INTERGENERATIONAL TRANSFERS AND THE DEMONSTRATION EFFECT

by

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How can parents secure old-age support in the form of care, attention or financial transfers from their children? We explore the enforcement of implicit intergenerational agreements from a fresh angle by studying the possibility that the child's conduct is conditioned by the parents' example. Parents can take advantage of this learning potential by making transfers to their own parents when children are present to observe such transfers. Parents who desire old-age support have an incentive to behave appropriately. The idea that the parents' behavior is aimed at inculcating desirable behavior in their children generates testable hypotheses about transfers that we investigate using household survey microdata. The demonstration-effect approach also has implications for such diverse phenomena as population aging and the labor market participation of women.

An aged woman lived with her son and his family. At each meal, a worthless chipped bowl was used for the elderly woman's food. One day, the old woman died. Her son, observing that he no longer needed the bowl, announced that he would finally throw away the piece of junk. "Father," cried the man's own young child, "you can't throw away Grandma's bowl. I must keep it for when *you* are old." (An ancient Korean tale, quoted in The Boston Herald, October 19, 1990.)

I. Introduction

Recent evidence indicates that private intergenerational transfers of income, wealth, and in-kind services are motivated, at least in part, by exchange considerations. For example, parents attach strings to money given to their children and transfers are made with the expectation of future repayment. Evidence supporting the idea that intergenerational transfers in the family are motivated partly by self-interest is contained in recent papers by Lucas and Stark (1985), Bernheim, Shleifer and Summers (1985) and Cox (1987).

Despite evidence supporting the existence of an exchange element in private transfers, we do not know much about the *mechanisms* that sustain and enforce these two-way transactions. Enforcement of intergenerational exchanges has hardly been explored in economics. One possibility is that enforcement comes from explicit incentives: economic punishments or rewards. Bernheim, Shleifer and Summers offer evidence that the threat of disinheritance induces children to provide attention to their parents. But monetary mechanisms may not always work. Suppose a parent lends to his child, expecting repayment in old age. If anticipated future bequests motivate behavior only mildly, or not at all, the parent may have little economic leverage for enforcing an implicit long-term contractual arrangement. The bequest motive might be particularly weak in non-wealthy families, and may not work at all when testamentary freedom is precluded by law.

Another possible enforcement mechanism is recourse to the legal power of the courts and the state. But in many countries, including the United States, the courts rarely become involved in enforcing such intergenerational arrangements as repayment of private

intra-familial loans (Shanas and Streib [1965]). Courts are reluctant to interpret familial

understandings as legal commitments.

A third possible mechanism for enforcing intra-familial arrangements is altruism.

In Kotlikoff and Spivak (1981) mutual altruism enforces annuity-type contracts among

family members. But Bernheim and Stark (1988) show that in a good many instances

altruism inhibits rather than facilitates the enforcement of intergenerational exchanges.

Altruistic parents may be quite unwilling, and effectively unable, to punish children who

have reneged on promises. Altruism may, for example, undermine the credibility of a

threat to disinherit. If children do not consider the threat of harsh reprisal credible, their

inclination to fulfill obligations to parents will be eroded, and intra-familial agreements will

be harder to enforce.

The present paper pursues an idea that we call "preference shaping," which we

suggest is an important means to facilitate and secure exchange in general, and support in

particular. Loosely defined, the term applies when one person influences another with

regard to honoring the terms of an agreement. Specifically, parents may attempt to

inculcate a sense of guilt for misbehavior (or gratification for good behavior) in their

children. Guilt is an internal enforcement mechanism; once planted the individual monitors

himself.[1] But inculcating a sense of guilt consumes resources, so preference shaping is

also an economic problem.[2]

Consider the following set-up. Suppose capital markets are "perfectly imperfect."

Neither parent nor child can borrow from or lend to third parties. The child earns little

today but considerably more tomorrow. The converse is true for the parent. An agreement

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[1]For further discussion of the distinction between internal and external sanctions, see Elster (1989).
He argues that internalized norms are followed even if violation is unseen and not explicitly punished,
because the presence or expectation of emotions like guilt and shame work as informal sanctions.
See also Frank (1988) for an analysis of the role of guilt and other emotions in strategic interactions,
and Becker (1993) for an analysis of parental inculcation of guilt in children.
[2]The use of guilt, attitudes, and group norms as explanations of behavior has a long and rich tradition
in sociology. Not so in economics, however. Becker (1988, p. 9) remarks that "Economists neglect
concepts like norms and guilt because no one really knows how they evolve. Moreover,
sociologists...are too prone to use norms as a *deus ex machina* to explain behavior that is difficult to
explain in other ways."

wherein the parent lends to the child today and is repaid tomorrow would facilitate consumption-smoothing and improve the well-being of both parties. The problem is that in a sequence of moves, the parent may not have the last (effective) word. If no bequest motive exists to enforce loan repayment, and each family member is self-interested, how might the parent manipulate the child's preferences to improve the prospect of repayment?

One option is to rely on the child's participation in institutions such as schools and the church to manipulate preferences. These institutions are set up in part to create guilt for reneging on such agreements.

Another mode, and the focus of our analysis, is direct influence--the "demonstration effect." Parents teach children the desired behavior by setting an example. The children must be close by, and examples might have to be vivid, and repeated. Such acts might well be costly to parents, who must behave differently than they would if they were not shaping their children's preferences. On the other hand, demonstration can increase the likelihood that children will honor their commitment.

How will the demonstration effect facilitate intergenerational exchanges? Suppose a family consists of a child (K), a parent (P) and a grandparent (G). P wants K to transfer resources to him in the next period when P becomes a G and K becomes a P. To demonstrate to K how he should behave in the next period, P makes visible transfers to G when K is around to watch.

The demonstration-effect hypothesis generates falsifiable predictions that differ from predictions that arise from other theories of transfer behavior. The key idea is that the presence and characteristics of K impinge on the transfers from P to G. Thus, transfers from P to G depend positively on the presence of K.[3] Standard theories of the allocation of time and money might predict the opposite effect from the one implied by our approach. The presence of young children places demands on the parent's time and budget.

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[3] A formal representation of this and related ideas is provided in Section II below.

Conventional wisdom then suggests that, all else equal, the competing presence of young children would *reduce* transfers from P to G.

For the sake of illustration, suppose that care can be provided in a lump form or in installments that amount to the same total. If, as child psychologists point out, the preference formation effect of repeated and regular small-scale acts of care is stronger than the effect arising from a single large-scale act, the presence and age of children would affect the *distribution* of care-giving.[4]

Further, the demonstration-effect hypothesis predicts that the *composition* of transfers from P to G is important. The transfers must be visible. In-kind transfers are better than cash, and, if transfers take the form of attention, visits are better than telephone calls.

The longer is P's life expectancy, the greater P's incentive to manipulate K's preferences, since P expects to depend on K for a longer period of time. If P employs the demonstration effect, G will receive more transfers from P. If transfers affect G's life expectancy, the demonstration effect generates a positive intergenerational correlation in life expectancies over and above the effects of heritability.

The demonstration-effect hypothesis contrasts with the recent exchange theory of bequests advanced by Bernheim, Shleifer and Summers. They argue that parents must have bequeathable wealth to elicit attention from their children. In our framework, contact and attention can occur without the promise of a bequest, even in a setting with purely self-interested parties. According to our approach, parents would provide attention to grandparents without anticipated payments from them since the provision of such attention allows the demonstration effect to operate and thus the receipt of future payments or support from their own children.

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[4]Experimental evidence from cognitive psychology indicates that distributed repetition is better than massed input for stimulating recall in situations involving memory and learning (Glass, Holyoak, and Santa [1979]). Further, Bandura (1986) cites numerous studies in which repetition strengthens the influence of one's behavior on another's. In particular, Bandura cites evidence that such repetition is effective when using role models to mold the moral development of children.

This approach produces a wider array of falsifiable predictions than other approaches because we expand the domain of analysis from two to three generations. Our analysis shows that the interaction of members of two generations cannot be considered in isolation. In our model (see Section II below), grandparents, parents, and grandchildren are behaviorally linked. Note that in the simplest model of the parent-child relationship, the children's utility is a function of leisure and transfers from the parent, and the parent's utility is a function of own consumption and care received. (The family thus faces two resource constraints--one pertaining to the sum of attention and leisure, the other to the total amount of consumption). Linkages arise from the two flows: the consumption good from parents to children, and the attention (forgone leisure) by children to parents. In a typical non-cooperative game, the children choose their level of attention *following* the parent's choice of the transfer rule and actual transfers are made subsequent to the provision of attention. This modeling approach rests on the notion that absent the said sequence, agreements between parents and children will not be binding and enforceable. At the heart of the model then lies a conflict, and the model itself traces a procedure to resolve it. (Bernheim, Shleifer and Summers, and Cremer and Pestieau [1991] are examples). We offer an alternative perspective: parents exert effort to eliminate or reduce the very evolution of a conflict; care and attention will then flow as and when required, independently of strategic considerations. And provision of the desired future care arises not from preceding transfers to the would-be care-givers but from demonstrations of transfers to a third party.

II. A Basic Model of Transfers and Imitation

There is an apparent tension between the postulated imitative behavior and standard utility maximization, that can be resolved by incorporating an imitation component in the expected utility maximand (Bergstrom and Stark 1993). This renders the idea of a demonstration effect fully consistent with a choice-theoretic approach to behavior.

Consider for simplicity single-parent, single-child families. The parent seeks to maximize the expected value of U(x, y) where x is what the maximizer, P, does for her mother, G, and y is what the maximizer's daughter, K, does for maximizer P. Suppose that with probability $0 \leq \pi \leq 1$ a daughter will simply imitate her mother's action, and with probability 1-π the daughter will choose an action to maximize her expected payoff, *aware that her own daughter may be an imitator.* Therefore, a mother, P, chooses to maximize

$$EU(x, y, \pi) = \pi U(x, x) + (1-\pi)U(x, y) \tag{1}$$

where U is a continuous, twice differentiable, quasi-concave utility function with $U_1 < 0$ and $U_2 > 0$, where x is the transfer from P to G, and where y is the transfer from K to P.

To derive P's choice of x, x*, differentiate (1) with respect to x to obtain

$$EU_1 = \pi(U_1^I + U_2^I) + (1-\pi)U_1^S$$

(2)

where superscript I denotes utility if K is an imitator, that is, $U^I \equiv U(x, x)$, and superscript S denotes utility if K is a selfish maximizer, that is, $U^S \equiv U(x, y)$. Subscripts denote partial derivatives. Hence, from the first-order condition for maximization,

$$-[\pi U_1^I + (1-\pi)U_1^S] = \pi U_2^I. \tag{3}$$

The left side of (3) is the marginal cost of transferring to one's parent while the right side is the marginal benefit from receiving which, in turn, is equal to π times the marginal utility of receiving from one's child. Thus, the likelihood of *not* being imitated ($\pi < 1$) taxes one's transfer to one's parent.

The second-order conditions are satisfied. Thus, the solution x* is unique and we can write it as x* = x*(y, π).[5]

Remark 1. The equilibrium choice of x is increasing in π. To see this note from (2) that

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[5]An interior solution (the marginal benefit curve intersects the marginal cost curve in the positive quadrant) is obtained as long as $\pi U_2^I(0, 0) > -[\pi U_1^I(0, 0) + (1-\pi)U_1^S(0, 0)]$. A sufficient condition for an interior solution is that $\lim_{x \to 0} \pi U_2^I \to \infty$.

$$\frac{\partial x^*}{\partial \pi} = -\frac{EU_{13}}{EU_{11}} = -[U_1^I - U_1^S + U_2^I]/EU_{11} = U_1^S/\pi EU_{11} > 0$$

(4)

recalling that $U_1^S < 0$, and noting that the sufficiency condition implies $EU_{11} < 0$. The higher the probability of imitation, the more "productive" the transfers to one's parent, and hence there will be more of them.

Remark 2. In a stationary environment, the planning problem faced by each generation is the same as the one faced by its predecessor so that the maximizing action of K will be the same as that of P. Hence,

$$y = x^* = x^*(y, \pi).$$ (5)

The resulting dynamic equilibrium, $\bar{x}$, in which *everyone* chooses the same action[6], is unique and stable if $|\partial x^*/\partial y| = |-EU_{12}/EU_{11}| = |(1-\pi)U_{12}^S / EU_{11}| < 1$. Intuitively, the effect of receipts from a child on the marginal disutility of providing for one's parent cannot be too large in order for the steady state to be stable.[7] Given the existence of a stable steady-state solution, it is easy to show that the equilibrium transfer $\bar{x}$ is increasing in the probability of imitation, that is, $d\bar{x}/d\pi > 0$.[8]

Remark 3. Steady-state expected utility is maximized when $\pi = 1$. To obtain this result, define

$$V(\pi) = \underset{\bar{x}}{argmax} \{\pi U(\bar{x}(\pi), \bar{x}(\pi)) + (1-\pi)U(\bar{x}(\pi), \bar{x}(\pi))\}$$

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[6]$\bar{x}$ is the value of x which maximizes $\pi U(x, x) + (1-\pi)U(x, \bar{x})$. The first order condition for maximization is $-U_1^S = \pi U_2^I$ (since now $U_1^S = U_1^I$). Again, the marginal cost of kindness to one's parent, $-U_1^S$, equals π times the marginal utility of kindness from one's child, U_2^I.

[7]The issue of stability is somewhat subtle because *current* actions depend on *future* ones, that is, the nonlinear difference equation given in the second equality in (5) is backward looking. It can be expressed recursively as a function of any future generation's choice of y. With $|\partial x^*/\partial y| < 1$ in the neighbohood of $\bar{x}$ the backward-looking solution of the difference equation converges to a stable steady state, $\bar{x}$, for any given terminal value of y.

[8]$d\bar{x}/d\pi = [-EU_{13}/EU_{11}]/[1 + (1-\pi)U_{12}^S / EU_{11}] > 0$, from equation (4) and the stability condition in remark 2.

$$= \underset{\bar{x}}{argmax} \quad U(\bar{x}(\pi), \bar{x}(\pi)). \tag{6}$$

Thus,

$$V'(\pi) = U_1 \frac{d\bar{x}}{d\pi} + U_2 \frac{d\bar{x}}{d\pi} = (1-\pi)U_2 \frac{d\bar{x}}{d\pi} > 0, \tag{7}$$

since maximizing behavior (the first order condition for $\bar{x}$) implies $- U_1 = \pi U_2$, and

recalling the last sentence in remark 2. Hence, maximal utility is achieved at $\pi = 1$. Since

P chooses x solely to influence K and does not take into account the corresponding benefit

to G, there is an externality that causes an under-provision of x. The closer π is to 1, the

smaller the externality. Families in which imitation is more likely have higher utility, and a

social planner would set $\pi = 1$.

Remark 4. We have assumed single-child families. What if a family has no children?

Alternatively, what if it has several children? If there is no child around who would

imitate, $\pi = 0$. In this case (1) becomes

$$EU(x, y) = U(x, 0), \tag{1'}$$

which is maximized with x=0 since $U_1 < 0$. Since the demonstration effect is inoperative,

no transfers from P take place. It follows then that G will prefer P to have a child than to

be childless.

If there are several children, $n > 1$, a given act of transfer will be imitated by each of

the n observing children. If each child behaves in the same manner, we have

$$EU(x, y, \pi, n) = \pi U(x, nx) + (1-\pi)U(x, ny), \tag{1''}$$

$$EU_1 = \pi U_1^I + \pi U_2^I n + (1-\pi)U_1^S. \tag{2'}$$

Then, P's choice of x, x**, is x that solves

$$-[\pi U_1^I + (1-\pi)U_1^S] = \pi U_2^I n. \tag{3'}$$

Compared with the case of only one child (equation (3)), since the marginal benefit is now higher (the marginal benefit curve shifts up by n to intersect the marginal cost curve at a higher x), $x^{**} > x^*$.[9] In the presence of several children then, the demonstration effect is more "productive" than in the presence of only one child and hence more is being transferred. Thus, G will prefer P to have several children.[10]

In the following section we test some of the implications of the demonstration-effect approach using a household survey micro data set that contains detailed demographic and socioeconomic information. We also present and discuss evidence from existing studies relevant to our approach. The concluding section lists additional implications and suggests directions for further research.

III. Evidence

We explore two related questions: Is there evidence that a child's observation of parental giving to the older generation has any effect on his/her own behavior in later life? And are the parent's transfers to grandparents affected by the presence of the grandchildren?

To address these and related questions, we use the National Survey of Families and Households (NSFH) data set, conducted between March 1987 and May 1988, which includes 13,017 U.S. households. It contains a main sample of 9,643 households and an over-sample: a double-sampling of blacks, Puerto Ricans, Chicanos, single parents, persons with step-children, cohabiting persons, and newlyweds. The NSFH randomly determines the primary respondent (usually the householder or the spouse of the householder, see Sweet, Bumpass and Vaughn [1988]).

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[9]Using equation (2'), the effect of an increase in n on the equilibrium choice of x is given by $\partial x^*/\partial n = -EU_{14}/EU_{11} = -\pi U_2^I/EU_{11} > 0$.

[10]Alternatively, with n imitating children, a transfer of only x/n would result in receipt of x. The first-order condition is identical to (3').

We delete from the sample respondents with missing values for earnings, age, or education, missing values for spouse's earnings, extreme values for income or financial transfers ($10 million and $900,000, respectively), dormitory or barrack residents, and those with missing values for geographic distance from parents and/or in-laws.

The NSFH is suited for our purposes because it contains information about in-kind transfers provided by children to their parents as well as some retrospective information on early life-cycle experiences.

A. Intergenerational Correlations

A necessary condition for the demonstration effect to work is for early life-cycle events to affect choices later on. If early experiences are quickly forgotten, or parental examples are ignored, there is little chance that a demonstration would matter much for child behavior. So the first question is whether early childhood experience affects adult behavior. In particular, if a child observes his or her parents making transfers to grandparents, will this observation affect the child's transfer behavior later in life?

We find some evidence that early transfer experience does indeed affect subsequent transfer behavior. Survey respondents were asked if a grandparent had ever moved in with the family when the respondent was a child (under 19 years old). They were also asked if their *own* parents had ever moved in with them when the respondents headed their own households. The percentage of respondents who shared housing with their parents was higher for respondents whose grandparent(s) had moved in when the respondents were children. The results are as follows: of the 1,642 respondents whose grandparents lived with the family, 12.4 percent shared housing with their own parents. In contrast, of the 8,133 respondents whose grandparents lived apart from the respondent's family, only 9.8 percent shared housing with their own parents. The incidence of sharing housing with parents is 27 percent higher for those respondents whose grandparents had moved in when the respondents were children.

Of course, these unconditional means are likely to capture more than the intergenerational transmission of attitudes. They could also reflect intergenerational correlation of budget constraints. For example, shared living arrangements might be more common among the poor, so much of the pattern could be driven by intergenerational correlation in income and wealth. But the positive effect of grandparent co-residence holds up even when we control for the earnings and net worth of the respondents, and for the parents' permanent income (table A-1). Early grandparent co-residence increases by 2.6 percentage points the probability that parent(s) had moved in with the respondent. (The effect is significant at the .01 level). It appears then that the partial effect of grandparent co-residence is the same as the unconditional effect reported in the simpler tabulations above.

Still, the table's findings are open to criticism because of the omission of a potentially important variable--the income of the grandparents. Suppose the grandparent moved in with the parent because the former was quite poor. With positive inter-generational correlation in incomes, the dummy for grandparent co-residence could be picking up the effects of unobservables in parental income. The fact that the grandparent was so poor that he/she had to move in with his/her children could indicate that the next generation is poor as well, so the elderly have to move in with their children.

Yet the NSFH contains information that further helps mitigate the problem of intergenerational correlation of income. Our approach is concerned with the formation of preferences, so it would be useful to look at a variable that measures the willingness of respondents to make transfers to their parents. Respondents were asked if they agreed or disagreed with the following statement: "Children should let aging parents move in with them when the parents are too old to live on their own." More than half the respondents agreed with the statement, although in fact only about 2 percent of elderly parents live with their children . This discrepancy, however, is not inconsistent with truthful attitudinal responses. A willingness to let parents move in is only a necessary condition for their move, which involves both preferences and budget constraints. And public income

transfers to the elderly have sharply reduced the number of elderly parents who move in with their children (Becker and Murphy [1988a], Kotlikoff [1992]). We recognize that there can be considerable differences in what people say and what they do, but the respondents are not likely to have overstated their generosity for the sake of impressing the interviewer because the respondents filled out a questionnaire in private. Of the two subsamples, 56.5 percent of the 1,253 who experienced grandparent co-residence agreed with the statement, compared to 52.8 percent of the 5,785 who did not experience grandparent co-residence. (Note that the sample is limited to those with at least one living parent).

The possible responses to the attitudinal statement (total sample averages are given in parentheses) were "agree strongly" (17 percent) "agree" (37 percent) "neither agree nor disagree" (35 percent) "disagree" (9 percent) and "strongly disagree" (2 percent). Ordered probit estimates that control for respondent and parental characteristics are given in table A-2. They indicate the same result: having a grandparent move in when the respondent was young positively affects reported attitudes concerning providing parents with housing.

While these results must be interpreted cautiously, note that there are forces that could affect attitudinal responses in the opposite direction. Having a grandparent move in may divert family resources from the child, exerting a negative influence on the willingness to have parents move in. Yet despite these possible influences, we find a positive effect.

We note here the strong evidence from demand analysis studies that the habitual component of consumption is proportional to past consumption, and that habit plays a very important role in consumer behavior (see Becker [1991] and Heien and Durham [1991]). This suggests that exposure to repeated, especially regular attention and care by parents to grandparents would result in a "habit" of care-giving in adulthood.

Findings from psychology, demography, and sociology are consistent with the evidence reported above. For example, in a review of evidence from psychology concerning parents as role models for child behavior, Radke-Yarrow, Zahn-Waxler and

Chapman (1983) report that, in addition to laboratory-type studies that documented the influence of parental role models on child behavior,

> Data from a very different context also make the link between parental model and child behavior. London (1970) found that in their retrospective accounts of childhood, Christians who rescued Jews from the Nazis revealed a strong identification with moralistic, principled parents. Rosenhan (1969) provides data in a study of youth who were involved in the Civil Rights movement. He classified the youth as either fully committed altruists (i.e., with sustained personal involvement in work with the underprivileged) or as partially committed (i.e., participation in one or several freedom rides). From detailed life-history interviews, Rosenhan characterized parental behavior. Parents of the fully committed youth had themselves been involved in altruistic, social causes of considerable magnitude. They had given their children many opportunities for observing and participating in these causes. (Radke-Yarrow, Zahn-Waxler and Chapman, p. 503).

There is considerable demographic evidence that events experienced during childhood impinge strongly on conduct in adult life, and of the importance of the family context in which children grow up. Teenage fertility and divorce constitute two examples. Daughters of teenaged mothers face significantly higher risks of teenaged childbearing than daughters of older mothers. In general, patterns of teenage family formation, that is, marriage and childbearing behavior, tend to be repeated intergenerationally (Kahn and Anderson [1992]). Children of divorced parents appear more prone to divorce than children whose parents stayed married. For example, white women who were younger than 16 when their parents divorced or separated were 59 percent more likely to be divorced or separated themselves (Glenn and Kramer [1987]).

Further examples include: intergenerational transmission of parenting techniques--parents who use harsh discipline, for example, are more likely to have been severely disciplined themselves (Sears, Maccoby and Levin [1957]); child abuse--children with abusive parents are more likely to abuse their own children (Bandura [1986, p. 265]); affectional closeness--self-reported measures of closeness to parents during adolescence are highly correlated with such measures once adolescents reach adulthood (Rossi and Rossi [1990]); early family relationships and assistance--quality measures pertaining to

early parent-child relationships are positively associated with contemporary assistance from adult children to parents (Whitbeck, Simons and Conger [1991]). These findings are consistent with Becker's (1991) prediction that through habit formation early life events can have a significant impact on behavior later in life.

There is a large sociological literature concerning the intergenerational transmission of attitudes. The typical study is conducted as follows. Parents and their children are asked about their views on politics, religion or women's rights. The researchers measure parent-child correlations in the responses, which are usually positive and large, though often the underlying reasons are not provided. (Republican parents might have Republican children because both generations are wealthy, for example.) Some studies (for example, Glass, Bengston, and Dunham [1986]) attempt to separate the effects of incomes and tastes but access to the necessary list of controls is often incomplete. (The data set used by Glass, Bengston and Dunham contains income and education measures for the children but not for the parents).

Even if researchers using household microdata could control perfectly for budget-constraint variables, there are reasons why intergenerational congruence in attitudes might not necessarily imply parental influence as a causal mechanism. Parent-child attitude similarity could be generated, for example, by the media, genetics or even child influences on parents (Smith [1983]).

While household microdata studies are not informative about the causal nature of attitude transmission, controlled, laboratory experiments of social psychologists do point to a causal mechanism between parental role models and child imitators. Bandura (1986) cites several laboratory studies showing that children mimic punishment techniques inflicted on them when given an opportunity to punish others. And numerous controlled experiments cited by Eisenberg and Mussen (1989) indicate that children's pro-social

behavior--giving gifts to others, for example--is enhanced when role models increase their own pro-social behavior.[11]

Despite all limitations, the evidence from sociology and psychology appears consistent with the idea that traits can be passed from one generation to another by way of example.

B. The Demonstration Effect

Assuming that by setting an example parents can influence the preferences of their children, is there evidence that parents use this leverage to enhance their well-being? We address this issue by investigating the effects that children of respondents have on the "services" that respondents provide to their parents. The hypothesis is that, in line with remark 4 of Section II, the *presence* of children will increase the quantity of services that respondents provide to their parents.

We measure services by respondent-parent contact (visits and telephone calls) as, for example, in Bernheim, Shleifer, and Summers.[12] Respondents reported frequency of contact, which we translate into number of contacts: not at all--0, about once a year--1, several times a year--6, one to three times a month--24, about once a week--52, several times a week, 100. We add visits and telephone calls and aggregate across parents and parents-in-law.

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[11]For example, in a typical study, fourth- and fifth-graders face a situation in which they must decide whether to donate some of their winnings from a game to charity. The treatment group is shown the example of a "model," i.e., an adult who demonstrates, solely by example, the norm of giving. These children were more likely to contribute than those in the control group, which had no model. The study also found that repeated examples reinforce the impact of the model on imitative behavior.

[12]Contact from children could in some instances be critical for the well-being of parents. Indeed, evidence from the medical literature attests to the life prolongation effect of companionship. A study of 1200 heart attack survivors finds that patients who lived by themselves were nearly twice as likely as those with companions to have another attack or die from one within six months. None of the known risk factors for second heart attacks--advanced age, low socioeconomic status, or severe heart damage--accounted for the ill health of subjects who lived alone. The explanation suggested by the authors of the study is that "...human contact may subtly affect heart function." (Case, Moss Case, McDermott and Eberly [1992]).

We employ a long list of controls in the estimating equation for services. We enter a vector of respondent characteristics: income and wealth, education, age, marital status, number of siblings, and dummies for whether the respondent or the spouse work full-time, for whether the household has two earners, and for race. We also enter parental characteristics: imputed permanent income, number of living parents and parents-in-law, distance of parents and of parents-in-law from the respondent's home, and dummies indicating whether at least one parent or parent-in-law is alive, whether parents or parents-in-law are married and together, and whether parents or parents-in-law are divorced.

Parental income is imputed from earnings functions estimated within the sample for men and women separately. The NSFH contains information on parental schooling, occupation, and age. We use the estimates to impute permanent income for parents by substituting their characteristics into the respondent earnings functions to predict parental earnings at age 45. We also impute a cohort effect (three quarters of one percent) to reflect productivity increases. The cohort effect is one-half the average increase in output per person-hour from 1957 to 1985. The earnings functions are estimated using generalized Tobit. For parents-in-law, only schooling and age are available, so to impute their permanent income we repeat the process described above, omitting occupation from the earnings functions. We include observations with missing information necessary to impute parental income, and flag them with a dummy variable indicating that parental income is missing. In addition to these regressors we add a dummy indicating whether the respondent's household is childless. We find that having a child increases parent-child contact by 10 contacts per year (table 1). (Total contact--visits plus telephone calls--average 140 per year in the sample.) Next we enter, in addition to the dummy for being childless, the number of children aged 0 to 4, the number aged 5 to 18, the number older than 18, and the number of children living outside the respondent's home.

We find that households with a child older than 18 living at home contact their parents 19 more times a year than childless households. Those with one child aged 5 to 18

contact their parents 10 more times than childless households (table 2). Though having at least one child raises contact with parents, which is consistent with remark 4 of Section II, having several children can reduce contact relative to childless households. For example, estimated contact is lower for households having three children between the ages of 5 and 18 than for childless households. One reason why contact could decline with the number of children is that visits--especially long-distance ones--might become considerably more costly. But another possible reason is that having several children lessens the need for parents to use the demonstration effect. Suppose parents want a child to provide attention and care when the parents reach old age. If the likelihood that *a* child will give care is independent, or largely independent, of the presence of other children, and if there is some random, independent probability of a child being of a caring type, then, a larger number of children translates into a higher such likelihood.

Presumably, visits are more effective as a means of setting example than telephone calls. If this is so, and the demonstration effect is important, the *composition* of contact should be affected by the presence of children. We find some evidence in support of this prediction. For the overall sample, the number of visits is 40 percent of total contact. The fraction of contact that is comprised of visits is a percentage point lower for childless households than for those with one child aged 5 to 17 (table 3). The difference in composition is significant at about the .15 level.

C. Additional Results

C.1   Respondent contact with parents is responsive to income and prices (tables 1-2). As would be expected with time-intensive activity, higher earnings reduce contact. The earnings effect on contact is negative until earnings reach nearly $500,000. But the earnings effect on contact is small and only marginally significant--at sample means, a $10,000 increase in earnings reduces the number of contacts by a little more than one. The contact effects of full-time employment for men and women and dual-earner status are not

statistically significant. Having higher net worth increases contact, though again the impact is small--a $150,000 increase in net worth is associated with a one-unit increase in contact.

Distance is a reasonable proxy for the price of contact. As we would expect, distance exerts a negative, precisely measured effect on respondent-parent contact. But the elasticity of contact with respect to distance is quite low in absolute value, which accords with findings from other data sources (for example, Klatzky [1971]). This evidence suggests that there are few substitutes for parent-respondent contact. Supplementary evidence on this issue is provided by Hill (1970), who interviewed three generations of 85 families about financial and in-kind transfers exchanged between generation members. He found that survey respondents gave quite low preference ranking to non-familial sources of in-kind aid and contact, such as clergy or social workers, compared to familial sources.

This evidence is consistent with the idea that parents cannot buy attention (or attention of the right type) in the marketplace. With regard to a service as special as filial attention, the market can provide only poor substitutes. Moreover, attention is personal and intimate, and as such is difficult to define. Therefore, the transaction costs associated with an arrangement to have attention supplied from outside the family are bound to be quite high.

C.2   Contact falls with the age and education of the respondent. Each finding is consistent with an inverse relationship between the permanent income of respondents and the amount of contact. For example, holding earnings and earnings determinants fixed, being older implies lower permanent income. Though contact falls with respondent education, however, it is by no means clear that contact measured in "quality units" falls as well. Presumably, better educated respondents are able to provide attention and high quality assistance to parents, perhaps means more sophisticated than calls and visits.

C.3   The proxy for permanent income of the respondent's parents is inversely related to contact, contrary to the findings reported by Bernheim, Shleifer, and Summers. This finding is intriguing because it suggests that the promise of a bequest conditional on

desirable behavior as measured by contact may not be an important determinant of parent-child contact. Indeed, the parental income effect suggests that contact may in part be motivated by altruism. The effect of the number of siblings on contact is consistent with the altruistic motive as well. If among siblings contact with parents is a "public good," having more siblings could reduce contact. Yet part of the pattern can also be consistent with the demonstration effect. Contact that is, or appears to be, motivated by altruism may have a stronger effect on children than contact that appears to be self-interested. And, while contact with parents who are in poor health is less frequent (tables 1 and 2), the fraction of contact comprised of visits is higher when parents or parents-in-law are in poor health.

D. Additional Issues

Our approach leads us to expect gender differences in the incentives to employ the demonstration effect, or any other means to modify child preferences, because men and women have substantially different life expectancies--in many countries the difference exceeds 10 years. In addition, since wives are usually younger than husbands, the latter are more likely to have their spouse take care of them when they become infirm. Since wives are more likely to be widows when they become infirm, women would probably rely on spouses for care much less than men and instead would expect to rely on their children more than men. Women, therefore, have a much longer horizon over which to reap benefits from child loyalty and child-provided services.[13] Of course, there are other reasons why such gender differences could be expected, the most prominent of which are male-female wage differences and specialization within the household.

Since our empirical results measure outflows of contact, it is difficult to determine in the case of a married couple whether it is the husband, wife, or the couple who is providing the contact. But findings from other data sets--particularly those that measure

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[13]This reasoning is consistent with a study by Schultz (1990) who examines fertility behavior in Thailand and finds that wives prefer more children than husbands. See also Raut (1992) for an example of a theoretical analysis of fertility decisions in a framework in which parents receive old-age support from children.

inflows of services--indicate strong gender differences in the provision of services to elderly parents. For example, Stoller (1983) collected information from a sample of 753 people aged 65 or over, on assistance they had received from informal support networks (up to 5 people). Nearly half these informal helpers were adult children. Stoller found that, in terms of hours of assistance provided, daughters gave twice as much help to parents as sons (30 hours per month versus 15). Unfortunately, Stoller did not have wage information for sons and daughters, but she did have information on employment status. Being employed reduced significantly the sons' time spent providing help, yet mattered little for daughters' time. Tomes (1981) estimated a "child services" equation (measured by number of visits to parents) and had information about earnings in addition to employment status. He found, as Stoller did, that women provided more services than men. Leigh (1982) also finds a positive female effect for interaction with parents and cites several other studies that provide the same result.

Recent findings from a survey of children of elderly Massachusetts residents provide further evidence to this effect, and report that financial assistance from children to their elderly parents, even in cases in which the elderly are quite poor, is rare (Kotlikoff and Morris [1989]). Since financial transfers are not visible--or are much less visible to grandchildren than, say, visits--this last result is well-predicted by the demonstration-effect argument. But the more suggestive finding is that which pertains to women. As with other studies of gender differences in the provision of care to elderly parents, the tempting explanation is that the shadow price of women's time is lower. But the pattern of daughters providing more care than sons holds even when the study controls for the marketplace earning effect. The demonstration-effect approach then provides an explanation for gender effects in the provision of care that are not accounted for by wage differences.

We have not specifically addressed the issue of the differential support that parents receive from daughters versus sons in developing countries. A recent study of transfers to the elderly in Karateng, Kenya (Hoddinott 1992) finds that mature resident daughters (non-

students over 15 years of age) provide twice as many hours of assistance with household tasks than mature resident sons, and that absent daughters provide five and a half times as many hours of assistance as do absent sons. These findings are considered somewhat perplexing since land in Karateng is passed on from fathers only to their sons; as land is not bequeathed to daughters, the threat of land disinheritance does not apply to them. (Land is by far the main familial asset and its value rises as it becomes more scarce). The author is unable to account for daughters' substantial support, intimating that "[i]nvestigation into the reasons why daughters provide assistance, particularly those who are no longer members of their parent's household represents an area where future research would be valuable." Our approach might help in this regard.

In a survey of old-age security motives for fertility in developing countries Nugent (1985) stresses that such security systems are reliable only if the children's loyalty can be reasonably guaranteed. He notes further (pp. 78-79) that

> Notably, the most important locus for loyalty training is the household itself, and the most important dispensers of such training are usually women. In part, this is because they shoulder most of the responsibility for managing household activities and in part because...it is they who have the most to gain from loyalty training.

An alternative to the demonstration effect mechanism for inculcating child loyalty is for parents to engage in moral training of their children through the use of institutions such as schools or churches. Because of the above mentioned reasons, we would expect women to be disproportionately engaged in religious activities, in addition to and independently of the effects of the female-male wage differential. Women stand to gain more from having children who have been duly trained. Empirical studies of religious participation (Azzi and Ehrenberg [1975], Ehrenberg [1977]) indicate that, controlling for wages of men and women, religious participation by women exceeds that of men. Further, participation increases with the number of school-age children. Thus, empirical patterns for religious participation parallel those of the demonstration effect, suggesting that these are alternative mechanisms for achieving the same objective.

IV. Conclusions

Family and group norms such as guilt and obligation are potentially powerful forces for determining behavior. But a choice-theoretic approach to norms does not exist in either the economic or sociological literature. This paper takes a preliminary step toward the development of such an approach. Parents expend resources to inculcate preferred behavior patterns in their children. We argue that familial norms do not emerge on their own; they are deliberately cultivated by rational agents.

Our approach complements related work dealing with familial transfers. For example, Ehrlich and Lui (1991) consider an overlapping generations model in which parents invest in children in order to receive financial and in-kind old-age support from them later on in life. Support from children is secured through self-enforcing contracts. The assumptions invoked to achieve self-enforcement include first, that parents and children have identical preferences, and second, that not supporting parents leads to similar behavior on the part of the violator's own children. Our approach goes a step further with respect to the enforcement issue by analyzing the mechanisms through which preferences of children can actually be affected by parental behavior. Rather than *assume* that reneging on a contract will lead children to do the same, we argue that children are taught how to deal with implicit contracts by observing their parents' behavior, and that parents are aware of this learning facility and conduct their affairs accordingly.

Our approach also has implications for the labor market behavior of women. In light of the connection between gender and the demonstration effect discussed above, we would expect women's labor market participation to be less than men's even if, for example, there were no wage discrimination or differential by gender. Women will be less active in the labor market than men because the returns arising from alternative, non-labor market activity--administering and demonstrating care--are higher. The key elements in

women's allocation of time to market and non-market activities are life expectancy and the age difference at marriage. As we have noted, the likelihood that wives will provide at least some care for their spouses in old age is greater than the likelihood that women will be cared for by their husbands. Both because they are younger than their husbands and because their life expectancy is longer, women are less active participants than men in labor market activities.

With the availability of additional data, several implications of our approach could be subjected to simple tests, and could explain several phenomena. For example, Newsweek magazine (December 23, 1991) reports on evidence presented to the U.S. Senate Committee on Aging, and informal evidence provided by the American College of Emergency Physicians that elderly people are being abandoned in hospital emergency rooms under the pretext of illness, "usually by relatives who are too poor, too tired, or too stressed-out to continue providing care." All else being held constant, we would expect abandonment to be inversely associated with the presence of grandchildren.

Our approach also addresses a number of demographic issues. For example, in a population experiencing increased life expectancy, the number of would-be grandparents is rising. Because of the benefit arising from the care and attention of one's children if grandchildren are present, there is a larger constituency to support, encourage, and even subsidize the production of grandchildren. An aging population thus may have a built-in mechanism that operates against excessive growth of the average age of the population.

Our approach can help explain the evolution of norms in social groups larger than families. This is useful since the adoption of social norms by individuals is better understood than the process that translates the behavior and conduct of individuals or families into group norms. For example, our approach predicts that when a family's bequeathable wealth is low, family norms are more likely to evolve through the demonstration effect. The demonstration effect is more useful for parents who have little

in the way of other means (such as the promise of a bequest) to enforce implicit contracts with their children.

Further, the provision of care for the elderly by the state weakens incentives to inculcate values in children through the demonstration effect. Indeed, if inculcating the said values has the effect of producing better citizens in general, then the benefits arising from the state's care-giving functions may have to be weighed against an additional cost.

Future research might explore the potentially addictive qualities of guilt or a sense of obligation. Loyalty to parents might be addictive in the sense that the marginal utility of a current act of loyalty depends positively on the individual's history of loyal behavior. Becker and Murphy (1988b) show that it is this "adjacent complementarity" that can lead to addictive behavior. Further, they show that early events can have a profound impact on steady-state behavior. Parents have considerable leverage over implicit prices faced by their children and thus have the capability to inculcate addictive loyalty in their children. The demonstration effect is likely to be part of this process.

One final thought is worth noting. We have remarked on the possibility that parents would like their children to become parents themselves because it is likely that the children would then demonstrate attention and care. Yet it is possible that an alternative mechanism is at work: parenting and raising children bring about a degree of concern and care for others. This extends beyond one's children (to include one's parents), a positive externality of sorts. Caring practiced becomes a propensity. How caring and concern for others are forged, as opposed to the market and non-market consequences of their presence, is a topic that lies at the very frontier of research on the family.

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Table 1

OLS Estimates--Contact with Parents

Variable	Coefficient	t-value	Variable Mean
Constant	98.0062	10.861	1.0000
Earnings	-0.141189E-03	-2.613	31102
Earnings squared	0.192173E-09	2.064	0.25455E+10
Net worth	0.661938E-05	1.848	77665
Years of education	-2.33891	-5.434	12.919
Age	-1.23849	-11.082	36.570
Married	9.15356	2.901	0.61620
Female respondent	1.07519	0.422	0.57931
Husband and wife both work	3.23134	1.201	0.46659
Wife works full time	1.68723	0.689	0.42233
Husband works full time	-0.449929E-01	-0.017	0.51892
Black	15.4628	5.042	0.15412
Number of siblings	-1.08309	-3.807	5.3745
Number of living parents	32.5569	3.750	2.3459
Total parental income	-0.417313E-03	-4.876	46962
Parental income missing	-26.3241	-7.013	0.16519
Distance from parents	-0.280744E-01	-27.570	429.74
Distance from in-laws	-0.123179E-01	-10.162	1327.1
Have any living parents	62.5779	6.380	0.93524
Have any living in-laws	45.4408	4.845	0.51428
Parents live together	-5.97531	-0.692	0.41413
In-laws live together	51.9773	6.208	0.25755
Parents divorced	-6.97486	-2.478	0.16491
In-laws divorced	-1.74250	-0.436	0.76923E-01
Parent(s) in bad health	14.5534	1.609	0.16177
In-law(s) in bad health	9.28535	0.992	0.80202E-01
Have no children	-10.1760	-3.887	0.26561
Sample	7,319		
Dependent variable mean	140.072		
R-squared	0.325164		
F-statistic	135.1378		

Table 2

OLS Estimates--Contact with Parents
Number of Children Included

Variable	Coefficient	t-value	Variable Mean
Constant	103.637	10.929	1.0000
Earnings	-0.130579E-03	-2.419	31102
Earnings squared	0.186293E-09	2.005	0.25455E+10
Net worth	0.610603E-05	1.709	77665
Years of education	-2.53214	-5.827	12.919
Age	-1.16248	-8.669	36.570
Married	8.42021	2.655	0.61620
Female respondent	1.46286	0.575	0.57931
Husband and wife both work	3.32379	1.227	0.46659
Wife works full time	-1.84012	0.750	0.42233
Husband works full time	0.978985E-01	-0.037	0.51892
Black	15.7099	5.128	0.15412
Number of siblings	-0.939674	-3.284	5.3745
Number of living parents	32.8070	3.788	2.3459
Total parental income	-0.456864E-03	-5.321	46962
Parental income missing	-27.4215	-7.304	0.16519
Distance from parents	-0.278808E-01	-27.407	429.74
Distance from in-laws	-0.122988E-01	-10.174	1327.1
Have any living parents	63.7738	6.518	0.93524
Have any living in-laws	46.4772	4.969	0.51428
Parents live together	-5.47028	-0.635	0.41413
In-laws live together	51.8018	6.201	0.25755
Parents divorced	-6.37436	-2.269	0.16491
In-laws divorced	-1.62743	-0.408	0.76923E-01
Parent(s) in bad health	14.7616	1.636	0.16177
In-law(s) in bad health	8.59604	0.921	0.80202E-01
Number of children aged 0-4	1.68370	0.839	0.36959
Number of children aged 5-17	-6.68682	-5.823	0.81596
Number of children aged 18 and over	3.02809	0.851	0.69682E-01
Number of children outside of houshold	-1.87351	-1.878	0.56387
Have no children	-16.6876	-4.903	0.26561

Sample	7,319
Dependent variable mean	140.072
R-squared	0.329296
F-statistic	119.2731

Table 3

Tobit Estimates--Visits as a Proportion of Total Contact

Variable	Coefficient	t-value	Variable Mean
Constant	0.575215	23.113	1.0000
Earnings	-0.825491E-06	-5.890	31527
Earnings squared	0.111836E-11	4.678	0.26033E+10
Net worth	0.165656E-07	1.636	76522
Years of education	-0.123425E-01	-10.798	12.953
Age	-0.657669E-03	-1.842	36.293
Married	-0.709700E-02	-0.855	0.62306
Female respondent	-0.661877E-02	-1.001	0.57772
Husband and wife both work	-0.831611E-02	-1.185	0.47522
Wife works full time	-0.817652E-02	-1.280	0.42622
Husband works full time	0.129939E-01	1.899	0.52633
Black	0.495641E-02	0.616	0.15137
Number of siblings	0.464027E-02	6.195	5.4023
Number of living parents	0.953045E-01	4.259	2.3785
Total parental income	-0.706863E-06	-3.179	47880
Parental income missing	-0.798556E-02	-0.808	0.16094
Distance from parents	-0.862539E-04	-31.239	428.74
Distance from inlaws	-0.260496E-04	-8.274	1363.2
Have any living parents	-0.246543E-01	-0.969	0.93847
Have any living inlaws	-0.695734E-01	-2.880	0.52394
Parents live together	-0.882218E-01	-3.965	0.42242
Inlaws live together	0.400520E-01	1.874	0.26429
Parents divorced	-0.660497E-01	-2.834	0.16460
Inlaws divorced	-0.807503E-01	-3.355	0.82371E-01
Parent(s) in bad health	0.158130E-01	2.157	0.16390
Inlaw(s) in bad health	0.194000E-01	1.885	0.77584E-01
Number of children aged 0-4	0.295580E-02	0.568	0.37609
Number of children aged 5-17	-0.679285E-02	-2.269	0.82118
Number of children aged 18 and over	-0.116601E-01	-1.237	0.68431E-01
Number of children outside of houshold	0.774987E-03	0.291	0.54309
Have no children	-0.192451E-01	-2.163	0.26556

Sample	7,102
Dependent variable mean	0.3971
Log-Likelihood	-101.03

Appendix Table 1

Probit Estimates--Parents Ever Lived in Respondent's Home[a]

Variable	Coefficient	Asymptotic t-value	Variable Mean
Constant	-1.45177	-9.407	1.0000
Earnings	-0.110800E-05	-1.188	26,122
Earnings squared	0.182301E-11	1.344	0.22010E+10
Net worth	0.921088E-07	1.841	82,277
Years of education	-0.128665E-01	-1.899	12.356
Age	0.102080E-01	5.867	43.462
Married	0.905547E-01	1.588	0.55980
Female respondent	0.600528E-01	1.516	0.59857
Black	-0.115943	-2.211	0.16655
Number of siblings	-0.190484E-01	-3.845	5.4229
Number of living parents	0.429727E-01	0.188	1.7575
Total parental income	-0.710884E-05	-3.147	35,177
Parental income missing	-0.665766E-01	-0.774	0.12399
Total income of deceased parents	0.351028E-05	2.066	13,132
Deceased-parent income missing	0.787344E-02	0.159	0.20440
Distance from parents	-0.513261E-04	-1.997	321.76
Distance from in-laws	0.102053E-04	0.336	993.89
Have any living parents	0.367602E-01	0.159	0.70087
Have any living in-laws	0.711440E-01	0.305	0.38527
Parents live together	-0.296877	-1.311	0.31008
In-laws live together	-0.252981	-1.101	0.19304
Parents divorced	0.188944	0.808	0.12123
In-laws divorced	0.286618	1.185	0.60153E-01
Number of children aged 0-4	-0.596433E-01	-1.358	0.28368
Number of children aged 5-17	0.209958E-01	0.955	0.66046
Number of children aged 18 and over	0.111419	2.350	0.81739E-01
Number of children outside of houshold	0.551650E-02	0.463	0.96992
Have no children	-0.154793	-2.577	0.25340
Grandparents lived w/ respondent	0.190904	4.035	0.16798
Any parents who have died	-0.389584E-01	-0.565	0.40399

Sample	9,775
Respondent's parent moved in	1,000
Respondent's parent never moved in	8,775
Dependent variable mean	0.102
Log-likelihood	-2906.5
Likelihood at binomial	-3226.8

a. Dependent variable = 1 if respondent's parents ever moved in with them, 0 otherwise.

Appendix Table 2

Ordered Probit Estimates--Respondent's Attitude Toward Letting Parent Move In
Sample: Respondents Having at Least One Living Parent or In-Law

Variable	Coefficient	Asymptotic t-value	Variable Mean
Constant	2.17829	17.702	1.0000
Earnings/30,000	-0.723120E-01	-3.621	31,281
Earnings squared/30,000^2	0.288032E-02	2.336	0.25731E+10
Net worth/80,000	-0.124324E-02	-0.341	78,110
Years of education/12	-0.153966	-2.370	12.959
Age/36	-0.942983E-01	-1.650	36.511
Married	0.215184E-01	0.577	0.61537
Female respondent	-0.135740E-01	-0.500	0.58113
Black	0.285708	7.631	0.15303
Number of siblings/5	0.583294E-01	3.418	5.3435
Number of living parents/2	-0.139930	-0.631	2.3596
Total parental income/50,000	-0.576519E-01	-1.056	47,400
Parental income missing	-0.273915E-01	-0.595	0.16212
Distance from parents/400	0.126860E-01	2.488	429.76
Distance from in-laws/1,300	0.523446E-01	2.564	1,319.89
Have any living parents	0.941122E-01	0.753	0.93961
Have any living in-laws	0.221429E-01	0.186	0.51265
Parents live together	0.126715	1.151	0.42398
In-laws live together	-0.309215E-01	-0.297	0.25575
Parents divorced	0.397989E-01	0.345	0.16382
In-laws divorced	0.103339	0.876	0.81273E-01
Number of children aged 0-4	0.472078E-01	1.957	0.36928
Number of children aged 5-17	0.199946E-01	1.435	0.81216
Number of children aged 18 and over	0.550710E-01	1.253	0.69480E-01
Number of children outside of houshold	-0.308733E-02	-0.263	0.55229
Have no children	0.520236E-01	1.230	0.26741
Grandparents lived w/ respondent	0.112201	3.282	0.17803
μ_1	0.787466	25.395	
μ_2	1.94106	56.002	
μ_3	3.00771	81.418	

Sample	7,038	1.0000	
Disagree Strongly	157	0.0223	
Disagree	618	0.0878	
Neutral	2,498	0.3549	
Agree	2,579	0.3664	
Agree Strongly	1,186	0.1685	
Log-likelihood	-9292.5		
Likelihood at binomial	-9389.0		