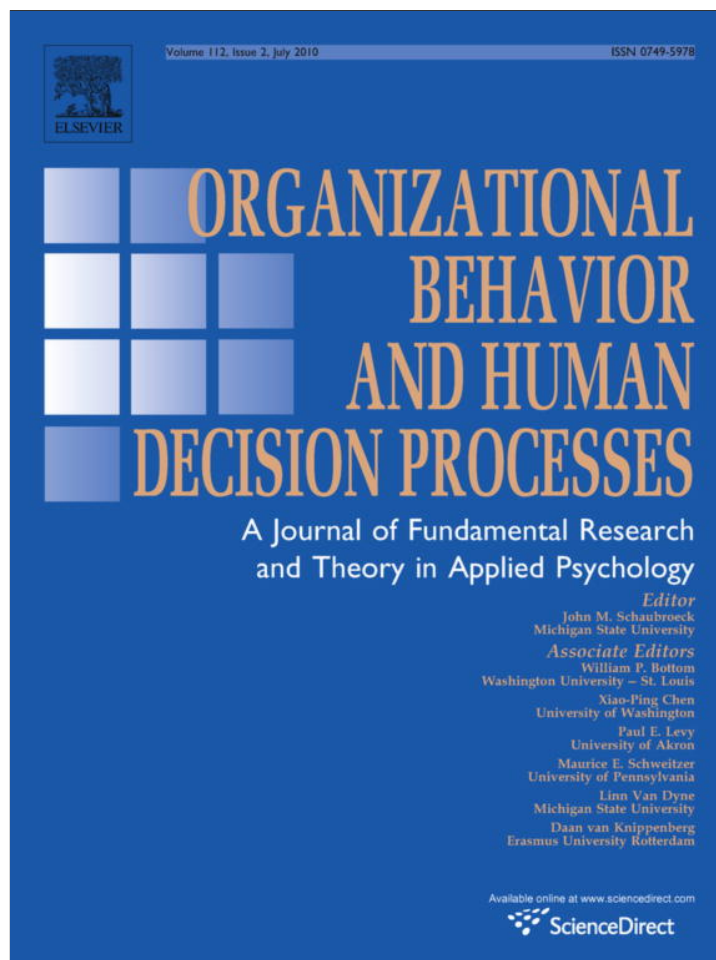


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## Reference-dependent sympathy

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## ABSTRACT

Natural disasters and other traumatic events often draw a greater charitable response than do ongoing misfortunes, even those that may cause even more widespread misery, such as famine or malaria. Why is the response disproportionate to need? The notion of reference dependence critical to Prospect Theory (Kahneman & Tversky, 1979) maintains that self-utility, or benefit to self, is not absolute level of wealth but rather gain or loss relative to a reference point. Four studies show that sympathy (Study 1), dictator offers (Study 2), and judgments of deservingness (Study 3a) are reference-dependent: people respond greater to victims of loss than to victims of chronic conditions. This tendency goes away when people evaluate victims in comparison (Study 3b) and when evaluating affect-poor “statistical victims”, as compared to affect-rich “identifiable victims” (Study 4). Together, these results shed light on seemingly irrational patterns of humanitarian aid.

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## Introduction

Devastating events such as 2004s Asian Tsunami and 2005s Hurricane Katrina were met with substantial sympathy and humanitarian aid. However, static or chronic states of need rarely witness similar outpourings of support (Epstein, 2006). To illustrate the discrepancy, one 2006 report (Spence, 2006) found little relationship between magnitude of need and level of private charity, with private donations averaging \$1839 (US) per person affected by Hurricane Katrina but just \$10 per person affected by AIDS. Even the 2005 earthquake in Kashmir, which was less well covered by mass media, netted an average donation of \$37 per victim, dwarfing the \$3 average per malaria patient. Indeed, the number of people who die from AIDS, malaria, famine, and unsafe water per month is estimated to be over 660,000 which is almost double the number of lives lost as a result of the Asian Tsunami, Hurricane Katrina, and the earthquake in Kashmir.

Although the response to dramatic events showcases a great human capacity for caring, the relative neglect of ongoing suffering reveals an equal albeit less attractive capacity for indifference. Can we make sense of this duality? Why do chronic conditions fail to move us even though they do so much harm?

Maybe it's all relative. Victims of chronic conditions maintain a constant-state of welfare but victims of events have suffered a loss in welfare. That loss, or change, may count more because – according to the findings of decision research – utility is reference-dependent. People value not an absolute amount, but rather gains and

losses relative to a reference point (Kahneman & Tversky, 1979; Tversky & Kahneman, 1991). Although that notion has been extensively supported in the context of one's own utility, it has rarely been scrutinized in the context of others' utility or decisions about the welfare of others. Thus, the critical insight of this paper is that sympathy and charitable giving are sparked by changes in, not states of, human welfare.

The Asian Tsunami is a telling example of reference-dependent sympathy because most of its victims already were afflicted by widespread poverty and malnutrition. Yet it literally took a tidal wave, a *change*, to capture the world's attention and stimulate public outcry about that region's vulnerability. Similarly, risk analyses have consistently found that in the long run, allocating more resources for sustainable development instead of disaster relief would save tens of billions of dollars and untold suffering (World Health Organization, 2007). Yet chronic destitution appears to be less emotionally compelling than sudden devastation.

## Sympathy and humanitarian aid

Whether humans are altruistic has been debated for centuries (see Batson, 1990; Penner, Dovidio, Piliavin, & Schroeder, 2005 for reviews). Although the debate rages on, psychologists must also ask a different question: is prosocial behavior, regardless of its source, consistent and utility-maximizing, or is it biased by a psychological factor that inhibits giving in a way that does the most social good? Often prosocial behavior hinges on affective reactions to victims and situations. Therefore, *sympathy biases* result when humanitarian needs evoke disproportionate affective responses (Loewenstein & Small, 2007; Slovic, 2007). That is, some victims

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and situations trigger disproportionately high sympathy whereas others trigger disproportionately low sympathy.<sup>1</sup> Consequently, scarce resources are allocated inefficiently and do not help as many people as they could.

Perhaps the most telling example of a sympathy bias is the identifiable victim effect first described by Thomas Schelling (1968). Resources are often concentrated on a single, identifiable victim, whereas they could save more lives if spread among all (if unidentified) victims (Jenni & Loewenstein, 1997; Small & Loewenstein, 2003). Although identifiable victims are portrayed in the media with vivid information, thereby enhancing emotionality and memorability (Nisbett & Ross, 1980), the effect need not require vividness. Small and Loewenstein (2003) found that simply describing a victim, without providing any additional information (vivid or not) about them, increased donations. Finally, research by Kogut and Ritov (2005a) further demonstrated that a single identifiable victim (represented by a name and a face) induced more emotional distress than a group of identifiable victims suggesting that even with identification, emotion can be inversely related to scope of victimization. Moreover, differences in negative emotion partially accounted for the differences in donations.

Another sympathy bias results in the proportion of lives saved carrying more weight than the number of lives saved (Baron, 1997; Fetherstonhaugh, Slovic, Johnson, & Friedrich, 1997; Friedrich et al., 1999; Jenni & Loewenstein, 1997). As has been found in other perceptual and cognitive domains, the value placed on saving human lives seems to follow a psychophysical function such that a single life is valued much less when the at-risk population is large than when it is small. As with the identifiable victim effect, the subjective value of saving a life is swayed by an affective response.

The evidence amassed on the identifiable victim effect and the proportion of the reference group effect are poignant testimony of the power of sympathy biases, because (in a rational universe) larger absolute numbers of victims *should*, normatively-speaking, compel greater prosocial action. However, sympathy does not always prevail when people are making judgments and decisions about aid. Research shows that certain moderators lead people to discount their emotional response and instead abide by more utilitarian principles, such as a sensitivity to quantity (Small, Loewenstein, & Slovic, 2007; Kogut & Ritov, 2005b). For instance, Kogut and Ritov (2005b) show that contributions toward a single victim exceed contributions for a group of victims when these are judged separately, but the opposite is true when one has to choose between contributing to the single victim or the group of victims (see also Hsee & Rottenstreich, 2004). In other words, people feel more sympathetic towards one victim than towards many, but they are appropriately sensitive to quantity in choice because quantity is more evaluable in that context.

Nevertheless, many real world situations are more like separate evaluation than joint evaluation, and tragedies involving large, abstract numbers fail to move people to action (Slovic, 2007). These psychological biases may help to explain some of the discrepancies between emotion and rationality, between optimal and actual giving. However, they do not directly address the discrepancy between giving for catastrophes and giving for the kinds of ongoing chronic conditions named in the introduction.

### Reference dependence and sympathy

The notion of reference dependence appeared in early theories of judgment, including adaptation-level theory (Helson, 1964),

<sup>1</sup> I use the term sympathy here to refer broadly to negative emotion in response to others' suffering. Other varieties of negative emotion are likely similarly affected by reference points, but I focus on sympathy because it is thought to be the predominant emotional response in this context.

range–frequency theory (Parducci, 1965), and most notably prospect theory (Kahneman & Tversky, 1979). Adaptation-level theory asserts that judgment of an event is proportional to its deviation from the mean value of other events, which is considered to be the adaptation level (Helson, 1964). Brickman and Campbell (1971) extended this notion and proposed that a similar process of adaptation applies to the hedonic value of one's life circumstances. However, they did not consider judgments of the value of others' life circumstances. Range–frequency theory also focused on perceptual judgments and similarly claimed that the subjective value of an attribute was independent of its absolute value (Parducci, 1965). It differed from adaptation-level theory by arguing that both the range of stimuli and the stimulus rank determine the subjective value. Finally, prospect theory incorporated these ideas from psychophysics into a descriptive model of choice. Specifically, the value function  $v(x)$  assesses outcomes in terms of the change they represent from some reference point, which is often the current status. Following several decades of domination by expected utility theory (EUT) as both a normative and descriptive model of decision making under uncertainty, prospect theory served as a substantial improvement as a descriptive theory because it could account for the many anomalies of EUT that led researchers to question its viability as a descriptive model. Reference dependence was particularly important in the extension of prospect theory to the domain of riskless choice because it could help explain phenomena such as the endowment effect and status quo bias that depend on the reference level (Tversky & Kahneman, 1991).

Despite the solid empirical evidence supporting the significance of reference points and other key aspects of prospect theory, its influence has mostly been examined in regard to individual choice with respect to the self. That is, most research examines the utility that individual  $i$  receives from different choice options or gambling prospects affecting  $i$ 's welfare. It has not generally been applied to contexts in which individuals make decisions with respect to others.

However, a few papers suggest that reference points are used to evaluate others' welfare. Lee and Murnighan (2001) consider the gain/loss asymmetry of prospect theory in a helping context and find that intentions to help another person are stronger when helping is framed as avoiding a loss for that person, compared with achieving a gain for the same person. Furthermore, Lacey et al. (2006) found that healthy patients judge the quality of life of patients with lung disease differently from other patients with lung disease, suggesting that people use their own state as a reference point when judging the quality of life of others. Moreover, research on affective forecasting finds that when predicting one's future welfare (analogous to predicting another person's welfare), people overestimate the impact and duration of negative emotions related to a loss (e.g., Gilbert, Pinel, Wilson, Blumberg, & Wheatley, 1998; Halpern & Arnold, 2007). Yet the notion that utility is based on changes, not states, has not been examined for preferences regarding others' needs.

### The present research

This paper asks the following question: how does one respond to any given victim's misfortune? Building on the notion of reference dependence, I argue that it is not simply the victim's state of disutility that affects sympathy, but rather the discrepancy between that state and the reference point (typically, the previous state). Because sympathy is based on a change, not a state, according to this prediction, people experiencing loss will receive greater sympathy than people with chronic misfortune.

Examples of events that induce high sympathy, such as the Asian Tsunami and Hurricane Katrina, compared to events that induce less sympathy, such as AIDS and malaria, are consistent with this prediction. However, other factors could confound the ability to draw valid inferences. For instance, it is difficult to tell whether the public response to the tsunami was a result of unprecedented media coverage or its occurrence during the Western year-end holidays. Likewise, a bias towards relief rather than prevention could reflect a bias for certain versus uncertain outcomes. Therefore, it is imperative to conduct controlled experiments to properly examine whether sympathy and giving depend on an absolute valuation of others' welfare or if they are reference-dependent.

The four studies described below test the predictions with distinct methods and measures. Yet each of them involves two forms of victims: victims in a chronically-bad state (referred to as 'constant-state victims') and victims who have just experienced a loss ('loss victims'). The studies are carefully designed to ensure that the state of disutility remains constant across conditions but the reference point (either a better previous state or the same, chronically-bad state) varies. Study 1 examines emotional responses toward hypothetical individuals who suffer from health conditions that are described as either chronic or recently acquired. Study 2 utilizes a different paradigm based on the dictator game involving real, sacrificial giving choices to recipients who either lost cash or were chronically cashless. Study 3 examines judgments of deservingness/appropriateness of aiding different hypothetical victims. In Study 3a, participants only judge either victims of chronic conditions or victims of recently acquired conditions (i.e., a between-subjects manipulation), whereas in Study 3b, participants explicitly contrast the two types of victims to see if people are reference-dependent in a comparative context. Finally, Study 4 examines one moderator of the basic effect: whether the target victim(s) are identifiable or statistical. If reference-dependent sympathy is driven by an affective response, then the effect should be moderated by the affective quality of the target. Across each study, I control for the variety of confounds present in real-world hardships to establish the impact of reference dependence on both sympathy and giving.

### Study 1

Study 1 examined the primary hypothesis. A survey asked participants to judge their sympathy toward people with various health conditions and disabilities, either chronic or of recent onset. Health is a suitable domain to test the hypothesis because health problems can be either acquired or chronic. I expected for there to be greater sympathy for newly acquired hardships than for chronic hardships because "new" entails a significant loss whereas "chronic" represents an ongoing state.

### Method

#### Participants

I surveyed 121 participants (60% female) who were mainly students and staff members at a university. They each received \$10 for participating in an hour-long session of unrelated studies, including this one. The survey took approximately 10 min.

#### Design and procedures

The survey was entitled, "Evaluating Health Disabilities." Participants read about the following three different individuals: (1) Ann, who is blind, (2) Joe, who has a bone disorder that causes no pain but prohibits him from walking, and (3) Jill, who is completely deaf. Instructions indicated that the three individuals were

approximately the same age as the research participants and that their conditions were caused by random chance, not behavior or heredity.

Participants were randomly assigned to one of two conditions. In the constant-state victim condition, the instructions stated that each of the individuals had the described condition for their entire lives. In the loss victim condition, the instructions stated that each of the individuals had recently developed the condition described. The conditions were otherwise identically described. Thus, each participant evaluated multiple individuals, but each set contained either all loss victims or all constant-state victims.

After learning about each individual, participants answered questions assessing three related constructs. The first construct was the participant's emotional response to the victim. Items included: "How sympathetic to you feel toward Ann?" and "How emotional do you feel toward Ann?" The second construct was the perception of disutility experienced by the individual. Items assessing perceived disutility included: "How much do you think that Ann has suffered as a result of the condition described?", "How unhappy is Ann?", and "How sad is Ann?" Finally, the third construct assessed perspective-taking by asking participants "How easy is it to imagine being in Ann's shoes?" The questions followed the same format for the other two individuals (Joe and Jill).

Each of these questions was answered using a 7-point scale. Question order was randomized.

### Results

Table 1 presents the means by condition and overall for sympathy, perceived disutility, and perspective-taking for each of the three hypothetical cases. Using an average score of the items in the sympathy construct ( $\alpha$ 's ranging from .71 to .76), an average score of the items in the perceived disutility construct ( $\alpha$ 's ranging from .83 to .88), and the perspective-taking item for each individual evaluated, joint tests of the effects on all three victims were conducted.

In support of the hypothesis, a repeated-measures ANOVA on sympathy with victim type (constant-state or loss) as the between-subjects variable and victim (Ann, Joe, Jill) as the within subjects variable revealed that the manipulation of victim type had a significant effect,  $F(1, 118) = 7.65, p < .01, \eta_p^2 = .06$ . There was also a main effect of victim type when the dependent variable was perceived disutility rather than sympathy,  $F(1, 118) = 50.15, p < .001, \eta_p^2 = .29$ . There was no effect of victim type on perspective-taking,  $F(1, 118) = .03, p = ns, \eta_p^2 = .00$ . Moreover, independent

**Table 1**  
Reactions to individuals with health disabilities, Study 1.

	Overall	Constant-state victim	Loss victim
<i>Sympathy</i>			
Ann-blindness	5.57 (1.05)	5.30 (1.16)	5.84 (.87)**
Joe-bone disorder	5.33 (1.03)	5.12 (1.06)	5.52 (.99)*
Jill-deafness	5.12 (1.13)	4.92 (1.17)	5.33 (1.06)*
<i>Perceived disutility</i>			
Ann-blindness	5.60 (1.16)	4.88 (1.14)	6.32 (.60)***
Joe-bone disorder	5.53 (.97)	5.16 (.99)	5.90 (.81)***
Jill-deafness	5.12 (1.19)	4.60 (1.20)	5.64 (.94)***
<i>Perspective-taking</i>			
Ann-blindness	3.08 (1.65)	2.93 (1.55)	3.25 (1.74)
Joe-bone disorder	3.35 (1.74)	3.41 (1.65)	3.31 (1.83)
Jill-deafness	2.97 (1.66)	3.02 (1.57)	2.93 (1.77)

Notes. Standard deviations are in parentheses.

\* Denotes loss victim greater than constant-state victim at  $p < .05$ .

\*\* Denotes loss victim greater than constant-state victim at  $p < .01$ .

\*\*\* Denotes loss victim greater than constant-state victim at  $p < .001$ .

*t*-tests on each of the three victims found that for every victim, the means for both sympathy and perceived disutility were significantly greater in the loss victim condition than in the constant-state victim condition ( $p$ 's < .05). *T*-tests on perspective-taking found no differences between the two conditions for any of the three victims ( $p$ 's = ns).

This study represents the first evidence that emotional responses (i.e., sympathy) directed toward others in need are greater for needs that involve a clear loss than for equivalent needs that involve a chronic misfortune. The next study measures real generous behavior.

## Study 2

Study 2 examined the hypothesis using an anonymous allocation task based on the “dictator” game developed for economics research (Camerer & Thaler, 1995). In this task, “fortunate” participants can give real money to “unfortunate” recipients. The task is adapted to test the hypothesis that sympathy and generosity vary by whether monetary level results from loss or is a chronic state.

### Method

#### Participants

A total of 190 individuals (58% female) participated in a series of studies, including this one, in exchange for \$10 plus any additional payment resulting from this task. Each session included 12–14 participants. Seated in private cubicles, they were assured that all decisions and outcomes of decisions would be anonymous (i.e., they would not learn what other participants decided or earned) and that payments would be real.

#### Design and procedures

At the start of each session, each participant drew a random number from a bag passed to them by the experimenter. They were instructed that the number was unique and that the identity (name and number) of other participants would never be revealed to them, nor would the others find out their identity.

Each session was randomly assigned either to the constant-state victim or the loss victim condition. In the constant-state victim sessions, participants were instructed that the experiment requires that some of the participants begin the task with \$10 and some begin with \$0. To create this situation, each participant drew a card from a bag when the experimenter visited her cubicle. Half of the cards said \$10; the other half said \$0. Those who drew the \$10 card were given 40 paper tokens worth \$0.25 each. Those who drew a \$0 card got no tokens and were instructed to place their number card in a separate bag.

In the loss victim sessions, all participants began the task with 40 tokens worth \$0.25 each. Afterwards, they drew a card that had either \$10 or \$0 written on it. Instructions explained to all participants that participants who drew a \$10 card would keep all of their tokens, but participants who drew a \$0 card must forfeit their tokens to the experimenter and place their number card in a separate bag.

Note that in both conditions, the “fortunate” participants knew about the structure of the experiment. In the constant-state victim sessions, they knew that others have \$0 from the start of the experiment, and in the loss victim sessions, they knew that others had \$10 at the start and lost it. Thus, the crux of this manipulation was that all “less-fortunates” had \$0 – however, in the loss victim sessions, they fell to that level, whereas in the constant-state victim sessions, they started cashless and stayed that way.

Each participant with 40 tokens drew the number of a participant who had \$0 and could allocate any of their tokens to the person with that number – even though they would never learn

that person's identity. Instructions reminded participants that allocations were real. Tokens kept would be redeemed for real money for the self; tokens donated would be redeemed by the person whose number was drawn.

Following the allocation decision, all participants who allocated tokens rated the degree to which they felt any of a long list of feelings from Batson's empathy scale (see Batson, 1991 for review). The sympathy measure used in the analyses below consisted of an average of the four items that in previous research have been shown to predict prosocial behavior: *sympathetic, softhearted, compassionate, and tender* ( $\alpha = .84$ ). Respondents rated each item on a scale ranging from 1 (None at all) to 7 (An extreme amount).

### Results

Consistent with the hypothesis, allocators gave more to recipients who had lost ( $M = \$1.97$ ,  $SD = \$2.10$ ) than to recipients who stayed constant ( $M = \$1.16$ ,  $SD = \$1.53$ ),  $t(93) = 2.16$ ,  $p < .05$ ,  $d = .44$ . Allocators also reported greater sympathy toward recipients who had lost ( $M = 2.85$ ,  $SD = 1.14$ ) than recipients who stayed constant ( $M = 2.24$ ,  $SD = 1.07$ ),  $t(92) = 2.66$ ,  $p < .01$ ,  $d = .55$ . Moreover, sympathy mediated the effect of victim type on giving, following Baron and Kenny's (1986) procedure. A regression with victim type and sympathy as independent variables, and giving as the dependent variable, revealed that although the beta-value for victim type was no longer significant ( $p = .26$ ), the beta-value for sympathy remained significant (.001). Table 2 presents the correlations between sympathy and allocations overall and within each experimental condition.

In sum, the data show that prosocial behavior is not simply a function of others' states, but additionally responds to whether that state is chronic or has changed. Others' outcomes that stem from a loss receive greater generosity than equal, but unchanging outcomes. Furthermore, this pattern is driven by enhanced sympathy towards others who have experienced a loss, even when the reference point was just established a few minutes prior.

### Discussion

Utilitarianism maintains that value is a function of states and thus is *independent* of reference points (Bernoulli, 1954). The results of Studies 1 and 2, however, find that reference dependence is a more plausible descriptive model of how people value others' welfare. The question remains whether individuals endorse the utilitarian framework when considering the appropriateness of aid decisions or if they instead endorse a reference-dependent policy in line with their sympathy judgments. Moreover, do certain contexts lead to more or less reference-dependent judgments and decisions? Studies 3 and 4 address this question.

## Study 3

Study 3 builds upon the results of the prior studies by examining judgments of deservingness and the appropriateness

**Table 2**  
Descriptive statistics by condition and overall in Study 2.

	Constant-state victim	Loss victim	Overall
<i>N</i>	48	47	95
Sympathy mean	2.24 (1.07)	2.85 (1.14)	2.54 (1.14)
Mean amount donated	\$1.16 (1.53)	\$1.97 (2.10)	\$1.56 (\$1.87)
<i>r</i> of sympathy and amount donated	.45**	.25*	.36**

\* Denotes loss a significant correlation at  $p < .05$ .

\*\* Denotes loss a significant correlation at  $p < .01$ .

**Table 3**  
Means and standard deviations by victim scenario in Study 3.

	Between subjects version (Study 3a)			Comparative version (Study 3b)		
	Overall	Constant-state victim	Loss victim	Mean	SD	Percent reporting equality (%)
<i>Deserve sympathy</i>						
Ann-blindness	4.28 (.79)	4.10 (.89)	4.47 (.63)**	3.12	.68	64.1
Joe-bone disorder	4.14 (.82)	4.02 (.90)	4.25 (.73)	3.01	.69	71.8
Jill-deafness	4.03 (.94)	3.80 (1.02)	4.27 (.79)**	3.24*	.82	65.4
<i>Aid allocation</i>						
Ann-blindness	3.90 (.84)	3.78 (.83)	4.02 (.85)*	3.10	.59	64.0
Joe-bone disorder	3.75 (.85)	3.71 (.85)	3.78 (.86)	3.01	.55	74.4
Jill-deafness	3.65 (.96)	3.43 (.94)	3.87 (.93)**	3.15**	.49	74.4
<i>Happy (reverse-scored)</i>						
Ann-blindness	2.53 (1.10)	1.78 (.81)	3.28 (.79)***	4.46***	.77	12.8
Joe-bone disorder	2.50 (.95)	2.00 (.80)	3.00 (.83)***	3.92***	1.10	21.8
Jill-deafness	2.36 (1.05)	1.70 (.76)	3.02 (.87)***	4.36***	.81	12.8
<i>Suffering</i>						
Ann-blindness	3.45 (1.10)	2.90 (.98)	3.99 (.93)***	3.83***	.87	28.2
Joe-bone disorder	3.17 (1.00)	2.95 (.99)	3.40 (.96)**	3.31**	.97	47.4
Jill-deafness	3.06 (1.09)	2.65 (.97)	3.47 (1.05)***	3.74***	1.01	24.4

Notes.

Left side (between subjects version):

Standard deviations are in parentheses.

\*Denotes loss victim greater than chronic-state victim at  $p < .05$ , \*\*at  $p < .01$ , \*\*\*at  $p < .001$ .

Right side (comparative version):

Response scales ranged from 1 (constant-state victim much more) to 5 (loss victim much more). The midpoint (3) denoted equality between the two victims of the same disorder.

\*Denotes that the mean is significantly different from the midpoint (3) at  $p < .05$ , \*\*at  $p < .01$ , \*\*\*at  $p < .001$ .

of providing aid to victims, rather than soliciting participants' emotional responses or asking them to forfeit money. I predicted that judgments of deservingness of sympathy and aid would likewise be reference-dependent when a single victim is judged.

A second goal of this study is to explore how judgments shift when targets of need are presented in comparison, rather than in isolation. Prior research using a joint versus separate evaluation paradigm finds that people behave in a less utilitarian fashion, basing their valuation on emotional responses rather than scope, when evaluating prospects separately rather than comparing them (Hsee & Rottenstreich, 2004; Kogut & Ritov, 2005b). This shift occurs because joint evaluation mode allows participants to more easily evaluate the attribute that they think should matter, which is the absolute quantity, or in the case of aid-giving, the objective state of the victim. When judged in isolation, absolute states are hard to evaluate, so easier to evaluate cues, such as emotional responses, exert a greater weight on judgments and decisions (Hsee & Rottenstreich, 2004). Consistent with this logic, I expect that reference-dependent sympathy will be mitigated when individuals evaluate victims jointly as opposed to separately. To test this, I conducted two different versions of the study (Studies 3a and 3b), in which participants make such judgments either separately or comparatively.

### Study 3a

As in Study 2, participants read about victims suffering from health conditions which were described as either recently acquired or chronic. Rather than asking participants to report their own feelings as in Study 2, the questions instead focused on the deservingness and appropriateness of aiding the victims as well as perceptions of the victims' suffering.

### Participants

A total of 165 participants (different from those who participated in the previous studies) filled out a short survey entitled "Appropriate Giving" as part of an hour-long series of unrelated studies, in exchange for a \$10 show-up fee.

### Survey design

The survey began by instructing participants to think about the appropriateness of helping various victims. Again, they evaluated Ann/blindness, Joe/bone disorder, and Jill/deafness. As in Study 1, if a participant was in the constant-state victim condition, all three of these victims' conditions were described to be chronic, whereas they were all described to be of recent onset if a participant was in the loss victim condition.

Participants were asked four questions for each victim on a 1–5 scale. The first two focused on evaluations of deservingness and aid allocation: (1) *How deserving is Ann Chronic of sympathy?* (2) *How much aid should be allocated to Ann Chronic?* The latter two focused on perceived suffering: (3) *How happy is Ann Chronic? and* (4) *How much does Ann Chronic suffer?*

### Results

Table 3 presents Means and Standard Deviations of each survey item for each victim by condition, and Table 4 presents intercorrelations for the survey items within each experimental condition and overall. To jointly examine the reactions to the three victims, I conducted a repeated-measures ANOVA on each survey item with the victims as the within-subject variable and condition (constant-state or loss) as the between-subjects variable. Consistent with the results of the previous studies, loss victims were deemed more deserving of sympathy than constant-state victims,  $F(1, 164) = 9.32, p < .01, \eta_p^2 = .05$ , and participants believed that loss victims should receive more aid than constant-state victims,  $F(1, 163) = 4.05, p < .05, \eta_p^2 = .02$ . Loss victims were also perceived to be less happy,  $F(1, 164) = 138.62, p < .001, \eta_p^2 = .46$ , and to suffer more,  $F(1, 164) = 36.72, p < .001, \eta_p^2 = .18$ .<sup>2</sup>

In sum, Study 3a found that deservingness of sympathy/ aid were greater for victims of a loss than for victims of a chronic condition and the same was found with perceptions of suffering/

<sup>2</sup> The correlations between deservingness judgments and perceived suffering did not differ by condition.

**Table 4**  
Intercorrelations between items for each victim scenario, Study 3.

	Study 3a Between subjects version												Study 3b Comparative version			
	Overall				Constant-state Victims only				Loss victims only				1	2	3	4
	1	2	3	4	1	2	3	4	1	2	3	4				
	Ann-blindness (N = 165)				Ann-blindness (N = 83)				Ann-blindness (N = 82)				Ann-blindness (N = 78)			
Deserve sympathy	–	.42**	.29**	.34**	–	.46*	.08	.30**	–	.33**	.32**	.19	–	.42**	.17	.14
Aid allocation	–	–	.24**	.26**	–	–	–.13	.32**	–	–	.26*	.12	–	–	.15	.03
Happy (reverse-scored)	–	–	–	.63**	–	–	–	.37**	–	–	–	–	–	–	–	.21
Suffering	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	Joe-bone disorder (N = 165)				Joe-bone disorder (N = 83)				Joe-bone disorder (N = 82)				Joe-bone disorder (N = 78)			
Deserve sympathy	–	.54**	.15	.29**	–	.55**	.02	.24*	–	.54**	.16	.31**	–	.55**	.34**	.25*
Aid allocation	–	–	.17*	.23**	–	–	.13	.29**	–	–	.22*	.17	–	–	.33**	.16
Happy (reverse-scored)	–	–	–	.47**	–	–	–	.42**	–	–	–	.42**	–	–	–	.46**
Suffering	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	Jill-deafness (N = 165)				Jill-deafness (N = 83)				Jill-deafness (N = 82)				Jill-deafness (N = 78)			
Deserve sympathy	–	.52**	.32**	.37**	–	.54**	.2	.38**	–	.42**	.21	.21	–	.26*	.08	.22
Aid allocation	–	–	.29**	.36**	–	–	.2	.38**	–	–	.18	.22	–	–	.09	.11
Happy (reverse-scored)	–	–	–	.56**	–	–	–	.40**	–	–	–	.47**	–	–	–	.37**
Suffering	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

\* Denotes correlation is significant at the .05 level.  
\*\* Denotes correlation is significant at the .01 level.

happiness. Study 3b asks participants to judge each type of victim in comparison rather than in isolation.

**Study 3b**

**Participants**

A total of 78 participants completed a nearly identical survey entitled “Appropriate Giving” as part of an hour-long series of unrelated studies, in exchange for a \$10 show-up fee.

**Survey design**

The survey described the same three victims and assessed the same constructs as Study 3a. However, the survey described both the loss and constant-state version of each of the three individuals as follows:

Imagine two women, both named Ann, who are both completely blind. The only difference is that Ann Chronic has been blind her entire life whereas Ann Sudden just became blind.

The other two hypothetical individuals used in the previous studies were similarly described such that people could comparatively evaluate the deservingness of loss and constant-state victims. Following each comparative description, participants were asked four questions. They were: (1) “Who is more deserving of sympathy?” (on a scale from 1-“Ann Chronic is much more deserving” to 5-“Ann Sudden is much more deserving”, with a midpoint labeled “Both are equally deserving”); (2) “How should aid allocations be distributed?” (on a scale from 1-“All aid to Ann Chronic” to 5-“All aid to Ann Sudden”, with a midpoint labeled “Split aid equally”); (3) “Which Ann is less happy?” (on a scale from 1-“Ann Chronic is less happy” to 5-“Ann Sudden is less happy”, with a midpoint labeled “Both are equally unhappy”); and (4) “Which Ann suffers more?” (on a scale from 1-“Ann Chronic suffers more” to 5-“Ann Sudden suffers more”, with a midpoint labeled “Both suffer equally”). The description and questions followed the same format for the other two individuals described in Study 1 (Joe with bone disorder and Jill who is deaf).

**Results**

Table 3 presents the Means and Standard Deviations of all survey item, and Table 4 presents the intercorrelations between the items. Most people believe that both the constant-state and loss

victims are equally deserving of sympathy and aid. Indeed, results of one-sample *t*-tests comparing the average across the three individuals of each survey item to the midpoint of the scale show just a slight preference for loss victims, albeit not significant at the .05 level for both deservingness of sympathy ( $M = 3.12, SD = .62, t(77) = 1.76, p = .082$  and aid allocation ( $M = 3.09, SD = 4.29, t(77) = 1.85, p = .07$ ). Indeed, 56.4% of participants answered “equally deserving of sympathy” for all three individuals and 60.3% answered “equal distribution of aid” for all three individuals.

However, participants no longer perceived constant-state and loss victims as identical when the questions shifted to their happiness and suffering. More consistent with results in Study 3a, loss victims were perceived to be much less happy than constant-state victims ( $M = 4.25, SD = .73, t(77) = 15.01, p < .001$ ). Only 6.4% of participants answered “equally unhappy” for all three individuals. Participants also reported that loss victims were suffering more ( $M = 3.63, SD = .77, t(77) = 7.21, p < .001$ ; just 15.4% of participants answered that suffering was equal for each of the three individuals.

**Discussion**

Study 3 reveals an interesting pattern that suggests when and why reference-dependent effects emerge in reactions towards victims. Using new measures of deservingness, the effects of the previous studies are replicated, consistent with prior research finding that the same psychological processes influence sympathy and deservingness of help judgments (c.f., Weiner, 1980). However, when victims are judged comparatively, the state of the victim is more evaluable. As a result, most people judge constant-state and loss victims as equally deserving in spite of their acknowledgment that loss victims are suffering more than constant-state victims. These findings are consistent with research using the joint versus separate evaluation paradigm, which finds that people behave in a more utilitarian fashion, becoming sensitive to scope when comparing prospects rather than evaluating them separately (Hsee & Rottenstreich, 2004; Kogut & Ritov, 2005b). Without a point of comparison, the absolute state is not easy to evaluate so judgments are affected by the reference point of the previous state. With a point of comparison (i.e., the other type of victim), the absolute state becomes evaluable. People may be less swayed by their emotional responses and thus more prone to adhere to utilitarian principles, when the state is easy to evaluate.

If the reference point of a previous state causes aid judgments and decisions to be distorted by sympathetic feelings, then one might also expect that such distortions would depend on how sympathetic the target is. In the previous studies, the target was always a single, identifiable victim, which much previous research finds is a highly sympathetic target (e.g., Kogut & Ritov, 2005a; Small & Loewenstein, 2003). In contrast, statistical victims evoke a less sympathetic response. Therefore, Study 4 examines whether the affective quality of the victims moderates the effect.

#### Study 4

Dual-process models in decision making theorize that people think in two distinct manners: one more affective/intuitive and the other more deliberative/calculative (e.g., Epstein, 1994; Kahneman & Frederick, 2002; Loewenstein & Small, 2007). Affect-rich targets tend to trigger intuitive thought whereas affect-poor targets tend to trigger deliberative thought, which tends to adhere more to utilitarian principles. (c.f., Rottenstreich & Hsee, 2001) Based on these divergent modes of thought, it seems likely that the affective quality of the target victims may moderate the effect.

In the three previous studies, the target was always one, identifiable victim and thus naturally affect-rich. Across these studies, the judgments and decisions appeared to be swayed by emotional responses (i.e., sympathy). The present study examines this issue by varying the affective quality of the victim description through a standard manipulation of identifiable versus statistical victims. I predict that the affect-rich identifiable victims of loss will be deemed more deserving than equivalent victims of chronic conditions, but this tendency will not prevail for affect-poor statistical victims. Indeed, I speculated a priori that the standard effect may actually reverse when the target is affect-poor because deliberative thought could cause people to also take into consideration the past duration of the misfortune in addition to the objective current state when judging deservingness of aid.<sup>3</sup>

Study 4 also addresses one possible limitation in Studies 1 and 3 – that some of the victims in the previous scenarios (e.g., blindness and deafness) experience different needs if they were born with the disability as compared to victims who must learn how to functionally cope with the disability (e.g., by learning Braille and sign language). Although this cannot explain the results in Study 2 and is less true for the third scenario, a bone disorder, I opted to describe a different misfortune in Study 3 that does not entail obvious functional coping differences.

#### Methods

This study consisted of a 2(constant-state victim/loss victim)  $\times$  2(identifiable victim/statistical victims) between-subjects design. Participants read a description about victim(s) of a rare and untreatable neurological disorder. Building on a research on the identifiable victim effect, I varied the identifiability of the target victim(s) as a means of altering the mode of thought.

#### Participants

A total of 1097 participants filled out the brief survey entitled “Appropriate Giving” as part of an hour long compilation of unrelated research studies in exchange for \$10.

<sup>3</sup> It is important to note that using identifiable vs. statistical victims as a proxy for affect-rich and affect-poor targets does not imply all causes that affect statistical victims are affect-poor. Indeed, many of the misfortunes discussed in the introduction (e.g., Hurricane Katrina) received much sympathy and support for a variety of other reasons independent of the identifiability. In the experiment however, controlled manipulation of identifiability of the target allows for testing emotional versus deliberative thinking as a moderator of reference-dependence.

#### Survey design

The survey varied by experimental condition. In the identifiable/loss victim condition, participants viewed a picture of a woman expressing neutral emotion and a description stating:

Jill **recently acquired** a rare and untreatable neurological disorder, which she acquired randomly to no fault of her own or heredity. The symptoms include severe headaches and nausea. She is still able to function in her job and daily activities but she suffers from the pain and rarely participates in social activities because she does not have the energy.

The picture was the same in the identifiable/constant-state victim condition. However, Jill was described as having had the disorder for most of her adult life. All other details in the passage were identical.

In the statistical/loss condition, participants viewed a description (without picture) stating:

Dozens of women have **recently acquired** a rare and untreatable neurological disorder, which they acquired randomly to no fault of their own or heredity. The symptoms include severe headaches and nausea. They are still able to function in their jobs and daily activities but they suffer from the pain and rarely participate in social activities because they lack energy.

In the statistical/constant-state condition, participants read about the dozens of women who had the disorder for most of their adult lives. All other details in the passage were identical.

Following this description, participants responded to the same four questions as in the previous study: (1) *How deserving is Jill of sympathy?* (2) *How much aid should be allocated to Jill?* (3) *How happy is Jill and* (4) *How much does Jill suffer?* All items were rated on a 1–5 scale. In the statistical victims conditions, “Jill” was replaced by “these women”.

#### Results

Table 5 presents the Means and Standard Deviations of each item in each condition and the intercorrelations between the items. I conducted a 2  $\times$  2 ANOVA on each of the four survey items. The ANOVA on deservingness of sympathy revealed no main effect for either victim type,  $F(1, 193) = .57$ , or identifiability,  $F(1, 193) = 2.57$ . However a significant interaction between victim type and identifiability emerged,  $F(1, 193) = 19.00$ ,  $p < .01$ ,  $\eta_p^2 = .09$ . Consistent with the previous studies, an identifiable loss victim was judged as more deserving of sympathy than an identifiable constant-state victim,  $F(1, 193) = 13.28$ ,  $p < .01$ . However, in the statistical victims condition, the opposite pattern emerged: the constant-state victims were judged more deserving of sympathy than were loss victims,  $F(1, 193) = 6.41$ ,  $p < .05$ . The same pattern emerged when the dependent variable was aid allocation, rather than deservingness of sympathy: neither main effect was significant,  $F(1, 193) = .08$  and  $F(1, 193) = 1.21$ , respectively. However the interaction between the two was significant,  $F(1, 193) = 5.91$ ,  $p < .05$ ,  $\eta_p^2 = .03$ . On this item, the difference in the identifiable condition did not reach significance,  $F(1, 193) = 2.33$ ,  $p = .13$ . In the statistical victims condition, participants recommended greater aid to the constant-state victims than to the loss victims,  $F(1, 193) = 3.64$ ,  $p = .05$ . The ANOVAs on perceived happiness and suffering revealed no main effects or interactions.<sup>4</sup>

<sup>4</sup> Surprisingly, in the constant-state conditions, participants judged statistical victims as significantly more deserving of sympathy and aid than identifiable victims ( $p < .05$ ). This unexpected effect runs counter to the typical theorized pattern: identifiable victims receive greater sympathy than statistical victims. Future research could explore permanence of victim status as a potential moderator of the identifiable victim effect.



**Table 5**  
Means, standard deviations, and intercorrelations in Study 4.

Victim type	Identifiable victim		Statistical victims		Intercorrelations between items			
	Constant-state	Loss	Constant-state	Loss	1	2	3	4
Deserve sympathy	3.58 (1.01)	4.22 (.62)**	4.33 (.75)	3.88 (1.06)*	–	.56**	.26**	.04
Aid allocation	3.24 (1.09)	3.54 (.91)	3.73 (1.02)	3.35 (.89)*		–	.40**	.04
Happy (reverse-scored)	4.46 (.50)	4.26 (.56)	4.33 (.59)	4.35 (.61)			–	–.02
Suffering	3.46 (.99)	3.58 (.86)	3.55 (.94)	3.65 (.76)				–

Notes.

Left side.

Standard deviations are in parentheses.

In the "Loss" columns, \*denotes a significant simple effect between constant-state and loss at the .05 level, \*\*at the .01 level.

Right side.

\*Denote significant correlation at the same levels of significance.

In sum, the tendency to judge victims of a loss as more deserving of aid and sympathy only occurs when the target is affect rich (i.e., an identifiable victim), but not when the target is affect-poor (statistical victims). Indeed, when the target is affect-poor, victims of chronic conditions are judged more deserving of sympathy and aid than victims of loss. This reversal could happen because when judgments are not based on feelings, people may weigh the duration of the hardship in addition to the objective current state. Nonetheless, the results support the theory that reference-dependent judgments and decisions are a function of emotional responses to changes in others welfare. That is, when judgments are feeling-based, others' losses hurt more than their chronic conditions. However, when judgments are made toward a pallid target, the emotional mechanism ceases to exert influence.

## General discussion

Four studies find evidence that sympathy and generosity are reference-dependent, but also suggest that such effects on judgment may be mitigated under certain conditions. In Study 1, people reported greater sympathy towards victims of health disabilities when the conditions were described as being recently acquired as compared to when the same conditions were described as chronic. In Study 2, participants made real trade-offs between money for the self and money for someone less fortunate. Allocators could give to recipients who each had an equivalent endowment of \$0 at the time of allocation. However, sympathy and giving were greater when recipients had lost everything than when they started with nothing. Thus, in a controlled laboratory setting where real money is at stake, people exhibit reference-dependent social preferences. In Study 3, participants considered the victims' deservingness of sympathy and aid and the victims' disutility. Victims of loss were deemed more deserving than victims of chronic conditions when judged in isolation. However, when asked to judge victims of a loss and similar victims of chronic conditions in comparison, most participants indicated that they deserved equal treatment in spite of the perception that loss victims were suffering more. Thus, there appears to be a disconnect between people's reference-dependent sympathy and judgments and their endorsement of reference-independent utilitarian principles in a comparative context. This pattern is consistent with research on evaluability, in which people tend to overweight easy to evaluate attributes in separate evaluation relative to the attributes that matter more to them, but are hard to evaluate. For instance, Hsee (1998) found that two identical-sized ice cream cups are valued equivalently in joint evaluation, but the over-filled cup is valued more than the under-filled cup in separate evaluation where it is difficult to evaluate the absolute magnitude. Finally, Study 4 examines an important moderator of the effect—whether the target is affect-rich or affect-poor. Utilizing a standard identifiable versus

statistical victims manipulation, this study finds that only affect-rich, identifiable loss victims are judged more deserving, but not affect-poor, statistical victims of loss. This finding lends support to the key theoretical claim that reference-dependent aid judgments are driven by emotion-based thought; when the victim description is unemotional, the effect does not persist.

## Future directions

Outstanding questions remain. First, questions remain about whether reference-dependent sympathy is truly a bias. In a purely consequentialist framework for which only objective states matter, the discrepancy in judgments and decisions toward loss and constant-state victims of the same objective state violates the normative model (Baron, 2008). Yet if subjective utility of the victim is incorporated into the normative choice, then decision makers could be doing the right thing by helping those who suffer more, subjectively-speaking. The literature on hedonic adaptation (see Frederick & Loewenstein, 1999) demonstrates that people do suffer in the short-term when they experience a loss. Yet, they also tend to get over hardships fairly quickly. Therefore, when victims suffer from a loss, at that point in time they are probably feeling worse than victims who are in the same objective state, but have had time to adapt emotionally. Indeed across studies, participants expected that loss victims suffer more than constant-state victims even when judging them comparatively in Study 3b. Thus, in the short-run it makes some sense to provide greater aid to loss victims because their suffering exceeds that of the constant-state victims. However, in the long run, the loss victims will similarly adapt so it makes less sense to prioritize their afflictions.<sup>5</sup>

Hedonic adaptation certainly muddles our understanding of the "correct" or normative response regarding resource allocation in general, but there is another reason to argue that individuals are making a mistake when showing a preference for loss victims. Most participants make reference-independent judgments when judging loss and constant-state victims comparatively. According to research on preference reversals between joint and separate evaluation, this implies that individuals believe that objective harm is the more important criteria for allocating aid, but that objective harm is difficult to evaluate in separate evaluation. When judged comparatively, absolute states are easy to evaluate (Hsee & Rottenstreich, 2004).

However, this evidence does not definitely show that people are making a mistake in separate evaluation. An alternative account is that people are simply shifting the decision criteria used to judge

<sup>5</sup> If you take this logic to the extreme, then it makes no sense to help any victims because it will have no impact on their long-term well-being. However, it seems likely people value relieving short-term suffering, even if they understand and expect adaptation.

deservingness and aid. According to this account, people care both about objective states and subjective states, but that they weight these two considerations differently depending on features of the situation, such as whether victims are judged jointly or separately. Thus, people may treat loss and constant-state victims equally in joint evaluation not because this reflects their “true” preference to make decisions based on absolute states, but rather because this context makes the objective harm criterion more salient than the subjective harm criterion. Similarly, the fact that people make reference-dependent judgments toward identifiable, but not statistical victims in Study 4 might be because subjective harm is more salient when considering vivid, affect-rich targets than when considering pallid, affect-poor targets. In other words, reference-dependent sympathy may not be a sympathy “bias”. It may just be driven by the relative weight that people place on subjective versus objective harm.

Second, the studies here focus on one particular reference point, the previous state. Theoretically, other reference points such as the self, other people in similar situations, expectations, aspirations, etc. could similarly influence sympathy. I intentionally held these constant to mimic the uncontrolled real-world evidence that misfortune involving change prompts greater humanitarian aid than does chronic misfortune. Nonetheless, I expect that sympathy similarly depends on other salient reference points, and it would be interesting to explore which reference points naturally get incorporated into feelings of sympathy and aid decisions (see Fischhoff, 1983).

Similarly, the studies here focus on sympathy as an emotional driver, because it is thought to be the predominant emotional response directed towards victims. However, reference dependence likely has a broader effect on emotion directed towards others, including guilt, envy, and schadenfreude. These specific emotions presumably depend on the specific context involved, but the intensity of the emotional response is likely affected by reference points across specific emotions.

Third, the studies do not thoroughly examine the role of perspective-taking in generating sympathy for victims of losses. Research shows that people are more likely to take the perspective of similar others (Batson, Early, & Salvarani, 1997; Coke, Batson, & McDavis, 1978). When the previous state of a victim is comparable to one's own state (i.e., not a victim), people may be better equipped to put themselves in the shoes of this victim than when the victim was always a victim and thus not comparable to the self. For example, it may be easier to imagine falling into poverty or losing one's home, than it is to imagine always having been poor or homeless. After all, the former is possible for most participants whereas the latter is not.

Study 1 included a measure of perspective-taking and did not find support for this mechanism. Thus, it could be that the mechanism is more simplistic and direct—analogue to the original notion of reference dependence with respect to the self. Nevertheless, it would be useful to continue to probe for perspective-taking in future research.

Finally, it is worthwhile to consider how reference-dependent reactions to others applies to other domains in addition to the humanitarian aid examples in the introduction. Many recent events may have spurred a reference-dependent reaction in terms of the public and government's response. Public officials may feel a particularly strong obligation to “save” people in the face of home foreclosures and lay-offs and to bail out banks and other companies. Although these events are no doubt harmful to individuals and the economy, the sympathy and perception of disutility may be relatively greater for them than for other ongoing hardships because they all entail losses. Moreover, anecdotally it appears that there has been strong sympathy for the very wealthy individuals who suddenly witnessed their savings disappear in the wake of

the Bernard Madoff ponzi scheme. Once more, it is not that these individuals are undeserving of sympathy. However, when one considers the thousands of people in greater *objective* need, it is hard to justify greater sympathy for the former super-rich.

## Conclusion

Why people respond to adverse events but not protracted adversity can be understood through the lens of reference dependence. Although the reference dependence modeled in prospect theory was conceived to explain the value of outcomes for the self, this research suggests that feelings and behavior with respect to the outcomes of others similarly responds to changes in welfare, not just absolute states. The studies provide insight into how the hardships of others appeal to our emotions. Bearing reference dependence in mind, the government, media and humanitarian agencies can better appeal to sympathy by shifting the focus of attention away from states of need and instead to losses relative to a reference point. Only then may they begin to inspire the most effective response to humanity's most pressing needs.

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