

PARENTS' AND ADULT CHILDREN'S REPORTS OF INTERGENERATIONAL TRANSFERS

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Funding: This research was supported by a PSID pilot grant from the University of Michigan and by the BGSU Center for Family and Demographic Research which is funded by the Eunice Kennedy Shriver National Institute of Child Health and Human Development (R24HD050959).

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## ABSTRACT

**OBJECTIVES:** Parents' and adult children's reports of transfers do not always agree, because parents and their children have respective biases. This study demonstrates a method to isolate reporting biases and identify the correlates of transfers, net of biases.

**METHOD:** The analysis was based on 4,947 parent-child dyads from the Family Roster and Transfer Module added to the 2013 wave of the Panel Study of Income Dynamics. Drawing on classical test theory, a multiple-indicators-and-multiple-causes (MIMIC) model was used to decompose parents' and adult children's reports of time and money transfers into a latent factor indicating the commonality of these reports and unique factors indicating reporting biases. This model further identified covariates associated with transfers, net of biases.

**RESULTS:** A substantial amount of disagreement (20-33%) existed between parents' and adult children's reports. Use of parents' reports or children's reports did not identify the same covariates. A MIMIC model that controlled for reporting biases identified different covariates of transfers, indicating that reporting biases affect the identification of covariates of transfers.

**DISCUSSION:** Reporting biases are common when addressing questions regarding intergenerational transfers. When biases in reports are not controlled for, many covariates of transfers are erroneously identified or not identified.

**KEY WORDS:** downward transfer, money, reporting bias, time, upward transfer

## INTRODUCTION

Parents and children exchange support throughout their lives. Parents continue providing support to children after they launch into adulthood, and adult children give assistance to aging parents when they develop difficulties in everyday functioning. Intergenerational exchange is key to maintaining a stable society, and as such, it has stimulated much research interest across disciplines (Booth, Crouter, Bianchi, & Seltzer, 2008). Researchers typically have relied on either parents or adult children to obtain information about intergenerational transfers (Bianchi, Evans, Hotz, McGarry, & Seltzer, 2007). Nevertheless, parents' and adult children's reports of transfers are likely to be compromised by their subjective bias (Walker, Pratt, Martell, & Martin, 1991; Zweibel & Lydens, 1990), subsequently affecting estimates of the prevalence of intergenerational transfers and the identification of covariates that are related to transfers.

A better approach to understanding transfers between parents and adult children would be to obtain information from both parties involved. Because of survey costs, few studies have attempted to interview both parents and adult children and ask them about the same transfer. A handful of studies that have collected information on intergenerational transfers from both parents and adult children have focused on whether parents and adult children provide congruent reports about the transfers and what covariates are associated with discrepancies (e.g., Kim, Zarit, Eggebeen, Birditt, & Fingerman, 2011; Mandemakers & Dykstra, 2008; Shapiro, 2004). These studies, however, have not addressed the question of how to reconcile discrepant reports and how to identify the covariates of actual intergenerational transfers.

This study goes beyond prior research by conceptualizing that the discord occurs because parents and adult children include their respective biases in reports. Using a multiple-indicators-and-multiple-causes (MIMIC) model, based on classical test theory (McDonald, 1999; Nunnally

& Bernstein, 1994), this study separated the common factor (true transfer hereafter) from biases embedded in parents' and adult children's reports and identified the correlates of transfers, net of biases. Specifically, three questions were addressed. First, how much do parents and adult children disagree on transfers from parents to adult children (downward transfer) as well as transfers from adult children to parents (upward transfer)? Second, can the same set of correlates of downward or upward transfer be identified using only parents' or adult children's reports? Third, after biases in reports are controlled for, what correlates of downward and upward transfers are identified? Findings from the study are expected to improve our understanding of intergenerational transfers.

*Covariates associated with intergenerational transfers*

Parents' and adult children's need for support and ability to help both mobilize intergenerational assistance and affect whether parents and adult children are givers or recipients of transfers. Prior studies have found that parents with fewer economic resources, such as those who are non-working and have less education and lower incomes, are less likely to provide help but more likely to receive help from adult children (Berry, 2008; Clark & Kenney, 2010; Pezzin, Pollak, & Schone, 2015). As parents age, they are prone to experience poorer health, and thus they need more support and are less capable of providing support to children (Henretta, Soldo, & Van Voorhis, 2011; Henretta, Van Voorhis, & Soldo, 2014; Spitze & Logan, 1990). Parents with a spouse or partner have more resources to assist children and are less likely to rely on adult children for assistance (Berry, 2008; Dwyer & Coward, 1991; Silverstein, Conroy, & Gans, 2008). Because of cultural norms and cumulative disadvantages, Black and Hispanic parents are less likely than White parents to make transfers to adult children, but they are more likely to rely on adult children for time and money transfers (Fingerman, VanderDrift, Dotterer, Birditt, &

Zarit, 2011; Henretta et al., 2014; Wong, Kitayama, & Soldo, 1999). Family composition also determines how parental resources are allocated. Holding parental resources constant, the more children a parent has, the fewer resources she can give to each child, as providing help to some children diminishes the parent's ability to help other children (Berry, 2008; Clark & Kenney, 2010). Yet, the more children a parent has, the more likely she will receive support from children, though help received from some children may discourage help from other children (Henretta et al., 2011; Pezzin et al., 2015; Wolf, Freedman, & Soldo, 1997).

Adult children's need for support and ability to help also contribute to intergenerational transfers. Partly due to gender-role expectations, daughters are more likely than sons to engage in exchanges with their parents (Henretta et al., 2014; Pillemer & Sutor, 2013). Adult children with more resources, such as those who are working and have more education, higher incomes, and better health, are less likely to receive support from but more likely to give support to parents (Eggebeen & Hogan, 1990; McGarry & Schoeni, 1995; Sutor, Pillemer, & Sechrist, 2006). Children with a spouse or partner who can help them in times of need are less likely to engage in exchanges with parents than unpartnered children (Henretta et al., 2014; Pezzin et al., 2015). When adult children have minor offspring, they are more likely to receive help from but less likely to give support to parents (Henretta et al., 2011; Sarkisian & Gerstel, 2008). Receiving help from parents-in-law reduces adult children's need for help from their parents, whereas providing help to parents-in-law decreases adult children's ability to help their parents (Shuey & Hardy, 2003). Adult children who live with their parents tend to engage in more exchanges than adult children who live apart from their parents (Silverstein et al., 2008; Spitze & Logan, 1990).

*Giver vs. recipient role related to bias in reports of transfers*

A major limitation in studies of intergenerational transfers is that transfers involve two

parties—parents and their children, but these two parties do not necessarily provide congruent reports about the same transfer (Kim et al., 2011; Mandemakers & Dykstra, 2008; Roan, Hermalin, & Ofstedal, 1996; Rossi & Rossi, 1990; Shapiro, 2004). Discrepancies likely emerge because individuals perceive transfers differently depending on whether they are givers or recipients.

Intergenerational solidarity theory and self-enhancement theory explain why givers and recipients make different reporting errors. Intergenerational solidarity theory (Roberts, Richards, & Bengtson, 1991) argues that family members are expected to support each other for the common good and reduce conflict within the family. Thus, recipients and givers may provide biased reports to exhibit family solidarity. Specifically, givers may under-report the incidence of transfers to avoid hurting the feelings of family members they attempt to help and widening the gap between them and other family members that cannot provide help. In contrast, recipients may over-report the incidence of transfers, as it indicates how much family members are willing to help each other during predicaments.

Self-enhancement theory conjectures that individuals tend to enhance self-worth by emphasizing desirable behaviors and de-emphasizing undesirable behaviors (Krueger, 1998). Thus, bias in reports can be viewed as a way to boost self-concept. Givers may over-report the incidence of transfers to underscore their ability to help other people, while recipients may under-report the incidence of transfers, because receiving help from the other generation implies a lack of independence. In sum, intergenerational solidarity theory and self-enhancement theory provide opposite predictions on whether givers and recipients would over- or under-report transfers.

Reporting bias of givers and recipients poses a methodological challenge for researchers

attempting to identify the correlates of transfers, because the covariates that are associated with intergenerational transfers also relate to reporting biases. For instance, a recent study of upward transfers (household chores, care, gifts, and expenses) from adult daughters to mothers (Lin, 2008) shows that three covariates relate not only to transfer but also to bias. Mothers with more functional limitations are more likely to receive gifts from daughters, but they also tend to under-report the incidence of receiving gifts. Widowed mothers are more likely to receive help with expenses from daughters, and daughters are prone to over-report the provision of such help. Finally, greater distance between mothers' and daughters' residences reduces transfers from daughters to mothers, but distant daughters tend to over-report the incidence of gift-giving. Thus, an analytic approach that identifies the covariates of transfers while controlling for the associations between these covariates and reporting bias is needed. Conventional methods, such as choosing an optimal informant, conducting separate analyses by informants, or averaging reports from multiple informants, fall short in this regard. In this study, we used a MIMIC model that is based on classical test theory to separate true transfers from biases in reports and identify the covariates of true transfers, net of biases.

#### *Classical test theory and the MIMIC model*

Classical test theory is a psychometric theory of scale development. Classical test theory assumes that respondents have the true scores on the construct being measured (McDonald, 1999; Nunnally & Bernstein, 1994). True scores are not directly observable but can be estimated from respondents' answers to a series of related questions. When reports about transfers from parents and adult children are treated as scale questions measuring the same underlying construct, the covariance among parents' and adult children's reports can be partitioned into two components: the shared variance attributable to the latent, common factor of all items and the

unique variance within each item that is not accounted for by the latent factor. Therefore, classical test theory can be used to distinguish the true transfer (i.e., shared variance) from biases (i.e., uniqueness) of parents' and adult children's reports. When regression analysis is combined with classical test theory, a MIMIC model is formed, which can be used to examine the respective associations of covariates with the latent, common factor and the unique variance (Fleishman, Spector, & Altman, 2002; Gallo, Anthony, & Muthén, 1994; Grayson, Mackinnon, Jorm, Creasey, & Broe, 2000). In other words, the MIMIC model identifies covariates of transfer, net of their associations with reporting biases.

As far as we know, only one study has adopted this analytic strategy to examine intergenerational transfers. Using the 1997 National Longitudinal Surveys of Mature Women and Young Women, Lin (2008) found that questions about different types of upward transfers contained different degrees of bias, with questions about gifts containing the most bias and the question about household chores containing the least bias. The level of bias also varied depending on who provided the information about the transfers. Recipients (mothers) tended to provide more reliable reports of transfers than givers (daughters). Moreover, reporting bias can impede the identification of covariates of transfer. Using mothers' reports identified three covariates of transfers, but only one of them was identified after covariates' associations with bias was taken into account. Similarly, using daughters' reports identified six covariates, but only two of them were identified after covariates' associations with bias were considered. These findings provide strong evidence that when biases in reports are not controlled for, the analysis is unlikely to accurately identify the correlates of transfer. Lin's study, however, focused exclusively on the upward transfer of mother-daughter dyads and did not provide a full picture of bi-directional transfers between parents and adult children.

### *The current study*

Social scientists have long been interested in understanding how intergenerational transfers take place within the family and how such transfers influence individuals' well-being. Researchers, however, often have found divergent reports about the same transfer between family members (Roan et al., 1996; Rossi & Rossi, 1990), suggesting that some reports include not only information about true transfers but also family members' subjective bias toward the transfers. When reports on transfers are tainted with subjective bias, researchers cannot ascertain whether the associations found between covariates and transfers represent the true associations or the associations with bias. Building on Lin's study (2008), we applied the MIMIC model to analyze both downward and upward transfers between parents and adult children of different genders. The study aimed to identify the covariates of intergenerational transfer, net of biases embedded in parents' and adult children's reports.

### METHOD

Data came from the Family Roster and Transfer Module, a sub-study of the 2013 wave of the Panel Study of Income Dynamics (PSID). The PSID began in 1968 with a sample of 18,230 individuals living in 4,802 households. These individuals are said to have the PSID gene. All individuals who were born to or adopted by someone with the PSID gene obtain the gene themselves and have been followed annually until 1997 and every other year afterwards. In 2013, the Family Roster and Transfer Module was implemented to aid understanding the structure of extended families and the flow of intergenerational assistance within and between households in contemporary American society (Schoeni, Bianchi, Hotz, Seltzer, & Wiemers, 2015). PSID respondents were asked to provide information about their parents, stepparents, parents-in-law, children, and stepchildren, as well as about the time and money transfers exchanged between

them and their parents (younger than 80 years old) and adult children (age 18 or older). In total, 9,063 households containing 13,697 individuals were interviewed, with a response rate of 91% (PSID main interview user manual, 2015).

In this study, we focused on transfers of time and money between 4,947 parent-child dyads, resulting from 4,792 unique adult children and 2,702 unique parent units (mother-only units, father-only units, or two-parent units). The number of unique adult children was larger than that of unique parent units, because some parents had more than one child participating in PSID. The number of parent-child dyads was larger than that of unique adult children, because some parents resided in separate households after separation or divorce. This is by far the largest-scale U.S. study that provides information on intergenerational transfers from both parents and their adult children.

### *Measures*

The dependent variables are incidences of downward and upward time and money transfers last year (1 = yes, gave or received, 0 = no). Time transfers include help with errands, rides, chores, babysitting, or hands-on care. Money transfers refer to giving or receiving any money, loans, or gifts of \$100 or more. Although the survey also asked about the amount of transfers, the majority reported no transfer, and thus this analysis used only dichotomous measures.

We constructed a series of variables from the main PSID interview to capture parents' and adult children's need for support and ability to help. The same operationalization was applied to the following variables for both parents and adult children: age, education, race and ethnicity, employment status, and family income. Age and education were measured in years. In the preliminary analysis, no significant difference between Blacks and Hispanics was found, so

we used Whites (reference group) versus nonwhites to simplify the analysis. Health was gauged using the total number of Activities of Daily Living (ADL) or Instrumental Activities of Daily Living (IADL). Family incomes were measured in 2013 dollars. In cases where parent units included both mother and father, we took the average of both spouses' information for age, education, and ADL or IADL difficulties and used whether any spouse was nonwhite or working for the variables race-ethnicity and employment status, respectively.

Other variables were constructed slightly differently for parent units and adult children. Parents units encompassed mother-only units, father-only units, and two-parent units (reference group). Because the parent-unit measure mixed gender and partnership status, gender (1 = daughter; 0 = son) and partnership status (1 = married or cohabiting; 0 = unpartnered) were available only for adult children. The number of children parents had was treated as a continuous variable, because having a larger number of children is likely to reduce parents' need for support and ability to help, whereas any presence of minor offspring in adult children's household (1 = yes; 0 = no) tends to increase adult children's need for support but decrease their ability to help. A series of dichotomous variables was created to indicate whether the parent units gave or received time or money transfers to or from children other than those in the parent-child dyads, as well as whether children gave or received time or money transfers to or from their parents-in-law (1 = yes; 0 = no).

#### *Analytic strategy*

Three analyses were conducted. First, we examined parents' and adult children's agreement on downward and upward time and money transfers using cross-tabulation and Kappa statistics. The agreement is considered excellent when the Kappa statistic is greater than 0.75 and poor when it is below 0.40 (Fleiss, Levin, & Paik, 2003). In the second analysis, we asked

whether the same correlates of intergenerational transfers would be identified using either parents' or adult children's reports, and thus we estimated separate logistic regressions using only parents' reports or only children's reports of downward and upward transfers. Last, we estimated MIMIC models to identify the covariates of transfers using parents' and children's reports together. The MIMIC model was estimated separately for downward and upward transfers.

As illustrated in Figure 1, the MIMIC model consists of two components: a factor analysis and a regression analysis. The formulation of the factor analysis is based on classical test theory in the psychometric literature (McDonald, 1999; Nunnally & Bernstein, 1994). Specifically, classical test theory assumes that the variances of scale items come from two sources: (a) the common factor that an item shares with the rest of the other items (i.e., true transfer) and (b) factors that are item-specific and not shared among items (i.e., item bias). Parents' and children's reports on intergenerational transfers can be viewed as scale items measuring the same underlying construct. The factor analysis allows for identifying these two types of factors underlying parents' and children's reports. The regression analysis estimates two sets of regression paths linking covariates to these two factors. The first set of paths (c) links the informants' characteristics to their reports, denoting the associations between covariates with variances in the reports that are not explained by the common factor. The second set of paths (d) connects the informants' characteristics to the common factor, indicating the associations between covariates and the true transfer, net of covariates' associations with bias. In addition, we allowed measurement errors from the same source of informant (parents or adult children) and from the same type of transfer (time or money) to be correlated.

The MIMIC model allows researchers to conduct the factor analysis and the regression

analysis simultaneously. Factor loadings in the factor analysis indicate the reliability of items, because they measure how well observed items are correlated with a latent, theoretical construct of interest (Bohrnstedt, 1983). Items with higher values in factor loadings are considered more reliable indicators of the common factor than items with lower values. Coefficients from the regression analysis are used to identify which covariates are associated with the true transfer only, bias only, and both the true transfer and bias. To achieve model identification, we set the latent factor mean to 0 and the variance to 1. We first allowed the paths from all covariates to the common factor and individual items to be freely estimated and then gradually constrained nonsignificant paths to be 0. The more-restricted models were compared with the less-restricted models to examine whether constraining some paths to 0 would significantly worsen the model's fit (not shown but available upon request). We presented the final model containing only significant coefficients. Goodness of fit was assessed using the comparative fit index (CFI), the Tucker–Lewis index (TLI), and the root mean square error of approximation (RMSEA). CFI and TLI values in excess of 0.95 and RMSEA values smaller than 0.06 are indicative of well-fitting models (Hu & Bentler, 1999).

A statistical concern arising from the inclusion of multiple children or multiple parent units is that observations from the same family tend to be correlated, thereby violating the classical assumption of independence among observations. Statistical methods that ignore the nested structure of data generally underestimate the variance of estimated coefficients. To address this problem, we used Huber-White estimators (Johnson & DiNardo, 1997) to provide robust standard errors of the coefficients in the presence of clustering. A multiple imputation procedure was used to handle missing cases such that the missing value for a single variable was imputed as a function of other covariates in the analysis (Acock, 2005). To preserve the

randomness of the imputed variables, the study results were based on 10 random, multiple-imputed replicates.

## RESULTS

### *Characteristics of parents and adult children*

With regards to parents' characteristics, Table 1 shows that 32% of parent units were mother-only, 8% were father-only, and 60% (=100% - 32% - 8%) were two-parent units. On average, these parents were 61 years old and had received 13 years of education. Two fifths of parents were nonwhite and more than 60% of parents were working at the time of interview. These parents had an average income of \$71,000, one ADL or IADL difficulty, and two children. Perhaps because most parents in the study were relatively healthy and economically well-off, downward transfer was more prevalent than upward transfer. Approximately 53% and 52% of the parents gave time and money transfers, respectively, to children other than the children in the dyads, while the numbers for upward time and money transfers to other children were 41% and 17%, respectively.

[Table 1 about here]

As for children's characteristics, more daughters than sons were in the dyads (55% versus 45%). These children averaged 37 years old. Overall, they had received more years of education (14), were more likely to be working (76%), and had higher incomes (\$72,000) than their parents, but they were less likely to be married or cohabiting (46%) and had fewer ADL or IADL difficulties (0.25) than their parents. Nearly one half of the adult children (49%) had an offspring living in the household at the time of interview. While 16% and 6% of the children reported giving time and money transfers, respectively, to their parents-in-law, 14% and 8% of the children reported receiving time and money transfers, respectively, from their parents-in-law.

Finally, about 7% of the parent-child dyads were residing in the same household.

*Disagreement between parents' and adult children's reports*

Table 2 depicts the cross-tabulation for the occurrence of assistance reported by parents and their children, separately by the direction and type of transfers. For downward transfers, 31% of parent-child dyads provided discrepant reports about time transfer and 29% provided such reports about money transfer. Kappa statistics measuring the agreement between parents and adult children on downward transfers of time and money were merely 0.30 and 0.28, respectively. For upward transfers, 33% and 20% of parent-child dyads gave inconsistent reports about time transfers and money transfers, respectively. The Kappa statistics for upward transfers of time and money were 0.25 and 0.18, respectively, which were even smaller than those for downward time and money transfers. Thus, parents and adult children generally provided very divergent reports about both downward and upward transfers of time and money (all below 0.40).

[Table 2 about here]

*Correlates of transfers identified using only parents' or adult children's reports*

Given that parents and adult children provided divergent reports about downward and upward transfers, we further examined whether such differences led to the identification of different correlates of transfers. Logistic regression analyses were conducted for downward and upward transfers separately using either parents' or adult children's reports. The results are shown in Tables 3A and 3B for downward transfers and upward transfers, respectively.

As indicated in Table 3A, seven parents' characteristics, five adult children's characteristics, and parent-child coresidence were significant covariates of downward time transfer reported by parents. When adult children's reports were used, five parents'

characteristics, six adult children's characteristics, and parent-child coresidence were significant. Among these 16 significant covariates, parents and adult children disagreed on 7 covariates.

[Tables 3A about here]

Concerning downward money transfer, seven parents' characteristics and four adult children's characteristic were identified as significant covariates of downward money transfer reported by parents. When adult children's reports were used, five parents' characteristics, seven adult children's characteristics, and parent-child coresidence were found to be significant. Among these 16 significant covariates, parents and adult children differed on 8 of them.

When covariates of downward transfers of time and money were examined jointly, only three parents' characteristics (number of children and giving time or money to other children) and three adult children's characteristics (being married, age, and receiving money from parents-in-law) were consistently found to be significant covariates of downward transfers. Other than these covariates, different covariates were identified depending on whether it was parents or adult children who provided the information on transfers.

Now turning to upward transfers shown in Table 3B, five parents' characteristics, one adult children's characteristic, and parent-child coresidence were significant covariates of upward time transfers reported by parents. When adult children's reports were used, seven parents' characteristics, six adult children's characteristics, and parent-child coresidence were found to be significant. Among these 15 significant covariates, parents and adult children disagreed on 9 of them.

[Tables 3B about here]

For upward money transfer, three parents' characteristics and three adult children's characteristics were significant covariates of upward money transfer reported by parents. When

adult children's reports were used, three parents' characteristics, six adult children's characteristics, and parent-child coresidence were found to be significant. Among these 12 significant covariates, parents and adult children differed on 8 covariates.

When covariates of upward transfers of time and money were examined jointly, two of the parents' characteristics (receiving time or money transfer from other children) and two adult children's characteristics (giving time or money transfer to parents-in-law) were consistently found to be significant covariates of upward transfers. Thus, the question of which characteristics would be identified as significant covariates of upward transfers depends on whether it is parents or adult children who report about the transfers.

Together, these findings suggest that the discrepancies between parents' and adult children's reports of transfers lead to the identification of different covariates of downward and upward transfers alike. Unless researchers find ways to reconcile these discrepant reports, it is unlikely that one would be able to ascertain which covariates that parents and adult children disagree upon are truly correlated with transfers.

#### *Correlates of transfers, net of reporting bias*

The MIMIC model was used to separate true transfer from bias and examine which covariates are associated with transfer, net of bias. The results for downward transfer are shown in Table 4A. Overall, the model fit data well, as the model fit statistics RMSEA, CFI, and TLI were 0.024, 0.974, and 0.949, respectively. The factor analysis component of the MIMIC model revealed that the four indicators of downward transfer—parents' reports of time and money transfers and adult children's reports of time and money transfers—had residual variances of 0.36, 0.51, 0.40, and 0.65, respectively. This suggests that a fair amount of variance in these items was unrelated to the latent construct—true downward transfer. The magnitude of the factor

loading coefficient indicated how reliable each item was for measuring the true downward transfer. It appears that parents' reports of time transfer was the most reliable item (0.54), followed by adult children's reports of time transfer (0.48), adult children's reports of money transfer (0.40), and parents' reports of money transfer (0.29).

[Tables 4A about here]

The regression analysis component of the MIMIC model indicated that biases in parents' and adult children's reports were associated with many covariates that prior studies have shown to be predictive of downward time transfer. Specifically, single mothers (0.15), single fathers (0.28), and parents who transferred time to other children (0.71) tended to over-report the provision of time transfers, supporting the prediction based on self-enhancement theory; whereas older parents (-0.02), minority parents (-0.28), parents with higher incomes (-11.63) or more children (-0.09), and parents who lived with the children in the dyads (-0.56) were likely to under-report the transfers, consistent with intergenerational solidarity theory. Children with more ADL/IADL difficulties (0.07), working children (0.15), and children who received time transfers from parents-in-law (1.05) were prone to over-report the receipt of time transfers, congruent with intergenerational solidarity theory; whereas older children (-0.01) and married children (-0.46) were inclined to under-report the transfers, consonant with self-enhancement theory.

Some characteristics of parents and adult children were found to be related to biases in reports of downward money transfer. Consistent with intergenerational solidarity theory, minority parents (-0.22), parents with more children (-0.17), and parents who lived with the children in the dyads (-0.38) were likely to under-report the provision of transfers; and educated children (0.04) and children who received money transfers from parents-in-law (1.30) were inclined to over-report the receipt of money transfers. In line with self-enhancement theory,

single mothers (0.17), single fathers (0.46), educated parents (0.07), working parents (0.13), and parents who transferred money to other children (0.91) tended to over-report the provision of money transfers; whereas married children (-0.35), children who had a minor offspring at home (-0.44), and children who lived with the parents in the dyads (-0.44) were prone to under-report the receipt of transfers. Together, these findings suggest that both intergenerational solidarity theory and self-enhancement theory are applicable to explaining reporting biases in downward transfers, depending on which aspect of parents' and adult children's need for support and ability to help is being considered.

By taking into account the association that parents' and adults children's characteristics have with biases in reports, the MIMIC model can identify which characteristics are predictive of downward transfer, net of bias. The results shown in Table 4A illustrate that when parents' and adult children's reports were considered together, seven parents' characteristics, six adult children's characteristics, and parent-child coresidence were related to downward transfers. In comparison to the results shown in Table 3A, using either parents' or adult children's reports correctly identified four covariates (number of children, whether parents gave money transfer to other children, and children's marital status and age), inconsistently identified nine covariates (single-father units; parents' age, education, ADL/IADL difficulties, and income; children's gender, employment status, and presence of offspring; and parent-child coresidence), and completely missed one covariate (children's income).

The results for upward transfer are displayed in Table 4B. The model also fit the data well, as the model fit statistics RMSEA, CFI, and TLI were 0.021, 0.966, and 0.946, respectively. Similar to results shown in Table 4A, the factor analysis of the MIMIC model revealed a fair amount of variance in the indicators of transfers that was unrelated to the latent

construct (0.39 for parents' reports of time transfer, 0.45 for adult children's report of time transfer, 0.57 for parents' reports of money transfer, and 0.79 for adult children's reports of money transfer). In addition, adult children's reports of time transfer was the most reliable item (0.65), followed by parents' reports of time transfer (0.61), parents' reports of money transfer (0.29), and adult children's reports of money transfer (0.19).

[Tables 4B about here]

The regression analysis component of the MIMIC model also indicated that biases in parents' and adult children's reports were associated with many covariates that prior studies have shown to be predictive of upward time transfer. Specifically, single mothers (0.21), single fathers (0.28), and parents who received time transfers from children other than those in the dyad (0.71) tended to over-report the receipt of time transfers, supporting the predication based on intergenerational solidarity theory; whereas older parents (-0.02) and parents with more children (-0.10) were likely to under-report transfers, congruent with self-enhancement theory. Children who transferred time to parents-in-law (0.70) were prone to over-report the provision of time transfers, in line with self-enhancement theory; whereas married children (-0.51) and children with high incomes (-7.37) were inclined to under-report transfers, consistent with intergenerational solidarity theory.

As for upward money transfer, consonant with the prediction based on intergenerational solidarity theory, single mothers (0.35) and parents who received money transfers from other children (1.12) tended to over-report the receipt of money transfers; and married children (-0.40) were prone to under-report the provision of transfers. Congruent with self-enhancement theory, older parents (-0.02) were likely to under-report the receipt of transfers, and minority children (0.36), educated children (0.04), and children who transferred money to parents-in-law (1.58)

were inclined to over-report the provision of money transfers. These findings indicate that both intergenerational solidarity theory and self-enhancement theory are pertinent in understanding motivations for biases in reports of transfers.

When considering parents' and adult children's reports together, we found that seven parents' characteristics, six adult children's characteristics, and parent-child coresidence were related to upward transfer. In comparison to the results shown in Table 3B, using either parents' or adult children's reports correctly identified two covariates (whether parents received time transfers from other children and whether children transferred time to parents-in-law) and inconsistently identified 12 covariates (single-mother units; single-father units; parents' age, ADL/IADL difficulties, employment status, and number of children; children's gender, marital status, age, education, and presence of offspring; and parent-child coresidence).

#### DISCUSSION

Prior research on intergenerational transfers has relied mainly on either parents' or adult children's reports, yet parents and adult children often provide divergent reports about the same transfer. Studies that collect information on intergenerational transfers from both parents and adult children have focused on documenting the extent of discrepant reports and covariates associated with the discrepancies (Kim et al., 2011; Mandemakers & Dykstra, 2008). This study has gone beyond past studies by conceptualizing that the differences in reports result from parents' and adult children's respective positions in the exchange process. A MIMIC model, based on classical test theory, was used to separate reporting bias from the true transfer and identify the correlates of transfer, net of bias.

We found little agreement between parents' and adult children's reports about transfers, with the Kappa statistics ranging from 0.18 to 0.30. Different covariates were found to be related

to downward and upward transfers of time and money, depending on whether parents' or adult children's reports were used. The MIMIC model revealed a substantial amount of variation in parents' and adult children's reports that was unrelated to the true transfer (i.e., bias in reports). Similar to prior research, we found that some covariates indicating parents' and adult children's need for support and ability to help were associated with upward and downward transfers. Nevertheless, many of these covariates were also correlated with biases in reports of transfers, an issue that prior research has rarely addressed. In sum, these findings underscore the presence of biases in parents' and adult children's reports and demonstrate how to use the MIMIC model to identify the correlates of upward and downward transfers, net of biases.

The study has several limitations that merit further studies. First, parents and adult children exchange both tangible and intangible supports. This study focused on only two types of exchange—time and money. The study would benefit from incorporating other dimensions of intergenerational assistance, such as emotional support. Second, this study addressed how parents' and adult children's need for support and ability to help are associated with transfers and reporting biases. The pattern of intergenerational assistance depends on not only parents' and adult children's current situations but also their relationship history (Henretta et al., 2011; Leopold & Raab, 2013). Studies that incorporate parent-child relationships or exchanges earlier in the life course would help better explain intergenerational assistance later in life and sources of reporting biases. Finally, this study examined downward and upward transfers at one point in time. The patterns of intergenerational exchange and biases in reports may change over time in concert with parents' and adult children's needs and resources. Longitudinal studies are needed to fully decipher correlates of the true transfers.

Findings derived from the current study make both methodological and theoretical contributions to the aging literature. Methodologically, this paper has demonstrated an analytic strategy that reconciles divergent reports of family members and has identified correlates of transfers, net of reporting biases. This approach can be extended to the study of other aspects of parent-child relationships and triangulate divergent reports among different types of dyads, such as couples or siblings. Regarding theoretical contributions, this study has shown that after removing biases in reports, both parents' and adult children's need for support and their ability to help are indeed related to intergenerational transfers, providing support for prior research. This study also has illustrated that patterns of reporting biases are partially consistent with predictions based on both intergenerational solidarity theory and self-enhancement theory. Further studies that continue to explore other mechanisms explaining why parents and adult children provide divergent reports of the same transfer would provide a better understanding of intergenerational assistance.

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Table 1. Parents' and Adult Children's Characteristics (4,947 Parent-Child Dyads)

|   | Mean or % |
|---|-----------|
| <i>Parents' characteristics</i>             |           |
| Mother-only unit                            | 31.57     |
| Father-only unit                            | 7.92      |
| Age   | 60.71     |
| Any parent is nonwhite                      | 44.57     |
| Years of education                          | 12.97     |
| Number of ADL/IADL difficulties             | 1.09      |
| Any parent is working                       | 60.95     |
| Family income (in \$1,000)                  | 71.15     |
| Number of children                          | 2.37      |
| Gives time transfer to other children       | 52.55     |
| Gives money transfer to other children      | 52.07     |
| Receives time transfer from other children  | 41.49     |
| Receives money transfer from other children | 16.95     |
| <i>Adult children's characteristics</i>     |           |
| Daughter                                    | 54.84     |
| Married                                     | 45.74     |
| Age   | 36.63     |
| Nonwhite                                    | 43.17     |
| Years of education                          | 13.91     |
| Number of ADL/IADL difficulties             | 0.25      |
| Working                                     | 75.97     |
| Family income (in \$1,000)                  | 72.13     |
| Any offspring in household                  | 48.79     |
| Gives time transfer to parents-in-law       | 16.21     |
| Gives money transfer to parents-in-law      | 6.09      |
| Receives time transfer from parents-in-law  | 13.63     |
| Receives money transfer from parents-in-law | 7.83      |
| <i>Parent-child coresidence</i>             | 6.70      |

Table 2. Discrepancy in Parents' and Adult Children's Reports of Intergenerational Transfers (4,947 Parent-Child Dyads)

|          | Downward Transfer |        |              |        |          | Upward Transfer |        |             |        |
|----------|-------------------|--------|--------------|--------|----------|-----------------|--------|-------------|--------|
|          | Time              |        | Money        |        |          | Time            |        | Money       |        |
|          | Parent Gives      |        | Parent Gives |        |          | Child Gives     |        | Child Gives |        |
| Child    |                   |        |              |        | Parent   |                 |        |             |        |
| Receives | No                | Yes    | No           | Yes    | Receives | No              | Yes    | No          | Yes    |
| No       | 51.47%            | 14.68% | 58.76%       | 18.13% | No       | 51.57%          | 24.16% | 76.63%      | 13.32% |
| Yes      | 16.21%            | 17.65% | 10.57%       | 12.53% | Yes      | 9.10%           | 15.18% | 6.19%       | 3.86%  |
| Kappa    | 0.30              |        | 0.28         |        | Kappa    | 0.25            |        | 0.18        |        |

Table 3A. Estimated Coefficients from Logistic Regressions for Variables Predicting the Likelihood of Downward Transfers (4,947 Parent-Child Dyads)

|   | Time         |                | Money        |                |
|---|--------------|----------------|--------------|----------------|
|   | Parent gives | Child receives | Parent gives | Child receives |
| <i>Parents' characteristics</i>         |              |                |              |                |
| Mother-only unit                        | 0.24 **      | -0.17          | 0.31 **      | -0.07          |
| Father-only unit                        | -0.33 *      | -0.98 ***      | 0.41 **      | -0.29          |
| Age                                     | 0.00         | 0.02 **        | 0.01         | 0.03 ***       |
| Nonwhite                                | -0.49 **     | -0.09          | -0.36        | 0.14           |
| Years of education                      | 0.08 ***     | 0.01           | 0.14 ***     | 0.09 ***       |
| Number of ADL/IADL difficulties         | -0.06 **     | -0.09 ***      | -0.02        | -0.04          |
| Working                                 | 0.05         | -0.03          | 0.23 *       | 0.12           |
| Family income                           | -1.88        | 4.61           | 11.40 *      | 23.18 ***      |
| Number of children                      | -0.27 ***    | -0.09 ***      | -0.44 ***    | -0.07 **       |
| Gives time to other children            | 1.26 ***     | 0.14 ***       |              |                |
| Gives money to other children           |              |                | 1.64 ***     | 0.22 ***       |
| <i>Adult children's characteristics</i> |              |                |              |                |
| Daughter                                | 0.33 ***     | 0.39 ***       | 0.08         | 0.19 *         |
| Married                                 | -0.24 **     | -1.11 ***      | -0.46 ***    | -0.93 ***      |
| Age                                     | -0.05 ***    | -0.06 ***      | -0.03 **     | -0.03 ***      |
| Nonwhite                                | 0.27         | 0.21           | 0.33         | 0.16           |
| Years of education                      | -0.01        | 0.03           | -0.02        | 0.06 **        |
| Number of ADL/IADL difficulties         | 0.06         | 0.12 ***       | -0.02        | 0.03           |
| Working                                 | -0.19 *      | 0.01           | -0.36 ***    | -0.21 *        |
| Family income                           | -1.13        | 0.77           | -10.36       | -14.67         |
| Any offspring in the household          | 0.91 ***     | 0.62 ***       | 0.11         | -0.24 **       |
| Receives time from parents-in-law       | 0.16         | 1.72 ***       |              |                |
| Receives money from parents-in-law      |              |                | 0.56 ***     | 2.08 ***       |
| <i>Parent-child coresidence</i>         | 0.77 ***     | 1.47 ***       | 0.25         | 0.51 ***       |
| Constant                                | 27.31        | -49.83         | -9.02        | -77.91         |
| F statistics                            | 36.02        | 36.03          | 33.75        | 23.28          |

Table 3B. Estimated Coefficients from Logistic Regressions for Variables Predicting the Likelihood of Upward Transfers (4,947 Parent-Child Dyads)

|   | Time            |             | Money           |             |
|---|-----------------|-------------|-----------------|-------------|
|   | Parent receives | Child gives | Parent receives | Child gives |
| <i>Parents' characteristics</i>         |                 |             |                 |             |
| Mother-only unit                        | 0.63 ***        | 0.24 **     | 0.78 ***        | 0.19        |
| Father-only unit                        | 0.10            | -0.34 *     | -0.55           | -0.62 **    |
| Age                                     | -0.01           | 0.03 ***    | -0.02           | 0.01        |
| Nonwhite                                | -0.40           | -0.02       | 0.10            | 0.21        |
| Years of education                      | 0.00            | -0.03 *     | 0.02            | -0.03       |
| Number of ADL/IADL difficulties         | 0.04 *          | 0.04 **     | -0.02           | -0.01       |
| Working                                 | -0.20 *         | -0.14       | -0.14           | -0.16       |
| Family income                           | -9.29           | 0.53        | 5.94            | -24.52 **   |
| Number of children                      | -0.29 ***       | -0.04 *     | -0.27 ***       | 0.02        |
| Receives time from other children       | 1.43 ***        | 0.20 ***    |                 |             |
| Receives money from other children      |                 |             | 2.12 ***        | 0.15 **     |
| <i>Adult children's characteristics</i> |                 |             |                 |             |
| Daughter                                | -0.03           | 0.25 ***    | 0.25            | 0.06        |
| Married                                 | -0.18           | -1.04 ***   | -0.16           | -0.84 ***   |
| Age                                     | -0.01           | -0.02 **    | 0.02            | -0.01       |
| Nonwhite                                | 0.25            | 0.20        | 0.65            | 0.70 **     |
| Years of education                      | 0.02            | 0.03        | 0.15 ***        | 0.10 ***    |
| Number of ADL/IADL difficulties         | 0.02            | -0.02       | -0.11           | 0.02        |
| Working                                 | -0.04           | 0.10        | 0.34            | 0.16        |
| Family income                           | 0.72            | -13.20 *    | 9.60 **         | 8.93 **     |
| Any offspring in the household          | -0.09           | -0.17 *     | 0.20            | -0.19 *     |
| Gives time to parents-in-law            | 0.49 ***        | 1.52 ***    |                 |             |
| Gives money to parents-in-law           |                 |             | 0.60 **         | 2.61 ***    |
| <i>Parent-child coresidence</i>         |                 |             |                 |             |
| Constant                                | 1.27 ***        | 1.28 ***    | 0.43            | 0.47 **     |
| Constant                                | 77.05           | 116.89      | -149.40 **      | 136.91      |
| F statistics                            | 23.92           | 29.14       | 22.28           | 24.01       |

Table 4A. Coefficients for Structural Equation Model of Agreement between Parents' and Adult Children's Reports about Downward Transfers (4,947 Parent-Child Dyads)

|   | Factor Analysis                         |                                     |                     |                     |                      |
|---|---|-------------------------------------|---------------------|---------------------|----------------------|
|   | Factor loading                          | Residual Variance-Covariance Matrix |                     |                     |                      |
|   |   | True transfer                       | Parent gives time   | Child receives time | Parent gives money   |
| Parent gives time                       | 0.54                                    | 0.36                                |                     |                     |                      |
| Child receives time                     | 0.48                                    | 0.11                                | 0.51                |                     |                      |
| Parent gives money                      | 0.29                                    | 0.36                                | 0.00                | 0.40                |                      |
| Child receives money                    | 0.40                                    | 0.00                                | 0.24                | 0.26                | 0.65                 |
|   | Regression Analysis                     |                                     |                     |                     |                      |
|   | True transfer                           | Parent gives time                   | Child receives time | Parent gives money  | Child receives money |
| <i>Parents' characteristics</i>         |   |                                     |                     |                     |                      |
| Mother-only unit                        | -                                       | 0.15                                | -                   | 0.17                | -                    |
| Father-only unit                        | -0.88                                   | 0.28                                | -                   | 0.46                | -                    |
| Age                                     | 0.03                                    | -0.02                               | -                   | -                   | -                    |
| Nonwhite                                | -                                       | -0.28                               | -                   | -0.22               | -                    |
| Years of education                      | 0.07                                    | -                                   | -                   | 0.07                | -                    |
| Number of ADL/IADL difficulties         | -0.08                                   | -                                   | -                   | -                   | -                    |
| Working                                 | -                                       | -                                   | -                   | 0.13                | -                    |
| Family income                           | 19.97                                   | -11.63                              | -                   | -                   | -                    |
| Number of children                      | -0.10                                   | -0.09                               | -                   | -0.17               | -                    |
| Gives time to other children            | -                                       | 0.71                                | -                   | -                   | -                    |
| Gives money to other children           | 0.07                                    | -                                   | -                   | 0.91                | -                    |
| <i>Adult children's characteristics</i> |   |                                     |                     |                     |                      |
| Daughter                                | 0.36                                    | -                                   | -                   | -                   | -                    |
| Married                                 | -0.38                                   | -                                   | -0.46               | -                   | -0.35                |
| Age                                     | -0.05                                   | -                                   | -0.01               | -                   | -                    |
| Nonwhite                                | -                                       | -                                   | -                   | -                   | -                    |
| Years of education                      | -                                       | -                                   | -                   | -                   | 0.04                 |
| Number of ADL/IADL difficulties         | -                                       | -                                   | 0.07                | -                   | -                    |
| Working                                 | -0.31                                   | -                                   | 0.15                | -                   | -                    |
| Family income                           | -8.94                                   | -                                   | -                   | -                   | -                    |
| Any offspring in the household          | 0.78                                    | -                                   | -                   | -                   | -0.44                |
| Receives time from parents-in-law       | -                                       | -                                   | 1.05                | -                   | -                    |
| Receives money from parents-in-law      | -                                       | -                                   | -                   | -                   | 1.30                 |
| <i>Parent-child coresidence</i>         | 1.85                                    | -0.56                               | -                   | -0.38               | -0.44                |
| Model fit statistics                    | RMSEA = 0.024, CFI = 0.974, TLI = 0.949 |                                     |                     |                     |                      |

Table 4B. Coefficients for Structural Equation Model of Agreement between Parents' and Adult Children's Reports about Upward Transfers (4,947 Parent-Child Dyads)

|   | Factor Analysis                         |                                     |                      |                       |                       |
|---|---|-------------------------------------|----------------------|-----------------------|-----------------------|
|   | Factor loading                          | Residual Variance-Covariance Matrix |                      |                       |                       |
|   |   | True transfer                       | Parent receives time | Child gives time      | Parent receives money |
| Parent receives time                    | 0.61                                    | 0.39                                |                      |                       |                       |
| Child gives time                        | 0.65                                    | 0.00                                | 0.45                 |                       |                       |
| Parent receives money                   | 0.29                                    | 0.22                                | 0.00                 | 0.57                  |                       |
| Child gives money                       | 0.19                                    | 0.00                                | 0.27                 | 0.28                  | 0.79                  |
|   | Regression Analysis                     |                                     |                      |                       |                       |
|   | True transfer                           | Parent receives time                | Child gives time     | Parent receives money | Child gives money     |
| <i>Parents' characteristics</i>         |   |                                     |                      |                       |                       |
| Mother-only unit                        | 0.25                                    | 0.21                                | -                    | 0.35                  | -                     |
| Father-only unit                        | -0.38                                   | 0.28                                | -                    | -                     | -                     |
| Age                                     | 0.03                                    | -0.02                               | -                    | -0.02                 | -                     |
| Nonwhite                                | -                                       | -                                   | -                    | -                     | -                     |
| Years of education                      | -                                       | -                                   | -                    | -                     | -                     |
| Number of ADL/IADL difficulties         | 0.04                                    | -                                   | -                    | -                     | -                     |
| Working                                 | -0.17                                   | -                                   | -                    | -                     | -                     |
| Family income                           | -                                       | -                                   | -                    | -                     | -                     |
| Number of children                      | -0.07                                   | -0.10                               | -                    | -                     | -                     |
| Receives time from other children       | 0.11                                    | 0.71                                | -                    | -                     | -                     |
| Receives money from other children      | -                                       | -                                   | -                    | 1.12                  | -                     |
| <i>Adult children's characteristics</i> |   |                                     |                      |                       |                       |
| Daughter                                | 0.15                                    | -                                   | -                    | -                     | -                     |
| Married                                 | -0.19                                   | -                                   | -0.51                | -                     | -0.40                 |
| Age                                     | -0.01                                   | -                                   | -                    | -                     | -                     |
| Nonwhite                                | -                                       | -                                   | -                    | -                     | 0.36                  |
| Years of education                      | 0.03                                    | -                                   | -                    | -                     | 0.04                  |
| Number of ADL/IADL difficulties         | -                                       | -                                   | -                    | -                     | -                     |
| Working                                 | -                                       | -                                   | -                    | -                     | -                     |
| Family income                           | -                                       | -                                   | -7.37                | -                     | -                     |
| Any offspring in the household          | -0.12                                   | -                                   | -                    | -                     | -                     |
| Gives time to parents-in-law            | 0.34                                    | -                                   | 0.70                 | -                     | -                     |
| Gives money to parents-in-law           | -                                       | -                                   | -                    | -                     | 1.58                  |
| <i>Parent-child coresidence</i>         | 1.19                                    | -                                   | -                    | -                     | -                     |
| Model fit statistics                    | RMSEA = 0.021, CFI = 0.966, TLI = 0.946 |                                     |                      |                       |                       |

Figure 1. Path Diagram of the MIMIC Model for Transfers

