Emotion

Actions Speak Louder Than Outcomes in Judgments of Prosocial Behavior
Daniel A. Yudkin, Annayah M. B. Prosser, and Molly J. Crockett

CITATION
Actions Speak Louder Than Outcomes in Judgments of Prosocial Behavior

Daniel A. Yudkin, Annayah M. B. Prosser, and Molly J. Crockett
Yale University

Recently proposed models of moral cognition suggest that people’s judgments of harmful acts are influenced by their consideration both of those acts’ consequences (“outcome value”), and of the feeling associated with their enactment (“action value”). Here we apply this framework to judgments of prosocial behavior, suggesting that people’s judgments of the praiseworthiness of good deeds are determined both by the benefit those deeds confer to others and by how good they feel to perform. Three experiments confirm this prediction. After developing a new measure to assess the extent to which praiseworthiness is influenced by action and outcome values, we show how these factors make significant and independent contributions to praiseworthiness. We also find that people are consistently more sensitive to action than to outcome value in judging the praiseworthiness of good deeds, but not harmful deeds. This observation echoes the finding that people are often insensitive to outcomes in their giving behavior. Overall, this research tests and validates a novel framework for understanding moral judgment, with implications for the motivations that underlie human altruism.

Keywords: moral judgment, prosociality, altruism

Supplemental materials: http://dx.doi.org/10.1037/emo0000514.supp

A young professional takes a moment from her hurried commute home from work to help an elderly man cross the street. What might drive such seemingly selfless behavior? Recent theoretical advances have proposed two distinct possibilities. On one hand, the woman may be motivated by the desire to see the man arrive safely on the other side (Batson, 1994). Under this view, it is anticipated consequences that drive her behavior. On the other hand, the woman may be motivated by a desire to attain the internal satisfaction of having carried out a good deed (Cialdini, 1991). From this perspective, it is not so much the social consequences of performing the deed driving the behavior as it is the “warm glow” the act produces (Andreoni, 1990; Crumpler & Grossman, 2008; Nunes & Schokkaert, 2003).

Recent models of moral cognition have attempted to describe the unique psychological properties of each of these motivations. According to these models, any good deed has both an “outcome value,” which corresponds to the benefit it produces for others, and an “action value,” which corresponds to the feeling associated with its enactment (Crockett, 2013; Cushman, 2013; Gesiarz & Crockett, 2015). This echoes work in economic theory that differentiates between generosity motivated by concern for the welfare of the recipient (“pure altruism”) and generosity motivated by a sense of satisfaction from doing good (“warm glow”; Andreoni, 1990, 1995). In the current work, we build off this conceptualization, defining “action value” as any positive feeling that arises in an actor as the result of performing a prosocial deed, and outcome value as any positive consequences conferred to the recipient.

Past research suggests that both action and outcome value may be used as a basis for moral decision-making. Demonstrating the importance of outcome value, research has found that people are willing to help others even in the absence of personal incentives (Batson et al., 1999; Franzén & Pointner, 2012); and that they tend to invest more resources in charities believed to be effective (Null, 2011). Other work suggests that people will attempt to help others even if they are led to believe their own moods are unalterable, suggesting that warm glow is not the only factor compelling good behavior (Schroeder, Dovidio, Sibicky, Matthews, & Allen, 1988; see also Dovidio, Allen, & Schroeder, 1990).

On the other hand, there is also evidence that action value motivates prosocial behavior. For instance, research shows that people enjoy the act of giving, even if they know their actions will result in no real benefit (Crumpler & Grossman, 2008). Other work shows that people typically feel more positive affect and higher self-esteem after they have performed an act of giving (Aknin et al., 2013; Hitlin, 2007; Weinstein & Ryan, 2010). And more generally, research finds that a high degree of charitable giving is motivated by the pursuit of personal satisfaction, regardless of outcomes for others (Ribar & Wilhelm, 2002; see also Andreoni, 1990; Konow, 2010).

From this research, it is clear that both action and outcome value play important roles in moral decision-making. However, the manner in which these factors influence moral judgment is less understood (Carlson & Zaki, 2018). Judgment and decision-making are often treated as interrelated concepts in psychology.
performing the behavior to assess its moral content, Lieberman & simulation," in which one adopts the point of view of the person movie script (this measure is based on the notion of "evaluative "act out" performing each behavior as though it were part of a researchers asked participants to rate how moral wrongness "Stabbing John in the throat." According to each condition, par-

outcome values contributed to people's moral condemnation of man (2014; Study 5) examined the extent to which action and moral evaluations of harmful acts. Miller, Hannikainen, and Cush-

moral decision-making. Accordingly, we set out to examine how outcome and action values influence people's judgments of prosocial behavior.

Action and Outcome Values Affect Judgment

The current work draws inspiration from recent research highlighting the importance of action and outcome value in people's moral evaluations of harmful acts. Miller, Hannikainen, and Cushman (2014; Study 5) examined the extent to which action and outcome values contributed to people's moral condemnation of harmful behaviors. Participants are told a story of a man named John who has a terminal illness and sincerely wants to die. John asks Carl to carry out a mercy killing on him, and Carl takes pity on John and agrees to carry out his wish. Participants then read 23 items depicting different ways that Carl might kill John, including "Holding a shotgun to John's head and pulling the trigger" and "Stabbing John in the throat." According to each condition, participants were asked to rate the action value, outcome value, or moral wrongness of each of the 23 acts. To assess action value, the researchers asked participants to rate how upsetting it would be to "act out" performing each behavior as though it were part of a movie script (this measure is based on the notion of "evaluative simulation," in which one adopts the point of view of the person performing the behavior to assess its moral content, Lieberman & Lobel, 2012). To assess outcome value, they asked them to rate how much suffering each act would impose. Finally, to assess moral judgment, they asked people how wrong each act was. Then, the researchers examined the zero-order correlations between these items' mean action and outcome ratings and the mean ratings of wrongness. Results indicated that both action and outcome values significantly predicted participants' wrongness judgments, and the size of these effects were equivalent. This finding suggests that people are equally sensitive to both action and outcome values when making moral evaluations of harmful behaviors (see also Cushman, Gray, Gaffey, & Mendes, 2012; Hannikainen, Miller, & Cushman, 2014; Miller & Cushman, 2013).

We sought to extend these findings from the harm domain to judgments of prosocial behavior. Past work suggests that positive versus negative acts are processed differently in the human mind (e.g., Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Carver, 2006; Higgins, 1998; Janoff-Bulman, Sheikh, & Hepp, 2009). Thus, it is of interest whether people's judgments of prosocial behaviors are similar or different to those pertaining to harmful acts. We sought to observe whether people's evaluations of the moral goodness of prosocial deeds would be sensitive both to how beneficial those deeds are (outcome value) and to how good they would feel to perform (action value). We also tested the relative strengths of these two evaluative systems. Studies of prosocial decision-making suggests that people may be more swayed by action value than by outcome value. For example, research on the "identifiable victim effect," which shows that people tend to donate more to identifiable victims than to large crowds of sufferers, shows that people may be more tempted to seek the warm glow of giving to a single victim than of dispersing resources to the impersonal crowd (Small, Loewenstein, & Slovic, 2007). Furthermore, recent work shows that people's choice of charitable donations is influenced more by subjective preference (that presumably elicits more warm glow), than by known effectiveness (Berman, Barasch, Levine, & Small, 2018). On the basis of these findings, we expect that while both action and outcome value will influence people' judgments of prosocial behavior, they will be more influ-

Study 1

To test our hypotheses, we needed to create a set of prosocial behaviors that would vary widely in action and outcome values, and could, therefore, be used to efficiently gauge the extent to which each of these factors predicted praiseworthiness. Conse-

nts, our first step was to recruit a sample of participants and ask them to provide either an action value or an outcome value rating for a large set of prosocial behaviors. From this set, we were able to select a subset of deeds whose action and outcome values were largely uncorrelated and well distributed. Next, to determine how much action and outcome values predicted praise judgments, we recruited a second sample of participants and asked them to rate the moral praiseworthiness of each item (Figure 1a). We expected that, if both action and outcome values predict praise-
worthiness, then variation in these two factors would be capable of explaining a significant proportion in the variance in people’s praiseworthiness ratings.

**Method**

**Participants.** We collected two samples of participants. As we did not know what effect size to expect given lack of previous investigation on this exact topic, we followed the recommendations of Ledgerwood and Ratliff (2015) and attempted to collect approximately 50 participants per condition. Because participants in Sample 1 were randomly assigned to rate either action or outcome value, we recruited approximately 100 participants. We planned to exclude participants who demonstrated no variation in their ratings of action and outcome values (i.e., providing the same rating across the entire block), because our instructions specifically stated that the deeds varied in terms of how good they feel to perform and how much benefit they conferred, and that they should rate the deeds accordingly.

Our instructions stated that the deeds varied according to how good they feel to perform and how much benefit they confer, and so any participant who demonstrated no variation at all in their responses (i.e., providing the same rating for a whole block) was excluded for not following instructions correctly. This resulted in the exclusion of one participant from further analysis leading to a total of 104 participants ($M_{age}$ 38.8, $SD = 10.9$, 51 men, 54 women). Sample 2 (praiseworthiness) consisted of 50 participants ($M_{age}$ 35.6, $SD = 11.2$, 27 men, 23 women); no participants were excluded from this sample. Both samples were recruited from the TurkPrime platform (Litman, Robinson, & Abberbock, 2017) to participate in a study entitled “Easy and Interesting Survey, rate items on a characteristic!” in exchange for $2.

**Procedure.** To obtain a diverse set of prosocial behaviors, we first generated a list of 95 good deeds in a variety of domains through a review of literature, news reports, Web searches, and anecdotal experiences (for a complete list, see online supplementary materials). Then, according to randomized participant condition, we asked participants in Sample 1, after providing basic demographic information, to rate either the action or outcome value of each deed.

Instructions for both action and outcome measures were adapted from Miller et al. (2014). For action values, participants were told:

In the following section, we will ask you to imagine that you are an actor playing a character in a movie. As part of the movie script, your character must perform various good deeds. Your task in this section is to identify how much of a positive effect each action would have for the any potential recipients of the act.

The scale on which participants responded went from 1 (the LEAST good I can imagine from acting out a good deed) to 10 (the MOST good I can imagine from acting out a good deed). For outcome values, participants were told:

In the following section, you will be asked to evaluate a series of good deeds. For each good deed, please say how much of a positive effect you think doing that deed would have for any potential recipients. Remember: your ratings are not about how much the action would benefit you. The goal is to identify how much of a positive effect each action would have for the any potential recipients of the act.

The scale on which participants responded went from 1 (the LEAST beneficial a good deed could be) to 10 (the MOST beneficial a good deed could be). For praiseworthiness, participants were told:

In the following section, you will be asked to evaluate a series of good deeds. Your task is to rate how morally praiseworthy it would be to perform each deed. While every good deed may be at least somewhat praiseworthy, some might be more praiseworthy than others.

The scale on which participants responded went from 1 (the LEAST praiseworthy a deed could be) to 10 (the MOST praiseworthy a good deed could be). All participants were reminded that there were no right or wrong answers to each of these items, and that we were only interested in how they would honestly feel about this.
each good deed described. Full scripts of participant instructions are to be found in the online supplementary materials.

Results

First we created indices of action value and outcome value by averaging the ratings provided by Sample 1. A deed’s mean action value was obtained by averaging across participants in the action condition; a deed’s mean outcome value was obtained by averaging across participants in the outcome condition; see Figure 1). The overall average correlation in the full set of 95 items was $r = .739$, indicating a strong degree of association between the action and outcome value of prosocial deeds. Because we wanted to obtain a sample that would be best capable of differentiating the respective contributions of action and outcome value to moral judgment, we sought to obtain a subset of these behaviors that was less strongly associated. To do this, we created an algorithm in MATLAB that (a) selected a random subset of 23 items out of the 95 total; (b) computed the correlations between action and outcome values for the 23 items; (c) repeated this process 10,000 times; and (d) returned the subset with the lowest correlation. Twenty-three items were used because it was the same number of items used in previous research in the harm domain (Miller et al., 2014). The resulting set consisted of 23 items with a correlation between action and outcome values of $r = .23$, which is sufficiently low to be able to assess their independent contributions to. The action scores had a mean of 6.06, $SD = .65$; examples of high action-value items included “Comforting an old lady who has tripped and fallen” and “Helping a group of ducklings safely cross the street.” The outcome scores had a mean of 5.42, $SD = 1.07$; examples of high outcome-value items included, “Convincing a friend to donate bone marrow to a stranger in the hospital” and “Asking a passerby to call 911 upon witnessing a car crash.” This list of 23 items was used as our measure of Prosocial Action and Outcome (PAO) for the remainder of the research (see Table S1 and Figure S1 in the online supplementary material).

To test the hypothesis that action and outcome values each make independent contributions to moral praiseworthiness, we sought to examine whether mean action and outcome judgments on the PAO predicted judgments of praiseworthiness. To accomplish this, we conducted a series of linear regressions, one for each participant, that allowed mean-centered action and outcome values extracted from the PAO to predict that person’s praiseworthiness judgments ($\text{Praise}_{\text{individual}} = \beta \text{Action}_{\text{mean}} + \beta \text{Outcome}_{\text{mean}} + c$; see Figure 1). The analysis is akin to a multilevel approach with participant intercept and slope set as random factors. The resulting output produced two $\beta$ weights, which we labeled “action sensitivity” and “outcome sensitivity,” respectively. The individual constant in this equation denoted each person’s predicted praiseworthiness at mean levels of action and outcome value.

To test our hypothesis that both action and outcome values contribute to praiseworthiness, we conducted one-sample $t$ tests measuring the mean action $\beta$ and outcome $\beta$ against the test value of 0. Results indicated that both action value ($M = .59, SD = .79, t(49) = 5.62, p < .001, d = .80, 95\% \text{ confidence interval, CI [.38, .81]}$) and outcome value $M = .20, SD = .40, t(49) = 3.55, p < .001, d = .5, 95\% \text{ CI [.08, .31]}$) made significant and independent contributions to judgments of moral praise. Another way to test this was to run a linear regression allowing mean action and outcome values to predict mean praiseworthiness calculated for each item (hereafter dubbed “simple linear regression.”) The analysis corroborated the result both for action ($\beta = .60, SE = .15, t(20) = 3.87, p < .001$) and outcome values ($\beta = .20, SE = .09, t(20) = 2.17, p = .043$).

We also tested the relationship between the $\beta$s obtained from the multilevel approach. Neither the action nor outcome sensitivity was correlated with the constant, $ps > .40$; however, action and outcome value were negatively correlated, $r = -.35, p = .011$. Finally, and most importantly, a paired-samples $t$ test revealed that people were significantly more sensitive to action than to outcome values, $M_{\text{act}} = .40, SD = .98, t(49) = 2.91, p = .005, d = .41, 95\% \text{ CI [.12, .67]}$ (see Figure 2).

Discussion

The purpose of this experiment was to test whether action and outcome values predict praiseworthiness. To answer this question, we identified a set of 23 deeds that, because they demonstrated low correlation between action and outcome values, would prove an effective measure of the independent contributions of these evaluations to moral praise. Next, we used this measure to assess how strongly each of these factors affected praise. Results indicated that both factors made significant contributions. This is consistent with previous work demonstrating that both action and outcome values contribute to judgments of moral wrongness (Miller et al., 2014).

In addition, we found that action and outcome $\beta$s were negatively correlated. This implies that people who were sensitive to action values were less sensitive to outcome values and vice versa. Finally, we found that people were more sensitive to action than to outcome values in their evaluations of praise. This suggests that the latter may be more influential than the former in people’s determination of the moral worth of prosocial behavior.

Study 2

Study 1 established that the praiseworthiness of prosocial behaviors is predicted by group-average evaluations of the action and outcome values of those behaviors. In this second experiment we sought to replicate this result, as well as to examine whether personal ratings of action and outcome values for prosocial behaviors similarly predicted praiseworthiness of those behaviors. From a procedural perspective, the primary difference between this and the previous experiment was that it used a within-rather than a between-subjects design (see Figure 1). This allowed us to test, for each person, the extent to which the praiseworthiness ratings of various acts were determined by the action and the outcome value that they themselves assigned to those acts. Overall, then, the purpose of this study was to conceptually replicate the results of Study 1, and to determine if the same results would hold when considering individuals’ own action and outcome ratings.

Method

Participants. A power analysis based on the smallest effect size in Study 1 ($d = .41$) indicated a required sample size of 80 (two-tailed paired samples $t$ test, 95% power). We sought a sample of this size and, as in Study 1, excluded four participants who showed no variation in their ratings of action or outcome value.
The final sample consisted of 78 people (41 men, 37 women, 
\(M_{\text{age}} = 33.16, SD = 9.15\)), who participated in a study entitled “Rate items, short and interesting study” through MTurk (Litman et al., 2017).

**Procedure.** Participants were asked to make judgments about a series of good deeds. To avoid influencing praiseworthiness judgments with action or outcome ratings, participants always rated praiseworthiness first, then rated action and outcome value in random order (specific instructions were identical to those in Study 1).

**Analytic plan.** To conceptually replicate Study 1, we ran a series of regressions at the individual level and extracted the resulting action and outcome weights. The difference between this analysis and that used in Study 1 was that, instead of using mean action and outcome ratings, we allowed each person’s individual ratings on both these measures to predict their praiseworthiness ratings (see Figure 1). Thus, the regression we ran for each participant was \(\text{Praise}_{\text{individual}} = \beta^*\text{Action}_{\text{individual}} + \beta^*\text{Outcome}_{\text{individual}} + c\). The resulting weights were extracted and used to indicate action and outcome sensitivity, respectively.

**Results**

Results indicated that both action (\(M = .31, SD = .34, t(77) = 8.03, p < .001, d = .91, 95\% \text{ CI} [.23, .39]\)) and outcome (\(M = .12, SD = .30, t(77) = 3.53, p < .001, d = .40, 95\% \text{ CI} [.05, .18]\)) values differed significantly from 0, suggesting that people’s action and outcome evaluations significantly predicted their praiseworthiness ratings. A simple linear regression allowing mean action (\(\beta = .61, SE = .15, t(20) = 4.23, p < .001\)) and outcome values (\(\beta = .40, SE = .13, t(20) = 3.15, p = .005\)) of the 23 items to predict mean praiseworthiness corroborated these results.

As in the previous experiment, action \(\beta_s\) and outcome \(\beta_s\) were negatively correlated, \(r = -.37, p < .001\). Neither action nor outcome sensitivity was correlated with the constant, \(p_s > .05\). In addition, people were once again more sensitive to action than to outcome values, \(M_{\text{act}} = .19, SD = .52, t(77) = 3.27, p = .002, d = .37, 95\% \text{ CI} [.07, .31]\)—replicating the findings of Experiment 1 (see Figure 2).

**Discussion**

Here we tested whether an individual’s action and outcome evaluations were associated with their ratings of praise. In a conceptual replication of Study 1, we found that people’s individual ratings of action and outcome value indeed predicted praiseworthiness. This provides further confirmation that both these factors are significantly associated with people’s moral judgments. Action and outcome sensitivity were again negatively correlated suggesting that the greater people’s sensitivity to one the less to the other. Finally, we found that action sensitivity was stronger than outcome sensitivity. This corroborates the observations in Study 1: that prosocial judgments are more influenced by action than by outcome value. Overall, then, we have provided additional evidence for the power of both action and outcome value to influence people’s judgments of praiseworthiness.
Study 3

In this experiment we sought to confirm that action and outcome values both significantly predict praiseworthiness, and that action value has greater influence. We further wished to compare these results to those in the domain of harmful acts. As noted above, Miller et al. (2014) find that both action and outcome values predict wrongness, but it is unclear which is more influential. Finally, we were interested in seeing whether people exhibited cross-domain consistency in their sensitivity to action and outcome values. On one hand, it is possible that a person’s sensitivity to action and outcome values for prosocial acts will be unrelated to their sensitivity to action and outcome values for harmful acts. On the other hand, it is possible that a person’s sensitivity in one domain would predict his or her sensitivity in the other. This would provide evidence for a set of domain-general valuation mechanisms that use both action value and outcome value to calculate the moral worth of different behaviors, regardless of their content or valence. The current research set out to see if this was the case.

Our approach was initially similar to that performed in Study 1. We recruited one sample of participants to rate the action or outcome value of 23 prosocial items. Then we recruited a second sample to rate the praiseworthiness of those same items, and used the mean action and outcome ratings obtained from the first sample to predict each person’s praiseworthiness ratings in the second sample.

We used the same procedure for a set of harmful behaviors. We obtained from Miller et al. (2014) mean action and outcome values for the 23 harmful behaviors used in their Study 5. Then we asked the same sample of participants who had rated the praiseworthiness of the prosocial items (Sample 2) to rate the wrongness of the harmful items. Based on the means obtained from the other authors, we could then compute people’s sensitivities to action and outcome in the harm domain, and, finally, compare these to action and outcome sensitivities in the prosocial domain.

Method

Participants. The action value and outcome value means provided for the Harm domain by Miller et al. (2014) had been obtained from 103 subjects (53 men, 50 women, $M_{age} = 34.3$). We obtained these means courtesy of the authors. The action or outcome means for prosocial acts were obtained from a new sample we recruited on TurkPrime (Sample 1). To increase our statistical precision regarding action and outcome value means, we sought about 300 participants to provide either action or outcome ratings for each of the 23 prosocial items (maximum anticipated standard error $\sim0.1$). As in Studies 1 and 2, we slightly overcollected, then excluded four participants on the basis of the fact that they showed no variance in their action or outcome ratings and ended with a final sample of 200 participants, 169 men, 131 women, $M_{age} = 35.0$, $SD = 10.2$. Participants were randomly assigned to rate either action or outcome values.

Finally, the primary sample (Sample 2) consisted of those who rated, in random order, the praiseworthiness of the prosocial items and the wrongness of the harmful items. Because our main question was how action and outcome sensitivity differed across domain (prosocial vs. harmful), we planned to conduct a repeated-measures analysis of variance (ANOVA) with domain (prosocial vs. harmful) and value (action vs. outcome) as within-subjects factors. We anticipated a minimum correlation among the factors of $r = .1$ and a small effect size ($f = .12$); a power analysis in G*Power gave a suggested sample size of 270 to obtain our effect (power $= 95\%$); we slightly overcollected to be conservative and ultimately succeeded in recruiting 303 participants (170 men, 131 women, 2 not reporting, $M_{age} = 35.6$, $SD = 11.0$) through MTurk (Litman et al., 2017) in exchange for $1.20. No participants were eliminated from this sample.

Procedure. We first sought to obtain mean action and outcome ratings for both prosocial and harmful behaviors. For prosocial behaviors, as in previous studies, we asked Sample 1 to rate, for each of 23 items, how beneficial each action would be, as well as how good it would feel to perform. In our analysis, to be conservative, we planned to use only the first block that people responded to, in case that their responses to the first set of questions influenced their responses to the second set (it is plausible, for instance, that judging good deeds’ outcome value first might create demand effects that influence subsequently judged action value, and vice versa). In other words, action means were obtained by averaging the ratings of those participants who had responded first to the action block in the survey; outcome means were obtained by averaging outcome ratings among those who had responded first to the outcome block. The full dataset was collected for exploratory analyses and is available online (osf.io/k3pca).

For the harmful action and outcome means, we obtained data previously collected by Miller et al. (2014; Study 5). As we have described, in that work, the researchers had examined how action- and outcome-values influenced people’s perception of the wrongness of harmful acts. Specifically, they exposed people to a set of 23 items in which a harmful act was being committed. They then assigned them to either the action, outcome, or judgment condition. People in the action condition were asked how upset it would make them to act out each of the 23 actions. People in the outcome condition were asked to determine how much suffering would be caused by each of these actions. Finally, people in the judgment condition were asked to indicate how wrong each of these actions was. We requested only the mean upset and the suffering ratings obtained from the sample, as these items were functionally parallel to the prosocial action and outcome ratings obtained from Sample 1 described above.

For the primary sample (Sample 2), after completing consent forms and demographic questions, participants were informed that they would be making some judgments about a series of actions. They were then exposed in randomized order to the “praiseworthiness” block and the “wrongness” block, each with 23 items. After completion of both the prosocial and the harm block of items, participants were debriefed and dismissed.

Results

To assess people’s level of sensitivity to action and outcome values in the prosocial domain, we ran a series of regressions that, as in Study 1, used action and outcome means (obtained from Sample 1) to predict the praiseworthiness rating of each participant in Sample 2 (see Figure 1). Results indicated that both action ($M = .55$, $SD = .62$, $r(302) = 15.34, p < .001$, $d = .88$, 95% CI [.48, .62]) and outcome ($M = .33$, $SD = .62$, $r(302) = 9.21$, $p < .001$, $d = .52$, 95% CI [.26, .40]) values differed significantly from 0,
suggesting that both valuations made significant and independent contributions to moral praise. A simple linear regression predicting average praiseworthiness ratings across the 23 items from mean action values ($\beta = .54, SE = .16, t(20) = 3.24, p = .004$) and mean outcome values ($\beta = .25, SE = .13, t(20) = 1.88, p = .074$) corroborated these results (though outcome values were only marginally significant). As before, action and outcome sensitivities were negatively correlated, $r = -.22, p < .001$. Both action values, $r = -.11, p = .067$ and outcome values, $r = -.13, p = .020$ showed a negative (or marginally negative) correlation with the constant.

We then performed the same analyses in the harm domain, allowing the mean action (upset) rating and harm (suffering) rating obtained from the other group to predict people’s judgments of wrongness of each of the harmful acts. Corroborating the results obtained by Miller et al. (2014), both action ($M = .44, SD = .62, t(302) = 12.36, p < .001, d = .71, 95\% CI [.37, .51]$) and outcome ($M = .43, SD = .46, t(302) = 16.33, p < .001, d = .94, 95\% CI [.38, .48]$) values made significant and independent contributions to moral condemnation. A simple linear regression predicting average harm ratings across the 23 items from mean action values ($\beta = .44, SE = .09, t(20) = 4.77, p < .001$) and mean outcome values ($\beta = .42, SE = .07, t(20) = 6.12, p < .001$) corroborated these results. Action and outcome sensitivities were negatively correlated, $r = -.20, p < .001$, and a significant correlation emerged between the constant and the action $\beta, r = .15, p < .001$ and in the negative direction between the constant and the outcome $\beta, r = -.24, p < .001$, suggesting that people with higher average wrongness ratings were more sensitive to how upsetting an action would be to perform, while people with lower average wrongness ratings were more sensitive to suffering.

Next, we examined cross-domain associations between action and outcome values. Results indicated that both action sensitivity and outcome sensitivity were associated across domains: $r = -.13, p = .015$ and $r = -.18, p = .001$, respectively, suggesting that people who tended to be sensitive to prosocial action values were also sensitive to harmful action values, and people tended to be sensitive prosocial outcome values were also sensitive to harmful outcome values.

Finally, we examined whether the relative strength of action and outcome sensitivities differed according to domain. Confirming the results of Studies 1 and 2, results indicated that action sensitivity was stronger on average that outcome sensitivity for judgments of praiseworthiness, $M_{\text{action}} = .21, SD = .98, t(302) = 3.90, p < .001, d = .22, 95\% CI [.11, .33])$. By contrast, and confirming the results of Miller et al. (2014; Study 5), action sensitivity was not stronger than outcome sensitivity for judgments of harmful behavior, $M_{\text{action}} = -.01, SD = .84, t(302) = .26, p = .78, d = .02, 95\% CI [−.08, .11]).$ A 2 (value: action vs. outcome) × 2 (domain: prosocial vs. harm) repeated measures ANOVA indicated the interaction between these factors was significant, $F(1, 302) = 8.45, p = .004, \eta^2_p = .03$ (see Figure 2). Comparisons with value and across domain showed that while people were more sensitive to prosocial than harmful action values, $M_{\text{action}} = .11, SD = .82, t(302) = 2.33, p = .020, d = .13, 95\% CI [.02, .20$), they were less sensitive to prosocial than to harmful outcome values, $M_{\text{action}} = -.09, SD = .70, t(302) = -2.36, p = .019, d = -.13, 95\% CI [−.17, −.02]).
emotional benefits from performing altruistic behavior, further cementing the psychological importance of the warm glow of giving (Aknin et al., 2013; Weinstein & Ryan, 2010). The current findings corroborate these effects from the standpoint of the judgment of moral acts.

These observations are also theoretically relevant in light of a long-standing debate regarding the motivations underlying altruistic behavior. Some theorists (e.g., Batson et al., 1999; Schroeder et al., 1988) argue that a primary motivator for prosocial behavior is a desire to achieve a positive outcome or benefit for others. Others, by contrast, suggest that prosocial acts arise primarily from more self-directed motivations, such as the desire to achieve a warm glow from giving altruistically, or to alleviate personal distress (e.g., Andreoni, 1990; Cialdini, 1991). While this past work did not distinguish between action and outcome value, the notion of other-versus self-directed motivations for helping could be construed as loosely mapping onto the outcome-versus action-value distinction put forth in this article. Accordingly, the fact that people value action-over outcome-value might suggest that the former holds greater sway in motivating prosocial behavior.

We note, however, that the applicability of our findings to this debate is qualified by important differences in theoretical framing between our work and past research. First of all, the abovementioned research focuses predominantly on empathy-induced helping of others in distress. Such behavior focuses on the alleviation of negative outcomes, rather than the promotion of positive ones. As past research (e.g., Higgins, 1998) demonstrates, critical psychological differences exist between the prevention of negative outcomes and the promotion of positive ones. These differences suggest that our findings may not apply to negative contexts.

Furthermore, our results differ from these findings insofar as our work examines the evaluation rather than the enactment of prosocial behavior. These constructs are also psychologically distinct. For instance, Monin et al. (2007) suggest that enactment relies more heavily on sophisticated reasoning processes, while evaluation is more subject to quick, affect-laden processes. Applied to the current findings, this suggests that our observations about the primacy of action value should not be automatically assumed to apply in the domain of prosocial behavior. Rather, if prosocial behavior entails greater reliance on reasoning, this may in fact bolster the importance of outcome value; a claim which is supported by previous research (Crockett, 2013; Cushman, 2013; Gesiarz & Crockett, 2015). On the other hand, there is a clear association between action and judgment, in that people are more likely to perform behaviors they judge more positively (see Crockett et al., 2017). This association raises the possibility that an increased emphasis on action value may apply to the domain of behavior after all under particular circumstances.

In addition to findings about people’s relative sensitivity to different valuations, we also found, in Study 3, evidence of consistency in sensitivity to both action and outcome values across both prosocial and harmful deeds. In other words, people swayed by action or outcome value when judging prosocial acts were similarly swayed when judging harmful acts. The observation further confirms the idea, put forward in recent theoretical work, that distinct cognitive mechanisms may drive moral evaluation regardless of valence (e.g., Crockett, 2013; Cushman, 2013), and raises the question of whether such tendencies may constitute stable individual differences.

An interesting question that arises in the context of these findings concerns the underlying psychological phenomena driving them. Specifically, why do people place more value on action than outcome when judging the praiseworthiness of prosocial behaviors? One possibility has to do with the “concreteness” of high action-value behaviors. Behaviors high in action value, by their very nature, are more “up close and personal” than those high in outcome value. Psychological proximity has, in turn, been tied closely to concrete construals; while psychological distance leads to more abstract construals (Liberman & Trope, 2014). The concrete quality of behaviors high in action value may make them more easy to mentally simulate; thus, increasing people’s sensitivity to this particular dimension of behavior. However we caution that this conjecture is purely speculative and should be tested in further research.

On a broader level, past work has suggested that judging the wrongness of harmful actions involves a process of “evaluative simulation,” whereby we evaluate the moral status of another’s action by simulating the affective response that we would experience performing the action ourselves (Miller et al., 2014). Our results are consistent with the possibility that evaluative simulation also plays a role in judging the praiseworthiness of helpful actions. If people evaluate helpful actions by simulating what it feels like to perform the action, then we would expect to see similar biases in moral evaluation as those that exist for moral action. Previous work has shown that individuals often do not act to maximize the benefits that others receive, but instead to maximize the good feelings associated with performing good deeds (Berman et al., 2018; Gesiarz & Crockett, 2015; Ribar & Wilhelm, 2002). Thus, the asymmetry in moral evaluation seen in the present studies may reflect a correspondence between first-person moral decision-making and third-person moral evaluation.

**Practical Implications**

Our work can shed light on some of the challenges that might face the “effective altruism” (EA) movement, which emphasizes the importance of giving to charities that have the most concrete benefit for every dollar spent. In particular, our research suggests that this movement may be facing an uphill battle, because, while effective altruism encourages people to focus on consequences, we find that, in fact, deeds high in action value are considered most praiseworthy (Berman et al., 2018). As a result, it may be difficult for effective altruists to garner social praise for their actions. Indeed, the EA movement has suffered some criticism in precisely this vein; one piece, for instance, called the movement an instance of “elitist philanthropy . . . that can kill the very altruistic spirit it claims to foster” (Berger & Penna, 2013).

Of course, this does not mean that the movement should abandon its cause. It simply raises the notion that the movement may be best served by simultaneously playing up the appeal of action value in its effort to elicit charitable donations—for instance, by pairing instances of giving with pleasurable associations (such as increased social standing or praise), or by fostering a sense of identity or community around the act of giving (that is also known to lead to positive associations; Jetten, Haslam, & Alexander, 2012; Thoits & Hewitt, 2001). Research has found that people who perform charitable deeds on the basis of action-based considerations are rated as moral as those who act on the basis of other
considerations (Barasch, Levine, Berman, & Small, 2014; see also Everett, Pizarro, & Crockett, 2016). Acknowledging the value of warm glow in addition to outcome-based approaches may prove an effective means of encouraging charitable giving.

These results also raise the question of whether moral values can be changed. According to existing theory, action values may arise from a habitual association between carrying out an action and the positive feeling that this enactment elicits (Gesiarz & Crockett, 2015). It is possible, then, that people who establish positive habits of prosocial giving will exhibit increases in action value over time, thereby rating warm glow actions more praiseworthy (see Thoits & Hewitt, 2001). For example, Community Supported Agriculture (CSA) programs often require their members to participate in a few hours of garden work or volunteering per month. It would be interesting to see whether such programs increase people’s sensitivity to the action value of prosocial behavior over time. Similarly, festivals such as Burning Man immerse their participants for a week in an environment where giving gifts is the only acceptable form of exchange (Chen, 2012). We are currently at work on a project that examines whether such experiences exert significant and lasting changes on people’s evaluative systems.

Conclusion

Our data support the proposition that two distinct forms of evaluation contribute to people’s overall assessments of moral praiseworthy. People are more influenced by the action value of prosocial behaviors than by outcome value in determining moral praiseworthy. Our observations support and extend the implications of a growing body of work aimed at understanding moral judgment, which ultimately may help shape policies aimed at increasing altruistic behavior.

References


Received March 6, 2018
Revision received July 14, 2018
Accepted July 25, 2018