STRAIGHT FROM THE HEART

René Bekkers

ABSTRACT

Purpose – This study seeks to answer the question of whether donations to the Dutch Heart Association are a form of solidarity of the healthy with the sick. In doing so, I test hypotheses on the origins of charitable donations in awareness of need in conjunction with dispositional empathic concern, social networks and own health.

Methodology – I report probit, tobit and multinomial regression analyses on data from the Giving in the Netherlands Panel Survey (2002–2004; n = 1,246) on donations to the Dutch Heart Association and other health charities.

Findings – I find that experience with cardiovascular diseases is associated with a higher likelihood of donating to the Dutch Heart Association, especially among those with higher levels of empathic concern and social responsibility, and among those who are not in excellent health themselves. Support for the Dutch Heart Association comes from those who are aware of the need for contributions and more easily imagine themselves in a situation similar to those of heart patients.

Research limitations/implications – The results confirm the role of empathic concern, explore the role of own health and seem to reject the role of ties to family members. The study is limited to the Dutch Heart Association. Future research should test whether these results can be generalized to donations to other charitable causes.
Originality/value of chapter – *This study contributes to our knowledge on charitable donations, revealing new insights on the influence of awareness of need.*

**GIVING TO HEALTH IN THE NETHERLANDS**

Citizens in the Netherlands have access to extensive, publicly funded health care arrangements. In addition, numerous charities raise funds from the public for medical research, prevention of illnesses and provision of care for patients suffering from specific diseases. In 2005, the 130 major health charities in the Netherlands raised a total of €277 million in private contributions (CBF, 2006, p. 47). In that year, the total amount received by health charities from households, corporations, foundations and charitable lotteries was about €477 million, which constitutes 11% of total estimated donations by households (Schuyt, Gouwenberg, Bekkers, Meijer, & Wiepking, 2007, p. 17). Health charities are very popular among the Dutch public: about 70% of all households donate to at least one health charity (Schuyt et al., 2007, p. 118). In the United States, about 23% contribute to health charities, and donations to health represent about 7% of total estimated donations (Giving USA, 2007, pp. 141, 146).

**The Dutch Heart Association**

In several respects, the Dutch Heart Association is comparable to the American Heart Association. Like the American Heart Association, the Dutch Heart Association is supported by a large number of relatively small contributions. The Dutch Heart Association directs a somewhat higher proportion of yearly expenses to funding for research on causes and treatments of cardiovascular diseases than the American Heart Association: 35% vs. 22% (American Heart Association and American Stroke Association, 2007).

About a quarter of all expenses by the Dutch Heart Association is used for patient care such as the maintenance of Automatic External Defibrillator (AED) sites that enable on-the-spot treatment of arrhythmia by electric shocks and development of training materials for reanimation. Twenty percent is used for prevention and public education. This part of the work of the Dutch Heart Association is most visible to citizens. The Dutch
Heart Association has conducted national media campaigns educating the public to recognize symptoms of stroke and to improve knowledge about the optimal treatment of patients suffering a stroke. As a result of the campaign, the proportion of the public knowing that speech problems are a symptom of a stroke increased from 35% to 55% (Nederlandse Hartstichting, 2005, p. 23). In a collaborative action with a large food production company, a cholesterol awareness campaign was held in supermarkets. In 2005, about 200,000 consumers were tested for cholesterol levels in a quick blood test inside the supermarkets. In another campaign, pedometers were distributed to 932,000 consumers to stimulate walking habits. In addition, citizens have been warned about risk factors for cardiovascular diseases such as obesity and smoking through public education programs.

How does the role of the Dutch Heart Association relate to health consumerism? Theoretically, consumerism in health has been conceptualized as a more egalitarian relationship between patients and doctors (Haug & Lavin, 1981; Haug & Lavin, 1979). Questioning the authority of medical professionals, patients are redefining their role, away from the sick role (see also the chapters by Sulik & Eich-Krohm and Fisher & Ronald in this volume). Unlike the organizations studied by Borkman and Munn-Giddings in this volume, the Dutch Heart Association is not at all a ‘bottom up’ movement of patients who demand more say in medical issues. The Dutch Heart Association was founded in 1964 by cardiologists who believed that better treatment of cardiovascular diseases was possible by improving knowledge through research (Nederlandse Hartstichting, 2005). Thus, the organization can be seen as a professional response to the occurrence of a disease, and not so much as a patient movement. To some extent, however, the Association’s public education and prevention programs do contribute to an increased sense of agency among patients. The programs direct the public’s attention to their ability to prevent cardiovascular diseases by changing their life style. Consumers are made aware of their own ability and responsibility for their health. This change implies another role change, also away from the passive sick role, but in a less revolutionary direction. Patients are no longer viewed as victims of a disease that doctors may cure, but become active agents who have some power to prevent and recover from cardiovascular diseases.

From another perspective, the Dutch Heart Association is a clear example of a voluntary association in civil society. Private contributions to the Association fund programs that otherwise would probably not have been funded by the government. Despite the fact that the Netherlands still has a
quite extensive welfare state, government funding of medical research is relatively low. The Dutch Heart Association (as well as many other charities raising money for health research) may be viewed as a response to low government funding in an area that is socially valued.\footnote{In the literature on social capital (Putnam, 2000) philanthropy is viewed as an expression of ‘social capital’, a cluster of phenomena including trust, norms of reciprocity, social networks and contributions of time and money to voluntary associations. Donations to the Dutch Heart Association belong to this cluster. A common critique of the concept of social capital is that it is not clear how the different ingredients affect each other (Durlauf, 2002). In this chapter, I show how social networks have an impact on contributions to the Heart Association.}

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**Research Questions**

In this chapter, I study the donor base of the Dutch Heart Association. My general research question is to what extent donations to the Dutch Heart Association are a form of solidarity of the healthy with the sick. Are donors to the Dutch Heart Association primarily healthy persons who feel obliged to improve the situation of those suffering from cardiovascular diseases? Or are persons who have suffered from cardiovascular diseases themselves and are grateful for services provided by the Dutch Heart Association more likely to donate? Or perhaps both groups are more likely to contribute to maintaining cardiovascular health?

**Awareness of Need and Donations**

Cardiovascular diseases are the most common reason for hospitalization in the Netherlands: in 2005, 141,700 persons were hospitalized for cardiovascular diseases. This is 14.7% of all hospitalizations. Cardiovascular diseases are also the most common cause of death in the Netherlands. In 2005, 43,350 persons died because of cardiovascular diseases. This is 31.8% of all deaths. Stroke ranked fifth in an assessment of illnesses with the most negative consequences for quality of life (Hoeymans & Poos, 2006), after dementia, esophagus cancer, Parkinson’s disease and schizophrenia.

Given the prevalence of cardiovascular diseases and the negative consequences for quality of life, it is not surprising that the Dutch Heart Association is one of the largest fundraising organizations of the country in
the health sector. In 2005, the Association raised private contributions worth €30.4 million. This is 15% of all private contributions to the 130 major health charities in the country. One would expect that the public is more willing to donate money to prevent more common causes of death. Fig. 1, plotting the percentage of deaths and the percentage of total fundraising income to the 130 major health causes for specific illnesses, reveals that this is not always the case.

Interestingly, cancer charities raised more than two times the amount raised for cardiovascular diseases (€77 million, 38.5% of total contributions to 130 major health causes), while cancer caused a lower proportion of all deaths (28.9%; second most common cause of death). Positive discrepancies between mortality risk and donations also occur for kidney diseases (7.1% of all private contributions to health charities; 2.1% of all deaths) and illnesses of the nervous system (16.7% of all donations; 1.8% of all deaths); a negative discrepancy occurs for psychological illnesses (0.6% of all donations; 3.2% of all deaths).

Why the public is sometimes more likely to support charities fighting less common causes of death is an interesting question. It is certainly not a peculiar finding for the Netherlands. Milofsky and Blades (1991) have noted similar discrepancies in the United States. Clearly there is more to giving than just the ‘objective need’ in terms of the number of deaths per year.3

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**Fig. 1.** Percentage of Deaths of the Nine Most Common Causes of Death and Percentage of Fundraising Income Raised by Charities Fighting These Causes of Death Among the 130 Major Health Charities in the Netherlands. (Author's compilation; Sources: CBF, 2006; CBS, 2007.)
In the present chapter, I focus not so much on differences in aggregate levels of giving for specific illnesses, but on contributions at the household level. I argue that there is a link between awareness of need among patients with cardiovascular diseases and giving to the Dutch Heart Association, and study three factors that may modify/break or support this link.

**Experience with Cardiovascular Diseases and Support for the Dutch Heart Association**

It is likely that the incidence of cardiovascular diseases in the population and the resulting awareness of the negative consequences of such diseases contributes to the level of support for the Dutch Heart Association. When asked why people give to charities, donors often cite knowing a potential beneficiary as a motive (Burgoyne, Young, & Walker, 2005; Radley & Kennedy, 1995; Sills, 1957). In a study of the March of Dimes, Sills (1957, p. 193) found that people were more likely to donate when they had experience with polio. It is likely that a similar link also exists between experience with cardiovascular diseases and donations to the Dutch Heart Association.

First of all, patients with cardiovascular diseases know the negative consequences of their disease for the quality of life from their own experience. Relatives of current or former patients and patients’ friends know these consequences from their experiences with relatives and friends. From these experiences, they will feel that cardiovascular diseases are a serious problem. The study of Sills (1957) clearly revealed that volunteers for the March of Dimes were more likely to be aware of the negative consequences of polio, often from experiences with relatives or friends. Experimental studies on helping behavior have shown that people are more likely to help others who appear to be suffering from a more serious problem (Wagner & Wheeler, 1969; Levitt & Kornhaber, 1977). If people are more likely to support charitable causes that they believe fight more serious problems, they are more likely to support the Heart Association than the Fund for Rare Diseases – which is a real charity in the Netherlands that indeed raised only a marginal amount of money, €21,000 in 2005 (CBF, 2006).

Secondly, before people can donate to a health charity, they have to be aware of its existence or receive a direct solicitation. Patients themselves will be more likely to be aware of the existence of the Dutch Heart Association, because they have received information on treatment and prevention from the Association through their doctors. Relatives and friends learn about the
Association through patients. Sills (1957, pp. 86–87) reports such a link for experience with polio and volunteering for the March of Dimes. If asked for a charitable contribution to the Association, they will feel they support people like their relative or friend – even if it is not their relative or friend soliciting a contribution. One of the respondents in Sills’ (1957) study of March of Dimes volunteers expressed knowing a polio patient as a motive for joining as a volunteer after a direct solicitation from someone else. In addition, people with experience with cardiovascular diseases may feel grateful for the work of the organization as a beneficiary or through the experiences of their relative or friend with a cardiovascular disease. Many people with experience with polio in Sills’ (1957, p. 91) study reported reciprocity motives for their volunteer activities in the March of Dimes.

Making or Breaking the Link between Awareness of Need and Giving

This chapter deals with the question which factors moderate the relationship between experience with cardiovascular diseases and donating money. When does experience with cardiovascular diseases increase one’s donations to the Heart Association? Or, in other words: when people know a patient with cardiovascular diseases, what makes them more or less likely to give to the Dutch Heart Association?

A recent review of research on philanthropy (Bekkers & Wiepking, 2007) suggests that there are many reasons why awareness of need may not lead to donations. The general argument is that not everybody who knows a heart patient will be equally likely to support the Dutch Heart Association. In the present chapter, I consider three factors that moderate the relationship between experience with cardiovascular diseases and giving to the Dutch Heart Association: dispositional empathy; the number of family ties in one’s social network; and the value of social responsibility. People with a higher level of dispositional empathic concern, a stronger endorsement of the value of social responsibility and a higher number of family ties in their social networks will be more likely to donate money to the Heart Association when they know a heart patient. Those who are less empathically concerned with other people, deny responsibility for the welfare of others, and are part of social networks with weak ties are less likely to give to the Heart Association if they know a heart patient.

Networks: Networks play a key role in social control. Persons who are embedded in networks with strong ties are more likely to conform to normative expectations of others in the network because they have a higher
likelihood of encountering them in the future (Coleman, 1990). Giving is
guided by normative expectations (Radley & Kennedy, 1995): most people
consider charitable giving as socially desirable behavior. Family ties are
usually stronger and more enduring than ties to acquaintances or friends.
Combining these two observations, I expect that persons with a higher
number of family ties in their social network will be more likely to support
the Dutch Heart Association when they know a heart patient.

Social networks are also likely to have direct effects on charitable
giving. The size and composition of social networks determine how often
people receive solicitations for charitable contributions. Persons with more
extensive networks are more likely to receive solicitations. Obviously, those
who receive more solicitations are more likely to engage in philanthropy
(Bryant, Slaughter, Kang, & Tax, 2003). Networks also determine to what
extent people perceive social needs. People with a more extensive social
network are more likely to be aware of social problems. Through contacts
with other individuals, people learn about their problems in daily life. Those
who have more contacts with others will be more aware of health problems
in society.

**Empathy**: Empathy, or more precisely, empathic concern, is the tendency
to vicariously respond to the emotions of others (Davis, 1994). Individual
differences in empathic concern are rather stable over long periods of time
and are associated with various types of prosocial behavior (Davis, 1994;
Eisenberg et al., 2002). Empathic concern is likely to be positively associated
with donating to the Dutch Heart Association. Previous studies have shown
that higher levels of empathic concern are associated with higher levels of
charitable giving (Bennett, 2003; Bekkers, 2006; Bekkers & Wilhelm, 2007).
Previous research has also revealed that empathic concern is most strongly
associated with prosocial behavior when it benefits in-group members
(Stürmer, Snyder, Kropp, & Siem, 2006, Stürmer, Snyder, & Omoto, 2005)
or strangers who may be encountered in the future (Bekkers & Wilhelm,
2007). Given these results, it is likely that empathic concern moderates the
link between knowing a person with cardiovascular diseases and giving to
the Dutch Heart Association. More empathic individuals associate the
Dutch Heart Association with the heart patient they know and care for.
They will therefore be more likely to donate to the Dutch Heart Association
than individuals with lower levels of empathic concern. Less empathic
individuals will find it less problematic to ignore solicitations for
contributions and will feel less guilty towards the heart patient they know
when they do not contribute. Less empathic individuals will also be less
likely to donate to the Dutch Heart Association if not solicited directly.

Social Responsibility: Social responsibility refers to those behaviors that ‘good citizens’ are expected to display (Berkowitz & Daniels, 1964; Berkowitz & Lutterman, 1968). Charitable giving is such an act of citizenship: decent citizens support charitable organizations. The norm of social responsibility prescribes that one should contribute to social needs, also if these needs are distant or abstract, long-term needs (Schuyt, Smit, & Bekkers, 2004). Unlike empathy, social responsibility is not an automatic, emotional process, but a consciously processed unconditional norm, like the ‘principle of care’ (Bekkers & Wilhelm, 2007).

The converse of social responsibility is responsibility denial (Schwartz & David, 1976, Schwartz & Howard, 1980). Denial of responsibility (‘blaming the victim’) is likely to occur when people find themselves unable to help and were not involved in creating the problem (Schwartz & David, 1976). Work by Schwartz has also shown that individual differences in responsibility exist and are associated with a lower likelihood of helping needy victims (Schwartz, 1973). When people feel that victims are themselves responsible for the needy situation these victims are in, people are less willing to donate money to relieve the need. It is likely that denial of responsibility occurs among some people who know heart patients. Cardiovascular diseases have been linked to unhealthy lifestyle choices like smoking and a high cholesterol diet. And obviously, a heart patient one knows will not be cured by one’s donation to the Dutch Heart Association. People who are prone to deny responsibility for the misfortune of others are less likely to donate to charities fighting specific illnesses when they know patients suffering from these illnesses. I expect that people with high levels of social responsibility are less likely to deny responsibility, and will therefore be more likely to donate to the Dutch Heart Association when they know a heart patient.

Health: It is not clear a priori whether one’s own health is associated with a higher or lower likelihood of giving to health charities when one has experience with cardiovascular diseases. I offer two exploratory hypotheses: the solidarity hypothesis and the similarity hypothesis. According to the solidarity hypothesis, persons in better health themselves are more likely to donate to a health charity when they know a patient suffering from an illness. In this case, giving is a form of solidarity with the sick. Facing a patient, one may wonder ‘Why does she suffer, while I’m healthy?’ and feel uneasy or even guilty about being better off. Giving may alleviate such feelings of guilt (Basil, Ridgway, & Basil, 2006). As a result, healthy persons may be more likely to donate to the Dutch Heart Association when they know a heart patient.
According to the similarity hypothesis, however, people in worse health may be more likely to donate to the Dutch Heart Association when they know a heart patient. In this case, the similarity between the patient and the potential donor increases the likelihood of giving. Byrne (1971) shows that people find similar others more likeable. Lowry (1973) suggests three dimensions of communicator–recipient similarity: demographic similarity, attitudinal similarity and situational similarity. He indicates that physical similarities, such as being a heart patient or not, would be included under the demographic similarities. In many studies on helping behavior, similarity between recipient of help and a potential helper has been shown to increase the likelihood of offering assistance (Burger, Messian, Patel, Prado, & Anderson, 2004; Yinon & Sharon, 1985; Bryan & Test, 1967; Gaertner & Dovidio, 1977; Lindskold, Forte, Haake, & Schmidt, 1977; Sole, Marton, & Hornstein, 1975). Facing a patient, people who are not in perfect health themselves may be more likely to empathize with the patient, and more likely to give.

Data and Methods

To test the hypotheses, I use data from the first two waves of the Giving in the Netherlands Panel Survey (GINPS). The GINPS is a web-based computer-assisted self-interview. Respondents are drawn from a pool of approximately 70,000 individuals who regularly participate in poll surveys. The fieldwork took place in May 2002 and May 2004. The second wave of the GINPS was conducted in May 2004, five to six weeks after the deadline for tax filings. 1,557 persons received an invitation to complete an online survey. In total, 1,316 respondents (85%) completed the questionnaire. Only respondents who participated in both waves of the survey are included in the analyses (n = 1,246). More details on sampling, design and questionnaires of the GINPS can be found elsewhere (Wiepking, 2008; Schuyt et al., 2007).

Measures

Donations to Dutch Heart Association: Respondents reported on charitable donations using an adaptation of the ‘IU-Method + Area’ module, in which first questions are asked about methods of donating followed by questions about donations to different charitable subsectors (Rooney, Steinberg, & Schervish, 2001). After the questions about giving in different sectors,
respondents in GINPS03 were also prompted about their household’s donation to 64 particular charitable organizations, including the Dutch Heart Association. Respondents were asked to first select those organizations (from a list displaying ten organizations per time) to which their household had donated in 2003. After that, for all positive responses the exact amount donated was asked.

Experience with cardiovascular diseases: The survey asked whether ‘you or someone close to you has suffered from heart or vascular diseases in the past 12 months’. Almost one-third (30.9%) responded ‘yes’ to this question. A limitation of this question is that the data do not tell whether the respondent suffers from cardiovascular diseases herself or whether she knows a heart patient. Another dataset, however, shows that more than 90% of those who report knowing a person with cardiovascular health problems are not heart patients themselves. So it can be assumed that in most cases a positive response means that the respondent knows a heart patient.

Social networks: In the second wave of the GINPS, a position generator instrument was included to measure the size and composition of social networks (Lin & Dumin, 1986). Fifteen occupations with a wide range of social status (from a truck driver to CEO) were listed, and respondents indicated whether they knew anyone in that occupation, and if so, whether this was a relative, friend, or acquaintance. A count of the number of occupations accessed served as a measure of the size of the social network; the proportion of all occupations accessed through relatives served as a measure of family orientation in the network.

Empathic concern: Empathic concern was measured with a Dutch translation of six items from the empathic concern scale from Davis’ (1994) Interpersonal Reactivity Index. The mean of the items (Cronbach’s alpha: 0.75) served as a measure of dispositional empathic concern.

Social responsibility: Social responsibility was measured as the mean level of agreement on a 1 (disagree completely) to 5 (agree completely) scale with five statements reflecting social responsibility (e.g., ‘We have to leave this world a better place for the next generation’). The items were developed and validated in the first wave of the Giving in the Netherlands Panel Study (Schuyt et al., 2004). The Cronbach’s alpha of this scale was not optimal but sufficient (0.590).

Empathy/responsibility composite score: Empathy and social responsibility were fairly strongly correlated (0.414). Because the hypotheses on interactive effects of experience with cardiovascular diseases and empathic concern and social responsibility were in the same direction, I averaged the empathic concern and social responsibility scores into a composite score.
Joy of giving is a measure available in the second wave of the survey consisting of three items referring to the positive emotions for giving to charities (sample item: ‘Giving to charities makes me happy’). All items were measured on a 1–5 scale ranging from ‘completely disagree’ to ‘completely agree’ (except the empathic concern items, which ranged from ‘does not apply to me at all’ to ‘applies to me completely’). The reliability of the scale is 0.771.

Generalized Social Trust was measured with two items that are commonly used as two alternatives: ‘In general, most people can be trusted’ and ‘You can’t be too careful in dealing with other people’. Responses to these questions were strongly correlated ($r = -0.42$). The mean of both items – the latter recoded – served as a measure of trust.

Subjective health: Subjective health was measured with the commonly used question ‘In general, how would you rate your own health?’. Response categories were ‘poor’ (1), ‘moderate’ (2), ‘good’ (3), ‘very good’ (4) and ‘excellent’ (5). While this seems to be a rather crude and overly simple measure, previous research has revealed that the question is a valid indicator of objective health status, and has predictive power for the development of objectively assessed illnesses and mortality (Miilunpalo, Vuori, Oja, Pasanen, & Urponen, 1997; Idler & Benyamini, 1997).

The following socio-demographic variables are included because they are related to philanthropy in the Netherlands (Bekkers, 2006; Bekkers & Wiepking, 2006): gender (female = 1), age (in years), household income (log-transformed, originally measured in 24 categories ranging from €2.5k to €300k, higher incomes truncated), home ownership (a dummy variable for owning one’s home), level of education (seven categories, ranging from primary education to post-doctoral degree), working status (a dummy variable for having paid work), five dummy variables for religious affiliation (Catholic, Reformed Protestant (‘Hervormd’), Reformed Protestant (‘Gereformeerd’), other Christian affiliation, non-Christian affiliation; no religious affiliation being the reference category) and church attendance (five categories, ranging from ‘never’ to ‘once a week or more’) and town size (in 1,000s of inhabitants). All socio-demographics were measured in the first wave.

Results

Those Who Know Heart Patients are More Likely to Support the Dutch Heart Association

The basic assumption of this chapter is that experience with cardiovascular diseases is associated with a higher likelihood of giving to the Dutch Heart
Association. This assumption is supported by the data. In the sample, 65.6% of all respondents report having made a donation to the Dutch Heart Association. The likelihood of having made a donation differs considerably between those who know a heart patient and those who do not. The difference is about ten percentage points. 72.7% of those who know a heart patient had made a donation, vs. 62.4% among those who did not know a heart patient. The $\chi^2$ statistic is 13.35, which is strongly significant ($p < 0.000$) with 1 df.

Who Has Experience with Cardiovascular Diseases?
To establish the relationship between experience with cardiovascular diseases and donations to the Dutch Heart Association accurately, it is necessary to control for variables that are associated with experience with cardiovascular diseases and with charitable giving. Therefore, I conducted an exploratory analysis of experience with cardiovascular diseases. The analysis is a probit regression analysis, which provides estimates of the change in the likelihood of experience with cardiovascular diseases given a one unit change in the predictor variables. Predictor variables in the analysis are socio-demographic variables (model 1), subjective health, empathic concern, social responsibility, and access to occupations through family, friends and acquaintances (added in model 2). Table 1 reports the results of these analyses.

Firstly, I find that those in better health are less likely to be or know heart patients (see model 2). This finding not only makes intuitive sense because heart patients will evaluate their own health as worse than non-heart patients; to the extent that the relationship is due to knowing rather than being a heart patient it may also suggest that social network formation is partly health-based. The healthy are more likely to know other healthy persons, while those in worse health are more likely to know others whose health is less than optimal.

Secondly, I find that more empathic persons are more likely to know heart patients. This is not surprising since empathic concern contributes to social skills that facilitate the formation of friendships in general and the willingness to interact with needy persons (Davis et al., 1999).

Thirdly, I find that those who have access to a higher number of occupations from the position generator through family and acquaintances (but not friends) are more likely to know a heart patient. This means that people who know more people in a variety of occupations through family ties or as an acquaintance are more likely to know a heart patient. Interestingly, having many friends does not increase the likelihood of
experience with cardiovascular diseases. It is not clear why this is the case. One possibility is that people with cardiovascular diseases are less able to establish and maintain friendships. Another possibility is that other people are less likely to establish and maintain friendships with heart patients. But with the present data I cannot test these ideas.

Other findings in model 1 include that homeowners are less likely to have experience with cardiovascular diseases than those who rent their homes, and that Catholics are less likely to have experience with cardiovascular diseases than the non-religious.

Who Gives to the Dutch Heart Association?
Table 2 reports estimates of a tobit regression analysis of the amount donated to the Dutch Heart Association in the past year. Model 1 includes as predictors socio-demographic variables, empathic concern and social responsibility and the network size and composition.

### Table 1. Probit Regression Analysis of Experience with Cardiovascular Diseases (n = 1,312).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
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<tbody>
<tr>
<td>Female</td>
<td>0.025</td>
<td>−0.006</td>
</tr>
<tr>
<td>Age (years)</td>
<td>0.002**</td>
<td>0.001</td>
</tr>
<tr>
<td>Gross household income (× 1,000)</td>
<td>0.000</td>
<td>0.000</td>
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<tr>
<td>Owns home</td>
<td>−0.048*</td>
<td>0.049*</td>
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<tr>
<td>Level of education (1–7)</td>
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<td>0.012</td>
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<tr>
<td>Paid work</td>
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<td>−0.018</td>
</tr>
<tr>
<td>Catholic</td>
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<td>−0.074**</td>
</tr>
<tr>
<td>Reformed protestant</td>
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<td>−0.010</td>
</tr>
<tr>
<td>Rereformed protestant</td>
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<tr>
<td>Other religion</td>
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<td>−0.062</td>
</tr>
<tr>
<td>Church attendance (1–5)</td>
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<td>−0.011</td>
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<tr>
<td>Community size (× 1,000)</td>
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<td>0.000</td>
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<tr>
<td>Subjective health (z)</td>
<td></td>
<td>0.074***</td>
</tr>
<tr>
<td>Empathic concern (z)</td>
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<td>0.039**</td>
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<tr>
<td>Social responsibility (z)</td>
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<tr>
<td>Access to occupations through family (z)</td>
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<td>0.058***</td>
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<td>Access to occupations through friends (z)</td>
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<td>0.014</td>
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<tr>
<td>Access to occupations through acquaintances (z)</td>
<td></td>
<td>0.051***</td>
</tr>
</tbody>
</table>

*Significant at 10%; **Significant at 5%; ***Significant at 1%.

Note: Entries are marginal effects. All variables are dichotomous unless noted otherwise; (z) indicates z-standardized variable.
The results in model 2 reveal that experience with cardiovascular diseases is positively related to donating to the Dutch Heart Association when controlling for factors associated with knowing heart patients. Because the amount donated-variable is log-transformed the effects of predictor variables can be interpreted in terms of relative changes. People who know a heart patient give about 50% more money to the Dutch Heart Association than those who do not know a heart patient. A one standard deviation increase in the empathy/responsibility composite score is associated with a 43% increase in the amount donated.

Model 3 includes interaction terms between experience with cardiovascular diseases and empathy/social responsibility, the proportion of occupations accessed through family ties and subjective health. These interaction terms test whether the relationships of empathy/social responsibility, the

| Table 2. Tobit Regression of Amount Donated to the Dutch Heart Association (n = 1,312). |
|--------------------------------------------------|-----------------|-----------------|-----------------|
|                      | Model 1 | Model 2 | Model 3 |
| Female               | −0.201  | −0.205  | −0.206  |
| Age (years)          | 0.015***| 0.014***| 0.014***|
| Gross household income (× 1,000) | 0.006** | 0.006** | 0.006** |
| Owns home            | 0.373***| 0.393***| 0.385***|
| Education (1–7)      | −0.170***| −0.174***| −0.170***|
| Paid work            | −0.047  | −0.036  | −0.018  |
| Catholic             | 0.076   | 0.116   | 0.114   |
| Reformed protestant  | 0.122   | 0.130   | 0.124   |
| Rereformed protestant| −0.331  | −0.319  | −0.344  |
| Other religion       | −1.343***| −1.314***| −1.359***|
| Church attendance (1–5) | 0.158** | 0.165** | 0.169** |
| Community size (× 1,000) | −0.001***| −0.001***| −0.001***|
| Subjective health (z) | −0.062 | −0.024  | 0.058   |
| Empathic concern/social responsibility (z) | 0.445***| 0.433***| 0.357***|
| Number of occupations accessed (z) | 0.139** | 0.104   | 0.107   |
| % of occupations through family (z) | −0.030 | −0.037  | −0.051  |
| Experience with cardiovascular diseases | 0.507***| 0.448***| 0.448***|
| % of family ties × experience | 0.069 | 0.288* | 0.288* |
| Empathy/responsibility × experience | 0.839**| 0.703* | 0.683* |
| Own health × experience | −0.257*| 0.069   | 0.288* |

*Significant at 10%; **Significant at 5%; ***Significant at 1%.

Note: Entries are unstandardized coefficients. All variables are dichotomous unless noted otherwise; (z) indicates z-standardized variable.
proportion of occupations accessed through family ties and subjective health are stronger or weaker for those who have experience with cardiovascular diseases and those who do not. A statistically significant interaction with a positive sign indicates that the relationships of these variables with donations to the Dutch Heart Association are more strongly positive among those who know a heart patient than among those who do not.

The results in model 3 support the hypothesis that experience with cardiovascular diseases is more likely to result in donations to the Dutch Heart Association when people have higher levels of empathy and social responsibility. I find a positive interaction between experience with cardiovascular diseases and the empathy/social responsibility mean score. Though the interaction term is only marginally significant, the effect is substantial. A one standard deviation increase in empathy/social responsibility is associated with a 29% higher amount donated to the Dutch Heart Association. However, no support is found for the hypothesis that experience with cardiovascular diseases is more likely to result in donations to the Dutch Heart Association when the proportion of family ties in one’s network increases. The negative interaction between own health and experience with cardiovascular diseases implies that persons in worse health are donating more to the Dutch Heart Association when they have experience with cardiovascular diseases. A one standard deviation increase in subjective health is associated with a 26% lower amount donated to the Dutch Heart Association. This implies support for the similarity hypothesis, and rejects the solidarity hypothesis.

A comparison of the results in models 1 and 2 reveals that experience with cardiovascular diseases partly mediates the relationship between size of the social network and donations to the Dutch Heart Association. Table 2 also reveals that home owners donate more to the Dutch Heart Association, as well as higher income households, older persons, persons with lower levels of education, more frequent church attendees and persons living in smaller communities.

The empathic concern/social responsibility mean score retains a positive relationship to the amount donated to the Dutch Heart Association in model 2. This means that experience with cardiovascular diseases does not mediate the effect of empathic concern and social responsibility. Table 1 showed that people with higher empathic concern are more likely to have experience with cardiovascular diseases. The present results indicate that there is a sizeable direct relationship between empathic concern and social responsibility and donations to the Dutch Heart Association that is independent of knowing a heart patient.
Who gives to the Dutch Heart Association Rather than to Other Health Charities?

A disadvantage of the tobit specification is that it is not clear whether relationships of predictor variables with donations are driven by the likelihood of donating at all, or by the amount donated. To explore this matter, I have also estimated a multinomial logit model of donations to the Dutch Heart Association (see Table 3). In this analysis, respondents who made a donation to the Dutch Heart Association (who are placed in the reference category) are contrasted with donors who supported other health charities and with respondents who made no charitable donations at all. Thus, the analysis reveals how the donor base of the Dutch Heart Association differs from the group of respondents who do not donate to health charities (first column of each model) and from the group of

Table 3. Multinomial Logit Regression of Health Charity Donations.

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>None</td>
<td>Other</td>
<td>None</td>
</tr>
<tr>
<td>Female</td>
<td>0.071</td>
<td>0.072</td>
<td>0.072</td>
</tr>
<tr>
<td>Age (years)</td>
<td>−0.011</td>
<td>0.004</td>
<td>−0.010</td>
</tr>
<tr>
<td>Household income (× 1,000)</td>
<td>−0.003</td>
<td>0.002</td>
<td>−0.003</td>
</tr>
<tr>
<td>Owns home</td>
<td>−0.73***</td>
<td>−0.300*</td>
<td>−0.754***</td>
</tr>
<tr>
<td>Education</td>
<td>0.226***</td>
<td>0.190***</td>
<td>0.224***</td>
</tr>
<tr>
<td>Paid work</td>
<td>−0.039</td>
<td>0.054</td>
<td>−0.044</td>
</tr>
<tr>
<td>Catholic</td>
<td>−0.446</td>
<td>−0.199</td>
<td>−0.46*</td>
</tr>
<tr>
<td>Reformed protestant</td>
<td>−0.146</td>
<td>−0.140</td>
<td>−0.151</td>
</tr>
<tr>
<td>Rereformed protestant</td>
<td>0.104</td>
<td>0.374</td>
<td>0.101</td>
</tr>
<tr>
<td>Other religion</td>
<td>1.374***</td>
<td>1.006***</td>
<td>1.371***</td>
</tr>
<tr>
<td>Church attendance</td>
<td>−0.102</td>
<td>−0.095</td>
<td>−0.106</td>
</tr>
<tr>
<td>Community size (× 1,000)</td>
<td>0.003***</td>
<td>0.001***</td>
<td>0.003***</td>
</tr>
<tr>
<td>Subjective health</td>
<td>0.025</td>
<td>0.039</td>
<td>0.005</td>
</tr>
<tr>
<td>Trust</td>
<td>−0.173*</td>
<td>−0.045</td>
<td>−0.172*</td>
</tr>
<tr>
<td>Joy of giving</td>
<td>−0.322***</td>
<td>0.047</td>
<td>−0.321***</td>
</tr>
<tr>
<td>Empathic concern / social responsibility</td>
<td>−0.577***</td>
<td>−0.286***</td>
<td>−0.575***</td>
</tr>
<tr>
<td>Occupations accessed (z)</td>
<td>−0.198*</td>
<td>−0.083</td>
<td>−0.178*</td>
</tr>
<tr>
<td>% of occupations through family (z)</td>
<td>0.007</td>
<td>0.043</td>
<td>0.012</td>
</tr>
<tr>
<td>Experience with cardiovascular diseases</td>
<td></td>
<td>−0.296</td>
<td>−0.624***</td>
</tr>
<tr>
<td>% of family ties × experience</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Empathy/responsibility × experience</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Own health × experience</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>−2.042***</td>
<td>−1.998***</td>
<td>−1.965***</td>
</tr>
</tbody>
</table>

*Significant at 10%; **Significant at 5%; ***Significant at 1%.

Note: All variables are dichotomous unless noted otherwise; (z) indicates z-standardized variable. Reference category: donation to the Dutch Heart Association.
respondents who donate to other health charities (second column of each model). I first discuss the latter group of findings.

The main findings on the contrast between donors to the Dutch Heart Association and donors to other health charities are that people are more likely to donate to the Dutch Heart Association (rather than to other health charities) when they have higher levels of empathic concern and social responsibility (model 1), when they have experience with cardiovascular diseases (model 2), and especially if these two are combined. Having experience with cardiovascular diseases is more likely to result in donations to the Dutch Heart Association rather than other health charities when people have a higher level of empathic concern and social responsibility (a negative interaction in model 3). Having experience with cardiovascular diseases is more likely to result in donations to the Dutch Heart Association (rather than other health charities) when people are in worse health. This supports the similarity hypothesis. The interaction of the proportion of family ties in the social network with experience with cardiovascular diseases is not significant.

A comparison between these findings and the findings in Table 2 tells us to what extent the results in Table 2 are driven by the mere likelihood of donating to the Dutch Heart Association rather than the amount donated. In Table 2, the interaction between experience with cardiovascular diseases and empathy/social responsibility was only marginally significant and weaker than in Table 3. This indicates that the finding in Table 2 was driven mainly by the higher likelihood of supporting the Dutch Heart Association among highly empathic persons with experience with cardiovascular diseases, and not by a higher amount donated by this group of respondents. Otherwise, these effects would have added up to a stronger effect in Table 2. The interaction of experience with cardiovascular diseases and subjective health is of similar magnitude in Tables 2 and 3, indicating that there is no such interaction effect on the amount donated to the Dutch Heart Association.

Other interesting findings on the contrast between donors to the Dutch Heart Association and other health charities are that donors to the Dutch Heart Association are more likely to be home owners, have lower levels of education, are more likely to live in smaller communities and have higher empathy/responsibility levels. Affiliation with a small Christian religious denomination (e.g., Evangelical, Jehova’s Witnesses) is associated with a lower likelihood of donating to the Dutch Heart Association.

The analysis in Table 3 also reveals differences between donors to the Dutch Heart Association and the group of respondents who do not donate
to health charities at all. The main differences are with respect to religious affiliation, education, home ownership, empathy/social responsibility, generalized social trust and joy of giving. Those who do not donate to health charities at all are less likely to be home owners, more highly educated, are more often affiliated with a small Christian religious denomination and have lower levels of empathy/social responsibility, trust and joy of giving. Interestingly, experience with cardiovascular diseases is not associated with a higher likelihood of donating to the Dutch Heart Association rather than not donating to health charities. This suggests that experience with cardiovascular diseases only results in donations to the Dutch Heart Association when people are attracted to health charities in the first place. If people donate to health charities and they happen to know a heart patient, they are much more likely to donate to the Dutch Heart Association rather than other health charities. But knowing a heart patient does not result in a higher likelihood of donations to other health charities (e.g., the cancer fund).

DISCUSSION AND CONCLUSION

This study showed that those who know heart patients are more likely to support the Dutch Heart Association, also when controlling for factors associated with knowing heart patients. Support was found for the hypothesis that experience with cardiovascular diseases is associated with a higher likelihood of donating to the Dutch Heart Association among people with higher levels of empathy and social responsibility. This finding is in line with the theory that empathic concern and feelings of responsibility for the welfare of others more easily manifest themselves in prosocial behavior towards beneficiaries at a closer social distance (Bekkers & Wilhelm, 2007; Stürmer et al., 2005, 2006).

I found that experience with cardiovascular diseases is associated with a lower likelihood of donating to the Dutch Heart Association among those who rate their own health as better. This result supports the similarity hypothesis, and rejects the solidarity hypothesis. Those who are more similar to heart patients because they are not in excellent health themselves are more likely to donate to the Dutch Heart Association when they know a heart patient. It may still be the case that those who have experience with cardiovascular diseases are more likely to donate when they feel more guilty for being healthy themselves. Empathic people are more likely to feel sorry for other people’s misfortune. However, this tendency does not
manifest itself in donations to the Dutch Heart Association among those in excellent health.

This study also shed light on the profile of donors to the Dutch Heart Association. Socio-demographic variables such as age, gross household income and owning a home have a positive relationship with the amount donated to the Dutch Heart Foundation. Remarkably, education has a negative relationship with the amount given to the Dutch Heart Foundation. In dozens of studies, education is associated with higher total giving (Bekkers & Wiepking, 2007). The analyses reveal that this higher generosity among the better educated in the Netherlands does not extend to health charities. With the current data I cannot show why this is the case. Future research is needed to clarify this issue.

No support was found for the hypothesis that experience with cardiovascular diseases leads to higher donations when the proportion of family ties in one’s network increases. While having a larger social network is associated with a higher likelihood of giving to health charities, a stronger family orientation – apparent from a higher proportion of family members in one’s network – is not associated with donations to health charities. It seems that family members do not differ from friends and acquaintances in their encouragement of donations to health charities. However, it should be noted that the measure included in the analysis only represents the proportion of all occupations that people have access to through family relationships. This is a far from perfect measure of the social influence of family members. Ideally, one would like to know how often people talk with family members about charitable donations, to what extent family members exert social pressure to donate and the number of solicitations to donate to charitable causes received through family members. Future research on the influence of social networks on charitable giving should include such measures.

Another issue for future research is generalization. This study deals with only one specific health charity: the Dutch Heart Association. I assume that the results for this specific case can be generalized to other health charities fighting other diseases, such as cancer. Future research should test this assumption.

My general question was to what extent donations to the Dutch Heart Association are a form of solidarity of the healthy with the sick. Historically, one can say that the Dutch Heart Association is indeed a form of solidarity. The Dutch Heart Association did not emerge as a movement of patients advocating their rights or as a self-help movement. The Dutch Heart Association was founded by a group of medical professionals who saw possibilities for improvements of treatment and
prevention of cardiovascular diseases. The organization emerged from the shared perception among medical professionals that public health could be improved through the advancement of science and technology. The focus on research and technology is still apparent in the organization’s programs. The largest part of all expenses of the Dutch Heart Association is allocated to scientific research. Public education and prevention programs also receive substantial shares. Internal evaluations reveal that these programs contribute an increased awareness of symptoms of cardiovascular diseases and preventive measures that people can take themselves. From the perspective of the output of the Dutch Heart Association, the organization embodies solidarity of the healthy with the sick.

However, from the perspective of input – the donor side – the Dutch Heart Association is not so much a form of solidarity of the healthy with the sick as a form of solidarity with the not-so-healthy with the sick. The results of the empirical analyses of the donor base show that the health situation of current donors to the Dutch Heart Association is somewhat below average. People are more likely to donate to the Dutch Heart Association when they know a heart patient, and those in excellent health are less likely to know a heart patient. In addition, among people who do know a heart patient, those in a below average health situation are more likely to donate to the Dutch Heart Association.

These results indicate limits to voluntary solidarity. Solidarity is not easily generalized to dissimilar others. Empathy is a source of compassion with strangers, but the effect of empathic concern on giving is limited if one does not know a heart patient. Solidarity is based on similarity and personal experiences.

From a broader policy perspective, the results can be taken as a warning sign in the debate on public vs. private funding of health care and prevention of illnesses. In the absence of public funding, private funding is more likely to come from those who have experience with the illness. Because those with higher socio-economic status are in better health, private contributions are made by those with a higher stake in future health care but with limited resources.

NOTES

1. It should be noted, however, that high private contributions may also cause government funding to remain low. To test which way the causality runs, longitudinal data on government spending and private contributions are required.
2. The largest charity in the Netherlands is the KWF Cancer Fund, with a fundraising income of €63 million in 2005 (CBF, 2006). This is 31.5% of all private contributions to health charities; total contributions to all charities fighting cancer amount to 38.5% of all contributions.

3. I also considered the number of hospitalizations and the number of ill health years as correlates of the amount donated to charities fighting specific health problems. These factors also showed some large discrepancies with total donations. For example, psychological illnesses rank 1st in the number of ill health years but rank 13th in total donations; 14.6% of all hospitalizations are related to muscular diseases, but only 4% of total donations goes to organizations fighting these diseases. An important factor that may explain some of the discrepancies is whether illnesses are perceived as avoidable health risks. The numbers of polio and HIV/AIDS patients may not have been huge, but the public’s perception was that ‘everyone was at risk’.

4. The degree of responsibility of patients suffering from cardiovascular diseases for their illness is likely to be perceived as higher than the degree of responsibility of cancer patients. This may explain why cancer attracts more donations than cardiovascular diseases, despite a lower ‘objective need’.

5. In the Giving in the Netherlands Panel Survey 2007 several questions were asked on health problems in one’s social network, and an additional set of questions on health problems among respondents themselves. 682 of the 1,474 respondents (46.3%) reported knowing someone who suffered from cardiovascular diseases in the past five years. 67 of these respondents (9.8%) reported suffering from cardiovascular diseases themselves. An additional 190 respondents reported that they suffered from cardiovascular diseases themselves, but did not know any others suffering from cardiovascular diseases. Thus, almost three quarters of all heart patients (73.9%) in the sample reported not knowing others with cardiovascular diseases. This means that our variable ‘experience with cardiovascular diseases’ can be interpreted mainly as ‘knowing a heart patient’ rather than ‘being a heart patient’.

6. The seventh item (“I am a soft-hearted person”) was deleted because it lowered the reliability of the scale (to 0.732).

7. This is a very high proportion. The proportion is that high because the Dutch Heart Association has an extensive network of about 75,000 volunteer fundraisers who collect money door to door.

8. The tobit regression model takes censoring of donations at zero into account. A substantial proportion of respondents does not donate to the Dutch Heart Association (34.4%). Including these respondents as zeros in an OLS would bias the parameter estimates downward.

9. Additional analyses with separate scales for empathic concern and social responsibility (available upon request) indicate that both scales have a positive relationship with donations to the Dutch Heart Association, but that the relationship of donations with social responsibility is stronger than the relationship with empathic concern.

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REFERENCES


