

SUPPLEMENTAL MATERIALS

Empathic and Numerate Giving: The Joint Effects of Images and Charity Evaluations

Additional Method Information

Overview of study methods

Study	N	Base \$/£	Bonus/ raffle?	Charity(s)	Image manipulation	Efficiency/effectiveness info manipulation(s)	Commitment placement ^a
1	398	\$1.50	\$3	Syria Fund of Save the Children	Named boy in ambulance following airstrike vs. no image	Charity Navigator (CN) positive efficiency evaluations	Commitment question asked between image and efficiency information in the combined condition.
2	614	\$1.50	\$3	Syria Fund of Save the Children	Named boy in ambulance...	CN pos. efficiency vs. no info vs. negative info manip. (aid convoy not reaching destination)	Commitment to donate consistently after both image and efficiency information
3	611	\$1.50	1/25 chance of \$50	Syria Fund of Save the Children	Named boy in ambulance...	CN pos. efficiency vs. no info vs. negative info manip. (aid convoy not reaching destination)	Commitment question asked between image and efficiency information in the combined condition.
4	608	\$2	1/100 chance of \$50	Syria, 2 un- named charities (choice)	Named boy in ambulance...	Conjoint eval. of 2 charities, CN efficiency (high/low)	Placement of commitment experimentally varied to be before vs after efficiency information.
5	433	\$1.50	\$5	Polio Eradication Initiative	Child with polio in hospital (un-named) vs. no image	Costs/ benefit anal. for Polio Eradication (favorable)	Commitment question asked between image and efficiency information in the combined condition.
6	378	0	Ambig- uous: ^b 1/20 £50 Amazon	River- blindness or Guide dogs (choice)	Blind 12-yo girl picture (unnamed) vs. no image	Cost/output (dog-life/ RB med) & cost/outcome (dog-day/ avoided-blindness)	No question about commitment.

Note. Gray represents materials that are identical to the previous study.

^a The rationale for varying the placement of the commitment was based on an hypothesis that the timing of deliberation matters for the interaction between images and efficiency or effectiveness information. In particular, we also examined the possibility that deliberation is detrimental for prosociality if it interferes with emotional reactions at the first decision stage – when prospective donors decide if they will donate at all or not – but *not* if it is introduced at second stage instead – after an initial yes/no commitment has already been made (for more details, see additional method descriptions for each study). Additional studies (not reported here, due to a different focus than the current paper) also manipulated the order of both images and effectiveness information, but they showed no systematic order effects.

^b Participants were told (truthfully) that completing the survey entered them into a random draw for one of 20 Amazon £50 gift certificates. Actual chances of winning depended on the number who responded. As 378 people completed the survey (up to the relevant point), the ex-post probability was 20/378, or just over 1/19.

Method Details for Each Study

Study 1 Method Details

Participants. We recruited participants from Amazon Mechanical Turk. To assure that they were somewhat naïve about psychological experimentation, participants could only take the study if they had done 100 tasks or less in the past. Further, the invitation was open only to workers who were American and who had an approval rate of 98% or above. Based on these inclusion criteria, 398 participants took part in the study. The sample size excludes participants ($n = 40$) who failed two simple attention checks (e.g., “to monitor quality, please respond with a seven for this item”). The median age of participants in the sample was 30 years ($SD = 10.64$), and 57% were women. Participants received \$1.50 as a baseline payment and a bonus of \$3.00, from which they could choose to donate to the Syria fund of Save the Children.

Design, Procedure and Instruments. Participants were invited to a study focusing on knowledge and opinions about the civil war in Syria. They were first asked about their familiarity with the civil war, and particularly a news headline stating that “U.N. Relief Official Calls Crisis in Aleppo the ‘Apex of Horror’” (Gladstone, 2016). We used this to rule out the possibility that participants in the control and efficiency conditions would simply be less aware of the problem, as compared to the image condition (i.e. establishing a baseline problem description). Subsequently, participants were randomly assigned to the experimental conditions.

The study employed a 2 (Victim image: Yes/No) \times 2 (Efficiency information: Yes/No) between-subjects design. In a first (control) condition, participants were at the very onset of the study asked if they would be willing to donate part of a completion bonus (\$3) to the Syria fund of Save the Children (yes/no). Proceeding to the next page, they were asked to specify an amount to give, using a slider from \$0 to \$3 (\$0.01 increments). The instructions stated that they should leave the slider at 0 if they wished to receive the full bonus (in all studies the slider was positioned at 0 at the onset).

In the image only condition, participants were first shown a widely publicized image of an injured boy in an ambulance after an airstrike in Aleppo. A brief caption from the Guardian included the boy’s name (see Nott, 2016), hence introducing an identified victim (see also Kogut & Ritov, 2005a). Seeing the image, participants were asked to report their spontaneous reaction, writing down the first word that came to mind (responses indicated the anticipated emotional responses, such as “sad,” “devastated,” and “horrified”). After providing their reactions, participants answered the same donation questions as in the control condition.

In the efficiency information condition, we presented participants with ratings of Save the Children from charitynavigator.org. This website rates thousands of charities in terms of their (1) financial health and (2) accountability/transparency (Charity Navigator, 2017). The financial score provides a non-arbitrary metric of efficiency that is based on, for example, percentage of total expenses that are dedicated to the charity operations. Participants were asked if they were familiar with efficiency ratings like this, and were subsequently asked the donation questions.

In a final (combined image and efficiency) condition, participants first viewed the same image materials as described above. Next they answered the question about intent to donate (yes/no), and then they received the efficiency information. Directly following the efficiency information, we presented the question about amounts to donate.

Study 2 Specific Rationales

Although positive efficiency information may not increase donations in general, it is still possible that people are more responsive to negative efficiency. We tested this notion in light of

news reports that aid convoys to Syria were suspended as a result of attacks on a relief shipment (e.g., Cunningham, DeYoung, & Roth, 2016). This would, at least temporarily, imply that donations would not be going to the intended program (i.e. low efficiency). Thus, if people donate based on the good they could do, one would expect them to refrain from giving under these circumstances.

We used the same basic design as in Study 1, but added two new conditions: One that only presented the news of ineffectiveness, and one that combined this information with Victim image. Overall, the study examined positive or negative efficiency information, with or without image, compared to a control (and image only) condition. Lastly, in the conditions combining image and positive or negative efficiency information, we placed the efficiency manipulation right after the image. Thus, we examined if the image effect would be interrupted by efficiency information (positive or negative) presented immediately afterwards, before any initial commitment had been made to donate.

Study 2 Method Details

Participants. 614 (60% women) participants took part in the study on Amazon Mechanical Turk, using the same inclusion criteria as in Study 1. This sample size excludes participants ($n = 55$) who failed two simple attention checks (e.g., “to monitor quality, please respond with a seven for this item”). Main results including these participants are presented in the supplemental materials. The median age was 29 years ($SD = 10.16$). Participants received \$1.50 as a baseline payment and a \$3.00 bonus, from which they could choose to donate to the Syria fund of Save the Children.

Design, Procedure and Instruments. Participants were again invited to a study focusing on knowledge and opinions about the civil war in Syria. The experiment employed a 2 (Victim image: Yes/No) \times 3 (Efficiency information: Negative/No information/Positive) between-subjects design. The manipulations involving image and positive efficiency information were identical to those in Study 1. Two new conditions were created for negative efficiency information, both using a screenshot of a news heading in the Washington Post (Cunningham et al., 2016) which stated that “U.N. suspends aid convoys in Syria after deadly attack on relief shipment.” Along with this heading, we presented an image from the same article which showed one of the attacked trucks. There were no people in this image, thus providing a more stringent control, relative to the impact of viewing an image of a human victim. In one of the two conditions, we only presented this material (inefficiency information condition). In the other new condition we first showed the image of the injured boy (as in Study 1), asked about donation commitments, and then presented the news about suspended aid (combined image and inefficiency condition). Directly after the manipulation, all participants were first presented with the commitment question to donate (yes/no) and subsequently the question about amounts to give (for other details, see Study 1 Procedure and Instruments).

Study 3 Specific Rationales

Study 3 was identical to Study 2, with two exceptions. First, we used a raffle instead of bonus payments for everyone. By offering a larger amount from which participants could donate, we hoped to reduce the number of participants donating everything (i.e. we attempted to reduce the ceiling effects in Study 1 and 2). Second, in the combined conditions (image plus positive information, and image plus negative information) we returned to placing the efficiency information after the initial commitment to donate. If the sympathetic response to image is robust

to deliberate processing once an initial commitment has been made, but not otherwise (Study 2), then we expected a main effect of image here, as in Study 1.

Study 3 Method Details

Participants. 611 (58% women) participants took part in the study on Amazon Mechanical Turk, using the same inclusion criteria as in Study 1 and 2. This sample size excludes participants ($n = 70$) who failed two simple attention checks (e.g., “to monitor quality, please respond with a seven for this item”). The median age was 29 years ($SD = 9.55$). Participants received \$1.50 as a baseline payment and were informed that completed surveys would be entered into a raffle for \$50.00 bonuses, with 1:25 odds. They could choose to donate part of that bonus, contingent on winning, to the Syria fund of Save the Children.

Design, Procedure and Instruments. With one exception, the experimental design was identical to that of study 2, employing a 2 (Victim image: Yes/No) \times 3 (Efficiency information: Negative/No information/Positive) between-subjects design. The difference concerned when the efficiency information was presented: In study 2 it was consistently placed before the yes/no question about donation intentions, whereas here we placed it after the intentions question (but before the question about amounts to actually donate), whenever the image was presented initially (i.e., in the image plus negative information, and the image plus positive information). All the materials were also identical, except that we asked about donations based on prospective raffle winnings, instead of bonuses for every participant. In particular, we mentioned to participants that 1 in 25 would win \$50, and we asked if they would be willing, should they win, to donate part of that sum to a Syria fund of Save the Children. They indicated their answer using a slider with \$1 increments.

Study 4 Specific Rationales

Information is sometimes evaluated dramatically differently when presented alongside comparison information (joint evaluation) versus when it is presented on its own (separate evaluation; e.g., Hsee, Loewenstein, Blount, & Bazerman, 1999; Kahneman & Miller, 1986). More specifically, Hsee et al. (1999) suggested that some qualities are difficult to assess by themselves, but gain meaning when presented alongside some alternative. In this study, we considered the possibility that charity efficiency represents such ‘difficult-to-evaluate’ information – that it only becomes meaningful in relation to a direct comparison. Study 4 further varied whether the comparison was presented before or after an initial commitment to donate.

Study 4 Method Details

Participants. 608 (59% women) participants were recruited on Amazon Mechanical Turk, using the same inclusion criteria as in the previous study. The reported analyses did not include participants ($n = 49$) who failed two simple attention checks (e.g., “to monitor quality, please respond with a seven for this item”). For comparison, the supplemental materials provide results from the principal (two-part) analyses with the inclusion of inattentive participants. The median age was 30 years ($SD = 10.01$). Participants received \$2 as a baseline payment and they were informed that completed surveys would be entered into a raffle for \$50.00 bonuses. They could choose to donate part of that bonus, contingent on winning, to one of two charities in Syria.

Design, Procedure and Instruments. The experiment was based on a 2 (Victim image: Yes/No) \times 3 (Efficiency information comparison: Early/Late/No comparison) between-subjects design. The image manipulation was the same as in previous studies, and those who were assigned to view the image always did so before any efficiency materials. The efficiency

materials involved two charity ratings from charitynavigator.org, presented side by side (see <https://www.charitynavigator.org/index.cfm?bay=search.summary&orgid=8166> [2016 report], and <https://www.charitynavigator.org/index.cfm?bay=search.history&orgid=4438> [2016 report]). The ratings were closely matched on accountability/transparency, but varied noticeably in terms of their financial scores (i.e. their internal efficiency of putting money toward their programs). The experimental variation concerned *when* participants reviewed these ratings.

One third of participants were randomly assigned to examine the ratings before the question about donation commitment (in the same format as before, see Study 1), and subsequently chose a charity they wanted to support, if they wanted to donate (what we call the “early efficiency comparison” condition[s]). Another one third of participants were randomly assigned to a condition in which they were asked about donation commitments before reviewing the two efficiency ratings and choosing a charity to support, if any (late efficiency comparison condition[s]). A final third of participants never reviewed any efficiency ratings (no comparison condition). All participants were subsequently asked to specify an amount to donate, in case they won a raffle for \$50 (1:100 odds in this study).

Study 5 Specific Rationales

The last two studies examined charity efficiency the way effective altruists typically do – that is, whether money spent leads to a quantifiable positive outcome. In particular, we manipulated information evaluating the effectiveness of the Polio Eradication Initiative, taking advantage of its well-monitored results as well as estimated costs and benefits (Tebbens et al., 2010). In other words, we examined a charitable cause that has been extensively evaluated in terms of its outcomes and for which it is also possible to manipulate information about whether the money put towards achieving those outcomes.

Study 5 Method Details

Participants. 433 (58% women) participants took part in the study on Amazon Mechanical Turk, based on the previously described inclusion criteria (see Study 1 methods). This sample size excludes participants ($n = 22$) who failed a simple attention check (“to monitor quality, please respond with a five for this item”). The median age was 29 years ($SD = 10.19$). Participants received \$1.50 as a baseline payment and a \$5.00 bonus, from which they could choose to donate to the Polio Eradication Initiative.

Design, Procedure and Instruments. Participants were invited to a study focusing on knowledge and opinions about polio. The experiment was based on a 2 (Victim image: Yes/No) \times 2 (Effectiveness information: Yes/No) between-subjects design. For the image manipulation we used an image from the Rotary foundation with a young paralyzed girl with polio (<https://www.flickr.com/photos/91311153@N02/8290596191>).

The effectiveness information was manipulated within a brief fact sheet (~ 400 words) with questions and answers about polio, based on information from the Polio Eradication Initiative (2016) and the World Health Organization (2016). This manipulation is shown in full on p. 8-9 in these supplementary materials. Participants further answered a dozen factual and attitudinal questions about polio (e.g., which age group that is primarily affected by polio, as well as whether they think polio receives too much or too little attention in the media). Participants indicated whether they would be willing to make a donation from a \$5 bonus. Only those who said yes were shown the question about amounts (as compared to study 1-4 where everyone saw the amount question).

Study 6 Specific Rationales

Like study 5, the final experiment focused on manipulating effectiveness information, but in this case using a conjoint evaluation of two charities dealing with blindness. This comparison was inspired by an example given by Singer (2015) discussing the cost effectiveness of treating river blindness versus providing guide dogs to blind individuals. This study was also run in a college student sample in the United Kingdom, instead of Mturk workers in the United States. This study was pre-registered, see <https://osf.io/cvrn4>

Study 6 Method Details

Participants. We sampled 319 participants (64% women) from a large university in the United Kingdom, across a wide range of study disciplines. The median age was 23 years ($SD = 12.05$). This sample size excludes participants ($n = 59$) who could not recall a central piece of information in the text where we manipulated effectiveness information (the regions where the river blindness charity is operating). Results with inattentive participants included are presented later in these supplementary materials.

Participants in this study did not receive an individual baseline payment. Instead, they all entered into a raffle for a £50 Amazon gift card. They knew the total number of prizes (20) but they did not know their exact chances of winning, which depended on the response rate; ex-post it was roughly 1 in 20. Participants could choose to reduce their prospective gift card amount by donating to one of the two described charities for blind individuals (see procedure and instruments from more details).

Design, Procedure and Instruments. The experiment was based on a 2 (Victim image: Yes/No) \times 2 (Effectiveness comparison: Yes/No) between-subjects design. The manipulations were embedded at the end of a survey asking about various values, attitudes, and social perceptions (e.g., Schwartz values, authoritarianism, and political ideology). The median completion time for the full study was approximately 20 minutes. The initial survey materials also had two versions, dealing with either international or domestic poverty. The experimental manipulations for the purpose of this study were blocked on that variation, as well as measures of analytic thinking styles and care for other people (based on median splits from previous studies with those measures). In other words, we assured that the randomization would be balanced for these factors, in order to counteract possible confounds introduced by the earlier survey materials.

For the image and effectiveness manipulations, participants were first reminded that they had the chance to win a £50 gift card. They were subsequently told that they could choose to donate some, or all, of the prospective prize to help blind individuals. They were further informed that their donations would be matched, such that every £1 they would donate we would add an additional 25p. Next they received a brief problem description for blindness (similar to the initial descriptions in the previous studies, assuring that all conditions would have a baseline understanding of the problems targeted with the donations).

For the image manipulation, we used a picture of a 12-year old girl with corneal blindness (see <https://www.flickr.com/photos/communityeyehealth/5492473278>). We choose a picture with a neutral background setting, to make it more ambiguous what caused her blindness and what kind of help she might benefit the most from. After the image manipulation, we introduced participants to the two charities they could support – river blindness treatments or guide dogs – along with a brief description of each. Critically, we varied whether this information contained information about cost effectiveness or not. This manipulation is presented in full on p. 10 in these supplementary materials. Participants then choose one charity to support (or neither) and

then proceeded to the question about how much to give (closely mimicking the format from the previous studies).

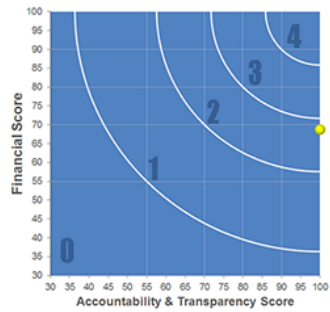
After the donation decisions, we asked about where the efforts to combat river blindness are focused (this information was mentioned in both conditions), in order to check whether participants paid attention to the information about the two charities. 84% of the participants of the participants reported one of the two regions, of which 44% recalled both regions correctly (Africa and Latin America). There was no significant difference between the effectiveness and control condition in this recall (coded as 0 = no region correct, 1 = one region correct, 2 = both regions correct); $\chi^2 = 0.55$ ($df = 2$), $p = .76$. More important, the impact of effectiveness information on donations did not differ significantly by degree of attentiveness.

Example of Efficiency Manipulation (From Study 4, conjoint evaluation)

There are several international charities operating in Syria, and here you some find information about two of them, from an organization rating charities in terms of efficiency. Please review this information for a moment, before you move on to the next question.

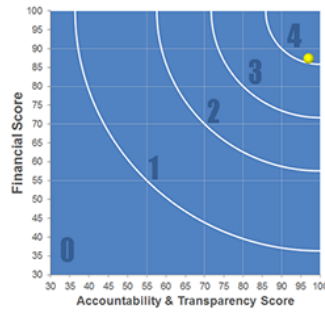
	Score (out of 100)	Rating
Overall Score & Rating	77.98	★☆☆☆
Financial	68.87	★☆☆☆
Accountability & Transparency	100.00	★★★★

This rating was published 06/01/2016 and includes data from FY2014, the most recent 990 received at that time.
Why isn't this based on more recent data?



	Score (out of 100)	Rating
Overall Score & Rating	90.88	★★★★
Financial	87.46	★★★★
Accountability & Transparency	97.00	★★★★

This rating was published 06/01/2016 and includes data from FY2014, the most recent 990 received at that time.
Why isn't this based on more recent data?



Effectiveness manipulation, Study 5
(grey introductory text is the same as in the control condition)

What is polio?

Poliomyelitis (polio) is a highly infectious disease caused by the polio virus. It invades the nervous system, and can cause paralysis or even death in a matter of hours.

Who is at risk of catching polio?

Polio mainly affects children under 5 years of age.

What are the effects of polio?

One in every 200 persons infected with polio leads to irreversible paralysis (usually in the legs). Among those paralysed, 5-10% die when their breathing muscles are immobilized by the virus.

Is there a cure for polio?

Once contracted there is no cure for polio. However, polio can be prevented by immunization. A safe and effective vaccine exists - the oral polio vaccine (OPV). Given multiple times, it protects a child for life. One dose of OPV can cost as little as 14 US cents.

Why is so much focus placed on polio, but not on other diseases?

Polio is one of only a few diseases which can be completely eradicated, such as was the case with smallpox. There are 3 strains of wild poliovirus, none of which can survive for long periods outside of the human body. If the virus cannot find an unvaccinated person to infect, it will die out. Polio eradication infrastructures are also used for the provision of other health services such as deworming tablets, vitamin A and bednets.

How far have we come in the process of eradicating polio?

In 1988, when the Global Polio Eradication Initiative was formed, polio paralysed more than 350,000 people a year. In 2013, only 416 polio cases reported. We are 99% of the way to eradicating polio globally. The world can be freed of the threat of polio - with everyone's commitment to overcome the last 1%.

Is the quest to eradicate polio worth all the money invested in it?

Yes, at least according to economists evaluating these efforts. The following is part of a summary from a scientific paper examining that very question:

"We estimate incremental net benefits of the GPEI [global polio eradication initiative] between 1988 and 2035 of approximately 40–50 billion dollars (2008 US dollars; 1988 net present values). [...] The total economic costs saved per prevented paralytic poliomyelitis case drive the incremental net benefits [...] This study finds a strong economic justification for the GPEI despite the rising costs of the initiative".

Control condition, Study 5

What is polio?

Poliomyelitis (polio) is a highly infectious disease caused by the polio virus. It invades the nervous system, and can cause paralysis or even death in a matter of hours.

Who is at risk of catching polio?

Polio mainly affects children under 5 years of age.

What are the effects of polio?

One in every 200 persons infected with polio leads to irreversible paralysis (usually in the legs). Among those paralysed, 5%-10% die when their breathing muscles are immobilized by the virus.

Is there a cure for polio?

Once contracted there is no cure for polio.

How does Polio spread?

Polio is spread through person-to-person contact. When a child is infected with wild poliovirus, the virus enters the body through the mouth and multiplies in the intestine. It is then shed into the environment through the faeces where it can spread rapidly through a community, especially in situations of poor hygiene and sanitation.

Young children who are not yet toilet-trained are a ready source of transmission, regardless of their environment. Polio can be spread when food or drink is contaminated by faeces. There is also evidence that flies can passively transfer poliovirus from faeces to food.

Even symptomless people carry the virus in their intestines and can “silently” spread the infection to thousands of others before the first case of polio paralysis emerges. For this reason, WHO considers a single confirmed case of polio paralysis to be evidence of an epidemic – particularly in countries where very few cases occur.

What are the standards for detecting a circulation of poliovirus?

Among other things, all acute flaccid paralysis (AFP) cases under 15 years of age or with paralytic illness at an age where polio is suspected should be reported immediately and investigated within 48 hours, and two stool specimens should be collected 24-48 hours apart and within 14 days of the onset of paralysis.

What can be done in terms of basic hygiene to avoid polio?

Wash your hands often. If soap and water aren't available, clean hands with hand sanitizer (containing at least 60% alcohol). Don't touch your eyes, nose, or mouth. If you need to touch your face, make sure your hands are clean.

Effectiveness manipulation, Study 6

Info-treatment: description, choice (1/2 of subjects)

Here are brief descriptions of the two causes that you can choose to support:

Guide dogs: Donations to this cause help provide guide dogs to blind and visually impaired men and women in the UK to lead confident, independent and fulfilling lives. Your donation will help to train a guide dog to support a visually impaired person in navigating any mobility challenges he or she may face. It costs roughly £5 per day to support each working guide dog partnership. On average, it is estimated that the lifetime cost of a guide dog for one person, including training, is roughly £55,000.

River blindness: Donations to this cause help eliminate river blindness (Onchocerciasis) in Latin America and Africa, one of the leading causes of preventable blindness worldwide. Your donation will help to distribute a medicine which is effective in suppressing the worms that cause river blindness. In mass drug administration campaigns, this treatment costs less than 10p per person per year. Independent estimates suggest that, on average, it is possible to avert a total of 10-50 years of serious debilitation (blindness, low vision) for a person for roughly £75.

Which charity, if any, would you want to support?

(If you don't want to donate, just leave this question unanswered.)

☐ **Guide dogs**

Donation goes to the charity *Guide Dogs (UK)* to support working guide dog partnerships

☐ **River blindness**

Donation goes to the charity *the Carter Center*, for their River Blindness Program

The Control screen was similar, but the last two sentences of each paragraph (indicated above in blue pen; starting with 'It costs roughly £5 per day' and with 'In mass drug administration campaigns') were not shown in the Control versions.

Donation questions

In all studies, except the last one, participants were asked if they would be willing to donate (yes/no) before being asked about amounts to donate. For each study, participants in all conditions were asked the same questions. The studies varied in terms of whether donations were made from a bonus (study 1,2, and 5) or prospective raffle winnings (study 3,4, and 6). The amounts and odds of winning the raffle also varied, as well as the particular cause the participants could support (see manuscript for more information).

Below is an example from study 3.

☐ Intent

Thank you for completing the initial part of the study.

If you complete all parts of the study (or nearly so) you will be entered into a raffle for a \$50 bonus (1 in 25 will win this). If you win, would you be willing to donate part of that to a Syria fund of Save the Children?

☐ Yes

☐ No

☐ DonCont

As mentioned, completed surveys (or nearly so) will be entered into a raffle for \$50 bonus, and you indicated whether you would be willing to donate a part of the bonus to the Syria fund of Save the Children.

Please use the slider to indicate any amount you want to donate (\$0-50).

Leave the slider at 0 to receive the full bonus.

\$ to donate

0

50

Import Questions From...

Create a New Question

^

▼ Donation slider

Additional Results

Results including inattentive participants

We also reran the analyses based on data from all participants who completed any of the measures in the study (i.e. including the participants who failed the attention checks).

Table S1. Regression coefficients for experimental manipulations in Study 1 ($N = 438$).

Unstandardized results

	DONATE: NO (0) / YES (1)			DONATED (NON-ZERO) AMOUNTS		
	<i>B</i>	<i>S.E.</i>	<i>P</i>	<i>B</i>	<i>S.E.</i>	<i>p</i>
IM05	0.406	0.200	0.042	0.203	0.117	0.082
EFF05	-0.190	0.200	0.343	0.089	0.117	0.445
IMXEFF	-0.242	0.400	0.545	-0.325	0.233	0.164

Note. EFF05 = Efficiency information manipulation (effect coded: +/-0.5), IM05 = Image manipulation (effect coded: +/-0.5), IMXEFF = Image \times Efficiency information.

Table S2. Regression coefficients for experimental manipulations in study 2 ($N = 668$).

	DONATE: NO (0) / YES (1)			DONATED (NON-ZERO) AMOUNTS		
	<i>B</i>	<i>S.E.</i>	<i>p</i>	<i>B</i>	<i>S.E.</i>	<i>p</i>
IM05	0.129	0.161	0.423	0.118	0.090	0.189
EFF105	-0.175	0.226	0.441	0.026	0.128	0.840
EFF205	-0.182	0.227	0.423	0.014	0.132	0.915
IMXEFF	0.137	0.453	0.762	-0.527	0.257	0.040
IMXEFF2	0.095	0.454	0.835	-0.306	0.263	0.245

Note. EFF105 = Positive efficiency information manipulation (effect coded: +/-0.5), EFF205 = Negative efficiency information manipulation (effect coded: +/-0.5), IM05 = Image manipulation (effect coded: +/-0.5), IMXEFF = Image \times Positive efficiency information, IMXEFF2 = Image \times Negative efficiency information.

Table S3. Regression coefficients for experimental manipulations in study 3 ($N = 681$).

	DONATE: NO (0) / YES (1)			DONATED (NON-ZERO) AMOUNTS		
	<i>B</i>	<i>S.E.</i>	<i>p</i>	<i>B</i>	<i>S.E.</i>	<i>p</i>
IM05	0.207	0.190	0.276	2.837	1.295	0.028
EFF105	-0.304	0.261	0.245	1.106	1.880	0.556
EFF205	-0.054	0.268	0.839	-1.473	1.787	0.410
IM05	0.207	0.190	0.276	2.837	1.295	0.028
IMXEFF	-0.151	0.523	0.773	-0.344	3.760	0.927
IMXEFF2	0.488	0.535	0.362	-0.557	3.575	0.876

Note. EFF105 = Positive efficiency information manipulation (effect coded: +/-0.5), EFF205 = Negative efficiency information manipulation (effect coded: +/-0.5), IM05 = Image manipulation (effect coded: +/-0.5), IMXEFF = Image \times Positive efficiency information, IMXEFF2 = Image \times Negative efficiency information.

Table S4. Regression coefficients for experimental manipulations in study 4 ($N = 657$).

	DONATE: NO (0) / YES (1)			DONATED (NON-ZERO) AMOUNTS		
	<i>B</i>	S.E.	<i>p</i>	<i>B</i>	S.E.	<i>p</i>
IM05	0.234	0.193	0.225	4.383	1.276	0.001
EFFI05	0.182	0.277	0.512	-2.435	1.742	0.162
EFFA05	-0.327	0.268	0.221	-0.274	1.853	0.883
IMXEFFI	0.706	0.554	0.203	-5.431	3.484	0.119
IMXEFFA	-0.464	0.535	0.386	0.819	3.707	0.825

Note. EFFI05 = Early efficiency comparison (effect coded: +/-0.5), EFFA05 = Late efficiency comparison (effect coded: +/-0.5), IM05 = Image manipulation (effect coded: +/-0.5), IMXEFFA = Image \times Late efficiency comparison, IMXEFFI = Image \times Early efficiency comparison

Table S5. Regression coefficients for experimental manipulations in Study 5 ($N = 455$).

	DONATE: NO (0) / YES (1)			DONATED (NON-ZERO) AMOUNTS		
	<i>B</i>	S.E.	<i>p</i>	<i>B</i>	S.E.	<i>p</i>
IM05	0.515	0.191	0.007	0.077	0.196	0.693
EFF05	-0.010	0.191	0.959	0.116	0.196	0.552
IMXEFF	0.339	0.381	0.373	-0.540	0.391	0.167

Note. EFF05 = Efficiency information manipulation (effect coded: +/-0.5), IM05 = Image manipulation (effect coded: +/-0.5), IMXEFF = Image \times Efficiency information.

Table S6. Regression coefficients for experimental manipulations in Study 6 ($N = 378$).

	DONATE: NO (0) / YES (1)			DONATED (NON-ZERO) AMOUNTS		
	<i>B</i>	S.E.	<i>p</i>	<i>B</i>	S.E.	<i>p</i>
IM05	-0.001	0.206	0.997	-2.253	1.984	0.258
EFF05	0.021	0.206	0.920	-1.565	1.984	0.431
IMXEFF	0.212	0.412	0.607	3.726	3.968	0.349

Note. EFF05 = Efficiency information manipulation (effect coded: +/-0.5), IM05 = Image manipulation (effect coded: +/-0.5), IMXEFF = Image \times Efficiency information.

Donation rates by study

	Total	1	2	3	4	5	6
	n = 3423	n = 453	n = 694	n = 725	n = 676	n = 497	n = 378
Donated	0.6 (0.5)	0.6 (0.5)	0.6 (0.5)	0.7 (0.4)	0.8 (0.4)	0.5 (0.5)	0.5 (0.5)
Don Share	^a	1.0 (1.1)	1.0 (1.1)	16.9 (16.4)	18.4 (16.4)	1.4 (1.8)	9.3 (13.4)
Don Share	0.3 (0.3)	0.3 (0.4)	0.3 (0.4)	0.3 (0.3)	0.4 (0.3)	0.3 (0.4)	0.2 (0.3)

Note. Table reports means and standard deviations for each variable. Donated: NO (0) / YES (1) = Dichotomous two-part outcome (Donated: Yes/no), Donation: Amounts including zeroes (in \$ or £), Don Share: Share of maximum amount (\$3, \$3, \$50, \$50, \$5, £50, respectively) donated.

^a We do not report average donation across studies because the maximum possible donations and currencies differed.

Conditional-on-positive Treatment effects: Lee (2009) bounded estimates

As Lee (2009) explains, if treatments have an impact on selection into a particular *selection group*, and the composition of those selected into this *group* differs by treatment according to some *outcome*, then estimates comparing the *outcome* for treatment and control participants who are in this *selection group* will be biased. More specifically, if we compare the mean donation for treatment and control participants *throwing out all those who did not donate*, this naïve ‘conditional-on-positive’ estimate is potentially biased.¹

The “Lee-bound” procedure can recover *the impact of the treatment on the outcome, for those who would have been in the relevant ‘selected’ group whether or not they received the treatment* under a ‘monotonicity condition’:

- essentially, the treatment must make it either *more* or *less* likely that individuals select into the group (make a positive donation),
- but it must not be that the treatment induces *some* individuals to select in (donate) who would not have otherwise done so, and *other* individuals to select out (not donate) who would have otherwise selected in.

Given this, the observed donors in the treatment (control) that induces a *greater likelihood of donation* would also have donated in the other treatment, but not vice-versa. To recover an asymptotically unbiased estimate of the impact of the treatment on “those who would always have donated”, an “apples to apples” comparison, we would need to “throw out” the participants in this treatment group who would not have donated under the other treatment.

Although we do not know who these “donate only in one treatment” people are, the bias will be greatest if these are the *largest* or *smallest donors*. This motivates the Lee-bound trimming procedure. The procedure amounts to “...amounts to first identifying the excess number of individuals who were induced to be selected ... because of the treatment and then trimming the upper and lower tails of the outcome... distribution by this number, yielding a worst-case scenario bound.” Bounds can be further tightened by doing the above *within* groups (identified by a baseline characteristic – in our case we use the study number and the alternate treatment arm, yielding 12 cells) and taking a weighted average of these. We can tighten these further as bounds on the *average treatment effect* (those reported in bold below); the details of this are rather technical.

We report the results below for the pooled data (meta-analysis) across six studies, focusing on the amounts donated share of the maximum possible amount one could donate, and reporting results for each treatment separately.

¹ For example, suppose a treatment increased the inclination to donate, increasing the donation among those who would have donated anyway, and making those who were “almost willing to donate” do so. However, the latter group may reasonably make the *smallest* donations. This would drive down the measured “average positive donation” in the treatment group relative to the control group.

Lee Bounds on impact of *Image* treatment on “share of maximum possible amount donated” for those who would donate a positive amount with or without the *Image* treatment

Tightened Lee (2009) treatment effect bounds
 Number of obs. = 3322
 Number of selected obs. = 2209
 Number of cells = 12
 Overall trimming proportion = 0.0786
Effect 95% conf. interval : [-0.0172 0.1192]

don_share_	Observed Coef.	Bootstrap Std. Err.	z	P> z	Normal-based [95% Conf. Interval]	
im05						
lower	.0131366	.0184498	0.71	0.476	-.0230244	.0492975
upper	.0886843	.018538	4.78	0.000	.0523505	.125018

Lee Bounds on impact of *Effectiveness Information* treatment on “share of maximum possible amount donated” for those who would donate a positive amount with or without the *Effectiveness Information* treatment

Tightened Lee (2009) treatment effect bounds
 Number of obs. = 2872
 Number of selected obs. = 1896
 Number of cells = 12
 Overall trimming porportion = 0.0146
Effect 95% conf. interval : [-0.0652 0.0423]

don_share_~y	Observed Coef.	Bootstrap Std. Err.	z	P> z	Normal-based [95% Conf. Interval]	
eff05						
lower	-.034899	.0184408	-1.89	0.058	-.0710422	.0012442
upper	.0123167	.0182411	0.68	0.500	-.0234352	.0480687

The 95% confidence bounds on the CoP treatment effect of the Image include a small (-1.7%) negative and a moderate positive (11.9%) effect.

The 95% confidence bounds on the CoP treatment effect of the *Effectiveness Information* include a moderate (-5.7%) negative and a moderate positive (4.2%) effect; loosely speaking we can statistically rule out that this treatment had a large CoP effect in either direction.

Deleted:

Lee Bounds on impact of *Effectiveness Information* in the presence of *Image Treatment* on “share of maximum possible amount donated” for those who would donate a positive amount with or without the *Effectiveness Information* treatment

Although we cannot incorporate interaction effects in this bounding estimator in a straightforward way, we present below a similar estimate of the *impact of the Effectiveness treatment in the presence of the Image treatment*, i.e., only for the set of observations where the Image treatment is present.

```
Number of obs.          = 1432
Number of selected obs. = 985
Number of cells         = 6
Overall trimming porportion = 0.0044
Effect 95% conf. interval : [-0.1012 0.0062]
```

		Observed	Bootstrap				Normal-based
don_share_y		Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
eff05							
	lower	-.0626289	.0230794	-2.71	0.007	-.1078637	-.017394
	upper	-.0348458	.0245779	-1.42	0.156	-.0830176	.0133259

Note that the 95% confidence interval for this effect includes a fairly large (10%) negative effect and only a very small positive effect (0.6%).

Deleted:

Deleted:

Pooled-data regressions (meta-analysis); includes attentive and non-attentive participants

Regressions: pooled across studies 1-6				
	Amount	Don share	... frac.-response	DONATE-lpm
(Intercept)	0.49 *** [0.33, 0.64]	0.35 *** [0.31, 0.38]	-0.63 *** [-0.78, -0.47]	0.62 *** [0.58, 0.67]
Image	1.38 ** [0.54, 2.21]	0.07 *** [0.04, 0.09]	0.31 *** [0.19, 0.42]	0.05 ** [0.02, 0.09]
Effectiveness	-0.76 [-1.60, 0.09]	-0.02 [-0.04, 0.01]	-0.08 [-0.20, 0.04]	-0.03 [-0.06, 0.01]
Image x Eff.	0.17 [-1.50, 1.84]	-0.04 [-0.09, 0.01]	-0.19 [-0.42, 0.04]	0.01 [-0.05, 0.08]
Max pot'l don	0.18 *** [0.15, 0.21]	-0.00 *** [-0.00, -0.00]	-0.02 *** [-0.02, -0.01]	-0.00 ** [-0.00, -0.00]
N	2872.00			
*** p < 0.00; ** p < 0.01; * p < 0.05. 95.00% CI's reported. Heteroskedasticity-robust (Huber-White) standard errors used. Treatment variables and interactions (Image, Effectiveness, Image x Eff.) are effect-coded. Hidden controls in all columns: Study dummies. Fractional-response marginal effects given in footnote.				

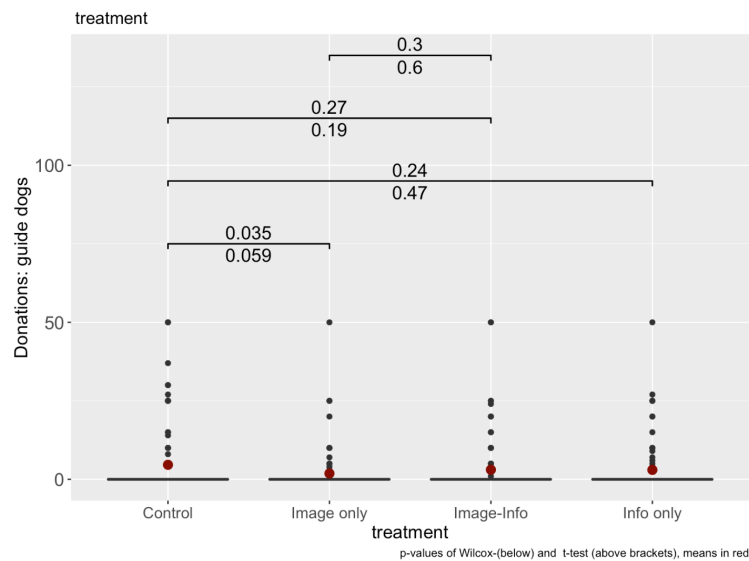
Column 1 gives an OLS regression of amount donated (including zeroes). Columns 2-3 regress on the Share of maximum potential donation ("Max pot'l don": \$3, \$3, \$50, \$50, \$5, £50, for studies 1-6 respectively)

Study 6: Impact on donations to each charity (all participants)

estimate	p.value	conf.low	conf.high	method	alternative	Experiment
1.05	0.91	0.67	1.6	Fisher	two.sided	Effectiveness: RB
0.97	1.00	0.56	1.7	Fisher	two.sided	Effectiveness: GD
1.38	0.16	0.88	2.2	Fisher	two.sided	Image: RB
0.63	0.09	0.36	1.1	Fisher	two.sided	Image: GD

Above we see estimated of odds ratios, relative to the control group, of the incidence of donating to RB (Carter Center: the river-blindness charity) and GD (Guide Dogs for the blind). Confidence intervals reveal a lack of power. However, there is suggestive evidence ($p=0.09$ and $p=0.16$, respectively) that the image lead people to be less-likely to donate to GD and more likely to donate to RB. This may have been driven by the African appearance of the blind girl depicted.

As suggested by the box-plot below (means in red), there is also some evidence that the image treatment led to a lower *average* donation to GD (including zeroes). There is a (marginally) significant difference between the control and the Image treatment in a t-test ($p=0.035$) and rank-sum test, $p=0.059$). (As always, all tests are two-tailed.)



Study 6: donation distributions (all participants)

As seen below, the distribution of donations was roughly similar across treatments.

