#### Proximity and Intergenerational Exchange: New Evidence from the Health and Retirement Study

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#### Extended Abstract

The geographic distance between adult children and their aging parents constitutes an opportunity structure that can either facilitate or restrain intergenerational family exchange (Silverstein et al., 1997; Greenwell and Bengtson 1997). Given the declining significance of coresidence with children among older adults in the United States, it has become increasingly important to analyze the spatial proximity of older adults and their children, particularly with regard to family support.

This study asks three main research questions. First, to what extent does geographic distance affect the exchange of resources and support between parents and their children? Second, does change in proximity lead to an altered level of intergenerational interaction? Third, what are the effects of family context (i.e., marital status, education, and family demands of adult children) and individual characteristics (i.e., gender, race/ethnicity, age) in this process? Utilizing newly available public data on the zip codes of children in the 2004, 2006, and 2008 waves of data in the Health and Retirement Survey, we examine how geographic distance between parents and adult children may affect intergenerational family transfer of financial and time resources. By investigating this topic, we hope to elucidate the process by which families negotiate and construct support exchange relations within a spatially mobile and aging society.

#### **Contribution**

We make a significant contribution to the literature in the following ways. First, we define intergenerational exchange as both giving and receiving support resources. In addition, because few existing studies consider financial and time-based transfers simultaneously we explore the exchange of both monetary gifts and grandparents' time caring for grandchildren. Thus, we jointly estimate financial and time-based outcomes in both directions, taking into account unobserved variables that may be correlated across outcomes.

Third, the effect of geographic distance on intergenerational transfer is conditioned by characteristics and life circumstances of each generation. An intergenerational transfer between two members of the family can be seen "as being nested within a complex network of related individuals that compose the family system" (Silverstein 2006:166). While the proximity between generations provides the basic structure for family support, its implication could vary substantially for families in different circumstances. For example, respondents with an adult child who recently separated from a spouse/partner or with new grandchildren may be more inclined to provide money or time transfers to their children. Likewise, a parents' ability to provide transfer is dependent upon the parent's own circumstances (i.e., wealth, time availability). Thus, family context and individual (parent) characteristics are likely key factors to consider when examining proximity and exchange. Fourth, the longitudinal nature of the data allows us to examine the relationship between proximity and intergenerational exchange dynamically. Due to data limitations, existing studies typically examine patterns of contact or family support by geographic locations of parents and adult children at a single time point, without taking into account spatial mobility. Because the HRS's public use proximity data was recently released in the summer of 2010, no study has been able to examine these measures yet. Using three waves of data, we are able to examine whether change in geographic distance between parents and adult children leads to subsequent shifts in patterns of intergenerational exchange.

#### Research Hypotheses

We draw from several theoretical perspectives on the family, such as family system theory and family altruism theory. Financial exchanges (i.e., monetary loans) and time-based exchanges (i.e., caregiving) operate through separate but complementary processes with regard to proximity. For example, caregiving requires person-to-person contact and thus may be strongly linked to proximity. Monetary exchange, however, may be less dependent upon proximity but more easily exchanged when family members live nearby. Thus, our first hypothesis is that the effect of geographic distance on exchange varies by the type and direction of the flow.

The act of giving, however, is dependent upon the need of resources as well as the availability of those resources within the family. Thus, our second hypothesis is that family context and individual characteristics are associated with transfers, regardless of proximity. Specifically, we predict that transfers from parents to children are more likely when there is a keener need, such as a recent divorce or a new grandchild. In addition, parents who are disadvantaged (in terms of class, race, or gender, for example) may be less likely to provide resources to children.

Finally, we bring together the concepts of proximity, family context, and individual characteristics as an interrelated process. Our fourth hypothesis is that family context and individual characteristics moderate the relationship between proximity and exchange. In other words, family need and parents' resource availability may strengthen or weaken the preexisting relationship between proximity and exchange. For example, although parents in close proximity may already be more likely to care for grandchildren, this likelihood may strengthen with the addition of a new child.

## Data and Methods

We use the 2004, 2006, and 2008 waves of the Health and Retirement Study. Specifically, we utilize newly released cross-wave child proximity files that chart the distance (in miles) between older parents and their adult children through zip code data. We combine these variables with transfer-to-child files and transfer-from child files that chart financial and support-based exchanges between generations (i.e., loans and caregiving transfers). We also utilize child-level and respondent-level files to gather information on family context and individual characteristics.

## Dependent Variable: Intergenerational Financial and Time-Based Exchanges

With these data, we predict intergenerational exchange. We have two main groups of dependent variables: financial exchanges and time-based exchanges. The first set of dependent variables measure whether or not parents provided financial transfers *to children* (0,1) and whether or not parents

received financial transfers *from children* (0,1). We also experiment with predicting the actual *amount* of money transferred to and from children. The second set of dependent variables examines the exchange of time-based resources, including whether or not the parent spent 100 or more hours caring for grandchildren over the last two years (0,1) and whether or not the parent spent 500 or more hours caring for grandchildren over the past two years (0,1). As with the financial exchange variables, we also experiment with predicting the total number of hours parents spent caring for grandchildren.

## Main Independent Variable: Intergenerational Geographic Proximity

Our key independent variable is the geographic distance between each parent and his/her closest child. This variable is measured through the newly released HRS zip code data. The HRS calculated the distance between parents and children using the "great circle distance" (GCD) method, that estimates location based upon zip code. As this estimation method may create error (for example, children may live more than ten miles apart but still be measured as living within the same zip code), the HRS also provides ArcGIS estimates of parent-child distances. We compare both measures in our analysis.

# Family Context & Individual Characteristics

In addition, we include measurements of both generations such as family context (number of parent's adult children, marital history of parents' children, number of grandchildren, number of children currently in school, proximity of other children and siblings) and individual characteristics of the respondent (age, gender, race/ethnicity, foreign-born status, years of education, employment status, wage/salary income, and net wealth, self reported health, and functional limitations).

## Analyses

We first conducted descriptive bivariate analysis of the relationship between proximity and each type of intergenerational transfer. Next, we performed multivariate analysis and modeled each dependent variable separately. Sample sizes varied depending on the nature of the dependent variable. For example, not all older adults received financial transfers from their children just as not all adult children had children of their own in need of grandparent care.

First, we ran exploratory logistic regression analysis, predicting each type of exchange for the pooled, cross-sectional sample. This type of approach allowed us to gain a broad understanding of the patterns and to explore individual characteristics of the respondent. Second, we ran fixed effects models predicting exchanges. The analytical sample for this part of the analysis is smaller and only time-varying variables could be included in the model. However, this model effectively controlled for time-invariant unobserved heterogeneity while operating under fewer restrictive assumptions. We also tested for appropriateness of random effect models. In all models, geographic distance was the key independent variable, but other individual and family context variables differed between equations and were added step by step. The interaction between proximity and individual and family context variables will be added last to the models.

## Preliminary Results

Descriptive analysis revealed small changes in geographic proximity and exchange of resources across the three waves of data (see Figures 1 and 2). Specifically, distance between parents and children, on average, increased slightly across waves. In addition, parent-to-child and child-to-parent exchanges

also decreased slightly over the observed period. Overall, a very small proportion of parents received financial transfers from children (<10 percent) but over 30 percent of parents gave money to children. About 20-25 percent of parents cared 100 or more hours for grandchildren and 10-15 percent cared 500 hours or more. Bivariate analysis indicates a potential association between proximity and exchange (see Figures 3 and 4). On average, children who received \$500 or more dollars from a parent lived farther away than children who received less than \$500. The pattern between proximity and financial transfers *from child* to parent was less clear. Focusing on the more "extreme" case of grandparent caregiving, parents who cared 500 or more hours for grandchildren, on average, lived in closer proximity to their children.

Logistic regression and fixed effects results suggested a weak relationship between proximity and exchange and point to the importance of family context and individual characteristics. Logistic regression results of the pooled, cross-sectional sample revealed a weak relationship between proximity and exchange. Proximity was statistically significantly associated with increased likelihood of financial gifts to children and time-based giving (caregiving for grandchildren) to children, yet the effect of proximity was weaker than the effects of family context and individual characteristics. Having children with greater needs (i.e., children in school, children experiencing separation from spouse/partner) was associated with an increased likelihood of giving financial and time resources. Being female or a racial/ethnic minority was associated with a decreased likelihood of giving time.

Initial fixed effects models presented a similar picture longitudinally. Increases in geographic distance were linked to a decreased likelihood of giving money to children, yet change in proximity did not have a significant effect on any other exchange outcome. An increase in the number of children in school, an increase in the number of children recently separated from a partner/spouse, and the recent presence of a new grandchild were all significantly associated with a greater likelihood of providing financial and time-based support. In contrast, increases in age and number of functional limitations were associated with a decreased likelihood of providing financial or time-based support. Yet, changes in age and functional limitations were not linked to an increased likelihood of receiving money from children.

Overall, our preliminary results suggest that proximity matters in predicting intergenerational support exchange. However, proximity's association with exchange is rather weak compared to the effects of family context and individual characteristics. The weak effect of proximity in our fixed effects models may be the result of low variation in proximity across the three waves. Thus, we will also examine random effects models. Family events indicating children's keener need (i.e., children in school, children separating, new grandchild) and individual circumstances that reflect fewer resources and thus likely a lowered *ability* to provide support (i.e., disadvantage based on gender, race/ethnicity, age, and health) are strong predictors of intergenerational exchange in our preliminary models. To further elucidate the relationship between geographic proximity and intergenerational exchange in the context of families and individuals, we will also test for interactions between proximity and family context as well as between proximity and individual characteristics.



#### Figure 1. Child Proximity, by Wave









## Figure 4. Time Transfer, by Child Proximity

