Choice-justifications after allocating resources in helping dilemmas

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Abstract

How do donors reason and justify their choices when faced with dilemmas in a charitable context? In two studies, Swedish students were confronted with helping dilemmas based on the identifiable victim effect, the proportion dominance effect and the ingroup effect. Each dilemma consisted of two comparable charity projects and participants were asked to choose one project over the other. They were then asked to provide justifications of their choice by stating the relative importance of different types of reasons. When faced with an identified victim dilemma, participants did not choose the project including an identified victim more often than the project framed statistically, but those who did emphasized emotional reasons (e.g., "Because I had more empathic feelings"), but not any other reasons, more than those choosing the statistical project. When faced with a Proportion dominance dilemma, participants more often chose the project with a high rescue proportion (e.g., you can save 100% out of 30) than the project with a low rescue proportion (e.g., you can save 4% out of 800), and those who did emphasized efficacy reasons (e.g., "Because my money can make a greater difference there"), but no other reasons, more than those favoring the low recue proportion project. Finally, when faced with an Ingroup dilemma, participants more often chose the project that could help ingroup-victims over the project that could help outgroup victims, and those who did emphasized responsibility reasons (e.g., "Because I have a greater obligation"), but no other reasons, more than those favoring outgroup projects. These results are consistent with and extend previous findings about how different helping effects are related to different psychological processes.

Keywords: charitable giving, choice-justifications, decision modes, helping dilemma, identifiable victim effect, ingroup effect, proportion dominance effect.

1 Introduction

Although charity organizations differ from most other businesses in that they do not exclusively try to maximize profits, a steady flow of money is necessary to keep them up and running. In order to collect money, organizations make charity appeals to potential donors. One could argue that a charity appeal has to convince a potential donor in three steps: First, to make the donor decide to help at all; second, to make the donor donate more rather than less money; and, third, to make the donor allocate the money to your helping project rather than to another helping project (Dickert, Sagara & Slovic, 2011; Bendapudi, Singh & Bendapudi, 1996; Sargeant, Ford & West, 2006). In this article, we focus on the third step and investigate (1) how donors choose

to allocate resources when faced with three different helping dilemmas, and (2) what kind of reasons people use to justify their choices in these dilemmas. In the next section, we explain what we mean by helping dilemmas. After that, we explain what we mean by choice-justifications, and argue for the idea that people provide different reasons to justify their choices in different helping dilemmas.

1.1 Allocating resources in helping dilemmas – when helping A implies not helping B

The need for help in the world is enormous, and many kinds of needs are addressed by charity organizations. Some organizations focus on disaster relief, others on promoting research for a medicine that might cure a specific disease and yet others aim to prevent schoolyard bullying. No matter how altruistic, willing and affluent a potential donor is, she cannot address all types of needs which means that she explicitly or implicitly has to make a choice about how to allocate resources when helping (helping dilemmas; Baron & Szymanska, 2011). Even if rarely spelled out, different causes or organizations often compete for the money that people are willing to spend on charity. Although the decision to donate and the decision of where to donate often occur at the same time, people sometimes first make the decision to help, and at a later stage decide about whom to help. Potential donors who have decided to give, but not yet

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where, are naturally very attractive customers for charitable organizations (Bennett, 2003). Consequently, charitable organizations must work hard to create appeals that motivate people to donate money to their helping project, rather than to another helping project (Bendapudi et al., 1996).

The most common way to investigate how charity appeals influence helping is to randomly divide participants into groups and let the groups read one charity appeal each. The groups are then compared on, e.g., the mean donated amount. However, as most people come into contact with several charity appeals every day, this type of separate evaluation might not always truthfully reflect how people actually make choices (Bennet, 2003). Alternatively, as an important additional way of modeling how actual charity decisions are made, one could let each participant read several appeals and have the possibility to donate any amount to any of the projects the appeals refer to (i.e., joint evaluation free donation; Soyer & Hogarth, 2011) or to force them to prefer one project over the other (i.e., joint evaluation, forced choice). It has been established that people's preferences can change depending on how charity appeals are presented (Bazerman, Moore, Tenbrunsel, Wade-Benzoni & Blount, 1999; Hsee & Zhang, 2010), and to fully understand potential donors' behavior in helping situations it seems suitable to complement studies using separate evaluation with studies using joint evaluation of charity appeals. The first aim of this study is therefore to investigate how people choose to allocate resources when they are faced with situations where they have to prefer one charity-project over the other (i.e., helping dilemmas).

This article focuses on three types of helping dilemmas that correspond nicely with three helping effects that have been discussed frequently in the charitable decision making literature — the identifiable victim effect; the proportion dominance effect and the ingroup effect (see e.g., Erlandsson, Björklund & Bäckström, 2015; Small, 2011 and Slovic, 2007).

1.2 The identifiable victim dilemma

An identifiable victim dilemma occurs when one has to allocate resources between a project where there is a named and pictured identified victim and a similar project without any identified victim. This dilemma corresponds to the famous identified victim effect, which implies that including a victim's name, picture and background information increases donations (Small & Loewenstein, 2003; Small, Loewenstein & Slovic., 2007; Friedrich & McGuire, 2010; Dickert, Kleber, Peters & Slovic, 2011; Markowitz, Slovic, Västfjäll & Hodges, 2013). Adding identifying information is, however, effective only when there is a single victim (Kogut & Ritov, 2005a, 2005b, 2007). As charity organizations rarely have projects directed to a single victim, a more common practice is to present a single iconic victim in order to illustrate a

broader problem. For example, a charity organization aiming to raise funds for building a school in a poor village could either present just general information about the cost of building the school and the number of children who can benefit (a statistical appeal), or add information and a picture regarding a child who currently suffers but would benefit if the school was built (an identified child appeal).

Importantly for the current study, the identifiable victim effect seems to exist primarily when one evaluates the appeals separately (but see Genevsky, Västfjäll, Slovic & Knutson, 2013, for an exception). In a study by Kogut and Ritov (2005b, Study 2), more money was donated to a helping project with one identified victim than to a helping project with eight victims when evaluation was separate. However, when evaluated jointly with free choice, the projects received equal donations, and when evaluated jointly with forced choice (i.e., an identified victim dilemma) the project with eight victims received more money. Because of this result, we do not predict that people will allocate more resources to a project framed as an identified victim appeal than to a project framed as a statistical appeal when they are pitted against each other in a helping dilemma.

1.3 The proportion dominance dilemma

A proportion dominance dilemma occurs when one has to allocate resources between a high rescue-proportion project and a similar low rescue-proportion project. This dilemma corresponds to the proportion dominance effect (Baron, 1997; Bartels, 2006; Fetherstonhaugh, Slovic, Johnson & Friedrich, 1997; Friedrich et al. 1999; Kleber, Dickert, Peters & Florack, 2013; Markowitz et al., 2013; Mata, 2016). According to the proportion dominance effect, people are more motivated to try to help a fixed number of victims if these are part of a small reference group (e.g., 17 out of 20 can be helped = high rescue proportion project) than if they are part of a large reference group (e.g., 17 out of 8000 can be helped = low rescue proportion project; Jenni & Loewenstein, 1997). To illustrate, if a charity organization wishes to raise funds for distributing a vaccine that can prevent deaths in developing countries, they can either frame it as a large-scale problem/low rescue proportion appeal (40000 children are dying annually in Africa, we can save 50 of them) or as a small-scale problem/high rescue proportion appeal (60 children are dying annually in this African region, we can save 50 of them).

As the proportion dominance effect has been found previously in both separate and joint evaluation studies (Bartels, 2006; Jenni & Loewenstein, 1997), we expect to replicate it when tested in a helping dilemma context.

H1$_{Proportion\ dominance}$: People will allocate more money to a high rescue proportion project than to a low rescue proportion project when they are pitted against each other in a helping dilemma.

1.4   The ingroup dilemma

An ingroup dilemma occurs when one has to allocate resources between a project helping ingroup victims and a similar project helping outgroup victims. This dilemma corresponds to the ingroup effect (or parochialism) meaning that beneficiaries who come from the donor's ingroup (e.g., fellow countrymen) generally get more help than beneficiaries from the donor's outgroup (e.g., people from another similar country; Dovidio et al., 1997; Levine & Thompson, 2004; Duclos & Barasch, 2014; Baron, 2012). For example, many people are more willing to donate money to a charity that focuses on a type of plight the donors have personal experience with (Small & Simonsohn, 2008) and donations to a foreign country in need is higher if the donor has visited that country before (Zagefka, Noor & Brown, 2013). To illustrate, an organization focusing on cancer research could frame their charity appeal either to emphasize the plight for sick children living in distant countries (an outgroup appeal), or to emphasize the plight for sick children living in the same city as the donor (an ingroup appeal). As ingroup loyalty can be seen as a cultural norm or a moral foundation (e.g., Baron, Ritov & Greene, 2013; Graham, Haidt & Nosek, 2009), we expect to replicate the ingroup effect also when tested in a helping dilemma context.

H1$_{\text{Ingroup}}$: People will allocate more money to an ingroup project than to an outgroup project if they are pitted against each other in a helping dilemma.

1.5   Stated choice-justifications in helping dilemmas

The second aim of this article is to investigate the different reasons people use to justify their allocation-decisions in helping dilemmas. Motivational factors for helping in general (see Batson, 2011 for a review), or for regularly donating money to a specific charity organization (e.g., Sargeant & Lee, 2004) have been investigated thoroughly before, but the current study is primarily focused on the post-decision justifications for choosing one charitable project over another. People make decisions for different reasons, and it can be a great advantage for charitable organizations to understand not only how their donors choose, but also why they choose one helping project over another (Bekkers & Wiepking, 2011; Bendapundi et al., 1996). Obviously, post-decision justifications do not always reflect the actual reasons for helping. Justifications also include aspects such as social signaling (people like to justify their decisions in ways that reflects on them favorably). This element, however, makes justification all the more relevant to investigate. Despite some justifications being more socially desirable than others, we hypothesize that people will use different justifications to explain different decisions in different helping dilemmas.

In this paper, we adopt a taxonomy of decision modes suggested by Elke Weber (1998; Weber & Lindemann, 2007; Krosch, Figner & Weber, 2012) which suggest that people make decisions either "with the heart", "with the head" or "by the book". In a helping dilemma context, deciding with the heart could mean that the donor compares helping projects and chooses the one that made her the most emotionally touched or where she felt more compassion (emotional reasons; Slovic, 2007). Deciding with the head could mean that the donor tries to estimate the cost and benefits of the different helping projects and chooses the one that seemingly can do a greater impact (efficacy reasons; Cryder, Loewenstein & Scheines, 2013). Deciding by the book could mean that the donor asks herself to what extent she has an obligation or personal responsibility to support each project, and chooses the project where she has a higher (relative) responsibility to help (responsibility-reasons; Winterich & Zhang, 2014; Basil, Ridgeway & Basil, 2006).

Without doubt, many other justifications are possible for choosing one helping project over another. For example, people might choose the project they think will improve their own mood the most (i.e., a warm glow reason), the project where the need seems to be greater, or even the project they think will be neglected by others. Although we do not claim to include all possible justifications in this study, we complement the three types of justifications that we have hypotheses about (i.e., emotional, efficacy- and responsibility-reasons), with other types of justifications in Study 2.

Based on previous research, we expect that people will provide different justifications for their choices in different helping dilemmas, and that each of the three kinds of justifying reasons (emotional, efficacy and responsibility-reasons) can be linked to one of the three helping dilemmas respectively. The rationale for these hypotheses primarily comes from a study by Erlandsson et al., (2015) which tested three different underlying mechanisms (emotional reactions, perceived impact and perceived responsibility) as mediators of the three aforementioned helping effects. This was tested using both joint evaluation (with free allocation) and separate evaluation, and the results showed that only emotional reactions mediate the identified victim effect, that only perceived impact mediates the proportion dominance effect and that perceived responsibility is the strongest mediator of the ingroup effect. The current study contributes not only as a conceptual replication, but also includes several novel aspects such as focusing on allocation-choices in helping dilemmas rather than on helping effects, and on retrospective choice-justifications rather than psychological mechanisms as mediators.

First, it is hypothesized that people who prefer to support a project framed as an identified victim appeal will emphasize emotional reasons (but not efficacy-reasons, responsibility-reasons or other reasons) more than people preferring to support the project framed as a statistical appeal. The rationale

for this is that the identifiable victim effect has been closely linked to more intense emotional reactions towards identifiable victims (Kogut & Ritov, 2011; Small, 2011; Sah & Loewenstein, 2012). These emotional reasons can be either self-oriented distress (I feel worse when reading an identified victim appeal, Kogut & Ritov, 2005a) or other-oriented sympathy (I feel more compassion toward the victims when reading the identified victim appeal, Kogut & Ritov 2005b).

H2$_{\text{Identified victim}}$: The degree of support for the identified victim appeal, as opposed to the statistical appeal, will correlate with the rated importance of emotional reasons but not with the importance of efficacy or responsibility reasons.

Although affective underpinnings have been suggested for the proportion dominance effect (Loewenstein & Small, 2007), recent studies that better separate the proportion dominance effect from the identifiable victim effect have suggested a strong link between cost-benefit calculations, perceived impact and the tendency to help more when one can help a large proportion of the victims (Bartels & Burnett, 2010; Friedrich & Dood, 2009; Erlandsson, Björklund & Bäckström, 2014), i.e., a misperception of what is efficient.

H2$_{\text{Proportion dominance}}$: Support for the high rescue proportion appeal will correlate positively with efficacy reasons but not with emotional or responsibility reasons.

It is finally hypothesized that people who prefer to support a project helping ingroup-victims over a project helping outgroup-victims will emphasize responsibility reasons (but not emotional reasons, efficacy-reasons or other reasons) more than people preferring the out-group project. Although other reasons have been suggested as reasons for the ingroup effect (e.g., Goetz, Keltner & Simon-Thomas, 2010; Duclos & Barasch, 2014), it appears that perceived responsibility, rather than emotions or perceived efficacy, is the stronger mediator of the ingroup effect (Levine & Thompson, 2004, Erlandsson et al., 2015).

H2$_{\text{Ingroup}}$: Support for the ingroup appeal will correlate positively with responsibility reasons but not with emotional or efficacy reasons.

2 Study 1

2.1 Method

One hundred and ninety-seven Swedish students (75 female, 115 male, 7 unknown; mean age = 22.52 years, *SD* = 2.31), recruited individually after completing an university exam, participated by filling out a paper and pen questionnaire that took approximately 5–8 minutes to complete. They were told beforehand that by participating, 15 SEK (≈ $2.25) would be donated to charity on their behalf (2955 SEK was later donated to the organizations that inspired the included charity appeals). All participants read three helping dilemmas (one identified victim dilemma, one proportion dominance

dilemma and one ingroup dilemma). The order of presentation of the dilemmas was balanced between participants.

2.2 Materials

The identified victim dilemma: In this helping dilemma, a charity organization focusing on illnesses in developing countries proposed two helping projects. The first project aimed to increase production and distribution of HIV-inhibitors for children whereas the second project aimed to increase production and distribution of TBC-medicine for children. For half the participants, the HIV-project was written in an identified victim version and the TBC-project was written in a statistical version. For the other half, the HIV-project was written in a statistical version and the TBC-project in an identified victim version. The identified and statistical versions were similar except for the middle part and the concluding sentence. Where the identified victim version used a picture and a short story about two-year old Wilma (same picture and name were used for the HIV and TBC-projects), the statistical version instead contained abstract information about the problem and a silhouette of the African continent (see Appendix 1).

The proportion dominance dilemma: In this helping dilemma, a charity organization focusing on wildlife protection proposed two helping projects. The first project aimed to save eagles whereas the second project aimed to save seals. For half of the participants, the eagle-project was written in a high rescue proportion version (375 out of 400 eagles that annually die can be saved) whereas the seal-project was written in a low rescue proportion version (190 out of 1500 seals that annually die can be saved). For the other half, the eagle-project was written in a low rescue proportion version (375 of 6000 eagles) and the seal-project in a high rescue proportion version (190 of 200 seals). Thus, the high and low rescue proportion versions were identical except for the number of animals annually dying.

The ingroup dilemma: In this helping dilemma, a charity organization focusing on welfare proposed two helping projects. The first project aimed to help underprivileged children whereas the second project aimed to help physically healthy but very lonely senior citizens. For half the participants, the children-project was written in the ingroup version (Swedish children) and the seniors-project was written in the outgroup version (Canadian seniors). For the other half, the children-project was written in the outgroup version (Canadian children) and the seniors-project was written in the in-group version (Swedish seniors). The two versions of the projects contained the same information but where the ingroup versions were written in Swedish and explicitly said that money would go to Swedish children/seniors, the outgroup versions were written in English and explicitly said that money would go to Canadian children/seniors.

TABLE 1: Pearson correlations showing the relation between allocation and the relative importance of the different reasons. A positive correlation indicates that the reason was rated as more important by those allocating more to the identified victim project, high rescue proportion project and ingroup-project in the three dilemmas respectively.

Dilemma:	Identifiable victim	Proportion dominance	Ingroup
Preference:	identified victim over statistical victim	high rescue proportion over low rescue proportion	in-group over out-group
I get more emotionally touched when reading about the victims in one of the projects than the other [3]	.087	.018	−.040
I have more empathic feelings for the victims in one of the projects than the other[5]	.193	−.151	.017
Total emotional reasons	.166	−.079	−.016
My money will do more good in one of the projects than the other [1]	−.125	.181	−.226
I believe that my money can make a greater difference in one of the projects than the other [7]	−.104	.050	−.080
Total efficacy reasons	−.133	.138	−.182
I believe that I have a greater personal responsibility to help in one of the projects than the other [2]	−.118	−.040	.269
I believe that I have a greater obligation to help in one of the projects than the other [6]	−.015	−.110	.180
Total responsibility reasons	−.095	−.104	.302
Filler-reasons			
One project feels more interesting than the other [4]	−.012	.027	−.049
I did not make any conscious choice but just randomly allocated the money [8]	.091	−.058	−.061

Numbers in brackets illustrate the order of presentation in the questionnaire.

After each helping dilemma, participants were asked to allocate 5 SEK between the two projects they just read. Importantly, they could not split the money evenly, so they were forced to give more money to one of the projects on each dilemma (i.e., they were forced to prefer one project over the other). Immediately following the allocation decision, participants were asked to read eight possible reasons for why they allocated as they did, and to rank the eight reasons from 1 (*the most important reason*), to 8 (*the least important reason*). Two of the reasons were emotional reasons, two were efficacy-reasons and two were responsibility-reasons. Two reasons were included as filler reasons (see Table 1 for all reasons). To simplify interpretation, the ranking scores were transformed into relative importance scores by subtracting the mean ranking from the number 8, such that a higher score represents a higher relative importance. The two emotional reasons, the two efficacy-reasons and the two responsibility-reasons were aggregated into three variables.[1]

2.3 Results

Although all participants responded to all three helping dilemmas, we report separate analyses for each of the dilemmas representing the three helping effects.

2.3.1 The identifiable victim dilemma

Eighteen participants were excluded either because they did not properly respond to this allocation dilemma (did not mark anything or split the sum evenly) or because they seriously

[1]Although the bivariate Spearman-correlations were negative for most item-pairs due to the ranking methodology, the two emotional reasons correlated significantly positively with each other as did the two efficacy reasons. The two responsibility reasons did not correlate with each other, but they were aggregated on theoretical grounds. This pattern appeared on all three helping dilemmas.

TABLE 2: Number of participants who chose the different projects as a function of the type of the reason that was ranked as the most important.

Dilemma:	Identified victim		Proportion dominance		Ingroup	
Project preference:	statistical	identified victim	low rescue proportion	high rescue proportion	outgroup	ingroup project
Emotional reason most important	12	19	15	17	27	40
Efficacy reason most important	59	35	28	66	23	22
Responsibility reason most important	6	12	15	11	9	47
Filler reason most important	20	16	13	11	4	8

Note: One participant who preferred the low rescue proportion project ranked both an emotional reason and a responsibility reason as the most important. This participant is not included in this table but included in other analyses.

misunderstood the ranking task (e.g., participants who wrote the number "1" after all reasons or participants who did not rank all reasons).[2]

Of the remaining 179 participants, 74 preferred (i.e., gave more money to) the HIV-project whereas 105 preferred the TBC-project, $\chi^2(1, N = 179) = 5.37, p = .021$. The identified victim appeal ($M = 2.51$ SEK, $SD = 1.08$) and the statistical appeal ($M = 2.49$ SEK, $SD = 1.08$) produced almost identical donations, $t(178) = 0.10, p = .918$. 82 participants preferred the project with an identifiable victim whereas 97 preferred the project with statistical information but this difference was not significant $\chi^2(1, N = 179) = 1.23, p = .262$.[3] Participants had no clear preference when an identified appeal was pitted against a statistical appeal in a helping dilemma.

Table 1 shows the main tests relevant for all Hypotheses 2. The correlations in the left panel show the relations between allocation amount to the identified victim project and relative importance of all reasons. A positive correlation means that the reason was more important for those strongly preferring the identified victim project whereas a negative correlation means that the reason was more important for those strongly preferring the statistical project. In line with Hypothesis $2_{\text{Identified victim}}$, allocation to the identified victim project correlated positively with the aggregated emotional reasons (r = .166, $p = .027$) but not with efficacy or responsibility reasons.

We also asked whether the most important reason (i.e., the reason ranked as number 1) differed as a function of which project was chosen. Participants who ranked any of the emotional reasons as the most important were compared against participants who ranked any other reason as the most important. A Chi-square test indicated that emotional reasons were ranked as the most important slightly more often by people preferring the identifiable victim project (23.2%) than by

people preferring the statistical victim project, 12.4%; $\chi^2(1, N = 179) = 3.62, p = .057$; see Table 2. This further supports Hypothesis $2_{\text{Identified victim}}$.

2.3.2 The proportion dominance dilemma

Twenty participants were excluded for not properly responding to the allocation dilemma or for not understanding the ranking task on this dilemma.[4]

Of the remaining 177 participants, 108 preferred the eagle-project whereas 69 participants preferred the seal-project $\chi^2(1, N = 177) = 8.59, p = .003$. The project where one could save a high proportion of the animals received higher donations ($M = 2.79$ SEK, $SD = 1.12$) than the project where one could save a low proportion of the animals, $M = 2.21$ SEK, $SD = 1.12$; $t(176) = 3.38, p = .001$. The high rescue proportion project was preferred by 105 participants whereas 72 preferred the low rescue proportion project $\chi^2(1, N = 177) = 6.15, p = .013$.[5] This supports Hypothesis $1_{\text{Proportion Dominance}}$.

The center panel of Table 1 shows the relations between allocation amount to the high rescue proportion project and the relative importance of all reasons. In line with Hypothesis $2_{\text{Proportion dominance}}$, allocation to the high rescue proportion project correlated positively with the aggregated efficacy reasons ($p = .068$), but not with emotional or responsibility reasons.

We also asked whether the most important reason differed as a function of which project that was chosen. Participants who ranked any of the efficacy-reasons as the most important

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[2]Minor mistakes (such as writing the number "2" twice and not writing the number "3" at all) did not render exclusion.

[3]Preferred context (HIV/TBC) did not interact with preferred version (identified victim appeal/statistical appeal); $\chi^2(1, N = 179) = .001, p = .976$.

[4]As noted by reviewers, different numbers of participants were excluded in the different dilemmas. The reason for this is that some participants responded correctly for the first helping dilemma but not for the other dilemmas and removing these participants would throw away useful data. Excluding participants who responded incorrectly on any helping dilemma did not change the result in any substantial way.

[5]Preferred context (eagles/seals) did not interact with preferred version (high rescue proportion/low rescue proportion); $\chi^2(1, N = 177) = .112, p = .738$.

were compared against participants who ranked any other reason as the most important. Efficacy-reasons were ranked as the most important comparably more often by people preferring the high rescue proportion project (62.9%) than by people preferring the low rescue proportion project, 38.9%; $\chi^2(1, N = 177) = 9.85$, $p = .002$; see Table 2. This further supports Hypothesis 2$_{\text{Proportion Dominance}}$.

2.3.3 The ingroup dilemma

Seventeen participants were excluded for not properly responding to the allocation dilemma or for not understanding the ranking task on this dilemma.

Of the remaining 180 participants, 117 preferred the children-project whereas 63 participants preferred the seniors-project $\chi^2(1, N = 180) = 16.20$, $p < .001$. The project that focused on ingroup victims ($M = 2.97$ SEK, $SD = 1.43$) received higher donations than the project focusing on outgroup victims, $M = 2.03$ SEK, $SD = 1.43$; $t(179) = 4.38$, $p <.001$. The ingroup project was preferred by 117 participants whereas 63 preferred the out-group project, $\chi^2(1, N = 180) = 16.20$, $p < .001$.[6] This supports Hypothesis 1$_{\text{Ingroup}}$.

The right panel of Table 1 shows the relations between allocation amount to the ingroup project and the relative importance of all reasons. In line with Hypothesis 2$_{\text{Ingroup}}$, allocation to the ingroup project correlated positively with responsibility reasons ($p < .001$), but not with emotional or efficacy reasons.

We also asked whether the most important reason differed as a function of which project that was chosen. Participants who ranked any of the responsibility-reasons as the most important were compared against participants who ranked any other reason as the most important. Responsibility-reasons were ranked as the most important comparably more often by participants preferring the ingroup project (40.2%) than by participants preferring the outgroup project, 14.3%; $\chi^2(1, N = 180) = 12.80$, $p < .001$; see Table 2. This is also in line with Hypothesis 2$_{\text{Ingroup}}$.

3 Study 2

Study 1 provided tentative support for the idea that people use different justifications for allocation-choices in different helping-dilemmas. However, in order to test the robustness of the findings and to remedy some of the inherent problems in Study 1, we conducted an additional study. First, whereas participants in Study 1 saw all three helping dilemmas, participants in Study 2 read and responded to only one dilemma. Second, to control for context-specific factors in the different dilemmas, all three dilemmas took place in the same helping context in Study 2 (saving otters or hedgehogs). Third, rather

than ranking the reasons from the most important to the least important as in Study 1, participants in Study 2 rated to what extent each reason influenced their allocation-decision on Likert-scales. Fourth, instead of requesting participants to allocate money between the two projects, Study 2 simply asked for a choice between the two projects. Fifth, to test a wider array of justifications, more types of reasons were included. Finally, the proportion dominance dilemma was formulated so that the low-rescue proportion choice was the normatively preferable one.

3.1 Method

Four hundred and forty-four participants (63.5% female, $M_{\text{age}} = 23.18$, $SD = 4.77$) were individually recruited at two campuses in Sweden. They were told beforehand that 5 SEK would be donated to charity on their behalf if they participated (2220 SEK was later donated to various charitable organizations). All participants first read descriptions of two fictive helping projects — "Save the otters project" and "Save the hedgehogs project", and were asked to imagine that it was totally up to them to decide which of the two projects to implement (implying that the other project would not be implemented). Participants were randomly allocated to read one of the following helping dilemmas.

The identified victim dilemma: Participants had to decide whether they would save 30 otters or 30 hedgehogs, both suffering from accidental discharges of hazardous substances. For half of the participants, the otter-project included a picture and a name of a baby otter (one among the 30 otters possible to help), whereas the hedgehog-project did not. For the other half of the participants, the hedgehog-project included a named and pictured baby hedgehog whereas the otter-project did not (see Appendix 2).

The proportion dominance dilemma: Participants had to decide whether to support a project that was expected to save 100% of 30 animals at risk (i.e., a high rescue proportion), or a project that was expected to save 4% of 800 animals at risk (i.e., a low rescue proportion). Half of the participants read the otter-project in the high rescue proportion version and the hedgehog-project in the low rescue proportion version, whereas the versions were reversed for the other half (see Appendix 2). Importantly, the absolute number of animals possible to save was higher in the low rescue proportion project (i.e., 4% of 800 = 32) than in the high rescue proportion project.

The ingroup effect dilemma: Participants had to decide whether to support a project helping 30 animals in one's home country (i.e. Sweden) or 30 animals in another country (Poland). Specifically, half of the participants had to choose between saving 30 Swedish otters or 30 Polish hedgehogs whereas the other half had to choose between 30 Polish otters or 30 Swedish hedgehogs (see Appendix 2).

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[6]Preferred context (children/seniors) did not interact with preferred version (in-group/out-group appeal); $\chi^2(1, N = 180) = 1.76$, $p = .185$.

TABLE 3: Biserial correlations showing the relation between choice of project and importance-ratings of the different reasons. A positive correlation indicate that the reason was rated as more important by those choosing the identified victim project, high rescue proportion project and ingroup-project in the three dilemmas respectively.

Dilemma:	Identifiable victim	Proportion dominance	Ingroup
Preference:	identified victim over statistical victim	high rescue proportion over low rescue proportion	in-group over out-group
. . . because it made me feel stronger empathic feelings [1]	.248	.005	−.130
. . . because it made me feel more compassion [6]	.327	−.137	−.084
. . . because it made me more emotionally touched [11]	.372	−.024	−.056
Total emotional reasons	.347	−.058	−.099
. . . because the efforts can do more good [2]	−.149	.225	−.348
. . . because resources can be used more cost-effectively [7]	−.118	.438	−.054
. . . because one can make a greater difference [12]	−.202	.244	−.229
Total efficacy reasons	−.191	.395	−.232
. . . because I have a greater responsibility to help [3]	.085	−.260	.603
. . . because I perceive a stronger obligation to help [8]	−.156	−.261	.525
. . . because my duty to help is greater [13]	−.026	−.225	.540
Total responsibility reasons	−.012	−.293	.600
Other reasons			
. . . because I like that animal better [4]	.086	−.093	−.205
. . . because the need seems greater there [5]	−.160	−.311	−.582
. . . because it would make me feel more satisfaction to help there [9]	.055	.009	.148
. . . because I think most others will support the other project [10]	−.313	−.273	−.482

Numbers in brackets illustrate the order the reasons were presented in the questionnaire.

Participants made their allocation-choice by ticking one of two boxes located just below the two project descriptions. On the next page, participants were asked to rate how important each of 13 reason was for their allocation-decision (0 = not at all important to 4 = very important). Three reasons each illustrated emotional reasons (α = .87), efficacy-reasons (α = .80) and responsibility-reasons (α = .80). One item each illustrated preference for a specific animal (the animal liking-reason), greater perceived need (the perceived need-reason), greater anticipated emotional reward if helping (the warm glow-reason), and supporting the project one thinks will be less supported by others (the unpopularity-reason). See Table 3 for all reasons. After rating each reason, participants were asked to circle the single most important reasons in the list. On the final page of the questionnaire, participants marked their gender, age and political inclination and could finally decide which organization to donate 5 SEK to.

3.2 Results

As in Study 1, results from each helping dilemma are individually presented below. Note that in this study, each participant read and responded to only a single helping dilemma. Table 3 shows biserial correlations between ratings of reasons and (dichotomous) project preference. (Biserial correlations are comparable to the Pearson correlations shown in Table 1, which are based on more continuous measures of both variables.) All three of the predicted correlations (emotional reasons for the identified victim dilemma, efficacy reasons for the proportion dominance dilemma and responsibility reasons for the ingroup dilemma) were positive and significant at $p < .001$.

TABLE 4: Number of participants who chose the different projects as a function of the type of the reason that was ranked as the most important.

Dilemma:	Identified victim		Proportion dominance		Ingroup	
Project preference:	statistical	identified victim	low rescue proportion	high rescue proportion	outgroup	ingroup project
Emotional reason most important	9	39	4	6	8	16
Efficacy reason most important	23	16	34	56	8	15
Responsibility reason most important	4	5	4	0	1	43
Animal-liking reason most important	11	8	3	5	5	12
Need-reason most important	3	3	7	6	6	3
Warm glow-reason most important	1	0	0	2	0	1
Unpopularity-reason most important	7	2	4	0	2	0

3.2.1 The individual victim dilemma

One participant did not tick any box resulting in a total of 147 valid allocations. Overall, the otter-project was chosen more often (103 times) than the hedgehog-project (44 times; $\chi^2(1) = 23.68$, $p < .001$) illustrating a general preference for helping otters. The project with an identified animal was chosen 82 times whereas the statistical project was chosen 65 times. This was not significantly different from an equal distribution, $\chi^2(1) = 1.97$, $p = .161$.[7] As in Study 1, people do not seem to prefer a project including an identified victim when pitted next to a project without an identified victim.

As predicted, choice of the identified animal project was positively correlated with high ratings of the emotional reasons. This choice was also negatively correlated with efficacy reasons, which is the same as saying that efficacy reasons were positively correlated with choice of the statistical project ($p = .033$, one tailed).[8] Among those choosing the identified animal project, emotional reasons were rated as more important than all other included reasons (all pairwise comparisons $p < .010$).

We also compared the proportion of participants who marked any emotional reasons as the most important reason (16 participants missed this task). 53.4% of the participants who chose the identified animal project, but only 15.5% of the participants who chose the statistical project marked an emotional reason as the most important, $\chi^2(1) = 20.01$, $p < .001$ (see left panel of Table 4).

3.2.2 The proportion dominance dilemma

One participant did not tick any box resulting in a total of 147 valid allocations. Again, the otter-project was chosen more often (99 times) than the hedgehog-project (48 times; $\chi^2(1) = 17.69$, $p < .001$). The high rescue proportion project (i.e., you can help 100% of the 30 animals at risk) was chosen 89 times whereas the low rescue proportion project (i.e., you can help 4% of 800 animals at risk) was chosen 58 times. This was significantly different from an equal distribution $\chi^2(1) = 6.54$, $p = .011$).[9] We thus found the proportion dominance effect in a helping dilemma even when the low rescue proportion project was the normatively correct choice.

As predicted, choice of the high rescue proportion project correlated positively with ratings of efficacy-reasons (Table 3), despite that the low proportion project saved more animals and was thus more efficacious in fact. Choice of the high proportion project was negatively correlated with ratings of responsibility, the perceived need reason, and the unpopularity reason ($p < .01$ for all).[10] Among those choosing the high rescue proportion project, efficacy-reasons were rated as more important than all other included reasons (all pairwise comparisons, $p < .001$).

74.7% of the participants choosing the high rescue proportion project, but only 60.7% of the participants choosing the low rescue proportion project marked an efficacy-reason as the most important, $\chi^2(1) = 2.90$, $p = .088$ (16 participants missed this task, see center panel of Table 4).

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[7]Preferred animal (otters/hedgehogs) did not interact with preferred version (identified victim project/statistical project); $\chi^2(1, N = 147) = 0.28$, $p = .598$.

[8]The two projects were equally efficacious in terms of numbers, but choice could also be affected by a preference for one animal or the other. Indeed, efficacy reasons (hence choice of the statistical project) were negatively correlated with the animal-liking reason (r = −.184, $p = .014$, one tailed).

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[9]Preferred animal (otters/hedgehogs) did not interact with preferred version (high rescue proportion project/low rescue proportion project); $\chi^2(1, N = 147) = 1.12$, $p = .290$.

[10]Those who endorsed the low proportion project may have understood that others would be subject to proportion dominance, so that they would have a responsibility to correct this mistake.

3.2.3 The ingroup dilemma

The otter-project was again chosen more often (101 times) than the hedgehog-project (47 times; $\chi^2(1) = 19.70$, $p < .001$). The ingroup-project (i.e., the project helping Swedish animals) was chosen 109 times whereas the outgroup-project (i.e., the project helping Polish animals) was chosen 39 times. This was significantly different from an equal distribution, $\chi^2(1) = 33.11$, $p < .001$).[11] We thus again found a strong ingroup-effect in a helping dilemma context.

As predicted, choice of the ingroup project correlated with high ratings of responsibility reasons (Table 3). In contrast, ingroup choice correlated strongly negatively with (implying that outgroup choice correlated positively with) the perceived need reason and the unpopularity reason ($p < .001$) and weakly with efficacy reasons and the animal liking reason ($p < .05$ one tailed). Among those choosing the ingroup-project, responsibility-reasons were rated as more important than all other included reasons (all pairwise comparisons, $p < .010$).

47.8% of the participants choosing the ingroup-project but only 3.3% of those choosing the outgroup-project rated a responsibility-reason as the most important, $\chi^2(1) = 19.14$, $p < .001$ (18 participants missed this task, see right panel of Table 4).

4 General discussion

The two studies reported here contribute to the understanding of how potential donors react to charity appeals in two ways. We investigated how people choose to allocate resources when they read about two helping projects and have to choose one of them (i.e., helping dilemmas). We also investigated the kinds of reasons people refer to when justifying their choices; we found that people justify differently as a function of which choice they make in which helping dilemma. Starting with the more important question, we first discuss choice-justifications in helping dilemmas.

4.1 Choice justifications

In both studies, the predicted pattern emerged for all three included helping dilemmas. When faced with an identified victim dilemma, people choosing (or preferring) the identified victim project rated emotional reasons (but not efficacy-reasons, responsibility-reasons or any other included reason) as more important than people choosing the statistical project. Also, participants in the more controlled Study 2 who chose the identified victim project rated emotional rea-

sons as more important for their choice than any other of the included reasons. The link between the identified victim effect and emotional reactions have been emphasized previously (e.g., Kogut & Ritov, 2011; Small, 2011; Sah & Loewenstein, 2012) and the results from this study extend previous findings only by suggesting that people who choose to help identified victims rather than statistical victims seem fine with justifying their choice by admitting that their chosen appeal made them experience stronger emotional reactions.

When faced with a proportion dominance dilemma, people choosing the high rescue proportion project rated efficacy-reasons (but not emotional reasons, responsibility-reasons or any other reason) as more important than people choosing the low rescue proportion project. Also, participants choosing the high rescue proportion project rated efficacy-reasons as more important for their choice than any other of the included reasons. These patterns emerged also in Study 2 where the low rescue proportion project could save a greater number of victims. Admittedly, efficacy-reasons were rated as relatively important also for those choosing the low-rescue proportion project suggesting that information about the scope of the problem or the number of people possible to save, makes efficacy-reasons (but not emotional reasons) salient. An unexpected finding was that the minority of participants choosing the low rescue proportion project, rated responsibility-reasons as more important than those choosing the high rescue proportion project. A possible interpretation is that participants believe that a moral principle prescribes them to focus on the greater problem (and choose the grand-scale low rescue proportion project), whereas their cost-benefit analysis erroneously tells them to choose the high rescue proportion project.

When faced with an ingroup dilemma, people choosing the ingroup project (i.e., Swedish victims) rated responsibility-reasons (but not emotional reasons, efficacy-reasons or any other included reason) as more important than people choosing the outgroup project (i.e., foreign victims). Also, participants in Study 2 who chose the ingroup project rated responsibility-reasons as more important than any other included reason. An unexpected finding was that efficacy-reasons were rated as more important by the minority choosing the outgroup project than the majority choosing the ingroup project in both studies. As three of the four additional justifications in Study 2 were also more important for those choosing the outgroup project, we interpret this as most people believing that there is a moral principle to prioritize their ingroup, and that people going against this moral principle are prepared to justify their choice with any other available reason.

It should be emphasized that this study did not attempt to test all possible choice-justifications. Nevertheless, Study 2 included four additional reasons which contributed with additional information about other choice-justifications. First, the perceived-need reason was rated as more important by

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[11]In the ingroup-dilemma, preferred animal (otters/hedgehogs) did interact with preferred version (high rescue proportion project/low rescue proportion project); $\chi^2(1, N = 148) = 6.55$, $p = .010$. This is primarily because only 6 participants chose Polish hedgehogs when they were pitted against Swedish otters.

those choosing the low rescue proportion project (unsurprising as the scope of the problem is bigger then, and in fact more people are helped) and by those choosing the outgroup project (possibly a result of people using any available justification for not supporting an ingroup-project). Second, a similar pattern was found for the unpopularity-reason (others will support the other project). Our interpretation of this is that participants seem to expect that the identified victim project, the high rescue proportion project and the ingroup project will be chosen more often, and a fraction of the participants then chose to support the other project as a form of inequality-avoidance, or as a result of understanding that others will be biased. Third, no allocation decisions influenced importance ratings of the warm glow-reasons. One possible reason for this could be that the warm glow reason is understood as a less altruistic motivation than the other included reasons (Andreoni, 1990).

4.2   Allocation decisions

As expected, when participants considered a high rescue proportion project presented next to a low rescue proportion project, the majority preferred to support the project with a high rescue proportion. Although this is in line with previous studies on the proportion dominance effect (e.g., Bartels, 2006; Fetherstonhaugh et al., 1997), it is noteworthy that many charitable organizations still tend to frame their appeals as large-scope disasters where the number of victims in need is overwhelming (Miller, 1977; Sargeant & Woodliffe, 2007). One reason organizations prefer large-scale appeals, might be that these better convey a serious need, which could increase helping motivation. Although this might be true for some people (see Study 2 and Kleber et al., 2013), it seems like small-scale projects where one can do proportionally more good are generally preferred over large-scale projects where one's contribution is merely a drop in the bucket (Bartels & Burnett, 2010).

Also as expected, when people were confronted with a charity appeal with ingroup victims next to a charity appeal with outgroup victims, they generally preferred the ingroup project. This implies that charity organizations should try to emphasize the common group membership between the donors and the victims (Sargeant, 1999). When there are no obvious ingroup victims (e.g., kin, friends, fellow countrymen), the charity organization can instead try to emphasize a larger group (e.g. all humanity) in order to increase donations (Dovidio, Piliavin, Schroeder & Penner, 2006, chapter 8).

When participants read an identified victim appeal next to a statistical appeal, they did not prefer the identified victim appeal. This might seem to be in conflict with previous studies finding the effect, but as noted earlier, preference for a single identified victim is greatest in separate evaluation and lowest when one has to choose between two projects (Kogut

& Ritov, 2005b). One explanation for this might be that joint evaluation reduces the effect emotions have on choices (Ritov & Baron, 2011). Even if people get more emotionally touched when they read an identified victim appeal, having another (statistical) charity appeal next by might reduce the relative influence of these emotions and other reasons (e.g., efficacy-based or responsibility-based) gets relatively more important (Small, et al., 2007). Before deciding to include an identified victim in one's charity appeal, it might be useful for organizations to learn if the appeal will likely be shown in isolation or next to other appeals. If it is the latter, a statistical appeal might be preferable.

4.3   Theoretical and practical implications

As previously noted, this paper has been inspired by the study by Erlandsson, et al. (2015), which tested helping effects in non-allocation situations and found that emotional reactions, perceived impact and perceived responsibility were the primary mediators of the identified victim effect, proportion dominance effect and ingroup effect respectively. The results from the current study are fully consistent with, but extend the findings from that study. First, unlike Erlandsson et al. (2015), this study tested helping dilemmas where allocating more money to one project meant allocating less money to the other project. Second, whereas the earlier study measured the underlying mechanisms (sympathy, perceived utility and perceived responsibility) prior to helping motivation, and tested them as mediators of the helping effects, this study first asked for people's preferences (their allocation choices) and then asked for their retrospective justifications for their choice and tested if participants' conscious justification for their choice varied as a function of which project they preferred in a helping dilemma. The results in this study indicate that the suggested links between the three helping effects and the three psychological mechanisms suggested in Erlandsson et al. (2015), exist not only on the implicit level but also on a more conscious level.

Testing not only what kind of decisions potential donors make, but also what kinds of motivations underlie these choices could be a fruitful path for future research in decision making in charitable giving (Sargeant, 1999). Speculatively, charitable organizations might traditionally have overemphasized the relative importance of emotional reasons on donation decisions (i.e., people will donate more to the project that makes them more emotionally touched) and hence undervalued other reasons. According to reactance-theory (Berkowitz, 1973, Isen & Noonberg, 1979), including identified victims (or in other ways emphasizing emotional aspects) might actually backfire and lead to less donations. This is so because some people get a negative attitude toward emotional appeals as they perceive them as cunning strategies by the organizations to make potential donors help more by inducing distress and guilt (Basil, Ridgway & Basil,

2008). For example, it has been shown that people who are skeptical toward advertising in general, and believe that there is a manipulative intent, experience less guilt when faced with a charity appeal (Hibbert, Smith, Davies & Ireland, 2007). Reactance might be augmented by the presence of other charity appeals. In those situations, reactance-prone donors may display their displeasure of being manipulated, by allocating less money to the project with an identifiable victim (as a form of punishment) and possibly more money to the project with statistical information (as a form of reward). A general advice for charity organizations might therefore be to at times downplay emotional aspects, and to emphasize efficacy-aspects (e.g., by having low overhead costs; Gneezy, Keenan & Gneezy, 2014) or responsibility-aspects (e.g., assigning a specific donor to help a specific victim; Cryder & Loewenstein, 2012, see also Erlandsson, Jungstrand & Västfjäll, 2016) when presenting their project – at least if it is to be presented next to other projects.

4.4 Limitations and suggestions for future studies

The two studies both have inherent benefits and inherent problems. In Study 1 participants allocated actual money between two projects written to resemble actual charity appeals whereas the helping dilemmas in Study 2 were more artificial and involved a hypothetical allocation decision. On the other hand, Study 2 remedied several of the design-problems in Study 1. For example, whereas participants in Study 1 read and allocated money in three helping dilemmas, participants in Study 2 only read and responded to a single helping dilemma thus reducing possible compensation-effects. Also, the unusual (and rather confusing) method of having participants rank the possible justifications from the most important to the least important in Study 1, was suboptimal and subsequently changed into Likert-scales in Study 2. In future studies, it would also be preferable to let the participants report the reason of their choices in their own words after each allocation choice, and have hypothesis-blind raters code the reasons (e.g., Attari, Krantz & Weber, 2014, who tested choice-justifications both by responding to open-ended questions and by choosing reasons from a list).

Although we added four additional reasons in Study 2, this still does not cover all possible reasons people have for choosing in helping dilemmas. For example, we avoided all social reasons such as anticipated punishments (e.g., the risk of getting criticized if choosing to help outgroup-victims rather than ingroup-victims) and reputation-management (seeming like a cold-hearted psychopath if ignoring a single identified victim in need). Adding these and other interpersonal aspects when testing choice-justifications in helping dilemmas could certainly add a new dimension.

One possible boundary condition of the proportion dominance dilemma is that different types of victims are differently easy to perceive as one group. In one study, seeing 50 victims as one group (manipulated by having 50 figures moving jointly) rendered more proportional thinking compared to seeing 50 victims as separate individuals (having the 50 figures moving around independently; Bartels & Burnett, 2011). As suggested by the authors, and shown by Bartels (2006), it might be easier to perceive animals (and possibly out-group members) as a group whereas we generally perceive humans as separate individuals. Relatedly, in a study by Markowitz et al., (2013, Study 1) non-environmentalists were more likely to help 450 out of 1100 than 450 out of 25000 ostriches, but self-rated environmentalists (who might be more likely to consider animals to be part of their in-group) were equally motivated in both situations. Together, these studies imply that especially in a joint evaluation mode, the proportion dominance effect might be stronger when the victims are animals than when they are humans.

Also, as noted by Mata (2016), the responses from some people when faced with the proportion dominance dilemma depends on whether the high rescue proportion project is a utilitarian non-normative choice (i.e., when the low rescue proportion project can save the greater number of victims) or if it is a normative choice (when the high and low rescue proportion project can help equally many). For this reason, we tested both a normative and a non-normative version of the proportion dominance dilemma and found similar results. Future studies should preferably test normative and non-normative versions of other dilemmas as well.

4.5 Conclusion

This article contributes to the existing literature on charitable decision making by testing a previously suggested theory (Erlandsson et al., 2015) with a different methodological approach. Results from two studies, each including three types of helping dilemmas, show that (*a*) only emotional reasons are used more when justifying choices in line with (rather than contrary to) the identified victim effect; (*b*) that only efficacy reasons are used more when justifying choices in line with (rather than contrary to) the proportion dominance effect; and (*c*) that only responsibility-reasons are used more when justifying choices in line with (rather than contrary to) the in-group effect. Explained in terms of Weber's (1998) decision-mode taxonomy, our results suggest that heart-justifications (emotional reasons), head-justifications (efficacy-reasons) and book-justifications (responsibility-reasons) are primarily used for justifying different choices and biases in helping dilemmas.

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Appendix 1: Material in Study 1

All included charity projects for a) The identifiable victim effect dilemma, b) the proportion dominance effect dilemma, and c) the in-group effect dilemma.

All participants read the text in normal font. Half of the participants read the text in fat font whereas the other half read the text in italics font.

All projects have been translated to English by the first author. Pictures are blurred in the appendix.

A. The identifiable victim effect dilemma

Antiretroviral drugs against HIV

Each year many children are infected with the HIV virus. Approximately 90 percent of these children get the virus from their mother during pregnancy, childbirth or breastfeeding. Of the children who are infected by their mother and do not receive treatment, 50 percent die before their second birthday. These days, there are well developed antiretroviral drugs to prevent HIV-infected children from developing AIDS. Pharmaceutical companies have developed medicines suitable for children, but since these are more expensive than medicines for adults, governments have failed to invest in them.

Wilma from Tanzania is two years old and HIV positive. During her first year, antiretroviral drugs were paid for Wilma by the authorities in Tanzania, but these benefits have recently been withdrawn. Wilma is now dependent on external help to get her antiretroviral drugs. Without antiretroviral drugs, it is unlikely that Wilma survive childhood.

[For several years HIV-infected children in several African countries had their antiretroviral drugs paid for by the authorities, but these benefits have recently been withdrawn. Children in Africa are now more dependent on external help to get their antiretroviral drugs.]

We are actively working to purchase and distribute antiretroviral drugs to **Wilma and other HIV-infected children in Africa.** *[HIV-infected children in Africa.]*

A new drug against Tuberculosis

Tuberculosis is a bacterial infectious disease which is difficult, and takes a long time to cure. Without any treatment, a third of the children who has developed an active infection die within two years and the remaining two-thirds die within five years. Tuberculosis is spread through the air and usually infects the lung tissue. Those who become infected develop a persistent, sometimes bloody, cough and fever, chest pain and breathing problems.

Many African children have multi-resistant Tuberculosis. Because the public health system in many African countries are unable to offer any effective medicine, infected children become seriously ill and often die before their tenth birthday.

[Wilma from Tanzania is two years old and suffering from multi-resistant Tuberculosis. As the public health system in Tanzania are unable to offer any effective medicine to Wilma, she becomes sicker every month and will likely die before his tenth birthday.]

One bright spot is that recently, a very effective and safe drug for the treatment of multi-resistant Tuberculosis has been introduced. The new drug is called Sirtuo and eradicates the Tuberculosis bacteria by blocking an enzyme that is necessary for its propagation. The goal of this project is to significantly increase the production of Sirtuo and to be able to treat **more ill children.** *[Wilma and other children with Tuberculosis.]*

B. The proportion dominance effect dilemma

Save the Sea Eagle

In the 70's the sea eagle was close to extinction because of the effect of contaminants. Their reproduction system was affected by the high concentrations of pollutants. Usually none or only one of the eggs hatched. This led to a sharp decline of the sea eagle population in Sweden during the 1970s. The sea eagle is now globally threatened with extinction. In Sweden, every year, about **400** *[6000]* eggs from the sea eagle contains stillborn chicks. Research on how environmental pollutants affect the sea eagle eggs is an important part of the tribe's survival. Further contributions are a necessity to reduce the disturbances due to the impact of environmental toxins. We are conducting a campaign to save more eggs of the sea eagle. In case we can collect enough money, we can perform inventories of eggs, remediation of toxic emissions, initiations of habitat protection and restoration and building of nests. According to objective estimates, this campaign would be able to save about 375 of the **400** [*6000*] (**94%** [*6%*]) stillborn chicks born in Sweden each year.

Save the Harbor Seals

The number of harbor seals reduced greatly worldwide during the 1900s, first through hunting and later because of the pollutant's effects on the seal's immune system and fertility. The harbor seal resides mainly on the Swedish west coast. These days, the biggest threats to the seals are environmental pollutants, such as PCBs (polychlorinated biphenyls). The toxins contribute to a reduced immune system and impaired reproductive ability of the harbor seals. These days, around **1500** [*200*] harbor seals around the Swedish west coast die every year because of environmental toxins. We now lead a campaign to improve the situation of harbor seals. The project involves the financing of breeding places and to investigate at the relationship between brominated flame retardants, and the presence of ulceration in seals. The campaign is estimated to be able to save the lives of 190 of the **1500** [200] harbor seals (i.e., **12%** [*95%*]) of the seals dying each year on the Swedish west coast.

C. The in-group effect dilemma

Many children in *Sweden* [*Canada*] live in poor families

There are 100,000 children in **Sweden** [*Canada*] that come from families living below the poverty line. Many families cannot afford even elementary things. Things like an apartment, jackets, shoes, diapers, food and bus tickets are by no means obvious.

 In **Sweden** [*Canada*] today, there are many children that live in families where the lack of money is a constant concern. All parents want to be able to give a birthday present to their child or to contribute to a school field trip, but unfortunately not everyone can afford it. With your help, we will be able to help more children living in poor families in **Sweden** [*Canada*].

Seniors in *Canada [Sweden]* are clinically lonely

Hundreds of thousands of physically healthy **Canadian** [*Swedish*] senior men and women are suffering from severe loneliness. In some cases their family lives far away, limiting the number of visits. Others have no family members or friends still alive. Loneliness is the most significant reason for depression among **Canadian** [*Swedish*] senior citizens. There are people from all ages that are volunteering for these senior citizens. This means meeting for a couple of hours once every week, seeing a movie, talking a walk in the park, or just chatting over a cup of coffee. This is extremely popular both among the seniors and among the volunteers. With your help, we will be able to recruit more volunteers and to provide social visits to more seniors all over **Canada** [*Sweden*].

Appendix 2: Material in Study 2

All included charity projects for a) The identifiable victim effect dilemma, b) the proportion dominance effect dilemma, and c) the in-group effect dilemma.

All projects have been translated to English by the first author.

Identified victim dilemma 1

Identified otter project vs. Statistical hedgehog project

About the rescue project "Save the otters"

A discharge of oil has recently taken place at a lake where about 30 otters live. All the otters have already been contaminated by the oil. If nothing is done soon, the otters will die a slow and painful death. However, if you decide to immediately support the rescue project "Save the otters', it will be possible to save the lives of all the affected otters using manual cleaning.

Please support the project "Save the otters"

Some of the otters living in the lake were recently marked with a chip and can therefore be identified. The picture shows the otter Uffe which is one of the baby otters who now need help to survive.

About the rescue project "Save the hedgehogs"

A discharge of pollutants has recently occurred near an area where about 30 hedgehogs live. All the hedgehogs have already come into contact with the pollutants, and if nothing is done soon, all hedgehogs will suffer from severe itching and subsequently die. However, if you decide to immediately support the rescue project "Save the hedgehogs', it will be possible to treat all hedgehogs with an effective antidote and thereby save their lives.

Please support the project "Save the hedgehogs"

Identified victim dilemma 2

Statistical otter project vs. Identified hedgehog project

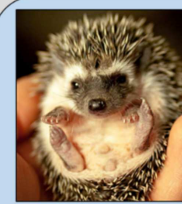**About the rescue project "Save the otters"**

A discharge of oil has recently taken place at a lake where about 30 otters live. All the otters have already been contaminated by the oil. If nothing is done soon, the otters will die a slow and painful death. However, if you decide to immediately support the rescue project "Save the otters', it will be possible to save the lives of all the affected otters using manual cleaning.

Please support the project "Save the otters"

About the rescue project "Save the hedgehogs"

A discharge of pollutants has recently occurred near an area where about 30 hedgehogs live. All the hedgehogs have already come into contact with the pollutants, and if nothing is done soon, all hedgehogs will suffer from severe itching and subsequently die. However, if you decide to immediately support the rescue project "Save the hedgehogs', it will be possible to treat all hedgehogs with an effective antidote and thereby save their lives.

Please support the project "Save the hedgehogs"

Some of the hedgehogs living in the area were recently marked with a chip, and can therefore be identified. The picture shows the hedgehog Izor which is one of the baby hedgehogs who now need help to survive.

Proportion dominance dilemma 1

High rescue proportion otter project vs. Low rescue proportion hedgehog project

About the rescue project "Save the otters"

A discharge of oil has recently taken place at a lake where a flock of otters live. All the 30 otters in the flock have already been contaminated by the oil. If nothing is done soon, the otters will die a slow and painful death. However, if you decide to immediately support the rescue project "Save the otters', it will be possible to save the lives of all the affected otters (100%) using manual cleaning.

Please support the project "Save the otters"

About the rescue project "Save the hedgehogs"

A discharge of pollutants has recently occurred near an area where a flock of hedgehogs live. All the 800 hedgehogs in the flock have already come into contact with the pollutants, and if nothing is done soon, all hedgehogs will suffer from severe itching and subsequently die. However, if you decide to immediately support the rescue project "Save the hedgehogs', it will be possible to treat around 4% of the hedgehogs with an effective antidote and thereby save their lives. Around 96% of the affected hedgehogs will unfortunately die whatever you do.

Please support the project "Save the hedgehogs"

Proportion dominance dilemma 2

Low rescue proportion otter project vs. High rescue proportion hedgehog project

About the rescue project "Save the otters"

A discharge of oil has recently taken place at a lake where a flock of otters live. All the 800 otters in the flock have already been contaminated by the oil. If nothing is done soon, the otters will die a slow and painful death. However, if you decide to immediately support the rescue project "Save the otters', it will be possible to save the lives of around 4 % of the affected otters using manual cleaning. Around 96% of the affected otters will unfortunately die whatever you do.

Please support the project "Save the otters"

About the rescue project "Save the hedgehogs"

A discharge of pollutants has recently occurred near an area where a flock of hedgehogs live. All the 30 hedgehogs in the flock have already come into contact with the pollutants, and if nothing is done soon, all hedgehogs will suffer from severe itching and subsequently die. However, if you decide to immediately support the rescue project "Save the hedgehogs', it will be possible to treat all the hedgehogs (100%) with an effective antidote and thereby save their lives.

Please support the project "Save the hedgehogs"

Ingroup dilemma 1

Ingroup otter project vs. Outgroup hedgehog project

About the rescue project "Save the Swedish otters"

A discharge of oil has recently taken place at a lake in southern Sweden where about 30 otters live. All the otters have already been contaminated by the oil. If nothing is done soon, the otters will die a slow and painful death. However, if you decide to immediately support the rescue project "Save the Swedish otters', it will be possible to save the lives of all the affected otters using manual cleaning.

Please support the project "Save the Swedish otters"

About the rescue project "Save the Polish hedgehogs"

A discharge of pollutants has recently occurred near an area in northwestern Poland where about 30 hedgehogs live. All the hedgehogs have already come into contact with the pollutants, and if nothing is done soon, all hedgehogs will suffer from severe itching and subsequently die. However, if you decide to immediately support the rescue project "Save the Polish hedgehogs', it will be possible to treat all hedgehogs with an effective antidote and thereby save their lives.

Please support the project "Save the Polish hedgehogs"

Ingroup dilemma 2

Outgroup otter project vs. Ingroup hedgehog project

About the rescue project "Save the Polish otters"

A discharge of oil has recently taken place at a lake in northwestern Poland where about 30 otters live. All the otters have already been contaminated by the oil. If nothing is done soon, the otters will die a slow and painful death. However, if you decide to immediately support the rescue project "Save the Polish otters', it will be possible to save the lives of all the affected otters using manual cleaning.

Please support the project "Save the Polish otters"

About the rescue project "Save the Swedish hedgehogs"

A discharge of pollutants has recently occurred near an area in southern Sweden where about 30 hedgehogs live. All the hedgehogs have already come into contact with the pollutants, and if nothing is done soon, all hedgehogs will suffer from severe itching and subsequently die. However, if you decide to immediately support the rescue project "Save the Swedish hedgehogs', it will be possible to treat all hedgehogs with an effective antidote and thereby save their lives.

Please support the project "Save the Swedish hedgehogs"