

Exchange, role modeling and the intergenerational transmission of elder support attitudes: Evidence from three generations of Mexican-Americans*

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Abstract:

Social exchange theory and role modeling are alternative theories of how the willingness to provide intergenerational assistance is transmitted from one generation to the next. Distinguishing between these theories is difficult because they apparently lead to identical predictions. In this paper we propose a test that can distinguish between the two theories. We find a data set containing the variables necessary to implement the test and use it to estimate models of young adults' elder support attitudes. The results provide at best weak evidence of exchange, but are consistent with a role model explanation of the transmission of intergenerational assistance attitudes, particularly for young men.

Keywords: Reciprocity; Social exchange; Generalized exchange; Social learning; Filial responsibility

Article:

1. Introduction

Social exchange theory exerts a widespread influence throughout many areas of family demographic research, especially research on intergenerational assistance. Empirical studies on intergenerational assistance often interpret their findings in terms of exchange.¹ Evidence of the exchange paradigm's extensive acceptance is revealed by the literature's frequent use of the phrase "intergenerational exchange" as a synonym for "intergenerational assistance" and "intergenerational support." Some argue for giving exchange theory an even more prominent role in family research (Astone et al., 1999).

Applied to intergenerational assistance, exchange theory implies that an adult child is willing to repay an elderly parent with assistance because the parent provided earlier help to the child (restricted exchange) or to another family member such as a grandparent (generalized exchange). In this way the theory provides an explanation for the intergenerational transmission of elder support attitudes, but it is not the only explanation. Socialization and social learning theory are alternative paradigms that emphasize how parents condition, teach, and set examples for their children. In the case of intergenerational assistance, these theories suggest that a generation that helps and supports its parents serves as a role model for the next generation.

Distinguishing between the paradigms is critical for three reasons. First, exchange theory has not been subjected to a level of testing commensurate with its prominence as a paradigm for intergenerational assistance; few studies discuss alternative explanations or submit the paradigm to possible falsification. Second, because coresidence and financial assistance are important familial responses to poverty among the elderly (Rendall and Speare, 1995), understanding which paradigm undergirds the willingness to help elderly parents is crucial for

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those interested in encouraging these activities. Finally, the theories suggest that government policies that either increase caregivers' burdens (e.g., through greater regulations or costs) or substitute for their activities (e.g., through more generous social insurance benefits) might have unintended long-run effects if they disrupt the transmission of elder support attitudes to the next generation.

Distinguishing between exchange theoretic and role modeling explanations of intergenerational assistance is difficult because it requires data on assistance patterns in at least two generations, and the two theories predict very similar intergenerational patterns—in particular, generalized exchange appears to be indistinguishable from role modeling. This article addresses both of these issues. Using data from the Survey of three generations of Mexican-Americans, 1981–1982 (Markides, 1993), henceforth the S3GM, we examine exchange and role modeling explanations of the willingness to provide coresidence and financial support to elderly parents. As its name suggests, the S3GM contains information on three generations, including data on each generation's assistance patterns and attitudes toward supporting elderly parents. The survey also contains a wealth of additional information that allows us to control for other factors potentially confounded with assistance and attitudes.

The article also carefully examines the implications of the restricted exchange, generalized exchange, and role modeling approaches to develop a novel test for discriminating between them. The fundamental insight of our test is that direct reciprocity is a necessary condition for both of the exchange approaches—that is, an adult child who is motivated by either generalized or restricted exchange will want to reciprocate help received from a parent. This insight, combined with the empirical pattern we actually observe, allows us to distinguish generalized exchange from role modeling. That pattern suggests that role modeling explains the transmission of coresidence and financial support attitudes of young men, and the transmission of financial support attitudes of young women. Other evidence bolsters a socialization interpretation for young women's coresidence attitudes.

2. Social exchange, role modeling and the willingness to provide elder support

2.1. Social exchange theory

In social exchange theory, exchange creates and strengthens social bonds of obligation, trust, and solidarity between exchange partners.² These bonds are the adhesive that holds exchange partners together, allowing the components of the exchange to occur at different points in time without the use of a contract or other explicit means to delineate the partners' expectations. More general theories describe two exchange patterns: restricted and generalized (Ekeh, 1974). Restricted exchange occurs between exactly two persons, involves mutual reciprocity, and embodies a clear sense of *quid pro quo*. Trust between partners is required only if the completion of the second component of the exchange is delayed in time from the first. In situations where the delay is lengthy (as in the case of intergenerational assistance), we refer to the pattern as “delayed restricted exchange.”³

Generalized exchange involves more than two people and is based on indirect reciprocity in which the second component of the exchange may come from another person besides the initial recipient. Many generalized exchange structures are possible (Ekeh, 1974, pp. 52–55), but in the context of elder support, “downward chain” generalized exchange is most applicable. Consider Ekeh's (p. 206) burglary illustration: if Y helped X in the past by reporting a burglary in X's house, other neighbors such as Z might be more likely to report a burglary of Y's house.

Why should the willingness to participate in these types of exchange arise? A standard answer is that the willingness is actually an obligation that reflects the actors' acceptance of a norm of univocal reciprocity that is called into action once the chain starts—in the burglary example Ekeh explains the helpful actions of neighbors as arising out of duty. An alternative to this norm-based explanation is that the willingness reflects the actor's intention to use a “downstream tit-for-tat” strategy (“I will help you if you have helped someone else”). A useful feature of this strategy is that it is not susceptible to free-riding because each actor must give help before receiving help.⁴

Because both of these answers – norm-based obligations and tit-for-tat – have also been proposed as explanations of reciprocity in restricted exchanges, it is natural to consider whether the willingness to participate in restricted exchanges is related to the willingness to participate in downward chain generalized exchanges. Although to our knowledge this has not been previously considered, it seems straightforward to infer that someone who is willing to participate in a downward chain generalized exchange would also be willing to participate in a restricted exchange with his upstream neighbor in the chain. In the burglary example, Z feels an obligation to report a burglary at Y's house because Y previously reported a burglary at X's house; surely, Z would feel a similar obligation toward Y if Y's initial assistance had been given directly to Z. A similar conclusion holds if generalized exchange arises from people adopting a downstream tit-for-tat strategy. It is hard to imagine Z following that strategy (saying to Y: "I'll help you if you help X") but not being willing to follow the tit-for-tat strategy directly with Y (in effect saying to Y: "I'll help you if you help X, but I won't help you if you help me"). Along this line, Boyd and Richerson (1989) point out that downstream tit-for-tat reduces to direct tit-for-tat when the number of people in the chain falls to two.

In short, direct reciprocity – an obvious necessary condition for restricted exchange – is also a necessary condition for generalized exchange. It is important to note that this claim concerns the willingness of people to participate in generalized and restricted exchange. We do not insist that a restricted exchange takes place whenever a generalized exchange takes place, because the circumstances occasioning each kind of help need not simultaneously arise. Our claim is simply that if Z's willingness to help Y is activated by Y's helping X, it would also be activated by Y helping Z directly.

To apply these concepts to a three-generation family, represent the member of the eldest generation by G1, the middle generation member by G2, and the youngest generation member by G3 (the grandparent, parent, and adult child). According to exchange theory, if G2's current help given to G3 ($G2 \rightarrow G3$) increases G3's willingness to help G2 in the future, we have evidence of a delayed restricted exchange. If G2's help given to her elderly parent ($G2 \rightarrow G1$) increases G3's willingness to help G2, we interpret this as evidence of generalized exchange, but this interpretation can be correct only if there is also evidence that $G2 \rightarrow G3$ affects G3's willingness to help. This requirement forms the basis of our test for exchange theory.

We have three final comments about the test. First, our test assumes that any $G2 \rightarrow G3$ assistance be valued enough by G3 to lead him to want to reciprocate. While the test would be confounded if $G2 \rightarrow G3$ was valued so little by G3 that he felt no need to reciprocate, we think this possibility is unlikely given the magnitude of the $G2 \rightarrow G3$ assistance we consider (coresidence and providing one-half or more of G3's financial support). Second, the test remains valid when it is applied to the possibility that a mutual help or sharing relationship between G1 and G2 might affect G3's willingness to enter into a similar relationship later in life with G2. This is relevant in the intergenerational context because coresidence is often thought of as mutual help or sharing rather than a one-way flow of assistance. Finally, in applying generalized exchange to an intergenerational family one must include the possibility that help provided to G1 by a middle-generation child other than G2 (i.e., G3's aunt or uncle) may strengthen G3's willingness to help his elderly parent in the future—the downward chain may not be linear, but fan out like the branches of a tree. Even so it still follows that if G3's willingness to help G2 is affected by the help given to G1 by his aunts and uncles, then his willingness to help G2 should also be affected by help given to him by G2.

2.2. Role modeling

Role modeling provides another explanation of the intergenerational transmission of elder support attitudes. Social learning theory emphasizes the importance modeling plays in inculcating desired behavior among children (Bandura, 1976), and the regular, long-term, close relationships children often have with their parents, aunts, and uncles can make them very attractive models. Moreover, the imitation of a modeler's helping behavior is known to play an important role in the development of prosocial behavior (Eisenberg and Fabes, 1998). From this perspective, G2's support of G1 provides a model for G3, and G3's willingness to help G2 expresses the degree to which he is inclined to imitate that model.

Role modeling and generalized exchange both imply that G3's willingness to help G2 might be influenced by G2's helping of G1. However, the theories differ in their implications of the effects of G2's helping G3 directly. Within the role modeling perspective G2 → G3 assistance is not viewed by G3 as the first component of an exchange between equals, but rather as part of the parent-child relationship in which he and G2 have clearly differentiated roles. In this case the relationship embodies an “interactional style” that G3 will adopt in similar situations, in particular when he becomes the parent of adult-aged children. This perspective is consistent with role-identity theory in which G2's helping of G1 influences G3's internalization of the “helpful child” role, while G2's helping of G3 influences G3's internalization of the “helpful parent” role.⁵

Besides role modeling and exchange, a parent may attempt to socialize her child's assistance behavior using other techniques such as empathy-based persuasion, dispositional praise (reinforcing helpful behavior by attributing it to the character of the helper; see Eisenberg and Fabes, 1998), descriptions of past help given within the family, and stories that feature helping behavior. Also, expectations of those in one's social network influence the formation of helping identities. The implication is that empirical analyses must in some way control for these other mechanisms to reduce the possibility that evidence of role modeling is confounded with the effects of other means of socialization.

3. Previous empirical research

Testing for exchange theoretic and role modeling explanations of intergenerational assistance places stringent demands upon the data. The requirements are: a measure of G3's elder support attitudes, a description of the exchange relationships between G2 and G3 and between G1 and G2, and a set of controls for G2's socialization of G3. A two-generation survey design is necessary to gather this information. Further, a three-generation design is necessary so that G1 can be queried about assistance relationships with G3's aunts and uncles. There are few three-generation data sets of any type and fewer still that contain all of this information.

In fact, the only relevant analysis using a three-generation data set is Jellal and Wolff (2002) study. Using French data they find that current G3 → G2 time assistance (reported by G3) is positively affected by past G2 → G1 time assistance (reported by G2 in retrospect) but not past G2 → G3 help (reported by G3 in retrospect). This result is compatible with role modeling, but not exchange. However, the lack of an effect of past G2 → G3 help could be due to measurement error: assistance may be under-reported by G3s who are being asked to recall events more than a few years past and who may tend to neglect past help received in order to regard their current provision of G3 → G2 time assistance from a more generous perspective. Also, this variable measures past gross, rather than net, help from G2 → G3. Exchange theory indicates that only past net G2 → G3 help might affect current G3 → G2 time assistance because any past G2 → G3 help matched by simultaneous G3 → G2 help would have completed the exchange at that point in time and, consequently not affect G3's current willingness to help. Even if one is inclined to think that these issues have only minor effects on the results, the findings do not directly address exchange and role modeling explanations for coresidence and financial assistance.

As for coresidence, three studies using the National Survey of Families and Households (NSFH) establish a positive correlation between G3's attitudes about letting aging parents live with him and whether G1 lived with G2 during his childhood; the studies offer both exchange and role modeling interpretations, but do not attempt to distinguish between the two.⁶ Other papers find evidence of delayed restricted exchange: bequests for earlier care and attention (Bernheim et al., 1985, Brown, 2004 and Sussman et al., 1970) and older parents' receipt of time help for earlier financial support of children (Henretta et al., 1997 and Ikkink et al., 1999 and Lee et al., 1994). However, Hofferth et al. (1999) report that those who help family members do not expect reciprocity, and a replication study by Perozek (1999) undercuts the findings of Bernheim et al.

None of this research has been able to control for other socialization techniques. While the experimental psychology literature establishes the efficacy of other techniques such as empathy-based persuasion and dispositional praise, these may not be widely practiced in the home (Grusec, 1991). The dilemma arises that

empirical analyses of the transmission of elder support attitudes should control for a number of socialization techniques, but it is not clear what these other techniques are.

One approach to this dilemma is to control for relevant parental attitudes themselves rather than try to model how parents attempt to impart those attitudes to children. This is standard in empirical research that examines the influence parental attitudes have on children's attitudes and opinions (e.g., Axinn and Thornton, 1996, Glass et al., 1986 and Troll et al., 1979). Applying this approach to the willingness to help elder parents means that the underlying socialization techniques cannot be identified, but it provides a way to address a serious omitted variable concern and produces a description of the intergenerational transmission of the willingness to provide elder support.⁷

4. Data

To test between exchange theory and role modeling we use data from the Survey of three generations of Mexican-Americans. The survey used multistage area probability sampling to identify blocks in San Antonio and selected Mexican-Americans aged 65–80 (G1) who had a child living nearby (G2) who in turn had an ever-married child aged 18 years or older also living nearby (G3). When two or more G1–G2–G3 triads met the selection criteria, one was selected at random for inclusion in the study. The resulting sample contains interviews from each member of 375 triads. Markides et al., 1983 and Markides et al., 1986 provide additional details about the sample.

The S3GM is uniquely suited for this analysis because it contains a rich set of information on help provided, help received, and attitudes held by each of the members of the G1–G2–G3 triad. Our test focuses on the effects of particular aspects of G2's helping behavior on G3's attitudes toward assisting G2. The study uses categorical information on G3's strength of agreement to questions about sharing a home with and providing financial support to elderly parents as indicators of his willingness to help G2. Because G3's responses are ordered and qualitative, we employ ordered probit models in our multivariate analyses; the same pattern of results obtains in ordered logit versions of these models.

The S3GM lacks data to examine G3's actual provision of assistance in the future. Fortunately, an evaluation of social exchange theory does not require such data because the theory's premise is that exchange is mediated through bonds of obligation, trust, solidarity, and other intentions to reciprocate. This implies that tests of social exchange using attitudinal measures are direct examinations of the theory.⁸ Of course it is possible that S3GM attitude measures fail to accurately capture G3's willingness to help G2, but if so one would expect this failure to affect our evaluation of both social exchange and role modeling, rather than favor one of the theories over the other.

The S3GM contains measures of coresidence, financial, and other assistance flowing between G2 and G1. Unlike the data used in the NSFH studies, the S3GM solicited this information from the persons involved (G1 and G2) rather than from the person whose attitudes this assistance is predicted to affect (G3). The survey also contains measures of help that G2 provided to G3. Thus, the data permit us to examine all of the patterns described in Section 2.

The S3GM measures G2's attitudes about sharing a home with elderly parents, providing them with financial help, and the value of the elderly to the extended family. We use these measures as controls for socialization techniques other than role modeling that G2 may have used. Also, G1's interview contains measures of assistance flowing to G1 from children other than the G2 respondent, allowing us to examine broader generalized exchange and modeling patterns in which help provided by G3's aunts and uncles fans out to affect G3's attitudes.

The data also have disadvantages that should be kept in mind. First, the data cover a particular point in time and do not contain information on earlier assistance, such as help between G1 and G2 that may have occurred during G3's childhood when G3's preferences were presumably more malleable. Consequently, our analysis

may underestimate the effects of assistance on G3's attitudes. Conversely, to the extent that any earlier assistance is correlated with the assistance the S3GM data capture, we may confound effects of earlier assistance with present assistance. Second, the data do not contain information about the helping behavior provided by the parents, aunts, or uncles of G3's spouse; hence, we cannot determine whether flows of help among G3's in-laws have any effects on G3's attitudes. Finally, but most importantly, the data are highly selective and not representative of either families generally or even of the narrower group of Mexican-American families. The survey covers a single ethnic group living in a particular location. Two-thirds of the respondents are women. Moreover, three generation datasets tend to gather data from more traditional families. By the survey's design, the G2 and G3 respondents were more likely to have made residential choices in close proximity to their parents and this may reflect greater attitudinal similarity. Also, the G1 respondents in this survey had less education, married earlier, had their first children earlier, and had higher parities than a randomly selected elderly Mexican-American comparison group (Markides et al., 1983).

These disadvantages have to be weighed against the survey's unique content that permits the estimation of models nesting both the exchange theoretic and role modeling paradigms. Because there is a strong interest in understanding the foundations of intergenerational assistance in several disciplines and because we know of no other data capable of combining generalized exchange, restricted exchange, modeling, and the intergenerational transmission of helping attitudes into a single analysis, we believe that an examination of the S3GM is invaluable.

Previous research suggests that different exchange and socialization patterns might emerge for women and men. For instance, if G3 women received more intense socialization to be helpful in childhood, their helping attitudes may already have matured and, as such, show less sensitivity than G3 men's attitudes to G2's helping behavior.⁹ Exchange theoretic predictions regarding gender differences are more ambiguous. Women may be less likely to hold an exchange orientation in family relationships and thus be less responsive to their parents' acts of assistance. However, if this is not the case (i.e., both women and men hold exchange orientations in these relationships), women might well be more responsive exchange partners.¹⁰ These arguments as well as previous evidence that mechanisms of attitude formation differ between sons and daughters (Finley et al., 1988) and that elder support is gendered (Coward et al., 1992) lead us to conduct all of our empirical analyses separately for G3 women and men.

Table 1 lists the variables used in the empirical analysis along with their means and standard deviations for 189 G3 women and 127 G3 men from the S3GM (the other 59 observations were dropped because of item non-response). The first two rows describe the dependent variables measuring G3's attitudes toward coresidence and financial support (full text of the survey questions is in Appendix A). The mean response of G3 women to the question whether sharing a home with their older parents is a bad idea, "it depends," or a good idea (forming a 0 to 2 scale) is 0.963; the mean for G3 men is 0.921, indicating somewhat weaker support for coresidence. The response to the question concerning whether the financial needs of older parents who do not have enough money to live on become the responsibility of their children forms a five-point scale (1 = strongly disagree, 5 = strongly agree). The mean response indicates moderate agreement and little difference between the attitudes of women and men.

Table 1. Descriptive statistics of analysis variables

Variable	Women		Men	
	Mean	(S.D.)	Mean	(S.D.)
Dependent variables				
G3: Good idea to share a home with older parents (0–2 scale)	0.963	(0.808)	0.921	(0.773)
G3: Children responsible for financial needs of older parents (1–5 scale)	3.423	(0.957)	3.661	(0.857)

Variable	Women		Men	
	Mean	(S.D.)	Mean	(S.D.)
Assistance between G1 and G2				
G1 lives with G2	0.079	(0.271)	0.071	(0.258)
G1 lives with a member of generation 2	0.307	(0.462)	0.362	(0.483)
G2 provides occasional net financial help to G1	0.228	(0.420)	0.409	(0.494)
G2 provides regular net financial help to G1	0.058	(0.235)	0.024	(0.152)
G1 looks to sibling of G2 for help with bills, expenses	0.275	(0.448)	0.244	(0.431)
G2 engages in other financial exchanges with G1	0.222	(0.417)	0.205	(0.405)
G2 provides net sick care to G1	0.450	(0.499)	0.559	(0.498)
G2 engages in other sick care exchanges with G1	0.466	(0.500)	0.394	(0.491)
G2 provides net errand help to G1	0.487	(0.501)	0.496	(0.502)
G2 engages in other errand exchanges with G1	0.376	(0.486)	0.417	(0.495)
Assistance between G2 and G3				
G3 lives with G2	0.169	(0.376)	0.181	(0.387)
G2 provides occasional net financial help to G3	0.312	(0.464)	0.260	(0.440)
G2 provides regular net financial help to G3	0.032	(0.176)	0.087	(0.282)
G2 provides net sick care to G3	0.153	(0.361)	0.213	(0.411)
G2 provides net errand help to G3	0.159	(0.366)	0.094	(0.294)
Socialization controls				
G2: Good idea to share a home with older parents (0–2 scale)	1.069	(0.799)	1.047	(0.754)
G2: Children responsible for financial needs of aged parents (1–5 scale)	3.545	(0.936)	3.677	(0.815)
G2: Grandparents contribute to lives of grandchildren (1–5 scale)	4.026	(0.747)	4.110	(0.681)
G2: Older people are a cultural resource (transmit Mexican culture) (1–5 scale)	4.254	(0.515)	4.228	(0.726)
G2: Children should be taught that elder care is a duty (1–5 scale)	3.651	(0.937)	3.638	(0.989)
G1 born in the United States	0.603	(0.491)	0.630	(0.485)
G1's years in the United States	25.370	(31.783)	22.268	(30.984)
Other characteristics of youngest generation				
Index of affection between G3 and G2 (10–36 scale)	29.190	(4.462)	28.787	(4.249)
Age	26.201	(5.050)	26.449	(4.378)
Married	0.757	(0.430)	0.866	(0.342)
Children	1.545	(1.169)	1.181	(1.123)
Less than 12 years of education	0.333	(0.473)	0.252	(0.436)
More than 12 years of education	0.254	(0.436)	0.323	(0.469)
Frequently attends religious services	0.228	(0.420)	0.283	(0.452)
Monthly income of G3 and spouse (censored at \$2,000)	817.51	(561.53)	924.58	(580.00)
Monthly income above \$2,000	0.116	(0.322)	0.118	(0.324)
Monthly income information missing	0.063	(0.244)	0.071	(0.258)
Other characteristics of middle generation				
Age	49.106	(6.277)	49.701	(5.883)
Married	0.778	(0.417)	0.795	(0.405)
Number of sons	2.032	(1.564)	3.039	(1.720)
Number of daughters	2.772	(1.511)	2.055	(1.752)

Variable	Women		Men	
	Mean	(S.D.)	Mean	(S.D.)
Less than nine years of education	0.434	(0.497)	0.409	(0.494)
More than 12 years of education	0.101	(0.302)	0.126	(0.333)
Monthly income of G2 and spouse (censored at \$2,000)	833.33	(569.59)	823.89	(563.83)
Monthly income above \$2,000	0.116	(0.322)	0.142	(0.350)
Monthly income information missing	0.079	(0.271)	0.110	(0.314)
Health is poor	0.042	(0.202)	0.016	(0.125)
G2's provision of care to G3 is missing	0.164	(0.371)	0.150	(0.358)

Note: Figures based on data for 189 women and 127 men from the S3GM.

The next group of variables describes different types of assistance involving G1 and G2. Slightly more than 7% of the G2 respondents coreside with G1 (or, in a few cases, a parent-in-law). However, the incidence of coresidence increases to nearly a third when all of the middle generation (G2 plus siblings) are considered. About 23% of the parents of G3 women and 41% of the parents of G3 men report that they provide net financial help to their parents on an occasional basis.¹¹ Another 5.8 and 2.4% of the parents of G3 women and men provide net support that is regular in the sense that it partially or almost completely supports G1. We create a separate variable to capture this more intense level of assistance because regular transfers may be more salient to G3 (and therefore more effective at influencing attitudes) and there is evidence (available upon request) within the S3GM that G2's attitudes about financial responsibility are related to regular, but not occasional, transfers to G1. About one-quarter of the G1s name a sibling of G2 as the one they can look to for help with bills, again indicating that it may be important to consider G3's aunts and uncles. The remaining variables describe other assistance flows between G1 and G2.

Next are G2's reports describing assistance between G2 and G3 (coresidence is taken from household listings). These are followed by G2's responses to the same attitude questions posed to G3, the variables we use to control for G2's socialization of G3's elder support attitudes by methods other than role modeling. G2's responses to three additional questions regarding the importance and contributions of elder parents are further controls for socialization. Our models also include variables for whether G1 was born in the US and, if not, G1's duration of US residence. These control for social expectations deriving from traditionalism and culture; G2's attitudes also provide some degree of control for these expectations.

We also use an index of affectual solidarity that measures the relationship quality between G3 and G2 because past family interactions may work through affectual bonds to influence later attitudes and behavior concerning help.¹² The remaining rows of Table 1 list demographic and socio-economic characteristics of the G3 respondents and their parents.

5. Results

Table 2 presents ordered probit models of the youngest generation's attitudes regarding coresidence with aged parents. In addition to the independent variables displayed in the table, the models also include three sets of controls intended to mitigate omitted variable bias (results for these controls are not reported in the tables but are available upon request). First, there are controls for other types of G1–G2 and G2–G3 assistance that might have cross-over effects on coresidence attitudes: financial transfers, care during illnesses, and help with errands; the concern is that if these variables are omitted any effects arising from them might mistakenly be picked up by

the variables of primary interest. Second, there are controls for characteristics of the middle generation and the incomes of the youngest generation. The concerns here are (a) that the youngest generation's responses are influenced, either positively or negatively, by the chances that their parents will need assistance and (b) that the responses might be constrained by G3's resources available for providing assistance. Omitting these variables will lead to bias if they are correlated with the middle generation's assistance or attitudes. Finally, there are controls for G1's nativity and length of residence in the United States and G3's age, marital status, number of children, schooling, and religious attendance.

Table 2. Ordered probit analysis of youngest generation's attitudes regarding provision of coresidence (“Is it a good idea to share a home with older parents?”)

Variable	Women	Men
	(1)	(2)
G1 lives with a member of generation 2	-0.089 (0.242)	1.030 (0.283)***
G1 lives with G2	-0.039 (0.427)	-0.011 (0.570)
G3 lives with G2	-0.231 (0.300)	0.344 (0.428)
G2: Good idea to share a home with older parents	0.609 (0.130)***	0.068 (0.181)
G2: Grandparents contribute to lives of grandchildren	-0.165 (0.134)	-0.294 (0.214)
G2: Older people are a cultural resource	0.162 (0.198)	0.199 (0.216)
G2: Children should be taught that elder care is a duty	-0.030 (0.109)	-0.197 (0.155)
Index of affection between G3 and G2	0.035 (0.023)	0.002 (0.033)
Controls for other exchanges	Yes	Yes
Controls for G2's characteristics and G3's income	Yes	Yes
Log likelihood	-172.32	-101.61

Note: Ordered probit models estimated using data for 189 women and 127 men from the S3GM. Controls for G3's age, marital status, number of children, schooling, frequent attendance at religious services, and G1's nativity are included in each model but not reported. Estimated standard errors appear in parentheses; +Significant at .10 level; *Significant at .05 level; **Significant at .01 level. ***Significant at .001 level.

The first column in Table 2 reports estimates for the young women in our sample. The estimate for the middle generation's attitudes regarding coresidence is significantly positive, while the estimates on the middle generation's coresidence are small and insignificant. The results indicate that there is intergenerational transmission of attitudes for young women but that the attitudes are passed through mechanisms other than exchange or modeling.

The results for men in column 2 are markedly different. The estimate for coresidence between the oldest and middle generations is positive, large, and significant, but the estimate for coresidence between the middle and youngest generations is only one-third as large. Although the G1–G2 coresidence result might seem compatible with either a downward chain generalized exchange or role modeling interpretation, the smaller insignificant G2–G3 coresidence estimate is at best weak evidence of direct reciprocity. This casts doubt on an exchange theoretic interpretation and favors role modeling. Role modeling fans out through the extended family in that coresidence between G1 and any middle generation member is positively associated with G3's attitudes; the association is not significantly different when that member is G3's own parent. If G1 coresides with G2 or one

of her siblings, the point estimate indicates that the probability that G3 men think it is a good idea to share a home with older parents (predicted at the mean of the independent variables) rises from 0.09 to 0.38. Table 3 presents ordered probit models of the youngest generation's attitudes regarding financial support for aged parents. The models are specified in a manner similar to those in Table 2, except that financial support between G1 and G2, financial support between G2 and G3, G1's reliance on a sibling of G2 for financial assistance, and G2's attitudes about financially supporting elderly parents replace Table 2's coresidence variables (G1–G2 and G2–G3 coresidence remain as controls but are not presented).

Table 3. Ordered probit analysis of youngest generation's attitudes regarding provision of financial assistance (“Are children responsible for the financial needs of older parents?”)

Variable	Women	Men
	(1)	(2)
G2 provides regular net financial help to G1	0.781 (0.443) ^a	1.910 (1.033) ^a
G2 provides occasional net financial help to G1	−0.066 (0.266)	−0.627 (0.327) ^a
G2 engages in other financial exchanges with G1	0.095 (0.262)	0.375 (0.402)
G1 looks to a sibling of G2 for help with paying bills and expenses	0.069 (0.229)	0.616 (0.314) [*]
G2 provides regular net financial help to G3	−0.174 (0.579)	−0.826 (0.594)
G2 provides occasional net financial help to G3	−0.072 (0.229)	−0.294 (0.304)
G2: Children are responsible for the financial needs of older parents	0.165 (0.107)	0.027 (0.182)
G2: Grandparents contribute to lives of grandchildren	0.344 (0.136) [*]	−0.182 (0.219)
G2: Older people are a cultural resource	−0.165 (0.193)	0.595 (0.211) ^{**}
G2: Children should be taught that elder care is a duty	0.038 (0.120)	−0.001 (0.166)
Index of affection between G3 and G2	0.006 (0.023)	0.067 (0.034) [*]
Controls for other exchanges	Yes	Yes
Controls for G2's characteristics and G3's income	Yes	Yes
Log likelihood	−180.69	−104.47

Note: Ordered probit models estimated using data for 189 women and 127 men from the S3GM. Controls for the G3's age, marital status, number of children, schooling, frequent attendance at religious services, and G1's nativity are included in each model but not reported. Estimated standard errors appear in parentheses.

^a Significant at .10 level.

^{*} Significant at .05 level.

^{**} Significant at .01 level.

The results are that both young women's and men's attitudes about financially supporting elderly parents are significantly positively related to the regular provision of financial assistance from G2 to the oldest generation. There is a further association between G1's financial reliance on an aunt or uncle of G3 and G3 men's attitudes.¹³ Such findings could be given either an exchange or role modeling interpretation except that financial support from the middle to the youngest generation is a negative, though insignificant, determinant of G3's attitudes; again, the lack of evidence of direct reciprocity casts doubt on exchange theory, but not role modeling.¹⁴ The role modeling effect is large: the probability that a G3 man “strongly agrees” that the financial needs of elderly parents are the children's responsibility is predicted to rise from 0.05 to 0.59 if his parent is providing regular net support to G1. For G3 women, this probability rises from 0.02 to 0.12. In addition, for G3 men this probability increases from 0.02 to 0.08 if G2 is not providing regular support but, instead, G1 looks to a sibling of G2 for financial help.

6. Discussion

The evidence undercutting exchange is based on the point estimates of $G2 \rightarrow G3$ assistance in the coresidence and financial support models. These point estimates are negative in all cases except for the men's coresidence model, and as already noted the positive estimate in the men's coresidence model is much smaller in magnitude than the $G1-G2$ coresidence estimate. Yet the small sample size leads to large standard errors, and in two cases the upper bounds of confidence intervals on $G2 \rightarrow G3$ effects are the same order of magnitude as the $G2 \rightarrow G1$ point estimates (in the men's coresidence model and the $G2 \rightarrow G3$ regular net financial help estimate in the women's financial support model). While the evidence is not strong enough to “reject” the exchange model, it should be noted that in this case rejection is a stringent standard because it would require rejecting a hypothesis that a coefficient is positive, no matter how small.

Our view is that given the prominence of exchange theory as a paradigm for intergenerational assistance and that direct reciprocity is a necessary condition for exchange, it is striking that there is not a single instance in which the $G2 \rightarrow G3$ point estimate is large enough to reject the hypothesis that the $G2 \rightarrow G3$ effect is zero. In contrast we find many instances of large $G2 \rightarrow G1$ estimates that are significant despite the small sample size. For these reasons we read the patterns in the results as consistent with social learning in which the younger generation ascertains its role in caring for elderly parents by observing the model the middle generation provides. The finding that young women's coresidence attitudes are associated with those of their parents suggests additional socialization mechanisms, although the specific mechanisms are not identified.

The different findings for $G3$ women and men are consistent with the model of $G1-G2$ coresidence signaling to young women and men different levels of advantages and disadvantages from future coresidence with elderly parents. In particular, $G3$ women may see from the $G1-G2$ model that they will bear some disadvantages if they coreside with their elderly parents (or parents-in-law). In contrast, the wives of $G3$ men will presumably bear the brunt of these disadvantages, and the downplaying of these disadvantages may make $G3$ men more responsive to the $G1-G2$ model. Of course, this argument requires an assumption that the wives of $G3$ men are not able to transmit the unpleasantness of any such disadvantages to their husbands.

There is also a socialization explanation of the different findings for $G3$ men and women: $G3$ women's coresidence attitudes may already be socialized by the time they reach adulthood (as evidenced by the strong correlation with their parents' coresidence attitudes), and therefore further role modeling may not have an impact. This explanation rests on differential socialization for women and men in childhood and adolescence. If, as evidence suggests, some part of socialization occurs through the differential assignment of household chores, it may affect women's attitudes regarding coresidence more strongly than their attitudes regarding financial support. We base this on the observation that routine household chores bear more similarity to the activities associated with sharing a household than to those associated with providing financial help. This might explain why women's attitudes are sensitive to their parents' financial assistance but not to their coresidence behavior.

This intriguing conjecture suggests additional research into the socialization of children's and adolescents' assistance attitudes, not only with respect to gendered socialization and the effects of chore assignment, but also to identify and evaluate the effectiveness of other techniques parents adopt. Also, the role modeling perspective should be examined along two more dimensions: first, to determine whether the present help $G3$ receives from $G2$ influences $G3$'s attitudes about helping $G3$'s own children ($G4$) and second, to analyze whether assistance that $G2$ and other relatives give to people outside the family network affects $G3$'s willingness to help those inside or outside the network. The first type of analysis would be useful in considering alternative exchange and role modeling patterns, although evidence regarding restricted exchange would still be needed to establish any exchange interpretation.¹⁵ For the second analysis, exchange theory predicts there will be no effect because $G2$ is helping someone outside the exchange network, while the role modeling perspective suggests an influence through social learning.

As interesting as these questions are, a thorough replication of the present analysis using less selective and more up-to-date data is a higher priority research task. For instance, it may be that young adults who choose to reside proximate to their parents – as did those in the S3GM – or young Mexican-Americans in general are less likely than others to hold an exchange orientation in their intergenerational relationships. Or, with less severe implications for our conclusions, it may be that non-Mexican-American young women are more susceptible to modeling, either because they bear fewer disadvantages when they coreside with elderly parents or in-laws or because they received less intense earlier socialization to help family members. While we know of no evidence supporting these possibilities, we cannot rule them out.

Although these concerns prohibit the generalization of the present results, the findings are important nonetheless. Up to now, empirical research evaluating exchange and role modeling perspectives on intergenerational assistance has been stymied by the lack of data rich enough to conduct a test that nests both paradigms. The S3GM allows us to crack open a door that had previously been shut tight. Our glimpse through that door suggests that role modeling offers a more cogent explanation of the transmission of elder support attitudes.

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Notes

¹ Papers from several disciplines make the point: Bernheim et al. (1985), Bengtson et al. (1990), Eggebeen and Davey (1998), Hogan et al. (1993), Ikkink et al. (1999), Ingersoll-Dayton and Antonucci (1988), Lee et al. (1994), Nye (1979), Spitze and Logan (1989), Sussman (1985), Szinovacz (1997) and Wentkowski (1981). Tests between altruistic and exchange explanations of assistance can only rule out altruism, and therefore cannot be interpreted as tests of exchange (Cox, 1987). Bergstrom (1996), Eggebeen and Wilhelm (1995), Holtz-Eakin and Smeeding (1994) and Soldo and Hill (1993) provide reviews of the large literature on intergenerational familial assistance.

² See Blau, 1964 and Blau, 1994, Gouldner (1960), Heath (1976), Mauss (1967), and Sahlins (1965).

³ Ekeh (1974) defines restricted exchanges more narrowly as occurring between two persons and being completed within a short period of time frame. Delayed restricted exchange is not a new concept (see Blau, 1964).

⁴ Boyd and Richerson (1989) show that the downstream strategy is evolutionary stable (i.e., more likely to become the practice of a large portion of the population than other strategies) under a wide range of conditions. Even so, they conjecture, the downstream strategy is likely to be successful only among small groups of people who have close and long-term relationships.

⁵ See Caspi and Elder (1988) and Whitbeck et al. (1991) for a discussion of interactional styles and Lee et al. (1999) for an application of role-identity theory to helping behavior.

⁶ Cox and Stark's (1996) central thesis is that when G2 is considering whether or not to help G1, she takes into account the effect that help will have on G3's willingness to later help her. This is clearly a generalized exchange perspective. In addition, they appeal to the social learning literature to argue that G3's willingness will, in fact, be enhanced by G2 → G1. Szinovacz (1997) also uses both perspectives simultaneously. Goldscheider and Lawton (1998) adopt a role modeling perspective.

⁷ Intergenerational correlations in elder support attitudes are moderate in Hamon and Blieszner (1990) but usually insignificant in Brody et al., 1983 and Brody et al., 1984, and Stein et al. (1998). None of these studies model support attitudes arising from exchange or role modeling.

⁸ Much evidence indicates that elder support attitudes are correlated with actual support to elderly parents (Cicirelli, 1993, Ikkink et al., 1999, Silverstein et al., 1995, Stein et al., 1998 and Szinovacz, 1997). Moreover, G2's attitude measures are correlated with her actual provision of support to G1 in multivariate models using the S3GM.

⁹ The argument that girls are socialized more than boys to be nurturing and caring has a controversial history (see Caspi and Elder, 1988 and Walker, 1992). There is evidence that parents emphasize helping more in girls than in boys (Power and Parke, 1986 and Power and Shanks, 1989; and Grusec, 1987), and consequently girls turn out more prosocial than boys (though by how much is unclear; see Eisenberg and Fabes, 1998, pp. 752–

755). Also, girls are assigned more household chores that benefit others in the family and there is a connection between doing household chores that help others and prosocial behavior (for assignment see Bloch, 1987 and Lytton and Romney, 1991 find general evidence of differential encouragement of sex-typed activities, one of which is household chores; for the chore-prosocial connection see Eisenberg and Fabes, 1998, p. 720; and Grusec, Goodnow and Cohen 1996). Another possibility with the same implication is that the socialization of boys to be agenic (e.g., see Peterson and Rollins, 1987) may result in the attitudes of young men exhibiting greater malleability specifically in response to their parents' actions.

¹⁰ For example, if exchanges are sustained through tit-for-tat there is some evidence that women are more likely to reciprocate than men (Croson and Buchan, 1999), implying that women are more responsive to restricted exchange, and by extension, possibly to generalized exchange.

¹¹ The response categories in the questions about whether financial help was given were: no, infrequently/occasionally, regular – gave parent partial support, and regular – gave parent most of his/her support. The same response categories were used when asking about financial help received. The net financial help variable was constructed by comparing responses to the help given and help received questions. For example, a G2 who said she gave regular partial financial support to her parent and who also said she received occasional financial help from her parent was coded as having made a regular net financial transfer to her parent.

¹² See Finley et al. (1988); Rossi and Rossi (1990); Stein et al. (1998); Szinovacz (1997); Silverstein et al. (1995); and Whitbeck et al., 1991 and Whitbeck et al., 1994.

¹³ We point out that because only a few G2s in the sample provide regular financial help to G1s the evidence concerning regular financial help is based on a small number of observations (eleven G3 women and three G3 men). However, these results are robust to estimating the model using only independent variables describing the financial exchanges between G1 and G2, thereby allowing use of the full sample (233 G3 women and 142 G3 men, thirteen and five of which, respectively, have parents providing regular financial help to G1s). The results are also robust to combining the observations of young men and women (increasing the cell size of those whose parents provide regular support to G1) to estimate a single model. Of course, the results concerning financial reliance on G3's aunts or uncles do not depend on a small number of observations.

¹⁴ The negative effect of occasional G2 → G1 transfers on young men is unexpected. A negative role modeling effect can be envisioned, but a reasonable exchange interpretation is hard to imagine.

¹⁵ Along these lines, Arrondel and Masson (2001) find that past G2 → G3 help does have a positive effect on present G3 → G4 help. However, their data do not contain the information on past or ongoing G4 → G3 assistance that is necessary to test for exchange.