Early Intergenerational Cohesiveness and Later Geographic Distance to Parents in the Netherlands

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Abstract

The aim of this paper is to provide a clearer understanding of the longitudinal factors affecting adult children's geographic distance to their parents. Using the Netherlands Kinship Panel Study (N = 784), regression analysis was adopted to determine the relationship between early parent-child closeness (ages 18-35) and later adult geographic distance to parents, controlling for a host of theoretically important variables. The findings indicate that early emotional closeness to one's parents is significantly associated with later geographic distance to them.

Keywords: geographic proximity, intergenerational solidarity, residential choice, solidarity, nest leaving

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Intergenerational exchanges between adult children and their parents are a critical resource for young and old (Allen, Blieszner, & Roberto, 2000). Residential proximity is the best predictor of these exchanges (Rossi & Rossi, 1990; Treas & Gubernskaya, 2012). Although spatial proximity no doubt facilitates interaction and assistance, no research to date has addressed the extent to which children who are emotionally closer to parents choose to live nearby. In other words, we do not know whether parents and grown children who live close together are those with warm and enduring relationships that predispose them to help one another.

Using the Netherlands Kinship Panel Study (NKPS), this paper evaluates the relationship between early parent-child cohesion and later geographic distance between young adults and their parents. Addressing the factors that draw individuals toward the parental home and those that push them away, the analysis considers the implications of a host of theoretically important variables, particularly the mediating effects of early independence on the relationship between intergenerational cohesion and residential proximity. The present study contributes to the research on residential choice and parent-child solidarity in several ways. Importantly, this paper is the first to consider the relationship between early intergenerational solidarity and young adult's later geographic proximity to parents, proximity known to contribute to exchanges of support between the generations (Allen, Blieszner, & Roberto, 2000). By analyzing panel data on respondents spanning a wide age range, the implications of early parent-child cohesion for proximity is studied longitudinally in the context of multiple life course transitions, rather than merely nest-leaving. The Netherlands, a compact country where geography limits how far apart

the generations can live, provides a stringent test of the hypothesis that solidarity leads to proximity.

BACKGROUND

Following prior theorizing about migration (Longley, Clarke, & Williams 1991; Sjaastad, 1962), in deciding where to live, it is assumed that individuals seek to maximize economic (e.g., income) and noneconomic (e.g., life satisfaction) gains and to minimize costs within a structure of opportunities (e.g., jobs), constraints (e.g., housing), and cultural norms and personal preferences (e.g., familistic values). When young adults make a residential choice, distance to parents is one consideration they weigh. Importantly, the costs and gains associated with living nearby or far away will depend, in part, on the quality of the parent-child relationship. Although residential distance between parents and children is a "two actor problem," we start with the assumption that the choice is largely the child's, because young adults are much more mobile than older ones (Geist & McManus, 2008; Long, 1992).

Intergenerational cohesion has been studied along multiple dimensions. Bengtson and Roberts (1991) distinguished six dimensions of family solidarity, including affective (psychological closeness), associational (contact), and structural (proximity). Spatial proximity to parents is highly predictive of contact (Rossi & Rossi, 1990), which is itself important for the intergenerational exchange of vital services and support (Bengtson & Roberts, 1991). Researchers recognize that the positive correlation of proximity and contact may be due, in part, to the fact that children who feel closer emotionally to parents choose to live closer to parents. Although there is some evidence that parent-child relationships influence the child's departure from the parental home (Ward & Spitze, 2007), this assumption for proximity has not yet been tested. This study addresses this void in the literature by studying the extent to which early

intergenerational cohesion is associated with spatial distance in adulthood. Longitudinal analysis can clarify the role that selection plays in the established proximity-contact relationship.

Given the importance that intergenerational proximity plays in the type and frequency of contact between adult children and their parents (Bengtson & Roberts, 1991) and the demonstrated power of contact and location on the care of aging parents (Rossi & Rossi, 1990), much effort has been focused on understanding the factors associated with adult child residential choice and proximity to parents. Nevertheless, studies have almost exclusively focused on individual characteristics, such as children's educational attainment (Kalmijn, 2006); parental characteristics, such as age, marital status, and health (Dewit, Wister, & Burch, 1988); and household size and family composition (Klein Ikkink, van Tilburg, & Knipscheer, 1999).

This study aims to expand the focus from the individual and household to include the broader family context. Because proximity is important in the study of intergenerational dynamics (Bengtson & Roberts, 1991), the determinants of intergenerational proximity deserve careful analysis. Thus, this research evaluates how differences in affective solidarity affect children's proximity to their parents.

Family and Kin Networks

Kin and social networks have strong theoretical and intuitive import for explaining mobility. Massey's (1990) review of the migration literature highlights how networks link individual and household decisions to macrosocial structures. In an economic and social context, Massey suggests that individuals are linked to one another through kinship and social networks rather than acting as singular rational beings. He shows that individuals, families, and communities are important elements of social structure that contribute to migration. These associations are important for migration for two reasons: (a) residential mobility is safer and more predictable

because of information passed along social networks to other potentially mobile individuals and (b) kinship networks allow for the flow of capital (e.g., sending remittances home) which spurs subsequent migration.

Although families can promote migration, individuals may also *remain* in an area because of social and kin network ties. Early research supports the idea that family ties can deter residential mobility (Mincer, 1978). Sandefur and Scott (1981) posit important reasons for larger households being less inclined to move, namely, that additional social ties are broken with the move of each individual family member. This undesirable loss of social capital may be even worse when families relocate repeatedly (Coleman, 1988, p. 113). For young adults, moving away from supportive parents can similarly result in a loss of the benefits of the relationship.

Taken as a whole, these results suggest that individual and family-based factors affect the choice to residentially relocate and where. Not considered is the affective cohesion between parent and child as a motivator of residential proximity. To date, no research has adopted a longitudinal orientation examining how early intergenerational solidarity is associated with later parent-adult child proximity, especially emotional closeness and spatial distance as a product of time and space.

Intergenerational Cohesion

Of Bengtson and Roberts' (1991) six dimensions of family solidarity, sociologists and demographers have been most interested in structural solidarity (based on coresidence, proximity, and kin availability). This type of cohesion is also the most important predictor of the associational/contact and instrumental/assistance dimensions. At the same time, the relationship between affective solidarity and the distance component of structural solidarity is not well understood. We do know that there is variation in the emotional closeness of kin (Pyke, 1999)

and that relationships can constitute both positive social supports and negative influences (Kalmijn & De Graaf, 2012; Sorkin & Rook, 2006). Residential location may provide a rational strategy to retain positive benefits of a good relationship and avoid the downside of a poor one.

Parents and children differ in their degree of affectual cohesion. Factors, such as household conflict, size, and structure, contribute to emotional detachment (Conger, Ge, Elder, Lorenz, & Simons, 1994; Hair, Moore, Garrett, Ling, & Cleveland, 2008). Early intergenerational cohesion has been shown to have long-run consequences for various aspects of parent-child relations (Farrell & Barnes, 1993; Kalmijn, 2006; Rossi & Rossi, 1990). Demographic shifts, such as longer life expectancy, changing household size and structure, and greater geographic dispersion have created an increased need to study relations between the dimensions of contemporary intergenerational solidarity (Swartz, 2009).

Children who are emotionally close to their parents receive more financial and emotional support from them later in life (Silverstein, Conroy, Wang, Giarrusso, & Bengtson, 2002). Of course, contact and support is facilitated if these children choose to live closer to their parents. Thus, the relationship between affectual solidarity and contact may reflect selection of emotionally close dyads into spatially close pairs.

Spatial Proximity

Intergenerational geographic proximity plays a crucial role in determining the intensity and frequency of contact between parents and children (Bian, Logan, & Bian, 1998; Rossi & Rossi, 1990). The distance an individual lives from parents determines contact and support and therefore has important implications for long-term care of aging parents, despite the development of cell phones and other communication technologies (Treas & Gubernskaya, 2012). Several

studies have recently detailed the factors contributing to the spatial separation of adult children and their parents (e.g., Michielin & Mulder, 2007).

Individual characteristics that predict selection into long distance migration can complicate the picture, as long-distance moves are more common for individuals with higher levels of education and household income (Kalmijn, 2006; Long, 1992). In determining factors affecting the geographic distance between parents and their adult children, one must take into account the various needs and constraints that would limit an individual from distance migration and the preferences and opportunities that "push" people to move far. Thus, early intergenerational cohesion is expected to be significantly associated with later spatial distance to parents.

Timing of Departure from the Parental Home

Life course factors are important in predicting distance one lives from one's parents (Lin & Rogerson, 1995). Children who are not close to their parents are more prone to moving at earlier ages (Ward & Spitze, 2007), and the timing of a young adult's departure from the parental household affects later spatial distance from parents (Michielin & Mulder, 2007). Rogerson, Weng, and Lin (1993) found that young adults who leave home at earlier ages live farther from their parents later. We might expect that the early timing of "nest leaving" will be associated with greater distance to parents, because moving away from the parental home at an early age affords an individual more time for subsequent distance moves (Michielin & Mulder, 2007; Rogerson et al., 1993). Thus, we anticipate that the relationship between cohesion and residential distance of child and parents will be mediated by the age of departure from the parental home.

Needs, Obligations, and Constraints ("Pull" Factors)

The decision to remain close to parents is often based on financial need, feelings of personal responsibility, and familism. Despite a desire to move far, one's ability to do so may be constrained if an individual has limited means. In this case, support from parents may also be facilitated by remaining close to their parents (Cheal, 1983). In support of this, Greenwell and Bengtson (1997) found that parents' social class is negatively associated with spatial distance from their adult children.

Caretaking responsibilities for aging parents, especially parents who are in ill health, also influence the decision to remain close to the parental home (Michielin & Mulder, 2007; Mulder & Kalmijn, 2006). Klein Ikkink et al. (1999) found that only children live closer to their mothers perhaps because there are no other siblings to provide care to aging parents. Regardless of parental health and age, familism may promote an individual's decision to remain close to parents and extended family. For instance, Lin and Rogerson (1995) found that individuals with children live closer to their parents than childfree individuals, perhaps because of the important part that grandparents play in their grandchildren's lives.

Opportunities, Resources, and Preferences ("Push" Factors)

As noted, individuals with larger familial networks might be less inclined to move far because of their family ties. On the other hand, adult children with large families might also be better equipped to move because siblings can care for aging parents. Thus, the presence, number, age, gender, and location of siblings might relieve an individual of caretaking responsibilities of aging parents (Ingersoll-Dayton, Neal, Ha, & Hammer, 2003; Klein Ikkink et al., 1999; Michielin & Mulder, 2007; Rainer & Siedler, 2012). In support of this, Klein Ikkink et al. (1999) found that older siblings move farther than younger siblings. These researchers, along with Konrad,

Kunemund, Lommerud, & Robledo (2002), hypothesized that older children move farther away from their parents to avoid the burden of elder care.

As females are often kinkeepers (Rosenthal, 1985) and caretakers (Sarkisian & Gerstel, 2004) within the family, individuals with sisters are more likely to live far from their parents than individuals without sisters (Ingersoll-Dayton, et al. 2003). Sibling proximity to parents is another important factor influencing an individual's distance to their parents; individuals with siblings who live close to their parents are more likely to live far (Michielin & Mulder, 2007). Additional kinship ties for the parent outside of the household, such as their own siblings, play an instrumental part in financial and social support (Knijn & Liefbroer, 2006) and may relieve an individual's caretaking responsibilities and contribute to their ability and decision to move far from the parental home.

Geographic opportunity structure (e.g., one's educational and employment prospects) is another main factor in the decision and ability to move away from one's parents. Lee, Dwyer, and Coward (1990) and Lin and Rogerson (1995) found that children in less urbanized areas live farther from their parents, and Mulder and Kalmijn (2006) hypothesize that this is because individuals from denser areas have less need to move far for education or work reasons. Also, reflecting the labor market for their services, college educated individuals live farther away from the parental home than individuals with a high school diploma or less (Rogerson et al., 1993). In fact, most research finds that with the exception of education, no attribute of child or mother consistently affects distance from parents.

Hypotheses

It is not well understood whether longitudinal family factors influence spatial proximity outcomes for young adults, because most studies on intergenerational spatial proximity are cross-

sectional and focus only on adolescents or the elderly. Further, the implications of early family characteristics for young adult spatial outcomes have not been widely explored. Migration in itself is an instrumental behavior for achieving certain goals and values. It is hypothesized that young adults who did not have emotionally close relationships with their mother or father will live farther from them later in life. In this case, a young adult will have greater motivation to seek out new surroundings and a decreased desire to rely on parents for emotional and other rewards. Instead, these motivations are apt to be expressed in social and environmental choices consistent with skill acquisition and expanding one's horizons (e.g., educational and occupational attainment). Furthermore, reflecting the quality of the parent-child relationship, the timing of the child's initial departure from the parental home will likely mediate the relationship between parent-child solidarity and later residential proximity.

In short, these analyses provide a test of two primary microlevel hypotheses:

(a) early intergenerational cohesion will be negatively associated with adult spatial distance to parents, and

(b) early nest-leaving will be positively associated with adult spatial distance to parents.

Using a nationally representative panel data set from the Netherlands, this research investigates the relationship between intergenerational solidarity and adult proximity to parents. As a small, geographically compact country, the Netherlands provides a strict test of the cohesion/proximity hypothesis. Even "long distance" moves are relatively short, suggesting that moves will be less restricted by financial constraints and less consequential for resource exchanges.

The Netherlands is characterized by a number of factors that suggest the relationship between emotional closeness and spatial distance will be less prominent in this country than

other Western nations. For instance, socialized to early independence (Ciairano, Kliewer, Bonino, & Bosma, 2008), young Dutch people leave home at earlier ages than Americans to attend college and seldom return (Mulder, 2007; Mulder & Hooimeijer, 2002). Cohabitation (with the same or opposite sex) before marriage is also more common in the Netherlands than the United States. Research suggests that the parent-child relationship will matter less for residential choices in the Netherlands, making the Netherlands a particularly rigorous test of the association between intergenerational solidarity and geographic proximity.

METHOD

This study is based on data from the Netherlands Kinship Panel Study (Dykstra et al., 2005). The NKPS is a high-quality, nationally representative survey of individuals living in the Netherlands. Importantly for the present research, the primary focus of the survey is to measure solidarity among family members. Data have been collected on several different dimensions of family solidarity, including the affective (psychological closeness), associational (contact), and structural (proximity) cohesion among respondents and their kinship networks.

Data collection was undertaken with structured and in-depth interviews between 2002 and 2004 for the first wave (T1) (N = 8,161; Ages 18-79). The second wave of data (T2) was collected between September 2006 and June 2007 with about 47 % of households from the original survey participating. Data are reweighted to correct for attrition. The primary focus of the second wave of the NKPS was to measure changes that occurred among respondents and their families following the first wave. As the most mobile phase of the life course (Long, 1992; U.S. Census, 2012), and following convention (Mulder, Clark, & Wagner, 2002), this study uses the data collected from respondents between ages 18 and 35 in the first wave of the NKPS. These data are also restricted to respondents with at least one living parent (who did not relocate

between waves) and who answered about the residence/distance of at least one parent. Listwise deletion of missing data on the dependent variable (10.9 % for mothers and 12.3 % for fathers) and independent variables (15.6 % for mothers and 18.6 % for fathers) yields a final sample of 891 for mothers and 767 for fathers.

The NKPS contains extensive information on family processes based on the report of an "anchor" respondent. It has collected an array of information about parent-child relationships, residential location of family members, and other environmental characteristics. The survey also collects extensive information on parents of the anchor respondents.

Dependent Variable (Spatial Proximity at NKPS Wave 2)

Distance to parents is the logged kilometric distance between the residences of the respondent and parent based on postal codes provided at Wave 2. The log transformation was performed to avoid heteroskedasticity (Kalmijn, 2006). Taking the logarithm of the variable also facilitates intuitive interpretation because a single unit kilometric difference is expected to be less consequential at increasing distances (Silverstein, 1995).

Key Independent Variables

Intergenerational cohesion in the first NKPS wave is measured by the respondent's report of how emotionally close he/she feels to the parent at Wave 1. The respondent's relationship is gauged using an ordinal-level measure: "Taking everything together, how would you describe your relationship with your father/mother?" The possible responses are not great (1); reasonable (2); good (3); and very good (4).

Following Michielin and Mulder (2007), an "*early independence*" variable was constructed for whether or not the respondent left the parental home at an early age, that is,

within the first age quartile of leaving the parental home (i.e., prior to age 19) indicates the respondent left the parental home and achieved (early independence = 1, else = 0).

Other Variables

Parental Relationship: To measure ways in which the parental household may be inhospitable, *relationship quality of the mother and father* at T1 is included in the analysis. Five questions probed how often the respondent's parents had heated discussions, put down and blamed each other, did not want to talk to each other for a while, had arguments that got out of hand, and had lived apart for a while when the respondent was about 15 years old. If one of the parents was not living or if the parents divorced before the respondent was 15 years old, this question refers to the situation immediately preceding the death or divorce. Response categories were never (1), once or twice (2), or frequently (3). The summated scale ranges from 1-15 (with higher numbers indicating more conflict between parents) and α = .75.

At Time 2, the respondent reported on whether he or she "had any conflicts, strains or disagreements with father/mother during the past three months." The possible responses are: not at all (1), once or twice (2), and several times (3).

Needs and Constraints ("Pull" Factors): Constraints to distance mobility include the young adult's status as an *only child* (= 1, else = 0) and an interval level variable for the respondent's *number of children* at T2. To gauge the parent's capacity for independent living and the need for kin help, the respondent's report of their *parent's health* is coded as very bad (1), bad (2), not good and not bad (3), good (4), and excellent (5). A dummy variable, *disabled*, indicates whether the child reported the parent as being seriously ill or disabled.

Based on the respondent's postal code, *urban residence* is a five-point scale with a score of "1" indicating *highly urban* and "5" indicating *highly rural*.

Opportunities and Preferences ("Push" Factors): Highest grade of *schooling* completed is an ordinal measure coded as: incomplete elementary (1), elementary school (2), lower vocational (3), lower general intermediate (4), upper general intermediate (5), pre-university (6), short intermediate vocational (7), intermediate vocational (8), higher vocational (9), university (10), and post-graduate (11). Current or most recent International *Socioeconomic* Index score (ISEI) for occupational status was resized to present larger parameter estimates (Ganzeboom, De Graaf, & Treiman, 1992; Michielin & Mulder, 2007).

Marital status at T2 is dummy variable indicating whether the respondent is married or cohabitating with a partner (1) or not (0). Separate interval-level measurements mark the *number of living brothers and sisters* who were reported at T1. A dichotomous variable indicates whether the respondent is the *oldest child* (= 1, else = 0). The respondent's report of their *parents' number of living siblings* at T2 is also included.

To measure *kin availability* outside of the household, a series of dummy variables indicates whether or not a respondent has no in-laws (reference category); lives with at least one parent-in-law; lives within 10 kilometers of at least one parent-in-law; and lives farther than 10 kilometers from both parents-in-law. A series of dummy variables also indicates whether or not the respondent has no siblings (reference category); at least one sibling lives within 10 kilometers of parent; all siblings live farther than 10 kilometers from parent.

Control Variables

Additional control variables include the respondent's *age*, *gender* (female = 1, male = 0), and parental education. A single dummy variable indicates whether or not the respondent is *enrolled in school or employed full-time*.

Analytic Strategy

Ordinary least squares (OLS) regression analyses model the individuals' logged distance to parents at T2 against their reported closeness at T1. The analyses are conducted separately for mothers and fathers. Parental marital status was modeled in early analyses. But, whether the parents are living together or not does not add to the explanation of geographical distance between parents and children.

Robust standard errors are calculated to address biases in parameter estimates resulting from heteroskedasticity in the panel data set. The individual analyses for mothers and fathers proceed in four steps. First, there is a baseline model showing the bivariate relationship between T1 cohesion and T2 proximity. The second model adds a series of controls to determine whether early closeness remains a unique contributor to later distance when confounding influences are taken into account. Third, early independence will be added in order to see its relative contribution to spatial distance. Lastly, a model adds the interaction between early independence and closeness to mother or father at T1. Preliminary analysis suggested that the interaction term for early independence and closeness to parent was highly correlated with the main effects. As such, this interaction term is based on mean centered variables in order to avoid multicollinearity in the models.

RESULTS

At Wave 1, anchor respondents reported an average emotional closeness of 3.2 (SD = .86 SD) to fathers. For mothers, respondents averaged 3.4 (SD = .72). Emotional closeness remained about the same at Wave 2. On average, respondents live 25.7 kilometers from their father (SD = 41.6) and 40.7 kilometers from their mother (SD = 40.7) at Wave 2. Preliminary results suggest that individuals who report closeness to father as being "not great or reasonable" versus "good or very good" at Wave 1 live farther from their father at Wave 2 ($t = 2.4$, $p < .01$). Individuals who

report being "not great or reasonable" versus "good or very good" at Wave 2 also live farther from their mother at Wave 2 (t = 2.98, p <.001).

Distance to Mother

Table 1 presents the results of the ordinary least squares regression of early intergenerational cohesion on later spatial distance to mother. Baseline results for closeness to mother at time 1 and spatial distance to mother at time 2 reveal that without controls, emotional closeness is strongly and significantly associated with less residential distance to mother β = -.21, p < .01).

Model 2 tests the cohesion model with adjustment for a large set of control variables that include additional measures of family solidarity, push, and pull factors. Net of controls, the effect of mother-child closeness is negative and significant, indicating that individuals who reported being emotionally close to their mothers live closer to their mothers later (β = -.34, p <.001). The control variables for age; gender; and employment status or school enrollment do not significantly predict distance to mother (p <.05). Though, mother's level of education is significantly related to living at a greater distance (β = .25, p <.001).

Living within 10 kilometers of in-laws (as opposed to not having in-laws) is associated with living closer to mothers (β = -.58, p <.001). Along the same lines, living farther than 10 kilometers from in-laws is associated with living farther from mother than is the case if there are no in-laws (β = .35, p <.05). Mother's number of siblings (β = .05, p <.05) and her health (β = .15, p <.05) are also significantly associated with living farther from mother. As expected, socioeconomic status and education, indicative of resources and opportunities to move far, are positive and significant. Thus, individuals with higher SES (β = .14, p <.001) and greater education (β = .09, p <.01) live farther from their mother at time 2. Number of sisters is significantly and positively associated with T2 distance from mother (β = .16, p <.01). On the

other hand, T1 urbanization (β = -.31, p <.001) and T2 number of children (β = -.13, p <.05) are associated with living close to mother.

Model 3 includes the net effect of early independence from the parental household. Similar to Model 2, T1 emotional closeness to mother remains significant and negative (β = -.32, p <.001). Early independence from the parental household is also strongly associated with living farther from mother (β = .44, p <.001). Thus, early independence is an independently significant predictor of T2 spatial proximity to mother. The significant relationship between parent-child cohesion is not mediated by early independence. At the same time, all control relationships remain significant in this model.

In the final model, Model 4, an interaction is included to examine the interactive effect between T1 closeness to mother and early independence on T2 spatial distance to mother. In this model, closeness to mother remains statistically significant and negative (β = -.36, p <.001) whereas the significance of early independence is entirely diminished. Still, the interaction term between closeness to mother and early independence is significant (β = .37, p < .05).

These results imply that spatial distance to mother is shaped by the interaction between early closeness to mother and early independence. At the same time, T1 closeness to mother is an independently significant predictor of T2 distance to mother. Thus, the amount by which spatial proximity varies by early independence is significantly moderated by early parent-child closeness. Despite the inclusion of this final interaction term, all previous control relationships remain significant in this final model.

--Insert Table 1 about here.--

Distance to Father

Turning to fathers, the bivariate relationship in Model 1, Table 2, presents the baseline results for T1 closeness to father and T2 spatial distance to father. These results reveal that, without controls, emotional closeness is significantly associated with greater distance to father (β = -.15, p < .05). Similar to the models for mother, Model 2 adds a series of control variables to examine the significance of the relationship between cohesion and proximity net of other factors.

In Model 2, the effect of father-child closeness is still negative and significant, which suggests that individuals who are emotionally close to their fathers live closer to them later (β = -.22, p <.01). Again, the control variables for age, gender, and employment/enrollment are non-significant predictors of T2 spatial distance to father (p > .05). Father's level of education is significantly associated with living at a greater distance (β = .06, p <.05).

Individuals who live within 10 kilometers of in-laws (as opposed to not having in-laws) live closer to their fathers (β = -.65, p <.001). Urbanization at time 1 is also associated with living closer to father (β = -.31, p <.001). Father's health is positively and significantly related to T2 spatial distance to father. In other words, individuals with fathers in better health live farther from them (β = .16, p <.05). Again, as expected, higher SES (β = .14, p <.001) and greater education (β = .09, p <.01) are associated with T2 distance from father. Marital and cohabitation status (β = .28, p <.05) as well as number of sisters, are also associated greater distance (β = .16, p <.01).

Model 3 includes an additional measure, early independence, to examine its relationship to T2 residential distance to fathers. As expected, early independence is significantly associated with living farther (β = .53, p < .001). Though, the coefficient for T1 closeness to father remains unchanged. Therefore, cohesion is independently and negatively associated with proximity to

father. That is, individuals who report high intergenerational cohesion with their fathers live closer to them later (β = -.22, p <01).

Similar to mothers, early independence is an independently significant predictor of T2 spatial proximity to father. The significant relationship between father-child cohesion is not mediated by early independence. At the same time, all control relationships remain significant in this level of the model. These models suggest three major differences between fathers and mothers: proximity to in-laws, number of children, and father's number of siblings are not significant predictors of later spatial distance to father (p >.05).

Model 4 includes the interaction term between closeness to father and early independence. In contrast to mothers, the interaction term is not significant for fathers. Nevertheless, the main effects for closeness to father (β = -.23, p <.01) and early independence (β = .50, p <.001) remain significant. Thus, the relationship between T1 closeness to father and T2 spatial distance to father is neither mediated nor moderated by early independence from the parental household. The effects operate independently of one another, even when controlling for all solidarity, push, and pull control variables. Lastly, no effect was found for the child's age or gender in any of the models for mother or father.

--Insert Table 2 about here.--

DISCUSSION

Residential location and choice have been studied from a variety of micro and macrotheoretical perspectives and several different methodological approaches. At the same time, little to no attention has been given to early-life factors (particularly family solidarity) as motivational factors for young adult residential location choices. Understanding the dynamics of parent-child proximity has many important theoretical and practical implications—namely, contact with

parents (by way of spatial proximity to them) is a main facilitator in the transmission of care and support in family networks (Bian et al., 1998). Although no one would doubt the importance of proximity to resource exchanges, to the extent that low intergenerational cohesion translates to greater residential distance, the relationship between proximity and exchange is overstated. Because research has not examined the association of the parent-child relationship with spatial proximity to parents in young adulthood, these analyses help clarify the role that selection based on early parent-child relationship quality plays in the established proximity-contact relationship.

Using the Netherlands Kinship Panel Study—one of the best available longitudinal data sets for the study of intergenerational cohesion—, this study explored the spatial distance of adult children from their parents, paying particular attention to the role that early intergenerational cohesion plays in later residential choice. The effect of early independence on spatial distance was also considered.

Overall, consistent with the hypothesis that early intergenerational cohesion is negatively associated with later spatial distance to parents, the results of this study suggest that individuals with close emotional relationships to with their parents live closer to them later. On the other hand, individuals with emotionally distant relationships live farther from their parents. All things considered, as expected, parent-child cohesion is a strong and significant predictor of later proximity to parents, even when controlling for a host of theoretically important control variables. In fact, other push/pull factors (i.e., parent marital quality) are less important than the parent-child bond itself, and the early parent-child relationship is more important than the relationship at time 2, as measured by parent child conflict. These robust findings highlight the importance of early intergenerational solidarity on later distance to mothers and fathers. All in

all, the hypothesis that emotional closeness to a parent is negatively associated with later spatial distance is substantiated.

Early independence from the parental household is an important predictor of later geographic distance to parents. Michielin and Mulder (2007) speculate that individuals who leave home at early ages have more time to make distance moves. There is support for this second hypothesis, based on the idea that early independence from the parental household will be positively associated with T2 proximity. This association is apparently not just a matter of children abandoning unhappy relationships earlier, because the association of distance and the timing of nest-leaving holds when cohesion is controlled. Interestingly, early independence from the parental household does not diminish the relationship between cohesion and distance for fathers. For both fathers and mothers, T1 parent-child closeness and early independence are individually significant predictors of later parent-child spatial proximity. Closeness to parent operates independently of early nest-leaving in its significant association with spatial distance to parent. Thus, there is a significant relationship between early nest-leaving and greater distance to parents.

Lastly, interaction terms were included to examine how the relationship between early independence and spatial distance is moderated by closeness to parent. Two findings from this model are particularly noteworthy: First, early closeness to mother is positively linked to later spatial distance *when an individual leaves home at an early age*. This suggests that although early cohesion predicts later proximity, this relationship is stronger for individuals who departed from the parental home at an early age. Thus, individuals who leave the parental household at an early age have more time to move farther away from their parents into young adulthood. At the same time, cohesion is still an independently significant predictor of spatial distance to mother;

early independence is not. For fathers, the closeness-by-early independence interaction is not significant. Importantly, however, early independence and closeness to father are both important predictors of later proximity, net of all controls.

These results lend credence to the notion that intergenerational cohesion is associated with spatial distance but this relationship may operate differently for early nest-leavers (at least in regards to spatial distance to mother). Thus, early independence from the parental household is particularly amenable to distance to mother. More speculatively, these gender-specific results suggest that individuals with strained mother-child relationships may leave home earlier, thus leading to greater young adult spatial distance between mother and child.

Conclusion

Through analysis of a large, longitudinal, geographically representative data set for the Netherlands, the current research offers an extension of previous research on parent-child cohesion, intergenerational exchanges, and spatial proximity to parents. The main aim of this study was to examine the relationship between T1 closeness and T2 proximity. For both mothers and fathers, each set of models yielded qualified evidence of this relationship. This finding highlights a potential selection issue related to intergenerational support and contact as it is facilitated by geographic proximity. Specifically, individuals who live closer to their parents have warmer and more enduring relationships with them.

This study has several limitations that should be addressed in future research. One limitation of this study is the modest amount of missing data on the independent variables. In an effort to explore the magnitude of this issue, average values were imputed for measures with high rates of missingness. These analyses did not yield results with meaningful differences from the ones presented here. Children who are close (or not close) to their parents may differ along a

number of unobserved characteristics that are related to residential choice and distance. Nevertheless, the extensive set of theoretical control variables in this study provides some reassurance that the relationship between early intergenerational cohesion and later distance to parents is a robust one.

Another limitation of the NKPS is that only two waves are publicly available at this time. This is problematic because we are unable to examine individuals who relocate across a distance but return to the parental home (i.e., "boomerang") later in life. Lastly, the NKPS only interviews respondents age 18 and over. To attain more certainty about the relationship between intergenerational cohesion and later spatial proximity to parents, other data might permit future research to consider younger ages to examine the relationship between adolescent emotional closeness to parents and later-life spatial proximity to them.

All in all, these findings paint a more complete picture of spatial proximity and residential choice. Although proximity is one of the strongest predictors of intergenerational exchanges (Rossi & Rossi, 1990; Treas & Gubernskaya, 2012), prior work may have overestimated the role of spatial proximity by not considering the emotional closeness between adult children and their parents that may select them into living closer and exchanging more resources and support. After controlling for T2 parent-child conflict, the parental relationship, and an extensive host of push and pull factors, the cohesion/proximity relationship holds.

At a more conceptual level, these results suggest the need to move beyond just looking at the contribution of structural characteristics in predicting spatial distance to parents. These results suggest that it may be substantively worthwhile for future research to consider early-life factors, particularly relationship quality such as intergenerational cohesion, in the study of spatial

distance. Although young adults may move for a variety of reasons, early intergenerational cohesion is one of the most robust predictors of later spatial distance.

Table 1: *OLS Regression Examining Predictors of Distance to Mother (T2)*

	Distance to Mother			
	Model 1	Model 2	Model 3	Model 4
	β	β	β	β
Cohesion				
Closeness to Mother$_1$	-0.21**	-0.34***	-0.32***	-0.36***
Early Independence			0.44***	0.02
Independence x Closeness				0.37*
Controls				
Mother-Child Conflict$_2$		-0.12	-0.12	-0.13
Mother-Father Relationship$_{Age\ 15}$		-0.01	0.01	-0.01
Needs and Constraints				
Only Child		-0.90	0.85	0.86
Mother Health$_2$		0.15*	0.15*	0.15*
Mother Disability$_2$		0.08	0.08	0.07
Urbanization$_1$		-0.31***	-0.30***	-0.29***
Number of Children$_2$		-0.13*	-0.14*	-0.14*
Opportunities and Preferences				
Socioeconomic Status$_2$		0.14***	0.15***	0.15***
Education$_2$		0.09**	0.08**	0.09**
Married$_2$		0.25*	0.25*	0.25*
Brothers$_1$		0.05	0.05	0.06
Sisters$_1$		0.16**	0.15**	0.15**
Oldest Child$_1$		0.12	0.13	0.13
Mother Siblings$_1$		0.05*	0.04*	0.04*
Kin Availability				
Sibling Proximity to Parents$_1$				
No Siblings (Reference)				
One Sibling within 10km		-0.99	-0.94	-0.95
All Siblings Live > 10km		-0.57	-0.63	-0.54
Proximity to In-Laws$_1$				
No In-Laws (Reference)				
Live with at least 1 In-Law		0.08	0.10	0.11
< 10km of at least 1 In-Law		-0.58***	-0.56****	-0.55***
> 10km from In-Laws		0.35*	0.31*	0.32*
Controls				
Age$_1$		0.02	-0.02	-0.01
Female		0.03	-0.02	-0.02
Employed/Enrolled$_2$		0.23	0.20	0.20
Mother Education$_1$		0.10***	0.09**	0.08**
Constant	2.78***	2.73**	2.55**	2.74*
R^2	0.01	0.31	0.32	0.32
N	1,052	909	908	908

Note: Robust standard errors.

* p <.05. ** p <.01. *** p < .001.

Table 2: *OLS Regression Examining Predictors of Distance to Father*

	Distance to Father			
	Model 1	Model 2	Model 3	Model 4
	β	β	β	β
Cohesion				
Closeness to Father$_1$	-0.15*	-0.22**	-0.22**	-0.23**
Early Independence			0.53***	0.50***
Independence x Closeness				0.21
Controls				
Father-Child Conflict$_2$		-0.04	-0.04	-0.06
Mother-Father Relationship$_{\text{Age 15}}$		-0.00	-0.00	-0.00
Needs and Constraints				
Only Child		-0.81	-0.79	-0.75
Father Health$_2$		0.16*	0.16*	0.15*
Father Disability$_2$		0.04	0.05	0.04
Urbanization$_1$		-0.31***	-0.30***	-0.30***
Number of Children$_2$		-0.08	-0.09	-0.08
Opportunities and Preferences				
Socioeconomic Status$_2$		0.14***	0.15***	0.15***
Education$_2$		0.10**	0.09*	0.09*
Married$_2$		0.28*	0.28*	0.29*
Brothers$_1$		0.02	0.03	0.03
Sisters$_1$		0.19***	0.18**	0.18**
Oldest Child$_1$		0.01	0.02	0.03
Father Siblings$_1$		0.04	0.04	0.04
Kin Availability				
Sibling Proximity to Parents$_1$				
No Siblings (Reference)				
One Sibling within 10km		-0.65	-0.65	-0.62
All Siblings Live > 10km		-0.07	-0.11	-0.07
Proximity to In-Laws$_1$				
No In-Laws (Reference)				
Live with at least 1 In-Law		0.05	0.07	0.04
< 10km of at least 1 In-Law		-0.65***	-0.62***	-0.63***
> 10km from In-Laws		0.29	0.24	0.23
Controls				
Age$_1$		-0.02	-0.02	-0.02
Female		0.05	-0.01	-0.01
Employed/Enrolled$_2$		0.32	0.28	0.29
Father Education$_1$		0.06*	0.05*	0.05*
Constant	2.64***	1.96*	1.99*	2.06*
Adjusted R^2	0.01	0.31	0.32	0.33
N	939	787	784	784

Note: Robust standard errors.
* p <.05. ** p <.01. *** p < .001.

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