How media portrayals influence willingness to help: The role of solvability frames

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Abstract

When we hear stories of distant humanitarian crises, we often feel sympathy for victims, but may stop short of taking action to help. Past research indicates that media portrayals of distant suffering can promote helping behavior by eliciting sympathy, while those that prompt a more "rational" response tend to *decrease* helping behavior by undermining sympathy. The authors used an online experiment to test whether certain media frames could promote helping behavior through a more rational, rather than emotional, pathway. The study tested whether framing distant suffering as either "solvable" or "unsolvable" might promote helping behavior *if* a "rational" evaluation of a crisis leads one to determine that help is efficacious in solving the problem. Survey respondents were randomly assigned to read one of three messages: a high solvability message, a low solvability message, or a control message. Contrary to expectations, both low solvability and high solvability conditions increased participants' intentions to help. The results suggest that this is because framing problems as unsolvable drives up *sympathy,* thus promoting willingness to help, while framing problems as solvable drives up *perceived efficacy*, also promoting willingness to help. The authors conclude that, in contrast to earlier studies, and to the assumptions of many of those working in media, emphasizing rationality can promote helping behavior if audiences

rationally interpret the problem as solvable. Implications of the findings for ethically portraying

distant suffering in the media are discussed.

Keywords: distant suffering, efficacy, news framing, solvability, sympathy

How media portrayals of suffering influence willingness to help:

The role of solvability frames

Introduction

Improving the lives of the world's marginalized, oppressed, and poor is increasingly relevant in a globalized world. But it is also important to look carefully at how information about these victims is communicated *to* those in a position to help, and how the construction of such communication influences response. It is through information presented in the media *about* these "distant sufferers" (Boltanski, 1999) that audiences form opinions about them and about appropriate responses.

There are many global humanitarian concerns, yet certain issues surrounding distant suffering seem to garner far more public response than others. There have been numerous attempts to explain why certain stories or issues gain more attention, yet our understanding of the (often inconsistent) responses to human suffering by the public remain incomplete.

Current research broadly suggests that elicitation of *sympathy* is the primary factor determining whether audiences will respond to media portrayals of suffering. It is for this reason, perhaps, that media makers – both the mainstream news media as well as charitable organizations – are quick to paint the lives of victims as horrendous and tragic (Moeller, 1999). And yet, ironically, there is also evidence that these dramatic depictions are exactly what is causing publics to disengage. This is the rationale behind desensitization (Sontag, 1977), psychic numbing (Slovic, 2007), and compassion fatigue (Moeller, 1999): that we are so overexposed to media portrayals of suffering that we simply can no longer withstand the emotional angst and choose to 'turn off' our sympathetic responses.

Current understandings of sympathy and compassion fatigue support the narrative that the public is overwhelmed by images of suffering, that we are decreasingly likely to respond to

factual descriptions of distant humanitarian crises, and that the best way to garner response is to break through that disengagement by pulling at the public's heartstrings in ever-more-dramatic fashion.

This study offers a different starting point. What if it is not the case that repeated portrayals of distant suffering max out our potential for sympathy and render us cold and unfeeling? What if, rather, these repeated portrayals leave us disempowered, feeling that there is no practical way to engage, and therefore leading us to conclude that turning off our emotions is the most *rational* response? In other words, what if our responses to portrayals of distant crises depend on rational calculations based on logic, evidence, and analysis, rather than simply emotion? If this is the case, it may not be the inclusion of the dramatic and horrifying that disengages audiences, but rather the *exclusion* of potential, practical solutions to suffering.

Using an online experiment, we tested the proposition that altering depictions of how *solvable* a humanitarian crisis was (in this case, malaria in Africa) would influence respondents' willingness to help distant sufferers, with 'help' operationalized as donating money to charity. In positing this *rational* pathway to helping behavior, we aim to provide new insights into the psychological and behavioral impacts of framing humanitarian crises in the media in particular ways.

Literature Review

Three domains of prior research are particularly relevant for investigating how solvability might play a role in responses to media portrayals of humanitarian crises: research on media framing, theoretical and empirical work on emotional and rational pathways to helping behavior, and research on the role of self-efficacy in persuasion contexts.

Media Framing

Frames can suggest to audiences how to think about particular issues either by including (or excluding) certain information or by emphasizing (or de-emphasizing) information. Entman (1993) describes frames as "select[ing] some aspects of a perceived reality and mak[ing] them more salient in a communicating text" and as promoting "a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation" (p. 52). Such conceptions of framing assume that the impact of frames will be a particular understanding of, or reaction to, an issue presented in the media.

News stories on human suffering could, therefore, frame a problem as *solvable* by including or emphasizing feasible solutions to a problem. Mody (2010) refers to these as "remedy frames" (p. 233); Kogen (2015) refers to these as "public sphere-relevant frames" (p. 9). For example, a story that discusses a new irrigation technology that helps farmers make better use of their water supply during droughts might suggest to audiences that there are indeed efficacious strategies for addressing the problem of famines. Past research has shown that frames that explicitly address solutions to distant suffering occur only about half of the time in the U.S. news media. Mody's (2010) framing analysis of the conflict in Darfur found that slightly more than half of *New York Times* articles included information regarding potential solutions to the conflict. Kogen (2015) found that slightly more than half of news articles about hunger in Africa in mainstream U.S. newspapers included information on causes or solutions to the problem (compared to almost 100% of articles about hunger occurring in the U.S.).

Likewise, stories can frame a problem as *unsolvable* by including or emphasizing the difficulties involved in addressing a problem. A story on a famine in Somalia that discusses the desperate lack of food, the long history of famines in the country, and the political corruption

that makes famines there particularly deadly, might suggest to news audiences that the problem is unsolvable.

Stories can take on a particular frame *either* through emphasis or through exclusion. In other words, stories can be framed as unsolvable either by emphasizing the difficulties involved in addressing a problem or by excluding information regarding potential solutions entirely – by 'cropping them out' of the frame, so to speak. Indeed, as described above, if approximately half of U.S.-produced news articles on distant suffering exclude any discussion of solutions at all, this may frame the problem, on the whole, as unsolvable.

Within the literature on persuasive appeals, some findings suggest the potential for solvability framing to impact behavior. With regard to health behaviors, most research has focused on the use of gain-framed messages (which emphasize the positive benefits of taking on a behavior) and loss-framed messages (which emphasize the negative consequences of avoiding a behavior). There is evidence that gain-framed messages are generally more effective than loss-framed messages at promoting preventive health behaviors (Gallagher & Updegraff, 2012; Loroz, 2007). Gallagher and Updegraff (2012) propose that this may be, in part, because gain frames promote positive emotions and feelings of self-efficacy – making the viewer feel capable of taking on the behavior.

If, indeed, gain frames promote feelings of efficacy, these findings can be likened to the potential use of solvable frames (which emphasize the efficacy of a potential solution) and unsolvable frames (which suggest the inefficacy or non-existence of solutions). We discuss the important role of efficacy in solvability framing in further detail below.

Gross's (2008) persuasion study provides evidence that framing can promote rational analyses of a problem posed in the media. This study showed that thematic frames (which

provide contextual, historical, and background information) were more persuasive than episodic frames (which focus on a specific example or individual – typically eliciting emotion or sympathy due to a dramatic story) in convincing audiences to oppose mandatory minimum sentencing. This suggests that people may be more willing to engage when the information included is helpful in understanding and assessing potential responses. It also suggests that logic and analysis can be more persuasive than emotion, which is the subject of the next section.

Emotional vs. Rational Responses

We discuss emotion and rationality together since they are often presented as oppositional in the case of charitable appeals. Slovic (2007) distinguishes between two modes of thinking: the experiential mode (intuitive, automatic, affective, potentially sympathetic) versus the analytic mode (rational, logical, evidence-based). Loewenstein and Small (2007) make a similar distinction in their "scarecrow-tin man" model, which describes both sympathetic and deliberative pathways to helping behavior. They suggest that sympathy is caring but irrational, oftentimes leading people to misdirect their help away from where it is most needed, and that deliberation, on the other hand, is rational, but uncaring, lacking the emotional motivation that can drive individuals to help. In their model, sympathy can lead to deliberation and vice versa, but deliberation and sympathy can each also directly and independently affect the decision to help.

Building on this model, Small et al. (2007) conducted a study of how people respond to charitable appeals. They found that encouraging people to think analytically, through an emphasis on statistics, eliminated the positive, sympathy-driven impact of portraying an identifiable victim, thereby lowering donation levels. The authors argue that deliberation undermined sympathy, and suggest that deliberation should be emphasized in appeals only to the

extent that it encourages thinking about a victim's plight, not about facts and figures (p. 150). However, subsequent research revealed that asking audiences to think at all, even about a victim's plight, can undermine the sympathetic reactions that tend to increase giving (Small & Verrochi, 2009).

The drawbacks of "rationality" are often examined in the context of comparing charitable appeals that present victims either as statistics or as identified individuals (e.g., Kogut & Ritov, 2005; Small et al., 2007). For example, one study compared the effects of an appeal focused on hunger statistics across four African countries to an appeal focused on one girl, Rokia, who was affected by hunger in Malawi (Small et al., 2007). The single victim appeal generated greater donations than either the statistical appeal or an appeal that combined both the single victim and statistical information. The authors argued that the presence of statistics reduced reliance on affective reactions, thus diminishing the impulse to donate that is typically driven by sympathy. This argument is consistent with the idea that, when reported numbers become too large, we cannot comprehend the situation and lose the ability to "feel" for the victims (Slovic, 2007), thus diminishing our motivation to help.

Although this explanation makes sense, we propose an alternative interpretation, namely, that calculations about the solvability of the problem played a role, functioning as a component of rationality. In the Small et al. experiment (2007), the statistical message describes *21 million* victims across *four* nations (p. 152). The identifiable victim message, on the other hand, addresses *one* victim in *one* country. Confronted with the fact that 21 million people are in need of food, individuals may have concluded that the costs associated with solving the problem were untenable. In other words, willingness to donate may have been dampened by the calculation that the amount required to address the crisis was unlikely to be achieved.

This explanation is consistent with some findings from research on charitable giving and the mainstream news media. The evidence suggests that giving toward intractable, chronic problems may be hindered by a lack of apparent feasible and effective solutions presented in the news. Epstein (2006) shows that natural disasters like Hurricane Katrina and the Indonesian tsunami which are "headline-grabbing" (p. 46) garner far more media attention, and thus more donations, than chronic or long-term problems such as tuberculosis, AIDS, and malaria, even though they affect far fewer victims. While one part of the explanation for greater donations during disasters is the sense of urgency they elicit (Epstein, 2006), the disproportionate response to sudden disasters could also be understood in terms of perceptions of solvability. "Solutions" to natural disasters are often perceived as more straightforward: donate money (among other things) to help rebuild a city, and the problem will be solved. People may thus reason that temporary support is a feasible and effective solution for resolving the problem. Indeed, Brown and Minty (2006) show donations for the 2004 Indonesian tsunami were directly linked with the amount of daily coverage in the news, suggesting that simple media exposure to crises can elicit response when solutions are obvious. By contrast, chronic problems (such as malaria in sub-Saharan Africa) may not seem as readily solvable.

Efficacy

Efficacy can be viewed as a sub-component of rationality, and is considered a key influence on behavior in communication and psychology literature, such as in Bandura's social cognitive theory (1986) and Fishbein and Cappella's integrative model of behavior (2006). Response efficacy, in particular, refers to the belief that the advocated behavior will be effective in producing the desired outcome (Keller, 2006). The impact of efficacy (in particular response efficacy) on willingness to help others extends from a rational interpretation of the problem at

hand. If, as described in the previous section, a rational interpretation of the problem is that a solution is feasible, response efficacy would likely be high.

A great deal of literature has focused on the important role that individuals' perceptions of response efficacy play in their willingness to engage in self-help behaviors, such as health-related actions (Maddux & Rogers, 1983; Wong & Cappella, 2009). In addition, perceived response efficacy has been shown to play an important role in contexts involving behaviors that help *others*, such as influencing individuals' propensity to donate money or leave a charitable bequest (Bekkers & Wiepking, 2011; Cheung & Chan, 2000). One study showed that perceptions that one's own help can have an impact (i.e., response efficacy) were positively associated with higher donation levels (Cryder & Loewenstein, 2011).

Within the news media there is also some evidence that understanding how to help (by including information on solutions to problems) boosts efficacy and therefore engagement. Kinnick et al. (1996) found that audiences can become immune to, or even avoid, stories of human suffering when the information is too upsetting and the media have convinced them that the situation is hopeless – that there are no solutions. Moeller (1999) argues that this phenomenon is exacerbated when journalists feel the need to "[ratchet] up the criteria" for stories, trying to portray each new crisis as "more dramatic or more lethal than [its] predecessors" (p. 2). Leaving out contextual information contributes to compassion fatigue, argues Moeller, because "the origins of compassion fatigue lie in ignorance" (p. 315).

Stories that *include* information regarding solutions, on the other hand, are more likely to engage news audiences and propel them to take action to address social problems. Lemert (1981) provides anecdotal evidence, through several detailed case examples, that "mobilizing information," such as details about how readers can become involved, leads to greater citizen

action. Nichols et al. (2006) found that stories focused on problem solving were the most likely to spur citizens to participate in the political process. Similarly, Curry and Hammonds (2014) demonstrated that including solutions within stories about homelessness, poor schools, and lack of clothing among the Indian poor made people feel that there was something concrete they could do to address the problem and made them more likely to say they would talk about the issue with friends or share the story on social media. These suggest that showing how problems can be solved can propel action when media audiences understand how their own actions can help.

Defining Solvability

Despite recognition that promoting deliberation through media portrayals could conceivably increase helping (Loewenstein & Small, 2007; Small et al., 2007), little research has explored the conditions under which more rational, deliberative calculations might lead to greater helping. We posit that perceptions of the solvability of a problem involve calculations that, in some cases, can increase helping behavior without relying on sympathy to drive action. We suggest a working definition of solvability that encompasses two dimensions of the degree to which a problem is solvable: (1) whether an effective solution to the problem exists, and (2) whether the costs associated with solving the problem are feasible.

The study presented here tests the proposition that solvability framing influences citizens' willingness to help address a problem presented in the media. Drawing on the concept of response efficacy, we also test the idea that perceived efficacy – conceptualized here as how much individuals believe their help can make a difference – mediates the relationship between solvability and donation behavior.

Specifically, we posit the following two hypotheses:

H1: Increasing (decreasing) the solvability of a societal problem increases (decreases)

willingness to donate to a charity addressing the problem.

H2: Increases (decreases) in solvability lead to increased (decreased) perceived efficacy

of helping, which in turn increases (decreases) willingness to donate.

The above two hypotheses reflect our interest in testing the idea that solvability shapes

willingness to help through a more cognitive pathway. Given that sympathy has been shown to

play a role in helping behavior, yet its relationship with deliberation remains less well

understood, we also pose the following research question:

RQ1: How does *emotional* response (sympathy) influence the relationship between

solvability and donation behavior?

The Study

Method

To examine our hypotheses and research question, we conducted a survey experiment

administered online. Respondents were randomly assigned to view a *high solvability* frame, a

low solvability frame, or a control message.

Respondents in the high solvability frame condition were shown a short informational

message framing the issue of malaria in Africa as solvable – that is, suggesting that the

elimination of the problem is possible and feasible. Respondents in the low solvability frame

condition were shown information that framed the issue of malaria as unsolvable – casting doubt

on the plausibility and feasibility of eliminating the problem. The high and low solvability

frames were designed to be both factually accurate and broadly informationally equivalent, while

still differing enough to significantly increase and decrease, respectively, respondents' perceived solvability of the problem of malaria in Africa.[1] Respondents in the control condition read an unrelated message about air pollution in China, and were then told that they would be asked a few questions about their views on the global health issue of malaria.

Malaria was chosen as a stimulus topic, first, because it is a chronic problem that most Americans are aware of, and second, because malaria is an example of the type of problem that can be, and is, framed as both solvable and unsolvable in the American news media. This tension was highlighted in President Obama's 2016 State of the Union address, in which he declared that the U.S. was on track to "end the scourge" of malaria (White House, 2016). This statement was based on the analysis of his advisors (Harris, 2016), but several scientists came out after the speech to counter his assumption that this was possible, stating that while the disease could be drastically diminished, it was unlikely that it could be completely eradicated (Harris, 2016). Malaria is therefore an issue highly amenable to differing solvability frames.

Respondents were recruited from Amazon.com's Mechanical Turk (MTurk). A total of 1,463 adults living in the U.S. participated.[2] Although not a representative sample of the U.S. adult population, the sample was likely more representative than a typical convenience sample of students (Berinsky, Huber, & Lenz, 2012). Respondents were invited to participate in a research survey about attitudes toward global health issues. They were informed that they would be paid $0.50 for participating, and that they would also be entered into a lottery to win a $75 Amazon gift card.

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[1] Approved by the Research Administration at Temple University. While the low solvability condition may have left readers with the impression that the problem of malaria is not solvable, the information presented was accurate, and the debrief at the end of the survey informs respondents that interventions are greatly reducing the mortality rate of malaria, providing them with a web link should they want to learn more about the disease and its solutions.

[2] $n_{control} = 491$, $n_{high\_solvability} = 482$, $n_{low\_solvability} = 490$.

Respondents in the two treatment conditions were shown a screen saying: "We would like to hear your views on the global health issue of malaria. You will be shown some information about malaria, and then asked a few questions about your reactions to it."[3]

After viewing their respective messages, respondents were asked about their emotional reactions to the message. Then they were asked about their sympathy toward victims of malaria (measured on a 6-point scale of *completely disagree* to *completely agree*). Five items were averaged to form an index (α = .96).[4] Respondents were then reminded about the gift card lottery and given the opportunity to donate some or all of the gift card amount, should they win, to the Against Malaria Foundation, a charitable organization working to address the global health issue of malaria. Respondents could opt to keep the full gift card amount or specify an amount they would like to donate. We also included intention to donate as a second measure of donation behavior to address the possibility that some respondents were not comfortable donating to the specific organization we had designated, or did not feel able to donate at that time. Respondents were asked: "If you do not win the gift card, how likely are you to make a donation, within the next year, to a charity focused on malaria?" (measured on a 4-point scale of *very unlikely* to *very likely*).

Perceived efficacy was measured by asking respondents the extent to which they agreed or disagreed with five statements (e.g., *By donating money, I can have a real impact on victims of malaria*) averaged to form an index (α = .92).[5] Perceived solvability of the problem of malaria was measured by asking respondents the extent to which they agreed or disagreed with six statements (e.g., *Malaria can be eliminated*) averaged to form an index (α = .83).

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[3] The stimuli can be found in Appendix A.
[4] Items were adapted from past studies exploring sympathy and empathy (Batson et al., 1997; Cryder, Loewenstein, & Seltman, 2013; Davis, 1980).
[5] Items were adapted, in part, from Cryder, Loewenstein, Scheines (2012).

Respondents in the control condition were asked the same questions, except for the set of items measuring emotional reactions (which referred to emotions experienced when reading the treatment stimuli).

Manipulation check. A one-way ANOVA showed that perceived solvability was successfully manipulated (F(2, 1460) = 174.65, p < .001, $\eta p2$ =.19). Planned contrasts confirmed that perceived solvability in the high solvability condition (*M* = 4.25, *SD* = .87) was significantly greater than in the control condition (*M* =3.72, *SD* = .83, *p* < .001), which was in turn significantly greater than in the low solvability condition (*M* = 3.22, *SD* = .86, *p* < .001).

Results

Impact on donations. To test our first hypothesis, we investigated whether increasing (decreasing) solvability led to increased (decreased) donation amount relative to the control group. A one-way ANOVA revealed a significant overall effect of condition on donation amount (*F*(2, 1460) = 6.05, *p* = .002, η_p^2 = .01). Planned contrasts confirmed that donation amount in the high solvability condition (*M* = $16.61, *SD* = 20.84) was significantly higher than in the control condition ((*M* = $13.31, *SD* = 18.27, *p* = .01). However, contrary to our first hypothesis, donation amount in the low solvability condition (*M* = $17.62, *SD* = 21.66) was *also* significantly higher than in the control condition (*p* < .001). Respondents for whom malaria was framed as solvable exhibited a positive impact on their donation behavior. Yet at the same time, those for whom malaria was framed as unsolvable *also* showed the same significant positive impact relative to the control condition.

[FIGURE 1 HERE]

The same pattern of findings emerged for intention to donate. The self-reported likelihood of donating in the future was significantly higher in the low solvability and high solvability frame conditions compared to the control condition.[6]

What might explain the puzzling finding that both the high and low solvability conditions had positive impacts on donation behavior? To help answer this question, we turned to our second hypothesis and our research question, which focused on the potential roles of perceived efficacy and sympathy in the relationship between solvability and donation behavior.

We began by examining perceived efficacy and sympathy in the three conditions, and found an intriguing asymmetrical pattern: those who viewed the high solvability frame had higher levels of perceived efficacy than the other two conditions, and those who viewed the low solvability frame had higher levels of sympathy than the other two conditions. An ANOVA and planned contrasts confirmed that perceived efficacy was significantly higher for those who viewed the high solvability frame ($M = 3.53$, $SD = 1.11$) compared to the control condition ($M = 3.35$, $SD = 1.11$, $p = .01$) and to those who viewed the low solvability frame ($M = 3.29$, $SD = 1.14$, $p<.001$), while the latter two conditions did not differ from one another ($F(2, 1460) = 6.08$ $p = .002$, $\eta_p^2 = .01$). Similarly, an ANOVA and planned contrasts showed that the mean level of sympathy for malaria victims in the low solvability frame condition ($M = 5.17$, $SD = .88$) was significantly higher than in the control condition ($M = 4.99$, $SD = .88$, $p = .002$) and the high solvability frame condition ($M = 4.94$, $SD = 1.02$, $p < .001$), whereas the latter two conditions did not differ significantly ($F(2, 1460) = 8.86$ $p < .001$, $\eta_p^2 = .01$).

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[6] The one-way ANOVA revealed a significant effect of solvability on donation intention ($F(2, 1460) = 6.99$, $p = .001$, $\eta_p^2 = .01$). Planned contrasts showed that the self-reported likelihood of donating in the future was significantly higher in the high solvability condition ($M = 2.00$, $SD = .86$) compared to the control condition ($M = 1.85$, $SD = .81$, $p = .004$). Donation intention in the low solvability condition ($M = 2.03$, $SD = .84$) was also significantly higher than in the control condition ($p < .001$). The same pattern of results was found when we used an ordered logistic regression.

This suggests the possibility that respondents for whom malaria was framed as solvable may have been motivated to donate because perceived efficacy increased beyond baseline levels. This would partially support our second hypothesis. And at the same time, it appears that the low solvability frame unintentionally increased sympathy levels relative to the control condition, which offers a possible explanation for the higher donation levels: Individuals who viewed the problem as unsolvable may have felt compelled to donate more because their sympathy levels were aroused above baseline levels.

In short, one explanation for the unexpected pattern in donation behavior is that respondents who viewed a message that framed malaria as solvable followed the "deliberative" route to helping behavior, and those who viewed a message that framed malaria as an unsolvable problem followed the "emotional" route to helping behavior. This is consistent with Lowenstein and Small's "scarecrow-tin man" model, which posits that both sympathetic and deliberative responses to stimuli can lead to helping behavior. Respondents for whom malaria was framed as unsolvable felt sympathy for malaria victims, which may have undercut their reliance on more "deliberative" calculations about the solvability of the problem. Meanwhile, respondents for whom malaria was framed as solvable did not experience increased levels of sympathy (in comparison to the control condition), and therefore were perhaps more influenced by the calculation that malaria, as a solvable problem, is something they can personally impact.

To more rigorously test this explanation, we conducted a mediation analysis examining two key propositions: (1) that perceived efficacy mediates the relationship between exposure to *high* solvability frames and donation behavior (consistent with our second hypothesis); and (2) that sympathy mediates the relationship between exposure to *low* solvability frames and donation behavior.

We used the PROCESS macro for SPSS to conduct the mediation analyses (Hayes &

Preacher, 2014).[7] The results support both propositions. There was a significant indirect effect of

high solvability on donation amount through perceived efficacy (indirect effect = 1.01, SE = .39,

95% CI: 0.27, 1.83). There was also a significant indirect effect of low solvability on donation

amount through sympathy (indirect effect = .61, SE = .20, 95% CI: 0.26, 1.06). Moreover, the

findings confirmed that each mediator was asymmetric: perceptions of efficacy did *not* mediate

the relationship between low solvability and donation amount, and sympathy did *not* mediate the

relationship between high solvability and donation amount; in both cases, the confidence interval

included zero. We observed the same pattern of findings with intention to donate as the

dependent variable: a significant indirect effect of high solvability on intention through perceived

efficacy (indirect effect = .07, SE = .03, 95% CI: 0.02, 0.13), and a significant indirect effect of

low solvability on intention through sympathy (indirect effect = .02, SE = .01, 95% CI: 0.01,

0.04).

Discussion

Our study aimed to test the hypothesis that framing a societal problem as solvable (or

unsolvable) would increase (or decrease) audience members' willingness to help address the

problem. We posited that solvability would promote willingness to help by leading respondents

to believe that help would be feasible and effective. This hypothesis was partially supported:

framing a problem as solvable *did* increase respondents' willingness to help above baseline, but

framing a problem as unsolvable *also* increased respondents' willingness to help.

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[7] Donation amount was the dependent variable, with the experimental condition entered as a multi-categorical independent variable (with control group as the reference category) and perceived efficacy and sympathy entered as the two mediators.

Respondents who were shown information that framed malaria as solvable, by describing the feasibility of eradicating the disease, were more likely to think the problem could be solved, which led to higher intentions to donate and higher donation amounts relative to the control group. This occurred in part because the increased perception of solvability caused respondents to experience higher levels of perceived efficacy. In other words, they were more willing to donate if they felt their money would make a difference in supporting an intervention with the potential to solve the problem. The finding that perceived efficacy increased willingness to donate is consistent with prior work on charitable giving (Cryder & Loewenstein, 2011); this study builds on that work by demonstrating that raising perceptions of solvability through framing can, in turn, increase perceptions that donations can make a difference.

In addition, respondents for whom malaria was framed as solvable did not experience increased levels of sympathy for malaria victims in comparison to the control group. This runs counter to the findings of previous studies, which suggest that deliberation in charitable appeals reduces sympathy, thereby reducing helping behavior, and should thus generally be avoided.

But the study also showed that framing problems as unsolvable increases willingness to help as well. This was because framing the issue as unsolvable had the corollary effect of *increasing* sympathy levels among viewers, compared to the control group. Respondents for whom malaria was framed as unsolvable felt greater sympathy for malaria victims, which seemed to undercut their reliance on more "deliberative" calculations about the solvability of the problem.

This finding sheds light upon 1) the relationship between rationality and sympathy as proposed by Loewenstein and Small (2007), and 2) the role of rationality in media portrayals. Loewenstein and Small proposed two pathways to providing aid: sympathy and deliberation.

While this study aimed to analyze the more *deliberative* pathway suggested by the authors (as their research primarily focuses on the impact of sympathy) we inadvertently demonstrated, instead, how each pathway can independently influence behavior. Those for whom the problem was framed as unsolvable exhibited higher levels of sympathy which, in this case, seems to have short-circuited the rationality pathway and taken over as a determinant of behavior.

Secondly, with respect to the role of rationality and deliberation in responses to media portrayals, the study suggests that deliberation did not dampen willingness to help, nor did it decrease sympathy below control group levels. This runs counter to previous findings, within the realm of charitable appeals, that deliberation *does* dampen willingness to help, cancels out sympathy, and should generally be avoided. In this case, "deliberation" led to a rational conclusion that help made sense. This demonstrates that "deliberation" and "rationality" do not always result in viewers turning their backs on suffering. The concept of solvability as a *component* of deliberation can help us better understand when deliberative pathways may lead to aid.

Moreover, the study shows that sympathy and rationality were equally powerful routes to aid. In this case promoting deliberation was just as effective as (unintentionally) promoting sympathy. There was no statistical difference in intention to donate or donation amount between those in the high solvability condition, whose decisions were made rationally, and those in the low solvability condition, who reacted emotionally.

Therefore, in contrast to what others have found, we conclude that promoting deliberative thought (emphasizing information, including statistics, etc.) does *not* necessarily dampen willingness to help *when problems are framed as solvable*, and can indeed promote helping behavior if deliberative thought suggests solutions are feasible.

Limitations

As with any study, the one presented here has limitations. For example, our ability to measure donations was limited to the couple of minutes after exposure to a brief message; our study does not capture potential cumulative effects of high/low solvability messages or any lagged effects. We focused on malaria in particular; it is possible that people's responses to other chronic problems would differ, depending on the effectiveness of existing solutions and their costs. Additionally, perceived solvability is but one aspect of rationality (though we would argue a significant one). There may be other contexts in which promoting deliberation may decrease helping behavior, even if perceptions of solvability are high.

Implications for media makers

If framing problems as solvable *or* unsolvable engages audiences and promotes helping behavior, does it matter how distant sufferers are framed in the media, if audiences will always have the same reaction? We would argue that it very much does matter, because the two frames influence the audience's *motivations* to help in different ways, with those viewing problems as unsolvable being moved by emotion and those viewing problems as solvable moved by logic. There are at least three reasons why promoting solvability instead of sympathy is a more *ethical* framing choice, and ought to be adopted as the preferred strategy (as long as such a frame is indeed accurate).

First, focusing on presenting victims as powerless, weak, or infantilized (in order to evoke sympathy), and presenting the generosity of Western donors as their only hope, reinforces long-standing stereotypes about the developing 'Other' and the Western savior (Author, 2015; Said, 1993). Despite criticisms of such depictions, highlighting the sad, sorry state of victims is still common in charitable appeals (e.g., Breeze & Dean, 2012). Our findings indicate, however,

that sympathy need not be held up as the sole mediator of helping behavior when it comes to individual action.

Second, the literature reviewed here suggests that the public's capacity for sympathy in the face of hopeless foreign suffering may be waning. Trying to pull at the public's heartstrings may not be a realistic long-term strategy (either for charities seeking donations or for journalists seeking audiences) when such depictions may lead audiences to lose hope that the situation can be remedied, and when increasingly dramatic depictions are required to maintain the audience's interest.

Third, with respect to journalism specifically, if framing a problem presented in the news media as solvable encourages audiences to think about effective and long-term ways to address a problem, and framing a problem as unsolvable encourages audiences to have purely emotional reactions, the former strategy is much better suited to addressing the needs of democratic citizens. In a democratic system, the press is expected to provide the public with information needed to make decisions on issues of the day so they can weigh various potential responses to societal problems (Curran, 2005). Therefore, emphasizing practical information about context and solutions, as opposed to information designed to grab headlines, arguably provides a better service to news audiences.

This is not an abstract dilemma. Malaria is one of many issues that are framed as both solvable and unsolvable in the news media. Droughts can be framed as catastrophic and unpredictable forces of nature that leave victims in need of food aid, or they can be framed as man-made emergencies that can be addressed through better irrigation and other infrastructure projects. Corruption within foreign governments can be framed as an inevitable outcome of broken systems and "backward" societies, or framed as influenced, in part, by Western trade and

aid policies. For news media outlets covering these topics and others, their choice of how to cover a story can influence whether audiences process the information emotionally or rationally. As stated above, leaving *out* ways to address the problem also frames the problem: It frames it as unsolvable if audiences cannot then conceive of ways to solve the problem.

Whether audiences process news information emotionally or rationally may in turn influence what *kind* of response audiences pursue. In this study, the only choice given to respondents was whether or not to make a donation to charity, but it is certainly conceivable that interpreting a problem as solvable or unsolvable could influence what other kinds of responses audiences deem most appropriate. An important line of future research, therefore, would be to see whether those who are exposed to high or low solvability frames support different kinds of responses to problem alleviation. Those exposed to problems framed as solvable, for example, might support projects that are targeted toward long-term alleviation of poverty among victim populations, whereas those exposed to problems framed as unsolvable might support short-term solutions such as food aid.

Overall, it is evident that reporting on the state of victims of distant suffering is not a neutral undertaking. Media makers who portray victims of suffering must acknowledge how framing of such messages influences perceptions of solvability, and thus behavioral response. This should allow more conscious – indeed more *deliberate* – decisions by charities and journalists, regarding how to ethically portray crises.

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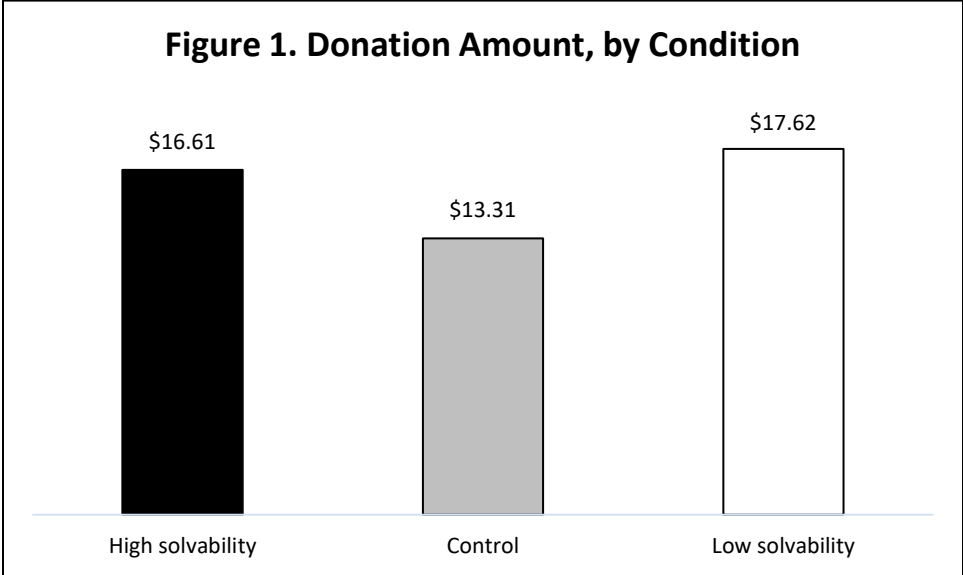behavior. *Personality and Social Psychology Review, 8*, 220-247. doi:

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Figure 1. Donation Amount, by Condition

$16.61 | High solvability

$13.31 | Control

$17.62 | Low solvability

Appendix A: Experimental Stimuli

High solvability text:

Malaria is a mosquito-transmitted disease that kills nearly half a million people every year. Most of these deaths occur in children under the age of five in sub-Saharan Africa.

But experts have determined that with the right interventions, ***malaria can be eliminated in Africa***. The disease has already neared elimination status in two African countries.

Prevention and treatment interventions like insecticide-treated mosquito bed nets and anti-malarial drugs are effective tools in helping to eliminate malaria. A bed net, which kills and repels mosquitoes, costs only $10, and treatment costs a mere $1 per dose. Major efforts to scale up interventions have yielded impressive results, with 5.9 million children's lives saved since 2001.

Low solvability text:

Malaria is a mosquito-transmitted disease that kills nearly half a million people every year. Most of these deaths occur in children under the age of five in sub-Saharan Africa.

Experts have determined that, even with the right interventions, ***it is unclear if malaria can be eliminated in Africa***. The death toll will likely remain high in the years to come.

Prevention and treatment interventions like insecticide-treated mosquito bed nets and anti-malarial drugs help control malaria. However, their effectiveness is undermined when bed nets are of poor quality, failing to kill and repel mosquitoes, and funding is scarce, falling far short of the $5.1 billion needed each year to achieve universal access to interventions. Despite major efforts, malaria still kills one child every two minutes.

Control:

Air pollution in Chinese cities is of increasing concern to China's government and its citizens. Particulates in the air can adversely affect human health and also have impacts on climate and precipitation. According to the National Environmental Analysis released in January 2013, 7 of the 10 most air polluted cities in the world are located in China, including Taiyuan, Beijing, Urumqi, Lanzhou, Chongqing, Jinan and Shijiazhuang. Air pollution in China is at an all-time high.

In October 2013, a dense wave of smog began in Northeast China. Unseasonably warm temperatures coupled and very little wind coincided with the opening of a new coal-powered municipal heating system. Record densities of fine particulates were measured in major Northeastern cities shortly thereafter.