Published in final edited form as:

J Fam Psychol. 2014 April ; 28(2): 168–179. doi:10.1037/a0035735.

Discrepancy in Reports of Support Exchanges between Parents and Adult Offspring: Within- and Between-Family Differences

Kyungmin Kim^{1,*}, Steven H. Zarit², Kira S. Birditt³, and Karen L. Fingerman¹

¹Department of Human Development and Family Sciences, The University of Texas at Austin

²Department of Human Development and Family Studies, The Pennsylvania State University, University Park

³Institute for Social Research, University of Michigan, Ann Arbor

Abstract

Using data from 929 parent-child dyads nested in 458 three-generation families (aged 76 for the oldest generation, 50 for the middle generation, and 24 for the youngest generation), this study investigated how discrepancies in reports of support that parents and their adult offspring exchanged with one another vary both *within* and *between* families, and what factors explain variations in dyadic discrepancies. We found substantial within- and between-family differences in dyadic discrepancies in reports of support exchanges. For downward exchanges (from parents to offspring), both dyad-specific characteristics within a family (e.g., gender composition, relative levels of relationship quality, and family obligation) and shared family characteristics (e.g., average levels of relationship quality) showed significant effects on dyadic discrepancies. For upward exchanges (from offspring to parents), however, only dyad-specific characteristics (e.g., gender composition, coresidence, relative levels of positive relationship quality, and family obligation) were significantly associated with discrepancies. Discrepancies in support exchanges were mainly associated with dyad-specific characteristics, but they also appeared to be influenced by family emotional environments. The use of multiple informants revealed that families differ in discrepancies in reports of exchanges, which has implications for quality of family life as well as future exchanges.

Keywords

intergenerational relations; within-family differences; between-family differences; discrepancy; support exchanges

The parent-child relationship is central in adults' lives. A substantial literature has suggested that parents and their adult children typically remain very involved with one another over the life course (Zarit & Eggebeen, 2002). One of the potentially most important domains that characterize parent-adult offspring relations is the support and assistance that they exchange. Support exchanges are a critical process for meeting everyday needs as well as sustaining the bonds between generations (Silverstein, Conroy, Wang, Giarrusso, & Bengtson, 2002; Swartz, 2009). However, one of the main critiques of this research is that it has relied on reports from one generation (i.e., parent or child), and often just a single person (Bianchi, Evans, Hotz, McGarry, & Seltzer, 2007). Information collected from single informants has been used to represent intergenerational exchanges in families, but evidence

*Correspondence: Kyungmin Kim, PhD, Department of Human Development and Family Sciences, The University of Texas at Austin, 108 E. Dean Keeton St, Stop A2702, Austin, TX 78712–1248, Phone: 512–475–7571, kkim@utexas.edu.

has shown that it makes a difference whether one looks at intergenerational relationships from the perspective of an older parent or an adult child (Aquilino, 1999).

Examining perspectives of multiple family members may yield a more comprehensive picture of intergenerational exchanges within the family system. Multiple family informants, however, often do not agree when reporting on their intergenerational support exchanges (Ikkink, Van Tilburg, & Knipscheer, 1999). Although the observed discrepancies in these reports may be regarded as random error, family systems theory has suggested that discordant reports of the same events are a meaningful feature of family relationships and interactions (Cox & Paley, 1997). In this regard, prior studies have shown that there are *systematic* discrepancies in reports of the amount of support exchanged between generations, and various factors of parents and adult offspring, such as structural and psychological characteristics, are associated with the discrepancies (Kim, Zarit, Eggebeen, Birditt, & Fingerman, 2011; Lin, 2008; Mandemakers & Dykstra, 2008; Shapiro, 2004). However, because prior work has focused on a single parent-child dyad in a family in examining discrepancies, we do not know how dyadic discrepancies in reports of support exchanges vary both within and between families. Observed discrepancies in reports may reflect dyad-specific or shared characteristics with family members. Using data from multiple parent-child dyads within families, we attempted to extend investigation of dyadic discrepancies in reports of support exchanges. We focused on how the discrepancies vary both *within* and *between* families and what factors (e.g., within- and between-family characteristics) explain the discrepancies.

Discrepancy in Reports of Intergenerational Exchanges

Studies that have compared parents' and offspring's perceptions about *relationship quality* have suggested that relying on reports from a single informant is likely to produce biased results (Giarrusso, Feng, & Bengtson, 2004). For example, Aquilino (1999) found that parents consistently reported higher levels of closeness and lower levels of conflicts than their adult child reported. Similarly, Willson et al. (2006) showed that mothers' ambivalence toward their offspring was lower than that of their children. Such discrepancies observed in the ratings of intergenerational relationship have been viewed as providing support for the generational stake hypothesis, which posits that parents are more likely to emotionally invest in their children than children are to invest in their parents over the life spans (Bengtson & Kuypers, 1971).

Discrepancies between generations have also been found with respect to reports of *support exchanges*, which represent more objective aspects of intergenerational relations (Ikkink et al., 1999). In upward exchanges (from children to parents), most studies have found that adult children tend to report giving more support to parents than their parents reported receiving (Kim et al., 2011; Lin, 2008; Mandemakers & Dykstra, 2008; Shapiro, 2004). For downward exchanges (from parents to children), however, prior studies have shown mixed results, depending on the type of support. For example, Mandemakers and Dykstra (2008) found that parents reported showing *more* interest than children reported, but they also reported giving *less* help with odd jobs than children reported receiving. Shapiro (2004) showed that parents tended to report giving *less* instrumental support (e.g., housework, help with errands) and *more* emotional support than children reported receiving. Also, Kim et al. (2011) found that older parents reported giving *more* practical support and *less* advice than children reported received.

Although there is a self-enhancement tendency to view one's own actions (e.g., giving support) in a more positive light than others' action (Krueger, 1998), the reporting discrepancies in intergenerational exchanges also appear to be systematically related to

characteristics of family members. Lin (2008) and Shapiro (2004) showed that demographic and structural characteristics of parents and children (e.g., age, gender, health status, marital status, and geographic proximity) were associated with discrepancies in reports of exchanges. More recently, emerging evidence shows significant associations between discrepancies in reports of support exchange and relationship characteristics, such as family obligation, relationship quality, and relationship importance (Kim et al., 2011; Mandemakers & Dykstra, 2008). Thus, besides universal biases based on self-enhancement, discrepancies in reports of support exchanges may reveal unique characteristics of relationships between dyadic members.

Variations in Reporting Discrepancy: Within- and Between-Family Differences

Given that most families consist of multiple parent-child dyads, dyadic discrepancies in families may vary within and between families. Whereas within-family differences emphasize differentiating individual dyads from other dyads within the same family, between-family differences refer to how dyads of a family share characteristics and differentiate dyads in one family from dyads in other families (Fingerman & Bermann, 2000). For example, regarding within-family differences, parents who have more than one child may have different quality relationships and support patterns with each child (Fingerman, Miller, Birditt, & Zarit, 2009; Suitor, Pillemer, & Sechrist, 2006). Similarly, a middle-aged adult may have different qualities of relationships with a grown child versus a parent (Birditt, Tighe, Fingerman, & Zarit, 2012). As for between-family differences, families also may differ in their overall patterns of engagement; some families get together frequently for gatherings and expect high levels of involvement, whereas other families harbor family norms for greater autonomy (Fingerman & Bermann, 2000). In examining discrepancies in reports of support exchanges, however, prior studies have focused on a single parent-offspring dyad within a family, and did not compare multiple dyads in a family (i.e., within-family differences) or families as a whole (i.e., between-family differences). This study addresses these gaps in the literature by considering discrepant reports as a family phenomenon as well as dyad-specific one.

Within-family differences

In any given family system, certain individuals may be viewed as more important, more obligated to provide assistance to the family, or more competent than other individuals. Thus, within-family differences address the variation in individual members' behaviors and roles in a family (Suitor et al., 2006). Recently, within-family differences have received extensive attention in research on intergenerational relations (e.g., Davey, Tucker, Fingerman, & Savla, 2009). Although these studies using within-family approaches have provided some insights on support exchanges with multiple children in a family (McGarry & Schoeni, 1997; Suitor et al., 2006), they usually relied on reports from a single family informant (typically a parent) to get information on multiple children. As noted, however, children's needs and resources reported by parents tend to be unreliable as well as reflect parents' perceptions or impressions on the children's situation (Suitor et al., 2006).

Furthermore, most studies on within-family differences have focused on two-generation families consisting of parents and their offspring, and have examined variations among multiple offspring in their relationship with a parent (Ward, 2008). Three-generation families, where middle-aged adults simultaneously interact with elderly parents and grown children, have rarely been examined. In the context of extended three-generation families, generational locations (e.g., being a member of the older parent/child pair or the younger parent/child pair in the three-generation family) can be a potential source of within-family

variation (Fingerman et al., 2010; Grundy & Henretta, 2006; Lynott & Robert, 1997). Middle-aged adults located between elder parents and grown offspring may have different relationships and exchange patterns depending on the other generations. This may result in generational differences in reporting discrepancies within a family. The generational stake hypothesis posits that parents generally value their relationships with children more highly than do their children, and thus may overreport the help they give to and receive from children (Bengtson & Kuypers, 1971; Giarrusso et al., 2004). However, in three-generation families, middle-aged adults simultaneously occupy two generational positions, as offspring for their aging parents and parents for their grown offspring. Prior studies have not considered whether the same middle-aged adult behaves differently toward their upper and lower generations.

Between-family differences

As a family systems perspective posits families as a whole, family members *share* assumptions and beliefs concerning how they are expected to act, and about the roles of individual members (Cox & Paley, 1997; Fingerman & Bermann, 2000). For example, parent-child dyads in some families are more likely to be congruent in their perceptions of support exchanges than those in other families, because they place more emphasis on consensus and agreement. Between-family differences have rarely been considered in the adult development literature (Henretta, Soldo, & van Voorhis, 2011), but they may be important to examine for understanding overall family functioning as well as patterns of mutual assistance. Families with greater levels of discrepancies overall in their perspectives on help given and received may have more trouble understanding and cooperating with one another. They may approximate the profile in the clinical literature of a dysfunctional family with high levels of disagreement (Minuchin, 1988). By contrast, families with higher levels of agreement are likely to show greater understanding and support of one another. Focusing on the “level” of exchanges, prior studies have identified low exchanges as characteristic of families suffering problems (Hogan, Eggebeen, & Clogg, 1993; Silverstein & Bengtson, 1997). However, discrepancy is a different type of problem where family members disagree on the nature of the same event, and maybe also the meaning of that event. Thus, discrepancies in reports of exchanges can show how families function and relate to each other.

Regarding factors related to between-family differences, structural characteristics of family, such as race, size and composition, have often been examined (Davey, Janke, & Savla, 2004). However, less attention has been paid to variation in family norms and emotional atmosphere of different families (Seltzer et al., 2005). Prior studies have only speculated about the roles of the family’s emotional or cultural contexts indirectly based on results regarding structural characteristics of families (e.g., race and family composition). Overall level of family members’ relationship quality (e.g., emotional closeness) and family beliefs (e.g., norms of obligation about supporting family members) may be important factors contributing to between-family differences in discrepancies of support exchange (Katz et al., 2003).

In this study, we expected that better relationship quality among family members (i.e., high levels of positive relationship quality and low levels of negative relationship quality) would be associated with smaller discrepancies in reports of exchanges. Also, we expected that high levels of obligation among family members would be associated with larger discrepancies. Members from families with strong feelings of obligation may represent a culturally desirable response (e.g., giving more or receiving more).

The present study investigated discrepancies in reports of intergenerational exchanges across three generations within the same families. This study extended previous work by examining

discrepancies of reports of support exchanged both at the dyadic level (e.g., parent-child) and at the family level. In this study we asked two questions. First, what are the relative proportions of the two types of variation in dyadic discrepancies in reports of support exchanges (i.e., within- and between-family differences)? We expected to find substantial between-family differences as well as within-family differences in the dyadic discrepancies in reports of support exchanges, including downward and upward flows. Second, what factors explain the within- and between-differences in dyadic discrepancies? Regarding within-family differences, we explored effects of dyad-specific characteristics, such as generations of dyadic members (i.e., upper or lower generation), gender composition, proximity and coresidence, relative levels of family obligation, and positive and negative relationship qualities (i.e., deviation scores from family averages). Also, to address between-family differences in discrepancies in reports of support exchanges, we considered structural characteristics of the family (e.g., family size and race) and average levels of family obligation, positive and negative relationship qualities.

Methods

Sample

This study is based on data from “*The Family Exchanges Study*” (Fingerman et al., 2009). The original sample included 633 middle-aged adults (aged 40 to 60) who resided in the Philadelphia Primary Metropolitan Statistical Area (five counties in southern Pennsylvania and four counties in New Jersey; Pennsylvania State Data Center, 2001). Each participant had at least one child over the age of 18 and one living parent. The middle-aged participants completed a series of questions for each living parent and each living child in 2008, including exchanges of support, beliefs on relationship with each parent and child, and other demographic information.

From the original sample of middle-aged adults (G2), 280 (44%) had parents (G1) who agreed to be interviewed. In 223 cases, one parent was interviewed, and in 57 cases, both parents were interviewed, which yielded discrete 337 G1–G2 dyads (i.e., aging parent and middle-aged offspring). Also, 399 (63%) middle-aged targets (G2) had one or more grown offspring (G3) who agreed to participate in this study, resulting in 592 G2–G3 dyads (i.e., middle-aged parent and adult offspring). For 28 targets, three offspring were interviewed, for 137 targets, two offspring were interviewed, and for remaining 234 targets, one offspring was interviewed. The final sample consists of 929 parent-child dyads (including G1–G2 and G2–G3 dyads) nested in 458 families (individuals $N = 1,387$; G1 $n = 337$; G2 $n = 458$; G3 $n = 592$). Thus, all parent-child dyads that are included in this study have reports of *both* members on support exchanged between dyadic partners. The maximum number of possible parent-child dyads that each family can include is five dyads, and on average families included two dyads ($SD = 0.93$). Table 1 describes individual, dyadic, and family characteristics of the sample.

Measures

Support exchanges—The dependent variable was five items from the Intergenerational Support Scale (ISS; Fingerman et al., 2009; Vaux, 1988): *emotional support*, *practical assistance*, *advice*, *financial support*, and *listening to talk about daily events*. Participants rated how frequently they provided each type of support to their dyadic partner, and how frequently they received that type of support on an 8-point scale: 1 (*less than once a year or not at all*) to 8 (*daily*). We calculated mean scores across the five types of support given and received for ease of interpretation. We also examined each type of support separately in post-hoc analyses. Based on the direction of the support flow between dyadic members, this study called support given by parent to child as *downward* exchanges, and support given by

child to parent as *upward* exchanges. Cronbach's alphas were high across generations (G1 = 0.77, G2 = 0.85, and G3 = 0.86 for downward exchanges; G1 = 0.81, G2 = 0.81, and G2 = 0.83 for upward exchanges). Table 2 presents each generation's reports on total support and each type of support in downward and upward exchanges and parent-child differences in the reports (based on paired *t*-tests).

Within-family factors—This study considered five dyad-specific characteristics to explain within-family differences in reporting discrepancies, including structural characteristics (e.g., generational location, gender composition, and living arrangement) and psychological characteristics (e.g., family obligation and relationship quality) of dyads. *Generational location* was coded 1 for upper generation dyads (i.e., G1–G2 dyads) and 0 for lower generation dyads (i.e., G2–G3 dyads). *Gender composition* was categorized into four groups on the basis of parents' and children's gender: father-son, father-daughter, mother-son, and mother-daughter. These categories were dummy-coded, using mother-daughter as the reference group. For living arrangement between dyadic members, *coresidence* was measured with a dichotomous variable coded 1 for dyads sharing the same household. *Geographic proximity* was measured as the distance between parents' and non-coresident children's residences in miles. For coresident dyads, their geographic proximity was coded 0. To address positive skew of distance, we used a log-linear transformation in analyses.

Family obligation asked participants how often parents should provide their adult children the following six types of support: emotional support, practical assistance, financial support, listening to the other's talk, companionship, and advice (Silverstein, Gans, & Yang, 2006). The answers ranged from 1 (*never*) to 5 (*always*). Mean scores of the six items were computed, and the Cronbach's alphas were acceptable (G1 = 0.67, G2 = 0.72, and G3 = 0.69).

To assess *positive relationship qualities* (Umberson, 1992), we used two items: “how much does your (mother/father/child) love and care for you?” and “how much does your (mother/father/child) understand you?” For *negative relationship qualities*, we asked two items: “how much does your (mother/father/child) criticize you?” and “how much does your (mother/father/child) make demands on you?” Responses were rated from 1 (*not at all*) to 5 (*a great deal*). Mean scores of the two items were calculated (Cronbach's alphas; G1 = 0.59, G2 = 0.59, and G3 = 0.60 for positive relationship quality; G1 = 0.53, G2 = 0.62, and G3 = 0.74 for negative relationship quality).

To reveal within-family effects of family obligation and relationship quality, we used deviation scores from family mean scores (i.e., centered scores at family means) for those variables in the analyses. Thus, the deviation scores represent *relative* levels of each individual's report within the same family.

Between-family factors—Regarding between-family differences in dyadic discrepancies, this study examined four family characteristics, including structural (e.g., race and family size) and psychological (e.g., family obligation and relationship qualities) characteristics. All dyads within the same family have the same scores for these variables. *Race* was coded 1 for Black families and 0 for other families. For *family size*, we included numbers of G2's siblings and G3's siblings.

For normative and emotional contexts of families, we also considered family obligation and two aspects of relationship quality (i.e., positive and negative relationship qualities). To differentiate them from dyad-specific characteristics, we calculated *average scores* among all participants in the family (i.e., family mean).

Control variables—This study also considered five demographic variables of individual participants as controls: age, years of education, household income, marital status, and self-rated health. Given prior studies showing that these variables were mainly associated with the levels of support exchanges, not with the discrepancies (Kim et al., 2011; Mandemakers & Dykstra, 2008), we only used them in models for the dyadic mean levels of support exchanges. Participants indicated *household income* in 2007 on a scale ranging from 1 (*less than \$10,000*) to 6 (*more than \$100,000*). *Marital status* was dummy-coded 1 for *married* and 0 for *not married*. *Self-rated health* was measured using a 5-point scale ranging from 1 (*poor*) to 5 (*excellent*).

Analytic Strategy

To analyze dyadic data nested in families, we used multilevel modeling (SAS PROC MIXED; Littell, Milliken, Stroup, & Wolfinger, 1996), which accounts for the interdependence of individuals within each dyad or family and enables researchers to predict both the level of the outcome and the level and direction of differences in reports of the outcome within pairs and families. In a multilevel model, individual observations of parents and children (*level 1*) are nested within the dyad (*level 2*), which is the unit of analysis. We also considered family level (*level 3*) to explain the shared variance of dyads within the same family because parent-child dyads are also nested in families. To model an individual score (Y_{ijk}) for i th member in the j th dyad in the k th family, the level 1 equation can be written as follows:

$$\text{Level 1 (individual level): } Y_{ijk} = \beta_{0jk} + \beta_{1jk}(\text{Relation}_{ijk})$$

where observations from each dyad member are regressed on an indicator variable, *Relation* (i.e., parent or offspring) at level 1. The indicator variable was coded -0.5 for parents and 0.5 for children. A negative coefficient for discrepancy (β_{1jk}) indicates that parents reported higher level of exchanges than children; a positive coefficient for discrepancy indicates that children reported higher level of exchanges than parents. This regression model was summarized by two parameters: an intercept and a slope. The intercept (β_{0jk}) represents the mean level of support exchange for each matched pair (averaged across the dyad members). The slope (β_{1jk}) captures the degree of discrepancy in the level of support exchange within dyads, which is the focus of this study (Sayer & Klute, 2005).

To address the first research question regarding the proportions of within- and between-family variance in dyadic discrepancies, we estimated intercept-only models (i.e., no predictor) at level 2 and level 3 (Model 1).

$$\begin{aligned} \text{Level 2 (dyad level): } & \beta_{0jk} = \delta_{00k} + u_{0jk} & (\text{dyadic mean}) \\ & \beta_{1jk} = \delta_{10k} + u_{1jk} & (\text{discrepancy}) \\ \text{Level 3 (family level): } & \delta_{00k} = \gamma_{000} + v_{00k} & (\text{dyadic mean}) \\ & \delta_{10k} = \gamma_{100} + v_{10k} & (\text{discrepancy}) \end{aligned}$$

where u_{0jk} and u_{1jk} represent the within-family variance (*dyad level*) and v_{00k} and v_{10k} represent the between-family variance (*family level*) for dyadic mean and discrepancy, respectively. If the dyadic mean (*intercept*, β_{0jk}) and discrepancy (*slope*, β_{1jk}) have significant variance components for within- and between-family, it is appropriate to proceed with exploratory models with predictors to explain the variation in these parameters.

Next, regarding the second research question, we added within- and between-family predictors to the models respectively (Model 2 and 3). WF_{qjk} are within-family factors and BF_{0qk} are between-family factors for dyadic mean and discrepancy.

$$\begin{aligned} \text{Level 2 (dyad level):} \quad & \beta_{0jk} = \delta_{00k} + \delta_{01k}(WF_{qjk}) + u_{0jk} \\ & \beta_{1jk} = \delta_{10k} + \delta_{11k}(WF_{qjk}) + u_{1jk} \\ \text{Level 3 (family level):} \quad & \delta_{00k} = \gamma_{000} + \gamma_{001}(BF_{0qk}) + v_{00k} \\ & \delta_{10k} = \gamma_{100} + \gamma_{101}(BF_{1qk}) + v_{10k} \end{aligned}$$

Because the primary interest of this study was examining discrepancies in parent-child reports about support exchanges, not the dyadic mean level, we focused on results about the discrepancies (slope, β_{1jk}), though we presented the full set of parameters in the tables.

Results

Baseline Models

Tables 3 and 4 show three models for dyadic mean levels and discrepancies in total scores of downward and upward exchanges, respectively. Model 1 presents baseline models without predictors, which estimate the average discrepancy scores of dyadic reports in support exchanges (*fixed effect*) and within- and between-family variances in the dyadic discrepancies (*random effect*). The discrepancy scores were significant in both downward and upward exchanges ($B = -0.12, p < .05$ for downward; $B = 0.39, p < .001$ for upward), though the discrepancy in upward exchanges was more pronounced. Thus, on average, both parents and offspring tended to report giving more than receiving. Examination of each type of support confirmed that all five discrepancy scores for upward exchanges were positive and significant, which means that children consistently reported giving more than parents reported receiving for all types of support (not shown in tables). However, specific types of support in downward exchanges showed different results in the direction and significance of the discrepancies. For example, the discrepancy scores for emotional support ($B = -0.34, p < .001$) and financial support ($B = -0.24, p < .01$) were negative, which means that parents reported giving more emotional and financial support than children reported receiving. However, the discrepancy score for advice ($B = 0.18, p < .05$) was positive, indicating parents reported giving less advice than children reported receiving. Also, discrepancies in practical assistance and listening to daily talks were not significant in downward exchanges.

All the variance components for the discrepancies at level 2 (*within-family*) and level 3 (*between-family*) were significant, indicating that there were substantial amounts of variability in the discrepancy across dyads as well as families (see Tables 3 and 4). In downward exchanges, between-family variance accounted for 20.3%, and in upward exchanges between-family variance accounted for 17.5% of the total unexplained variance. Looking at each type of support, the proportion of between-family variance in downward exchanges ranged from 6.66% (emotional support) to 19.18% (advice). In upward exchanges, the between-family variance ranged from 3.31% (practical assistance) to 19.88% (emotional support).

Model 2: Within-Family Factors

In model 2, we added within-family factors to explain variance in dyadic discrepancies, including structural (e.g., generational location, gender composition, and living arrangement of the dyad) and psychological (e.g., relative levels of family obligation and relationship quality) factors. First, generational location (i.e., G1–G2 or G2–G3) was not significant for

discrepancies in overall downward and upward exchanges. However, the effect of generational location differed by the types and directions of support. For example, in G1–G2 dyads, parents tended to report giving ($B = -1.33, p < .001$) and receiving ($B = -0.50, p < .01$) more practical assistance than children reported, compared to G2–G3 dyads. In addition, in G1–G2 dyads, children were likely to report giving more emotional support ($B = 0.42, p < .05$), listening more ($B = 0.56, p < .001$), and receiving more financial support ($B = 0.50, p < .001$) than parents reported.

Gender composition of dyads was significantly associated with discrepancies in both downward and upward exchanges. Specifically, dyads where the parent is a father (e.g., father-son and father-daughter) showed negative effects on dyadic discrepancies, indicating that fathers tended to report more support than children reported regardless of the direction of support.

We also found that coresidence between dyadic members was significant for upward exchanges. In dyads where the members share the same household, children were likely to report providing more support than their parents reported receiving. In particular, it appears that coresidence was related to discrepancies in reports of tangible types of support, such as practical assistance ($B = 0.51, p < .05$) and financial support ($B = 0.54, p < .01$).

Regarding family obligation, offspring's family obligation was significant for downward exchanges whereas parents' obligation was significant for upward exchanges. Thus, given that the family obligation represents relative scores within the family, both parents and offspring who had a *stronger* feeling of family obligation than other family members were likely to report *receiving* more support than their dyadic members reported giving.

For relationship quality, relative levels of positive relationship quality with dyadic members showed the most significant and strongest effects on the dyadic discrepancies in reports of support for both downward and upward exchanges, compared to all other factors. Parents and offspring who reported *higher* levels of positive relationship quality were likely to report *giving* and *receiving* more support than their dyadic partners reported. However, negative relationship quality was negatively associated with discrepancies in the reports of overall support in downward exchanges only for parents. Thus, when parents had higher levels of negative relationship quality with their offspring, parents were likely to report giving more support (particularly advice and financial support) than their offspring reported receiving. Adding these within-family factors reduced unexplained within-family variance from 79.7% to 65.1% in downward exchanges and from 82.5% to 72.9% in upward exchanges.

Model 3: Between-Family Factors

Next, we added family characteristics to explain between-family differences (Model 3), including structural factors (e.g., race and family size) and psychological factors (e.g., average family obligation and relationship qualities). Among those family characteristics, we found that family average scores of positive and negative relationship qualities were associated with discrepancies in downward exchanges (see Table 3). Thus, as Figure 1 describes, in dyads belonging to families with better relationship qualities (i.e., higher levels of positive relationship quality or lower levels of negative relationship quality), the average pattern of discrepancy observed in downward exchanges (i.e., parents reported giving more than children reported receiving) was attenuated as well as rather slightly reversed; children were likely to report receiving more support than their parents reported giving. However, in dyads belonging to families with worse relationship qualities (i.e., lower levels of positive relationship quality or higher levels of negative relationship quality), the discrepancy pattern was more pronounced; parents were likely to report giving more and their children were

likely to report receiving less. After adding these between-family factors, unexplained between-family variance in downward exchanges reduced from 18.1% to 12.3%.

However, none of the between-family factors were associated with discrepancies in upward exchanges (see Table 4), leaving the proportion of unexplained between-family variance almost the same (i.e., 16.8% to 15.7%).

Discussion

As family systems theory posits, a family reflects a constellation of individual parent-child dyads (Cox & Paley, 1997; Fingerman & Bermann, 2000). Each parent-child dyad has uniqueness as a subsystem (i.e., within-family differences) as well as sharing behavior patterns, past experiences, and family beliefs and values with other dyads within the family system (i.e., between-family differences). Many studies on intergenerational relationships have focused on how much support was given and received, examining how *the amount of support* exchanged between parents and children varies within or between families (Henretta et al., 2011; Sutor et al., 2006). This study focused on *differences in perspectives* on how much support was given and received between parents and children. Further, we extend our prior work on dyadic discrepancies (Kim et al., 2011) by comparing multiple dyads within the same families to examine how the differences in perspectives vary within and between families.

As we expected, the findings showed that there are significant within- and between-family differences in dyadic discrepancies in reports of support exchanges between parents and adult offspring. Thus, although dyads showed different levels of discrepancies within the same families, dyads within the same families also showed similarity in levels of discrepancies. In addition, dyadic discrepancies revealed significant associations with within- and between-family factors. This finding suggests the importance of considering both within- and between-family differences in examining issues regarding intergenerational relationships.

This study also confirmed prior studies demonstrating that there are systematic discrepancies in reports of support exchanges (Lin, 2008; Mandemakers & Dykstra, 2008; Shapiro, 2004). In upward exchanges (i.e., support given to parent by child), children tended to report *giving more* support than their parents reported receiving across different types of support. The direction of discrepancies appears to be consistent with self-enhancement theory, which suggests that people emphasize positive biases of their own actions (e.g., giving). In contrast, discrepancies in downward exchanges (i.e., support given to child by parent) showed different patterns depending on the type of support; parents tended to report *giving more* emotional and financial support as well as *giving less* advice than their children reported receiving. Mandemakers and Dykstra (2008) also reported these differences between downward and upward exchanges in the patterns of discrepancies. Thus, whereas children's reports of support given to parents followed a universal tendency toward self-enhancement, parents' reports of support given to child seemed to be colored by the family context. For example, parents' reports on advice (e.g., giving less) may still reflect self-enhancement in a modified way, given that advice-giving may be interpreted by parents as being intrusive and interfering in children's lives in adult families. In addition, this may, in part, reflect the fact that downward flows of support have a longer history than upward flows over the life spans of parents and children.

To address within-family variations of dyadic discrepancies in reports of support exchanges, we examined structural characteristics (e.g., generational location, gender composition, and living arrangement) and psychological characteristics (e.g., family obligation and

relationship quality) of dyads. First, regarding generational location, we did not find significant effects on discrepancies in reports of *overall* support exchanges. However, we found that the effects differed depending on the type of support. For example, in downward exchanges, dyads in upper generations (i.e., G1–G2 dyads) showed larger discrepancies regarding reports of practical assistance, whereas dyads in lower generations (i.e., G2–G3 dyads) showed larger discrepancies in reports of financial support. In upward exchanges, dyads in upper generations showed larger discrepancies in reports of emotional support and listening, while dyads in lower generations showed larger discrepancies in reports of practical assistance. Thus, generational location appeared to be a significant source of within-family variation in perceptions of support exchanges. Generational location within families may reflect different developmental stages related to the ages of each generation, which may lead to different perceptions of specific types of support (Lynott & Roberts, 1997).

Regarding the roles of generational location, we performed post-hoc interaction tests to examine whether generational position would moderate effects of other characteristics (e.g., obligation and relationship quality) on dyadic discrepancies, but did not find significant interaction effects of generational location with other characteristics. Thus, the pattern of discrepancies (especially in downward flows) differed depending on the generational position, but the effects of other predictors did not differ depending on the generational position.

Second, gender composition of dyads was associated with dyadic discrepancies. Regardless of the child's gender, fathers were more likely than mothers to report more support given to and received from their children. This result may reflect the fact that fathers are less supportive, feel less close, and spend less time with offspring overall, which may contribute to fathers' discordant perceptions on support exchanges with children (Shapiro, 2004). Although we did not find this significant effect of gender composition on discrepancy in our prior work on discrepancy (Kim et al., 2011), the prior analysis included only upper generation dyads (i.e., G1–G2), so we may have had too few father-child dyads to detect the effect evident in the current larger study. In this current analysis, we were able to include more fathers in the lower generation dyads (i.e., G2–G3).

Third, the results showed that when sharing the same household, children tended to report providing more support (particularly practical assistance and financial support) than parents reported receiving. Although coresidence between parents and children may provide more opportunities for shared perceptions of exchanges, our findings suggest that perceptions on tangible types of support can be more blurred in a shared household. In addition, given that coresidence may in many cases be caused by increased needs of one generation, this result may reflect efforts to avoid feelings of dependency.

This study also examined psychological characteristics of dyads (obligations and relationship quality) to explain within-family differences in dyadic discrepancies. We found that relative levels of positive relationship quality were significantly associated with discrepancies for both parents and children (Mandemakers & Dykstra, 2008). Participants who are in better relationships with their parent or child tended to report giving and receiving more support than their parent or child reported. Thus, having better relationships with parents and children appears to cast a more positive light on support provided to as well as received from the other party (Gagné & Lydon, 2004). However, negative relationship quality was significant only for parents' reports on support given to offspring. When parents reported higher levels of negative relationship quality with their offspring, they tended to report giving more support (e.g., advice and financial support) than their child reported

receiving. The child's lack of recognition of the support may, in turn, feed into the negative relationship quality if the parent perceives the child as ungrateful.

Regarding family obligation, both parents and children who reported stronger feelings of family obligation tended to report more support received than given. This finding differs from prior studies (Kim et al., 2011; Mandemakers & Dykstra, 2008) showing that only parents' feelings of obligation were associated with discrepancies. This different result may be related to the fact that in this study, we used relative levels of obligations within families, whereas prior works looked at each individual's scores separately. According to our findings, having stronger feelings of family obligation than other family members appears to cast a positive light on support *received*, not support provided for both parents and children.

In addition, the current study examined between-family characteristics, including structural and psychological factors. Whereas no between-family factors showed significant associations with discrepancies in upward exchanges, in downward exchanges we found that families' average levels of positive and negative relationship qualities are associated with the reporting discrepancies. In adult families, given that providing support to parents (i.e., upward exchanges) might be regarded as more normative than receiving support from parents (i.e., downward exchanges), perceptions of downward exchanges may be more affected by the family contexts (e.g., relationship qualities among family members).

Our findings also showed that in families who had higher levels of positive relationship qualities among family members, children tended to report receiving more support than parents reported giving. Conversely, in families with higher levels of negative relationships, parents were likely to report giving more support than children reported receiving. The results contradict our expectations that better relationship qualities would be associated with *smaller* discrepancies in reports of exchanges. However, given the direction of discrepancies (e.g., parents reported giving less and offspring reported receiving more), the bigger discrepancies observed in families reporting better relationship qualities may also reflect characteristics of well-functioning families, in which offspring tend to appreciate support received from their parents and parents are willing to provide support to their offspring. Thus, offspring's appreciation for received support may lead to reporting receiving more, and parents' willingness to provide support may affect their perceptions of support given. Even after including effects of relative levels of relationship quality as within-family factors, the family-levels of relationship quality explained substantial additional variance in discrepancies. This finding suggests how each generation perceives exchanges may be a good marker of overall quality of family relationships. This result also emphasizes the importance of considering family levels of characteristics to understand why families as a whole differ in intergenerational relationships. However, how to capture the family norms and relational cultures as family-level variables may require more effort and investigation (Seltzer et al., 2005). For example, in this study, it would be helpful to understand the family hierarchy and long-standing conflict in dyads that go beyond the positive and negative relationship scale.

Some limitations of this study should be considered. First, though data from multiple informants of three-generation families allowed a unique opportunity to examine reporting discrepancies, the family members who agreed to participate in this survey may be systematically different from non-participant family members (e.g., better relationship quality and better functioning). Second, the design of the study makes middle-aged participants (G2) identify up to two parents (G1) and up to three adult children (G3). All dyads included the middle-aged participants, so that between-family variances of this study may be confounded by middle-aged participants' individual characteristics. Also, since middle-aged participants' information could be counted several times, this may result in

biases in standard errors of the middle-aged participant's characteristics in the current models. Third, although multilevel models handle issues of unequal number of dyads nested within each family, this may affect our findings in many ways. In particular, 148 families in our sample consist of a single dyad. After excluding these families, we repeated the same analysis, but there was little change in the results. Given this finding, we felt that the results should be presented with the full sample. Fourth, we can only identify discrepancies, not how the discrepancies are related to the amount of the actual exchanges. Perceptions of support, however, tend to be more important for the overall quality of their relationships than the actual amounts of support given and received. Finally, there may be exchanges between older parents (G1) and young offspring (G3) but we could not catch the exchange between grandparents and grandchildren.

It is widely recognized among clinicians that family members can disagree in how much help and assistance they exchange with each other, and these discrepancies in perceptions may be a source of discord. Part of the discrepancy is normative, that is, parents see themselves as giving more than offspring see themselves receiving. Nonetheless, these discrepancies may lead to resentment and misunderstandings. As our findings suggest, these differences vary in amount within and between families. They may characterize one dyad within a family or every relationship in a family. The particular norms and expectations within families about support may lead to greater or less conflict about who gets what type of support and whether support is exchanged in equitable or appropriate ways. Where discrepancies lead to tension and conflict, clinicians may want to explore family members' beliefs about help and about why they believe they are not supported or appreciated to the degree they expect. Examination of expectations may lead to conclusions that exchanges are more equitable than they seem or that the expectations for support are not realistic or cannot be realized, thus leading to a different and possibly more positive basis for the relationship.

Acknowledgments

Funding Acknowledgement:

This study was supported by grants from the National Institute on Aging (NIA), R01AG027769, "Family Exchanges Study II" and "Psychology of Intergenerational Transfers" (PI: Karen L. Fingerman, PhD). This research also was supported by grant, 5 R24 HD042849, awarded to the Population Research Center (PRC) at The University of Texas at Austin by the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD).

References

- Aquilino WS. Two views of one relationship: Comparing parents' and young adult children's reports of the quality of intergenerational relations. *Journal of Marriage and Family*. 1999; 61:858–870.10.2307/354008
- Bengtson VL, Kuypers JA. Generational difference and the developmental stake. *Aging and Human Development*. 1971; 2:249–260.10.2190/AG.2.4.b
- Bianchi, SM.; Evans, VJ.; Hotz, VJ.; McGarry, K.; Seltzer, JA. California Center for Population Research Working Papers, No.20–07. Los Angeles, CA: University of California-Los Angeles; 2007. An assessment of available data and data needs for studying intra- and inter-generational family relationships and behavior.
- Birditt KS, Tighe LA, Fingerman KL, Zarit SH. Intergenerational relationship quality across three generations. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*. 2012; 67:627–638.10.1093/geronb/gbs050
- Cox MJ, Paley B. Families as systems. *Annual Reviews of Psychology*. 1997; 48:243–267.10.1146/annurev.psych.48.1.243

- Davey, A.; Janke, M.; Savla, J. Antecedents of intergenerational support: Families in context and families as context. In: Silverstein, M., editor. *Annual Review of Gerontology and Geriatrics*. New York: Springer; 2004. p. 29-54.
- Davey A, Tucker CJ, Fingerman KL, Savla J. Within-family variability in representations of past relationships with parents. *Journal of Gerontology: Social Sciences*. 2009; 64B:125–136.10.1093/geronb/gbn001
- Fingerman KL, Bermann E. Applications of family systems theory to the study of adulthood. *International Journal of Aging and Human Development*. 2000; 51:5–29.10.2190/7TF8-WB3F-TMWG-TT3K [PubMed: 11130612]
- Fingerman KL, Miller LM, Birditt KS, Zarit SH. Giving to the good and the needy: Parental support of grown children. *Journal of Marriage and Family*. 2009; 71:1220–1233.10.1111/j.1741-3737.2009.00665.x [PubMed: 20161599]
- Fingerman KL, Pitzer LM, Chan W, Birditt K, Franks MM, Zarit SH. Who gets what and why? Help middle-aged adults provide to parents and grown children. *Journal of Gerontology: Social Sciences*. 2010; 66B:87–98.10.1093/geronb/gbq009
- Gagné FM, Lydon JE. Bias and accuracy in close relationships: An integrative review. *Personality and Social Psychology Review*. 2004; 8:322–338.10.1207/s15327957pspr0804_1 [PubMed: 15582857]
- Giarrusso, R.; Feng, D.; Bengtson, VL. The intergenerational stake over 20 years. In: Silverstein, M., editor. *Annual Review of Gerontology and Geriatrics*. New York: Springer; 2005. p. 55-76.
- Grundy E, Henretta JC. Between elderly parents and adult children: A new look at the 'sandwich generation'. *Ageing and Society*. 2006; 26:707–722.10.1017/S0144686X06004934
- Henretta JC, Soldo BJ, van Voorhis MF. Why do families differ? Children's care for an unmarried mother. *Journal of Marriage and Family*. 2011; 73:383–395.10.1111/j.1741-3737.2010.00813.x [PubMed: 22553381]
- Hogan DP, Eggebeen DJ, Clogg CC. The structure of intergenerational exchanges in American families. *American Journal of Sociology*. 1993; 98:1428–1458.10.1086/230194
- Ikkink KK, Van Tilburg T, Knipscheer KCPM. Perceived instrumental support exchanges in relationships between elderly parents and their adult children: Normative and structural explanations. *Journal of Marriage and Family*. 1999; 61:831–844.10.2307/354006
- Katz, R.; Daatland, SO.; Lowenstein, A.; Bazo, MT.; Ancizu, I.; Herlofson, K.; Prilutzky, D. Family norms and preferences in intergenerational relations: A comparative perspective. In: Bengtson, VL.; Lowenstein, A., editors. *Global aging and challenges to families*. New York: Aldine de Gruyter; 2003. p. 305-326.
- Kim K, Zarit SH, Eggebeen DJ, Birditt KS, Fingerman KL. Discrepancies in reports of support exchanges between aging parents and their middle-aged children. *Journal of Gerontology: Psychological Sciences*. 2011; 66B:527–537.10.1093/geronb/gbr029
- Krueger J. Enhancement bias in the description of self and others. *Personality and Social Psychology Bulletin*. 1998; 24:505–516.10.1177/0146167298245006
- Lin IF. Mother and daughter reports about upward transfers. *Journal of Marriage and Family*. 2008; 70:815–827.10.1111/j.1741-3737.2008.00524.x
- Littell, RC.; Milliken, GA.; Stroup, WW.; Wolfinger, RD. *SAS system for mixed models*. Cary, NC: SAS Institute Inc; 1996.
- Lynott PP, Roberts REL. The developmental stake hypothesis and changing perceptions of intergenerational relations, 1971–1985. *The Gerontologist*. 1997; 37:394–405.10.1093/geront/37.3.394 [PubMed: 9203763]
- Mandemakers JJ, Dykstra PA. Discrepancies in parent's and adult child's reports of support and contact. *Journal of Marriage and Family*. 2008; 70:495–506.10.1111/j.1741-3737.2008.00496.x
- McGarry K, Schoeni RF. Transfer behavior within the family: Results from the Asset and Health Dynamics Study. *Journal of Gerontology*. 1997; 52B:82–92.10.1093/geronb/52B.Special_Issue.82
- Minuchin, P. Relationships within the family: A systems perspective on development. In: Hinde, RA.; Stevenson-Hinde, J., editors. *Relationships within families*. Oxford: Oxford University Press; 1988. p. 7-26.

- Pennsylvania State Data Center. Research brief: Standards for defining metropolitan statistical areas announced. Harrisburg, PA: Institute of State and Regional Affairs; 2001.
- Sayer, AG.; Klute, MM. Analyzing couples and families: Multilevel methods. In: Bengtson, VL.; Acock, AC.; Allen, KR.; Dilworth-Anderson, P.; Klein, DM., editors. Sourcebook of family theory and research. Thousand Oak, CA: Sage; 2005. p. 289-314.
- Seltzer JA, Bachrach CA, Bianchi SM, Bledsoe CH, Casper LM, Chase-Lansdale P, DiPrete TA, Hotz VJ, Morgan SP, Sanders SG, Thomas D. Explaining family change and variation: Challenges for family demographers. *Journal of Marriage and Family*. 2005; 67:908–925.10.1111/j.1741-3737.2005.00183.x [PubMed: 20376277]
- Shapiro A. Revisiting the generation gap: Exploring the relations of parent/adult-child dyads. *International Journal of Aging and Human Development*. 2004; 58:127–146. doi: 110.2190/EVFK-7F2X-KQNV-DH58. [PubMed: 15259880]
- Silverstein M, Bengtson VL. Intergenerational solidarity and the structure of adult child-parent relationships in American families. *American Journal of Sociology*. 1997; 103:429–460.10.1086/231213
- Silverstein M, Conroy SJ, Wang H, Giarrusso R, Bengtson VL. Reciprocity in parent-child relations over the adult life course. *Journal of Gerontology: Social Sciences*. 2002; 57B:S3–S13.10.1093/geronb/57.1.S3
- Silverstein M, Gans D, Yang FM. Intergenerational support to aging parents: The role of norms and needs. *Journal of Family Issues*. 2006; 27:1068–1084.10.1177/0192513X06288120
- Suitor JJ, Pillemer K, Sechrist J. Within-family differences in mothers' support to adult children. *Journal of Gerontology: Social Science*. 2006; 61B:S10–S17.10.1093/geronb/61.1.S10
- Swartz TT. Intergenerational family relations in adulthood: Patterns, variations, and implications in the contemporary United States. *Annual Review of Sociology*. 2009; 35:191–212.10.1146/annurev.soc.34.040507.134615
- Umberson D. Relationships between adult children and their parents: Psychological consequences for both generations. *Journal of Marriage and the Family*. 1992; 54:664–674.10.2307/353252
- Vaux, A. Social support: Theory, research, and intervention. New York: Praeger; 1988.
- Ward RA. Multiple parent-adult child relations and well-being in middle and later life. *Journal of Gerontology*. 2008; 63B:S239–S247.10.1093/geronb/63.4.S239
- Willson AE, Shuey KM, Elder GH Jr, Wickrama KAS. Ambivalence in mother-adult child relations: A dyadic analysis. *Social Psychology Quarterly*. 2006; 69:235–252.10.1177/019027250606900302
- Zarit, SH.; Eggebeen, DJ. Parent-child relationships in adulthood and later years. In: Bornstein, MH., editor. Handbook of parenting, Vol.1: Children and parenting. 2. Mahwah, NJ: Lawrence Erlbaum Associates; 2002. p. 135-161.

Figure 1.

These graphs demonstrate significant effects of relationship quality as between-family factors (*family mean*) on dyadic discrepancies in reports of downward exchanges. The first graph describes that in families reporting higher levels of positive relationship quality across family members, children are likely to report receiving more and their parents are likely to report giving less ($B = 0.46, p < .001$). The second graph shows that in families having higher levels of negative relationship quality across family members, parents are likely to report giving more and their children are likely to report receiving less ($B = -0.25, p < .01$).

Table 1

Descriptive Summary for Participants' Characteristics

Characteristics	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)
Individual (<i>N</i> = 1,387)	G1 (<i>n</i> = 337)	G2 (<i>n</i> = 458)	G3 (<i>n</i> = 592)
Age	76.07 (6.32)	50.44 (4.92)	23.80 (5.12)
Male, %	30.6	48.0	45.1
Years of education	12.71 (2.49)	14.19 (2.01)	13.90 (1.81)
Household income	3.01 (1.31)	4.44 (1.41)	3.77 (1.61)
Married, %	47.2	70.7	15.5
Self-rated health	3.08 (1.12)	3.46 (1.04)	3.70 (0.96)
Family obligation	3.78 (0.60)	3.71 (0.48)	3.76 (0.47)
Positive relationship quality ^a	4.35 (0.69)	4.17 (0.71)	4.16 (0.80)
Negative relationship quality ^a	1.66 (0.74)	2.11 (0.88)	2.37 (1.00)
Dyad (<i>N</i> = 929)	G1-G2 (<i>n</i> = 337)	G2-G3 (<i>n</i> = 592)	
Father-Son, %	12.2	22.8	
Father-Daughter, %	18.4	24.3	
Mother-Son, %	28.8	22.0	
Mother-Daughter, %	40.7	30.9	
Coresidence, %	11.6	29.7	
Geographic distance (<i>miles</i>)	248.00 (641.51)	132.34 (439.44)	
Family (<i>N</i> = 458)			
Number of members participating	3.03 (0.93)		
Black, %	33.0		
Number of G2's siblings	3.19 (2.36)		
Number of G3's siblings	2.85 (1.51)		
Family obligation ^b	3.75 (0.33)		
Positive relationship quality ^b	4.19 (0.51)		
Negative relationship quality ^b	2.10 (0.61)		

Notes. G1 = First generation (*older parents of target participants*); G2 = Second generation (*middle-aged target participants*); G3 = Third generation (*adult offspring of target participants*).

^a G1 answered about relationship with G2; G2 provided separate ratings for each G1 and G3; G3 answered about relationship with G2.

^b Average scores of all individual family members' scores.

Table 2

Reports of Support Exchanges between Generations

	Upper generation: G1-G2 (Dyad $n = 337$)			Lower generation: G2-G3 (Dyad $n = 592$)			Total (Dyad $N = 929$)		
	Parent		Paired t	Parent		Paired t	Parent		Paired t
	M (SD)	Child		M (SD)	Child		M (SD)	Child	
<i>Downward exchanges (from parent to child)</i>									
Emotional support	4.86 (2.18)	4.68 (2.12)	1.32	6.03 (1.85)	5.62 (2.16)	4.56***	5.61 (2.05)	5.28 (2.19)	4.32***
Practical assistance	3.39 (2.28)	2.51 (1.82)	7.45***	4.37 (2.11)	4.70 (2.23)	-3.51***	4.02 (2.22)	3.91 (2.34)	1.35
Listening to talk	5.71 (1.77)	5.62 (1.73)	1.02	6.38 (1.58)	6.23 (1.81)	2.17*	6.14 (1.68)	6.01 (1.81)	2.33*
Advice	3.91 (2.04)	4.29 (2.07)	-2.96**	5.56 (1.65)	5.65 (1.87)	-1.11	4.97 (1.97)	5.16 (2.05)	-2.83**
Financial support	2.01 (1.53)	2.10 (1.37)	-0.95	4.35 (2.13)	3.91 (2.30)	4.90***	3.50 (2.24)	3.26 (2.19)	3.76***
Total support ^a	3.97 (1.43)	3.84 (1.40)	1.84	5.34 (1.44)	5.22 (1.66)	1.98*	4.85 (1.58)	4.72 (1.70)	2.69**
<i>Upward exchanges (from child to parent)</i>									
Emotional support	4.75 (2.35)	5.51 (2.00)	-5.57***	4.46 (2.08)	4.86 (2.23)	-4.13***	4.56 (2.19)	5.10 (2.17)	-6.68***
Practical assistance	3.90 (2.34)	4.04 (2.08)	-1.18	3.59 (1.99)	4.35 (2.09)	-8.60***	3.70 (2.12)	4.24 (2.09)	-7.52***
Listening to talk	5.59 (1.87)	6.08 (1.54)	-5.09***	5.99 (1.81)	5.98 (1.88)	0.04	5.84 (1.84)	6.02 (1.77)	-2.89**
Advice	4.11 (2.23)	4.30 (1.86)	-1.42	3.89 (1.92)	4.28 (2.01)	-4.29***	3.97 (2.04)	4.29 (1.96)	-4.24***
Financial support	1.85 (1.63)	2.06 (1.63)	-2.29*	1.72 (1.47)	2.11 (1.59)	-5.34***	1.77 (1.53)	2.09 (1.60)	-5.69***
Total support ^a	4.03 (1.59)	4.39 (1.41)	-4.41***	3.93 (1.40)	4.32 (1.53)	-6.57***	3.97 (1.47)	4.34 (1.48)	-7.90***

Notes. G1 = First generation (i.e., older parents of target participants); G2 = Second generation (i.e., middle-aged target participants); G3 = Third generation (i.e., adult offspring of target participants).

^aMean of five types of support rated from 1 (*less than once a year or not at all*) to 8 (*daily*).

*
 $p < .05$.

**
 $p < .01$.

 $p < .001$.

Table 3

Models for Dyadic Means and Discrepancies in Reports of Downward Exchanges

	Model 1			Model 2			Model 3					
	Dyadic Mean		Discrepancy	Dyadic Mean		Discrepancy	Dyadic Mean		Discrepancy			
	B	(SE)	B	(SE)	B	(SE)	B	(SE)	B	(SE)		
Fixed effect												
Intercept	4.80***	(0.05)	-0.12*	(0.05)	7.05***	(0.50)	-0.05	(0.12)	0.11	(0.75)	-0.55	(0.74)
<u>Within-family factors</u>												
Upper generation (yes = 1)					0.12	(0.25)	-0.06	(0.10)	-0.01	(0.21)	-0.08	(0.10)
Gender composition ^b												
Father-Son					-0.66***	(0.11)	-0.28*	(0.13)	-0.53***	(0.10)	-0.27*	(0.13)
Father-Daughter					-0.49***	(0.10)	-0.33**	(0.12)	-0.41***	(0.09)	-0.33**	(0.12)
Mother-Son					-0.40***	(0.09)	-0.08	(0.12)	-0.34***	(0.09)	-0.11	(0.11)
Living arrangement												
Coresidence (yes = 1)					0.63***	(0.10)	0.19	(0.13)	0.60***	(0.10)	0.17	(0.13)
Geographic distance ^c					-0.12***	(0.02)	0.02	(0.02)	-0.11***	(0.02)	0.01	(0.02)
Family obligation (dev) ^d												
Parent: Obligation					0.31**	(0.10)	-0.16	(0.14)	0.26**	(0.10)	-0.19	(0.14)
Child: Obligation					0.41***	(0.10)	0.33*	(0.14)	0.47***	(0.10)	0.33*	(0.14)
Relationship quality (dev) ^d												
Parent: Positive relationship					0.32***	(0.06)	-0.36***	(0.08)	0.34***	(0.06)	-0.37***	(0.08)
Child: Positive relationship					0.61***	(0.06)	0.60***	(0.07)	0.60***	(0.06)	0.60***	(0.07)
Parent: Negative relationship					0.23***	(0.06)	-0.18*	(0.07)	0.23***	(0.05)	-0.20**	(0.07)
Child: Negative relationship					0.22***	(0.05)	0.04	(0.06)	0.22***	(0.05)	0.04	(0.06)
<u>Between-family factors</u>												
Black (yes = 1)									0.09	(0.09)	0.15	(0.11)
Numbers of G2's siblings									-0.03	(0.02)	0.00	(0.02)
Numbers of G3's siblings									-0.01	(0.02)	0.04	(0.03)
Family obligation (ave) ^e									0.63***	(0.12)	-0.27	(0.15)

	Model 1			Model 2			Model 3					
	Dyadic Mean		Discrepancy	Dyadic Mean		Discrepancy	Dyadic Mean		Discrepancy			
	B	(SE)	B	(SE)	B	(SE)	B	(SE)	B	(SE)		
Positive relationship (ave) ^e							0.91***	(0.08)	0.46***	(0.11)		
Negative relationship (ave) ^e							0.31***	(0.07)	-0.25***	(0.09)		
<u>Demographic controls</u>												
Parent: Age			0.01	(0.01)			0.01	(0.01)				
Child: Age			-0.05***	(0.01)			-0.05***	(0.01)				
Parent: Years of education			0.01	(0.02)			0.01	(0.02)				
Child: Years of education			-0.08***	(0.02)			-0.07**	(0.02)				
Parent: Household income			0.07*	(0.04)			0.07*	(0.03)				
Child: Household income			-0.04	(0.03)			-0.04	(0.02)				
Parent: Married (yes = 1)			-0.06	(0.09)			-0.05	(0.09)				
Child: Married (yes = 1)			-0.21*	(0.10)			-0.20*	(0.09)				
Parent: Self-rated health			0.02	(0.04)			-0.01	(0.03)				
Child: Self-rated health			-0.00	(0.04)			-0.02	(0.03)				
Random effect												
Level 2 VAR (dyad)	1.86***	(0.13)	1.21***	(0.11)	0.64***	(0.05)	0.98***	(0.09)	0.62***	(0.05)	0.96***	(0.09)
Level 3 VAR (family)	0.20***	(0.09)	0.31***	(0.09)	0.36***	(0.06)	0.27***	(0.08)	0.13***	(0.04)	0.21***	(0.08)
-2 Log Likelihood			5838.9				5214.1				5053.2	

Notes.

^a Negative discrepancy scores indicate parents reporting more than children reporting; positive discrepancy scores indicate children reporting more than parents reporting.

^b Mother-daughter dyads were used as a reference group.

^c Logged miles.

^d Deviation scores from family mean scores (i.e., family mean centered).

^e Average scores of all individual family members' scores (i.e., family mean).

* $p < .05$.

** $p < .01$.

.100) > *p*

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

Table 4

Models for Dyadic Means and Discrepancies in Reports of Upward Exchanges

	Model 1			Model 2			Model 3					
	Dyadic Mean		Discrepancy	Dyadic Mean		Discrepancy	Dyadic Mean		Discrepancy			
	B	(SE)	B	(SE)	B	(SE)	B	(SE)	B	(SE)		
<i>Fixed effect</i>												
Intercept	4.18***	(0.74)	0.39***	(0.05)	4.97***	(0.48)	0.44***	(0.13)	-0.93	(0.73)	-0.02	(0.82)
<i>Within-family factors</i>												
Upper generation (yes = 1)					0.06	(0.24)	0.02	(0.10)	0.01	(0.21)	0.01	(0.11)
Gender composition ^b												
Father-Son					-0.83***	(0.11)	-0.30*	(0.14)	-0.74***	(0.09)	-0.28	(0.14)
Father-Daughter					-0.78***	(0.09)	-0.28*	(0.13)	-0.71***	(0.09)	-0.28*	(0.13)
Mother-Son					-0.32***	(0.09)	0.07	(0.12)	-0.29***	(0.08)	0.08	(0.12)
Living arrangement												
Coresidence (yes = 1)					0.80***	(0.10)	0.33*	(0.14)	0.78***	(0.09)	0.34*	(0.14)
Geographic distance ^c					-0.13***	(0.02)	-0.01	(0.02)	-0.13***	(0.02)	0.01	(0.02)
Family obligation (<i>dev</i>) ^d												
Parent: Obligation					0.25**	(0.10)	-0.39**	(0.15)	0.20*	(0.09)	-0.39**	(0.15)
Child: Obligation					0.15	(0.10)	0.15	(0.15)	0.21*	(0.09)	0.17	(0.15)
Relationship quality (<i>dev</i>) ^d												
Parent: Positive relationship					0.43***	(0.06)	-0.39***	(0.09)	0.45***	(0.05)	-0.39***	(0.09)
Child: Positive relationship					0.39***	(0.05)	0.31***	(0.08)	0.38***	(0.05)	0.30***	(0.08)
Parent: Negative relationship					0.19***	(0.05)	0.00	(0.08)	0.18***	(0.05)	0.01	(0.08)
Child: Negative relationship					0.16***	(0.04)	0.08	(0.07)	0.16***	(0.04)	0.08	(0.07)
<i>Between-family factors</i>												
Black (yes = 1)									-0.00	(0.09)	0.14	(0.12)
Numbers of G2's siblings									-0.03	(0.02)	0.01	(0.02)
Numbers of G3's siblings									0.02	(0.02)	-0.04	(0.04)
Family obligation (<i>ave</i>) ^e									0.38***	(0.11)	0.15	(0.17)

	Model 1			Model 2			Model 3				
	Dyadic Mean		Discrepancy	Dyadic Mean		Discrepancy	Dyadic Mean		Discrepancy		
	B	(SE)	B	(SE)	B	(SE)	B	(SE)	B	(SE)	
Positive relationship (ave) ^e							0.97***	(0.08)	-0.07	(0.12)	
Negative relationship (ave) ^e							0.28***	(0.07)	0.10	(0.10)	
<i>Demographic controls</i>											
Parent: Age			0.03**	(0.01)			0.03***	(0.01)			
Child: Age			-0.03***	(0.01)			-0.02**	(0.01)			
Parent: Years of education			0.01	(0.02)			-0.00	(0.02)			
Child: Years of education			-0.03	(0.02)			-0.02	(0.02)			
Parent: Household income			-0.10**	(0.04)			-0.10**	(0.03)			
Child: Household income			0.02	(0.02)			0.03	(0.02)			
Parent: Married (yes = 1)			-0.07	(0.09)			-0.09	(0.08)			
Child: Married (yes = 1)			-0.04	(0.10)			-0.05	(0.09)			
Parent: Self-rated health			-0.13**	(0.04)			-0.15***	(0.03)			
Child: Self-rated health			-0.00	(0.03)			-0.02	(0.03)			
<i>Random effect</i>											
Level 2 VAR (dyad)	1.14***	(0.08)	1.41***	(0.12)	0.54***	(0.04)	1.24***	(0.11)	0.54***	(0.04)	1.22*** (0.11)
Level 3 VAR (family)	0.42***	(0.09)	0.30**	(0.10)	0.37***	(0.06)	0.29**	(0.09)	0.37***	(0.06)	0.29*** (0.09)
-2 Log Likelihood			5674.6				5241.3				5120.9

Notes.

^a Negative discrepancy scores indicate parents reporting more than children reporting; positive discrepancy scores indicate children reporting more than parents reporting.

^b Mother-daughter dyads were used as a reference group.

^c Logged miles.

^d Deviation scores from family mean scores (i.e., family mean centered).

^e Average scores of all individual family members' scores (i.e., family mean).

* $p < .05$.

** $p < .01$.

.100) > *p*

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript