

Research Article

The impact of mortality salience on the relative effectiveness of donation appeals[☆]

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Abstract

Some donation appeals emphasize the magnitude of the help that is needed. Other, “bandwagon” appeals emphasize the fact that many others have already donated. The relative effectiveness of these appeals can depend on individuals’ awareness of their mortality. Four experiments converge on the conclusion that need-focused appeals are effective when individuals are not conscious of their own mortality. When people’s mortality is salient, however, bandwagon appeals have relatively greater influence. This is particularly true when others’ donations have put the goal of the donation campaign within reach. These effects are evident when people have little a priori interest in the individuals being helped and sympathy does not play a major role in donation decisions.

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Introduction

People are frequently asked to donate time, money or other resources to help victims of natural disasters (earthquakes, famines, tsunamis, etc.). Many factors can influence the impact of such appeals. For example, people are particularly likely to help victims who are virtuous, who are not responsible for their predicament, and who elicit sympathy (e.g., Batson, 1990; Batson & Oleson, 1991; Miller, 1977). In many instances, however, individuals have little a priori interest in the victims of misfortune and might even dislike them. What factors determine the effectiveness of a donation appeal in such cases?

To answer this question, we distinguished between two types of appeals, each of which is based on a different assumption about the criterion that recipients use as a basis for their decisions to help. One, *need-focused* appeal emphasizes the magnitude of the need and the fact that many donations will be necessary in order to alleviate the problem at hand (e.g., Silverman, Robertson, Middlebrook, & Drabman, 1984; Vesterlund, 2003). The other, *bandwagon* appeal indicates that many others have already donated and that it is desirable to get on the “bandwagon.”

The criteria underlying the effectiveness of these appeals are not mutually exclusive. The need for help and the fact that many people have made a donation could both contribute to a donation decision. The relative effectiveness of these factors is likely to depend on the normative principle that recipients are likely to think about at the time they consider donating. People typically believe that although they should help persons in need, the help they should provide is proportional to the magnitude of this need (Smith, Faro, & Burson, 2013). To the extent this belief is salient, a need-focused appeal, which emphasizes that only a few people have donated and that a lot

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more help is required, should be effective. On the other hand, people might also believe that helping others is socially desirable (Cialdini, Reno, & Kallgren, 1990; Frey & Meier, 2004). If this belief is more salient, a bandwagon appeal should have more impact.

Numerous individual and situational differences can influence the application of these criteria (Finkelstein, 2008). However, the factor we examined, mortality salience, is of particular interest in light of the fact that victims' mortality is often a concern in the situations to which a donation appeal pertains (e.g., natural disasters). In such cases, the appeals could spontaneously call individuals' attention to their own mortality as well as that of the victims. With very few exceptions (e.g., Ferraro, Shiv, & Bettman, 2005), this factor has not been considered in research on donation behavior. Terror management theory (Greenberg, Solomon, & Pyszczynski, 1997; Solomon, Greenberg, Schimel, Arndt, & Pyszczynski, 2004), however, suggests that calling people's attention to their mortality can increase their motivation to defend their cultural worldview and to reaffirm the standards that are dominant in the society in which they live. Consequently, when others' behavior reflects what is socially desirable, and thus exemplifies the worldview that is dominant in the society at large, people whose mortality is salient may be motivated to conform to this behavior. If this is so, a bandwagon appeal might be particularly effective.

Four experiments confirmed this possibility. Participants whose mortality either had or had not been made salient received an appeal to help victims for whom they had little a priori interest or sympathy. We found that when people's mortality was not called to their attention, a need-focused appeal had more influence on their donation decisions than a bandwagon appeal. When individuals were made aware of their mortality, however, a bandwagon appeal had relatively greater impact.

Theoretical background

Effects of donation appeals

The willingness to donate money or other resources to a charity is undoubtedly influenced by factors that affect helping behavior in general. These factors include liking for the potential beneficiaries (Emmons & McCullough, 2004), feelings of social or personal responsibility (Latane & Darley, 1968), feelings of obligation to reciprocate the benefits one has received in the past (Schwartz, 1967), perceptions that the request is legitimate (Langer & Abelson, 1972) and perceptions of oneself as a generally helpful person (Langer & Abelson, 1972). People are also more willing to help when they expect to receive feedback that their efforts have been successful (Smith, Keating, & Stotland, 1989).

People's helping decisions can also be influenced by their feelings of social closeness to the persons in need of help (Cuddy, Rock, & Norton, 2007; Kogut & Ritov, 2007). These feelings can induce empathy and sympathy for the victims and can increase the desire to help them for this reason (Aron & Aron, 1986; Batson & Shaw, 1991; Cialdini, Brown, Lewis, Luce, & Neuberg, 1997; Hornstein, 1982). In the case of donation appeals, empathy can be

induced by a picture of the victim and the use of self-referencing in the text (Hung & Wyer, 2009). When empathy for victims elicits negative emotions, individuals can be stimulated to eliminate these emotions by helping to remedy the situation that gave rise to them (Bagozzi & Moore, 1994; Cunningham, Steinberg, & Grev, 1980).

Many of the aforementioned effects, however, assume that people feel sympathy for the individuals being helped and these feelings motivate them to eliminate the victims' suffering. When individuals have little a priori interest in the victims, empathy or sympathy is less likely to play a role. Ein-Gar and Levontin (2013), for example, found that although empathy increased participants' willingness to help a single individual, it had little impact on donations to a charitable organization. When people do not know the victims and have little if any positive regard for them, their donation behavior may be influenced primarily by criteria that they apply independently of their feelings of sympathy or empathy.

In the latter circumstances, two criteria may come into play. On one hand, people may believe they should provide help to those in need regardless of other considerations (Reed & Aquino, 2003; Winterich, Mittal, & Ross, 2009). If people hold this belief, they might base their donations on the principle that the help given should be proportional to the help needed (Smith et al., 2013). On the other hand, people might also believe that making a donation is socially desirable and might use others' donation behavior as an indication of its desirability. The differential effectiveness of the appeals we described earlier may reflect the relative impact of these criteria.

To reiterate, need-focused appeals emphasize that the amount of help already provided is substantially less than the amount required and so the need for help is particularly great. The effectiveness of these appeals may increase to the extent individuals invoke a social responsibility norm, an implication of which is the amount of help provided should increase with the amount required (Hsee & Rottenstreich, 2004; Slovic, 2007). As Slovic (2007) proposed, this norm is more likely to be applied when decisions are based on analytical thinking rather than feelings. Thus, for example, people donate more to four pandas than to one panda under conditions in which the appeal for help was unlikely to elicit affect (Hsee & Rottenstreich, 2004).

Unlike need-focused appeals, bandwagon appeals emphasize that many donations have already been made, suggesting that other people consider the victims to be deserving and believe the appeal's objectives to be socially desirable (Potters, Sefton, & Vesterlund, 2005, 2007). Therefore, if individuals are motivated to behave in a way that others consider to be appropriate, their donation decisions should be influenced by a bandwagon appeal. Mortality salience may provide this motivation.

Effects of mortality salience

Awareness of the inevitability of death can create anxiety. This anxiety, in turn, can have two related effects (Maheswaran & Agrawal, 2004). First, it can increase the desire to bolster one's social self-esteem (Greenberg et al., 1997; Pyszczynski, Solomon, & Greenberg, 2003). To this extent, it may increase

the desire to align one's beliefs and values with those of one's cultural in-group, thereby ensuring that one has others' approval (Renkema, Stapel, & Van Yperen, 2008).

Second, mortality salience can motivate individuals to confirm and strengthen their cultural worldview (Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004). Individuals' worldview provides a representation of reality that has order, permanence, and stability (Landau et al., 2004). Making individuals aware of their mortality intensifies their efforts to preserve this worldview, which may be part of their psychological "self" (Greenberg et al., 1997; Pyszczynski et al., 2004). Therefore, it can increase the favorableness of individuals' reactions to people who are similar to themselves and whose opinions are likely to confirm the validity of their worldview. At the same time, it might decrease the favorableness of their reactions to dissimilar others whose opinions might threaten their worldview (Greenberg et al., 1990; Harmon-Jones, Greenberg, Solomon, & Simon, 1996; Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989). Thus, for example, mortality salience can increase American participants' donation to an American charity organization but not to a foreign one (Jonas, Schimel, Greenberg, & Pyszczynski, 2002).

However, the effects of mortality salience on participants' negative reactions to out-group members can depend on the social norm that is salient to them at the time they make a decision (Gailliot, Stillman, Schmeichel, Maner, & Plant, 2008; Jonas et al., 2008). Gailliot et al. (2008), for example, found that mortality salience *decreased* people's prejudice against Blacks when egalitarian values were made salient to them. Moreover, it increased helping behavior when participants were reminded that a "core" American value was to help others. In the present context, these findings suggest that if mortality salience increases individuals' motivation to preserve their cultural worldview by adopting values that others consider desirable, it may increase the impact of bandwagon appeals on their donations even when they have little sympathy for the recipients of aid.

The present research

The preceding considerations suggest that although people who are confronted with a donation decision might take into account both the need for help and the social desirability of making a donation, they might weight these criteria differently. We expected that when individuals' mortality was not salient, they would typically give higher weight to their belief that the help provided should be proportional to the help required (Smith et al., 2013). To this extent, a need-focused appeal should have an appreciable impact on their donation decisions. However, we further expected that making individuals' mortality salient would increase the weight they attach to the social desirability of making a donation and would increase the relative impact of a bandwagon appeal.

Several factors in addition to mortality salience could of course influence the impact of these criteria on responses to any particular donation appeal (e.g., the extremity of the need specified in the donation appeal or, alternatively, the absolute

number of individuals who have previously donated). Nevertheless, the previous considerations imply the following hypothesis:

H1. Making individuals aware of their mortality will increase the impact of a bandwagon appeal on their donation decisions relative to the impact of a need-focused appeal.

Four experiments confirmed our expectations. Participants were asked to make a donation for the relief of persons toward whom they had little a priori interest or knowledge, thereby decreasing any effect that sympathy might have on their decisions. Experiments 1 and 2 showed that participants whose mortality was not salient were more influenced by a need-focused appeal than by a bandwagon appeal, whereas making participants aware of their mortality reversed this difference. In Experiment 3, the amount of help already provided and the amount of help still required were independently manipulated. In this case, mortality salience again increased individuals' tendency to base their donation decisions on the amount of help that had already been provided. However, this increase was particularly pronounced when the goal of the donation campaign was within reach. Experiment 4, in which participants had a choice of two options that differed in popularity, provided further confirmation of the effects of mortality salience on the criterion that people use as a basis for donation decisions.

In examining these effects, two additional factors were considered. First, it seemed reasonable to expect that individuals whose mortality is salient would infer that others' donations reflected their beliefs that the persons to be helped were deserving. To this extent, mortality salience might increase the impact of others' donations on not only participants' own donation decisions but also their beliefs in the victims' deservingness. In contrast, if individuals base their donation decisions on their perception of need, they may be less inclined to take the victims' deservingness into account. The research to be reported confirmed these possibilities.

Second, the number of donations that have already been made could often provide an indication that the goal of the donation campaign is within reach and that substantial progress has been made in attaining it. This criterion could also be used as a basis for donation decisions (for evidence of this possibility, see Koo & Fishbach, 2008). Although we did not initially consider this factor, we found evidence of its impact, as we discuss in the context of the research to be reported.

Pretest

An assumption underlying our research is that a bandwagon appeal increases recipients' beliefs that making a donation is socially desirable. To confirm this assumption, 19 Hong Kong undergraduates read a report describing the donations to Japanese victims of a tsunami similar to that employed in our main experiments (see Appendix A). In one condition, the report indicated that citizens of Hong Kong had already donated \$59.95 million (HKD) of the \$60 million that was needed and an additional \$0.05 million was required to attain the goal of the donation campaign. In the other condition,

the report showed that Hong Kong citizens only donated \$10 million (HKD) of the \$60 million that was needed and that \$50 million was still required.

In each condition, participants indicated their agreement that both (a) “most Hong Kong citizens would like to donate to the victims” and (b) “the victims still need a lot of help” along scales from 1 (totally disagree) to 9 (totally agree). Participants were more likely to believe that most others would like to donate when the amount of past donations was large than when it was small (6.60 vs. 3.78, respectively; $F(1, 17) = 32.14$, $p < .01$), but reported less agreement that the victims still needed a lot of help in the former condition than in the latter (4.10 vs. 7.56, respectively; $F(1, 17) = 41.58$, $p < .01$). Thus, our assumptions concerning the interpretation of the appeals seem viable.

Experiment 1

Method

Fifty-four Hong Kong university students participated in an online survey that was ostensibly concerned with imagination and belief. They were randomly assigned to conditions of a 2 (mortality salience: yes vs. no) by 2 (appeal type: need-focused vs. bandwagon) between-subjects design.

The first part of the survey was ostensibly an imagination task. Participants were told that we were interested in people’s ability to imagine unusual situations. On this pretense, they performed a task that has been employed in many previous studies of terror management (e.g., Greenberg et al., 1990). In *mortality-salience* conditions, participants were asked to “briefly describe the emotions that thoughts of your own death arouses in you” and to describe “what you think will happen to you as you physically die and once you are physically dead.” In *control* conditions, they received similar instructions concerning the experience of dental pain. This part of the experiment took about 10 min.

After completing the writing task, participants completed a short questionnaire in which they reported their liking for 20 products/activities (e.g., Apple, jeans, yoga). This unrelated task was used to introduce a delay between the mortality salience manipulation and dependent measures, as previous research indicates that a delay is often necessary for the defensive consequences of mortality salience to have an impact (Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994). Then, participants were told that the marketing department had been requested to help the Hong Kong Student Volunteer Organization launch a donation program and, on this pretense, were directed to another webpage. There, they read a donation appeal that had ostensibly been posted by the organization. The appeal (see Appendix A) indicated that military students in Japan (presumably a group toward whom Hong Kong Chinese had little if any interest or positive feelings) needed money to rebuild their campus after it was destroyed by an earthquake and tsunami that had recently occurred. Then, either a bandwagon appeal or need-focused appeal of the form used in the pretest was presented. After reading the donation appeal, participants indicated whether they would like to donate and, if

they wanted to do so, to write down their e-mail address so we could send them information about making the donation.

Participants then answered several additional questions for the ostensible purpose of helping the organization to design good donation appeals in the future. They were first asked “compared to other victims of the disaster, to what extent do you think those military students deserve your help” and reported their judgment along a scale from 0 (not at all) to 10 (very much). Finally, they answered several demographic questions such as gender, age, and hometown.

Results

Donation decisions

We expected that when their mortality was not salient, participants’ donation decisions would be based largely on their belief that they should provide help in proportion to the amount of help required and, therefore, would be influenced by a need-focused appeal (Smith et al., 2013). According to H1, however, making participants aware of their own mortality was expected to increase their concern about the social desirability of helping, and to increase the relative effectiveness of a bandwagon appeal. These expectations were confirmed. The proportion of participants who were willing to donate is shown in the first section of Table 1 as a function of mortality salience and appeal type. A logistic analysis of these proportions yielded an interaction of the form expected ($Wald \chi^2 = 7.14$, $p < .01$). When mortality was not salient, participants were marginally more likely to be influenced by a need-focused appeal than by a bandwagon appeal (50% vs. 20%, respectively; $Wald \chi^2 = 2.74$, $p < .10$). However, increasing participants’ awareness of their mortality reversed this difference. That is, participants were more likely to be influenced by a bandwagon appeal than by a need-focused appeal (67% vs. 23%, respectively; $Wald \chi^2 = 5.45$, $p < .05$).

Deservingness

We also expected that when mortality was not salient, participants would base their donation decisions primarily on the help needed without considering the deservingness of the victims. However, we expected that calling participants’

Table 1
The likelihood of donating and perceptions of the victims’ deservingness as a function of mortality salience and appeal type — Experiment 1.

	Mortality salient	Mortality not salient	M_{diff}
Likelihood of donating			
Need-focused appeal	23% (43.8%) $N = 13$	50% (51.9%) $N = 14$	–27%
Bandwagon appeal	67% (49.2%) $N = 12$	20% (41.4%) $N = 15$	47%*
M_{diff}	–44%*	30%	
Deservingness			
Need-focused appeal	5.08 (1.80) $N = 13$	6.14 (2.74) $N = 14$	–1.06
Bandwagon appeal	6.83 (0.94) $N = 12$	5.40 (2.59) $N = 15$	1.43
M_{diff}	–1.75	0.74	

Note: Standard deviations are given in parentheses.

* $p < .05$.

attention to their mortality would lead them to use others' donation behavior as an indication that others believed the donation recipients to be deserving of help, and that this would influence their own judgments of the victims' deservingness. To this extent, these participants should judge the victims to be more deserving when they had received a bandwagon appeal than when they had received a need-focused appeal.

The effects of mortality salience and appeal type on perceived deservingness, shown in the second section of Table 1, were consistent with this speculation. The interaction of these variables was significant ($F(1, 50) = 4.36, p < .05$) and indicated that when mortality was not salient, the type of appeal did not influence participants' perception of the victims' deservingness (5.40 vs. 6.14; $F(1, 50) = 1.59, p > .20$). When their mortality was salient, however, participants perceived the victims to be marginally more deserving after reading a bandwagon appeal ($M = 6.83$) than after reading a need-focused appeal ($M = 5.08$; $F(1, 50) = 4.02, p < .06$).

If participants' perceptions of the victims' deservingness are a consequence of inferences that making a donation is socially desirable, these perceptions should mediate their donation decisions when mortality is salient but not when it is not salient. This appeared to be the case. Bootstrapping analyses (Preacher, Rucker, & Hayes, 2007) using 5000 samples indicated that deservingness had an indirect effect on donations when mortality was salient (95% CI: -0.38 vs. -0.04 , excluding 0) but not when mortality was not salient (95% CI: -0.13 vs. 0.26 , including 0).

Experiment 2

Although the results of Experiment 1 are quite consistent with expectations, it seemed desirable to provide a direct indication of participants' actual donation behavior rather than relying only on their reported willingness to give aid. Experiment 2 accomplished this.

Method

Eighty-three Hong Kong college students participated. The design of this experiment was similar to that of Experiment 1 except that participants were asked to actually donate money to help the military college to finish the rebuilding task (see Appendix A for detailed information). That is, participants first completed the "imagination" task in which they wrote about either their death or a dental pain experience, and then performed a filler task. After doing so, they were asked to take a break. However, we indicated that we would use the break time to help out the Student Volunteer Organization who was launching a donation appeal. On this pretense, a confederate, who was ostensibly a leader of the Student Volunteer Organization, handed out a one-page brochure together with an envelope. After reading the donation appeal on the brochure along with participants, she then asked participants to write down the amount of money they would like to donate on the envelope that they received and to put the money in the envelope.

At the end of the experiment, we debriefed participants, indicating that the donation task was actually one part of an

experiment. However, we indicated that the Hong Kong Red Cross was actually raising money to help various victims, and that if they would like to donate, to put the envelope containing their donation into the donation box. However, they were told that if they did not want to donate, to take their money out of the envelope but to put the empty envelope in the box. The money we collected was given to the Red Cross as promised.

Results

The amount of money that participants donated is shown in Table 2 as a function of mortality salience and appeal type. The main effects of appeal type and mortality salience were not significant ($ps > .15$). However, the interaction of these variables was significant ($F(1, 79) = 12.09, p < .01$) and was almost identical in form to the interactive effects of these variables on the willingness to donate that we observed in Experiment 1. Planned comparisons indicated that when mortality was not salient, participants donated marginally more money when the appeal was need-focused than it indicated that many others had already donated (\$2.83 HKD vs. \$0.65 HKD, respectively; $F(1, 79) = 2.59, p < .06$, one-tailed). Making participants aware of their mortality, however, reversed this difference (\$0.71 HKD vs. \$5.62 HKD, respectively, $F(1, 79) = 10.39, p < .01$). Therefore, as expected, mortality salience increases the effectiveness of bandwagon appeal in real donation situations, which inspires our confidence of the generalization of experimental findings in Experiment 1.

Experiment 3

The first two studies indicated that when participants' mortality was not salient, a need-focused appeal was nonsignificantly more effective than a bandwagon appeal in stimulating participants to donate money. Increasing the salience of their mortality, however, increased the relative effectiveness of a bandwagon appeal on their donation behavior.

Our interpretation of these results assumes that when mortality is not salient, participants base their donation decisions largely on their belief that the amount of help provided should be proportional to the amount required (Smith et al., 2013). Making their mortality salient, however, increases their disposition to base their decisions on their perception that making a donation is

Table 2
The amount of money donated (HK\$^a) as a function of mortality salience and appeal type — Experiment 2.

	Mortality salient	Mortality not salient	M_{diff}
Need-focused appeal	0.71 (2.39) <i>N</i> = 21	2.83 (4.48) <i>N</i> = 23	-2.12
Bandwagon appeal	5.63 (8.14) <i>N</i> = 16	0.65 (2.29) <i>N</i> = 15	4.98 **
M_{diff}	-4.92 **	2.18	

Standard deviations are given in parentheses.

^a HK\$1 = US \$0.12.

** $p < .01$.

socially desirable, as reflected in the amount of donations that others have made. Although the results of Experiments 1 and 2 are consistent with these assumptions, a clearer evaluation of their validity requires that the amount of help needed and the amount that others have donated be manipulated independently. Experiment 3 accomplished this.

In doing so, we extended the generalizability of our findings to a different content domain. Specifically, participants whose mortality salience had or had not been activated were asked to donate blood based on an appeal that varied over conditions in terms of both (a) the amount of blood that had already been donated and (b) the amount that was still required. We hypothesized that increasing participants' awareness of their mortality would increase their motivation to conform to standards of social desirability and would increase their disposition to base their donations on the amount that others had already donated.

This hypothesis may need to be qualified, however. That is, perceptions of the social desirability of making a donation may be particularly great when others' donations have put the goal of the campaign within reach. To this extent, the effect of others' donations on their own donations should be greater when little additional help is needed. In contrast, if individuals whose mortality is not salient base their donations on the need for help, the negative effect of others' donations on their own donations may also be greater in these conditions. This was in fact the case, as will be seen.

Method

One hundred twenty-eight individuals from a province in China (aged from 18 to 64) participated in an online survey in exchange for 20 RMB (about \$3.50 USD). Participants were randomly assigned to conditions of a 2 (mortality salience: yes vs. no) by 2 (amount already donated: 500 units of blood vs. 100 units of blood) by 2 (amount still needed: 500 units of blood vs. 100 units of blood) between-subjects design.

The manipulations of mortality salience and the filler task were the same as those used in Experiment 1. However, the last two questions in the filler task asked participants to indicate the province in which they were currently living and where they had lived before. We expected that although the victims were Chinese, making participants' own province salient would minimize any personal interest in victims' well being that they might otherwise have.

After completing this task, participants were asked to take part in a survey about a blood donation campaign that was being launched by the Blood Center in China. They first read a donation appeal in which they were asked to give blood to help patients in another province. The appeal varied over conditions in terms of (a) the amount of blood that had already been collected (500 units vs. 100 units) and (b) the amount of blood that was still required to satisfy patients' needs (500 units vs. 100 units). Specifically, participants read that patients in another province were in urgent need of blood, that a "Touch your heart" campaign had collected 500 (100) units of blood (1 unit = 200 cc) in the past six months but that 500 (100)

more units were still needed to satisfy the patients' blood needs (see Appendix B for more information).

After reading the donation appeal, participants indicated the extent to which they would like to donate blood for the patients along a scale from 1 (definitely no) to 11 (definitely yes) and the extent to which the victims deserved to be helped along a scale from 1 (not at all) to 7 (very much).

Results

Donation intentions

Based on our earlier findings, we assumed that increasing participants' awareness of their mortality would increase their disposition to conform to external standards of social desirability and thus to base their donations on the amount that others had already donated. However, we further speculated that this disposition would be particularly evident when few additional donations were needed and thus the goal of the campaign was within reach. Data bearing on these possibilities are summarized in Table 3, which shows the amount of blood participants were willing to donate as a function of mortality salience, the amount already donated, and the amount still needed. No main effects were significant ($ps > .10$). These analyses yielded two-way interactions of mortality salience with both the amount of blood already donated ($F(1, 120) = 3.91, p < .05$) and the amount still needed ($F(1, 120) = 6.92, p < .01$) and a three-way interaction involving all three of these variables ($F(1, 120) = 4.22, p < .05$).

Contrasts corresponding to the first interaction indicate that participants' donations increased with the amount that others had donated when their mortality was salient (7.62 vs. 6.02, when others had donated 500 vs. 100 units, respectively; $F(1, 120) = 5.26, p < .05$) but were unaffected by amount others had donated when their mortality was not salient (6.87 vs. 7.20, respectively; $F(1, 120) < 1$).

The second interaction indicates that participants' willingness to donate increased with the amount still needed when their mortality was not salient (8.05 vs. 6.02, when 500 units vs. 100 units were needed, respectively; $F(1, 120) = 8.78, p < .01$).

Table 3

Donation intention as a function of mortality salience, amount already donated and amount still needed — Experiment 3.

	Mortality salient	Mortality not salient	M_{diff}
500 units still needed			
500 units already donated	6.84 (2.27) $N = 19$	8.38 (2.31) $N = 21$	-1.54 *
100 units already donated	6.25 (3.19) $N = 12$	7.71 (2.20) $N = 14$	-1.46 *
M_{diff}	0.59	0.67	
100 units still needed			
500 units already donated	8.39 (2.85) $N = 18$	5.36 (3.03) $N = 14$	3.03 **
100 units already donated	5.79 (3.45) $N = 14$	6.69 (2.12) $N = 16$	-0.90
M_{diff}	2.60 **	-1.33	

Note: Standard deviations are given in parentheses.

* $p < .05$.

** $p < .01$.

but was unaffected when their mortality was salient (6.55 vs. 7.09, respectively; $F(1, 120) < 1$). When mortality was salient, therefore, participants' donation decisions were driven by the amount of help others already donated. When mortality was not salient, however, participants' decisions were mainly influenced by the amount of help still needed.

However, the three-way interaction qualifies this conclusion. To diagnose the nature of this interaction, the effects of mortality salience and the amount of help already provided were analyzed at each level of the amount still needed. When a large amount of help was needed, this analysis yielded a main effect of mortality salience ($F(1, 120) = 4.79, p < .05$), but the interaction effect of mortality salience and amount already donated on participants' willingness to donate was not significant ($F(1, 120) < 1$). That is, participants were less likely to donate blood when mortality was salient ($M = 6.55$) than when it was not ($M = 8.05$), and this was true regardless of the amount that others had already donated. Apparently participants whose mortality was not salient were particularly motivated to donate when the amount of help needed was substantial, whereas persons whose mortality was salient were not appreciably influenced by need. Moreover, the amount money already donated had little effect in these conditions regardless of mortality salience ($F(1, 120) < 1$).

In contrast, analyses of data when only 100 more units were needed to attain the donation campaign's objective yielded an interaction of mortality salience and the amount of help already provided ($F(1, 120) = 8.03, p < .01$). Between-cell comparisons shown in the table indicate that as expected, participants whose mortality was salient volunteered to donate more blood when the amount of blood others had already donated was large than when it was small (8.39 vs. 5.79, respectively; $F(1, 120) = 7.23, p < .01$) whereas participants' whose mortality was not salient volunteered to donate nonsignificantly less blood in the former condition than in the latter (5.39 vs. 6.69, respectively; $F(1, 120) = 1.79, p > .15$). Thus, these results qualify our hypothesis that the amount of past donations would have a positive influence on participants' donations when their mortality was salient. This was only true when persons' past donations had put the goal within reach.

Perceived deservingness

People tended to regard the victims as generally less deserving when mortality was salient ($M = 5.38$) than when it was not ($M = 5.86$; $F(1, 120) = 5.37, p < .05$). No other effects were significant. However, bootstrapping analyses indicated that the effect of the amount of blood that others had donated on participants' own donations was mediated by perceptions of deservingness when mortality was salient (95% CI: -1.52 vs. -0.03 , excluding 0) but not when mortality was not salient (95% CI: -0.70 vs. 0.38 , including 0). In contrast, the effect of amount of blood needed was not mediated by perceived deservingness regardless of whether mortality was salient (95% CI: -0.46 vs. 0.82) or not (95% CI: -1.06 vs. 0.05).

Discussion

Experiment 3 qualified our hypothesis that increasing participants' awareness of their mortality would increase their

disposition to base their donations on the amount of help that others had already provided and, therefore, the social desirability of making a donation. That is, this difference only occurred when the goal of the donation campaign was within reach and little more help was needed.

Specifically, participants whose mortality was salient were most likely to donate when 500 units had already been donated and only 100 more units were required, that is, when 83% of the amount required had already been obtained. Thus, to the extent that these participants' donation decisions were based on their perception that making a donation was socially desirable, they apparently believed that it was especially desirable to do so when others' donations had put the goal of the campaign within reach. In contrast, participants whose mortality was not salient presumably based their donation decisions on their belief that the help provided should be proportional to the help required (Smith et al., 2013). Thus, these individuals were *least* willing to donate when the need for help was lowest.

Finally, note that the manipulations of amount of blood still needed and amount already donated were each confounded with the total amount of donations required. However, if the effects of mortality salience on donation intentions had been a function of the total amount required, the effect of the amount still needed and the effect of the amount already donated should have been similar. This was obviously not the case. Therefore, the confound does not seriously compromise the conclusions we have drawn.

Experiment 4

Experiment 3 showed that making participants aware of their mortality increased their disposition to base decisions on the amount that others had already donated and correspondingly decreased their disposition to base decisions on the amount of help still needed. However, mortality salience had a positive impact on donation behavior only when the goal of the donation appeal was within reach. To confirm our hypothesis that mortality salience increased the impact of others' past donation per se, it seemed desirable to determine whether the effect of mortality salience on donation decisions would be evident under conditions in which proximity of past donations to the goal of the donation appeal was controlled.

To accomplish this, participants in Experiment 4 were given a choice of helping one of two quite similar West African countries (Gambia or Sierra Leone). They were told that 20% of the amount of money required by each country had already been donated. Thus, the amount of help was required by each of the countries that participants considered was the same. However, participants were further informed that of the student participants in the study who had already made donations, either 20% had chosen to help Gambia or 80% had made this choice.

The student participants who had previously donated presumably represented a small proportion of the general population from which donations were being solicited. We therefore expected that other students' preferences for the countries they considered would not appreciably affect participants' perceptions of the countries' needs. To this extent, participants' relative preference for the alternatives when their mortality was salient should be

based primarily on their perception of the countries' relative popularity among students in the population to which participants themselves belonged.

Method

One hundred fifty nine Mainland Chinese college students participated for pay of 20 RMB (about \$3.50 USD). They were randomly assigned to conditions of a 2 (mortality salience: yes vs. no) by 2 (other students' choice: 20% chose to help Gambia vs. 80% chose to help Gambia) between-subjects design.

The manipulation of mortality salience and the subsequent filler task were the same as in previous experiments. After the filler task, however, participants were informed that we would use the extra time left in the experimental session to help the university's student union. The chairman of the student union (actually a confederate) then briefly introduced the donation program. The chairman indicated that the student organization was collaborating with the Hong Kong Red Cross in a program to provide meals for students in Africa, and that they had prepared a survey to obtain the information about college students' attitudes toward the program. The confederate then asked students to open the link to the survey and to begin working on it.

In the survey, we presented pictures of poor African children, and then described the need to provide school meals for them. The donation campaign was ostensibly intended to help two countries, Gambia and Sierra Leone. Participants were informed that previous donations to each country had reached 20% of the amount necessary. Finally, participants were told that of the students who had already chosen to make a donation, either 20% or 80% had indicated a desire to donate money to Gambia.

After reading the donation appeal, participants were asked to indicate the country they thought should receive more donations along a scale from 1 (Sierra Leone should get more) to 7 (Gambia should get more), and then indicated whether they would personally choose to donate to Gambia, to Sierra Leone, or to neither (participants' actual donations were not collected, however). Then, they reported the familiarity to each country along a scale from 1 (very unfamiliar) to 7 (very familiar). Finally, participants indicated which of two statements they agreed with more: "Other college students' donation could indicate the future progress of the School Meal Project in each country" or "Other college students' donation indicates which country they think is more deserving of their donation."

Results

Participants were equally unfamiliar with both Gambia and Sierra Leone (1.64 vs. 1.56, respectively).

Donation preferences

Participants' judgments of which country should get donations are summarized in Table 4 as a function of mortality salience and the proportion of past donations that were made to Gambia (80% vs. 20%). Analyses of these data yielded only

Table 4

Donation preferences and donation likelihood as a function of mortality salience and others' choice — Experiment 4.

	Mortality salient	Mortality not salient	M_{diff}
Preference for donating to Gambia			
20% of others help Gambia	3.76 (1.32) ^a <i>N</i> = 42	4.55 (1.48) <i>N</i> = 38	-0.79 *
80% of others help Gambia	4.54 (1.37) <i>N</i> = 37	3.86 (1.54) <i>N</i> = 42	0.68 *
M_{diff}	-0.78 *	0.69 *	
Proportion of donations to Gambia			
20% of others help Gambia	30.8% (46.8%) <i>N</i> = 42	76.3% (43.1%) <i>N</i> = 38	45.5% **
80% of others help Gambia	67.6% (47.5%) <i>N</i> = 37	31.0% (47.0%) <i>N</i> = 42	36.6% **
M_{diff}	-36.8 **	45.3% **	

Standard deviations are given in parentheses.

^a Higher numbers indicate stronger beliefs that Gambia is more deserving than Sierra Leone.

* $p < .05$.

** $p < .01$.

a significant two-way interaction ($F(1, 155) = 10.51, p < .01$). When their mortality was not salient, participants believed that Gambia should get more money than Sierra Leone if only 20% of others had chosen to help Gambia than if 80% of others had done so (4.55 vs. 3.86, respectively; $F(1, 155) = 4.71, p < .05$). When their mortality was salient, however, participants believed that Gambia should get more money if 80% of others donated to this country than if only 20% had done so (4.54 vs. 3.76, respectively; $F(1, 155) = 5.83, p < .05$).

Donation choice

Participants' relative likelihood of giving money to Gambia (giving money to Gambia = 1; giving money to Sierra Leone or neither = 0), summarized in the second half of Table 4, varied as predicted. When mortality was not made salient, more participants chose to donate to Gambia when few students had previously donated to Gambia than when many had done so (76.3% vs. 31.0%, respectively; $\chi^2 = 16.49, p < .01$). When mortality was salient, however, more participants chose to donate to Gambia when many others had done so than when few had done so (67.6% vs. 30.8%, respectively; $\chi^2 = 10.76, p < .01$). The interaction of mortality salience and others' choice on the donation choice was significant ($B = -3.51, Wald = 25.04, p < .001$).

Interpretation of others' choice

Participants' interpretation of others' donation behavior confirmed the assumption that mortality salience influenced participants' perception about the deservingness of victims. The main effect of mortality salience on participants' interpretation about others' behavior was significant ($F(1, 155) = 18.87, p < .001$). That is, more participants chose the option that "Other college students' donation indicates which country they think is more deserving" when mortality was salient (53.2%) than when it was not (21.2%; $\chi^2 = 17.35, p < .01$). No other effects were significant ($F_s < 1$).

Discussion

Experiment 4 indicated that when participants' mortality was not salient, they chose to donate to victims that other students had not helped. When their mortality was salient, however, they were more inclined to help victims that most others had helped. Furthermore, mortality salience influenced participants' interpretation of others' choice in the way that we expected (that is, as an indication that the victims were more or less deserving).

Unlike Experiment 3, proximity to the goal was controlled in the present experiment. The evidence that mortality salience had a positive effect when the need for help was high (i.e., when only 20% of the amount required had previously been donated) is nonetheless noteworthy in light of evidence that mortality salience in Experiment 3 had a positive effect only when the goal was within reach. The present study shows that mortality salience affects persons' *relative* preference for popular versus unpopular choice alternatives, and this preference is evident regardless of individuals' willingness to donate on absolute grounds. Note that in Experiment 3, the proximity to donation goal may have been used as an indication of the social desirability of donating to those victims. In present study, however, we explicitly provided information about others' preference, which is a more direct evidence of the social desirability of donating to a particular country. Consequently, participants might have based their donation decision on this evidence without considering the proximity to the donation goal. Nevertheless, the possibility that the effects we observed in present study might be even more evident when the need for donations was less might be worth exploring.

General discussion

When recipients of a donation appeal have positive feelings for the victims of misfortune, their donations may often be based on their feelings of sympathy for these victims and the seriousness of their adversity. When people have little a priori interest in the victims of misfortune, however, their donation decisions are more likely to be influenced by normative criteria that are not specific to the nature of the victims. In the present research, we investigated the effectiveness of two types of appeals that might be used to solicit help for such victims. Need-focused appeals emphasize the amount of help that is required in order to provide the assistance necessary. Bandwagon appeals emphasize the fact that many others have already donated. The relative effectiveness of these appeals may depend on individual and situational difference factors that influence the importance attached to these criteria. As our findings indicate, mortality salience may be one of these factors.

The four experiments we conducted, using different paradigms and different stimulus domains, converge on the conclusion that when individuals are not conscious of their own mortality, their donation decisions are primarily influenced by the need for help. Thus, they are more influenced by appeals that emphasize that the campaign is a long way from attaining the amount required (Experiments 1–3) and they prefer to help victims that other donors have ignored (Experiment 4). In contrast, increasing

individuals' awareness of their mortality apparently leads them to base their donation decisions on the social desirability of providing help, as reflected in the amount of help provided in the past (Experiments 1–3) and others' preferences (Experiment 4).

The need for help, as reflected in the number of previous donations, can often affect perceptions of the progress that has been made toward the goal of the donation campaign. That is, need-focused appeals typically suggest that little progress has been made, whereas bandwagon appeals suggest that progress toward the goal is more substantial. Evidence that goal progress is a factor in the effects of donation appeals was reported by [Koo and Fishbach \(2008\)](#) as noted earlier. Experiment 3 indicated that this factor can indeed play a role. In this study, proximity to the goal may be inferred from the amount of help already provided relative to the amount needed. Thus, it was greater when 500 of the 600 units required (83%) had already been donated than it was in other conditions, and the effect of mortality salience on conformity to others' preferences was particularly great in this condition (see [Table 3](#)). If participants perceived that progress toward the goal of the donation campaign as an indication of the social desirability in attaining this objective, these results would be consistent with our conceptualization. Moreover, note that participants whose mortality was not salient contributed less when progress was greatest than they did in other conditions. This is consistent with the assumption that these participants were less likely to donate when they perceived that help was less necessary.

However, the amount of past donations can have an impact independently of its implications for progress. Experiment 4, for example, suggests that when individuals are confronted with a choice between alternatives that are equally in need of help, mortality increased their donation to the option that others preferred, but decreased their donation to the option that others neglected.

Our research provided some insights into an additional factor that can underlie the effect of mortality salience. Experiment 4 showed that mortality salience increases individuals' perceptions that others' donations reflect their opinions that the recipients of aid are deserving. Moreover, Experiments 1 and 3 suggest that these perceptions could mediate the effect of others' opinions on donations. Thus, the effectiveness of bandwagon appeals when participants' mortality is salient could be partly a consequence of their inference that others consider donation recipients to be deserving. This inference, in turn, mediates their perceptions that making a donation is socially desirable and consistent with the worldview that they wish to maintain.

Our findings suggest that mortality salience *per se* can make some norms more salient than others. Mortality salience often increases the tendency to disparage out-group members ([Greenberg et al., 1990](#); [Harmon-Jones et al., 1996](#)). Thus, one might expect mortality salience to decrease participants' willingness to help these members. In fact, however, this was only true when the appeals were need-focused. Bandwagon appeals, which suggest that others perceive donations to be socially desirable, offset the effects of whatever a priori attitude participants might have had toward the victims of misfortune. Other studies also

suggest that making salient cultural values that favor equality and helping behavior can decrease the effects that negative attitudes toward the beneficiaries of help might otherwise have (Gailliot et al., 2008; Jonas et al., 2008).

The effects of mortality salience on behavior can sometimes be attributed to its impact on the need to bolster social self-esteem (Greenberg et al., 1997; Solomon et al., 2004). A study by Ferraro, Shiv, and Bettman (2005), however, found that mortality salience increased donations when participants perceived that virtuousness would bolster their self-esteem. When participants did not consider virtue to be a source of self-esteem, the effect disappeared. The desire to maintain one's self-esteem in the present research cannot be easily distinguished from the desire to preserve one's cultural worldview. However, responding to a need for help could also be considered virtuous and yet mortality salience had a negative impact on the influence of need-focused appeals. Therefore, although the effect of self-esteem maintenance cannot be completely discounted, it seems unlikely to have played a major role in our research.

Mortality salience in the present research was induced independently of the appeals that participants considered. As we noted earlier, however, mortality salience could sometimes be activated by the appeal itself. Many appeals for aid to victims of

famine and natural disasters, in which many people have died or are dying, could spontaneously call individuals' attention to their own mortality. Other appeals (e.g., for preservation of the environment, prevention of child abuse), however, are less likely to do so. These considerations suggest that the relative impact of bandwagon and need-focused appeals could depend on the type of situation to be remedied. If appeals to help victims whose lives are in danger spontaneously increase individuals' awareness of their own mortality, they might be more effective if they focus on the amount that others have donated rather than on the need for help. In contrast, appeals for help in preserving the environment, or in repairing the physical damage caused by an earthquake in which few lives have been lost, might be more effective if the appeals are need-focused.

A final consideration is worth noting. Need-focused appeals are most likely to be employed at the start of a donation campaign when the need is particularly acute. In contrast, bandwagon appeals are more likely to be used near the end of a campaign when only a small amount of additional help is required to attain the goal at hand. It is interesting to speculate that mortality salience is likely to have a negative impact on donation behavior at the beginning of a campaign but a positive impact at the end.

Appendix A. Scenario used in Experiment 1&2



Bishaemona is a military college located at the northeastern coast of Japan. It is a public, non-profit, specialized military college offering upper division undergraduate and graduate military education programs. The college provides the greatest number of qualified military officers and Navy enlisted personnel for the Japanese government. On March 11 at 2:46 pm JST a massive 9.0-magnitude earthquake occurred near the northeastern coast of Japan, creating extremely destructive tsunami waves which hit Japan just minutes after the earthquake. The earthquake and tsunami have caused extensive and severe damage to Bishaemona, leaving hundreds of students dead, injured or missing.

Experiment 1. All buildings and facilities on campus have been destroyed. Rebuilding the campus needs about \$60 million, and \$59.95 million/10 million have been raised by other charity organizations. Now, the student volunteer organization in CUHK has a goal of collecting the remaining \$50 thousand/50 million to help this military college. Your donations will help the college to rebuild their campus and to continue their education program.

If you would like to make a donation, please write down your email address and we will send you the donation information.

Experiment 2. In the past three years, this college has been rebuilding its campus. However, the military college needs extra \$6 million to finish the rebuilding task. With the help of charity organizations in Hong Kong, \$5.95 million/1 million have been raised. Now, the student volunteer organization in CUHK has a goal of collecting the remaining \$50 thousand/5 million to help this military college. The donations will help the college students to rebuild their campus and to continue their education program.

If you would like to make a donation, put your money in the envelop.

Appendix B. Scenario used in Experiment 3



“TOUCH YOUR HEART” is a blood donation campaign launched by Touch Media and Blood Center of China. This campaign has been carried over for more than half a year, and they have successfully helped more than 1000 patients in the last six months. In order to get more citizens involved in “TOUCH YOUR HEART” campaign, they have planned a set of activities to help patients in particular area in mainland China. Now, patients in Zhejiang Province are in urgent need of blood. “TOUCH YOUR HEART” campaign have collected 500/100 units (1 unit = 200 cc) of blood in the last six months, but still need 500/100 units to satisfy those patients’ blood need. We would like to invite you to join us to help those patients in Zhejiang Province.

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