

FRIENDS OF VICTIMS: PERSONAL EXPERIENCE AND PROSOCIAL BEHAVIOR

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Deborah Small
University of Pennsylvania
The Wharton School
deborahs@wharton.upenn.edu

Uri Simonsohn
University of Pennsylvania
The Wharton School
uws@wharton.upenn.edu

Why do different people give to different causes? We argue that knowing people with specific misfortunes is an important determinant of preference. Four studies demonstrate that knowing a victim increases prosocial behavior directed toward *other* victims of the same misfortune in the lab and field, for both donated time and money. An experiment shows that the relationship is causal, not due to unobserved heterogeneity. Survey data suggests that knowing a victim decreases social distance and increases perceived responsibility for others' welfare, together fully mediating the effect on prosocial behavior.

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Economic theory assumes that people are motivated exclusively by self-interest. However, abundant experimental evidence, and charitable donations totaling \$250 billion in the United States in 2004 (Giving USA Foundation 2005) all demonstrate that people give generously, sometimes with personal sacrifice, to help others. What drives people to give to charity, and how do they choose among competing causes?

The existing literature on charitable giving choices has focused not on people's motivation for giving and preferences for causes, but has instead emphasized solicitation strategies, focusing for example on the role of framing (Gourville 1998), anchor points (Fraser, Hite, and Sauer 1998), negative emotions elicited in ads (Bagozzi and Moore 1994), mortality salience (Ferraro, Shiv, and Bettman 2005), and the bundling of products with promised donations by companies (Strahilevitz and Myers 1998). In this paper, we focus on what drives people to care about and donate to particular causes.

In the next section, we discuss how the existing research on the antecedents of caring has focused on (i) donor characteristics, (ii) victim characteristics, and (iii) similarities between donors and victims. The literature has not examined variation in prosocial behavior toward victims of *particular* misfortunes, independent of the individuals involved. This is a notable exclusion, because much real-world charity outside the laboratory goes to organizations that target specific misfortunes rather than individuals. Understanding prosocial behavior towards misfortunes is therefore fundamental for gaining an understanding of real-world charitable giving.

Why do some people donate money to researching Alzheimer's disease and others to nourishing children in Africa? Why do some people 'Race for the Cure®' of breast cancer while others walk to cure multiple sclerosis? We begin to address this question by examining how

knowing someone with a specific misfortune affects prosocial behavior towards others with that same misfortune.

Although in our studies we examine a variety of relationships with victims (friends, colleagues, relatives, significant others, etc.), for simplicity of exposition, we refer to people who have any kind of personal relationship with a victim as “friends of victims” and to their relationships as “friendships.”

Anecdotal evidence suggests that friends of victims are particularly generous to other victims of their friends’ misfortune. Celebrities such as former First Lady Nancy Reagan (Alzheimer’s disease), soccer star Mia Hamm (Bone marrow disease), and actor Rob Lowe (Breast cancer), actively participate in efforts to help others who share their loved ones’ misfortunes. Similarly, *all* national presidents of Mothers Against Drunk Driving (MADD) have joined the organization after a family member was killed by a drunk driver.

Pairing anecdotal evidence with recent research showing that experienced information is more likely than observed information to lead to action (Simonsohn et al. 2004), we arrived at our first hypothesis:

H1: Friends of victims will behave more prosocially towards other victims of the same misfortune.

As we will discuss in detail after presenting the results from our first study, this effect could arise for a variety of reasons. In particular, an association between knowing people with a given misfortune and prosocial behavior towards others with the same misfortune could be explained by (i) a spurious association due to unobservables, (ii) a self-interested motive on the part of givers, and/or (iii) differences in informational content or salience between people who

do and do not know a victim. We argue that, above and beyond these possible mechanisms, friendship with a victim affects social preferences.

An effect mediated by social preferences could in turn be explained by two possible mechanisms. Consider the stylized (other-regarding) utility function for person i depicted below:

$$U_i = U_i(x_i) + \beta_{i,j} \hat{U}_{i,j}(x_j),$$

where $U_i(x_i)$ is i 's utility from her own consumption of x_i , $\hat{U}_{i,j}(x_j)$ corresponds to i 's beliefs about the utility perceived by another individual j who consumes x_j , and $\beta_{i,j}$ is the weight i places on j 's utility.

An increase in the willingness of i to aid j , as a result of having a friend who shares a misfortune with j , could be driven by:

- (1) A change in the beliefs of i about j 's utility, i.e. on $\hat{U}_{i,j}(x_j)$, and/or
- (2) A change in the weight i assigns to j 's utility, i.e. on $\beta_{i,j}$.

Throughout this article, we refer to the first mechanism as *perceived suffering* and to the second mechanism as *caring*. We argue that friends of victims act more prosocially towards others with the same misfortune because of an increase in *caring*.

H2: Friends of victims behave more prosocially towards other victims of the same misfortune because they care more about the welfare of such victims.

After reviewing the relevant literature, we report the results from four studies designed to test our hypotheses. In particular, in Study 1 we seek to establish empirically that friends of victims act more prosocially towards other victims. Study 1 surveyed volunteers at various organizations and found that friends of victims tend to volunteer at organizations that target their friends' misfortunes. Study 2 examined the causal nature of the prosocial effect of friendship

with a victim, with an experiment in which (i) friendship, (ii) victimhood and (iii) the identity of the potential aid recipient were randomly assigned, replicating the findings from Study 1.

Study 3 sought to distinguish *caring* from *perceived suffering* as the mechanism behind the friend-of-victims effect. We surveyed individuals about their reactions to hypothetical victims and their relationships with actual victims. The results show that friendship with a victim increases *caring* for other victims, but that it has no effect on their *perceived suffering*. Finally, Study 4 found that the increased *caring* documented in Study 3 fully mediates the effect on prosocial behavior.

We will close by discussing both basic research and practical fundraising implications for non-profit organizations.

PREVIOUS RESEARCH

Abundant research has attempted to understand differences in prosocial behavior across victims and situations. However, the existing literature has concentrated on the consequences of victim and donor characteristics, including their interactions. This paper focuses instead on the consequences of the characteristics of the misfortunes themselves.

Victim Characteristics. Previous research has shown that people give more to identifiable victims than to unidentifiable or statistical victims (Kogut and Ritov 2005a, b; Small, Loewenstein, and Slovic 2006). This effect has even been demonstrated when no meaningful information is provided about the identified victim (Small and Loewenstein 2003). Other identifying factors, such as showing a victim's face or being in the presence of a victim, also increase prosocial behavior (Bohnet and Frey 1999; Charness and Gneezy Forthcoming).

People also give more to victims who are perceived as “deserving,” in other words, whose needs arise from external rather than internal causes (Weiner 1980). Thus, disabled children are deemed deserving; healthy unemployed men are not (Schmidt and Weiner 1988). Finally, the effect of deservingness on prosocial behavior is mediated by sympathy, suggesting that giving decisions are not based on cold mental calculations (Weiner, 1980).

Characteristics of the donor. Although several studies have examined the impact of donor characteristics across various domains, the findings are not as robust as those about victim characteristics. One consistent finding is that humanitarian values and religiosity are correlated with giving (see e.g. Burnett 1981; Pessemier, Bemmaor, and Hanssens 1977). Findings regarding other demographic variables such as age and gender have obtained mixed results (for a review see pages 63-66 in Camerer 2003).

Social distance between donors and victims. Finally, much research shows that victim and donor characteristics interact, particularly when there is a match or similarity between donor and victim. Individuals care more for victims who belong to their in-group rather than to their out-group (e.g. Dovidio et al. 1997; Flippen et al. 1996; Levine et al. 2002), who are similar to them (Krebs 1975; Stotland and Walsh 1963), or who have a vested interest in a cause (Miller and Ratner 1998; Ratner and Miller 2001). Batson and colleagues have shown consistently greater empathy and altruistic behavior by individuals who are primed to take the victim’s perspective (Batson, Early, and Salvarani 1997; Batson et al. 2003; Coke, Batson, and McDavis 1978).

Personal experience

A vast literature examines the impact of personal experience on self-protective behavior (see Weinstein, 1989, for a critical review). Although the majority of studies examine effects on victims themselves, a few assess the impact of knowing a victim as a form of personal experience (see for example Manheimer, Mellinger & Crossley 1966 and Schiff 1977). In an interesting recent paper, Washington (2006) shows that male legislators tend to vote more liberally with regards to “women’s” issues if they have daughters rather than sons.

We know of only a few studies that examine the impact of a person’s own misfortunes on *interpersonal* thoughts and behavior. Barnett et al. (1986) found that participants who had been raped reported greater empathy when watching a video about a rape victim than did those who had never been raped. Batson et al. (1996) found that for females but not males, the expectation of oneself receiving a shock affected self-reported empathy when one observed a same-sex peer receiving a shock. Christy and Voigt (1994) found that those who reported being abused as a child indicated that they would be more likely than those who had never been abused to intervene if they saw a child being abused. These studies focus on self-reported feelings and intentions rather than examining prosocial behavior *per se*.

STUDY 1 – ARE VOLUNTEERING CHOICES RELATED TO THE MISFORTUNES SUFFERED BY FRIENDS?

To establish empirically that friendship with victims is correlated with prosocial behavior, we surveyed volunteers at several local charitable organizations. Our survey asked volunteers about their relationships with victims when they began to volunteer. Our prediction, based on

hypothesis 1, was that a higher proportion of volunteers at a given organization than of volunteers at other organizations would, prior to volunteering, have personally known someone who had suffered from the misfortune targeted by their organization.

From www.volunteermatch.com, we obtained a list of all volunteer coordinators for Philadelphia-area organizations that support victims of specific misfortunes (as opposed to broad-based or umbrella charitable organizations such as the United Way). Six Philadelphia organizations from the volunteer match list fit these criteria. We posted the survey on the Web and asked volunteer coordinators from these organizations to forward the survey link to their volunteers. Three of the coordinators followed through, resulting in a total of 116 respondents: 26 from Action AIDS, 75 from the Alzheimer's Association and 15 from the Special Olympics. The request and the online survey did not disclose our hypothesis.

Procedures

The survey included a form on which respondents could indicate whether they knew somebody that had experienced any of six different misfortunes *prior* to respondents' volunteering with the current organization. The six conditions were AIDS, multiple sclerosis, Alzheimer's disease, diabetes, intellectual disability¹ and breast cancer. For each of the conditions they could specify if they had an acquaintance, colleague, casual friend, close friend, distant relative, parent, sibling, spouse and/or "other" in that situation.

¹ Intellectual disability is the general term used to describe the individuals who are supported by the Special Olympics.

Results and Discussion

As predicted, a significantly higher proportion of volunteers, prior to volunteering, knew a victim of the misfortune targeted by the charity for which they volunteer ($M = 81.6\%$), than knew a victim of a misfortune targeted by the other two charities ($M = 46.2\%$), $\chi^2(1) = 40.6$, $p < .0001$. Figure 1 shows the percentage of volunteers from the three organizations who knew a victim of each of the three misfortunes.

Figure 1

In the case of AIDS, for example, the figure shows that 65% of Action AIDS volunteers knew someone with AIDS prior to volunteering, compared with the 43% of volunteers from the Alzheimer's Association who knew someone with AIDS, and 47% at the Special Olympics who knew someone with Down's syndrome. The difference between Action AIDS and the other two organizations combined is statistically significant ($\chi^2(1) = 3.97$, $p = .046$). Such comparison also proved statistically significant for Alzheimer's disease ($\chi^2(1) = 20.48$, $p < .0001$) and intellectual disability ($\chi^2(1) = 3.75$, $p = .049$). Qualitatively identical results were obtained comparing the average number of victims that volunteers knew of each of the misfortunes (all comparisons were significant at the 5% level).

Although these results are consistent with hypothesis 1, the survey's correlational nature precludes the drawing of inferences about causality. In particular, as was mentioned in the introduction, an association between knowing victims of a given misfortune and prosocial behavior towards other people with the same misfortune could be explained by (i) a spurious

association because of unobservables (e.g., charities may locate in areas of high incidence of the misfortune they target and if volunteers choose organizations near their homes, then a spurious correlations would arise), (ii) a self-interested motive on the part of the donor (e.g., people whose friends have a specific misfortune may act prosocially towards organizations that target them because they think that they themselves may get it or be affected by it in the future), and/or (iii) differences in informational content or salience (e.g., friends of victims may be better informed about volunteering opportunities at organizations they have encountered in the past).

With these potential confounding explanations in mind we conducted Study 2, an experiment that eliminated explanations (i)-(iii) by design.

STUDY 2 – DOES KNOWING A VICTIM HAVE A CAUSAL IMPACT ON PROSOCIAL BEHAVIOR INDEPENDENT OF INFORMATION?

To assess (a) whether knowing a victim causally influences prosocial behavior, and (b) does so by directly changing people's social preferences, we conducted a controlled experiment that first induced "friendship" between randomly matched participants and then turned some "friends" into "victims" by having them give up a \$10 endowment. We then examined the impact of "friendship" with a participant-turned-victim on amount of money offered, in an allocation task, to a third participant – who had also given up the \$10.

Because the experiment consisted of a one-time anonymous game with random matching, and was conducted in a setting where both friends and non-friends of victims obtained the same information, explanations (i), (ii), and (iii) for the correlation between knowing victims and acting prosocially towards other victims were eliminated by design. We could then attribute any remaining influence of knowing a victim to an effect on social preferences.

In the experiment, we also varied the allocation recipient (friend or scholarship fund) to rule out two plausible alternative explanations for why manipulating friendship status might affect generosity towards another victim. The first is that a relationship with a victim may have a global effect on altruism, such that friends of victims may give more to all causes. The second is that participants may use their friend's outcome as a reference point and become more likely to part with their own money (because their friend has less than \$10) than friends of non-victims (whose friends have \$10). If either of these explanations were true, we would expect friends of victims to give more than friends of non-victims, both to another victim and to the scholarship fund. Thus, the experiment consisted of a 2 (friend status: friend is victim/friend is not victim) x 2 (recipient: participant who lost money/scholarship fund) between-subject design.

Our prediction for this study, in line with hypothesis 1, was that friends of victims, more than friends of non-victims, would give more generous gifts to an anonymous victim, and that both groups of givers would give similar amounts to the scholarship fund.

Procedures

We conducted the experiment in large classrooms. Sessions ranged in size from 24 to 97 undergraduate participants. A total of 280 individuals (62.6% female) participated in exchange for the amount they earned as a result of the allocation task.

Friendship induction. We paired participants with the person sitting directly in front of/behind them and moved seats so that they could converse. Each dyad engaged in an abridged version of the relationship closeness induction task (RCIT) used to generate relationships in a laboratory setting (for a review see Sedikides et al. 1999).

The relationship induction was labeled “Communication task” and included two sets of questions. The first set consisted of introductory questions such as “What is your first name?” and the second consisted of more personal questions such as “What is one recent accomplishment that you are proud of?” (see Appendix 1 for the full set of questions).

Allocation task. The allocation task was based on the “dictator game,” an experimental paradigm in which one participant anonymously allocated an initial endowment between herself and a randomly assigned recipient. Because anonymity minimizes participants’ concerns about monetary or social retribution for their actions, the task offers a good approximation of true social preferences.

One person within each pair of friends made an allocation decision that did not directly affect their friend. Rather, the allocator divided the money between herself and a third, anonymous participant. Allocators knew only the number of the person affected by their decisions and never learned to whom that number referred.

All participants began the study with an endowment of \$10. Each pair of friends was assigned a unique number. Within each pair, one person was assigned role ‘A’ (allocators) and the other was assigned role ‘B’ (half of whom would lose their money). Participants knew their own number/letter and those of their friends (for example, if a participant was assigned 6A, then her friend must be 6B), but did not know anyone else’s number/letter.

We then created “victims” by randomly selecting half the *B* participants to lose their money. To do this, the experimenter flipped a coin in front of all participants; if it came up heads, odd-numbered *B* participants lost their money, if it came up tails, even-numbered *B* participants lost their money.

After the coin flip, participants in the *A* group were told that they could allocate their endowment to either the scholarship fund or to *B* participants (represented only by a number) who had given up their money. They then drew from a set of slips of paper, half labeled with the fund name and half with a number designating the recipient to whom they could give money. If an *A* participant drew her own number, she returned the paper and drew another one so that no *A* participant could give to her own friend. No slips of paper represented *B* participants who kept their money; only those who had to give back their \$10 could get money from an *A* participant.

Note that all participants were given the same information: They all read the same instructions, witnessed the same events and were in the same room for the duration of the experiment. This consistency guaranteed that any effect of being paired with a victim could not be caused by differences in information given to friends of victims and friends of non-victims.

In sum, all *A* participants could give between \$0 and \$10 to either a *B* participant who lost money *or* to the scholarship fund. Half of the *B* participants lost their \$10 and could receive some money from a randomly determined *A* participant; the other half of *B* participants kept their \$10 and *were not* matched with *A* participants. Hypothesis 1 predicted that *A* participants whose friend lost the \$10 would give more generously to other *B* participants, than *A* participants whose friends did not lose \$10. No such differences were expected to be present among the *A* participants who could give to the scholarship fund.

After they completed the allocation task, participants filled out a short survey inquiring about their gender, and whether the person with whom they were paired (their “friend”) had lost money as a result of the coin toss. All participants correctly answered the question regarding the consequences of the coin-toss for their friend, suggesting that they had understood the instructions.

Results

Figure 2 shows the average contribution in each of the four conditions. To test the prediction that *A* participants would give more to an anonymous *B* participant who had lost money if their friend from the previous task had lost, but would give no more to the scholarship fund in this condition, we conducted a 2(friend's state) X 2(recipient) ANOVA on contributions. It revealed no main effect of either friend's state ($F(1, 138) = .339, p = .56$) or recipient ($F(1, 138) = .394, p = .53$), but a significant interaction between the two factors ($F(1, 138) = 4.31, p = .04$). This interaction results from the fact that friends of victims gave more to another same-cause victim ($M = \$3.06$) than did friends of non-victims ($M = \$1.95$), $t(71) = -2.25, p = .027$, and that friends of victims did not give more to the scholarship fund ($M = \$2.45$) than did friends of non-victims ($M = \$3.08$), $t(67) = .913, p = .364$.

Figure 2

This pattern of giving supports the hypothesis that individuals act more generously toward victims of a particular misfortune when they know someone who has endured the same misfortune. Furthermore, the fact that the friend's state did not influence the average contribution to the scholarship fund rules out the two alternative explanations described earlier.

Thus, consistent with hypothesis 1, knowing a victim appears to causally increase prosocial behavior toward other people with the same misfortune. This effect occurs even when we control for information, because all participants had the same information during the task: All knew that half of the *B* participants had lost their \$10 endowment. The only difference was

that some *A* participants were “friends” with one of the *B* participants who lost their endowment and others were not.

Having found support for our first hypothesis, in studies 3 and 4 we tested hypothesis 2, that the effect of friendship with victims on social preferences for other victims is due to an impact on *caring* rather than *perceived suffering*.

STUDY 3 – DOES FRIENDSHIP WITH A VICTIM AFFECT *CARING* OR *PERCEIVED SUFFERING*?

We conducted a survey asking participants about their reactions towards victims of various misfortunes in different scenarios. The sample consisted of 100 travelers in a train station in a large Northeastern city (49% males of age 17 to 69 with a mean of 39 years). Four respondents provided incomplete surveys and were excluded from the analyses.

Procedures

Participants were approached in the waiting area of the train station and asked to fill out a short survey for academic research in exchange for a lottery ticket. The survey took approximately five minutes.

In the survey, participants read three fictional scenarios about individuals experiencing various misfortunes: Alzheimer’s disease, breast cancer, or a job lay-off with disastrous financial consequences (Appendix 2 contains the original stimuli). Participants were then asked to report their reactions to victims. First they were asked about their *perceived suffering* of the victim in the scenario. The question posed was:

- (1) ‘Please rate how bad you think (name)’s pain is’

1 (Not at all bad) to 9 (As bad as dying).²

Followed by three questions designed to capture *caring*:

(2) ‘How important is it to you that (*name*) is happy?’

1 (not at all important) to 9 (Extremely important)

(3) ‘How close do you feel to (*name*)?’

1 (Not at all close) to 9 (Extremely Close)

(4) ‘Please rate the degree to which you think that it is your responsibility to help (*name*)?’

1 (Not at all my responsibility) to 9 (Definitely my responsibility).

After answering the above questions for all three scenarios, participants were asked to indicate how close they were, on a scale ranging from 1 (Never known anyone) to 10 (Person closest to me in the world, to a person who has suffered from each of the three misfortunes described in the scenarios). We refer to this 1-10 variable as *friend*. Finally, participants reported their age and gender.

Results

Table 1 shows the mean result and standard deviations for each of the four questions about reactions to the scenarios’ victims. It also reports results from a factor analysis (with a Varimax rotation). Consistent with our distinction between *caring* and *perceived suffering* (i.e., $\beta_{i,j}$ vs. $\hat{U}_{i,j}$), the three variables that relate to $\beta_{i,j}$ are the main components of the first factor, while the one variable that captures $\hat{U}_{i,j}$ alone is the main component of the second.

² In a pilot test, we used a scale ranging from 1 (Not at all bad) to 9 (Extremely bad). We obtained results very similar to those we report here but could not be sure that *perceived suffering*’s lack of significance was not simply a result of a ceiling effect because 55% of the participants responded with an 8 or 9. The scale used here is consistent with research on the measurement of pain in health conditions (Baron 1994), and the distribution of responses was relatively normal.

Table 1

To assess the impact of friendship with a victim on each of the four questions described above, we stacked the answers of the 96 participants for each of the three scenarios (creating a total of 288 observations) and standardized all variables. We then estimated regressions with each of the four questions as dependent variables and *friend* as the key predictor.

The regressions include dummies for each scenario, with controls for the respondent's average answer to the *friend* question in the other two scenarios (labeled *other friends*), and for the respondent's age and gender. By controlling for *other friends* we reduced the possibility that an association between *friend* and the participants' reactions to victims was driven either by variation across respondents in their overall usage of scales (i.e., some people using higher values in all scales than others), or by some people being more friendly and sensitive to the needs of others in general, rather than in particular to those who have the same misfortune as their friends.

Table 2

The results of the (standardized) regressions just described are presented in table 2. Column 1 shows the results for *perceived suffering* as the dependent variable, and columns 2-4 show the results for the three variables related to *caring*. Column 5 presents the average of the three *caring* variables.

With *perceived suffering* as the dependent variable, the point estimate for *friend* was small, negative and not statistically significant ($p = .453$). In contrast, the point estimates were

positive and significant for both *social distance* and *social responsibility*, and positive but not significant ($p = .13$) for *importance*. Thus, not surprisingly, the average of these three variables is positively and significantly influenced by *friend*. Estimating the regressions with respondent fixed effects or without any controls leads to qualitatively identical results.

In sum, the results from this study show that friends of victims do not perceive worse suffering by people of the same misfortune. Rather, consistent with hypothesis 2, friends of victims simply care more about them. Specifically, they are separated from them by a shorter social distance and feel a greater responsibility to help them.

In our final study, we directly assess the extent to which these variables mediate the premium on prosocial behavior towards people who have the same misfortune as a friend.

STUDY 4 – DOES CARING MEDIATE THE EFFECT?

In Study 4, we measured both reactions to victims and prosocial behavior to assess whether *caring* mediates the effect of friendship with a victim on prosocial behavior. A questionnaire first asked participants to (hypothetically) allocate \$1000 among three charities. It then asked the same four reaction-to-victims questions used in Study 3, and finally asked about pre-existing relationships with people with each of the misfortunes. Consistent with hypothesis 2 and the results of Study 3, we expected *caring* to mediate the impact of friendship with victims on the allocation task.

Procedures

We recruited 161 participants for a number of studies conducted in a university lab in exchange for 10 dollars. Because the study took place during the summer, many of the

participants were not university students (average age was 26). Participants were asked to allocate a hypothetical endowment of \$1000 among the following three charities: Action AIDS, the Alzheimer's Association, and the Breast Cancer Research Foundation. Fifteen participants were dropped from the analyses for making allocations that did not add up exactly to \$1000.

After making their allocations, participants completed the same reaction-to-victims measures used in Study 3. Note that in this study, however, the reactions were to *all* victims with a misfortune, rather than to a specific individual described in a scenario. The order of the four questions was randomized across participants. Next, participants rated how close they were or are to a person with AIDS, Alzheimer's disease, and breast cancer on a scale ranging from 1 (*Never known anyone*) to 10 (*Person closest to me in the world*). We again refer to this variable as *friend*. Finally, participants reported their age and gender.

Results

Table 3 shows the means and standard deviations for the four reaction to victims variables and the results from a factor analysis (with a Varimax rotation). As was the case in Study 3, the first factor consists primarily of the three variables associated with *caring*, and the second of *perceived suffering*. In this study, however, the variable *importance* receives some non-trivial weight on the second factor as well, although its own weight on the first factor is much larger.

Table 3

We next assess the impact of *friend* on the allocation of money, and the mediating role of *caring*. Because participants had a fixed amount of money to distribute among three charities,

dollar allocations inherently assessed relative prosocial preferences among them (e.g., someone with close friends suffering from all three misfortunes could not give more money than one without any such friends). We therefore divided each of the predictors by the average of that variable for each participant. For example, if a participant reported values for *friend* of 2, 4 and 6 for the three different misfortunes, the values used in the regressions would be 0.5, 1 and 1.5.

That approach allowed us to capture the effects of having a relatively *closer* friend, or feeling relatively *more* socially responsible for people with a specific misfortune, for example, on the money allocated to that misfortune. All of our results remain qualitatively unchanged if we do not perform this division and simply control for answers to the other charities, but the chosen specification simplifies the presentation of the analysis of mediation. We also standardized all variables to facilitate comparisons.

To assess mediation we employed the four customary steps (Baron and Kenney 1986).

- Step 1: estimate the impact of *friend* on amount of money allocated to a given charity
- Step 2: estimate the impact of *friend* on each mediator
- Step 3: estimate the impact of each mediator on amount of money allocated to a given charity controlling for *friend*
- Step 4: assess if *friend* remains significant after controlling for the mediator. If *friend* is no longer significant “full mediation” is present. If *friend* remains significant then partial mediation is present *if* the product of the impact of *friend* on the mediator times the impact of the mediator on amount given is significant, employing Sobel’s test (Sobel 1982).

We next report the results from these four steps for all of our potential mediators.

Because the three variables associated with *caring* are presumed to be associated to the same

underlying latent variable, we computed their average to form a new variable and assessed its mediating impact as well.

For step 1 we estimated a regression in which each participant's allocation to each charity was the unit of observation, the amount allocated was the dependent variable, and the key predictor was the variable *friend*, controlling for charity dummies (recall that *friend* and all mediators were divided by the participant's average prior to the analyses). In this regression, the coefficient for *friend* was positive and strongly significant ($B = .210$, $SE = .0467$, $p < .0001$), indicating that respondents chose to give more to charities targeting the misfortunes of people closer to them. This result is consistent with the evidence from studies 1 and 2 and further supports hypothesis 1.³ The results for steps 2-4 are presented in Table 4.

Table 4

For Step 2, we estimated regressions with each of the possible mediators as the dependent variable, with *friend* as the main predictor, and controlling for charity dummies, gender and age (neither gender nor age is significant in any of the regressions). Step 2 is equivalent to the analysis of Study 3.

Column 1 in Table 4 reports the results. Each cell in the column shows the parameter estimate for *friend* in a different regression. Consistent with the findings of Study 3, the three variables associated with *caring* were influenced by *friend*, with *social distance* being the most influenced and *importance* the least (now significant at the 10% level). Not surprisingly, given that *friend* influenced each of the *caring* variables, it also significantly influenced ($p < .0001$) the

³ We clustered standard errors by respondent because each one appears three times in the data.

average of the three. In contrast, when *perceived suffering* was the dependent variable, *friend* had a small and non-significant impact ($B = .070, p = .11$).

Columns 2 and 3 report the results from steps 3 and 4: regressions with amount given as the dependent variable and both *friend* and each mediator as the key predictors, again controlling for charity dummies, age and gender. Column 2 shows the point estimates for the mediator and column 3 for *friend*. Each row corresponds to a separate regression.

The parameter estimate for *friend* experienced substantial drops in the presence of the variables related to *caring*. Strikingly, it was reduced to less than one fourth of its original size and no longer significant ($p = .201$) when controlling for the average of the three *caring* variables (from $B_{\text{step 1}} = .207$ vs. $B_{\text{step 4}} = .047$), implying full mediation. Because *friend* remained significant when each of the individual *caring* variables was controlled for individually, partial mediation is assessed in columns 4 and 5.

In contrast to the mediating role of the *caring* variables, the point estimate for *friend* barely changed when controlling for *perceived suffering*, dropping only to $B = .197$ and further implying no mediating role for *perceived suffering*. Nevertheless, *perceived suffering* was significant, implying that, as would be expected, people do donate more money to charities that target misfortunes perceived to be more painful.

Column 4 reports the percentage of the impact of *friend* on amount given that is accounted for by each mediator. This percentage was obtained by calculating the product of the estimated impact of *friend* on each mediator (column 1) times the impact of the mediator on amount donated (column 2) divided by the full impact of *friend* on amount given ($B = .210$).⁴ Column 5, in turn, reports the p-value from the Sobel test.

⁴ Because the different mediators are correlated, the sum of all partial mediations can add up to more than 100%

Although the estimated mediation of *importance* was both small (14.2%) and (marginally) non-significant ($p = .11$), both *social distance* and *social responsibility* exhibited significant partial mediation ($p \leq .0001$ for both). The average of the three *caring* variables, in turn, accounted for a full 77.6% of the impact of *friend*.

In summary, Study 4 provided further evidence that friends of victims are more prosocial towards others with the same misfortune and strongly suggests that this occurs because friends of victims care more about those victims, and not because they perceive their suffering to be worse. In particular, friends of victims both feel closer to such victims and feel it is their social responsibility to help them.

GENERAL DISCUSSION

The rich literature on prosocial behavior seldom deals with situation in which donors can help anonymous people who suffer from different misfortunes, leaving very little that can be directly applied to most real-world charitable giving. In this paper, we help to close the gap between academic research and real-world giving by reporting how knowing a victim affects prosocial behavior towards other victims of the same misfortune.

The results of the four studies presented in this paper support the hypotheses that friends and relatives of victims are especially prosocial toward other people with the same misfortune. More importantly, by replicating these results in an experiment with random assignment of friendship, victimhood and potential recipient of charitable giving, we demonstrate that the relationship is causal.

After ruling out the possibilities of spurious association, self-interested motives, and asymmetric information, we further sought to isolate the precise mechanism by which

friendships influence prosocial preferences. We found that friendship with a victim is *not* related to perceived suffering of others. Rather, it is related to variables associated with *caring* (i.e., the weight placed on the utility of other victims), particularly social responsibility and social distance, and that “caring” variables mediate the relationship between knowing a victim and prosocial behavior.

Both social responsibility and social distance are interesting in their own right. There are far more misfortunes and far more unfortunate people in the world than any one person can help. For whom, then, will we feel responsible? Our evidence shows that our personal relationships with people who have suffered from specific misfortunes shape which misfortunes we feel responsible for addressing.

Similarly, knowing a victim had a strong impact on feelings of closeness towards anonymous victims of other misfortunes. As with other psychological distances, the subjective distance between self and other has important consequences for cognition and behavior (Trope and Liberman 2003). Trope and Liberman, who focus mainly on temporal distance, theorized that individuals represent far-distant events at higher level construal than near-distant events, and these high-level construals are relatively simple and abstract as compared to low-level construals, which are relatively complex and concrete. Although they suggest that similar principles should apply to other forms of distance including social distance, there is relatively little research on social distance. Nonetheless, many findings in prosocial behavior could be interpreted within this framework.

For instance, increased generosity towards an identifiable victim (see Small & Loewenstein 2003) could be related to the concrete proximity of an identifiable victim as compared with the more abstract and distant statistical victims. Also, manipulations of similarity

and in-group status, which increase prosocial behavior, could be interpreted as reducing social distance. Although to the best of our knowledge, Study 3 is the first to measure the subjective feeling of closeness to a stranger, we believe that it may offer an explanatory mechanism for many findings in prosocial behavior. Future research on prosocial behavior and charitable giving should measure and manipulate social distance to examine whether this finding can be generalized.

Limitations

Our studies are not without limitations. As with any empirical investigation, there are trade-offs between examining behavior in the lab and the field. In the lab, we can manipulate friendship and victimhood, eliminating the potential confounds associated with knowing a real person with a particular misfortune. However, we sacrifice the profundity of personal experience with real tragedy. Study 2 exhibits this compromise. In contrast, Studies 1, 3 and 4 examine people whose actual close friends and relatives have experienced misfortunes of much greater severity than a loss of \$10, but the correlational nature of the studies limits our ability to make inferences about causality. Nonetheless, we believe that the studies taken together provide converging evidence that friends of victims care more for other people with the same misfortune.

Implications

In addition to advancing the understanding of prosocial behavior, these findings have important practical implications. To increase donations, non-profit organization could strive to create personal relationships between victims and potential benefactors. Charities do often describe or show images of specific victims to potential donors in their advertising campaigns,

but such attempts seem designed to benefit from the identifiable victim effect (Kogut and Ritov 2005a, b; Small et al. 2006), rather than to create “friendship” between donors and victims. Our findings suggest that above and beyond making victims identifiable, creating a personal link with the victim would likely be an effective intervention. If, as our results show, a relationship created in the lab in a few minutes can significantly increase giving, then surely a charity can inspire a connection between a victim and a benefactor through its solicitations.

Perhaps an even more direct implication of our findings is that charitable organizations could target individuals who are connected to victims. The success of fundraising events such as the Race for the Cure® or the MS Walk may be explained in part by the fact that for such events, participants are typically victims or friends of victims who solicit money from their friends, effectively reducing the social distance between donors and other victims of the same misfortunes. This type of fundraising may succeed because it enables victims to tap their social networks for donation requests, effectively identifying high yield potential donors to the organization. Non-profit organizations for whom such events are not appropriate could nevertheless benefit from other types of campaigns where they may in other ways channel fundraising efforts through current victims towards friends-of-victims

Appendix A: Relationship Closeness Induction Task questions used in Study 2

In today's study, we're interested in how people get to know each other. For the next part of the experiment you will be doing a communication task which will help you get to know another student in the class.

Here's how it works: you will both be given two lists of questions. We would like you to engage in as natural a conversation as possible using these questions. There is a time limit on each of the two lists. Try to get to as many of the questions on the list as you can, but don't worry if you don't get to all of them. I will keep time and tell you when to go on to the second list.

When this occurs, take a couple of seconds to finish what you were discussing and then move on to the second set of questions. You are not required to answer any questions or talk about anything that might make you uncomfortable. After you have completed this task you will take part in an allocation task."

Communication Task

List I

1. What is your first name?
2. Where are you from?
3. What year are you at Penn?
4. What are your hobbies?
5. What would you like to do after graduating from Penn?

List II

1. If you could travel anywhere in the world, where would you go and why?
2. What is one thing happening in your life that makes you stressed out?
3. If you could have one wish granted, what would that be?
4. What is one recent accomplishment that you are proud of?

Appendix B: Scenarios used in Study 3.

Situation 1

Susan is a college instructor and a poet. She is married to Sam and they are grandparents. Recently, she began drifting away from herself and from everyone around her. She suffers from Alzheimer's, which is a progressively degenerative form of dementia, involving loss of memory and language skills. Her first symptoms were forgetting simple things, such as what she did with the shopping list, losing her temper easily. For a while, she can fool herself and others. Over time, she loses her grip and fails to recognize her closest loved ones.

Situation 2

Sarah works as secretary for a law firm in center-city. She was 37 years old and the mother of two children, Jerry and Samantha, when she learned that she had breast cancer. After a radical mastectomy (i.e. removal of a breast), she found that it had spread to her lymph nodes, which is much more difficult to treat than breast cancer cases where the cancer is contained. She is starting an intense schedule of chemotherapy.

Situation 3

Joe lost his job at the post office right after the holiday season. He had worked there since graduating from high school 10 years ago. His confidence has been shaken and he is under intense financial pressure since he has a mortgage and three young children. His wife is a substitute teacher and cares for their kids so they all depend on his income.

References

- Bagozzi, Richard P. and David J. Moore (1994), "Public Service Advertisements: Emotions and Empathy Guide Prosocial Behavior," *Journal of Marketing*, 58, 56-70.
- Barnett, M. A., P. A. Tetreault, J. A. Esper, and A. R. Bristow (1986), "Similarity and Empathy - the Experience of Rape," *Journal of Social Psychology*, 126 (1), 47-49.
- Baron, Jon (1994), *Thinking and Deciding*: Cambridge University Press.
- Baron, R.M. and D.A. Kenney (1986), "The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations," *Journal of Personality and Social Psychology*, 51, 1173-72.
- Batson, C. D., S. Early, and G. Salvarani (1997), "Perspective taking: Imagining how another feels versus imagining how you would feel," *Personality and Social Psychology Bulletin*, 23 (7), 751-58.
- Batson, C. D., D.A. Lishner, L. Dulin, S. Harjusola-Webb, E.L. Stocks, S. Gale, O. Hassan, and B. Samput (2003), "'...As you would have them do unto you': Does imagining yourself in the other's place stimulate moral action?," *Personality and Social Psychology Bulletin*, 29 (4), 1190-201.
- Batson, C. D., S. C. Sympson, J. L. Hindman, P. Decruz, R. M. Todd, J. L. Weeks, G. Jennings, and C. T. Burris (1996), "'I've been there, too': Effect on empathy of prior experience with a need," *Personality and Social Psychology Bulletin*, 22 (5), 474-82.
- Bendapudi, Neeli, Surendra N. Singh, and Venkat Bendapudi (1996), "Enhancing Helping Behavior: An Integrative Framework for Promotion Planning," *Journal of Marketing*, 60 (3), 33-49.
- Bohnet, Iris and Bruno S. Frey (1999), "Social Distance and other-regarding Behavior in Dictator Games: Comment," *The American Economic Review*, 89 (1), 335-39.
- Burnett, John J. (1981), "Psychographic and demographic characteristics of blood donors," *Journal of Consumer Research*, 8 (1), 62-66.
- Camerer, Colin F. (2003), *Behavioral Game Theory: Experiments in Strategic Interaction*, Princeton, New Jersey: Princeton University Press.
- Camlin, C. S. and C. E. Chimbwete (2003), "Does knowing someone with AIDS affect condom use? An analysis from South Africa," *Aids Education and Prevention*, 15 (3), 231-44.
- Charness, Gary and Uri Gneezy (Forthcoming), "What's in a name? Anonymity and Social Distance in Dictator and Ultimatum Games," *Journal of Economic Behavior and Organization*.
- Christy, C.A. and H Voigt (1994), "Bystander responses to public episodes of child abuse," *Journal of Applied Social Psychology*, 24 (9), 824-47.
- Coke, J.S., C. D. Batson, and K. McDavis (1978), "Empathic mediation of helping: A two-stage model," *Journal of Personality & Social Psychology*, 36 (7), 752-66.
- Dovidio, J. F., S. L. Gaertner, A. Validzic, K. Matoka, B. Johnson, and S. Frazier (1997), "Extending the benefits of recategorization: Evaluations, self-disclosure, and helping," *Journal of Experimental Social Psychology*, 33 (4), 401-20.
- Ferraro, Roesllina, Baba Shiv, and James R. Bettman (2005), "Let Us Eat and Drink, for Tomorrow We Shall Die: Effects of Mortality Salience and Self-Esteem on Self-Regulation in Consumer Choice," *Journal of Consumer Research*, 32 (1), 65-75.
- Flippen, A.R., H.A. Hornstein, W.E. Siegal, and E.A. Weitman (1996), "A comparison of similarity and interdependence as triggers for ingroup formation," *Personality and Social Psychology Bulletin*, 22, 338-402.

- Fraser, C., R.E. Hite, and P.L. Sauer (1998), "Increasing contributions in solicitation campaigns: The use of large and small anchor points," *Journal of Consumer Research*, 15 (2), 284-87.
- Giving USA Foundation (2005), "The Annual Report of Philanthropy for the Year 2004," Giving USA Foundation.
- Gourville, John T. (1998), "Pennies-a-Day: The Effect of Temporal Reframing on Transaction Evaluation," *Journal of Consumer Research*, 24 (4), 395-408.
- Kogut, T. and I. Ritov (2005a), "The "Identified victim" effect: An identified group, or just a single individual?," *Journal of Behavioral Decision Making*, 18 (3), 157-67.
- (2005b), "The singularity effect of identified victims in separate and joint evaluations," *Organizational Behavior and Human Decision Processes*, 97 (2), 106-16.
- Krebs, D. (1975), "Empathy and Altruism," *Journal of Personality & Social Psychology*, 32 (6), 1134-46.
- Levine, M., C. Cassidy, G. Brazier, and S Reicher (2002), "Self-categorization and bystander non-intervention: Two experimental studies," *Journal of Applied Social Psychology*, 32 (7), 1452-63.
- Manheimer, D.I., G.D. Mellinger, and H.M. Crossley (1966), "A follow-up study of seat belt usage," *Traffic Safety Research Review*, 10, 2-13.
- Meyers-Levy, Joan and Durairaj Maheswaran (1992), "When Timing Matters: The Influence of Temporal Distance on Consumers' Affective and Persuasive Responses " *Journal of Consumer Research*, 19 (3), 424-33.
- Miller, Dale T. and Rebecca K. Ratner (1998), "The Disparity Between the Actual and Assumed Power of Self-Interest," *Journal of Personality and Social Psychology*, 74 (1), 53-62.
- Pessemier, Edgar A., Albert C. Bemmaor, and Dominique Hanssens, M. (1977), "Willingness to supply human body parts: Some empirical results," *The Journal of Consumer Research*, 4 (3), 131-40.
- Ratner, Rebecca K. and Dale T. Miller (2001), "The Norm of Self-Interest and Its Effects on Social Action," *Journal of Personality and Social Psychology*, 81 (1), 5-16.
- Schiff, M. (1977), "Hazard Adjustment, Locus of Control, and Sensation Seeking - Some Null Findings," *Environment and Behavior*, 9 (2), 233-54.
- Schmidt, Greg and Bernard Weiner (1988), "An Attribution-Affect-Action Theory of Behavior. Replications of Judgments of Help-Giving," *Personality and Social Psychology Bulletin*, 14 (3), 610-21.
- Sedikides, C., W.K. Campbell, G.D. Reeder, and A.J. Elliot (1999), "The Relationship Closeness Induction Task," *Representative Research in Social Psychology*, 23, 1-4.
- Simonsohn, Uri, Niklas Karlsson, George Loewenstein, and Dan Ariely (2004), "The Tree of Experience in the Forest of Information: Overweighting Experienced Over Observed Information."
- Small, Deborah A. and George Loewenstein (2003), "Helping a victim or helping the victim: Altruism and identifiability," *Journal of Risk and Uncertainty*, 26 (1), 5-16.
- Small, Deborah A., George Loewenstein, and Paul Slovic (2006), "Sympathy and callousness: The impact of deliberative thought on donations to identifiable and statistical victims," *Organizational Behavior and Human Decision Processes*, in press.
- Sobel, M.E. (1982), "Asymptotic confidence intervals for indirect effects in structural equation models," in *Sociological methodology*, ed. N. Tuma, Washington, DC: American Sociological Association, 159-86.

- Stotland, Ezra and James A. Walsh (1963), "Birth order and an experimental study of empathy," *Journal of Abnormal & Social Psychology*, 66 (6), 610-14.
- Strahilevitz, Michal and G. John Myers (1998), "Donations to Charity as Purchase Incentives: How Well They Work May Depend on What You Are Trying to Sell," *Journal of Consumer Research*, 24 (4), 434-46.
- Trope, Yaacov and N. Liberman (2003), "Temporal Construal," *Psychological Review*, 110, 401-21.
- Washington, Ebonya (2006), "Female Socialization: How Daughters Affect Their Legislator Fathers' Voting on Women's Issues," in *NBER*
- Weiner, B. (1980), "A Cognitive (Attribution) - Emotion - Action Model of Motivated Behavior - an Analysis of Judgments of Help-Giving," *Journal of Personality and Social Psychology*, 39 (2), 186-200.

Table 1. Descriptive Statistics and Factor Loadings (Varimax rotation) of Reactions Towards Victims Questions

	<i>Descriptive Statistics</i>		<i>Factor Analysis</i>	
	Mean	Standard Deviation	Factor 1	Factor 2
<i>Caring</i>				
Importance				
How important it is for you that (name) is happy	6.27	2.32	.771	.271
Social Distance				
How close do you feel to (name)	4.26	2.4	.871	.016
Social Responsibility				
To what degree it is your responsibility to help (name)	3.37	2.41	.859	.157
Perceived Suffering				
Please rate how bad you think (name's) pain is	6.41	1.83	.147	.980
Total variance explained by factor	--	--	2.112	1.059

All variables are measured in a 1-9 likert scale

Table 2. Relationship between knowing a victim and attitudes towards other victims of same misfortune

Standardized OLS results with three scenarios combined

Dependent variable (in scales 1 to 9):	(1)	(2)	(3)	(4)	(5)
	Perceived Suffering	Caring			
		<i>Importance</i>	<i>Social Distance</i>	<i>Social Responsibility</i>	<i>Average of three caring variables</i>
Intercept	-0.252** (0.107)	-0.386*** (0.127)	-0.070 (0.125)	-0.252** (0.123)	-0.276** (0.126)
<i>Friend</i> (how close to victim of same misfortune, 1- least close 10-closest)	-0.063 (0.058)	0.092 (0.062)	0.271*** (0.062)	0.135** (0.063)	0.197*** (0.062)
<i>Other Friends</i> (respondent's average of <i>friend</i> in other two scenarios)	-0.024 (0.063)	0.024 (0.079)	0.030 (0.080)	0.132 (0.081)	0.074 (0.081)
Alzheimer Scenario Dummy	0.920*** (0.102)	0.555*** (0.087)	0.275*** (0.085)	0.435*** (0.082)	0.496*** (0.078)
Cancer Scenario Dummy	0.115 (0.136)	0.469*** (0.095)	0.112 (0.081)	0.403*** (0.093)	0.386*** (0.082)
Female (1=yes, 0=no)	-0.192 (0.137)	0.096 (0.182)	-0.122 (0.172)	-0.055 (0.173)	-0.034 (0.182)
Age	0.041 (0.067)	0.120 (0.076)	0.070 (0.089)	0.116 (0.096)	0.120 (0.087)
R-Square	.179	.086	.109	.110	.116

Each column corresponds to a separate regression.

Standard errors, clustered by respondent, reported below parameter estimates.

*, **, *** demarks significance at the 10%, 5% and 1% level respectively

Table 3. Descriptive Statistics and Factor Analysis (varimax rotation) of Reaction Towards Victims Questions (study 4)

	<i>Descriptive Statistics</i>		<i>Factor Analysis</i>	
	Mean	Standard Deviation	Factor 1	Factor 2
<i>Caring</i>				
Importance <i>How important it is for you that (disease) victims are happy</i>	6.69	1.69	.668	.464
Social Distance <i>How close do you feel to victims of (disease)</i>	5.14	2.35	.890	-.009
Social Responsibility <i>How responsible do you feel for victims of (disease)</i>	5.86	1.92	.823	.227
<i>Perceived Suffering</i>				
<i>Please rate how bad you think a (disease) victim's pain is</i>	7.05	1.71	.131	.955
Total variance explained by factor	--	--	1.932	1.205

Table 4. Mediation Analysis for effect of *friend* on amount given to each charity in Study 4.

Mediator (M)	(1) Step 2 M=OLS(<i>friend</i> ^a)	(2) Steps 3 & 4 \$ donation=OLS(M, <i>friend</i>) B _M	(3) B _{friend}	(4) Percentage of <i>friend</i> effect mediated by M {(a ₁ x b _i)/c in figure 3}	(5) Sobel test (p-values)
<i>Caring</i>					
(i) Importance	0.105* (0.058)	0.283*** (0.086)	0.180*** (0.041)	14.2%	.1127
(ii) Social Distance	0.316*** (0.045)	0.347*** (0.068)	0.100** (0.048)	52.3%	<.0001
(iii) Social Responsibility	0.265*** (0.061)	0.522*** (0.060)	0.071* (0.043)	66.0%	.0001
Average of (i),(ii) & (iii)	0.280*** (0.043)	0.579*** (0.063)	0.047 (0.038)	77.4%	<.0001
<i>Perceived Suffering</i>	0.070 (0.043)	0.174** (0.073)	0.197*** (0.044)	5.8%	.1608

Columns 1,2 and 3 show regression parameter estimates, with clustered (by respondent) standard errors in parenthesis.

All regression included an intercept, charity dummies, and controls for gender and age (not reported).

Friend is selfreported measure of closeness with a victim of the misfortune (1 (never known anyone) to 10 (person closest to me in the world)).

Figure 1. Percentage of volunteers who knew a victim of each of the three misfortunes *prior* to volunteering for their chosen organization.

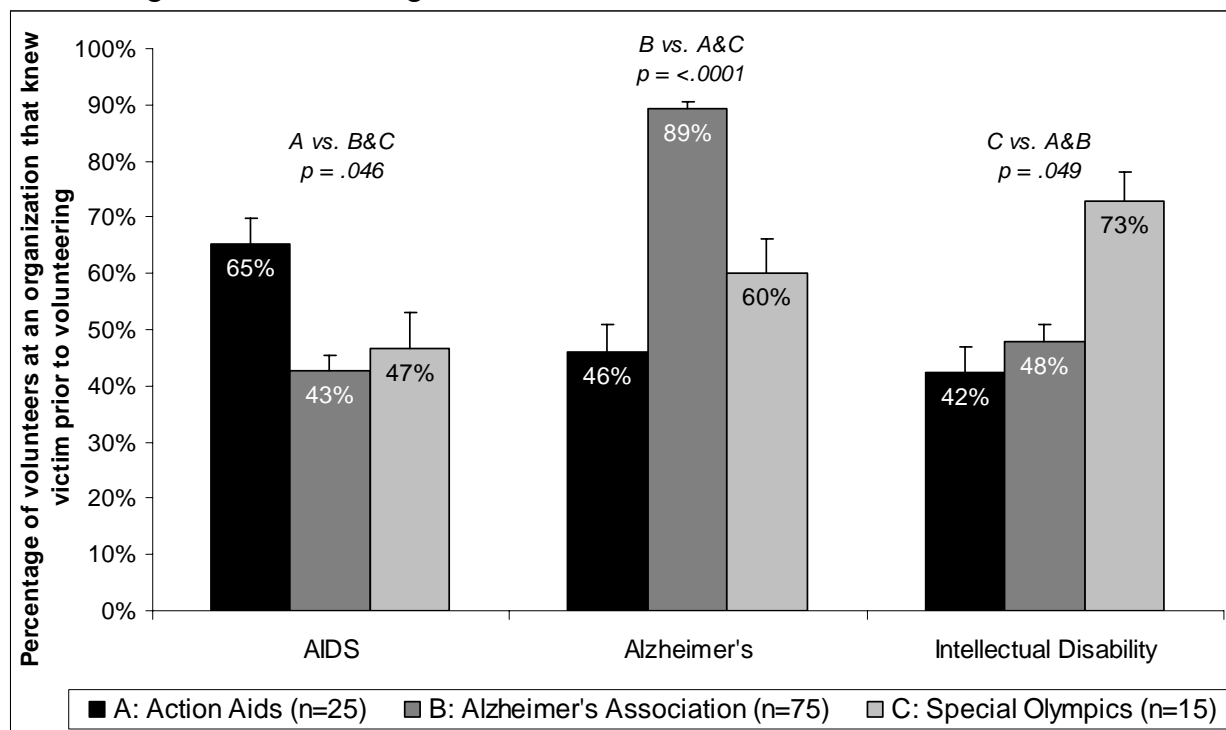
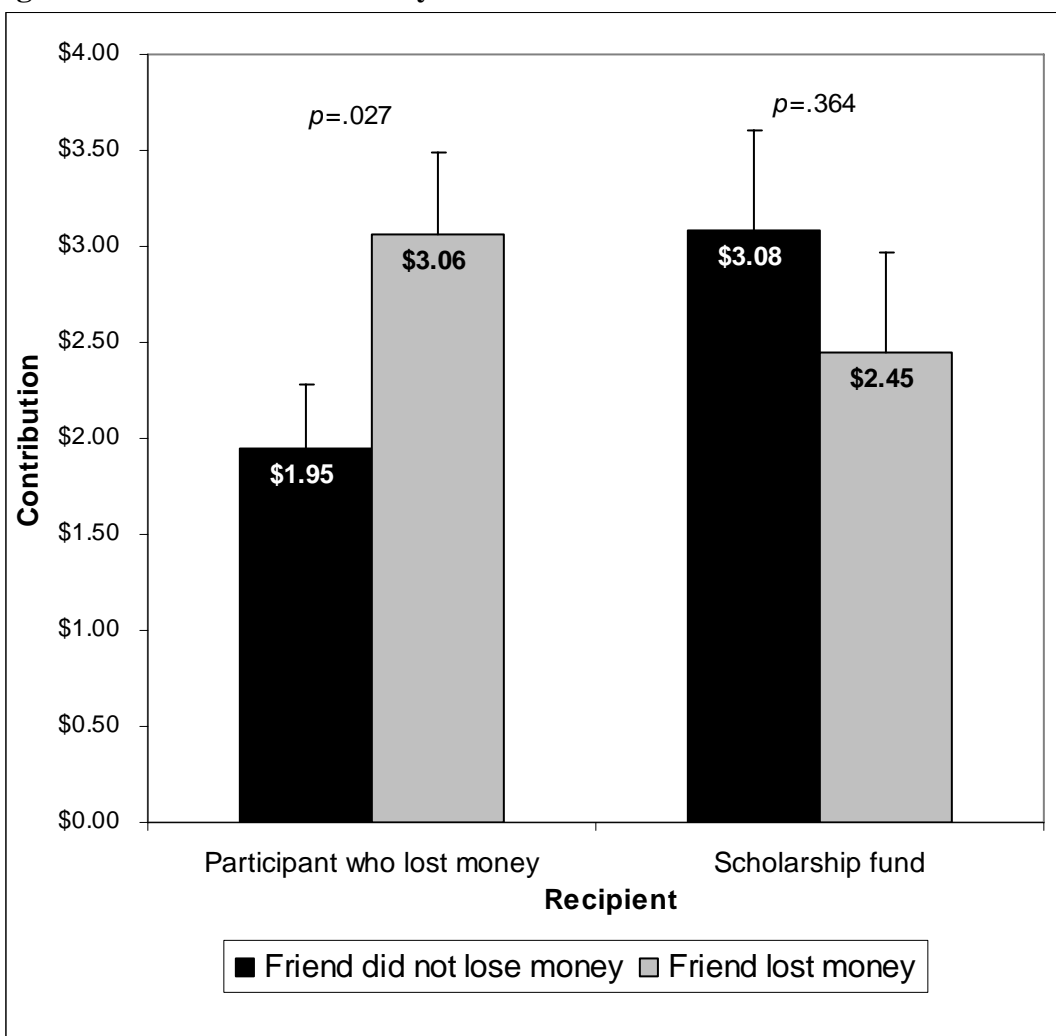


Figure 2. Contributions in Study 2

Note: Lines above bars represent standard errors.