



## The singularity effect of identified victims in separate and joint evaluations

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### Abstract

People's greater willingness to help identified victims, relative to non-identified ones, was examined by eliciting real contributions to targets varying in singularity (a single individual vs. a group of several individuals), and the availability of individually identifying information (the main difference being the inclusion of a picture in the "identified" versions). Results of the first and second experiments support the proposal that for identified victims, contributions for a single victim exceed contributions for a group when these are judged separately, but preference reverses when one has to choose between contributing to the single individual and contributing to the group. In a third experiment, ratings of emotional response were elicited in addition to willingness to contribute judgments. Results suggest that the greater contribution to a single victim relative to the group stems from intensified emotions evoked by a single identified victim rather than from emotions evoked by identified victims in general.  
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Extensive findings of research on evaluation of public goods (see Baron, 1997; Frederick & Fischhoff, 1998; Kahneman & Ritov, 1994; Kahneman, Ritov, & Schkade, 1999) show that in their expression of willingness to pay (WTP) for public goods people assign insufficient weight, often no weight at all, to the quantity of the good in question. Thus for example, in a well known study by Devousges et al. (1993) people were informed that a number of migrating birds die each year by drowning in uncovered oil ponds. Participants in the survey were asked for their willingness to pay for covering the oil ponds with nets that would prevent the birds from drowning. WTP varied only slightly when the number of affected birds was increased from 2000 to 200,000. Similarly, in another study, WTP for saving human lives did

not significantly increase when the number of lives saved was increased by a factor of 10 (Baron & Greene, 1996).

The lack of sufficient sensitivity to quantity stems, most likely, from a decision process reflecting primarily the respondents' attitude, or emotional reaction toward the target, rather than a rational, quantitative calculation of the intervention's utility (Kahneman et al., 1999). In their recent research, Hsee and Rottenstreich (2004) argue that when people rely on feeling they are sensitive to the presence or absence of a stimulus, but largely insensitive to further variation in scope. Greater sensitivity to scope (approximating a linear relation, in their studies) is revealed when people rely on calculation, rather than feelings.

To the extent that judgment is affected by emotional reaction, elicited evaluations may yield not just insensitivity to quantity, but even higher values for a subset than for a more inclusive target. This will occur when the less inclusive target evokes more intense feelings than the more inclusive one. An example of such violation of

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monotonicity is provided in Kahneman and Ritov (1994): WTP for addressing a threat to turtles inhabiting the Mexican coast was higher than WTP for addressing a threat to all reptiles inhabiting the same region. People's reaction to an identified victim, relative to their reaction to a group of victims may be an important instance of a similar violation.

The notion that people's evaluation of individual lives is radically different from their evaluation of statistical lives has already been proposed by Schelling (1968), in his seminal economic analysis of the worth of preventing human death. More recently, Small and Loewenstein (2003a, 2003b) provided an empirical test of the difference in the reaction to identified and non-identified victims. In their research, they show that people are more generous toward an identified victim than toward a statistical one. Similarly, they demonstrate increased punitive behavior toward identified wrongdoers than unidentified ones. The notable feature in Small and Loewenstein's research is that the non-identifiable victim, in their studies, was not just unidentified, but also as yet undetermined. Their findings clearly show that people are more willing to contribute to a determined victim than to an undetermined one. Both the increased generosity and the increased punitiveness are attributed to more intense affective reaction to determined targets relative to undetermined ones.

Treatment of determined and undetermined individuals was contrasted, in a different context, by Redelmeier and Tversky (1990), who compared physicians' decision making when evaluating an individual patient to their decision concerning an undetermined member of a group of comparable patients. Physicians were more likely to order an additional test, expend time directly assessing a patient, avoid raising some troubling issues, and recommend certain therapies, when considering a determined individual patient than when adopting the group perspective. The patients in the determined (single) victim condition in these studies were only minimally identified, by giving their initials (such as "L.M."). In more recent studies, DeKay, Hershey, Spranca, Ubel, and Asch (2003) and DeKay et al. (2000) have been unable to replicate those findings (using the same initials or no identification of the patient at all). However, none of these studies provided meaningful identification of the patients.

While under some conditions affective reaction to a single determinate target may be heightened even in the absence of any meaningful identifying information, it is likely that the emotions intensify when individuating information is made available. Although the role of availability of individuating information is difficult to separate from the impact of the information itself, the distinction between the identifiable victim who is actually identified and the one who is not may be an important one.

Altruistic motivation, such as willingness to contribute to help a victim, is directly related to aroused empathic emotion (Batson, 1987; Batson, Batson, Slingby, & Harrell, 1991; Batson & Coke, 1981). Adopting the other's perspective seems a necessary precondition for empathic emotion to be aroused. Indeed, Batson, Klein, Highberger, and Shaw (1995) show that induced perspective taking of a specific person affected an allocation decision participants made in favor of this particular individual, to the point of consciously forsaking fairness to others. The recent finding that negotiators are more likely to engage in dishonest behavior when negotiating with groups as opposed to individuals (Tenbrunsel, Diekmann, & Naquin, 2003) may also be partially related to differentially evoked empathic emotions.

Recent research comparing how people form an impression of individuals and how they form an impression of groups suggests that a single identified individual is more likely to arouse empathic emotions than a group of individuals. According to this research (Hamilton & Sherman, 1996; Sherman, Beike, & Ryalls, 1999; Susskind, Maurer, Thakkar, Hamilton, & Sherman, 1999) a single individual, unlike a group of individuals, is viewed as a psychologically coherent unit. Expectancy of coherence leads to a more extensive processing of information and to active integration of the information in real time. The distinction between the two processes, that of perceiving individuals and that of perceiving groups, is likely to become clearer the more extensive the available information. Hence, identifying information is expected to play a greater role in case of a single victim than in the case of a group of victims.

Based on the convergent evidence discussed above, we hypothesized that willingness to contribute to help a single identified victim will be greater than willingness to contribute to help a single unidentified victim while identification will have no systematic effect on willingness to contribute to groups of victims. This hypothesis was supported in our earlier research (Kogut & Ritov, 2005), examining willingness to contribute with hypothetical scenarios. A series of experiments all yielded a consistent interaction between the singularity or plurality of the target and the availability of identifying information. A single identified victim elicited higher willingness to contribute than an unidentified individual while a group of eight identified individuals did not elicit significantly higher values than a group of unidentified individuals. The purpose of the first experiment in the present research is to examine the above interaction with actual contributions, rather than hypothetical WTP responses.

The insensitivity to quantity found for unidentified victims, compounded with the intensified emotional response to the single identified victim yielded, in the hypothetical studies, a singularity effect: participants' willingness to contribute to a single victim was higher, overall, than their willingness to contribute to the group.

Contributing to a single victim more than to a group of victims, when the total cost in those two situations is held constant, constitutes a clear violation of the normative principle of dominance. However, the respondents who, in these studies, encountered only one target, either the single victim or the group of eight victims, were most likely not aware of this violation. The second experiment in the present research examines whether the bias persists in comparative contexts as well.

Research over the past decade on preference reversals between separate and joint evaluation yielded compelling evidence of the distinct processes involved in each of these judgment modes. Separate evaluations tend to be dominated by spontaneous affective reaction (Ritov & Kahneman, 1997; Slovic, Finucane, Peters, & MacGregor, 2002). Thus, for example, Kahneman and Ritov (1994) found that people were willing to pay more for saving dolphins than for preventing skin cancer in farm workers, when the two causes were presented separately, but the preference reversed which they were judged simultaneous. Presumably, the dolphins aroused more intense emotional response than the farm workers, when each was considered on its own, but other considerations came into play when the two were considered simultaneously. In a different domain, Bazerman, Schroth, Shah, Diekman, and Tenbrunsel (1994) showed that job candidates preferred a position that offers a lower, but more equitable, salary to a position with higher, though non-equitable, pay when each was judged separately, but preference was reversed when participants had to choose between the two.

Consistent with the notion that separate evaluation is largely determined by affective reaction, several studies showed that in separate evaluation people tend to prefer the option that is more emotionally desirable, rather than the one they would consider more morally right (Bazerman, Moore, Tenbrunsel, Wade-Benzoni, & Blount, 1999; Irwin, Slovic, Lichtenstein, & McClelland, 1993). Thus, for example, Irwin et al. (1993) found that willingness to pay for an increment in the quality of a private good was higher than willingness to pay for an increment in an environmental good, although when having to choose between the two goods subjects selected the latter rather than the former.

Separate and joint evaluation may differ not only because emotions play a larger role in separate evaluation, but also due to the fact that the meaning and importance of some attributes becomes apparent only in a comparative context. Consequently, these attributes are weighted more heavily in joint evaluation, whereas easily evaluable features play a greater role in separate evaluation (Hsee, 1996; Nowlis & Simonson, 1997). In particular, quantitative aspects, such as the scope of a problem, or the required sum of money may be hard to evaluate in isolation, and their role is expected to increase in a comparative context.

As discussed earlier, the failure of dominance in separate evaluations of a single victim and a group of victims

stems most likely from a spontaneous affective reaction triggered by the single victim. Furthermore, the quantitative aspect of the target, the number of victims saved per fixed cost, is hard to evaluate and thus does not affect separate evaluation to a large extent. Based on the research described above, we expect that in joint evaluation of a single victim and a group of victims, the life of the single victim will no longer be valued higher than the lives of the group. In particular, when forced to choose between helping a single individual and helping a group of individuals, we expect contributions to reflect preference for saving the group over saving the single individual. This hypothesis will be tested in Experiment 2.

In our previous research (Kogut & Ritov, 2005), we found that participants who considered a single identified victim expressed significantly more distress than participants who considered a group of identified victims. Furthermore, the rating of distress correlated with willingness to contribute to help the victim(s). These findings are consistent with earlier research (Batson, 1987; Batson et al., 1991; Batson & Coke, 1981), showing that altruistic motivation is directly related to aroused empathic emotion. If greater willingness to help a single identified victim is due to the emotional response evoked by the victim, then the singularity effect should only be observed when the target of the help spontaneously evokes distress and empathic emotions in the perceiver.

In the first two experiments in the current study, as well as in our earlier studies, the victims were sick with a potentially terminal disease, and they could not be helped unless the public contributed. In that sense they were clearly ‘victims,’ and, as such, aroused distress and empathic feelings in the people who were exposed to their story (the participants in our studies). Would a single identified individual still elicit more helping behavior than an unidentified individual, or a group of identified individuals, if the target is not a ‘victim’? For example, consider a campaign to raise money for a new educational program. Would people be more willing to contribute, if the target of the program is a single identified child rather than a group of identified children, although none of the children are particularly needy? Presumably, in that case less feelings of empathy will be evoked by the target, be it single or group, identified or not. The above discussion suggests that if less feelings of empathy are evoked by the target in this case, regardless of identification or singularity, willingness to contribute will depend on neither the singularity of the target nor the availability of identifying information. This hypothesis is addressed in Experiment 3.

## Experiment 1

The present experiment contrasts the effect of identification of a single victim with the effect of identification

of a group of victims on people's actual contributions to those victims. Our main hypothesis is that contributions to save identified victims will be greater than contributions to save unidentified ones, predominantly when the target is a single individual. We further predict that across identification levels, contributions for a single victim will be greater than contributions for a group of similar eight victims.

Identifying details necessarily provide additional information about the target. In the present study, the additional information included the child's age (as opposed to just "child"), name, and picture. The individual pictures that were used in the single victim conditions formed part of the group picture of eight individuals that was used in the group conditions. This afforded a meaningful comparison between average willingness to contribute for saving single identified victims and willingness to contribute for saving a group of identified individuals.

One factor that was found to have an effect on willingness to contribute or take action is the relative percentage of the reference group that is going to be helped (Baron, 1997; Heath, Larrick, & Wu, 1999; Jenni & Loewenstein, 1997; Ritov & Baron, 1990). However, the natural interpretation of the situation we described is that the treatment will either be provided to all eight victims in the group, or to none at all. Furthermore, the required total sum was kept constant across conditions: the same amount of money would be needed to save a single child or a group of eight children.

### Method

One hundred and fifty-three undergraduate students at the Hebrew University participated in the study. After participating in a different unrelated experiment, for which they were paid 20 shekels, participants were randomly assigned to one of the experimental conditions.

The experimental design included four conditions: 2 (single vs. group of eight individuals) by 2 (identified vs. unidentified). The descriptions of unidentified victim[s] stated simply, "There is a child [there are 8 children] whose life is [lives are] in danger, who is being treated in a medical center." In the identified victim[s] conditions, the name, age, and a picture of the victim[s] were also provided. We used a group portrait of eight children (four boys and four girls) for the identification of the group. The single victim's picture presented only one child whose picture was cut out from the group portrait. To ensure that the participants were not influenced by the attractiveness or the gender of the specific single victim, we varied the child whose picture was presented. We did this by cutting out from the group portrait first the child who appeared furthest to one side (a boy) and then the child who appeared furthest to the other side (a girl).

The picture of each one of those two children (a boy and a girl) was used in half of the questionnaires.<sup>1</sup>

All questionnaires continued by informing the readers that "Recently a new drug was developed to cure this disease. Unfortunately, this drug is extremely expensive, and unless a sum of 1,500,000 shekels (about \$300,000) is raised soon, it will no longer be possible to save the lives of the sick child [children]." Participants were then asked whether they were willing to contribute money to save the victim(s)' lives. If their response were positive, they could contribute any amount of money they wished to. In particular, they could donate any part of the 20 shekels they had received in payment for their participation in the previous study, or they could donate a higher sum, by adding the amount they wanted. Subjects were instructed to put the questionnaire, together with the donation (if any) in a sealed unmarked envelop. All the money raised in this study was transferred by the experimenter to the "Hayim Association," an Israeli organization that helps children with cancer.

### Results

Participants' contributions ranged from 0 to 25 shekels. Over 70% of the respondents contributed something, but only 1.3% donated more than the 20 shekels which they received in payment for their participation. Contributions to the two identified single victims did not significantly differ, and the data for these two versions were combined. The results are reported in Table 1. As the contributions were not distributed normally, we report the analyses of the log-transformed contributions.

Our main hypothesis, concerning the interaction effect between singularity and identification, was supported, as this interaction proved highly significant ( $F(1, 149) = 13.036, p < .001$ ). As predicted, the identified single victim elicited considerably more contributions than the non-identified single victim ( $t(73) = 3.062, p < .01$ ). Surprisingly, the identified group elicited even less contributions than the non-identified group ( $t(76) = 2.030, p < .05$ ). Although the mean contribution for the single victim across the two identification conditions was higher than the mean contribution for the group of eight victims, this difference did not reach a significant level ( $p = .144$ ). We note, however, that the advantage of the single victim over the group was most noticeable when both the single victim and the group were identified. Under those conditions, the mean contribution for the single child was more than twice as high as the mean contribution for the group of eight children

<sup>1</sup> In Experiment 3, as well as in previous experiments with the same stimuli we presented each of the eight children as a single victim. Neither willingness to contribute nor the emotions evoked by the victim showed significant differences between the children. The pictorial stimuli may be obtained from the authors.

Table 1  
Experiment 1: descriptive statistics of actual contributions, computed separately for each experimental condition

Identification	Target victim	
	Single	Group of eight
<b>Identified</b>		
<i>N</i>	31	31
Mean	10.71	5.03
<i>SD</i>	6.95	5.62
Median	10.0	5.0
Zero (%)	9.7	41.9
<b>Unidentified</b>		
<i>N</i>	44	47
Mean	6.59	8.17
<i>SD</i>	7.43	6.76
Median	5.0	10.0
Zero (%)	38.6	23.4

(10.7 vs. 5.0, respectively). This difference is highly significant ( $t(60) = 3.598$ ,  $p = .001$ ). When victims were not identified, contributions for the single individual did not significantly differ from those for the group. The interaction of singularity and identification was reflected also in the percent of non-contributors in the different conditions. In particular, we note that over 90% of the respondents in the single identified victim condition contributed some amount, a higher percent than in any of the other conditions. Loglinear analysis of the percent of zero contributions yielded a significant effect of the interaction term ( $\chi^2$  for the removal of the interaction term from the saturated model = 11.11,  $df = 1$ ,  $p = .0009$ ).

The greater contributions for a single identified victim, relative to the contributions for a group of identified victims may have stemmed from economic considerations. More specifically, the contributors in those conditions may have differed in their assessment of the probability that the required sum can eventually be collected. Participants may have thought that the large amount of money required is impossibly high for a single child's family to raise on their own. Since the sum required for saving the single victim and the group of eight victims was held constant, only one-eighth of the total amount was required for each child in the group condition. In that case, it may seem more likely that the families would be able to raise the money on their own, or with considerably less public help. Thus, the single victim may be perceived as being in a more critical situation than the group of eight victims. We tested this possible account of Study 1's findings, in two addendum studies.

In the first additional study, we asked directly about the perceived likelihood of raising the required amount in the different conditions. One hundred and sixty-six undergraduate students at the Hebrew University, Jerusalem, participated in this study. The same design and materiel was used as in the main study, and participants were randomly assigned to one of the four conditions.

After reading the information about the victim [victims], participants were asked the following question: "What do you think is the probability of eventually obtaining the amount of money required for purchasing the medicine?" The 7-point response scale ranged from "No chance at all" to "Certainly able to get the money." The mean response across all conditions was 4.903 (on a 7-point scale). Thus, it appears that the subjects were fairly confident, although not certain, of the probability of achieving the goal. However, mean response did not differ by condition ( $M = 4.82, 5.05, 4.95$ , and  $4.79$  for the identified single victim, identified group, unidentified single victim, and unidentified group, respectively). The analysis yielded neither significant main effects nor a significant interaction.

In the second study, we kept the cost per child constant, by making the amount of money required for helping the group of eight children eight times higher than the sum required for helping the single child. Sixty-seven undergraduate students at the Hebrew University participated in this study. They were randomly assigned to one of the two conditions: a single identified victim or a group of eight identified victims. The same materiel was used as in the identified versions of the main study, except that participants were asked about their hypothetical willingness to contribute. All questionnaires started with the same description of the sick child or the group of eight sick children and the need for contributions to obtain the expensive treatment. Participants in the group condition were told that the sum required to save the children is 1,600,000 shekels.<sup>2</sup> Participants in the single victim condition were told that the sum required to save the child is 200,000 shekels (one-eighth of the sum required to save the group of eight victims). After reading the information, participants were asked if they were willing to contribute money to help save the victim/s and if so, how much money would they donate at this time.

As in the main study, the contributions were not distributed normally and we report the results for the log-transformed contributions. Contributions to the single identified victims did not differ significantly for the different children and were averaged across the eight children. Although the hypothetical contributions across conditions were higher on average than the actual contributions obtained in the main study, the results of the current study replicate our main earlier finding: participants in the single victim condition were willing to contribute significantly more money ( $M = 38.62$ ) than participants in the group condition ( $M = 27.85$ ) ( $t(65) = 2.071$ ,  $p < .05$ ). Thus, it appears that the difference in the required amount of money per victim, in our

<sup>2</sup> We used a total amount of 1,600,00 instead of 1,500,000 so that the amount for the single victim (the total amount divided by eight) will be a round number as well.

main study, cannot account for the difference found between contributions for the single identified victim and the group of eight identified victims.

In sum, the results of the two additional studies suggest that neither the amount of money each family must collect nor the perceived likelihood of obtaining the total amount can explain the higher contributions for the single identified victim than for the group of eight identified victims. The next experiment examines whether the relative preference for the single identified victim persists in comparative contexts as well.

## Experiment 2

The results of Experiment 1 demonstrated the effect of the singularity of identified victims: the mean contribution for saving a group of eight identified children was significantly lower than that for saving a single identified child. In that study, the two cases, saving a single identified victim and saving a group of identified victims, were evaluated separately. The two options were presented in isolation and evaluated by different people. The present experiment was designed to examine the hypothesis that the preference for the identified single victim over the identified group diminishes and even reverses in a joint evaluation in which the two options are presented simultaneously and evaluated comparatively.

The present experiment employed only identified victims. It included, in addition to the two separate evaluation conditions (contribution to a single victim and a group of victims), two joint evaluation conditions. In one joint evaluation condition, the subjects were completely free to contribute (or not to contribute) to the single victim, the group, or to both. In the second joint evaluation version, subjects were instructed to choose between the single victim and the group (again, including the option of not making any contribution at all). As the two targets are presented alongside each other in joint evaluation, if the single victim were also to be included in the group, joint evaluation would have underscored that preferring the single victim over the group explicitly violates dominance. In that case, respondents may have chosen to contribute to the group simply because they do not want to explicitly violate a rational principle which they espouse. In particular, opting to help the single victim, in a comparative evaluation, would suggest that they place no value at all on the lives of all the other victims in the group. To avoid this problem we omitted the picture of the single individual from the group, when the two were shown alongside each other.

### Method

One hundred and eighty-five undergraduate students at the Hebrew University participated in the study. After

participating in a different, unrelated experiment, for which they were paid 20 shekels, participants were randomly assigned to one of the four experimental conditions, 62 subjects in each of the joint evaluation conditions (simultaneous evaluation and choice) and 31 in each of the separate evaluation conditions (single victim and a group of seven victims). We used the same descriptions and pictures for the identification of the victims as in the first study. In the two joint evaluation conditions, the questionnaires presented the identified single victim and the identified group, side by side on the same lengthwise-divided page. To avoid order effects we varied the sides of the two targets. The group portrait included seven children: the same eight children as in the first study except for the one that was cut out for presentation as a single victim. The group picture of the remaining seven children did not show traces of the cut-out child. As in Experiment 1, we used two children, a boy and a girl, in the single victim presentation. Each pair of pictures (the single victim and the group of the remaining seven children) was used in half of the questionnaires.

The questionnaires in the two separate evaluation conditions (identified single victim and identified group) presented the same victims as in the joint evaluation condition. Thus, the two group portraits of seven children used in the joint evaluation condition and the two single victims (a boy and a girl) used in the single victim condition were also used in the separate evaluation conditions.

In the separate evaluation condition, participants read the victims' stories and then were offered the opportunity to donate money to help save the victim[s]. In the simultaneous evaluation condition, participants read both the single victim's and the group's cases, and were told that if they wanted to, they could donate to one or both of the two cases. They were asked to write down the exact sum that they wanted to be given to each of the cases. In the choice condition, the same cases were presented as in the simultaneous evaluation conditions. After reading the two descriptions of the sick children, participants were told that if they wanted to, they could donate money to help save the children's lives, but that they could donate to only one of the two cases (an identified individual or an identified group). In all experimental conditions, participants could contribute the money that they had received in payment for their participation in the previous study (20 shekels) or part of this sum. They could also choose to add more money to this sum. Participants returned the questionnaires with their decision, and any money that they wished to donate, in a closed envelope. As in Experiment 1, all the donations were transferred by the experimenters to the Hayim Association.

### Results

Participants' contributions ranged from 0 to 28 shekels. Over 65% of the respondents contributed

something, but only 1.75% donated more than the 20 shekels which they received in payment for their participation. Neither the order of presentation nor the specific identity of the single victim significantly affected the contributions; hence the data were collapsed across these two factors. The results are reported in Table 2.

As in Experiment 1, the contributions were not distributed normally, and we report the analyses of the log-transformed contributions. Our main hypothesis, that preference for the single victim diminishes or reverses in joint evaluation, was supported. First, we note that the results of the separate evaluations replicate the results of our first study. Participants in the single victim condition ( $M=9.50$ ) contributed significantly more money than participants in the group conditions ( $M=5.60$ ,  $t(57.2)=2.471$ ,  $p<.05$ ). The percent of non-contributors (zero contributions) in the single victim condition was also lower, albeit marginally, than their percent in the group condition (15.6 and 36.7% in the single and group conditions, respectively;  $\chi^2=3.581$ ,  $p=.06$ ).

Turning next to the simultaneous evaluation, in which participants were completely free to contribute to any or both targets, we note that although the mean contribution to the group ( $M=3.05$ ) was somewhat higher than the mean for the single victim ( $M=2.45$ ), the difference did not approach a significant level ( $t=.738$ ,  $p=.46$ ). The percent of non-contributors was not significantly different in those two cases either ( $Z=.535$ ,  $p=.59$ ).

Table 2  
Experiment 2: descriptive statistics computed separately for each experimental condition

Evaluation mode	Target victim		Total contribution
	Single	Group of seven	
<b>Separate</b>			
<i>N</i>	32	30	
Mean	9.50	5.60	
<i>SD</i>	6.88	6.61	
Median	10.0	5.0	
Zero (%)	15.6	36.7	
<b>Simultaneous</b>			
<i>N</i>	61	61	
Mean	2.45	3.04	5.49
<i>SD</i>	3.62	4.54	7.20
Median	0	.5	4.0
Zero (%)	52.5	49.2	39.3
<b>Choice</b>			
<i>N</i>	62	62	
Mean	2.29	5.29	7.58
<i>SD</i>	5.17	7.16	7.36
Median	0	0	5.0
Zero (%)	77.4	54.8	33.9

Mean total contribution is the mean total amount contributed by the respondents in each condition. In the separate conditions, it is simply the mean contributions in each of the separate versions. In the simultaneous condition, it is the mean sum of the amounts contributed to each of the targets. In the choice condition, total contribution is computed as the mean contribution, regardless of specified allocation.

Indeed, 20 of the 37 subjects who contributed to at least one of the targets contributed an equal sum to both. In sum, it appears that contributions were quite evenly divided between the single victim and the group.

Finally, as predicted, the results in the choice condition showed a reversal of preference, with the identified group eliciting significantly greater contributions than the single identified individual ( $t=2.420$ ,  $df=61$ ,  $p<.05$ ). Forty-three out of 62 subjects in the joint evaluation condition chose to donate money to the identified group, as opposed to 19 who preferred to donate to the identified individual ( $Z=2.216$ ,  $p<.05$ , Wilcoxon test).

Direct comparison of the contributions to the single individual and the group in the different conditions is problematic, given the different constraints imposed by each type of evaluation. However, we note that participants donated to the single individual considered in isolation, significantly more than they donated overall (to the single and/or the group) in the joint evaluation conditions ( $F(1,153)=6.756$ ,  $p=.01$ , in comparing the single victim condition to the two joint evaluation conditions combined). Similarly, the percent of non-contributors in the former case was significantly lower than their percent in the latter (15.6 and 36.6%, respectively,  $\chi^2$  for the comparison of the two percentages = 5.07,  $p<.05$ ).

To further test for the differences across conditions, we computed for each subject in the joint evaluation conditions, the difference between his or her contribution to the single victim and to the group. We used an ANOVA (with four levels of the independent factor: separate-single, separate-group, simultaneous, and choice) to compare the means of this computed difference with the difference between the means of contributions to the single victim and the group in the separate evaluation conditions. The difference between contribution to the single victim and contribution to the group was significantly higher in the separate evaluations than in the two joint evaluation conditions ( $F(1,181)=8.008$ ,  $p=.005$ ). Furthermore, the same difference was higher in simultaneous evaluation than in choice ( $F(1,181)=3.934$ ,  $p<.05$ ). In sum, this analysis confirms the findings emerging from the separate examination of each condition. The preference for the single identified victim is greatest in separate evaluation and lowest when one has to choose between helping the single victim and helping the group.

### Experiment 3

In the present experiment, we further explore the boundaries of the identified single victim effect, by examining the effect of the targets' identification on the intention to contribute, when these targets are not necessarily in a grave predicament. The targets, in this case, were

again children. However, in this experiment they were described as gifted children who were eligible to participate in a special 16-year long, highly expensive study program. In one version, the children were “needy”: they were described as coming from poor families who cannot afford the cost of such a program. In the other version, the families’ financial situation was not specified. We asked about willingness to contribute (WTC) to help the children participate in the program, to test the hypothesis that the single identified target will elicit higher WTC only when the target is “needy.” We also asked about the evoked emotions, to further examine the link between emotions and the singularity effect.

*Method*

Two hundred and twenty-seven undergraduate students at the Hebrew University participated in this study. They were randomly assigned to one of eight experimental conditions. Three factors were varied between subjects in a 2 × 2 × 2 factorial design: the singularity of the target (single vs. a group of eight individuals), the identification of the target (identified vs. unidentified), and the need of the target (needy target vs. target not in need).

All participants read the same basic description of a two-year-old, gifted child or a group of eight two-year-old, gifted children who were identified as suitable for a special 16-year study program to fully develop their high potential. The program is expensive and it will cost 150,000 shekels to fund the participation of the child/children (150,000 shekels was a set sum for all experimental conditions). The money for this special program is raised mostly by donations. Participants in the needy target condition were told that the child (children) is from a very poor family who will not be able to pay for their child’s participation in the program. Other participants received no information about the economic situation of the child’s family. All participants were then asked whether they were willing to contribute (WTC) money for the child’s special studies, and if so how much they would contribute at this time.

The descriptions of the unidentified target(s) stated simply: “There is a two-year-old gifted child [or there are eight two-year-old gifted children].” In the identified target conditions, the name and a picture of the children were also provided. We employed the same group portrait of eight children used in the previous studies to identify the group, and eight separate pictures of the same children to identify the single individuals using the same procedure as in the previous studies. After reading the stories and answering the “willingness to contribute” question, participants were asked to report their evoked feelings towards the child/children, by rating the degree to which they agree with the sentence: “I felt sympathy towards the child/children.” The 7-point response scale ranged from “not at all” to “very much.”

*Results*

Participants’ WTC ranged from 0 to 500 shekels (except for three very large contributions that were clearly outliers, and were adjusted to 500 for computation of the means). Over 50% of the respondents were willing to contribute something and 24% were WTC more than 20 shekels. The mean ratings of WTC in each condition are presented in Table 3. Since the contributions were not distributed normally, we report the results for the log-transformed WTC. WTC to the single identified targets did not differ significantly for the different children and were averaged across the eight children. As can be seen in Table 3, participants’ WTC depended upon the child’s (children’s) need:  $F(1,212) = 20.43$ ,  $p < .001$  for the need main effect, in an ANOVA of WTC by need, singularity, and availability of identifying information. Not surprisingly, willingness to contribute was higher when the targets were in need ( $M = 51.27$ ) and lower when they were not ( $M = 22.44$ ). This difference was also reflected in the percent of non-contributors in the two conditions, 30.8% in the needy target condition as opposed to 69.2% when the target was not in need. Identification and singularity did not yield significant main effects or a significant interaction between them.

Most importantly for our present study, we found a marginally significant triple interaction between need, singularity, and identification ( $F(1,212) = 3.62$ ,  $p = .059$ ). Separate analyses showed that the interaction between identification and singularity was significant only for needy targets ( $F(1,101) = 3.84$ ,  $p < .05$ ), but not when the targets are not described as needy ( $p = .567$ ). For needy

Table 3  
Experiment 3: means of willingness to contribute (WTC) and feelings of sympathy for the contribution target (*SD* in parentheses)

	Target type	
	Single	Group of seven
<i>Needy</i>		
Identified		
<i>N</i>	27	29
WTC	79.58 (158.00)	33.04 (51.43)
Feelings	5.60 (1.49)	4.32 (1.75)
Unidentified		
<i>N</i>	29	27
WTC	20.51 (32.33)	71.96 (134.4)
Feelings	4.55 (1.76)	5.52 (1.60)
<i>Not in need</i>		
Identified		
<i>N</i>	30	29
WTC	26.58 (91.64)	18.70 (31.85)
Feelings	4.53 (1.74)	4.00 (1.86)
Unidentified		
<i>N</i>	29	27
WTC	22.76 (53.77)	21.72 (92.62)
Feelings	3.93 (1.49)	4.00 (1.51)

targets, identifying information significantly affected WTC for single targets ( $t(53) = 2.01, p < .05$ ), but not for groups ( $p = .474$ ).

Turning next to the ratings of affective reaction, we note that ratings of sympathy for the single identified victims did not significantly differ for the different children ( $p = .548$ ), and the data were collapsed across the eight children for further analyses. Across all conditions rating of evoked feeling significantly correlated with WTC ( $r = .465, p < .001$ ) such that the higher the ratings of sympathy the greater the willingness to contribute.<sup>3</sup>

Means of reported feelings of sympathy towards the child or children in each condition are presented in Table 3. As expected, participants felt greater sympathy when the children were in need ( $M = 4.998$ ) than when they were not in need ( $M = 4.116$ ).  $F(1, 219) = 16.09, p < .001$  for the need main effect—in an ANOVA of feelings' rating by need, singularity, and identification. Identification and singularity did not have a significant main effect in this analysis, but the interaction between these two factors was significant ( $F(1, 219) = 10.50, p < .001$ ). Separate analyses reveal that across need levels, identifying information significantly affected ratings of sympathy for single targets ( $t(116) = 2.68, p < .01$ ) but not for groups. The interaction between the three independent factors (need, singularity, and identifying information) was marginally significant ( $F(1, 219) = 3.50, p = .063$ ) showing the same pattern as WTC. Again, as predicted, the interaction between identification and singularity was significant only for needy targets ( $F(1, 107) = 12.75, p < .001$ ) but not when the targets were not in need. For needy targets, identification enhanced sympathy for single victims ( $t(57) = 2.462, p < .05$ ), and decreased sympathy for the group ( $t(50) = 2.579, p < .05$ ).

To examine whether the evoked feelings of sympathy mediate the interaction effect found in WTC, we re-analyzed WTC by the three manipulated factors (singularity, identification, and need), with rating of sympathy as a covariant. The analysis yielded a main effect of need ( $F(1, 211) = 10.336, p = .002$ ) and a highly significant effect of evoked sympathy ( $F(1, 211) = 35.824, p < .001$ ). No other main effects or interactions were significant. In particular, the interaction between the three factors, singularity, identification, and need, was no longer significant in this analysis ( $F(1, 211) = 1.47, p = .226$ ). Thus, it appears that the identified single victim effect may be due to the particularly intense emotional reaction evoked by the single identified victim.

In sum, the above findings suggest that singularity effect of identified victims may be largely restricted to needy targets. The greater willingness to help a single identified individual is closely linked to the perception of

the individual being in critical need. In that case, identification of this individual evokes more intense emotional reaction and increases helping behavior (WTC).

## General discussion

The present research provides further evidence for the identified victim effect. Unless willingness to contribute is driven by a special personal attachment to the particular identified victim, the greater contribution to an identified victim may not serve the contributor's goals to the best extent, as it is unlikely that social benefits will be maximized when resources are made available to identified victims more than to unidentified ones. Thus, understanding the sources and boundaries for this effect is of great importance.

The results of the first experiment supported the hypothesis that the identified victim effect, namely the increased tendency to help identified victims, is largely confined to single victims. A single identified victim elicited higher contributions than a non-identified individual while a group of eight identified individuals did not elicit significantly higher contributions than a group of unidentified individuals. This interaction between the singularity or plurality of the target and the availability of identifying information replicated, with real contributions, earlier findings based on hypothetical willingness to contribute. The analysis of Experiment 1 yielded an unexpected finding: identification of the group members resulted in lower contributions, than the contributions for the unidentified group. The ratings of sympathy for the needy victims in Experiment 3 showed a similar effect: sympathy for the unidentified group was rated higher than sympathy for the identified group. The cause of this effect is unclear, and remains as an open question for future research.

More important for the purpose of the present research, the results of all three experiments show that when considered in isolation, donations contributed to a single identified victim exceed those contributed to a group of several comparable identified victims. As detailed earlier, insensitivity to quantity, or extension neglect, in isolated judgments was found in numerous past studies. However, in the present experiments the quantity was not simply ignored: the smaller set (the life of a single individual) was actually valued more highly than the more extensive one (the lives of all the individuals in the group). We take this as an indication that separate evaluations of a single individual and of a group of several individuals do indeed involve different processes.

The results of Experiment 2 indicate that the advantage of singularity does not persist when the context includes targets varying in quantity. Still, even when the single victim and the group were evaluated simultaneously, and participants had the option to contribute to

<sup>3</sup> Rating of sympathy was elicited after the WTC response, which may have enhanced the correlation between the two.

each, we find essentially total neglect of quantity. This result is at odds with the findings of earlier research, showing that when quantitative information is made salient, it has an effect on evaluation, although it is often used inappropriately (DeKay & McClelland, 1996; Kahneman et al., 1999; Novemsky & Kronzon, 1999). The near equal contributions to the single victim and the group in our study may be the result of the still stronger reaction to the single individual. The large percent of equal allocation of the contribution to the two targets, although clearly not achieving equity among all the individual victims, may also indicate a reluctance to consider tradeoffs when those concern protected values, such as saving human lives (Ritov & Baron, 1999). However, when forced to consider such tradeoffs, in the choice task, quantity does come into play and the majority of contributors select the group as the target for their donations. In sum, the results support our hypothesis that when considered in isolation, helping a single individual is valued more highly than helping a group, but preference is reversed when one has to choose between those two goals.

The source of the singularity effect of identified victims may lie in the emotions evoked when considering the victim's case. The emotional reaction could explain the relative preference for the single victim over the group in two ways. First, as Hsee and Rottenstreich (2004) argue, evaluation based on feelings is largely insensitive to quantity. If contribution for identified victims were mostly on evoked emotions, insensitivity to quantity would imply equal contributions for the single victim and for the group. However, in the case of the group, participants may think of their contribution as being a "drop in the bucket," perhaps helping only one of the victims, or being spread across all of them. Consequently, they may perceive the contribution as having lower marginal benefit, and be less inclined to act than in the case of a single victim (Baron, 1997; Heath et al., 1999). We note that this account is based on the assumption that identification of the group members evokes intense emotional reaction similar to the reaction evoked by a single identified individual. The alternative explanation of the singularity effect is that identification enhances emotional reaction only for a single victim, but not for a group. Direct examination of the emotions evoked by considering the victims supports this alternative account.

In our recent research (Kogut & Ritov, 2005), we elicited ratings of the emotional reactions to individual victims and a group of eight victims. We found that the single identified victim evoked in the perceiver more feelings of distress than were evoked by an identified group. In the current research, we again elicited ratings of feelings. In Experiment 3, we included conditions in which the targets of the contribution were not, strictly speaking, in need. In addition to stated WTC, we elicited

ratings of feelings of sympathy evoked by the contribution target. As in our earlier studies, we again observed that a single identified individual evoked more intense feelings than a group of identified individuals. However, this difference was found only for needy targets. Further analysis indicated that the singularity effect in WTC was mediated by evoked feelings: the effect was diminished when evoked feelings were included as a predictor of WTC. Taken together, these results suggest that the greater contribution to a single victim relative to the group stems most likely from emotions evoked by a single identified victim rather than from emotions evoked by identified victims in general. Further research is needed to better understand why a single needy individual induces in the perceiver such intensified reaction.

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