Hank, K. and Buber, I. (2009). Grandparents caring for their grandchildren. *Journal of Family Issues* 30(1): 53-73.

Heylen, L. and Mortelmans, D. (2009). Explaining parent-child proximity in Eastern and Western Europe: a micro and macro perspective. Multilinks Project Research Centre for Longitudinal and Life Course Research 109.

Hoem, J. M. and Kostova, D. (2008). Early traces of the Second Demographic Transition in Bulgaria: a joint analysis of marital and non-marital union formation, 1960-2004. *Population Studies* 62(3): 259-271.

Kalmijn, M. and Saraceno, C. (2008). A comparative perspective on intergenerational support. Responsiveness to parental needs in individualistic and familialistic countries. *European Societies* 10(3): 479-508.

Knijn, T. and Liefbroer, A. C., (2006). More kin than kind: instrumental support in families In: P. Dykstra, M. Kalmijn, T. Knijn, A. Komter, A. C. Liefbroer and C. H. Mulder (eds.). *Family solidarity in the Netherlands*. Amsterdam: Dutch University Press: pp. 89-105.

Kohli, M. (1999). Private and public transfers between generations: linking the family and the state. *European Societies* 1: 81-104.

Kohli, M., Künemund, H. and Lüdicke, J., (2005). Family structure, proximity and contact. In: A. Börsch-Supan, A. Brugiavini, H. Jürges, J. Siegrist and G. Weber (eds.). *Health, ageing and retirement in Europe. First results from the Survey of Health, Ageing and Retirement in Europe*. Mannheim: Mannheim Research Institute for the Economics of Aging: pp. 164-170.

Komter, A. and Vollebergh, W. A. M. (2002). Solidarity in Dutch families. *Journal of Family Issues* 23(2): 171-188

Lee, G., Netzer, J. K. and Coward, R. T. (1994). Filial responsibility expectations and patterns of intergenerational assistance. *Journal of Marriage and the Family* 56(3): 559-565.

Lowenstein, A. (2007). Intergenerational solidarity: strengthening economic and social ties. Paper for UN Social Policy Division Expert Group Meeting Department of Economic and Social Affairs. Division for Social Policy and Development.

Malmberg, G. and Petterson, A. (2007). Distance to elderly parents: Analyses of Swedish register data. *Demographic Research* 17(23): 679-704.

Marcoen, A. (2005). Parent care: the core component of intergenerational relationships in middle and late adulthood. *European Journal of Ageing* 2: 208-212.

Michielin, F. and Mulder, C. H. (2007). Geographical distances between adult children and their parents in the Netherlands. *Demographic Research* 17: 655-678.

Michielin, F., Mulder, C. H. and Zorlu, A. (2008). Distance to parents and geographical mobility. *Population, space and place* 14: 327-345.

Motel-Klingebiel, A., Tesch-Römer, C. and Kondratowitz, H.-J. V. (2005). Welfare states do not crowd out the family: evidence for mixed responsibility from comparative analysis. *Ageing & Society* 25(6): 863-882.

Mulder, C. H. (2007). The family context and residential choice: a challenge for new research. *Population, space and place* 13: 265-278.

Mulder, C. H. and van de Meer, M. J. (2009). Geographical distances and support from family members. *Population, space and place* 15: 381-399.

Muthén, B. O. (2002). Beyond SEM: general latent variable modelling. *Behaviormetrika* 29(1): 89-117.

Petterson, A. and Malmberg, G. (2009). Adult children and elderly parents as mobility attractions in Sweden. *Population, space and place* 15: 343-357.

Putney, N. and Bengtson, V. (2005). Family relations in changing times: a longitudinal study of five cohorts of women. *International journal of sociology and social policy* 25(3): 92-119.

Puur, A., Sakkeus, L., Schenk, N. and Põldma, A. (2010). Family constellations in Europe. Estonian Interuniversity Population Research Centre and Erasmus University Amsterdam:104.

Reher, D. S. (1998). Family ties in Western Europe: persistent contrasts. *Population and Development Review* 24(2): 203-234.



Rogerson, P. A., Burr, J. A. and Lin, G. (1997). Changes in geographic proximity between parents and their adult children. *International journal of population geography* 3: 121-136.

Rogerson, P. A., Weng, R. H. and Lin, G. (1993). The spatial separation of parents and their adult children. *Annals of the association of American Geographers* 83(4): 656-671.

Rose, D. and Harisson, E., (2010). *Social class in Europe: an introduction to the European socio-economic classification*. Londen: Routledge.

Rossi, A. S. and Rossi, P. H., (1990). *Of human bonding. Parent-child relations across the life-course*. New York: Aldine de Guyter.

Saraceno, C. and Keck, W. (2010). Can we identify intergenerational policy regimes in Europe? *European Societies* 2010: 1-22.

Shapiro, A. (2003). Later-life divorce and parent-adult child contact and proximity. *Journal of Family Issues* 24(2): 264-285.

Shelton, N. and Grundy, E. (2000). Proximity of adult children to their parents in Great Britain. *International journal of population geography* 6: 181-195.

Silverstein, M., Bengtson, V. and Lawton, L. (1997). Intergenerational solidarity and the structure of adult child-parent relationships in American families. *The American Journal of Sociology* 103(2): 429-460.

Silverstein, M., Gans, D. and Yang, F. M. (2006). Intergenerational support to aging parents. The role of norms and needs. *Journal of Family Issues* 27(8): 1068-1084.

Smits, A. (2010). Moving close to parents and adult children in the Netherlands: The influence of support needs. *Demographic Research* 22(31): 985-1014.

Stein, C., Wemmerus, V. A., Ward, M., Gaines, M. E., Freeberg, A. L. and Jewell, T. C. (1998). "Because they're my parents": an intergenerational study of felt obligation and parental caregiving. *Journal of Marriage and the Family* 60(3): 611-622.

Stuifbergen, M. and Van Delden, J. J. M. (2008). The implications of today's family structures for support giving to older parents. *Ageing & Society* 28(3): 413-434.

Tomassini, C., Glaser, K., Broese van Groenou, M. and Grundy, E. (2004). Living arrangements among older people: an overview of trends in Europe and the USA. *Population Trends* 115(Spring): 23-34.

Tomassini, C., Glaser, K. and Stuchbury, R. (2007). Family disruption and support in later life: a comparative study between the United Kingdom and Italy. *Journal of Social Issues* 63(4): 845-863.

Tomassini, C., Wolf, D. A. and Rosina, A. (2003). Parental housing assistance and parent-child proximity in Italy. *Journal of Marriage and the Family* 65: 700-715.

UN-ILO (1990). International standard classification of occupations: ISCO-88. Geneva: International Labour Office.

Van Bavel, J., Dykstra, P., Wijckmans, B. and Liefbroer, A. C. (2010). Demographic change and family obligations. Multilinks Interface Demography, Erasmus University Rotterdam, and Netherlands Interdisciplinary Demographic Institute:37.

Vikat, A., Spéder, Z., Beets, G., Billari, F. C., Bühler, C., Désevelles, A., Fokkema, T., Hoem, J. M., MacDonalds, A., Neyer, G., Pailhé, A., Pinnelli, A. and Solaz, A. (2007). Generations and Gender Survey (GGS): Towards a better understanding of relationships and processes in the life course. *Demographic Research* 17(Article 14): 389-440.

## Appendix

Table 1: Probit regression coefficients for childcare support and distance

	France		Bulgaria	
	Childcare	Distance	Childcare	Distance
Distance	(0.027) -0.513***		(0.027) -0.446***	
Partner	(0.114) 0.008	(0.086) 0.270**	(0.119) -0.108	(0.125) 1.154***
Divorced self	(0.080) 0.106	(0.061) 0.162**	(0.106) 0.201	(0.104) 0.069
Divorced parents	(0.089) -0.097	(0.066) 0.267***		
Filial <sup>a</sup>	(0.052) -0.026	(0.045) 0.032	(0.056) 0.060	(0.044) 0.009
Parental <sup>a</sup>	(0.061) 0.054	(0.048) 0.046	(0.053) 0.074	(0.044) -0.168***
Siblings	(0.020) -0.088***	(0.014) 0.043**	(0.030) -0.103**	(0.022) 0.080***
Age	(0.006) -0.016**	(0.004) 0.023***	(0.006) -0.036***	(0.004) 0.029***
Sex	(0.067) 0.336***	(0.055) 0.068	(0.059) -0.061	(0.050) 0.633***
Subjective health	(0.044) -0.012	(0.038) 0.005	(0.039) 0.031	(0.033) 0.034
Mother disabled	(0.072) -0.041	(0.057) -0.128**	(0.101) -0.117	(0.083) -0.046
Education	(0.055) 0.108	(0.046) 0.185***	(0.056) 0.172**	(0.045) 0.126**
Employed	(0.102) 0.233*	(0.077) -0.243**	(0.071) -0.034	(0.058) 0.027
Homeowner	(0.074) 0.002	(0.056) -0.197***	(0.062) -0.085	(0.047) -0.418***
Subjective wealth	(0.027) 0.024	(0.022) 0.013	(0.028) 0.019	(0.023) -0.008
Class II	(0.092) -0.028	(0.068) -0.278***	(0.088) -0.104	(0.074) -0.029
Class III	(0.093) -0.041	(0.078) -0.317***	(0.083) -0.061	(0.062) -0.024
Formal childcare	(0.075) 0.065		(0.061) 0.161**	

<sup>a</sup> Both attitudinal covariates were allowed to be correlated and demonstrated a significant positive correlation, 0.64 (0.03) in France and 0.25 (0.02) in Bulgaria.

\* denotes significant at  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ . Bootstrapped standard errors included in parentheses.

Table 2: Probit regression coefficients for personal care and distance

	France		Bulgaria	
	Personal care	Distance	Personal care	Distance
Distance	(0.060) -0.199**		(0.063) -0.358***	
Partner	(0.160) 0.031	(0.078) 0.191*	(0.173) -0.055	(0.138) 0.661***
Divorced self	(0.149) 0.100	(0.067) 0.130	(0.202) 0.046	(0.167) 0.137
Divorced parents	(0.256) 0.029	(0.101) 0.164		
Children	(0.150) -0.039	(0.073) -0.051	(0.142) 0.129	(0.121) 0.531***
Filial <sup>a</sup>	(0.113) -0.088	(0.066) -0.052	(0.101) 0.090	(0.095) 0.067
Parental <sup>a</sup>	(0.105) 0.123	(0.062) 0.095	(0.128) -0.116	(0.075) -0.226**
Siblings	(0.030) 0.025	(0.015) 0.043**	(0.060) 0.057	(0.040) 0.122**
Age	(0.008) 0.030***	(0.003) 0.008**	(0.007) 0.056***	(0.005) 0.027***
Sex	(0.126) 0.399**	(0.064) 0.037	(0.130) 0.326*	(0.098) 0.421***
Subjective health	(0.081) 0.074	(0.039) 0.033	(0.086) 0.095	(0.058) -0.073
Education	(0.107) 0.146	(0.050) 0.163**	(0.131) 0.254	(0.091) 0.167
Employed	(0.162) 0.047	(0.074) -0.002	(0.153) 0.230	(0.104) 0.129
Homeowner	(0.173) 0.088	(0.077) -0.267**	(0.207) -0.190	(0.121) -0.333**
Subjective wealth	(0.053) 0.087	(0.027) -0.017	(0.062) -0.038	(0.046) 0.037
Class II	(0.182) 0.152	(0.085) -0.191*	(0.211) 0.269	(0.157) 0.040
Class III	(0.197) 0.207	(0.092) -0.420***	(0.190) 0.228	(0.130) 0.086

<sup>a</sup> Both attitudinal covariates were allowed to be correlated and demonstrated a significant positive correlation, 0.64 (0.04) in France and 0.21 (0.03) in Bulgaria.  
\* denotes significant at  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ . Bootstrapped standard errors included in parentheses.

Table 3: Probit regression coefficients for total effects on childcare and personal care

	France		Bulgaria	
	Childcare	Personal care	Childcare	Personal care
Distance	(0.027) -0.513***	(0.060) -0.199**	(0.027) -0.446***	(0.036) -0.358***
Partner	(0.119) -0.130	(0.162) -0.007	(0.124) -0.622***	(0.176) -0.292
Divorced self	(0.085) 0.023	(0.149) 0.074	(0.113) 0.170	(0.212) -0.003
Divorced parents	(0.095) -0.234*	(0.257) -0.004		
Children		(0.151) -0.029		
Filial	(0.054) -0.043	(0.104) 0.104	(0.056)** 0.149	(0.099) 0.171
Parental	(0.064) 0.031	(0.113) -0.078	(0.058) 0.056	(0.132) -0.140
Siblings	(0.021) -0.110***	(0.030) 0.016	(0.031) -0.139***	(0.061) 0.013
Age	(0.006) -0.028***	(0.008) 0.029***	(0.006) -0.049***	(0.007) 0.046***
Sex	(0.071) 0.301***	(0.127)** 0.392	(0.060) -0.343***	(0.136) 0.175
Subjective health	(0.046) -0.015	(0.081) 0.068	(0.042) 0.016	(0.085) 0.121
Mother disabled	(0.074) 0.024		(0.106) -0.096	
Education	(0.055) 0.013	(0.105) 0.114	(0.059) 0.116*	(0.135) 0.194
Employed	(0.102) 0.357***	(0.162) 0.048	(0.076) -0.046	(0.155) 0.184
Homeowner	(0.078) 0.103	(0.175) 0.141	(0.064) 0.101	(0.210) -0.070
Subjective wealth	(0.029) 0.017	(0.053) 0.090	(0.029) 0.023	(0.064) -0.051
Class II	(0.095) 0.114	(0.182) 0.190	(0.094) -0.091	(0.215) 0.254
Class III	(0.098) 0.122	(0.200) 0.290	(0.087) -0.050	(0.194) 0.197
Formal childcare	(0.075) 0.065		(0.061) 0.161**	

\* denotes significant at  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ . Bootstrapped standard errors included in parentheses.