

*Working Draft*

**Boosting effective giving with bundling and donor coordination**

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## Abstract

The most effective charities are hundreds of times more impactful than typical charities, but relatively few donors choose to support them. We introduce a strategy to increase effective giving, combining three techniques: *bundling*, *asymmetrical matching*, and *donor coordination*. Bundling encourages donors to split their donation between a recommended highly effective charity and a charity identified by the donor. We find that offering a bundling option increases donations to effective charities by 45%-76% (Study 1). Donors find bundling appealing because they enjoy nearly all the “warm glow” of giving exclusively to an emotionally appealing charity, but also gain the satisfaction of giving more effectively and fairly (Study 2). Likewise, we find that third-parties perceive bundle donors as both highly warm and highly competent, as compared to donors who give exclusively to an emotionally appealing charity (warm, but less competent) or exclusively to a highly effective charity (competent, but less warm) (Study 3). Despite its appeal, donors are unlikely to encounter or spontaneously consider bundling. We therefore propose the incentivization of bundling through asymmetrical matching, whereby bundled donations are matched by other donors, with matching rates increasing along with the proportion allocated to the effective charity. We find that asymmetrical matching can increase donations to effective charities by an additional 55% (Study 4). The provision of matching funds is a form of donor coordination: Donors focused on effectiveness can supply matching funds, which increases their net impact by encouraging others to donate more effectively. Other donors enjoy the increased satisfaction of bundling and having their donations multiplied. With enough donors focused on effectiveness, a system of bundling and asymmetrical matching could be self-sustaining, a possibility supported by preliminary data (Study 5). We will soon test this strategy in a set of field studies using a custom donation platform aimed at a mass audience ([GivingMultiplier.org](http://GivingMultiplier.org) user: give; password: give).

*Keywords:* charitable giving, effectiveness, warm glow

## Introduction

In the US alone, more than \$450 billion are donated each year (Giving USA, 2018). Despite people's generosity, their giving is far less impactful than it could be (Fiennes, 2017; MacAskill, 2015; Singer, 2016). According to experts, typical charities are likely to be hundreds of times less effective than the world's most effective charities (Caviola, Schubert, Teperman, et al., 2020). For example, trachoma surgeries to prevent blindness often cost less than \$50, whereas training a guide dog to help a person who is already blind may cost \$50,000 (Jamison et al., 2006; Ord, 2013). Thus, the money spent on training a single guide dog could have prevented approximately 1,000 people from going blind in the first place.

Applied research on charitable giving has focused primarily on strategies for increasing the amount given (e.g., Gneezy, Keenan, & Gneezy, 2014). Here we focus on the *effectiveness* of giving and the underlying psychological mechanisms that support or impede effective giving. Drawing on an understanding of these basic mechanisms, we introduce a novel strategy for increasing the effectiveness of charitable giving. This strategy has three key components: *bundling*, *asymmetrical bundling*, and *donor coordination*.

### Donation bundling

If the goal is to increase effective giving, the most natural strategy is to encourage people to give to highly effective charities instead of other charities. This strategy, however, faces a major obstacle. Longstanding evidence indicates that charitable donations are primarily motivated by the "warm glow" of giving to a personally meaningful cause (Andreoni, 1990; Berman, Barasch, Levine, & Small, 2018). Warm glow, however, is not a reliable proxy for effectiveness (Bloom, 2016). If the warm glow of giving is what motivates most donors, encouraging them to forgo their warm glow in favor of effectiveness may itself be ineffective (Berman et al., 2018). Here we develop an alternative strategy, one that works with people's primary moral motivations rather than against them. Following the advice of

“Better, Not Perfect” (Bazerman, 2020), we encourage people to give *more* effectively, rather than asking them to maximize their impact. This more flexible, “deep pragmatist” (Greene, 2013) strategy may, ironically, do more good than directly encouraging people to do the most good.

Our bundling strategy encourages people to split their donations between their favorite charity and a charity that is considered highly effective by experts (e.g., the independent charity evaluator GiveWell). For simplicity, we refer to such charities simply as “effective charities”. Likewise, by “favorite charity” we mean the charity that the donor is antecedently most inclined to support. For most people, this is a charity that is emotionally appealing and/or personally meaningful, but not an effective charity as defined above. Finally, we refer to splitting a donation between a favorite charity and an effective charity as “bundling”. A similar bundling strategy has proven effective in other domains such as negotiation (Malhotra & Bazerman, 2007; Milkman, Mazza, Shu, Tsay, & Bazerman, 2012).

**Additive satisfaction hypothesis.** We hypothesize that the bundling option will be appealing to donors because bundling, compared to its more conventional alternatives, strikes a more favorable balance among competing moral motivations. First, we hypothesize that the bundle option offers more of a “warm glow” than donating exclusively to an effective charity, as the donor is still gets to support their favorite charity. We propose further that the warm glow of giving to a favorite charity is relatively insensitive to the quantity (Desvousges et al., 1992; Kogut & Ritov, 2005; Slovic, 2010). Thus, a bundled donation may afford nearly as much warm glow as a donation given exclusively to a favorite charity. Second, we propose that donors will gain some additional satisfaction from supporting a charity that they believe is especially effective (Aknin, Dunn, Whillans, Grant, & Norton, 2013). We propose that this is a qualitatively different kind of satisfaction from the warm glow and refer to it as “impact

glow”. Third, we propose that people will perceive supporting the two charities that have been bundled as more fair than supporting only a single charity, consistent with prior research showing that people prefer to distribute their donations across multiple charities (Baron & Szymanska, 2011; Null, 2011; Read & Loewenstein, 1995; Sharps & Schroeder, 2019). We call this satisfaction “fairness glow”.

Although we believe that impact glow and fairness glow are weaker drivers of donations than warm glow, we predict that the combination of warm glow, impact glow, and fairness glow afforded by the bundle option will be appealing and lead to increased donations. Moreover, we predict that introducing the bundling option as an alternative to donating exclusively to one charity (whether it’s one’s favorite charity or the effective charity), will increase the total amount donated to the effective charity.

**Reputational benefits hypothesis.** The additive satisfaction hypothesis provides a proximate explanation for bundling’s appeal. But why should people have this combination of preferences? A complementary hypothesis, which addressing more distal mechanisms, is that the bundling option satisfies motivations that are ultimately driven by reputational benefits (Johnson, 2020; Uhlmann, Pizarro, & Diermeier, 2015; Wedekind & Milinski, 2000; Yoeli, Hoffman, Rand, & Nowak, 2013). In formulating this hypothesis, we are not claiming that people who choose the bundling option are consciously attempting to enhance their reputations (in an anonymous experiment, no less). Rather, our hypothesis is that the motivations that make bundling appealing are adaptative dispositions that provide reputational benefits. Our hypothesis is agnostic as to whether such dispositions are acquired through individual learning, cultural evolution, or biological evolution.

Consistent with this hypothesis, we predict that people who choose the bundle option will obtain a favorable balance of reputational benefits, as they will be perceived as both highly warm and highly competent (Fiske, Cuddy, Glick, & Xu, 2002). They may also be

perceived as fair, which may or may not be a distinct from perceptions of warmth and competence. More specifically, we predict that a bundler donor's support for their favorite charity will earn them credit for being warm due to perceived empathy, while their support of the effective charity will earn them credit for being competent, as competence is the capacity for effectiveness. By contrast, we expect that people who donate exclusively to their favorite charity will be seen as comparably warm, but less competent, than bundle donors, while people who donate exclusively to the effective charity will be perceived as comparably competent, but less warm than bundle donors (Montealegre, Bush, Moss, Pizarro, & Jimenez-Leal, 2020).

### **Asymmetrical matching**

We propose that the bundling technique can be enhanced by combining it with a technique we call 'asymmetrical matching'. Charities routinely offer to match donations to increase giving, and this strategy is often successful (Eckel & Grossman, 2006b, 2006a; Huck, Rasul, & Shephard, 2015; Karlan, List, & Shafir, 2011; Meier, 2006; Rondeau & List, 2008). However, making donations more effective does not require donors to give more. Effectiveness can be increased by increasing the proportion allocated to effective charities. Here we use matching donations to incentivize bundled donations, which are expected to increase the proportion donated to the effective charity. More specifically, we introduce the use of *asymmetrical* matching funds, offering donors a higher matching rate for allocating more of their donation to the effective charity. For example, a donor might be given three options: (A) donate exclusively to your favorite charity with a 5% matching rate, (B) split your donation 50/50 between your favorite charity and the effective charity with a 20% matching rate for both charities, or (C) donate exclusively to the effective charity with a 50% matching rate. Presenting these options together for "joint evaluation" (Hsee, Loewenstein, Blount, & Bazerman, 1999) highlights the benefits of the bundle (or pure effective giving)

and may therefore increase the amount given to the effective charity. We predict that asymmetrical matching will increase the proportion donated to the effective charity.

### **Matching as donor coordination**

Insofar as the bundling and asymmetrical matching techniques could be applied to increase effective giving in the real world, two important practical problems must be solved. First, donors must encounter the opportunity make a bundled donation that includes a donation to a highly effective charity. This is not an opportunity that donors are likely to seek out or generate on their own. Consequently, donors must be motivated to find this opportunity. Offering a matching donation can supply such a motivation, especially if the matching funds can be applied (entirely or in part) to a charity that the donor is already motivated to support, as in options A and B in the example above. This solution to the first problem highlights the second problem: Matching funds may increase effective giving, but where will such funds come from? This may appear to be an intractable chicken-and-egg problem. We propose, however, that it is best understood as a potentially tractable problem of *donor coordination*.

As noted above, matching donations are widely used. In a typical matching donation arrangement, the matching donor and the matched donor(s) are presumed to have roughly comparable motivations, though they typically differ in their financial means. The matching donor wishes to support a given charity, but rather than giving directly to the charity, the donor (typically with the encouragement of the charity) uses their funds to incentivize others who have similar philanthropic interests, but higher thresholds for action, to support the charity in question, or support it more strongly. Here, we propose to use matching donations in a different way, made possible by donors with differing priorities.

Donors vary enormously in how they think about and prioritize effectiveness. A small proportion of donors prioritize effectiveness over everything else. Such donors may

sympathize with or be affiliated with the Effective Altruism movement (Caviola, Schubert, & Nemirow, 2020). For committed effective altruists, the goal of charitable giving is not to support a specific cause or set of causes. Nor is it to gain a kind of personal satisfaction. Rather, the goal of committed effective altruists is to do as much good as possible with their resources. They decide which charities to support based on which options are likely to do the most good according to an objective standard, such as the number of lives saved per dollar.

Some donors are actively opposed to doing this (Berger & Penna, 2013), and many donors are unaware of the possibility (Caviola, Schubert, Teperman, et al., 2020). Critically for present purposes, there may be some donors who are not committed effective altruists, but who are willing to prioritize effectiveness in a more limited or “compartmentalized” way. They may be willing to make effectiveness *a* factor in their donation decisions, or they may be willing to prioritize effectiveness *some of the time*. As explained below, the contributions of many “part time” effective altruists could minimize or eliminate the need for “full time” committed effective altruists.

We propose to use matching funds as a mechanism for coordinating the actions of donors with differing priorities, as described above. Donors who are focused on effectiveness—whether “full time” or “part time”—can supply matching funds. This multiplies their own effectiveness by incentivizing other donors to make more effective donations. Donors with mixed preferences can benefit from these matching funds, enjoying the three “glows” of bundled giving while having their altruism amplified by others.

### **Study 1: Donation bundling**

In Study 1, we asked whether offering people a bundling option increases effective giving. Study 1 had five conditions. In the no-effective-option condition, participants were not presented with an effective charity but instead simply decided how much they would like

to give to their favorite charity. In the two-charity control condition, participants were able to give either to their favorite charity or to an effective charity but not to both (i.e. no bundle option). The three experimental conditions each had a bundle option. In the bundle-two-options condition, participants chose between giving exclusively to their favorite charity and giving with a 50/50 bundle, i.e. giving 50% to their favorite charity and 50% to an effective charity. In the bundle-three-options condition, we added the option to give exclusively to the effective charity. Finally, in the bundle-free-split condition, participants could specify the percentage to be allocated (0% to 100%) to their favorite charity vs. to the effective charity. Our hypothesis, which we pre-registered at <https://aspredicted.org/blind.php?x=kr2s85>, was that the addition of bundling options would increase the amount given to the effective charity, as compared to the two-option, no-bundling control condition.

## Methods

**Participants.** We recruited 1039 US American participants online via MTurk. They received \$0.47 in payment for their participation. 144 were excluded for either failing the attention check or for indicating that they did not believe that the financial stakes were real, leaving a final sample of 895 people (432 female, 463 male,  $M_{age} = 43.89$ ,  $SD_{age} = 74.35$ ). A priori power analysis showed that 835 participants were required to detect an effect size of  $f = .12$ ,  $\alpha = .05$ , power = 0.8, and 5 groups.

**Procedure and Materials.** First, participants first identified their favorite charity by entering its name and website URL. In all conditions apart from the no-effective-option condition, participants were presented with a short description of one of the world's most effective charities: Evidence Action's Deworm the World Initiative. Participants were also informed that this charity is, according to experts, approximately one hundred times more effective than typical charities.

Next, it was explained to participants that they will be given the option to donate up to \$100 to charity and that, at the end of the study, we will randomly select one participant and execute their decision. Participants were then presented with the donation allocation options, which varied by condition. For example, in the bundle-three-options condition, they were presented with three options: donate all to the effective charity, split 50/50, donate all to their favorite charity. In the no-effective-option condition, participants skipped this part.

On the next page, participants chose a donation amount (\$0 - \$100) to be allocated in the proportion previously specified. Critically, participants had the option to keep the money for themselves. It was explained that any amount not donated will be allocated to the participant in the form of an Amazon voucher, should they be the randomly chosen participant. Thus, this task has real stakes for the donor, and not just for the charities.

Participants then reported on how good they felt about their donations. Participants who chose a bundle were asked to report on the extent to which their good feelings came from their donation to their favorite charity vs. the effective charity. Finally, they responded to an attention check question, a question about whether they believed that the financial stakes were real, and to a set of demographic questions.

## **Results**

As shown in Figure 1, roughly half of participants were willing to give at least part of their (expected) own funds to an effective charity when presented with a bundle option that allowed them to also give to their favorite charity. In the control condition, in which participants had to choose between their favorite and the effective charity, fewer than 20% of participants were willing to give to the effective charity.

In the no-charity-option condition, 0% gave to the effective charity, as this was not possible. In the control condition, 82.3% gave everything to their favorite charity and 17.7% gave everything to the effective charity. In the bundle-two-options condition, 49.5% gave

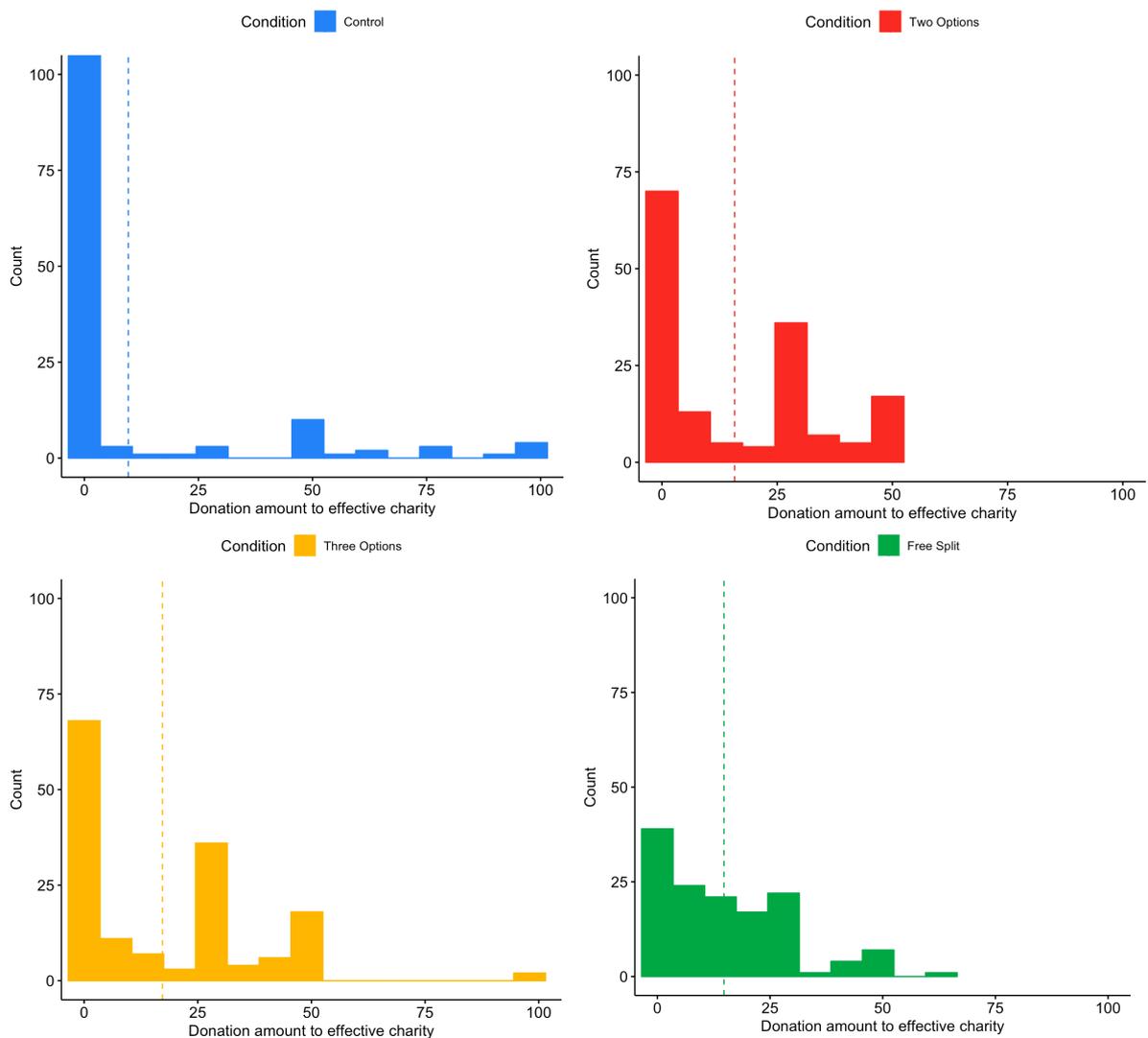
everything to their favorite charity and 50.5% chose the 50/50 bundle. In the bundle-three-options condition, 45.6% gave everything to their favorite charity, 51.6% chose the 50/50 bundle, 2.7% gave everything to the effective charity. The median response in the bundle-free-split condition was to give 75% to the favorite and 25% to the effective charity.

Since donation amounts were left-skewed, we conducted a Kruskal-Wallis test to test for differences across conditions. Amounts donated to the effective charity differed by condition ( $\chi^2(4) = 177.31, p < .001$ ; Table 1, Figure 1). Post-hoc tests with alpha correction (Benjamini & Hochberg, 1995) revealed that the amounts donated to the effective charity were significantly higher in all three bundle conditions, as compared to the in the control condition ( $p < .001$  for all contrasts). The amounts of donated to the effective charity did not differ significantly across the three bundle conditions. As above, the mean percentage allocated to the effective charity differed across conditions ( $\chi^2(4) = 201.33, p < .001$ ), and the mean percentages allocated to the effective charity in the three bundling conditions were significantly higher than the mean percentage donated to the effective charity in the control condition ( $p < .001$ , all contrasts). The total donation amounts (to any charity) did not differ significantly across conditions ( $\chi^2(4) = 8.06, p = .09$ ). However, participants who chose a bundle donation (in the two categorical bundle option conditions) tended to give more ( $M = 51.81, SD = 30.79$ ) than participants who donated exclusively to their favorite charity ( $M = 39.23, SD = 34.44; t(348) = 3.65, p < .001, d = .39$ ). Since only three participants in these two conditions donated exclusively to the effective charity, we did not compare their donation amounts.

|                         | No effective | Control      | Bundle two    | Bundle three  | Bundle free split |
|-------------------------|--------------|--------------|---------------|---------------|-------------------|
| Donations to effective  | 0            | 8.23 (22.22) | 13.59 (17.16) | 14.51 (19.41) | 11.96 (14.15)     |
| Allocation to effective | 0%           | 18% (38)     | 25% (25)      | 29% (27)      | 29% (24)          |

Total donations                      38.99 (30.36)    46.05 (32.64)    46.92 (32.97)    44.97 (33.61)    40.01 (32.20)

*Table 1.* Means and standard deviations (Study 1). Donations to effective are calculated for each participant individually by multiplying total donation with the percentage allocated to the effective charity. Total donations are the total amount donated (between \$0 and \$100), including both charities.



*Figure 1.* Histograms showing donations to the effective charity across conditions. Includes only participants who donated more than \$0 to any charity. Across all conditions, the modal response was to donate nothing to the effective charity as opposed to their favorite charity. However, a substantial proportion of participants were willing to donate parts of their own funds to the effective charity when presented with a bundle option that allowed them to also give parts to their favorite charity (Two Options, Three Options, Free Split). By contrast, only a minority of participants were willing to give to the effective charity if they had to choose between donating either exclusively to their favorite charity or exclusively to the effective charity (Control). Dashed lines represents the means.

There were no significant differences in positive feelings for donations made only to effective charities ( $M = 81.68$ ,  $SD = 19.36$ ), donations made to both charities ( $M = 81.09$ ,  $SD = 18.95$ ), or donations made only to participants' favorite charities ( $M = 81.87$ ,  $SD = 20.3$ ),  $F(1, 745) = 2.02$ ,  $p = .09$ .

Women, compared to men, donated larger amounts ( $M_w = 49.08$ ;  $M_m = 38.46$ ;  $t(886) = 4.94$ ,  $p < .001$ ,  $d = .33$ ) in general and, as a consequence, larger amounts to the effective charity ( $M_w = 11.09$ ,  $M_m = 8.47$ ;  $t(851) = 2.24$ ,  $p = .02$ ,  $d = .15$ ). Women, however, did not allocate a significantly higher percentage to effective charities than men did ( $M_w = 22\%$ ,  $M_m = 18\%$ ;  $t(864) = 1.81$ ,  $p = .07$ ,  $d = .12$ ).

## **Discussion**

The results demonstrate that donations to effective charities can be increased by offering donors a charity bundle option, which allows them to split their donations partly between their favorite charity and an effective charity. While participants donated on average only \$8.23 to the effective charity in the control condition, which featured no bundle option, they donated on average \$14.51 to the effective charity in the bundle-three-options condition—a 76% increase.

Our results indicate that it makes little difference whether the bundle option features a fixed 50/50 split or whether donors can freely decide how to divide their donation between the two charities. We also found no evidence for an effect of giving participants the option to give exclusively to the effective charity. This suggests that a variety of charity bundle strategies can be applied to increase effective giving.

We found no differences in positive feelings about the donation depending on which option participants chose. This may not be surprising given that each participant reported on their feelings after having chosen their preferred option. If the goal is to understand why some participants choose the bundle option, it will be more informative to assess how those

participants feel about the bundle option as compared to the options they did not choose. We conduct such an analysis in Study 2.

### **Study 2: Satisfaction of choosing the bundle**

In Study 2, we investigated how participants feel about the bundle option, as compared to donating exclusively to their favorite charity or the effective charity. Our hypothesis, which we pre-registered at <https://aspredicted.org/blind.php?x=3my8rf>, was that participants who choose the bundle feel similarly good about it as when donating exclusively to their favorite charity and better about the bundle than donating exclusively to the effective charity. As explained in the introduction, we hypothesized that participants who chose the bundle option would feel good about it overall because it provides a combination of warm glow, impact glow, and fairness glow.

#### **Methods**

**Participants.** We recruited 301 US American participants online via MTurk. They received \$0.47 in payment for their participation. 36 were excluded for either failing the attention check or for indicating that they did not believe that the financial stakes were real, leaving a final sample of 265 people (94 female, 171 male,  $M_{age} = 38.50$ ,  $SD_{age} = 11.69$ ).

**Procedure and Materials.** The materials and procedure were identical to the bundle (three options) condition of Study 1. The only difference were the follow-up questions. After participants made their donation decisions, those who donated more than \$0 were asked, 1) how good they overall feel about the donation, 2) how effective they believe the donation will be according to experts, 3) to what extent they feel that they have supported a cause they personally care about, and 4) how fair they think the decision was. Each of these questions was asked three times: once for the donation option that they chose (e.g., bundle) and then for

the other two donation options (e.g., donating exclusively to their favorite charity or the effective charity). The effectiveness question (#2) asks about effectiveness “according to experts” rather than simply asking participants for their own assessments of effectiveness, as we expected that this to yield a less biased assessment of effectiveness, where “biased” is understood as relative to the assessments of experts. The question assessing feelings of supporting a charity one personally cares about (#3) is our assessment of “warm glow”.

## Results

Donation results were similar to those in the bundle (three options) condition in Study 1. 4% of participants donated exclusively to the effective charity, 49% chose the bundle, and 47% donated exclusively to their favorite charity. The mean amount of total donations was \$41.08 ( $SD = 34.51$ ) and the mean amount of donations to the effective charity was \$12.00 ( $SD = 17.42$ ).

We used a set of repeated-measures ANOVA with Tukey HSD post-hoc tests to assess participant’s feelings about the donation options that they chose and that they did not choose. We first consider participants who chose the bundle (Table 2, Figure 2). As expected, these participants felt overall better about the bundle than about donating exclusively to the effective charity ( $t(220) = 7.28, p < .001, d = .62$ ). They felt roughly equally good about the bundle and donating exclusively to their favorite charity ( $t(220) = 2.04, p = .11, d = .20$ ). However, they believed that the bundle was more effective than donating exclusively to their favorite charity ( $t(220) = -5.21, p < .001, d = .55$ ) and less effective than donating exclusively to the effective charity ( $t(220) = 5.22, p < .001, d = -.64$ ). In choosing the bundle, they felt more strongly that they had supported a cause that they personally care about, as compared to donating exclusively to the effective charity ( $t(220) = 9.01, p < .001, d = .83$ ). And they felt less strongly that they had supported a cause that they personally care about, as compared to donating exclusively to their favorite charity ( $t(220) = -4.59, p < .001, d = .67$ ). Critically,

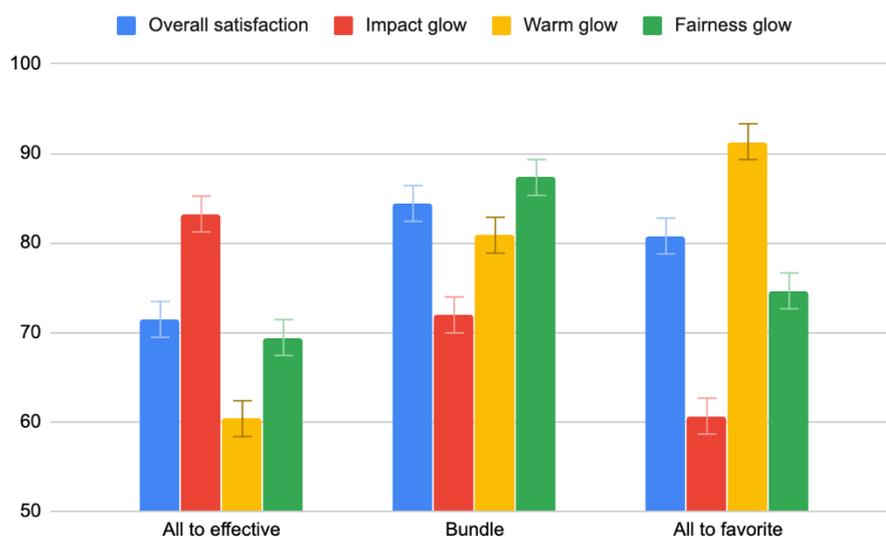
the increase in these caring-related feelings from choosing the bundle over the effective charity was bigger (diff = 20.50) than the reduction in these feelings from choosing the bundle over the favorite charity (diff = 10.41) ( $t(110) = 10.96, p < .001, d = 1.51$ ).

Participants felt that choosing the bundle was fairer than donating exclusively to the effective charity ( $t(220) = 7.48, p < .001, d = .71$ ) and fairer than donating exclusively to their favorite charity ( $t(220) = 5.30, p < .001, d = .46$ ).

We performed parallel analyses for participants who donated exclusively to their favorite charity (Table 3). As expected, these participants felt overall better about donating exclusively to their favorite charity, as compared to the bundle option ( $t(184) = -12.90, p < .001, d = 1.23$ ). They also felt overall better about the bundle than about donating exclusively to the effective charity ( $t(184) = 3.43, p = .002, d = .46$ ). They believed that the bundle was less effective than donating exclusively to the effective charity,  $t(184) = -3.43, p = .002, d = -.52$ , but roughly equally effective as donating exclusively to their favorite charity,  $t(184) = -0.48, p = .88, d = .06$ . They felt to a greater extent that they had supported a cause that they personally care about by exclusively supporting their favorite charity, as compared to the bundle option ( $t(184) = -11.91, p < .001, d = -1.44$ ). And they felt that the bundle option would do more to support a cause that they personally care about, as compared to donating exclusively to the effective charity ( $t(184) = 9.73, p < .001, d = 1.08$ ). They felt that choosing the bundle was fairer than donating exclusively to the effective charity,  $t(184) = 4.57, p < .001, d = .69$ , but they felt that donating to their favorite charity was fairer than the bundle ( $t(184) = -9.49, p < .001, d = -.88$ .)

A logistic regression analysis showed that participants' donation choice (bundle vs. exclusively donating to the favorite charity; participants who donated exclusively to the effective charity were omitted for this analysis) was predicted by overall positive feelings about the bundle ( $z = -4.66, p < .001$ ) and overall positive feelings about donating exclusively

to the favorite charity ( $z = 5.16, p < .001$ ) but not significantly by overall feelings about donating exclusively to the effective charity ( $z = -1.92, p = .05$ ),  $AIC = 162.58$ . A linear regression analysis revealed that overall positive feelings about the bundle were predicted by perceived effectiveness of the bundle ( $t = 2.24, p = .03$ ), feelings of having supported a personal cause by choosing the bundle ( $t = 3.25, p = .002$ ), and perceived fairness of the bundle ( $t = 3.13, p = .002$ ) ( $R^2 = .33$ ). Similarly, overall positive feelings about donating exclusively to the favorite charity were predicted by perceived effectiveness of donating exclusively to the effective charity ( $t = 3.50, p < .001$ ), feelings of having supported a personal cause of this option ( $t = 6.34, p < .001$ ), and the perceived fairness of this option ( $t = 8.79, p < .001$ ) ( $R^2 = .49$ ).



**Figure 2. Satisfaction assessments for Study 2 participants who chose the bundle (50/50 split between their favorite charity and an effective charity).** Participants who chose the bundle reported being overall more satisfied with their donation, as compared to giving exclusively to the effective charity, and slightly (but not significantly) more satisfied with their bundled donation as compared to giving exclusively to their favorite charity (blue bars). They reported that they lost some “warm glow” by choosing the bundle over giving exclusively to their favorite charity, but that this loss was small compared to the warm glow that they would have lost by giving exclusively to the effective charity (yellow bars). They reported that the bundle was more effective than giving exclusively to their favorite charity, but less effective than giving exclusively to the effective charity (red bars). They perceived the bundle was the most fair option (green bars). These findings are consistent with the hypothesis that participants who chose the bundle option chose it because it

affords an overall favorable balance of “warm glow”, “impact glow”, and “fairness glow”. Error bars represent standard errors of the mean.

|                  | All to effective | Bundle        | All to personal |
|------------------|------------------|---------------|-----------------|
| Overall feelings | 71.45 (22.22)    | 84.40 (16.21) | 80.77 (20.30)   |
| Impact glow      | 83.23 (19.63)    | 71.95 (19.98) | 60.64 (26.90)   |
| Warm glow        | 60.36 (26.99)    | 80.86 (16.56) | 91.31 (13.20)   |
| Fairness glow    | 69.42 (26.25)    | 87.30 (17.27) | 74.64 (27.24)   |

*Table 2.* Perceptions of the three donation options of participants who chose the bundle (Study 2).

|                  | All to effective | Bundle        | All to personal |
|------------------|------------------|---------------|-----------------|
| Overall feelings | 42.20 (30.76)    | 52.45 (29.88) | 90.99 (12.73)   |
| Impact glow      | 70.88 (27.99)    | 56.94 (23.12) | 58.90 (33.88)   |
| Warm glow        | 27.69 (27.90)    | 56.96 (22.28) | 92.77 (12.54)   |
| Fairness glow    | 35.95 (34.78)    | 52.67 (32.41) | 87.39 (18.13)   |

*Table 3.* Perceptions of the three donation options of participants who chose to donate exclusively to their favorite charity (Study 2).

## Discussion

Study 2 replicated one of the main findings of Study 1: The bundling option appealed to many participants. Indeed, it was, by a narrow margin, the most popular option (49% vs. 47% and 1% for the exclusive donations options). Study 2 did not include a condition with a no-bundle option, and therefore it cannot test for a replication of the other main finding of Study 1, that including the bundle option increases effective donations. But the average donation to the effective charity observed here (\$12.00) is consistent with those observed in the bundling conditions of Study1 (\$11.96 - \$14.51). We emphasize again that participants had the option to keep all of the money for themselves and that therefore these are genuine (costly) donations.

The primary purpose of Study 2 is to examine the psychological mechanisms behind the bundling option's appeal. Consistent with our hypothesis, participants who choose the bundling option report that it yields an overall satisfying balance of competing values. Bundle donors report that they experienced most of the warm glow that they would have experienced from giving exclusively to their favorite charity, while also gaining the "impact glow" of donating to a highly effective charity and the "fairness glow" of supporting two charities instead of one.

Very few participants chose to donate exclusively to the effective charity, but many chose to donate exclusively to their favorite charity. These participants reported experiencing high levels of warm glow from donating to their favorite charity but expected that they would have received very little warm glow from either the bundle or from giving exclusively to the effective charity. (Compare the third lines in Tables 2 and 3.) They viewed giving to their favorite charity as fairer than choosing the bundle or giving exclusively to the effective charity. Most interesting were their assessments of impact. They rated the bundle donation (split between their favorite charity and the effective charity) as significantly less impactful than donating exclusively to the effective charity. However, they rated their preferred option of donating exclusively to their favorite charity as being no less effective (and non-significantly more effective) than the bundle. Thus, it's as if they've acknowledged that watering down liquor makes it less intoxicating, while claiming that pure water is no less intoxicating than watered down liquor.

### **Study 3: Reputational benefits of choosing the bundle**

In Study 3, we investigated how donors who make different choices are perceived by others. Our hypothesis, as described in the introduction, is that donors who choose the bundle will be perceived by as both highly warm and highly competent. This is in comparison to

donors who give exclusively to their favorite charity (and who are therefore seen as comparably warm, but less competent) and compared to donors who give exclusively to the effective charity (and are therefore seen as comparably competent, but less warm).

## Methods

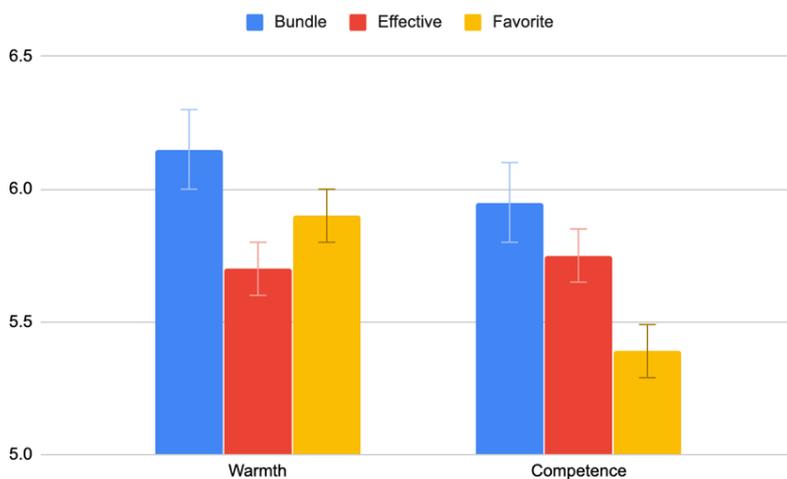
**Participants.** We recruited 82 US American participants online via MTurk (31 female, 51 male,  $M_{age} = 36.12$ ,  $SD_{age} = 10.15$ ). They received \$0.30 in payment for their participation. None were excluded.

**Procedure and Materials.** Participants read a hypothetical vignette about three people, all of whom were planning to donate \$100 to charity. They have similar backgrounds and do not know each other. Each feels a strong emotional pull towards supporting local orphanage housing a small number of children (“Harmony Home”). All three of the soon-to-be donors know that Harmony Home is not particularly effective. They have heard about “The Deworm the World Initiative”, which is considered to be one of the world’s most effective charities according to independent charity experts. Each of the three people is unsure which of these two charities to support. One person decides to donate \$100 to Harmony Home and nothing to The Deworm the World Initiative. Another person decides to donate \$100 to The Deworm the World Initiative and nothing to Harmony Home. And the third person decides to donate \$50 to Harmony Home and \$50 to The Deworm the World Initiative (i.e. the bundle option). Participants rated each of these three people on six character traits using a 7-point scale (adapted from Everett et al., 2018): Caring, Warm, Empathic, Reasonable, Competent, Rational. The former three items were aggregated to form a Warmth score and the latter three items were aggregated to form a Competence score.

## Results

A repeated-measures ANOVA revealed significant differences in perceived warmth ( $\alpha = 0.90$ ) among the three donors ( $F(2, 162) = 13.32$ ,  $p < .001$ ; Table 4, Figure 3). Tukey

HSD post-hoc tests showed that participants perceived the donor who chose the bundle as warmer than the donor who donated exclusively to the effective charity ( $p < .001$ ,  $d = .43$ ), and (surprisingly) also warmer than the donor who donated exclusively to the favorite charity ( $p = .01$ ,  $d = .25$ ). They perceived the donor who donated exclusively to the favorite charity not as marginally warmer than the donor who gave to the effective charity ( $p = .06$ ,  $d = .19$ ). Similarly, there were significant differences in perceived competence ( $\alpha = 0.92$ ) among the three donors ( $F(2, 162) = 11.754$ ,  $p < .001$ ). Participants perceived the donor who chose the bundle as more competent than the donor who donated exclusively to the favorite charity ( $p < .001$ ,  $d = .50$ ), but as comparably competent to the donor who donated exclusively to the effective charity ( $p = .22$ ,  $d = .19$ ). They perceived the donor who donated exclusively to the effective charity as significantly more competent than the donor who gave exclusively to their favorite charity ( $p = .006$ ,  $d = .31$ ).



*Figure 3.* Participants considered a person who chose the bundle as warmer and as more competent than a person who donated exclusively to their favorite charity and as warmer and comparably competent to a person who donated exclusively to a highly effective charity. Error bars represent standard errors.

|            | Bundle      | Effective   | Favorite    |
|------------|-------------|-------------|-------------|
| Warmth     | 6.15 (0.97) | 5.70 (1.12) | 5.90 (1.02) |
| Competence | 5.95 (1.01) | 5.75 (1.11) | 5.39 (1.23) |

*Table 4.* Perceptions of the three donation options of participants who chose the bundle (Study 2).

## **Discussion**

The results are consistent with our hypothesis that making a bundled donation is perceived as reflecting an appealing combination of character traits. Donors who choose the bundle option are perceived both as both warm and competent. Donors who donate exclusively to their favorite charity are primarily perceived as warm but less competent, while donors who donate exclusively to an effective charity are primarily perceived as competent but less warm. As noted above, we are not claiming that participants consciously choose the bundle option (in an anonymous experiment) in order to enhance their reputations. Rather, these data are consistent with the hypothesis that the motivations behind the bundle choice may be adaptive motivation to have, and that these motivations may be adaptive, in part, because they motivate behaviors that enhance one's reputation along at least two important dimensions.

### **Study 4: Asymmetrical matching rates**

Studies 1-3 demonstrate the efficacy and appeal of bundled donations, while providing evidence concerning the proximate (Study 2) and more distal (Study 3) mechanisms that incline people to choose bundled donations. However, as noted earlier, the appeal of bundled donations is of little real-world consequence if donors do not encounter or spontaneously consider the option to make bundled donations. (Again, by “bundled donations” we mean bundles that include donations identified by experts as highly effective.) The prospect of receiving matching funds may incentivize bundled donations, especially if the matching funds can apply (at least in part) to a charity that the donor already wishes to support. Asymmetrical matching funds—with higher matching rates for bundles that give proportionally more to the effective charity—may incentivize bundle donations that are even more effective. Study 4 examines the effect of asymmetrical matching rates on effective giving.

As in Study 2, all participants could donate exclusively to their favorite charity, donate with a bundle (50/50 split), or donate exclusively to an effective charity. As detailed below, participants in the experimental condition were offered higher matching rates for allocating more of their donation to the effective charity. Our hypothesis—which we pre-registered at <http://aspredicted.org/blind.php?x=xk84hh>—was that offering asymmetrical matching rates would increase effective giving.

## Methods

**Participants.** We recruited 421 US American participants online via MTurk. They received \$0.45 in payment for their participation. 62 were excluded for either failing the attention check or for indicating that they did not believe that the financial stakes were real, leaving a final sample of 359 people (158 female, 201 male,  $M_{age} = 39.47$ ,  $SD_{age} = 12.25$ ).

**Procedure and Materials.** The study had two between-subjects conditions: matching and control. Apart from minor changes in wording, the materials and procedure of the control condition was identical to Study 2. In the matching condition, participants were informed that we will match their donations. The matching rate was 5% for donating exclusively to the favorite charity, 25% for choosing the 50/50 bundle, and 50% for donating exclusively to the effective charity. In the control condition, no matching was offered.

## Results

In the control condition, 13% donated exclusively to the effective charity, 47% chose the 50/50 bundle, and 40% donated exclusively to their favorite charity. In the matching condition, 28% donated exclusively to the effective charity, 51% chose the 50/50 bundle, and 21% donated exclusively to their favorite charity. That is, participants allocated significantly larger proportions to the effective charity when donations were matched ( $t(351) = 4.75$ ,  $p < .001$ ,  $d = .50$ ). Total amounts donated did not differ significantly between the two conditions ( $t(345) = 1.04$ ,  $p = .30$ ,  $d = .11$ ; Table 5). The average amount donated to the effective charity

was significantly larger in the matching condition than the control condition,  $t(317) = 3.48$ ,  $p < .001$ ,  $d = .37$ .

|                         | Control       | Matching      |
|-------------------------|---------------|---------------|
| Donations to effective  | 17.77 (22.67) | 27.47 (29.32) |
| Allocation to effective | 37%           | 54%           |
| Total donations         | 46.17 (31.75) | 49.82 (34.44) |

Table 5. Means and standard deviations (Study 4).

In the matching condition, average matching funds per participant was \$3.73 ( $SD = 4.06$ ). The matching funds increased donations to the effective charity by an average of \$9.70 per participant. Thus, the return for a hypothetical matching funder, who would otherwise simply donate to the effective charity, is 2.6 times the initial investment ( $9.70/3.73$ ) which is a rate of 160% ( $100 \times 9.70/3.73$ ), with a net gain per participant of \$5.97 ( $9.70 - 3.73$ ).

## Discussion

The results of this study show that asymmetrical matching can increase effective giving. While participants donated on average \$17.77 to the effective charity in the control condition, they donated \$27.47 in the matching condition—a 55% increase. As noted above, a matching donor interested in promoting effective giving can expect a high rate of return ( $2.6 \times = 160\%$ ). This holds true even though matching donations are used in part to incentivize donations to charities chosen by the bundle donors. Given the existence of donors focused on effective giving (Caviola, Schubert, & Nemirow, 2020), these results suggest that our combination of bundling and asymmetrical matching could be effective strategy for increasing effective giving in the real world.

These results prompted us to build a website for this purpose and secure matching funds from an Effective Altruism organization. While the results of Study 4 indicate that our strategy could be effective in the real world, this strategy, as described above, depends on the

generosity of “full time” matching funders with a strong commitment to effective giving. It is possible, however, that adequate matching funds could be supplied by ordinary donors who are willing to direct a portion of their donations into a matching system. In Study 5 we test the general efficacy of our website (which includes dozens of features not used in our prior studies) and ask whether a matching system could be sustained by ordinary donors serving as “part time” matching funders.

### **Study 5: Self-sustaining donor coordination**

In Study 5, we tested whether our donation system could be financially self-sustaining. More specifically, we asked whether a sufficient proportion of ordinary participants would be willing to direct part of their donations into the matching system to incentivize the donations of other donors. To create the conditions for a self-sustaining matching system, we eliminated the option to give exclusively to a charity chosen by the user. This has three important effects. First, it prevents users from exploiting the system simply as a means to amplify donations to a charity of their choosing. Second, it allows us to guarantee a substantial positive rate of return for any matching funds that are used. Given how we set our matching parameters, a dollar directed into our matching system will cause roughly two dollars to be donated to an effective charity.<sup>1</sup> Third, it follows from this that any user who would otherwise donate to an effective charity through our system can increase their impact by

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<sup>1</sup> The precise rate of return depends on whether there are ordinary bundle donors who would have otherwise donated to an effective charity and, if so, how many such donors there are. Our assumption is that there will be relatively few such donors, in part because such donors are rare, and in part because such donors would naturally be inclined to be producers of matching funds rather than consumers. Our donation system includes a question aimed at assessing what donors would have done had they not donated through our system.

directing their donation into the matching system. We aimed to determine whether enough participants could be motivated by this opportunity for increased impact so as to make the matching system self-sustaining.

In contrast to the previous studies, we directed MTurk participants not to a Qualtrics survey but instead to a preliminary version of our website [GivingMultiplier.org](http://GivingMultiplier.org). As before, participants made probabilistically implemented decisions involving real money. The user's experience in this study will closely resemble that of an actual user of the website.

## Methods

**Participants.** We recruited 172 US American participants online via MTurk. They received \$0.50 in payment for their participation. 27 were excluded for either failing the attention check, a comprehension check, or for indicating that they did not believe that the financial stakes were real, leaving a final sample of 145 people (59 female, 86 male,  $M_{age} = 35.74$ ,  $SD_{age} = 10.82$ ).

**Procedure and Materials.** Participants were informed that they would be directed to a website that allows users to make donations to charity. Participants were told that they could donate any amount between \$0 and \$10 and that we would randomly pick ten participants and execute their decisions. For the selected participants, any portion of the \$10 not donated would be given to the participant in form of an Amazon voucher. Participants were then directed to a preliminary version of our website [GivingMultiplier.org](http://GivingMultiplier.org) and asked to follow the instructions there.

Once on the website, participants were first asked to specify their favorite charity from a search field that contained all legally recognized US charities. Next, they were asked to select one out of nine recommended highly effective charities. These were arranged in a 3 x 3 matrix and included illustrative images. Participants could click on the charity icons to reveal more information about each charity. Next, they specified the amount they want to donate

(anything between \$0 and \$10). Next, they were asked to specify how they would like to divide their donation between the two charities using a slider (Figure 5). The matching rates increased linearly with the proportion allocated to the effective charity. The matching rate was 20% for allocating everything to the effective charity, 10% for allocating 50% to the effective charity, and 2% for allocating 10% to the effective charity. Participants had to allocate at least 10% to their selected effective charity.

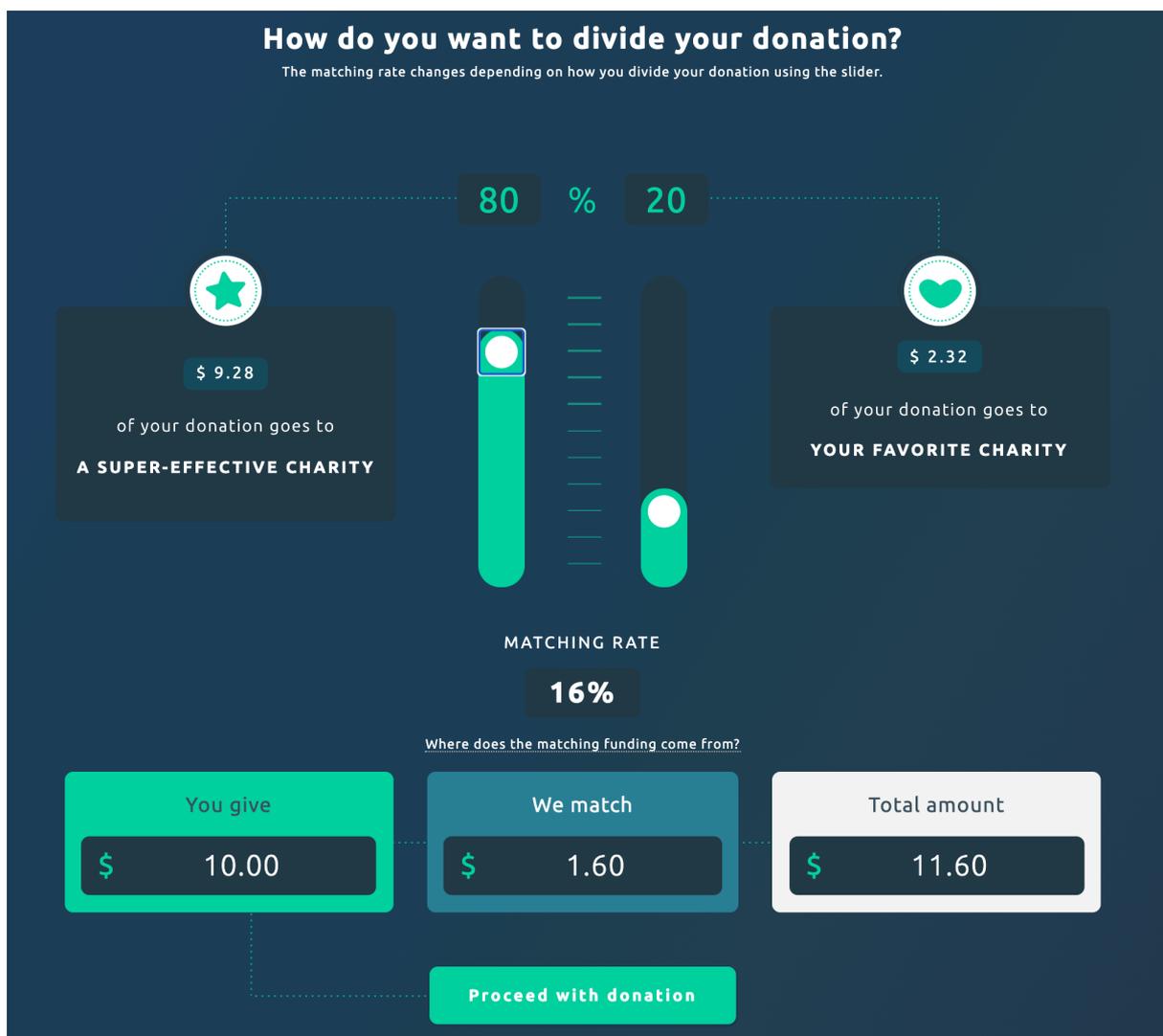


Figure 4. After participants selected their favorite charity, selected a highly effective charity, and entered their total donation amount, they were asked to specify how they would divide their donation between the two charities. The rate with which their donation was matched depended on their allocation. The more they allocated to the effective charity, the larger the matching rate became. (Study 5)

After participants submitted the donation form, they were asked two follow-up questions. First, they were asked how much they would have donated to the effective charity had they not known about our website. This will allow us to calculate the impact of the website by inferring which amounts were directed to highly effective charities that counterfactually would have not been donated to highly effective charities. Second, they were asked whether they would like to support the matching system by directing the part of their donation that they allocated to an effective charity into our matching system, so that it can be used to incentivize others to make donations to effective charities. It was explained to participants that doing this would allow them to double their impact because a dollar spent on matching indirectly raises two dollars for effective charities (Figure 5). It was explained that donations directed to the matching system won't be matched but will instead be used to match other people's donations. Participants could choose between the options yes or no.



Figure 5. After participants made their donation, they were asked whether they are interested in providing a part of their donation into the matching system. By supporting the matching system, their impact would be more indirect. But their impact would be greater because their donations will be used to motivate other donors to give more effectively.

On a final page, participants were asked to indicate on a 7-point scale, ranging from 1 (*Strongly disagree*) to 7 (*Strongly agree*), whether they could imagine using the website in the future to make their own donations. Finally, they responded to demographic questions.

## Results

On average, each participant gave 68% (mean) of their donation to an effective charity (median = 80%). 28% of participants gave their full amount to an effective charity. For every donated dollar, on average 65 cents were allocated to effective charities. 52 cents were

(according to participants' responses) counterfactually given to effective charities, meaning that people would not have donated to this charity had they not known about our website.

34% of participants were willing to provide matching funds. This means that the part of their donation that they had allocated for an effective charity would instead be used to match other people's donations. For every dollar donated, 34 cents were provided as matching funds. On average, 8 cents in matching funds were required for each dollar donated. This number is relatively low, in part, because many donors opted to become matching funders, which both increased the supply of matching funds and reduced the demand for matching funds. Thus, there was a matching surplus of 26 cents (34 minus 8) for each donated dollar. Put another way, participants in this sample provided four times the matching funds needed to cover the matching costs of this sample.

Participants said that they could imagine using the website in the future to make their own donations ( $M = 5.34$ ,  $SD = 1.50$ ) on a scale from 1 (*Strongly disagree*) to 7 (*Strongly agree*).

|  | Mean (SD)   | Proportion per donation | Total sums |
|--|-------------|-------------------------|------------|
| Total amount                           | 4.04 (3.51) | 100%                    | 586.00     |
| To effective charity                   | 2.76 (2.85) | 68%                     | 399.55     |
| Counterfactually to effective charity  | 2.11 (2.67) | 52%                     | 306.25     |
| Provided matching funds                | 1.37 (2.70) | 34%                     | 198.30     |
| Required total matching                | 0.33 (0.41) | 8%                      | 47.13      |
| Required matching for favorite charity | 0.11 (0.14) | 3%                      | 15.72      |
| Surplus matching funds                 | 1.04 (2.82) | 26%                     | 151.16     |

Table 6. Participants could donate anything between \$0 and \$10. The middle row shows what percentage of a donation on average was used for particular purposes (Study 5).

## Discussion

The results of this study suggest that our donation system can be financially self-sustaining. A third of participants were willing to direct part of their donation into our

matching system in order to match others' donations. The matching funds provided was four times larger than the required matching funds. Given the large surplus of available matching funds, the matching rates could be increased, which in turn could help to attract more donors.

We found that our participants directed more than half of their donations to effective charities, even though this population was in no way selected for its interest in making donations to effective charities. This suggests that our donation system could have a large impact. In Study 6, we will test whether these results hold up with real donors.

### **Study 6: Field study (ongoing)**

In Study 6, is an online field study aimed at assessing the efficacy our donation systems as implemented through [GivingMultiplier.org](https://givingmultiplier.org). The study is identical to Study 5 with the only difference that participants will not be MTurk participants but rather real donors, recruited through online advertisements. Donors will not donate funds provided by the experimenters but will instead donate their own money by credit cards or direct bank transfer. These donations will be processed by our non-profit partner, Every.org. Based on the results of Study 5, we have reason to hope that the system will be self-sustaining. We have, however, secured initial matching funds of \$15,000 from the Centre for Effective Altruism.

**[General Discussion to follow]**

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