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Lichang Lee; Jane Allyn Piliavin; Vaughn R. A. Call

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Giving Time, Money, and Blood: Similarities and Differences*

LICHANG LEE

JANE ALLYN PILIAVIN
University of Wisconsin

VAUGHN R. A. CALL
Brigham Young University

The research reported here is a test of the applicability of an identity theory model, developed with samples of blood donors, to two other forms of institutional helping: volunteering and charitable donation. The model fits all three forms of helping; perceived expectations, parental modeling, personal norms, past behavior, and role-identity as a donor are significant predictors of intentions to donate. Role-identity is predicted from perceived expectations, modeling, personal norms, and past behavior. Past behavior is consistently influenced by perceived expectations and modeling. Although the fit of the model is very similar across forms of giving, the past volunteering of time—the most “public” form of donation—appears to be affected more strongly by others’ expectations than are gifts of blood or money. Past blood donation is affected more strongly by modeling from parents than is volunteering. Feelings of moral obligation have a stronger effect on role-identity as a blood donor than as a donor of time or money.

In 1993, private donations to charities in the United States totaled \$63 billion. Seventy-three percent of households reported some donations; the average amount given per household, among those who gave, was \$880. Americans also volunteered 15 billion hours of their time—worth an estimated \$182 billion—to charitable organizations. Forty-eight percent of respondents reported some volunteering, and among them the average number of hours per week was 4.2 (Independent Sector 1994). Although 40 to 45 percent of the people in the United States claim to have given blood at least

once (Schoenborn, Marsh, and Hardy 1994), only about 4 to 6 percent do so in any given year. In 1992, Americans gave roughly 12 million units (1.5 million gallons) of blood; most blood is given by repeat donors (Wallace, et al. 1995). Therefore these activities are a regular part of life for those who perform them. As Wuthnow (1991) has pointed out, this behavior is initially difficult to reconcile with the supposedly ever increasing individualism of American society.

Despite the prevalence of these activities, we do not clearly understand the factors that influence the public to repeatedly give time, money, and blood. With some notable exceptions (e.g., Clary and Snyder, 1991; Drake, Finkelstein, and Sapolsky 1982; Midlarsky 1991; Omoto and Snyder 1995; Piliavin and Callero 1991; Wilson and Musick 1997), we have little to help us beside demographic descriptions of the “typical” blood donor, volunteer, or charitable contributor.

To explain such sustained helping behaviors, it seems reasonable that a model involving values and personal norms (e.g., Schwartz and Howard 1981), personality characteristics (e.g., Penner, et al. 1995), past

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behavior (e.g. Piliavin 1991), or some other long term characteristic of the individual, perhaps combined with consistent social forces in the individual's social world, would be more promising than past theory focused on immediate situational factors, which explains spontaneous helping in emergencies happening to strangers (for an overview, see Schroeder, et al. 1995). By studying blood donors we have developed such a theoretical model based on identity theory; in this paper, we examine whether this model also can be applied to the donation of time and money.

A Sociological Analysis of Institutionalized Helping

The concept of role-identity. Piliavin et al. (1981) used the term "institutionalized helping" to refer to "role behavior responsive to internalized needs and motives" (p. 4). Callero, Howard, and Piliavin (1987) suggest that Mead's (1934) conceptualization of role, person, and society as inseparable offers a useful theoretical basis for a sociological explanation of such repeated helping behavior. According to Mead, individuals develop their sense of who they are through reflected appraisals from others; others' expectations of them thus form an important source of their self-concepts.

Stryker (1980) has added more emphasis on social *structure* in his reconceptualization of symbolic interaction theory: he defines his central concept of role-identities as "internalized positional designations. They exist insofar as the person is a participant in structured role relationships" (p. 60). A person may have as many role-identities as he or she has roles: "Thus a woman may have identities as physician, wife, mother, child, tennis player, Democrat, etc., which taken together comprise the self" (p. 60). As Wuthnow points out, "Someone who tutors a person . . . provides a service . . . that defines the tutor as a giver" (1991:89). These conceptualizations, which relate helping to its social structural context and to an ongoing process of social interaction, contrast markedly with the approach in which an isolated individual is viewed as responding to momentary situational cues.

Role-identities have repeatedly been shown to be effective predictors for various behaviors (see Biddle, Bank, and Slavings 1987; Granberg and Holmberg 1990; Sparks and Shepherd 1992). Stryker (1980; Stryker and Serpe 1994) uses the term *identity salience*, "defined as a readiness to act out an identity. . . . Various identities thus are organized by the probability of their being invoked in a given situation" (1994:17). Salience is conceptualized and measured by Stryker and Serpe relative to other role-identities. Turner (1978) developed the related concept of *role-person merger* to describe the circumstance in which a role becomes so central and so important that it comes to dominate the person's sense of self.

Callero (1983, 1985) measured salience in two ways, with a ranking method and with a scale assessing how important the role is to a person. Because the blood donor role is ranked rather low in salience relative to more encompassing roles such as work, religious, and family roles, using such a comparative measure of salience leads to variance problems. To avoid those problems, we employ Callero's scale measure, referring to it with the general term *role-identity* throughout this paper. Our measure is therefore closer conceptually to role-person merger, importance, or centrality than to Stryker's conceptualization of salience.¹

The theoretical model. The model to be tested here was developed over a series of longitudinal studies investigating the antecedents and consequences of role-identity as a blood donor (Callero 1983, 1985; Charng, Piliavin, and Callero 1988; Piliavin and Callero 1991). Role-identity as a blood donor was influenced most strongly by the perceived expectations of significant others and by past role performance. The impact of others' expectations is consistent not only with symbolic interaction theory but also with the psychological literature generated

¹ In general, these terms have been used in confusing and contradictory ways. In 1985, Callero referred to his measure—the one we are using—as "salience." Reid, Epstein, and Benson (1994) adapted Callero's measure for their study of rock musicians and also called it "salience"; in addition, they employed Stryker's measure of "centrality" in their study.

by Fishbein and Ajzen's (1975) attitude-behavior model. Charng et al. (1988), in fact, found that adding a measure of role-identity to the Fishbein-Ajzen variables of attitude and perceived expectations improved the prediction both of intentions to give blood and of actual blood donation.

Sociologists have largely ignored the importance of recurrent patterns of behavior. Camic (1986) argues that the concept of "habit" was important in Durkheim's and Weber's writings, but was "a casualty of sociology's revolt against behaviorism" (p. 1040). That is, because the term implied mindlessness, the importance of patterns of past behavior was also ignored. The importance of past behavior is recognized in theory in psychological social psychology, which relates retrieval of information about past actions to self-attributions (e.g., Markus and Wurf 1987).

The basic model taken from identity theory thus involves past behavior and perceived expectations as the main determinants of the development of a role-identity as a blood donor. Role-identity and past behavior together predict continued donation; past role performance exert by far the most important combined direct and indirect effects.

In this previous research on blood donation, four other factors seem to contribute to initial donation: personal knowledge of the importance of blood to recipients, modeling of donation on the part of parents, perceived expectations, and personal norms, or feelings of moral obligation. First-time donors are far more likely than the average person to report that at least one parent was a regular blood donor. Many experimental studies of children have found effects of parental modeling of prosocial behavior (Grusec 1982; Moore and Eisenberg 1984). Studies of "freedom riders" in the South in the 1960's (Rosenhan 1970) and of rescuers of Jews in Europe during World War II (London 1970; Oliner and Oliner 1988) have also found parental modeling effects. A national sample survey also reports a relationship between respondents' volunteering and reported parent behavior (Independent Sector 1994).

Piliavin and Callero (1991) also found evidence that persons who reported that

they or someone close to them had received blood were more likely to become donors. The receipt of help may engender some need to give back, based on the reciprocity principle (Gouldner 1960; see also Nadler 1991). As Wuthnow reports, "[M]ost of these people [his sample of volunteers] . . . have stories to tell about receiving care at some point in their own lives" (1991:300). Personal norms, that is, feelings of personal moral obligation to help, are another factor related to various forms of helping (Schwartz and Howard 1981). In the research on blood donation, personal norms were predicted by perceived expectations of significant others (or by more general social norms) and in turn predicted both role-identity and blood donation.

In keeping with the above, Royse and Doochin (1995) found that a group of multi-gallon donors (five gallons or more) were more likely to know a blood recipient than were members of a random sample taken from the same donor registry. Although reports of modeling did not differentiate the multi-gallon donors from the others, such donors reported both more external pressure to donate (from expectations of others) and more internal self-motivation (measured using two items from the Callero role-identity scale).

Only suggestive data exist regarding the applicability of these theoretical ideas to charitable donation and volunteering. When Grube and Piliavin (1997) studied two samples of American Cancer Society (ACS) volunteers, they found that both general role-identity as a volunteer and specific role-identity as an ACS volunteer were important predictors of the number of hours donated to ACS and of expressed intentions to leave the organization. Modeling by parents and spouses and receipt of ACS services contributed only weakly to a specific role-identity as an ACS volunteer, and only indirectly to giving hours to ACS. Perceived expectations of others were important for developing a general role-identity as a volunteer.

Finally, Independent Sector (1994) reports that "among the 59 percent of adults who reported that they had seen someone in their family helping others, 80 percent contributed and 56 percent volunteered. Among

the 43 percent of adults who reported that they had been helped in the past, 80 percent contributed and 54 percent volunteered" (p. 8), compared to baselines of 73 percent and 48 percent.

Behavioral Intentions and Donation

The dependent measure to be used in this study is not behavior itself but behavioral intentions. Because the data come from a one-time, anonymous telephone interview, and were collected mainly for another purpose, it was not possible to conduct a follow-up. However, for a first direct comparison of the utility of the role-identity model across types of donation, a behavioral estimate of the likelihood of engaging in each kind of helping seems a justifiable proxy for future helping behavior.

Many researchers have demonstrated, as Fishbein and Ajzen (1975) claimed, that the intention to commit an act is the most direct predictor of performance (see, e.g., Biddle, Bank, and Slavings 1987; Eagly and Chaiken 1993; Granberg and Holmberg 1990; Schifter & Ajzen 1985). Two meta-analyses (Randall and Wolff 1994; Sheppard, Hartwick, and Warshaw 1988), respectively involving samples of 87 and 98 studies, found average correlations of .53 and .45 between intention and action across a wide range of behaviors. Randall and Wolff also found no significant effect of the time lag between intention and behavior, over a period ranging from a few hours to more than a year.

In regard to donation behavior specifically, Charng et al. (1988) and Piliavin and Callero (1991) have shown in longitudinal research that intention to give blood is an excellent predictor of future blood donation. In addition, the factors that predict intentions generally also predict actual donation as well. The reader, however, must keep in mind that the present study is not longitudinal. We may reasonably assume that respondents' reports of their own past behavior, of parental modeling, and of past receipt of help indeed reflect true past events that precede the interview situation. The variables of perceived expectations, personal norms, identity, and intentions, however, most likely

have reciprocal effects rooted in the measurement situation.

Three Forms of Donation: Blood, Money, and Time

A secondary purpose of this research is to discover the relationships between these three types of formal helping. Gallagher (1994) and Wilson and Musick (1997) have demonstrated a relationship between formal volunteering and informal helping of friends, neighbors, and kin. Charitable donation and formal volunteering also are clearly related to each other. According to Independent Sector (1994), "[R]espondents who reported . . . contributions but did not volunteer (31 percent of all households) reported contributions averaging \$425, or 1.1 percent of household income. Respondents who reported both household contributions and volunteering (43 percent . . .) reported contributions averaging \$1,193, or 2.6 percent of household income" (p. 2). We do not know how donating blood is related to donation of time and money.

There also may be some substantive differences in the factors that influence our three types of formal giving. Wilson and Musick (1997) found differences in the determinants of volunteering and informal helping such that feelings of obligation appear to play a more important role in informal helping. The donation of blood involves personal issues not tapped by the other two types of donation, such as anxiety, fear, pain, and iron depletion (Piliavin and Callero 1991). Thus, to overcome these obstacles, blood donors may possess stronger internal—perhaps moral—reasons for donation.

In contrast to the relative privacy and general anonymity of blood and money donation (Titmuss 1971), time donors often meet face-to-face with recipients. Giving time also requires more energy and initiative and more interaction with other volunteers than does money or blood donation. This interaction provides more opportunity for exerting social pressure for continued donation. Two tentative hypotheses are that perceived expectations have a stronger impact on giving time and that personal norms have

a stronger impact on identity as a blood donor.

Almost all of the research reported above is based on selected samples of individuals from restricted areas of the country who have donated or volunteered. In this research, we test the model developed on blood donors for its ability to predict intentions to give blood, money, and time in a national sample of individuals not selected for prior participation in donation. In the model we test, we propose the following in regard to each domain: (1) Four factors—modeling, knowledge of importance, others' expectations, and personal norms—will be related to reported past participation and, (2) in combination with past donation, will predict role-identity as a donor. Finally, (3) intention to continue donation will be predicted by perceived expectations, past behavior, identity, and personal norms. We make no strong predictions regarding the possibility of direct effects, on intentions, of the variables of modeling, knowledge of importance, and personal norms.

We also explore the relationships between these three forms of giving. To what extent do individuals "specialize" in their volunteering and charitable behavior, or are they generalists? Finally, are there differences in the determinants of giving time, money, and blood?

METHODS

Sample and Data Collection

Our analyses are based on the 1989 National Charity Survey (NCS89). This telephone interview study was conducted by Audits & Surveys, a survey research organization based in New York City. The national probability sample of 1,002 respondents was obtained in spring 1989 through random-digit dialing; it is representative of individuals living in households with telephones in the 48 contiguous states. A household member age 19 or older was selected randomly as the respondent for the interview. The average interview, in which computer-assisted telephone interview (CATI) procedures were used, took 15 minutes to complete; a series of response consistency checks was built into the program. In addition to the

variables we use here, the NCS89 obtained detailed information about respondents' contributions to charitable organizations and their perceptions about a list of charities.

Seventy-eight percent of the eligible respondents completed the interview. Demographically, the sample is reasonably representative of the U.S. population. Fifty-six percent of the respondents were female, 55 percent were married, and 85 percent were white. The respondents are somewhat better educated than the U.S. average, with 14 years of formal education.

Measures

Others' expectations are measured by one item for each helping domain. The question began, "Many of the people who are important to me expect me to . . ." and continued: "(1) donate blood, (2) donate money to charities or community service organizations, or (3) do volunteer work for charities or community service organizations." Four response categories were provided, from agree strongly (4) to disagree strongly (1).

Modeling is measured by asking whether either of the respondent's parents ever donated blood, money, or time. For blood and money, the questions were answered as "yes" or "no". For time donation, the answers were (1) once a week or more, (2) several times a month, (3) a few times a year, or (4) never. To make the measures comparable across donation type, we recoded these answers to 0 (3 or 4) or 1 (1 or 2).²

Past receipt of help, as an indicator of knowledge of the importance of help, was measured by asking two questions, one about blood and the other about social services (used for analyses of both money and time). Both explored whether the respondent or someone close to him or her had ever received help (0 = no, 1 = yes).

Schwartz and Howard's (1981) conceptualization of *personal norm* refers to people's feelings of personal obligation to do

² A very small proportion of respondents—less than ten percent—replied "never" in response to this question. Use of this break point would have been problematic for the analysis.

something. Whereas those authors measured it with direct, personal questions, our measurement here is indirect: Respondents were asked a more "projective" question about "people in general." The question for blood donation was "How many times during a year do you think a healthy person should donate blood?" (On a scale of 0 to 5). The question about money donation was "If a reputable charity writes and asks for a contribution, about how much money should a person send them?" (categories: none, less than \$5, \$5, \$10, \$15, \$20, more than \$20). The time donation question was "About how many hours per week do you think a person should volunteer to charities and community service organizations?" (categories: none; one to two hours, coded 1; three to four hours, coded 2; and so on to more than eight hours, coded 5). Although this measure is somewhat ambiguous, these questions imply a clear sense of *moral obligation*—perhaps both to one's own values and to perceived collective values—as suggested by the use of the word *should*.

Past behavior is measured as follows: (1) blood: "How many times in the past year have you donated blood?" (0 = did not give, 1 = gave); (2) money: "Some people contribute to charities and some don't. Not counting contributions to a church or political party,³ did you contribute money to charities or non-profit organizations in 1988?" (0 = did not give, 1 = gave); (3) time: "Not counting volunteer work for a church or political party, about how many hours per week do you spend doing volunteer work for charities or community service organizations?" (0 = did not give, 1 = gave). We dichotomized the measures for comparability,

and because the distributions, especially for blood donation, were quite skewed.⁴

Role identity is measured with two agree/disagree statements: "Blood (money/time) donation is something I rarely think about" (reverse scored), and "Blood (money/time) donation is an important part of who I am." These identity items are two of the five developed and thoroughly validated by Callero (1983). Originally the items were rated on a nine-point "strongly agree/strongly disagree" scale, and the Cronbach's alpha reliability was .81. A recent test-retest reliability over six months of a four-item version using a seven-point scale was .77. The current items are limited, because of telephone administration, to a four-point scale. The two items were correlated .312, .315, and .248 for the domains of blood, money, and time respectively; the Cronbach's alphas are .48, .48, and .39. Thus relationships to other variables will necessarily be reduced by unreliability.

Behavioral intention, the dependent measure, is based on a single item: "How likely do you think it is that you will donate [blood or time or money] sometime during the next twelve months?" Responses cover a four point scale from "not at all likely" (1) to "extremely likely" (4). This measure is described more precisely as a "behavioral estimate" than as an intention. In the literature these two types of measures are used interchangeably, but the term *intention* is used consistently for the theoretical construct. Sheppard, Hartwick, and Warshaw (1988) found in a meta-analysis that behavioral estimates actually predicted future behavior slightly more accurately than did measures of intention (with respective *rs* of .57 and .49). In the present research, past behavior and intentions are correlated above .5 for all three helping behaviors. This does not prove, of course, that the correlations between intentions and future behavior would be so large.

³ Religious organizations are the primary recipients of contributions of both money and time; political organizations receive relatively little from the average citizen (Independent Sector 1994). We exclude both religious and political organizations in this question because we are interested in institutionalized helping behavior. Although many religious organizations engage in charitable activities, people who give money to religious organizations may be self-interested (e.g., paying for the services they have received, paying for their children's Sunday schools). Political contributions also may be self-interested.

⁴ An astute reviewer noted that the time measure is worded in the present, whereas the blood and money measures are worded in the past. The authors have no explanation for this choice of wording; a possible effect might be that the link between past behavior and intentions in the time donation model is artificially inflated.

RESULTS

Descriptive Statistics

Means and standard deviations of the measures to be used in the analysis are presented in Table 1. Perceived expectations are almost identical for money and for time donation (2.22 and 2.24), and are somewhat weaker for blood donation (2.00). These means are in the "disagree slightly" range; they suggest that average citizens, despite the pleas of public figures, do not perceive substantial social pressure to donate from those close to them. In regard to modeling, 70 percent of respondents report that their parents donated money, 52 percent that they gave blood, and 39 percent that they volunteered time more than a few times a year. Feelings of moral obligation and past receipt of help are measured differently across the areas; therefore comparisons of means are inappropriate. Within all three domains, however, we find considerable variability in the level of feelings of obligation.

Blood donation is the least frequently reported past behavior (23%); giving money is reported most frequently (74%). Volunteering time is reported somewhat more frequently (35%) than giving blood. The level of role-identity apparently differs little across the three types of donation. Finally, intentions show a pattern parallel to past behavior: Respondents indicate the strongest intentions to give money (3.22) and the weakest to donate blood (2.05). Modeling is the only variable on which the frequency of reported blood donation is higher than that of time donation.

Table 2 presents correlations between the parallel measures of these central theoretical variables across the helping domains. We present this analysis in the attempt to answer two questions. First, given the way in which the data were collected and given the problematic reliabilities of the measures, it is important to discover whether we are dealing mainly with correlated method variance. The pattern of correlations in Table 2 suggests that we are not. For both past behavior

Table 1. Descriptive Statistics for All Variables

Variables	Means	Standard Deviation	Cases
Others' Expectations			
Blood	2.00	.61	960
Money	2.22	.63	973
Time	2.24	.66	969
Modeling			
Blood	.52	.50	760
Money	.70	.46	821
Time	.39	.49	899
Past Receipt			
Blood	.29	.45	1,002
Money, Time	.15	.36	1,002
Personal Norm			
Blood	2.63	1.42	803
Money	2.63	1.35	639
Time	1.90	1.33	700
Past Behavior			
Blood	.23	.42	970
Money	.74	.44	982
Time	.35	.48	980
Role-Identity			
Blood	5.27	1.23	882
Money	5.37	1.16	947
Time	5.39	1.20	954
Intention			
Blood	2.05	1.25	951
Money	3.22	.99	950
Time	2.65	1.16	967

Table 2. Correlations of Variables across Domains

	Blood/Money	Blood/Time	Money/Time
Others' Expectations	.25**	.18**	.48**
Modeling	.26**	.17**	.29**
Personal Norm	.12**	.14**	.20**
Past Behavior	.06*	.14**	.25**
Role-Identity	.26**	.28**	.52**
Intention	.08*	.20**	.37**

* $p < .05$; ** $p < .01$

and intention, almost no relationship exists between the domains of blood and money. Even with a large N , the correlations barely reach statistical significance. The correlations are larger between the domains of money and time, but none of the correlations is high enough to suggest a serious measurement problem.

The second, more substantive question we ask here is whether the same people participate in these three forms of contribution to the public good. Except for modeling, all of the correlations are stronger between the domains of money and time donation

than between blood donation and either of the others. For this reason, models developed on blood donors may not fit volunteering of time or money, and the present attempt to replicate these models for the other forms of helping seems worthwhile.

Tests of the Theoretical Model

Will the theoretical model developed to explain blood donation also prove useful predicting intentions to give time and money? In Table 3 we present block entry regressions testing the effects of the vari-

Table 3. Regressions of Past Behavior, Identity, and Intention on Identity Theory Variables

Variables	Past Behavior	Identity		Intention		
Blood						
Others' expectations	.09**	.09**	.08*	.15***	.10***	.08**
Modeling	.27***	.14***	.08**	.28***	.13***	.11***
Past receipt	-.02	.09**	.09**	-.00	.01	-.02
Personal norm	.08**	.31***	.29***	.14***	.10***	.02
Past behavior			.21***		.51***	.46***
Role-identity						.23***
df	4/965	4/877	5/876	4/946	5/945	6/944
Adjusted R^2	.100	.158	.195	.140	.372	.414
Money						
Others' expectations	.10***	.19***	.16***	.14***	.10***	.06*
Modeling	.26***	.19***	.12***	.23***	.11***	.08**
Past receipt	.04	.06	.04	-.02	-.03	-.05
Personal norm	.06*	.17***	.15***	.10**	.07*	.04
Past behavior			.27***		.46***	.40***
Role-identity						.21***
df	4/977	4/942	5/941	4/945	5/944	6/943
Adjusted R^2	.092	.116	.181	.095	.290	.326
Time						
Others' expectations	.22***	.12***	.05	.22***	.11***	.10***
Modeling	.16***	.17***	.12***	.21***	.14***	.10***
Past receipt	.05	.03	.01	.05	.03	.02
Personal norm	.10**	.19***	.16***	.10**	.05	.01
Past behavior			.34***		.47***	.37***
Role-identity						.29***
df	4/975	4/949	5/948	4/962	5/961	6/960
Adjusted R^2	.091	.092	.195	.112	.308	.374

* $p < .05$; ** $p < .01$; *** $p < .001$

ables described above on intentions to give blood, money, and time. The regressions on past behavior are displayed in part to show their similarity to those on intention, as an indication that intention is an acceptable proxy for donation itself. We also present the effects of the exogenous variables on the other mediating variable employed in our models, namely, role identity. In addition, in Figure 1 we present separate path models showing the direct and indirect effects of these variables on intentions to give blood, time, and money.

Blood donation. The model for samples of blood donors previously presented in Charng, Piliavin, and Callero (1988) and in Piliavin and Callero (1991) is replicated here with our national random sample. Perceived expectations, modeling, past receipt of blood, and personal norms are all significant predictors of a blood donor role-identity. When past behavior is introduced on the second step, it adds significantly to the explanation of variance. It also decreases the impact of modeling, an indication that modeling exerts its effect indirectly through its impact on past donation behavior. Figure 1 clearly shows the direct and indirect paths linking modeling to intention through both past behavior and identity.

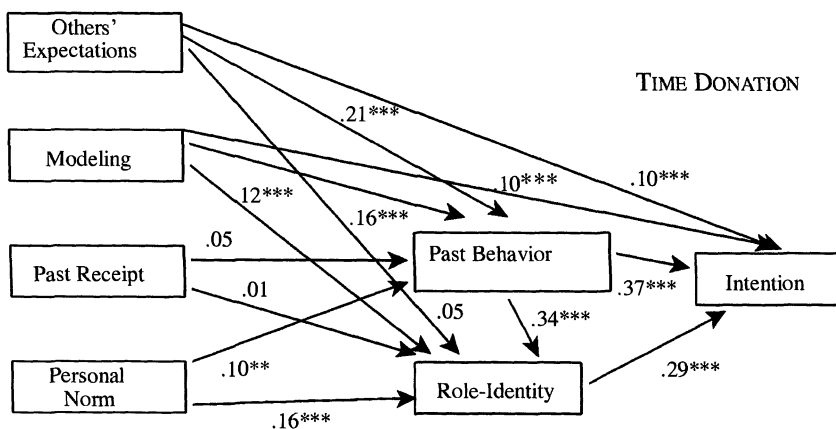
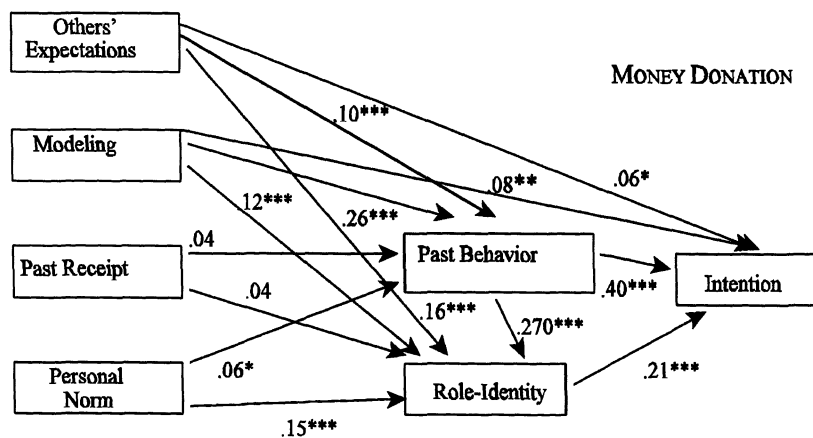
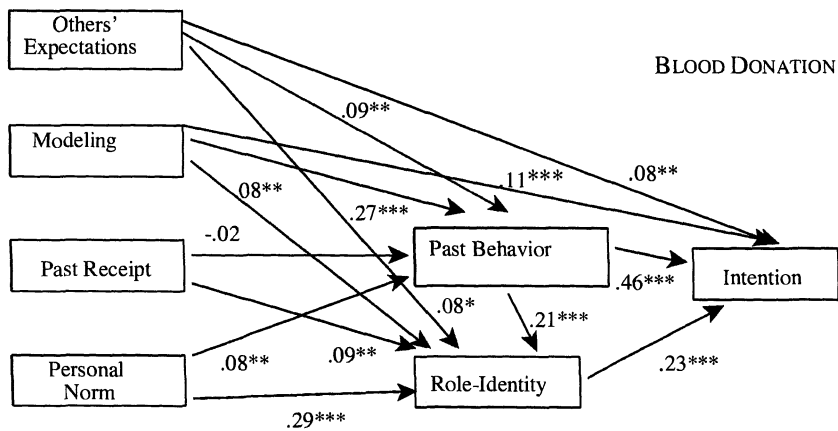
All variables except past receipt of blood affect both past donation and intentions to donate. Past behavior, when it is added to the equation, is the strongest predictor of intentions to give in the future, and remains so even after identity is added in the final step. Past behavior partially explains the relationship between intention and both perceived expectations and modeling: That is, when past behavior is added to the equation predicting intentions, the coefficients for perceived expectations and modeling decrease. Past behavior and role-identity together, in the final equation, fully explain the original effect of personal norms on intentions; personal norm is no longer related directly to intentions. Forty-one percent of the variation in intention is explained by these six variables. The prediction of intention using only the four exogenous factors is about the same, in both pattern and magnitude, as the prediction of past behavior using the same factors; this finding suggests that

intention is a reasonable proxy for future behavior.

Money and time. The pattern of *significant* betas in the regressions for money and time donation is essentially the same as in the regressions involving blood donation. The exception is that past receipt of services has no impact on role-identity as a donor of money or time. We offer three possible explanations for this difference. First, the question about receipt of services maybe worded more ambiguously than the question about receipt of blood. Second, a smaller percentage of respondents reported receiving services (15%) than receiving blood (29%), a highly significant difference ($p < .0001$). Third, blood collection organizations explicitly solicit donations from the families of blood recipients. This is less true of organizations that recruit volunteers and seek charitable donations.

Comparisons across areas. Although the same predictors were significant for the analyses in all three types of donation, we found differences in the relative size of the coefficients, reflecting the relative importance of the variables. Using the method of seemingly unrelated regression, we tested the null hypothesis that the coefficients are the same across the three donation areas. First, we fitted an overall model for each set of dependent variables, in which the errors were allowed to be correlated across the three behaviors. Then the coefficients were constrained to be equal, and we performed a chi-square test for the null hypothesis that all coefficients are constant across the three equations. We conducted this analysis on the final step of the equations for past behavior, for identity, and for intention. Because we performed these analyses on a subsample of respondents for whom no data were missing on the dependent variables that we compared, the sample sizes are somewhat smaller than those reported in Table 3: past behavior (931), identity (822), and intention (879).

For the regressions on past behavior, for the null hypothesis that all four coefficients (perceived expectations, personal norm, modeling, receipt of help) are constant across the three equations, the test statistic is 24.74, with eight degrees of freedom. Thus



Note: Paths from Experiences and Personal Norm to Intention were never significant and are omitted for clarity. Coefficients are standardized.
 * $p < .05$; ** $p < .01$; *** $p < .001$.

Figure 1. Path Analysis of Intention Equations

the null hypothesis is rejected at the confidence level of $p < .01$. For the regressions on identity, for the hypothesis that all *five* coefficients (adding past behavior) are constant across the three equations, the test statistic is 28.00, with 10 degrees of freedom, significant at $p < .01$. For the regressions on intention, for the hypothesis that all six coefficients (adding identity) are constant across the three equations, the test statistic is 16.772; with 12 degrees of freedom, the null hypothesis cannot be rejected.

Post hoc tests for differences between specific coefficients⁵ showed that in the regressions on past behavior, the coefficient for perceived expectations was significantly larger for time donation than for blood or money donation ($p < .01$). It is possible that the volunteering of time is more visible to others, and that sanctions can be applied more easily on those who do not behave as they are expected to behave. The modeling effect was significantly greater for blood donation than for volunteering time ($p < .005$). Blood donor collection professionals know that blood donation "runs in families"; parents often bring in teenage and young adult children in to make their first donation. It is also possible that health-related factors may contribute to this effect. In addition, although both sexes can give blood, more women than men engaged in volunteering until relatively recently, and boys are less likely to model their mothers' than their fathers' behaviors.

The most striking difference across areas in the determinants of *identity* is that personal norms—feelings of moral obligation—are a stronger predictor of identity as a blood donor than as a donor of time or money ($p < .001$). Blood donation is a more personal decision and may involve feelings of reciprocity, given the significant effect of past receipt of blood.⁶ Perceived expecta-

tions exert a greater effect on identity as a charitable donor than as a volunteer ($p < .02$).

Finally, we find two significant differences in the impact of past behavior and identity on intentions. First, past behavior is a more important determinant of intentions to give blood than to contribute time ($p < .001$). The periodicity of donation, which is determined by the recovery interval and by the scheduling of appointments and blood-mobility, may contribute to the establishment of a donation pattern. Volunteering is a much less highly regimented activity, and can be done in many different settings and activities. Thus, in regard to volunteering, we may be speaking of many different intentions rather than one, which makes prediction more problematic.

Second, the effect of identity on intentions is significantly greater for volunteering time than for giving money ($p < .01$). In identity theory, a role identity is sustained in part through relationships developed in the setting in which the role behavior is performed. Being a charitable donor is a solitary activity; volunteering is often social. It is quite likely that the identity-intention link is stronger for volunteering because of the effect of social relationships, which we did not measure in this study. In past research on blood donation, friendships predicted intentions and continuation as a donor.

Of the eight significant differences in the impact of the identity theory variables across types of helping, six involve blood donation. Again, this finding indicates that money and time donation are more similar to one another and that blood donation is more "specialized."

DISCUSSION AND CONCLUSIONS

In answer to our central question, the Piliavin and Callero (1991) model of the determinants of blood donor identity and donation can be generalized to charitable donation and volunteering. In all three areas, the most important factors in the

⁵ A normal deviate is calculated by dividing the difference between the two coefficients by the square root of the sum of the two squared standard errors.

⁶ The relationship between personal norms and identity, however, seems to be unaffected by whether or not the respondent or someone he or she knows has received help in the past. Correlations between personal norms and identity are higher in the blood

donor domain than for either money or time, both among those who have received services (.39 vs. .21 and .19 respectively) and among those who have not (.32 vs. .19 and .22 respectively).

development of altruistic identities are modeling, personal norms, and especially the past experience of giving. Although in general the model fits all three types of helping, blood donation is a more nearly unique form of helping. Blood donation is not only less common than money and time donation—the “mainstream” forms of giving—but also is less similar to the other two forms in the processes associated with giving.

The most important factors predicting intentions about all kinds of giving are past behavior and role-identity; past behavior is more important for giving blood than for giving time, while role-identity is more important for giving time than money. Blood donation is affected more strongly by socialization, both from parents and from the adult socialization experience of actually engaging in the behavior. We find more evidence of internalization of a moral imperative as a factor in the development of the blood donor role-identity. Perceived expectations seem to have the greatest influence on past volunteering.

This research has limitations in common with all research based on self-reports. Social desirability effects may inflate the proportions who report helping; for example, fewer than 10 percent of eligible donors give in any year, but more than twice that proportion of our sample claim that they gave in the past year. In addition, some of the measures are rather unreliable, due in part to the telephone interview format. This means, however, that the strength of the relationships we found is likely to be underestimated. Also, we were unable to use measures of helping behavior as our dependent variable; instead, we relied on intention. In support of the validity of this substitution, we showed that the prediction of past donation based on modeling, others' expectations, past receipt of help, and personal norms was of about the same magnitude and showed the same patterning as the prediction of intention. Wilson and Musick (1997) provide a model in which measures of volunteering taken at two waves were related .57; this magnitude is about the same as our relationship between past behavior and intentions, which was over .5 for all domains.

In addition, there are potential problems of interpretation related to the cross-sectional nature of the data. Past longitudinal research in the domain of blood donation has demonstrated that these relationships develop over time; however, as modeled here, the causal paths we have drawn in our analyses cannot be shown definitively to be correct. Role-identity, for example, certainly has caused some past behavior. Modeling, personal norms, and perceived expectations lead individuals to make initial donations; these factors, plus the experience of repeated donations, lead to the development of an identity as a donor; all of these factors then contribute to continued donation, or to intentions to continue giving. Although Wilson and Musick (1997) do not employ a measure of identity, they clearly demonstrate that past behavior is related to current behavior, and that a measure of values taken at the first wave, “Life is not worth living if one cannot contribute to the well-being of other people,” is a significant predictor of volunteering, controlling for past volunteering. Grube and Piliavin (forthcoming) find that measures of hours worked and intention to quit at a first wave predict role-identity as a cancer volunteer at a second wave, and that role-identity predicts intentions to quit and hours worked at the second wave, net of the initial effect of those variables. Thus other evidence supports the time order used in the model presented here.

What about omitted variables? Certainly a number of demographic variables are relevant to these forms of helping behavior. Wilson and Musick (1997) find that age, race, gender, number of children, religiosity, and socioeconomic status are all related to volunteering. Yet, only religiosity, number of children, and socioeconomic status are related directly; age, race, and gender exert only indirect influences. In a more structural analysis of these data (see Piliavin, Lee, and Call forthcoming), we found no effect of marital status or race on any of the forms of helping. The effects of most other variables—gender, age, education, and religious activity—either were non-significant initially or were mediated by the effects of the theoretical variables. The greatest additional variance explained by

these factors was three percent, the contribution of gender and age to blood donation, which probably reflected physiological factors. Thus the patterns reported here remain essentially unchanged by the addition of demographic factors to the models.

What are some practical implications of these findings? First, it seems clear that parents can and do influence the development of attitudes and self-concepts related to participation in these forms of institutional helping behavior. Modeling by parents can be the first step in leading young people to view themselves as community participants. In addition, the importance of past behavior in both the development of helping identities and the prediction of intentions to help suggests that involving children and adolescents in volunteering, perhaps through "service learning," could increase participation in all forms of community service. Finally, the importance of role-identities as givers of time, money, and blood implies a need for strategies that do not involve applying external rewards (such as resume building or grades) or negative sanctions. Opportunities are needed that lead more youths to experience the intrinsic rewards of service to others, and thus to internalize the motivation to help.

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Lichang Lee received his Master's degree in 1992 and his PhD. degree in 1997 from the Department of Sociology, University of Wisconsin-Madison. His master's thesis was based on the research reported here. His dissertation examined changes in self-concept over the first year of college, with an emphasis on the effects of participation in volunteer activities. He is currently working in the private sector in Taiwan.

Jane Allyn Piliavin is Professor and former Chair of Sociology at the University of Wisconsin-Madison. Her main research interest is altruism and helping behavior. She is co-author, with D. Schroeder, L. Penner, and J. Dovidio of The Psychology of Helping and Altruism (1995), and with P. Callero, of Giving Blood: The Development of an Altruistic Identity (1991). She currently serves as a member of the HHS Advisory Committee on Blood Safety and Availability.

Vaughn R. A. Call is Professor of Sociology at Brigham Young University. At the time of this study, he was Associate Scientist in the Department of Sociology, University of Wisconsin. His main interests lie in family influences on the career decisions of youth, specifically regarding schooling and the military, and in survey research methodology.