Articles 4

SOCIAL PRESSURE AND CONTRIBUTIONS TO HEALTH CHARITIES

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It has been argued that social pressure is an important determinant of voluntary contributions toward the provision of public (collective consumption) goods. David B. Johnson (p. 112) describes the operation of social pressure in the following manner:

> Social pressures include derisive remarks, and the loss of one's friends, social acquaintances, prestige, influence, etc. For example, a community leader who lets the church collection basket pass without sufficient recognition suffers a selective cost because he is aware that his friends and neighbors will think less of him.

Johnson suggests a number of ways in which social pressure may be imposed by individuals known and unknown to the potential donor. Speaking of University alumni fund-raising campaigns, Johnson points out that personal contacts by alumni chairmen or group-captains may increase social pressure, and ". . . of course the names of the donors and the amount they contribute will be published in the next issue of the alumni magazine" (p. 123). In another example, Johnson (p. 113) notes that employers may pressure individuals into giving greater amounts to charity:

> . . . a charity "tax" rate schedule may be established which determines the "fair" amount to be donated by the individual. If the individual does not donate this amount the employer will demote, dismiss or

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withhold promotion from that individual.

While Johnson overstates, perhaps, the actual consequences of under-giving, it is plausible that employees perceive that giving less than their "fair" shares will increase the probability of such severe actions.

Social pressure will only be operative when other individuals are made aware of a potential donor's contributing behavior. It would be expected, then, that face-to-face solicitations by individuals (such as the personal contacts by the alumni chairmen Johnson mentions) would, by creating social pressure, be effective in increasing the amount of donations when compared to impersonal forms of solicitations such as advertisements in the media and direct mail appeals. Moreover, as Johnson suggests when referring to employer pressure, the relationship of the solicitor to the donor may matter – the better one knows the solicitor, the more he has to lose (e.g., in friendship or job security) by giving nothing, or by giving less than he is expected to give. We would expect that, other things equal, the closer the relationship of the donor to the solicitor, the greater the contribution.

In this paper we present tests of the social pressure hypothesis for household data on contributions to health organizations. Two aspects of the social pressure hypothesis are tested: namely (1) that face-to-face solititations are more effective in fund-raising than impersonal approaches, and (2) that the closer the personal relationship of the solicitor to the donor, the greater the contribution.

I. SUGGESTIVE EVIDENCE

Two suggestive, though by no means flawless, sources of evidence that personal solicitations are more effective in stimulating contributions are offered. One source is information on the percent of individuals contacted by various solicitation techniques who made a contribution (i.e., the yield). A second source indicates the mean contribution for all givers to various health organizations which made primary use of different approaches to donors – for example, some organizations used mostly direct mail methods while others depended far more on neighborhood canvasses of donors.

From our information on yield rates (note that the ideal dependent variable in this case is amount contributed, rather than whether any contribution was made), there is evidence that the average yield of contributors (giving any amount) from a general mailing ranges from about four to five percent for addresses in a town with a different address than that of the soliciting organization, to as much as twenty percent for local mailings.[1] Selected mailings, to previous givers only, are expected to yield about a seventy-five percent return. In contrast, door-to-door campaigns by neighbors (contacting past givers and non-givers alike) yield contributions from about ninety percent of those individuals who are contacted.

[1]This discussion of yield rates is based on telephone conversations (6-25-75) with Mike Klausen of the March of Dimes (Madison, Wisconsin), Elaine McGee of the American Cancer Society (Madison), and Jerry Knuth of the Wisonsin Hearth Association (Milwaukee).

Thus, it appears that personal methods of contact (e.g., by neighbors) are more effective, as measured by yield, than impersonal approaches (in this case, by mail), although the evidence is very limited and has not been derived from satisfactory research methods.[2]

We find further support for the productivity of personal solicitations by examining survey data on contributors to health organizations. For a 1963 sample of Wisconsin donors, we note that the mean dollar contribution (instead of the crude yield rate as used above) was higher for those organizations making a greater share of their solicitations by neighborhood canvassing, rather than by mail (see Table 1).[3] Easter Seals and Christmas Seals, which contacted eighty percent or more of their contributors by mail, received individual contributions averaging only about sixty percent of those received by the American Heart Association and the American Cancer Society. The latter pair of organizations contacted fifty-nine percent of their contributors through neighborhood solicitations, and over eighty percent in some face-to-face manner.

While our focus is on the *effectiveness* of alternative solicitation approaches, it is interesting to note the different proportions of techniques used among the organizations listed in Table 1. We are not, herein, testing the "rationality" or net revenue maximizing behavior of these organizations, which would clearly depend upon a balancing of the effectiveness of each approach with its cost. Since the techniques are likely to vary in cost, and since we have no data on these costs, the question of optimal solicitation techniques will not be discussed further.

II. THE REGRESSION MODEL

While both types of evidence presented above are suggestive that more personal techniques are effective in increasing contributions, neither adequately controls for a number of other variables affecting contributions – such as the socioeconomic status of donors solicited by various techniques, in the case of yield rates, and the differential reputations of organizations, in the case of mean contribution data.

To overcome these problems, we tested the social pressure hypothesis with data on individual contributions which allowed some control for socioeconomic

[2]The experience of the March of Dimes lends some support to Johnson's notion that community size matters. Their representative, Mr. Klausen assured us that the smaller the community, the higher the yield. He cited statistics for the past year indicating a yield of 87% of door-to-door contacts in Madison (population: 173,258), but 94% for Sauk City (population: 2,385). Whether this difference is a meaningful one (and other things being equal) is, of course, debatable.

[3]The data for Table 1 and the regressions reported in Table 2 and Table 3 are from the survey "A Studyof Social Responsibility." These data were made available by the Wisconsin Survey Research Laboratory through the Data and Program Library Service, University of Wisconsin-Madison. The survey, conducted in March and April of 1964, was directed at Wisconsin heads of households and had an 84% response rate. An appendix describing the survey questions and the coding of the variables is available from the author.

TABLE 1

MEAN CONTRIBUTIONS AND SOLICITATION TECHNIQUES - SELECTED HEALTH ORGANIZATIONS

	Christmas Seals (T.B.)	Easter Seals (Crippled Children)	American Heart Association	American Cancer Society
Mean Contribution (1963)[a]	$3.73	$4.21	$5.25	$8.08
Solicitation Forms:				
Mail	84%	80%	18%	15%
Other Impersonal	3%	3%	2%	1%
Neighbor	7%	8%	59%	59%
Other Personal	6%	9%	21%	25%

Source: "A Study of Social Responsibility" (see note 3).

[a]Includes only those persons making contributions.

factors and stratification by recipient organizations. We used, alternatively, each of the following multiple regression models, estimating each by ordinary least squares:

$$C_i = b_o + b_1 P + b_2 Z_1 + \ldots + b_n Z_{n-1} + e, \quad (1)$$

$$C_i = a_o + a_1 R_1 + \ldots + a_k R_k + a_m Z_1 + \ldots + a_{m+n-1} Z_{n-1} + e, \quad (2)$$

where C is the individual dollar contribution in a given year to the i^{th} charity; P is a measure of the degree of social pressure, distinguishing personal appeals for funds from impersonal means; the R_i's are measures of the solicitor's relationship to the donor; the Z_i's are control variables for socioeconomic status and individual tastes and preferences; and e is a stochastic error term. The variable P and the R_i's serve as proxy variables for a true variable, which would perfectly measure the degree of social pressure.

The data that we used included measures of individual contributions to five health charities (March of Dimes, American Heart Association, American Cancer Society, Easter Seals, and Christmas Seals) and to hospitals in 1963. The key feature of these data is the information about the manner in which the donor was solicited – that is, (1) by another personal; (2) by radio, television, newspaper, or magazine; or (3) by mail. In the case of personal solicitations, the data further reveal the relationship between solicitor and donor (i e., friend, neighbor, fellow worker, business associate or customer, employer, or stranger).[4]

Our decision to test the social pressure hypothesis with data on contributions to health organizations may be justified on several grounds. First, the primary output of the particular health charities is medical research, a collective consumption good. Second, they are clearly within the purview of Johnson's analysis (p. 121), as he used a March of Dimes campaign in one example of social pressure. Finally these data offer a significant advantage in that they distinguish each organization to which the donor gave and they include information on the form of solicitation for each contribution.

The operational measure of social pressure in equation (1) was a binary variable, taking the value "1" if the contributor was solicited in any one of the face-to-face forms, and "0" if he was solicited impersonally (i.e., by media advertisement, mail, or cannister). To estimate the effect of social pressure in equation (2), the sample for each organization was limited to individuals who were contacted in a personal manner. Then, binary variables were specified for each of the relationships of donor to solicitor; that is, friend, neighbor, fellow worker,

[4]The primary weakness in the data is that, while the survey asked the respondent about his contribution to each organization, if he answered that he made no contribution in 1963 the interviewer was instructed to skip the questions regarding the method of solicitation. Thus our estimates reflect only the behavior of individuals who actually made contributions. An appendix exploring the bias created by omitting these observations is available upon request from the author. The appendix demonstrates that the reported estimates are likely to understate the true effectiveness of social pressure as a determinant of contributions.

business associate or customer, and employer. Solicitation by strangers took a value of "0".

Choice of appropriate control variables was based, in part, on the results of James N. Morgan et al., who studied both religious and non-religious contributions to persons outside the family. These authors found income to be a significant, positively-related determinant of contributions, as we would expect. An index for earning potential (reflecting education, race, age, and occupation) was also found to be a significant positive determinant of contributions. All of these factors were controlled in our regression model.

Additional control variables we used were wealth, sex of the respondent, marital status, number of children, and whether or not the donor's spouse contributed time to the same organization during the previous year.

Greater wealth provides the means for greater monetary contributions and, perhaps, a greater amount of pressure to give imposed by solicitors. Therefore, we expected a positive sign on the coefficient of this variable. Married couples and families of equal income to that of single persons have greater financial obligations and hence the expected sign was negative for both the married and the number of children variables. Donations of the spouse's time would indicate a stronger household taste for the activities or output of the organization, but since it is unclear whether the time donated would serve as a complement to or a substitute for the money donations, the expected sign on this variable was unclear.[5]

III. THE RESULTS

Equation 1

Our estimates for equation (1), specified in linear form, are presented in Table 2. Of primary interest are the coefficients on our measure of social pressure, the binary variable "pressure". The coefficient is positive, as predicted, for five of the six health organizations – that is, face-to-face solicitation was associated with greater giving – and of these positive coefficients three are significant at the

[5]We experimented with two additional variables. The first was created from a question asking if it was likely that the respondent or his family might benefit personally from his contributions. This dichotomous variable, FAMBEN, took the value "1" if he chose the response "my family benefits from medical research, improved medical facilities, polio research, etc.," and "0" otherwise. Another question concerned the ways someone known to the respondent had been helped or benefited by organizations to which he contributed. One response was: the respondent, a relative, or friend received medical care from an organization or was helped through the research of an organization. A binary variable, MEDBEN, was created for this question taking the value "1" if the above response was chosen, and "0" for all other responses.

The purpose of these variables was to control for the strength of tastes in giving to health charities and the familiarity of the respondent with the outputs of the organizations. However, neither experimental variable proved significant in preliminary regressions, nor did their inclusion affect the significance of the other variables. Hence we deleted them in our final estimates and our reported results.

TABLE 2

CONTRIBUTIONS TO HEALTH ORGANIZATIONS: ALL CONTRIBUTORS[a]

Dependent Variable: Annual $ Contribution

Independent Variable	Christmas Seals (T.B.)	Easter Seals (Crippled Children)	American Cancer Society	American Heart Association	March of Dimes	Hospitals
Constant	2.88 (.62)	-1.64 (-.43)	-2.37 (-.29)	-.33 (-.07)	2.39 (.71)	-40.04 (-.31)
Pressure[b]	1.49 (2.30)**	2.83 (2.55)**	3.09 (1.35)	.01 (.01)	-1.60 (-2.17)**	85.89 (4.05)*
Age	.02 (.96)	.02 (.65)	.04 (.57)	.007 (.15)	-.009 (-.26)	-.08 (-.10)
Education	-.08 (-.86)	.08 (.45)	-.01 (-.04)	.14 (.63)	-.08 (-.53)	1.92 (.47)
Head Income	.0003 (22.07)*	.0001 (5.93)*	.0005 (12.15)*	.0002 (7.07)*	.0002 (8.84)*	.0009 (3.32)*
Wealth	$-.1x10^{-5}$ (-2.34)**	$.1x10^{-5}$ (2.03)**	$.4x10^{-5}$ (2.01)**	$.2x10^{-5}$ (1.87)***	$-.7x10^{-6}$ (-.08)	.0004 (2.65)*
Married	.30 (.22)	.48 (.14)	-10.50 (-1.94)***	-6.61 (-2.00)**	-2.01 (-.90)	13.20 (.21)
No. Children	-.15 (-1.09)	-.01 (-.05)	-.38 (-.80)	-.16 (-.51)	.18 (.89)	-.04 (-.01)
Spouse Volunteered	-2.44 (-.56)	4.93 (.95)	2.08 (.63)	-1.22 (-.56)	-.35 (-.14)	47.70 (2.06)**
White	-2.53 (-.59)	c	c	c	c	-19.62 (-.21)
Male	-.63 (-.38)	-.79 (-.23)	6.44 (1.10)	5.11 (1.40)	1.93 (.73)	d
Professional	-.52 (-.54)	-.87 (-.47)	-3.61 (-.99)	-1.88 (-.82)	-.44 (-.28)	52.01 (.96)
Farm	-.18 (-.16)	-.50 (-.22)	-.81 (-.22)	-.36 (-.15)	-.21 (-.14)	-37.41 (-.53)
Managerial	-.33 (-.42)	.85 (.56)	.93 (.31)	1.27 (.68)	2.23 (1.77)***	-23.91 (-.52)
Clerical & Sales	.83 (.91)	.33 (.18)	-1.27 (-.38)	-.71 (-.36)	1.72 (1.18)	-34.00 (-.66)
Skilled Labor	.34 (.42)	-.59 (-.37)	.14 (.05)	.18 (-.10)	4.80 (.38)	-44.17 (-.83)
R^2	.6589	.2848	.4645	.3589	.2951	.5315
N	383	315	363	309	391	99
Mean Contribution	$3.73	$4.21	$8.08	$5.25	$4.08	$108.11

Notes: a. t-values in parentheses

b. this variable takes the value of "1" if a personal approach was taken and "0" for an impersonal approach

c. no non-whites in the sample

d. no women in the sample

*Significant at the 99% level.

**Significant at the 95% level.

***Significant at the 90% level.

ninety-five percent level (or better).[6] Of the three strongly significant, positive coefficients, two occur for organizations (Christmas Seals and Easter Seals) which largely used mail solicitation techniques to contact most of their donors (see Table 1). The third significant, positive coefficient for personal pressure was found for donations to hospitals. Our results are consistent with the hypothesis that personal forms of solicitation by voluntary organizations are relatively more effective than impersonal forms of solicitation, other things being equal.[7]

We postpone discussion of our results for the control variables until our results for equation (2) have been reported. Before turning to these estimates, we examine the anomalous significant negative coefficient for the "pressure" variable in the March of Dimes equation, which is contrary to our prediction. During experimentation with a number of different models, this curious result appeared in all cases. An alternative binary variable for the cannisters appearing at check-out counters in stores was used, but it proved to be insignificant.[8] Another model was specified which used binary variables for each of the six forms of personal solicitation, for media advertisements, and for mail approaches.[9] None of the coefficients for the personal forms of solicitation was significantly different from zero (i.e., these means were no more effective than cannisters). Surprisingly, after finding insignificant coefficients on the personal approaches, the estimated coefficients for mail and for media were positive and significant.

Finally, we speculated that our results might be due to the presence of some persons with very strong tastes for giving to this organization (tastes which were not controlled for by our other variables), who happened to be solicited by media or mail. To explore this possibility, we stratified our sample by selecting groups with successively smaller gifts, eliminating large givers who might have unusually strong tastes. We re-estimated the model for goups giving $25. or less, $12. or less, $7. or less, and $4. or less (the sample mean contribution level was $4.08). The coefficient on the social pressure variable remained negative in all four cases, and was significant at the ninety-five percent level in two of the four cases.

We remain puzzled by this significant, negative effect of social pressure on contributions to the March of Dimes, which indicates that not only was social pressure ineffective (relative to impersonal means), but it was *counterproductive*!

[6] A fourth, in the sample for donations to the Cancer Society, was significant at the 82% level.

[7] One reason that may appear to make things unequal is that friends, neighbors, and co-workers may prefer to collect for the most popular causes – i.e., those to which people are most willing to give. But such reciprocal causation is not a problem in our specification since we have estimated the equation separately for contributions to each organization.

[8] Cannister solicitation was the response of 23 of the 162 givers in the omitted class for the pressure variable in equation (1).

[9] Cannister was the omitted class.

Why this should be so for one health organization, but not for the others, is unclear.[10]

Equation 2

We now turn a discussion of the estimates of equation (2), which was designed to distinguish any differential effects on contributions due to the relationship between the donor and solicitor. The samples were limited to contributors who were contacted by another person, not by mail, media, or cannister.

Johnson has indicated that employers, via actual or perceived threats to job security, may impose considerable social pressure to give on their employees. He stops short, however, of indicating the relative importance of pressure applied by individuals of differing relationships to the potential donor. At a conceptual level it is clear that the pressure will be stronger the greater the cost of disappointing the solicitor. The problem is to operationalize our notion of the "costs of disappointment".

At the risk of overstepping the social psychological interface with economics, and in the absence of any existing theory, we suggest some very tenative notions about the degree of pressure exerted by persons in different roles vis-a-vis the donor. It is proposed that the costs of social pressure are a function of (1) the value of the maintained "goodwill" of the solicitor, and (2) the frequency of contact with the solicitor, since a lack of goodwill is costlier the more often one is reminded of it.[11] For strangers, the value of the goodwill loss is relatively small and the frequency of contact is low. While it is difficult to place a value on friendship, it is clearly worth more than a relationship with a stranger; and contact with friends is relatively more frequent. Therefore, we expect solicitation by friends to exert more social pressure to donate than solicitation by strangers.

On the average, we would expect the value of the goodwill of neighbors to be somewhat between those for friends and strangers. Frequency of contact with neighbors exceeds that with strangers, but is of uncertain magnitude relative to that with friends. Given the extra value of friends' goodwill, though, it seems reasonable to expect friends to exert the most social pressure, followed by neighbors, and then strangers.[12]

[10]Apparently the result, at least if Dane County, Wisconsin is representative, is not due to sophisticated direct mail approaches. A telephone conservation (see note 1) revealed that only in very recent years has the local chapter of the March of Dimes used the technique of selective mailings to previous givers. Prior to this, and certainly in 1963, the organization was using mailings to lists gathered from telephone directories and license plate registrations, and failed to keep records of past givers for which "selective" mailings could be designed.

[11]The argument is symmetric in the case where more goodwill is earned by contributing, instead of lost by contributing too little.

[12]The relative value of friends must exceed that of neighbors – at least, most persons consider only some of their neighbors to be friends, but would not consider "elevating" a friend to the status of neighbor.

Relationships in the workplace are more difficult to assess. The loss of a fellow worker's goodwill is probably of lower value than the goodwill of employers and business associates or customers. However, co-workers are seen more often, heightening the effect of the pressure. It did not seem feasible to provide an *a priori* ranking of the social pressure exerted by different persons in different workplace roles vis-a-vis the donor.[13]

The estimates for equation (2), specified in linear form with binary variables for each personal relationship to the contributor (except stranger), may be found in Table 3. As predicted, the coefficients on the binary variable for friend's solicitations were positive in five of the six cases, and significant in three of them, for contributions to Easter Seals, the Cancer Society, and the American Heart Association. These estimates indicate that approaches to givers by friends, other things being equal, added from nearly ten to twenty-two dollars (151% to 267%) to the level of contributions when compared to contacts by strangers. None of the coefficients for neighbor solicitation is statistically significant, indicating that neighbors are no more effective than strangers as solicitors.

Turning to the variables for workplace solicitations, being contacted by a business associate or a customer was found to have a positive effect on contributions for four of the six organizations, and a statistically significant effect for two, the Cancer Society and Heart Association. The variable for fellow worker solicitation is positive and significant (at the ninety percent level) for hospital donations, but insignificant otherwise. Finally, we note that employer requests for funds, the case Johnson argues to be a high social pressure situation, are on the whole ineffective. In fact, in our Christmas Seals regression, the coefficient on this variable is negative and significant. Thus, while Johnson did not specify the counterfactual to his employer solicitations, our evidence does not indicate that employer-employee fund-raising contacts are effective in increasing the level of contributions, when compared to personal requests by strangers.

By comparing the results for equation (1) and equation (2), and using the information available on the extent of each form of solicitation used by each organization, we note one additional source of support for the notion that the solicitor's relationship to the donor may affect contributions. From Table 2 it was seen that the binary variable indicating all personal forms of contact was significant and positive for Christmas Seals and Easter Seals, but not significant for the Cancer Society and the Heart Association. Yet, referring to Table 3, we find significant positive effects for friends, and business associates and customers, for cancer and heart contributions. The reason for the significance of all personal forms (taken together) for Christmas and Easter Seals, but not for cancer and heart research, may lie in the mix of personal techniques used. Thus, while personal solicitations for donations to the tuberculosis and crippled children funds were made in response to contacts from strangers and neighbors (the weaker forms of pressure) in sixty-seven

[13]We do, however, propose the ranking of nonwork relationships – friend, neighbor, and stranger (in order of strongest pressure first) – as an hypothesis to be tested.

TABLE 3

CONTRIBUTIONS TO HEALTH ORGANIZATIONS: DONORS WHO WERE SOLICITED BY PERSONAL MEANS[a]

Dependent Variable: Annual $ Contributions

Independent Variable	Christmas Seals (T.B.)	Easter Seals (Crippled Children)	American Cancer Society	American Heart Association	March of Dimes	Hospitals
Constant	-1.08 (-.16)	-10.69 (-.86)	5.53 (.67)	-.32 (-.06)	4.17 (1.49)	-85.22 (-.62)
Social Pressure Variables:[b]						
Friend	-1.34 (-.52)	9.81 (1.80)***	21.92 (5.04)*	10.81 (3.76)*	1.33 (1.19)	31.10 (.84)
Neighbor	-1.52 (-.78)	-2.94 (-.61)	-3.01 (-1.31)	-1.09 (-.68)	-.45 (-.64)	10.37 (.23)
Fellow Worker	c	c	-6.19 (-.94)	-4.71 (-1.20)	-1.33 (-.62)	71.57 (1.67)***
Business Assoc. or Customer	3.24 (.95)	-17.86 (-1.52)	15.55 (2.37)**	8.29 (2.50)**	-1.31 (-.49)	45.91 (1.16)
Employer	-7.83 (-2.04)**	2.54 (.18)	-4.23 (-.54)	-.18 (-.02)	1.92 (1.20)	59.07 (1.12)
Age	.10 (1.58)	.16 (1.10)	-.02 (-.25)	.02 (.40)	-.04 (-1.21)	.31 (.28)
Education	-.54 (-1.87)***	.55 (.72)	-.03 (-.08)	.20 (.79)	-.21 (-1.55)	2.20 (41)
Head Income	.0004 (15.67)*	$-.2x10^{-5}$ (-.29)	.0005 (11.04)*	.0003 (7.00)*	.0002 (11.98)*	.0008 (2.73)*
Wealth	$-.7x10^{-5}$ (-2.75)*	.0002 (2.94)*	$.5x10^{-5}$ (2.29)**	$.1x10^{-5}$ (.83)	$-.4x10^{-6}$ (-.47)	.0005 (2.67)**
Married	4.63 (.82)	f	-4.84 (-.85)	-3.90 (-1.04)	-6.97 (-2.94)*	19.70 (30)
No. Children	-.44 (-.98)	-1.12 (-.95)	-.33 (-.67)	-.28 (-.88)	.06 (.37)	-1.72 (-.30)
Spouse Volunteered	-.08 (-.02)	8.26 (.79)	-2.76 (-.76)	-1.58 (-.70)	.69 (.36)	45.42 (.72)***
White	d	d	d	d	d	d
Male	e	e	1.44 (.24)	2.24 (.56)	7.07 (2.64)*	e
Professional	2.74 (.96)	-4.23 (-.50)	-4.79 (-1.26)	-2.35 (-.97)	.41 (.32)	111.81 (.57)
Farm	-1.79 (-.48)	-14.14 (-1.63)	-1.04 (-.27)	.31 (.13)	.28 (.19)	32.58 (.42)
Managerial	2.56 (1.03)	-.77 (-.12)	-1.42 (-.46)	-.73 (-.37)	1.14 (1.08)	19.53 (.34)
Clerical & Sales	4.03 (1.20)	2.56 (.27)	-2.14 (-.64)	-.95 (-.47)	1.69 (1.52)	3.86 (.06)
Skilled Labor	-.93 (-.36)	-.67 (-.11)	-.72 (-.24)	.03 (.01)	.71 (.71)	-6.23 (-.10)
R^2	.9402	.4856	.5608	.4379	.5344	.6138
N	52	55	303	246	229	78

Notes: a. t-values in parentheses

b. binary variables; the omitted class is "stranger"

c. no contributors solicited in this manner

d. no non-whites in this sample

e. no females in this sample

f. no single persons in this sample

*Significant at the 99% level.

**Significant at the 95% level.

***Significant at the 90% level.

percent and seventy-one percent of the cases, respectively, stranger and neighbor solicitation composed eighty-eight percent and eighty-nine percent of the personal approaches made by the cancer and heart groups. Therefore, while we find that personal forms of solicitation are more effective than impersonal forms, we also find that, among the personal forms of fund-raising contacts, the relationship of the solicitor to the donor is an important determinant of contributions.

We now turn briefly to a discussion of the results for our control variables in equations (1) and (2). Of the controls, only income and wealth are consistently significant, with the expected positive signs in nearly every case. There is some evidence that married persons gave less than single persons – with significant negative coefficients estimated in one of the two equations for each of three health charities. This may be due to the lower per capita living standard of married persons, when compared to single persons of equal income and wealth. The other controls were, on the whole, found to have statistically insignificant signs.[14] The variable for volunteer work by the spouse to the same organization was a significant, positive determinant of donations to hospitals. This suggests that future studies of contributions should attempt to control for such interdependencies of donation decisions by married persons.

IV CONCLUSION

On the whole the evidence lends support to the hypothesis that social pressure affects the level of charitable contributions. We find, however, that the form of the pressure is an important determinant of the size of health contributions. Personal forms of solicitation appear to increase contributions, relative to impersonal forms such as media advertisements and mail campaigns. Within the class of personal solicitations, we find that pressure to give which is exerted by friends is more effective than requests by strangers. Limited evidence was also found that some workplace relationships result in more effective fund–raising when compared to solicitations by strangers.

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[14]One interesting coincidence was turned up. The variable for sex is only significant and positive for males, in the case of the March of Dimes (see Table 3). In a telephone conversation a March of Dimes representative (see note 1) indicated his conviction that men give more than women. The conviction is so strong that his organization sends out volunteer canvassers in Whitewater, Wisconsin on "Super Bowl Sunday" cognizant of the increased probability that males will be at home.