

The Social Production of Intergenerational Exchange: The Value of Social Capital

E. C. Hedberg
University of Chicago

--Abstract

The population of the United States is aging. Because of this demographic shift, discussion of social support is leading many scholars to discussion of patterns of intergenerational giving. This paper adds to this discussion by fusing it with discussions of social capital and the production of collective goods. Using Hierarchical Linear Modeling (HLM), logistic regressions elucidate the value of various forms of social capital by how increases in such commodities increase the chance of receiving intergenerational support. Furthermore, the concept of saturation—how much of any social capital commodity exists within a familial group—is used to explain variation in value across families. Intergenerational exchange is found to be a collective good produced by individual family members' investments in social capital. This relationship is shown to be one that accelerates—i.e. the more saturated social capital is within a family the more a single unit increase affects the chances of help.

--Extended Abstract

BACKGROUND

The United States, like much of the post-industrial world, is experiencing a second demographic shift (see Hayward and Zhang 2001): the proportion of individuals aged 65 and over is increasing. Indeed, over the course of the twentieth century the percentage has tripled from 4% to 12% (see figure 1). As the population ages, both academic and practical interest in intergenerational exchange will become ever increasing as the demand on kin relations for social support increases.

Intergenerational exchange is defined here as any transfer of material goods, money, or emotional support from able persons to those who need help within the same kin group but of different generation. Although intergenerational exchange is often thought of as transfers from young to old, this definition also includes those transfers from older members to young (see Cox and Rank 1992; Eggebeen 1992; Hogan, Eggebeen, and Clogg 1993; Krause 2001; Lee and Ellithorpe 1982; Silverstein and Bengtson 1997).

With concern for familial social support comes conceptual concerns regarding how to discuss within-family exchanges (Allen, Blieszner, and Roberto 2000; Bumpass 1990; Mancini and Blieszner 1989; Smock 2000). Several theories regarding intergenerational exchange have been offered by social scientists over the years which range from the purely rational (such as Cox and Rank 1992) to those based on generalized norms (such as Bengtson and Dowd 1980; Silverstein and Bengtson 1997).

Each definition uses an individual model of exchange: intergenerational exchange is conceptualized as several independent exchanges. However, the practical reality of intergenerational exchange posits that several members assist a relatively small number members in need such as newly weds or the few extreme elderly family members.

As intergenerational exchange becomes a major player in social support, better theoretical frameworks need to be developed to elucidate its properties. I propose that intergenerational exchange is conceived as a collective good (as outlined by Marwell and Oliver 1993) with an accelerating production function (see below). This production function is specified as a relationship between amounts of interpersonal social capital commodities (as conceptualized by James S. Coleman 1988; 1989; but specifically 1990; and later Sandefur and Laumann 1998) and the chance of experiencing intergenerational exchange.

This paper has two goals. First, I will combine elements social capital from Coleman (1990) with that of collective action from Marwell and Oliver (1993) to show how intergenerational exchange fits within the larger framework of micro social behavior. Second, these concepts are coupled with an appropriate analytical research design and national family data (NSFH).

THEORY

Social Capital and the Duality of Intergenerational Exchange

Social capital is a general term used by many social scientists to describe the benefits of group membership. The “groups” which scholars include small groups of diamond retailers (Coleman 1990), kin groups of immigrants (Portes and Sensenbrenner 1993) the electorate (Putnam 1993; Putnam 1995a; Putnam 1995b) to organizational networks (Burt 1992) among many others. For every group for which social capital is applied, there exists a disparate definition. There is some agreement, however, that social capital is a sense of community and trustworthiness, which exists among a group of people. This “sense” of community facilitates several actions that benefit both the group and individuals within them. This paper uses Coleman’s (1990) definition of social capital as connections between groups that facilitate social action along with Sandefur and Laumann’s specification of “benefits” of social capital.

Intergenerational exchanges are social capital benefits as outlined by Sandefur and Laumann (1998): information, influence, and reciprocity. Information exists as intergenerational exchange via emotional support, daily visits and other informal social interactions. Influence exists as a set of expectations about intergenerational activities or implications of such actions. What is often over looked is that these relationships co-occur with other forms of social capital. This multiplicity (see Kapferer 1969) of social capital and intergenerational exchange are not visualized as a two dimensional diagram of dots connected by single lines, but instead thought of as a complex tethering of individuals by several different relationships which presuppose some value (see figure 3).

The Dual Nature of a Social Capital Commodity

Each form of intergenerational exchange is a form of social capital, and as such is a commodity. Like other commodities, its value is two fold (Marx 1908). First, intergenerational exchanges have a use value. This use value has face validity: all favors, telephone calls, monetary exchanges, all contribute to the general health and wellbeing of the recipient. Second, these same actions have an exchange value: intergenerational transfers beget other social exchanges. Expectations, communications, and past actions are all elements of what ties people together in social groups, and from a social group comes the social capital used to leverage further interactions (Coleman refers to this as a “favor bank” 1990) such as intergenerational exchanges (which have use value).¹ Use value is something that exists between any two individuals and exchange value is a process involving the entire family.

The important take-away is that any exchange between family members comes at a “price”. To secure the potential for exchanges, any family member must involve himself or herself in the “family market” of exchanges and communication. Imagine an individual who someday will need assistance from family members some day. This individual can behave in two ways; they can either increase contact with family members or not change the level of contact. If this individual increases contact with family, helps out with favors, etc (i.e. increasing intergenerational activity and thus investing in social capital), they will most likely increase the chance that they receive help in the future. If they do not, it is conceivable that there will be no effect on the chances of help. The relationship between how much an individual invests in social capital (giving to any member) and the chance of receiving help (from any member) is the value of social capital and conversely the price of intergenerational exchange.

However, this model is further complicated by the fact that families are different. There are families with relatively little social capital, and families with relatively high social capital. Also, as people need give help, they also contribute to the overall amount of social capital that exists within that family—which changes the value. If we think of each family as its own “little economy”, we expect that the value of social capital is as heterogeneous as the families that determine it.

Thus, intergenerational exchange is a process that exists both between members of a familial group by instrumental exchanges, and at the level of the family in the fungible social capital created for use in further exchanges at the family level. This phenomena requires an analysis approach which includes both individuals and social structure. To capture this, I take the approach of methodological individualism (see Giddens 1984 , page 214), where social phenomenon begins with individuals’ actions.²

¹ Another way to think about it: intergenerational exchange is an example of how social capital does indeed operate as a “capital”. Any economics text will define capital as the produced means of further production, or put another way: material (e.g., timber) or financial (e.g. credit) goods generated from one process and inputted into another. With regards to intergenerational exchange, social capital goes beyond being simply a metaphor: intergenerational exchanges are both “products” (produced assistance) and investments for further intergenerational exchanges: produced means of further production.

² Such as a pattern of several people helping a new mother care for a child quickly engenders a norm of daily help (further explored in Astone, Nathanson, Schoen, and Kim 1999).

More specifically, I posit that the potential for intergenerational exchanges is a familial good to which each member contributes. In other words, intergenerational is produced by some family members and available to most family members in good standing³.

The Production of Intergenerational Exchange via Social Capital

There are many examples of collective goods: public education, roads, national defense, and block parties, among others. A collective good is defined as a single thing or service produced by several people and benefits those or other persons⁴. Some collective goods come in the increased chances of something happening (lumpy goods). The potential for any family member to receive intergenerational help is a collective good produced by individual investments in social capital of all family members. Each investment in communication, reciprocity or expectations has a return value to each family member in the form of increase chance of intergenerational exchange⁵.

Marwell and Oliver (1993; Oliver 1993) have thought extensively about collective among networks of people. They note that any process of reaching a collective goal can be modeled as a production function. These production functions take into account several factors both micro and macro: the value returned to an individual for his or her contribution at the micro level, and the over all pattern of this return rate over the course of the collective action. For example, figure 4 shows four different types of production functions. A monotonic production function is one where each contribution buys an equal amount of that collective good and thus gives all contributions the same weight. A stepwise function is one where a certain threshold needs to be passed, like elections. A third order function involves little return during the start of a collective action, and then extreme returns during the peak of action that eventually decelerates. The forth is most common to economic events, where there are decreasing marginal returns.

However, I believe social capital operates like a standard—like a standard of communication—and thus as an accelerating production function. Accelerating functions are common in other areas of social action. The software market is a prime example: the value of an operating system (e.g. Windows or Macintosh) is contingent on how saturated the market is with compatible products (see Landau 1976 for a formal definition). I believe that social capital (expectations, communication, reciprocity) operates as a standard of social enforcement of norms. Coleman himself noted that enforcement of

³ By “good standing” I simply mean those family members who are active participants.

⁴ A collective good benefits each person via the value returned to a contributor. For example an office coffee maker reduces trips employees take to the local coffee shop, the thus benefit those who contribute to its purchase is in money saved. Usually, collective goods are paid for by several contributions of money or resources. For example, toll roads are paid for and maintained by the tolls paid by drivers as they pass checkpoints. Theoretically, each contribution has some return value to each constituent who contributes. In the toll road example, each payer gives money that pays for the maintained road. The value to the taxpayer is the ability to use the road and whatever externalities come from its use. Other collective goods, like public roads, are paid by some and used by others.

⁵ Economics defines value as the “power of a commodity to command other commodities in exchange for itself” Samuelson, Paul A. and William D. Nordhaus. 1985. *Economics*. New York: McGraw-Hill Book Company.. The value of various forms of social capital is reflected in how much an increase in them between any two people affects the occurrence of intergenerational exchange.

norms is contingent on closure within social networks (1990); I consider “closure” as the saturation of social capital connections.

Social capital facilitates collective actions “better” in networks saturated with these connections than in networks with looser ties⁶. Family networks in which several people have frequent social capital connections can be thought of as families with a high saturation of social capital. Conversely, families with less frequent occurrences of social capital, connections have a low saturation of social capital.

To understand the relationship between social capital and intergenerational exchange a model including two elements is required. First, a relationship between “how much” of a social capital exists between two people and the chance of intergenerational exchange needs to be established. This can be done with a simple regression line where the chance of receiving intergenerational exchange is regressed on the amount of any social capital commodity; the slope—and the marginal change in probability—of this line is the value for a one unit increase. Second, this value itself needs to be regressed on a third variable: the amount of that social capital which exists within the family. To model this relationship, a hierarchical linear modeling approach is required.

EMPIRICAL ANALYSIS (PRELIMINARY)

The Model

To test this notion of intergenerational exchange the statistical model takes two elements into account. The first is the relationship between the occurrence of intergenerational exchange and the amount of social capital between any two people within a family. This is expressed as a logistic model where the dependent variable is the occurrence of a focal individual receiving intergeneration exchange-like assistance from kin other than siblings (such as daily household support like cleaning and shopping) and is modeled as a function of the levels of contact, expectation and past giving behaviors (from focal individual to kin) (see for example, equation 2). This model is adequate for determining the exchange rate of social capital commodities: the slope determines the marginal change in the chance of intergenerational exchange for single unit increases in the social capital between two kin members.

However, this model is not entirely adequate: different kin groups, or families, may have different exchange rates. I hypothesize that these rates are determined by the saturation of social capital within the family (see equation 3). Thus, in order to model

⁶ This is best illustrated by an example. Imagine a group of people who suddenly find themselves on an island. They know nothing about each other, they have no collective norms, goals, and they don't even know each other's names. However, because a storm is coming a single shelter needs to be built or they all could die. A few people decide that a shelter needs to be built and start to form relationships with other people. They risk much in those initial relationships. They work the hardest to find resources and come up with a plan. In general, those who first begin work on the shelter are contributing much, but if the project does not continue they have gained nothing because the shelter is not adequate. However, as each individual contributes, they each make the shelter stronger and each gain a better chance of surviving. However, those who continue to contribute from the beginning to the end can find their returns increase during the project as more and more people make the shelter a real possibility (see figure 2).

this multilevel phenomena, are hierarchical linear modeling (HLM) techniques are required (see Raudenbush and Bryk 2002).⁷

Briefly, this method analyzes ego centered networks by supposing that alters (several people connected in some way to a focal individual) are nested within an ego-centered network. Thus, their behaviors are expected to be a product of two processes: those between focal individual (ego) and individual kin (alters), and those between the alters and the entire group. As you can see, the hypothesis that posits that intergenerational exchange is governed by the between kin and between-group dynamics is appropriate for the HLM methodology.

Preliminary Results

Data for this analysis was taken from the first wave of the National Survey of Families and Households (Sweet, et al 2004), a national data set which comprehensive data regarding family giving patterns was gathered.⁸ This data set was reorganized into a data where help and social capital patterns of extended kin are keyed to family data containing information about overall levels of social capital, socio economic status, race, gender and marital status of the focal individual.

The dependent variable is whether the focal individual received help from kin. At the kin relationship level, this was predicted with several social capital variables. First, level of contact is a 0 (none) through 4 (high) scale denoting frequency of contact between the focal individual and kin. Second, level of expectations between focal respondent and kin is a scale from 0 (none) to 3 (high) capturing the number of emergencies for which the respondent would seek assistance from that kin. Finally, a dummy variable records whether the focal individual has given intergenerational assistance to the kin in the past captures any reciprocity effects.

The effects of these variables on the chance of receiving help are contingent on the saturation of the respective social capital phenomenon within the family. The effect of contact is predicted by the average level of contact (i.e. the saturation of contact) within the kin group at the family level. The effect of expectation is likewise predicted by the saturation of expectation; where saturation is not the “average” but rather the proportion of possible sources of help who where named came from the kin group and not friends, co-workers or neighbors. Finally, the effect of past giving behaviors is a function of how much the focal individual has given to kin in general. (see equations 2 and 3). Each of these functions included the control variables of average distance to kin (availability) and SES of the focal individual (need or demand for intergenerational help). *If social capital does indeed have an accelerating production function, we would expect that as saturation increase, so would the effect of social capital on intergenerational exchange.*

⁷ This is a variation on a methodological innovation used by Wellman and Frank (2001).

⁸ For an explanation of how the NSFH was converted into data for HLM use, see my MA located on the web:
http://homepage.mac.com/WebObjects/FileSharing.woa/wa/downloadFile?user=e_c_h&path=.Public/Hedberg_Masters_2004.pdf

Table 2 presents the HLM coefficients estimated to predict help from kin to a focal individual controlling for gender, race, marital status, age, distance to kin and socio economic status. All kin level variables were centered on their family mean, and family level variables were centered on the population mean. As you can see, by converting the family level intercept, we find that the average member of an average family has about a 23% chance of receiving intergenerational exchange.⁹ The effect of a one level increase in expectation in a family with average saturation increases these chances by 40%. As you increase the saturation, you also increase the effect of expectation by about 20%. To better visualize this process, I created predicted value lines showing the relationship between social capital and the chance of receiving intergenerational exchange. For each graph, I created three lines: average saturation, and +/- two standard deviations of saturation (excel spreadsheet available on request). These results confirm my expectations—there is a saturation effect for expectations and communication.

As you can see from figures 4 through 6, the level of saturation (how much) in social capital benefits has a definite effect on the value (relationship) of any piece of social capital. For example: Figure 4 shows the relationship between the amount of expectations a focal individual has about any individual kin member. If that individual is part of a family that holds an average level of expectations for each other, we see that expectations increase the chances of help by about 40% (which we can think of as a value). However, if this individual is part of a family with a high amount of expectations (i.e. 2 standard deviations above the mean on the saturation of expectations variable), an increase in expectations increases the chances of help by 66%.

Likewise, if that focal individual is part of a low expectation family (i.e. 2 standard deviations below the mean), they only get an increase of about 16%. This is evident by the different slopes for each level of saturation. A similar pattern is evident in the value of contact. To better visualize the correlation between these three lines and how they fit into a production function look at figures 2 and 8. Figure 2 is the accelerating production function cut into three segments A, B and C. A is a family with the lowest level of social capital saturation, B is a family with average saturation and C is a family with high levels of saturation. If you take the three lines in figure 4 or 5 and move them across the X axis (shown in figure 8) you can see how this model shows an accelerating production function.

These patterns show that the production of intergenerational exchange via social capital is in fact an accelerating function. However, I found no effect for the saturation of giving behaviors—it appears to be monotonic. No matter what level of saturation, each incidence of past giving raised the chance of intergenerational exchange by 500%. Reciprocity appears to be a form of social capital that is not affected by context, where as expectations and communication have definitions and value that are more socially based.

⁹ Predicted logit = -1.207=η; to convert into an actual probability take $\frac{1}{1 + e^{-1*\eta}} = .23$

DISCUSSION

This shows that intergenerational exchange can be thought of as a collective good within a family. It also shows that the production of this good follows an accelerating function. But what does this mean in real life terms? What does this add to the discussion of intergenerational giving? It tells us that these familial exchanges are not simply the result of atomistic/normative behavior. The results briefly presented here speak to a need to think of these exchange behaviors not in terms of individual giving, but as goals entire families work towards. Each family member contributes to the chance that member in need receive help, and that the bonds of social capital are fungible investments which collect to drive group behavior.

Figures

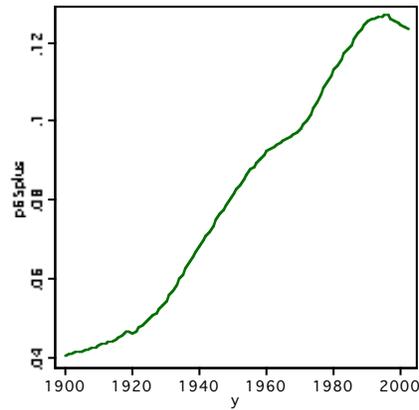


Figure 1: The proportion of the US Population During the twentieth century aged 65 and over. (Data from: King, Ruggles, and Sobek 2003).

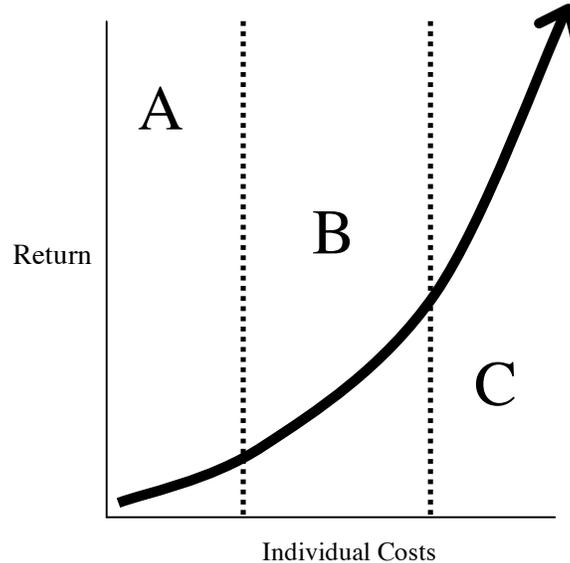


Figure 2: An Accelerating Production Function (Marwell and Oliver 1993). This graph shows the relationship between individual costs and the rate of return. This curve is cut up into sections to show how rates of return are different for increasing levels of saturation. Area A is a period of initial investment where returns (value) are rather low; C is the period where there is a high saturation and returns are quite high; and B is somewhere in the middle.

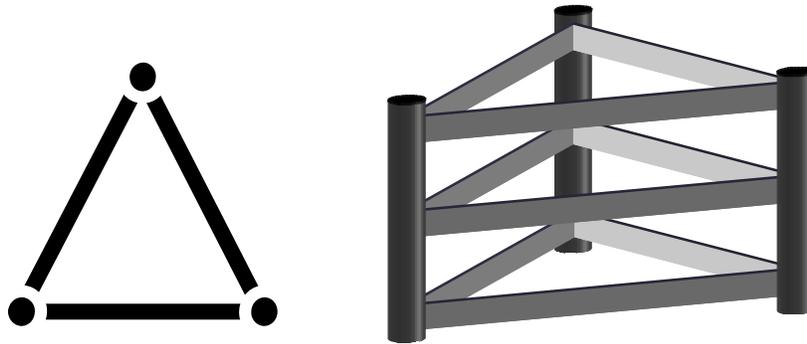


Figure 3: A new way to envision social capital; two-dimensional vs. three-dimension

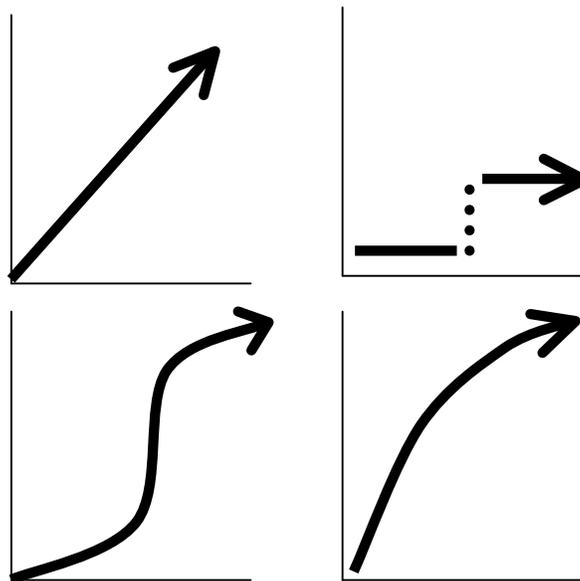


Figure 4: Alternative production functions: Upper left is monotonic, upper right is stepwise, lower left is third order and lower right is deceleration (Marwell and Oliver 1993)

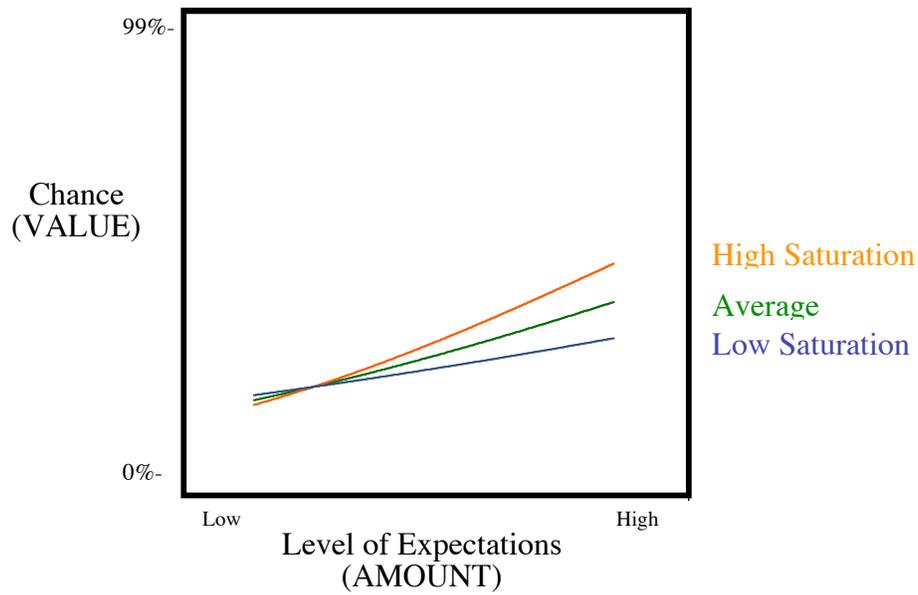


Figure 5: The Relationship Between the Amount of Expectations and Chance of Help from a Kin Member by Different Saturation Levels (Average Population Levels, and +/- Two Standard Deviations) of Expectations within Entire Family (Data Source: Sweet, Bumpass, and Call 2004).

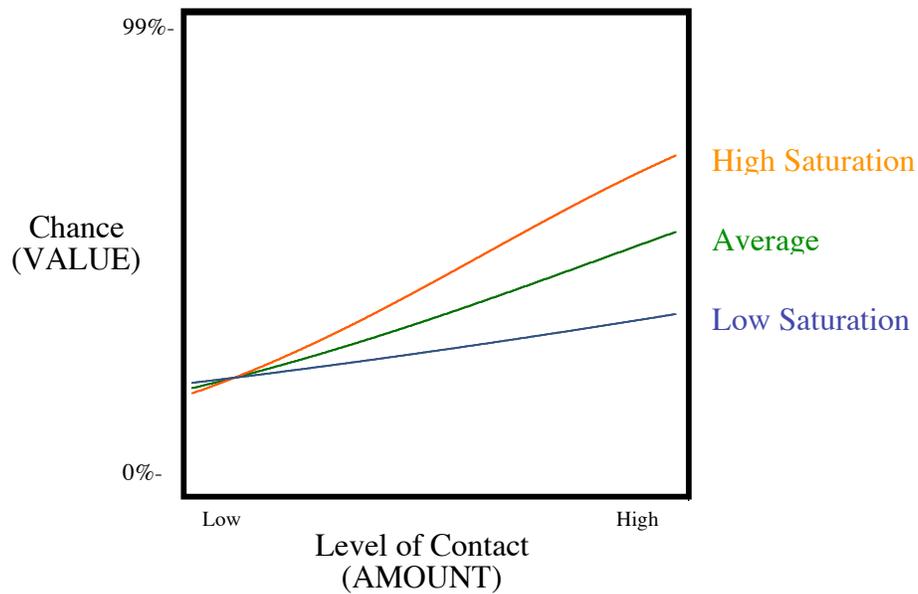


Figure 6: The Relationship Between the Amount of Contact and Chance of Help from a Kin Member by Different Saturation Levels (Average Population Levels, and +/- Two Standard Deviations) of Contact within Entire Family (Data Source: Sweet, Bumpass, and Call 2004).

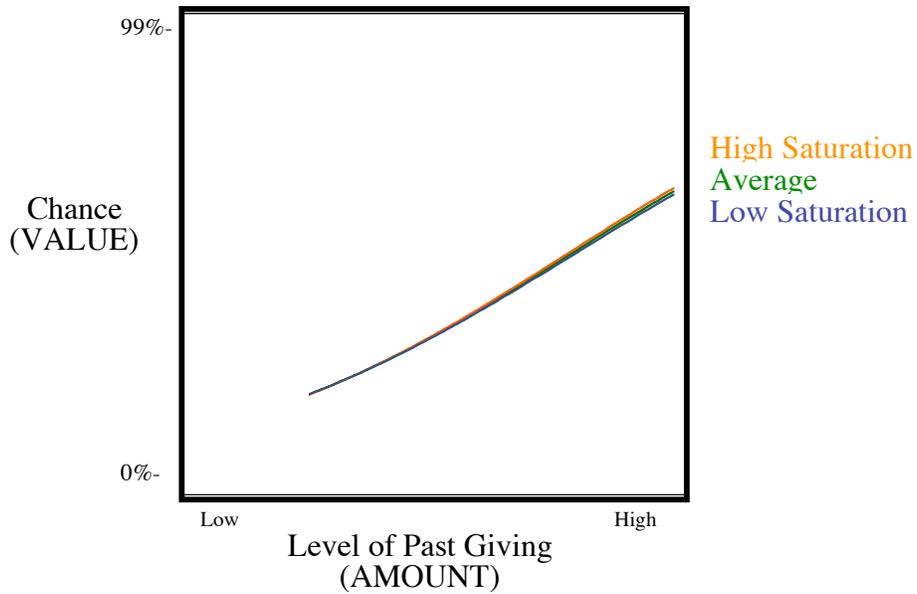


Figure 7: The Relationship Between the Amount of Past Giving and Chance of Help from a Kin Member by Different Saturation Levels (Average Population Levels, and +/- Two Standard Deviations) of Past Giving within Entire Family (Data Source: Sweet, Bumpass, and Call 2004).

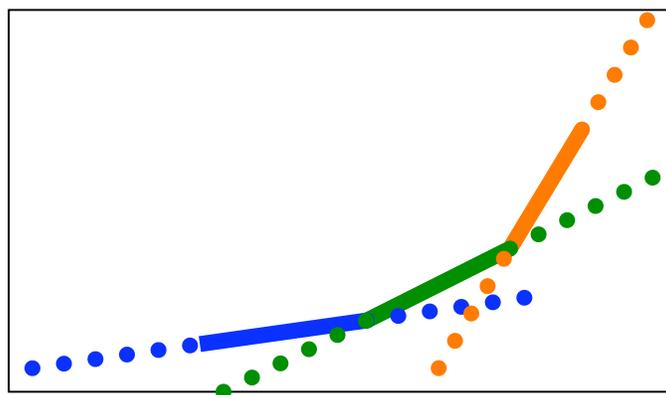


Figure 8: Showing the Acceleration Curve with the three saturation lines from previous figures. By moving the lines across the X axis in the order of saturation we see an acceleration function.

Equations

p^* = [estimated] chance of receiving gain
(the probability that the trustee is trustworthy)

L = potential loss (if trustee is untrustworthy)

G = potential gain (if trustee is trustworthy)

Decision = yes if $\frac{p^*}{1-p^*}$ is greater than $\frac{L}{G}$

Decision = no if $\frac{p^*}{1-p^*}$ is less than $\frac{L}{G}$

Decision = indifferent if $\frac{p^*}{1-p^*}$ is equal to $\frac{L}{G}$

Equation 1: Coleman's concept of trust (from 1990, page 99)

$$\log \left[\frac{\Pr(r_{ij} = \text{yes})}{1 - \Pr(r_{ij} = \text{yes})} \right] = \beta_{0j} + \beta_{1j}e_{ij} + \beta_{2j}c_{ij} + \beta_{3j}g_{ij} + \sum_P \beta_{pj}[\text{Controls}]$$

Equation 2: Logit Model Intergenerational Exchange (r) as a function of expectation (e), contact (c) and past giving behaviors (g) between the focal individual and the *ith* kin member within the *jth* Family

$$\beta_{0j} = \gamma_{00} + \tau_{00}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11} \left(\frac{\sum_J e_j}{J} \right)$$

$$\beta_{2j} = \gamma_{20} + \gamma_{21} \left(\frac{\sum_J c_j}{J} \right)$$

$$\beta_{3j} = \gamma_{30} + \gamma_{31} \left(\frac{\sum_J g_j}{J} \right)$$

Equation 3: Cross Level Effects. The Value of each from of Social Capital as a Function of Saturation and SES

References:

- Allen, Katherine R, Rosemary Blieszner, and Karen A Roberto. 2000. "Families in the Middle and Later Years: A Review and Critique of Research in the 1990's." *Journal of Marriage and the Family* 62:911-926.
- Astone, Nan Marie, Constance A. Nathanson, Robert Schoen, and Young Kim. 1999. "Family Demography, Social Theory and Investment in Social Capital." *Population and Development Review* 25:1.
- Bengtson, Vern and James Dowd. 1980. "Sociological Functionalism, Exchange Theory and Life Cycle Analysis: A Call for More Explicit Theoretical Bridges." *Aging and Human Development* 12:55-73.
- Bumpass, Larry. 1990. "What's Happening to the Family? Interactions Between Demographic and Institutional Change." *Demography* 27:483-498.
- Burt, Ronald S. 1992. "The Social Structure of Competition." in *Structural Holes: The Social Structure of Competition*. Cambridge: Harvard University Press.
- Coleman, James S. 1988. "Social Capital and the Development of Human Capital." *American Journal of Sociology* 94:S95-S120.
- . 1989. "Linear Systems Analysis: Macro level Analysis with Micro level Data." *Sociological Methodology* 19:395-422.
- . 1990. *Foundations of Social Theory*. Cambridge: Belknap Press.
- Cox, Donald and Mark Rank. 1992. "Inter-Vivos Transfers and Intergenerational Exchange." *Review of Economics and Statistics* 74:305-314.
- Durkheim, Emile. 1982. *The Rules of Sociological Method: and Selected Texts on Sociology and its Method*, Edited by S. Lukes. Translated by W. D. Halls. New York: Free Press.
- Eggebeen, David J. 1992. "Family Structure and Intergenerational Exchanges." *Research on Aging* 14:427-447.
- Giddens, Anthony. 1984. *The Constitution of Society*. Berkeley: University of California Press.
- Hayward, Mark D. and Zhenmei Zhang. 2001. "Demography of Aging: A Century of Global Change, 1950-2050." in *Handbook of Aging and the Social Sciences*, edited by R. H. Binstock and L. K. George. San Diego: Academic Press.
- Hogan, Dennis P., David J. Eggebeen, and Clifford Clogg. 1993. "The Structure of Intergenerational Exchanges in American Families." *American Journal of Sociology* 98:1428-1458.
- Kapferer, B. 1969. "Norms and the Manipulation of Relationships in a Work Context." in *Social Networks in Urban Situations: Analysis of Personal Relationships in Central African Towns*, edited by C. J. Mitchell. Manchester: Manchester University Press.
- King, Miriam, Steven Ruggles, and Matthew Sobek. 2003. "Integrated Public Use Micro data Series, Current Population Survey: Preliminary Version 0.1." Minneapolis, Minnesota: Minnesota Population Center, University of Minnesota.

- Krause, Neal. 2001. "Social Support." in *Handbook of Aging and the Social Sciences*, edited by R. H. Binstock, L. K. George, V. W. Marshall, A. M. O'Rand, and J. H. Schultz. New York: Academic Press.
- Landau, H. J. 1976. "Pricing in a Dynamic Model with Saturation." *Econometrica* 44:1153-1155.
- Lee, Gary and Eugene Ellithorpe. 1982. "Intergenerational Exchange and Subjective Well-being Among the Elderly." *Journal of Marriage and Family* 44:217-224.
- Mancini, Jay and Rosemary Blienzner. 1989. "Aging Parents and Adult Children: Research Themes in Intergenerational Relations." *Journal of Marriage and Family* 51:275-290.
- Marwell, Gerald and Pamela Oliver. 1993. *The Critical Mass In Collective Action: A Micro Social Theory*. Cambridge: Cambridge University Press.
- Marx, Karl. 1908. *Kapital: The Theory of value*. London: W. Reeves.
- Oliver, Pamela E. 1993. "Formal Models of Collective Action." *Annual Review of Sociology* 19:271-300.
- Portes, Alejandro and Julia Sensenbrenner. 1993. "Embeddedness and Immigration: Notes on the Social Determinants of Economic Action." *American Journal of Sociology* 98:1320-1350.
- Putnam, Robert D. 1993. *Making Democracy Work: Civic Traditions in Modern Italy*. New Jersey: Princeton University Press.
- . 1995a. "Bowling Alone: America's Declining Social Capital." *Journal of Democracy* 6:65-78.
- . 1995b. "Tuning In, Tuning Out: The Strange Disappearance of Social Capital in America." *Political Science and Politics* 28:664-684.
- Raudenbush, Stephan W. and Anthony S. Bryk. 2002. *Hierarchical Linear Models: Applications and Data Analysis Methods*, vol. 1, Edited by J. Deleeuw and R. A. Berk. Thousand Oaks: Sage Publications.
- Samuelson, Paul A. and William D. Nordhaus. 1985. *Economics*. New York: McGraw-Hill Book Company.
- Sandefur, Rebecca L. and Edward O. Laumann. 1998. "A Paradigm for Social Capital." *Rationality and Society* 10:481-501.
- Silverstein, Merrill and Vern L. Bengtson. 1997. "Intergenerational Solidarity and the Structure of Adult Child-Parent Relationships in American Families." *American Journal of Sociology* 103:429-460.
- Smock, Pamela J. 2000. "Cohabitation in the United States: An Appraisal of Research Themes, Findings and Implications." *Annual Review of Sociology* 26:1-20.
- Stack, Carol. 1974. *All Our Kin: Strategies for Survival in a Black Community*. New York: Harper & Row.
- Sweet, James A., Larry L. Bumpass, and Vaughn Call. 2004. "The National Survey of Families and Households - Waves 1, 2 and 3: Data Description and Documentation." University of Wisconsin-Madison: Center for Demography and Ecology.
- Wellman, Barry and Kenneth A. Frank. 2001. "Network Capital in a Multi-Level World: Getting Support from Personal Communities." in *Social Capital: Theory and Research*, edited by N. Lin, K. Cook, and R. S. Burt. Hawthorne: Aldine De Gruyter.

Notes:

Table 1: Selected Descriptive Statistics

Variable	MEAN	SD	MINIMUM	MAXIMUM
<i>Kin Level</i>				
R gets Help	0.15	0.36	0	1
Level of Expectation	0.51	0.99	0	3
Level of Contact	0.8	0.77	0	5
Past Giving	0.21	0.41	0	1
 <i>Respondent/Family Statistics</i>				
Saturation of Contact	1.46	0.71	0	4.4
Saturation of Expectation	0.7	0.36	0	1
Saturation of Past Giving	4.91	5.58	0	20

Table 2: Hierarchical Logistic Regression Coefficients Predicting Chance of Intergenerational Exchange by Social Capital Commodities (Data from the first wave of Sweet, Bumpass, and Call 2004)

Kin Level Intercept

Expectation

Family Level Intercept	0.340276 ***
Saturation of Expectation	0.184884 ***

Contact

Family Level Intercept	0.334774 ***
Saturation of Contact	0.122966 ***

Past Giving

Family Level Intercept	1.768928 ***
Saturation of Past Giving	0.005434