Intergenerational Proximity as a Resource for Physical and Social Well-being at Older Ages

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Paper to be presented at the European Population Conference 2012
Session 24: Intergenerational contact and proximity
14 June 2012

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Abstract

Although geographic proximity is the strongest predictor of support exchange among family members and seems to contribute to feelings of security as well, it remains unclear how and to what extent individuals' well-being benefits from close proximity to family members. We treat the presence of adult children and their proximity to their parents as resources within the Social Production Function - Successful Aging Theory. We argue that under well-defined parental resource restrictions adult children may partly compensate for lost or reduced resources. We expect the presence but especially close proximity of one or more adult children to act positively on physical and social well-being, where we expect that the well-being of persons living without a partner, and/or with disabilities but also men to benefit more from having children and living close to them. Record linkage of Dutch register and survey data shows that having children rather than not having them make disabled persons without a partner less likely to be satisfied with life. However, at the moment older persons do have adult children our findings indicate that children living close by may partly compensate for the resource restrictions that go along with disability and/or the absence of a partner. Furthermore we find contrasting effects for fathers and mothers.

Introduction

Decreasing fertility, changes in family formation processes, globalisation and urbanisation will make older persons more likely to live without a partner, to have few children, and possibly to live at a greater geographic distance from them. A combination of these processes makes it less likely for older persons to have assistance around for various needs that go together with aging. At the same time, current economic global developments force governments to cut costs on various public expenditures, putting more pressure on individual responsibilities and informal care resources to uphold well-being at older ages.

Various studies have shown that with increasing health restrictions the role of the family regarding personal and practical support becomes more significant (Bengtson, 2001; Komter & Vollebergh, 2002; Sundström, Johansson, & Hassing, 2002; Van Tilburg, Broese van Groenou, & Thomése, 1995). Because the natural bond between family members goes along with feelings of responsibility children respond promptly to the increased needs of their parents (Broese van Groenou, 1995). And indeed, adult children, daughters in particular, are more likely than any other group of potential caregivers to provide personal and practical support to older persons (Komter & Vollebergh, 2002; Mulder & Van der Meer, 2009; Spitze & Logan, 1990).

Moreover, geographic distance has shown to be the strongest predictor of support exchange among family members (Bloem, Van Tilburg, & Thomése, 2008; Bordone, 2009; Greenwell & Bengtson, 1997; Hank, 2007; Hank & Buber, 2009; Lawton, Silverstein, & Bengtson, 1994; Mulder & Van der Meer, 2009; Rogerson, Burr, & Lin, 1997; Van Tilburg, Broese van Groenou, & Thomése, 1995) for the reason that proximity enables face-to-face interaction which makes the exchange of instrumental support and emotional intimacy easier (Lawton, Silverstein et al. 1994).

In the Netherlands half of the parents aged 65 and older live within five kilometres distance from an adult child (Van der Pers & Mulder, manuscript). For the same country, Knijn and Liefbroer (2006) have shown that a distance of over five kilometres makes a great difference for the level of instrumental support exchange. Also, having 'someone to turn to' is considered to contribute to feelings of security among older persons (Breheny & Stephens, 2009; Dunér & Nordström, 2007; J. M. Mercier, Paulson, & Morris, 1988). Furthermore, Swedish older parents who live within walking distance from at least one adult child reported that the feeling of having someone to consult or discuss with when the need arises is important for them (Hjälm, 2011).

From these empirical findings one would expect that also individual well-being profits from intergenerational proximity. This idea inspires us to investigate whether and to what extent living close to adult children contributes to the well-being of older parents. We argue that the presence of children may partly substitute lost or reduced resources that go along with human aging, e.g. decline of health and loss of members of one's social network. Therefore, we expect intergenerational proximity to strengthen the function adult children have simply because distance enhances various kinds of interaction. The research question to be answered is '*Whether and to what extent does the well-being of older adults benefit from having adult children living close by?'*

Through record linkage of Dutch survey data with register data we will analyse the effects of having adult children and their proximity on well-being of over five thousand persons aged 55 and older. We approach well-being with the cognitive indicator life satisfaction which we treat as dependent variable in ordinal regression analyses.

Aging and the changing balance in gains and losses in resources for well-being

The Social Production Function – Successful Aging Theory

We apply the Social Production Function – Successful Aging (SPF-SA) Theory (Steverink & Lindenberg, 2006) as theoretical framework in order to investigate whether and to what extent adult children and their proximity can be a significant contributor to the well-being of older

people. The SPF-SA theory is an extension of the Social Production Function (SPF) Theory formulated by Lindenberg (1996) which describes how persons actively manage their lives by treating resources and activities as means for the fulfilment of five basic human needs (stimulation, comfort, behavioural conformation, status and affection) which in turn contributes to physical and social well-being. The more physical and social well-being is achieved, the greater the individual overall well-being will be.

The interchangeability of resources, but also the substitution of need fulfilments are important elements of the SPF-SA theory. Because resources are divers, individuals are able to outweigh the relative costs of alternative ways to fulfill their needs for physical and social well-being, a mechanism that especially plays a role at the moment certain resources are lost. Aging is an example of such a process which requires complex adaptation to a changing balance between gains and losses in physical, social and psychological resources.

The interchangeability of resources to facilitate such adaptation processes and the active engagement of individuals to outweigh alternative ways to 'produce' well-being are relevant mechanisms for this study, especially because families represent significant latent resources which can be activated at times of need (Bengtson, 2001). Taken together, the SPF-SA Theory provides us with a solid theoretical basis for understanding whether and to what extent adult children and their proximity are resources for the fulfillment of physical and social needs at older ages. Concerning the older parents we approach the presence of disability as a restriction for fulfilling physical needs, whereas the absence of a partner restricts the fulfilment of social needs. We argue that the presence and proximity of adult children become more important resources at the moment disabilities limit daily activities and/or when a partner is absent (Silverstein, Gans, & Yang, 2006).

Children as resources for physical and social well-being at older ages

Parenthood is often suggested to satisfy basic human needs because children structure lives and integrate people into social networks. We argue that children are an important resource for social well-being because children are a strong marker of personal success and social recognition (see literature review of Hansen, 2011). Moreover, the curvilinear pattern of the psychological benefits of children over the life course (Angeles, 2010; Hansen, 2011) suggests that children can be an investment in future social well-being; various studies have shown that the family becomes more important with increasing age (Bengtson, 2001; Komter & Vollebergh, 2002; Van Tilburg, 1995). Because family relations generally require less effort and active maintenance than non-family relations do, we argue that family members are a more reliable resource for

fulfilling physical needs than non-family relations. The natural bond between parents and children makes it therefore more likely for older parents to count on their children rather than friends when they are in need for instrumental support, especially at older ages.

When considering children as resources for physical and social well-being at older age, one would assume that childless older people are more vulnerable. In fact, childless older persons are more likely to live alone or in an institution, to have smaller social networks, to have less face-to-face contact with others and to be less likely to report having a potential caregiver who could assist in an emergency or with long term assistance (Dykstra, 2006; Dykstra & Hagestad, 2007; Dykstra & Wagner, 2007; Kendig, Dykstra, Van Gaalen, & Melkas, 2007; Koropeckyj-Cox & Call, 2007; Zhang & Hayward, 2001). Above reasoning leads us to our first hypothesis that *older people with children have higher levels of physical and social well-being than childless older persons (H1).*

Furthermore we argue that multiple children act as supplementary resources for well-being (Uhlenberg & Cooney, 1990) which makes us expect that *older parents have higher levels of physical and social well-being when they have more children (H2a).*

Finally we treat daughters as stronger resources for the fulfilment of physical and social needs than sons because they act different in commitment, contact frequency and support provision (Rossi & Rossi, 1990; Silverstein, Gans, & Yang, 2006; Stein et al., 1998). Having at least one daughter increases the frequency of contact through telephone and visits (Spitze & Logan, 1990). And, daughters are found to be more willing and obliged to provide support when the situation is less urgent whereas sons tend to provide support if the necessity is great (Mulder & Van der Meer, 2009; Silverstein, Gans, & Yang, 2006). We hypothesise that *older parents with a daughter have higher levels of physical and social well-being than those without a daughter (H3a).*

Intergenerational proximity as resource for physical and social well-being at older ages

We argue that geographic proximity of adult children is a resource for social well-being at older age through its enhancement of the feeling of togetherness, or 'being intimate at distance' (Kohli, Künemund, & Ludiche, 2005). Then, close proximity enables reciprocation which strengthens feelings of being needed (Künemund & Rein, 1999). And, living close reinforces feelings of security since there is someone physically close by to turn to when needed (Dunér & Nordström, 2007; Urry, 2002).

Because intergenerational interaction and instrumental support exchange are very sensitive to geographic distance (Bloem, Van Tilburg, & Thomése, 2008; Bordone, 2009; Dunér

& Nordström, 2007; Greenwell & Bengtson, 1997; Hank, 2007; Hank & Buber, 2009; Ikkink, Tilburg, & Knipscheer, 1999; Lawton, Silverstein, & Bengtson, 1994; Mulder & Van der Meer, 2009; Rogerson, Burr, & Lin, 1997; Van Tilburg, Broese van Groenou, & Thomése, 1995) we argue that proximity of adult children facilitates physical well-being since the actual ability to fall back on one's support when needed becomes more likely when time constraints are reduced. Taken together, shorter distance reinforces the function of children as a resource for physical and social well-being simply by the fact that various types of interaction become easier with decreasing distance. Our hypothesis regarding the contribution of intergenerational proximity to well-being is that *older parents have higher levels of physical and social well-being when an adult child is living close by (H4).*

To follow up on our argument that multiple children and daughters act as supplementary resource we expect that *older parents have higher levels of physical and social well-being when more children live close by (H2b)* and that *older parents with a daughter living close by have higher levels of physical and social well-being than those without a daughter living close by (H3b).*

Remarkably, when distances become very short, an overflow of instrumental support, lack of privacy or conflict situations becomes more likely. Especially in the situation of little need for support and involvement, very close proximity can compromise the fulfilment of physical and social needs (Silverstein, Chen, & Heller, 1996). Although co-residence has the potential for sharing resources like expenses and emotional support and may be a solution when health conditions hinder living alone (Pillemer & Suitor, 1991), we treat co-residence as a separate category of intergenerational proximity because studies have shown that parental well-being does always benefit from co-resident children (Hansen, 2011; Silverstein & Bengtson, 1994). In the Dutch context co-residence of adult children with their parents mostly occurs out of the need of the adult child who is more often male, is more likely to be single and is more likely to receive a long-duration disability benefit or to have experienced an income drop (Smits, 2010). These characteristics may put a burden on various resources of the parent which may interfere with their well-being. We therefore expect that *parents with a co-residing adult child have a lower level of social well-being than parents who do not co-reside (H5).*

Resource restrictions: being disabled and living without a partner

As mentioned, the presence and proximity of adult children may be more relevant at the moment disabilities are more advanced and/or when a partner is absent[2] (Silverstein, Gans, & Yang, 2006).

Disability will particularly affect physical well-being through the limited capability to perform physical and mental activities whereas the presence of pain may reduce the level of comfort. We argue that children living close by are important resources for instrumental support in the situation where disability restricts performance of daily tasks which in turn reduces the fulfilment of physical needs. We therefore hypothesise that *children living close by are a more important resource for physical well-being of disabled parents than they are for non-disabled parents (H6).*

Then we argue that living without a partner particularly affects social well-being since a partner is an important resource for the fulfilment of social needs. Studies have shown that older persons who have never had, or have lost a partner are more likely to become socially isolated (De Jong Gierveld, Broese van Groenou, Hoogendoorn, & Smit, 2009; Dykstra & De Jong Gierveld, 2004; Dykstra, Van Tilburg, & De Jong Gierveld, 2005; Koropeckyj-Cox, 1998; Zhang & Hayward, 2001). We argue that in the situation when a partner is absent, adult children may partly compensate for the social need fulfilment that would have been provided by a partner. For instance, the intensification of contact with children after one becomes widowed may compensate for the loss of affection that was usually attained through the partner. This substitution mechanism makes us expect that *children living close by are a more important resource for social well-being of parents living without a partner than they are for parents living with a partner (H7).*

At the moment restrictions due to disability become more pronounced a partner will play an important role in the provision of instrumental support (Sundström, Johansson, & Hassing, 2002). Hence, in the situation where the partner is disabled or absent it becomes more difficult to fullfil physical and social needs. We therefore hypothesise that *children living close by are a more important resource for well-being of disabled parents without a partner than they are in the other situations (H8).*

Furthermore, we expect to find differences in the way adult children contribute to the well-being of older men and women. We argue that women have more resources available because they are generally assumed to be better able to take care of themselves and to have a

[2] Of the Dutch residents aged 55-65 two thirds have at least one chronic disease, three quarters has at age 80 (CBS, 2011b). At age 65 about 35 percent is widowed or divorced, whereas this is around 60 percent at age 80(CBS, 2012).

broader social network (Dykstra & De Jong Gierveld, 2004; Dykstra & Hagestad, 2007). We hypothesise that *children living close by are a stronger resource for physical and social well-being of disabled men living alone than they are for disabled women living alone (H9).* The hypothesis is in line with studies that showed that social control effects of having a child have a stronger effect on men than on women (Kendig, Dykstra, Van Gaalen, & Melkas, 2007).

Overflow of resources and physical and social well-being

Above argumentation implicitly assumes that the more resources gained through intergenerational interaction the more physical and social well-being needs will be fullfilled. However, as already mentioned for co-residence, we should be very careful in taking this assumption for granted because studies have shown that excessive support can be physically and socially harmful as well (Silverstein, Chen, & Heller, 1996).

Instead of identifying older persons as being vulnerable and in need of support we are aware of the fact that older parents generally prefer to be autonomous for as long as possible, whereas at the same time they expect less support from their children than these are actually willing to provide (Lawton, Silverstein, & Bengtson, 1994). Actually, excessive support can harm (future) physical well-being of well-functioning persons (Lawton, Silverstein, & Bengtson, 1994). Moreover, an overflow of social support may also harm social well-being at the moment dependence and self-esteem are undermined (Silverstein, Chen, & Heller, 1996). Taken together, we hypothesise that *physical and social well-being of non-disabled parents and/or parents who live together with a partner is less likely when adult children live at very close distance (H10).*

Other demographic, socio-economic and regional resources for well-being

Besides the presence and proximity of adult children we account for other factors that are known to relate to physical and social well-being. However, we do not explicitly test expectations on them with our data.

Income and education represent the direct effect of economic benefits and potential resource advantages through human capital and knowledge. High income reflects the cumulative impact of differences in opportunities and life style histories whereas educational attainment is an important marker of socioeconomic position and potential resources. Higher income and education make it more likely for persons to fulfill physical and social needs.

Environmental opportunity structures determine the availability and accessibility of various resources. Since individuals living in more rural areas tend to have stronger family ties (Hogerbrugge & Dykstra, 2009; J. D. Mercier, Paulson, & Morris, 1989; Rogerson, Weng, &

Lin, 1993) one would expect physical and social needs to be more likely to be fulfilled in more rural areas. In contrast, more urban areas provide a broader set of opportunities for education, employment, cultural and leisure facilities, and have more varied and affordable housing opportunities (Feijten, Hooimeijer, & Mulder, 2008; Greenwell & Bengtson, 1997), which would alternatively expect physical and social needs to be more likely to be fulfilled in more urban areas.

Finally, studies have shown that well-being profits from social integration; social isolated or low integrated persons seem to be less healthy, feel lonely, and have a shorter life expectancy (Berkman, Glass, Brissette, & Seeman, 2000; Fiori, Antonucci, & Cortina, 2006; Van Sonderen & Ormel, 1991). Therefore, the fulfilment of physical and social needs would be more likely with increasing contact with family and friends.

Methods

The dataset

We derived data from the annual cross-sectional national representative survey 'POLS' (Periodiek Onderzoek LeefSituatie) which contains information about life satisfaction and health in 2003 (CBS, 2011a). We enriched this data through record linkage with the municipal population register, in Dutch 'Gemeentelijke BasisAdministratie' (GBA), containing all demographic mutations of all registered inhabitants of the Netherlands from 1 January 1995 onwards (CBS, 2010c). From the POLS survey 5,852 respondents aged 55 years and over were linked to the register data in order to identify their adult children; 5,092 of them have at least one child of 25 or more years old (CBS, 2010a, , 2010b, , 2011a). Because only addresses of persons registered in the Netherlands were available, dyads in which the parent or the child lived abroad for the whole period 1995-2009 could not be captured.

Measuring well-being

We approach physical and social well-being with the indicator *life satisfaction* which reflects the cognitive evaluation of well-being based upon comparisons of actual achievements to aspired conditions (Diener, Suh, Lucas, & Smith, 1999) approached with the question 'To what extent are you satisfied with your current life?' and measured on a 5-point scale: 'extremely satisfied', 'very satisfied', 'satisfied', 'quite satisfied', and 'not so satisfied'.

Independent variables

Parenthood is defined as whether or not adult children are present. We added the sex of the children into this variable in order to account for the sex differential in responsibility amongst

sons and daughters. In cases of one child, two categories represent whether this child is a son or a daughter, in case of multiple children three categories define whether these children are only sons, only daughters or are a combination of sons and daughters.

Because the physical characteristics of the Dutch landscape and its dense infrastructure system do not lead to serious barriers in geographic distance between inhabitants we approach *intergenerational proximity* with Euclidean distances. These are measured as the length of a straight line between the geographical midpoints of the neighbourhoods of residence of both parent and child at the moment of the survey. In our measurement of proximity we follow the findings of Knijn and Liefbroer (2006) and Hjälm Pettersson (2011) to classify five categories. First we define *co-residence* as living at a distance of zero kilometres in combination with the parent reporting to have a child living in the same household. Then we consider *living within one kilometre* distance from an adult child. *Living at one to five kilometres* enables face-to-face contact on a daily basis without too many time constraints. Then, *living at five to twenty kilometres* remain individuals to visit each other on a regular basis although more efforts have to be taken. Finally, *living further away than twenty kilometres* makes face-to face contact on a regular basis less likely because more effort has to be taken (Knijn & Liefbroer, 2006). We apply above categories to two variables; *proximity to closest child* and *proximity to other child*. Finally, we constructed the variable whether or not a *daughter lives within five kilometers distance*.

Living arrangement is operationalised by living together with a partner based on the reporting off household composition, not marital status. We define *disability* as a combination of an objective and subjective measurement of health conditions where the former refers to whether a person has at least one chronic disease, and the latter represents to what extent daily household activities are restricted by the presence of the chronic disease(s). All who do not report a chronic disease in combination with those who have at least one chronic disease but do not encounter restrictions are labelled as non-disabled.

The control variables *age*, *sex, income, education, degree of urbanisation* and *contact with family outside the household* and *contact with friends* are taken from the POLS survey. We treat age as continuous variable and pooled *educational attainment* into three categories. For *income* we corrected the gross yearly/annual household income of households with multiple members with 0.7 in order to balance income with single member households and have distributed these in quartiles. The regional variation in opportunity structures is operationalised by *degree of urbanisation* which is based on address density at neighbourhood level (urban: 1,500 or more addresses per km², suburban: 500 to 1,500 addresses per km², rural: fewer than 500 addresses per km²). Finally, *contact with family outside the household* and *contact with*

friends are operationalised in three categories that represent the frequency of face-to-face and contact by telephone or letter. The variable is based on the question 'How often do you have contact with at least one family member outside the household /friends' and is categorised as i) frequent: at least once a week + twice a month, ii) moderate: once a month + less than once a month, iii) few or no contact: seldom or never.

Analyses

Since life satisfaction is measured at an ordinal scale we apply ordinal regression models. The first model aims to obtain insight into whether the actual presence of adult children contributes to life satisfaction of persons aged 55 and over (N=5,852). The second focuses on intergenerational proximity and is run for parents only (N=5,092). For both models we have added disability as interactions with the presence or proximity of children. Furthermore, these models are run separate for parents who live with or without a partner, and separate for men and women.

Results

Descriptives

Nearly ninety percent of all the persons aged 55 and older has a least one child above 24 years, whereas a quarter of this group has one child (Table 1). A quarter of all parents has at least one co-resident child, another quarter at least one child living within five kilometres distance, one fifth of the parents at five to twenty kilometres. Taken together, three quarters of the parents in our sample has a child living within twenty kilometres which is in line with previous findings (Dykstra & Knipscheer, 1995; Van der Pers & Mulder, manuscript) .

Three quarters of the parents live together with a partner, one third is considered being disabled. Those who live without a partner seem more often to be less satisfied with life, female, disabled, to have a lower income, to live more often in urban areas and to live less often close to an adult child, however they have slightly more often a daughter living close by.

Finally the vast majority has frequent contact with family members outside the household, whereas over two third has frequent contact with friends which is higher for without a partner.

<Table 1 about here>

Regression analyses

The contribution of adult children to life satisfaction

The estimates do not show a significant different contribution of having children or not on life satisfaction (Table 2), which does not support our hypotheses (H1 and H2a). Moreover, life satisfaction is also not more likely when having daughters (H3a).

After introducing the interaction of disability with having children, the direction of the estimates indicates that life satisfaction of persons living together with a partner seems to more likely in the presence of a child, whereas it seems to be a negative effect on life satisfaction of persons without a partner. We find a significant negative contribution of having children on life satisfaction of disabled persons without a partner; life satisfaction, of women in particular, is less likely when having one daughter; life satisfaction of disabled men without a partner does not benefit from having only sons. None of these results support our hypotheses concerning the effect of having children on life satisfaction in the absence or presence of disability and/or a partner.

<Table 2 about here>

The contribution of intergenerational proximity to life satisfaction

Our next model explores the contribution of intergenerational proximity to life satisfaction of parents. The direction of the estimates in the base model (Table 3) is in line with our expectations where we find a slightly positive effect of living within twenty kilometres distance (H4), and a very small negative effect for co-residence (H5) compared with living further than twenty kilometres. Then parents seem to benefit from multiple children (H2a) and also from having another child living at daily reach (H2b). And, the base model shows a small positive effect of having a daughter living close by (H3b). However, these interpretations should be taken with caution as none of the estimates are significant.

When we introduce disability as interaction with intergenerational proximity and run the model separate for parents living with and without a partner, at first glance it seems that, against our expectations (H6) disabled parents benefit less from intergenerational proximity than non-disabled parents, whereas in line with our expectations (H7) parents without a partner seem to benefit more from intergenerational proximity .

Furthermore we find some significant contributions of proximity to life satisfaction (Table 3). Concerning parents who live together with a partner we find that disabled fathers are less likely to be satisfied when children co-reside. Interestingly, when fathers are not disabled the

opposite effects are shown; co-residence makes non-disabled fathers more likely to be satisfied. The same contrast is found for daughters living close by; life satisfaction of disabled fathers is more likely, whereas life satisfaction is less likely for non-disabled fathers who have a daughter living close by. For mothers with a partner we do not find such a profound pattern. Our expectation concerning the potential overburden in the absence of parental needs (H11) is also only supported fathers; non-disabled fathers who have a daughter living close by are less likely to be satisfied.

<Table 3 about here>

For parents living without a partner we find that life satisfaction is more likely when children live close by. Disabled mothers are more likely to be satisfied with co-residence, whereas living within one kilometre from an adult child is more satisfying for disabled fathers, which support our expectation (H8). Non-disabled mothers without a partner are more likely to be satisfied when they have more children living within five kilometres. In contrast, non-disabled fathers are less likely to be satisfied with a child living very close by which does not support our expectation concerning well-being of men to benefit more from intergenerational proximity (H9). Opposing to parents with a partner, we do not find effects for having a daughter living close by for parents without a partner. Moreover, the results support our hypothesis concerning the possible overburden in the absence of parental needs (H10) for non-disabled fathers who have a child living very close by.

Furthermore, the estimates of this model show that partnership affect life satisfaction of disabled fathers and mothers in a different manner. In the presence of a partner, disabled men are less likely to be satisfied than disabled women, whereas in the absence of a partner women are less likely to be satisfied than men.

Other resources for well-being: control variables

With increasing age life satisfaction becomes more likely, particular for women without a partner (Table 4). As expected, both income and education increase life satisfaction, where income contributes significantly to life satisfaction of parents who are living with a partner. Higher educational levels make life satisfaction more likely for particularly men with a partner and women without a partner. Then persons living in rural areas are more likely to be satisfied than persons living in an urban an area, especially men who have a partner. Frequent contact with family members outside the household makes life satisfaction of men with a partner and

women without a partner more likely. And surprisingly, women without a partner do not significantly benefit from frequent contact with friends, whereas the others do.

<Table 4 about here>

Discussion

We addressed the contribution of adult children to well-being at older ages by treating their presence and proximity as resources within the SPF-SA theory. We argued that under well-defined resource restrictions, e.g. living without a partner and/or being disabled, adult children may contribute to the adaptation process of older persons to deal with the changing balance of physical and social resources that goes along with aging. In addition we reasoned that proximity strengthens this adaptation process for the reason that distance enhances face-to-face contact between persons thereby making instrumental and emotional support more likely.

Our analyses show that the actual presence of adult children does not contribute in a significant different way to the fulfilment of social and physical needs of those living with or without a partner. Actually, the direction of our findings does not support the hypotheses concerning living arrangement and disability. Actually, the significant contributions are negative and concern disabled persons without a partner which shows that restrictions through the absence of a partner together with the presence of disability does not seem to be 'compensated' for by the presence of a child, which is against the expectations we had concerning the substitution mechanism of the SPF-SA Theory. Hence, this finding is in line with studies that find negative effects of having children. From the perspective of the SPF-SA Theory this suggestion can be explained by the fact that concerns, worries and responsibilities about children cannot be shared with a partner, whereas at the same time persons without a partner may feel themselves as a burden for their children when they are, for example, in need for instrumental support due to disability.

Our hypotheses regarding older parents being more satisfied with life when adult children are living close by are not fully supported by our results. The findings support that disabled persons without a partner benefit from having an adult child living at short distance. At the same time, not all disabled parents benefit from having a daughter living close by. Concerning the former we can suggest that proximity of children is a resource for physical and social well-being of older persons who are disabled and do not have a partner.

Our findings enable us to add some nuances to the existing knowledge about co-residence and well-being; co-residence seems to be beneficial for disabled women without partner and

non-disabled men with partner, whereas disabled fathers with a partner are less likely to be satisfied in the situation of co-residence.

Summarised, some of our findings are in line with the expectations we derived from the SPF-SA theory concerning the presence and proximity of adult children as resources for physical and social well-being at older ages. Although we find that having children rather than not having them are a greater burden for disabled persons who live without a partner, at the moment older persons do have adult children our findings seem to indicate that these children may partly compensate for the resource restrictions that go along with disability and/or the absence of a partner.

Although the Netherlands is a small country in which distances are rather small/short, a large share of parents and children live at close distance from each other, i.e. within five or twenty kilometres. This article learns us that the majority of these parents are not necessarily more satisfied with life when they have their children living at short distance, it actually shows that in some cases it can even affect life satisfaction in a negative manner. However, well-being of a specific group of older persons, namely those that are disabled and without a partner, does benefit from close proximity to their children. Although we did not go into the underlying processes, the feeling of safety generated by the sense of having someone to turn to when needed, as described for Swedish elderly by Hjälm (2011) could play a role here. Furthermore, the provision of social and instrumental support is more likely when geographic distances between individuals are short. Our approach has shown that support exchange facilitated by intergenerational proximity does contribute to the well-being of the more vulnerable parents at older ages.

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Table 1: Frequency distribution dependent and independent variables, percentages

	All persons (N=5,852)	All parents (N=5,092)	Parents With Partner (N=3,861)	Parents Without Partner (N=1,231)
Life satisfaction				
Not so satisfied	3.6	3.4	2.3	6.9
Quite satisfied	9.3	9.0	6.8	15.9
Satisfied	51.5	51.1	49.4	56.5
Very satisfied	28.1	28.8	32.7	16.5
Extremely satisfied	7.5	7.7	8.9	4.2
Sex parent				
Female	52.1	51.3	44.3	73.4
Male	47.9	48.7	55.7	26.6
Living arrangement				
With partner	72.0	75.8	100.0	n.a.
Without partner	28.0	24.2	n.a.	100.0
Disability				
Non-disabled	65.1	65.3	72.5	42.5
Disabled	34.9	34.7	27.5	57.5
Educational level				
High	15.5	15.2	16.4	11.3
Middle	34.0	33.8	35.6	28.0
Low	50.5	51.0	47.9	60.7
Household income				
Very high	24.6	26.0	28.6	17.7
High	24.2	25.1	25.8	22.6
Low	25.0	24.5	22.4	31.0
Very low	26.2	24.5	23.2	28.7
Degree of urbanisation				
Rural	21.9	22.6	23.9	18.3
Suburban	39.7	40.6	42.0	36.0
Urban	38.3	36.9	34.1	45.7
Contact with family outside the household				
Frequent contact	87.8	90.5	90.6	90.4
Moderate/few/no contact	12.2	9.5	9.4	9.6
Contact with friends				
Frequent contact	69.8	69.6	67.3	76.7
Moderate contact	21.2	21.8	24.0	14.6
Few/no contact	9.0	8.7	8.7	8.7
Parenthood				
One child, son	11.9	13.6	13.3	14.7
One child, daughter	10.4	12.0	11.2	14.4
Two or more children, sons only	10.3	11.8	12.1	10.7
Two or more children, daughters only	10.1	11.6	12.2	9.7
Two or more children, sons and daughter	44.4	51.0	51.2	50.4
No children at all	13.0	n.a.	n.a.	n.a.
Proximity closest child				
Coresident child		24.9	26.0	21.4
Within 1 kilometres		5.1	4.9	5.7
At 1-5 kilometres		22.8	22.7	23.1
At 5-20 kilometres		20.7	20.3	21.9
Further than 20 kilometres		26.6	26.1	27.9
No children at all		n.a.	n.a.	n.a.
Proximity other child				
One child		26.5	27.1	24.5
Within 1 kilometre		25.1	26.8	19.8
At 1-5 kilometres		19.2	21.2	13.0
At 5-20 kilometres		13.9	14.1	13.3
Further than 20 kilometres		15.4	11.0	29.3
No children at all		n.a.	n.a.	n.a.
Daughter within 5 kilometres				
Yes		66.8	66.3	68.5
No		33.2	33.7	31.5

Source: Statistics Netherlands (CBS, 2010a, , 2010b, , 2011a).

Table 2: Estimates ordinal regression models for life satisfaction, effect of having children.

	Base Model	*Persons with partner*			*Persons without partner*		
	All persons	All	Men	Women	All	Men	Women
Life satisfaction							
Not satisfied – Quite satisfied	-0.566**						
Quit satisfied – Satisfied	0.884***						
Satisfied – Very satisfied	3.658***						
Very Satisfied – Extremely satisfied	5.685***						
				Disabled			
Parenthood							
One child, son	-0.088	-0.020	-0.142	0.083	-0.292	-0.394	-0.183
One child, daughter	-0.074	0.214	0.068	0.345	-0.551**	-0.386	-0.489**
Two or more children, sons	-0.089	0.027	0.006	0.059	-0.386	-0.722**	-0.104
Two or more children, daughters	-0.014	0.154	0.124	0.206	-0.241	-0.026	-0.257
Two or more children, sons and daughters	0.079	0.216	0.190	0.255	-0.250	-0.365	-0.101
No children	0	0	0	0	0	0	0
				Non-Disabled			
Parenthood							
One child, son		0.262	0.512	0.050	0.173	0.662	0.003
One child, daughter		-0.222	0.082	-0.474	0.285	0.133	0.212
Two or more children, sons		0.270	0.410	0.104	-0.089	1.237	-0.578
Two or more children, daughters		0.109	0.142	0.097	-0.365	-0.257	-0.416
Two or more children, sons and daughters		0.058	0.146	-0.022	0.351	0.325	0.266
No children		0	0	0	0	0	0
Living arrangement							
With partner	0.929***						
Without partner	0						
Disability							
Disabled	-0.888***	-1.057***	-1.181***	-0.937***	-0.852***	-1.037***	-0.732***
Non-disabled	0	0	0	0	0	0	0
Model summaries							
N	5,852	4,213	2,336	1,877	1,639	466	1,173
-2 LL	13,132	92,48	5,054	4,170	3,834	1,183	2,626
Chi square	761	389	245	159	118	38	92
Nagelkerke R squared	0.133	0.097	0.110	0.089	0.076	0.086	0.083
Degrees of freedom	19	23	22	22	23	22	22

Source: Statistics Netherlands (CBS, 2010a, , 2010b, , 2011a).

*** p < 0.01; ** p < 0.05; * p < 0.10

Table 3: Estimates ordinal regression models for life satisfaction, effects of intergenerational proximity.

	Base Model	*Parents with partner*			*Parents without partner*		
	All parents	All	Fathers	Mothers	All	Fathers	Mothers
Life satisfaction							
Not satisfied – Quite satisfied	- 0.491						
Quit satisfied – Satisfied	0.976***						
Satisfied – Very satisfied	3.750***						
Very Satisfied – Extr.satisfied	5.783***						
				Disabled			
Proximity closest child							
Coresident child	-0.027	-0.240**	-0.288*	-0.181	0.431*	0.337	0.570**
Within 1 kilometre	0.030	-0.001	-0.043	0.085	0.028	1.751**	-3.880
At 1-5 kilometres	0.037	-0.080	-0.198	0.820	0.305	0	0.498*
At 5-20 kilometres	0.040	0.172	0.835	0.214	-0.275	-0.668*	-0.062
Further than 20 kilometres	0	0	0	0	0	0	0
Proximity other child							
No other children	-0.108	-0.160	-0.277	-0.110	-0.277	-0.387	-0.254
Within 1 kilometre	-0.060	-0.254**	-0.211	-0.318	-0.178	-0.680	0.020
At 1-5 kilometres	0.063	-0.094	-0.032	-0.013	-0.225	-0.329	-0.208
At 5-20 kilometres	0.077	-0.101	-0.165	-0.009	0.131	-0.065	0.296
Further than 20 kilometres	0	0	0	0	0	0	0
Daughter within 5 kilometres							
Yes	0.053	0.242**	0.295**	0.151	-0.183	-0.002	-0.243
No	0	0	0	0	0	0	0
				Non-Disabled			
Proximity closest child							
Coresident child		0.340*	0.679**	-0.104	-0.240	-0.693	-0.311
Within 1 kilometre		-0.240	-0.305	-0.171	0.774	-2.570**	1.605***
At 1-5 kilometres		0.210	0.426	-0.088	-0.270	0.171	-0.469
At 5-20 kilometres		-0.195	0.180	-0.642**	0.258	0.298	0.192
Further than 20 kilometres		0	0	0	0	0	0
Proximity other child							
No other children		0.215	0.218	0.180	0.609	0.156	0.892**
Within 1 kilometre		0.422*	0.378	0.461	0.947**	0.284	1.192**
At 1-5 kilometres		0.374	0.379	0.399	0.780*	-0.067	1.032**
At 5-20 kilometres		0.554**	0.401	0.781**	0.171	-0.379	0.323
Further than 20 kilometres		0	0	0	0	0	0
Daughter within 5 kilometres							
Yes		-0.469***	-0.634***	-0.233	0.122	-0.361	0.331
No		0	0	0	0	0	0
Living arrangement							
With partner	0.980***						
Without partner	0						
Disability							
Disabled	-0.889***	-1.223***	-1.343***	-1.089***	-1.288***	-0.402	-1.600***
Non-disabled	0	0	0	0	0	0	0
Model summaries							
N	5,092	3,861	2,151	1,710	1,231	327	904
-2 LL	11,794	8,780	4,843	3.901	2,925	834	2,037
Chi square	646	373	240	160	101	36	108
Nagelkerke R squared	0.130	0.101	0.116	0.098	0.086	0.112	0.124
Degrees of freedom	23	31	30	30	31	30	30

Source: Statistics Netherlands (CBS, 2010a, , 2010b, , 2011a).

*** p < 0.01; ** p < 0.05; * p < 0.10

Table 4: Estimates of control variables ordinal regression models for life satisfaction, effects of having children and intergenerational proximity.

	Base model		*Interaction model with partner*			*Interaction model without partner*		
	All persons	All parents	All	Men	Women	All	Men	Women
Age parent	0.009***	0.009***	0.002	0.008	-0.009	0.024***	0.014	0.031***
Sex parent								
Female	-0.027	-0.018	-0.069			0.047		
Male	0	0	0			0		
Household income								
Highest	0.391***	0.372***	0.453***	0.417***	0.525***	0.069	0.115	0.048
High	0.209***	0.197**	0.302***	0.341***	0.235*	-0.116	-0.115	-0.027
Low	0.254***	0.266***	0.307***	0.317**	0.287**	0.189	0.383	0.177
Lowest	0	0	0	0	0	0	0	0
Education								
High	0.246***	0.282***	0.237**	0.408***	-0.036	0.435***	0.212	0.477*
Middle	0.087	0.093	0.124*	0.242**	-0.100	0.021	-0.258	0.104
Low	0	0	0	0	0	0	0	0
Degree of urbanisation								
Rural	0.233***	0.267***	0.246***	0.373***	0.063	0.319**	0.326	0.293
Suburban	0.185***	0.182***	0.141*	0.208**	0.018	0.267**	0.238	0.284*
Urban	0	0	0	0	0	0	0	0
Contact with family outside the household								
Frequent contact	0.219***	0.275***	0.187*	0.283**	-0.108	0.479**	-0.173	0.926***
Moderate/Few/No contact	0	0	0	0	0	0	0	0
Contact with friends								
Frequent contact	0.624***	0.524***	0.587***	0.700***	0.419*	0.417**	0.668*	0.216
Moderate contact	0.415***	0.343***	0.362***	0.510***	0.122	0.327	0.612	0.148
Few/No contact	0	0	0	0	0	0	0	0

Source: Statistics Netherlands (CBS, 2010a, , 2010b, , 2011a).

*** p < 0.01; ** p < 0.05; * p