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Instrumentality Boosts Appreciation: Helpers Are More Appreciated While They Are Useful

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Abstract

We propose that in social interactions, appreciation of a helper depends on that helper's instrumentality: The more motivated one is to accomplish a goal, and the more one perceives a helper as able to facilitate that goal, the more appreciation one will feel for that helper. Four experiments supported this instrumentality-boost hypothesis by showing that beneficiaries felt more appreciation of their helpers while they were receiving help toward an ongoing task than after that task was completed or after the helper was deemed no longer instrumental. This finding held for both the positive side of appreciation (gratitude) and the negative side (feelings of indebtedness) and also across a range of relationships (complete strangers, newly acquainted partners, and friends). This pattern of appreciation is counterintuitive for helpers, and so a mismatch arises between the time courses of beneficiaries' experienced appreciation and helpers' expectations of appreciation.

Keywords

goals, social behavior, self-control, emotions, appreciation

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Appreciation is the feeling of getting something from someone (Greenberg, 1980; Ortony, Clore, & Collins, 1988). Its positive and negative components—gratitude and feelings of indebtedness, respectively—are the signature emotions of social exchange. If social exchange is societal glue, then appreciation is the polymers, the stuff that makes the glue sticky. Expressed appreciation affirms helpers, and experienced appreciation inspires repayment, builds trust, and strengthens relationships (Algoe, Haidt, & Gable, 2008; DeSteno, 2009; Grant & Gino, 2010; Lambert & Fincham, 2011). How people respond emotionally to social exchange often corresponds to the total subjective value of the help they have received. For example, appreciation is stronger for favors providing greater benefit, favors involving intentionally incurred cost, favors done out of warmth rather than calculation, and favors going beyond social-role norms (Ames, Flynn, & Weber, 2004; Bar-Tal, Bar-Zohar, Greenberg, & Hermon, 1977; Tesser, Gatewood, & Driver, 1968).

In the present investigation, we went beyond questions about the overall magnitude of appreciation and asked when, over the course of receiving help, beneficiaries feel most appreciative of their helpers. The time course matters because expressed appreciation encourages continued efforts and because the timing of commitments to reciprocate may affect the quality and likelihood of future exchanges. Beneficiaries' appreciation may peak right after help is delivered, when they have received maximum benefit. Alternatively, their appreciation may peak while help is still pending, when they depend most on the helper.

To determine which possibility was more likely, we drew from motivation theory, which implies that helpers are instrumental means for beneficiaries' active goals. During goal pursuit, people value means that help them achieve their goal (Aarts, Dijksterhuis, & De Vries, 2001; Ferguson & Bargh, 2004; Fishbach & Converse, 2010; Moors, De Houwer, & Eelen, 2004). Moreover, in social relations, more positive evaluations of instrumental others promote goal pursuit. Goal strivers prioritize and approach other people who can help them satisfy currently active goals, and after satisfactory progress, the goal strivers withdraw, moving toward helpers who are instrumental for alternative goals (Fitzsimons & Fishbach, 2010; Fitzsimons & Shah, 2008). As a result of goal-based evaluation, the degree of appreciation felt for helpers may be subject to an instrumentality boost.

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Therefore, we hypothesize that appreciation of a helper peaks while the helper is instrumental, that is, while the beneficiary perceives the helper to be facilitating a goal that the beneficiary is currently motivated to complete. This instrumentality-boost hypothesis predicts that more help can sometimes lead to less appreciation. Although taking the last few steps to help someone complete his or her task adds objective benefit to that already secured, it also completes the goal. On completion, if the beneficiary no longer perceives the helper as useful for an active goal, then the instrumentality boost disappears. Barring unexpected additional benefit, appreciation should thus decrease following task completion.

Although the positive experience of gratitude and the negative experience of indebtedness respond differentially to various features of the helping situation (Tsang, 2006; Watkins, Scheer, Ovnicek, & Kolts, 2006), we propose that instrumentality increases both. If observed, this finding would support our contention that increased appreciation during (vs. after) task pursuit reflects inflated evaluations of needed help rather than a general carryover of positivity. In separate experiments, we tested the effects of instrumentality on gratitude, then on the feeling of indebtedness, and finally on both. Furthermore, we expected our instrumentality-boost prediction to hold across varying kinds of help and varying relationships between the beneficiary and the helper. Accordingly, we employed a range of tasks. In Experiment 1, beneficiaries were fully dependent on strangers; in Experiment 2, newly acquainted partners worked interdependently; and in Experiment 3, beneficiaries were partially dependent on their friends.

Experiment 1: Instrumentality Boosts Appreciation

The instrumentality-boost hypothesis predicts that beneficiaries will feel more appreciative while they are receiving help than after the task has been completed. To test this prediction, we staged a trivia game styled after "Who Wants to Be a Millionaire." In the game show, contestants can "phone a friend" to get help on a question. In our study, we assigned each participating contestant a helper who could provide assistance on one question. We predicted that contestants would appreciate their helpers more while the helpers were helping (i.e., while the helpers were instrumental) than afterward.

Method

We recruited 42 pairs of strangers (all Chicago residents) to participate for $2 each. One person from each pair was randomly selected to participate as the contestant (22 women, 20 men). Each contestant could win $12 more by correctly answering four multiple-choice trivia questions. The unselected persons acted as the "friends," and we refer to them as the helpers.

In each game, the experimenter escorted the helper to a separate room. We did not collect data from the helper, and the helper did not interact directly with the contestant again. The experimenter explained the rules of the game to the contestant, indicating that the contestant had to answer all four questions correctly and could not quit the game early with an intermediate-level prize, that the questions would get progressively more difficult, and that a single incorrect answer would result in no prize. The contestant had access to three "lifelines" to help him or her during the game: a simple calculator; a dictionary; and the helper, who would be allowed to search the Internet. The contestant could choose to use a lifeline after reading a question, but could use each lifeline only once during the game.

To start each of the four rounds, the contestant pulled a trivia question from a large stack designated for that round, as if randomly selecting a question from a larger possible set. In reality, all contestants received the same four questions in the same order. We designed the first two questions to be easy, the third to compel use of the dictionary, and the fourth to prompt the contestant to call the helper. Contestants did not learn whether their answers were correct until the end of the study. (For additional methodological details, see the Supplemental Material available online.)

If and when contestants chose to call on the helper, the experimenter consulted a randomized condition-assignment schedule to determine the procedure to be followed. In the ongoing-game condition, the experimenter delivered the question to the helper and then returned to the contestant's room to administer a short survey to him or her while the helper was working on the question. The survey, which included a few filler questions, asked contestants if they expected the helper to actually prove helpful (0 = *not at all*, 6 = *extremely*). The critical item in the survey (adapted from Flynn & Adams's, 2009, appreciation scale) assessed contestants' gratitude: "If you used the phone-a-friend lifeline: At this moment, how grateful are you for that person's efforts?" (0 = *not at all*, 6 = *extremely*). After the contestant completed the survey, the experimenter retrieved the helper's recommended answer, the contestant decided on a final answer, and the game continued to completion.

In the completed-game condition, the experimenter delivered the question to the helper and did not return until the helper was done. At this point, the experimenter delivered the recommended answer, the contestant decided on a final answer, and the game continued to completion. The experimenter then declared that the game was over and indicated that the contestant would soon learn whether he or she had won. Next, the experimenter administered the same survey, including the expectation and gratitude items. Thus, we manipulated the helper's instrumentality at the time of the evaluation while holding constant the outcome information that the contestant knew.

Results

Of the 42 contestants, 3 did not use the option to phone a friend, and 1 ignored the suggested answer. Further, helpers

are instrumental only if their beneficiaries expect them to facilitate success: In this experiment, 1 contestant expressed doubt about whether the helper would prove helpful (> 3 *SD*s below the mean). Excluding these 5 contestants left 37 contestants who were the beneficiaries of instrumental help, and those contestants constituted the final sample. Beneficiaries (contestants) in the ongoing-game condition were more appreciative (M = 5.72, SD = 0.67) than those in the completed-game condition (M = 4.84, SD = 1.01), $t(35) = 3.10$, $p = .004$, $d = 1.03$. Despite having received more assistance from their helpers, beneficiaries who responded right after the game felt less appreciation than did those who responded while receiving help. These results support the instrumentality-boost hypothesis.

Experiment 2: Indebtedness and the Mismatch Hypothesis

Experiment 2 extended the investigation in three ways. First, we tested participants' feeling of indebtedness, the negative side of appreciation. Like gratitude, the feeling of indebtedness is a feeling of getting something from someone and, by our account, should be subject to the instrumentality boost. Second, to examine a different kind of helping interaction, we tested newly acquainted partners who were working cooperatively. Third, this study also explored the helper's perspective: What do helpers conclude when they ask themselves how indebted their beneficiaries feel?

Helpers are unlikely to construe themselves as means to other people's goal pursuit or to intuit other people's motivational patterns. Therefore, we reasoned that whether helpers rely on naive theories of how people respond to increasing benefits (Tesser et al., 1968) or simulate other people's perspectives on the basis of their own experiences of increasing costs (Zhang & Epley, 2009), they are unlikely to conclude that appreciation peaks before task completion. From this reasoning, we derived our mismatch hypothesis: Although beneficiaries' appreciation will decrease after help is complete, helpers will expect beneficiaries' appreciation to remain constant or even to increase after help is complete. Such a lack of insight would create a potentially consequential mismatch between the course of beneficiaries' experienced appreciation of their helpers and the course of helpers' expectations about such appreciation.

Method

We recruited 40 Chicago residents (20 women, 20 men) to participate in a work-effectiveness study in pairs. We verified that paired individuals were unacquainted before the study. We employed a Task Status (active vs. completed) × Judgment Type (beneficiary's experience vs. helper's expectation) mixed design. Participants collaborated on a data-entry task. We assigned participants to the following roles: Assistants read the data aloud, and captains typed what they heard from the assistants. Thus, in these newly formed partnerships, the captains were the beneficiaries, and the assistants were their helpers. Once during the task and once a few minutes afterward, participants moved to separate cubicles to report their experienced indebtedness or the indebtedness they expected their partner to feel. Thus, captains were asked, "How much do you feel you owe the assistant for his/her help?" Assistants were asked, "How much does the captain feel he/she owes you for your help?" Participants rated indebtedness on a continuous line that ranged from *nothing* to *a lot*, and we translated the line to a 101-point scale (0–100). We embedded these evaluations among filler questions.

Results

Beneficiaries (captains) felt more indebted to their helpers (assistants) during the task than they did after it, paired $t(19) = 2.65$, $p = .016$, $d = 0.59$. Although some aspects of the helping situation affect gratitude and indebtedness differently (as indicated in the introductory section), instrumentality influenced these aspects of appreciation similarly across Experiments 1 and 2. These results support the primary instrumentality-boost prediction.

Supporting the mismatch hypothesis, an analysis of variance revealed the expected Task Status × Judgment Type interaction, $F(1, 38) = 12.71$, $p = .001$, $\eta_p^2 = .25$ (Fig. 1). Although task completion decreased beneficiaries' feeling of indebtedness, helpers expected beneficiaries to feel more indebted after the task than during it, paired $t(19) = 2.44$, $p = .025$, $d = 0.55$ (Fig. 1). A main effect of judgment type, $F(1, 38) = 15.70$, $p < .001$, suggested that the beneficiaries valued the favor more than the helpers expected them to value it.

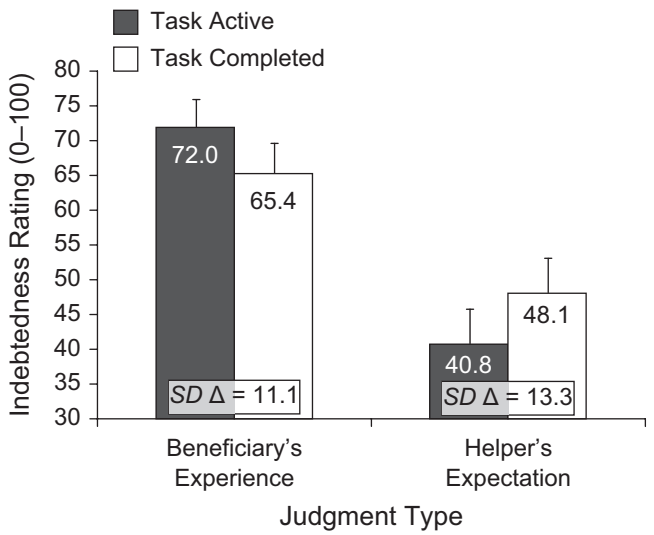

Fig. 1. Mean indebtedness rating in Experiment 2 as a function of task status (active vs. completed) and judgment type (beneficiary's experience vs. helper's expectation). Error bars represent standard errors of the mean. *SD* Δ is the standard deviation of the difference between the task-active and task-completed conditions.

Experiment 3: Instrumentality Mediates Appreciation in Ongoing Relationships

Helping often occurs within close relationships and chains of exchange. Experiment 3 tested the instrumentality boost in ongoing relationships by identifying students who indicated they were working with another student to do better in school. Assuming that these partnerships are often interdependent, with students alternately acting as tutor and tutee, we framed each individual's role as one or the other. We examined tutees' appreciation of tutors, and tutors' expectations about this appreciation, twice: once when final exams were imminent (task active) and once after them, during the first week of the subsequent academic term (task completed).

We expected that tutees would have active academic goals when final exams were imminent and that they would adopt new goals at the beginning of the next term. We also expected that there would be natural variation across individuals in the extent to which tutees perceived their tutors as being instrumental from one term to the next. At the beginning of the new term, only some tutees would continue to receive help from the same tutor who had helped them previously. We could therefore test this aspect of instrumentality—tutors' changing level of apparent helpfulness—as a mediator of changing appreciation. We predicted that tutees would appreciate their tutors more as exams approached than after they took place, regardless of their satisfaction with the course grade they earned. We further predicted that appreciation would not decrease as sharply after exams to the extent that tutees saw their tutors as remaining instrumental. We also tested for a mismatch between the time courses of tutees' (i.e., beneficiaries') experienced appreciation and tutors' (i.e., helpers') expectations of the tutees' appreciation.

Method

Participants were 40 students (23 women, 17 men) who completed a two-part study that had a Task Status (active vs. completed) × Judgment Type (beneficiary's experience vs. helper's expectation) mixed design. Approximately 1 week before final exams, we recruited students who were in active academic collaborations. The experimenter first asked potential participants, "Are you taking a class right now in which you work with some other student to do better in the class? This could be someone with whom you study, work on problem sets, or do some kind of group project." Those people who answered "yes" were recruited for the experiment and asked to write down the class, the partner's first name, and the tasks they completed together. By collecting this information about the partnership first, before assigning participants to condition, we ensured that the kinds of collaborations participants recalled would not be confounded with condition.

At that point, the experimenter randomly assigned participants to judgment-type condition by presenting one of two questionnaires. The tutee questionnaire cast participants as the beneficiary by asking them to "describe how another student helps you. . . ." The tutor questionnaire cast participants as the helper by asking them to "describe how you help another student. . . ." To measure instrumentality, we asked tutees to rate the extent to which their partner was currently helpful on a 7-point scale from 1 (*not at all*) to 7 (*extremely*). Also, using 7-point scales, tutees rated their appreciation for the help (1, *not at all*, to 7, *very much*), their indebtedness to their tutor (1, *I owe nothing to my partner*, to 7, *I owe a lot to my partner*), and their desire to thank their tutor (1, *not at all*, to 7, *very much*). We adapted the appreciation and desire-to-thank items from Flynn and Adams (2009) and added the indebtedness item. These three items formed a reliable index of appreciation ($\alpha = .84$). Tutors predicted their tutee's responses by completing a similarly structured survey ($\alpha = .43$).

In the study's second part, early in the next term, we e-mailed participants a reminder of the class and task they had described in the first part of the study. Also, tutees received a reminder of the tutor they had rated, and tutors received a reminder of the tutee whose ratings they had tried to predict. The e-mail included a link to an online survey that included the same measures from the first part of the study. For tutees, the survey included an additional item asking how satisfied they were with their grade in the relevant class from the previous term (4-point scale from 1, *very displeased*, to 4, *very pleased*).

Results

As predicted, beneficiaries (tutees) appreciated their helpers (tutors) more before exams than after exams, paired $t(20) = 2.43$, $p = .025$, $d = 0.53$ (Fig. 2). Also, beneficiaries reported more helpfulness from their helpers before exams than they reported after exams ($M = 5.33$, $SD = 1.32$, vs. $M = 4.48$, $SD = 1.44$), paired $t(20) = 3.29$, $p = .004$, $d = 0.72$.

Next, using full and partial correlations, we examined the relationship between beneficiaries' appreciation and helpers' instrumentality, first before exams and then after them (Table 1). We controlled for preexam scores in the correlations involving postexam scores because preexam appreciation and postexam appreciation were correlated ($r = .67$, $p = .001$) and preexam instrumentality and postexam instrumentality were correlated ($r = .63$, $p = .002$). As expected, preexam instrumentality predicted preexam appreciation ($r = .61$, $p = .004$), but did not predict postexam appreciation (controlling for preexam appreciation; $pr = –.17$, $p = .49$). Moreover, postexam instrumentality predicted postexam appreciation (controlling for both preexam instrumentality and preexam appreciation; $pr = .67$, $p = .002$), but was not related to preexam appreciation (controlling for preexam instrumentality; $pr = .23$, $p = .24$). Together, these results suggest that, at a given time, appreciation was preferentially related to the current level of instrumentality.

We also examined whether change in instrumentality mediated change in beneficiaries' appreciation. We first determined that neither preexam instrumentality nor postexam

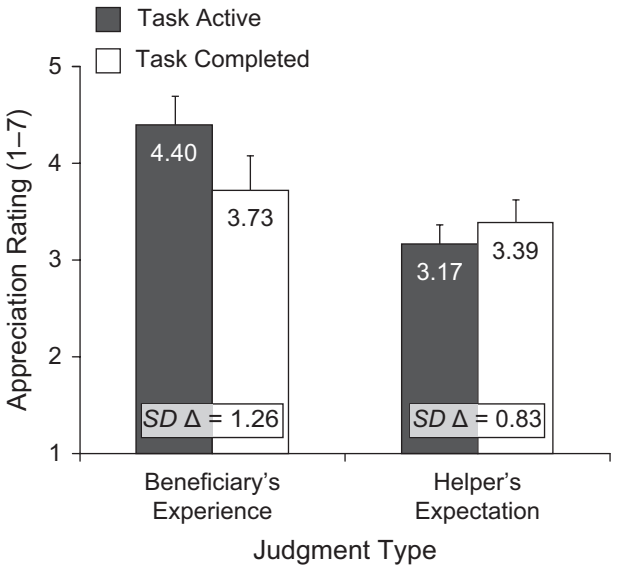

Fig. 2. Mean composite rating of feelings of appreciation in Experiment 3 as a function of task status (active vs. completed) and judgment type (beneficiary's experience vs. helper's expectation). Error bars represent standard errors of the mean. *SD* Δ is the standard deviation of the difference between the task-active and task-completed conditions.

instrumentality alone predicted change in appreciation, *t*s ≤ 1.44, *p*s ≥ .16. Then, we regressed changes in appreciation on changes in instrumentality (and, to avoid biased estimation, on the centered sum of instrumentality scores). Greater decreases in instrumentality predicted greater decreases in experienced appreciation, $b = 0.69$, $p = .002$. The resulting intercept of this regression, $b = -0.074$, was not significant, $t < 1$, which indicates that there was no appreciation difference unaccounted for by instrumentality. These circumstances satisfy the criteria for full within-subjects mediation of change in appreciation by change in instrumentality (Judd, Kenny, & McClelland, 2001).

Next, we examined the mismatch hypothesis. Because the reliability of the scale for helpers' expected appreciation was low, we used a multivariate analysis of variance with repeated measures on each of the three appreciation items (appreciation, desire to thank, and indebtedness). As predicted, the Task Status × Judgment Type interaction was significant (Fig. 2), $F(1, 38) = 6.66$, $p = .014$, $\eta_p^2 = .15$. Although beneficiaries' experienced appreciation decreased after the exam, helpers' expectation of beneficiaries' appreciation did not change, $F(1, 18) = 1.24$, $p = .281$. The lack of an Appreciation Item × Task Status × Judgment Type interaction, $F < 1$, suggested that the mismatch between helpers and beneficiaries was similar across the three items.

Theoretically, an instrumentality boost should operate independently of outcome satisfaction. Results from Experiment 3 were consistent with this proposal, as beneficiaries' appreciation decreased after the exam despite generally successful outcomes ($M = 3.33$ on the 4-point satisfaction scale, $SD = 0.80$; 90% of beneficiaries selected *somewhat pleased* or *very pleased*). To further examine whether the change in appreciation depended on outcome, we correlated these two measures. We are reluctant to interpret a null effect, but the correlation was not significant, $r = .33$, $p = .140$. When entered as simultaneous predictors of postexam appreciation, postexam instrumentality was a significant predictor ($\beta = 0.74$, $p < .001$), but grade satisfaction was not ($\beta = 0.22$, $p = .19$). Thus, beneficiaries' appreciation of earlier help was more a function of their current reliance on their prior helpers than a function of their satisfaction with the preceding semester's grade.

Supplemental Experiment

Beneficiaries in Experiments 1 and 2 reported appreciation of their helpers before knowing the outcome of the help. In Experiment 3, outcomes did not significantly predict beneficiaries' appreciation. To further probe the potential effect of outcomes on appreciation, we conducted a supplemental experiment in which we specifically directed participants ($N = 114$) to describe past help that was successful or future help that they expected to be successful, before reporting appreciation of the help (100-point scale). Future help was more appreciated ($M = 94.13$, $SD = 7.78$) than past help ($M = 89.94$, $SD = 13.19$), $t(112) = 2.07$, $p = .041$, $d = 0.39$. (For additional details on this experiment, see the Supplemental Material available online.) Thus, it appears that even if assistance bears success, appreciation will decrease when new goals take priority.

General Discussion

In four experiments, we found consistent evidence of an instrumentality boost: Beneficiaries' appreciation of help depends on the extent to which they perceive their helpers to be facilitating active goals. We found this pattern for both the positive side and the negative side of appreciation and across various social relationships and help arrangements. In some

Table 1. Full and Partial Correlations Among Pre- and Postexam Appreciation and Instrumentality

Instrumentality	Preexam appreciation	Postexam appreciation (controlling for preexam appreciation)
Preexam instrumentality	$r = .61$*	$pr = -.17$
Postexam instrumentality (controlling for preexam instrumentality)	$pr = .23$	$pr = .67$*

*$p < .005$.

cases, because of this instrumentality boost, beneficiaries even felt more appreciation at times when they had objectively received less help. Helpers did not intuit this effect of task completion, expecting that appreciation would be stable or even increase at the end of a task.

These findings provide new insights into beneficiaries' emotional responses to social exchange. We focused on timing as a naturally dynamic operationalization of instrumentality but suspect that the instrumentality boost is more general. Other factors that undermine perceived instrumentality, including the availability of alternative means (Kruglanski et al., 2002), should similarly decrease appreciation of help.

It may be informative to consider also what factors would reinvigorate appreciation after task completion. To be clear, we did not find that appreciation disappears after task completion—only that it decreases. After a task is over, instrumentality could again boost appreciation under conditions of renewed goal activation and the renewed possibility of future help (i.e., facilitation). Appreciation could rise again independently of instrumentality. For example, unexpected benefits (e.g., earning not just an A but also an unanticipated award for excellent course work) could increase help's value by more than the magnitude of the original instrumentality boost. Such an opposing effect of surprise benefits would not imply that the instrumentality boost had been absent, but it would suggest a potential boundary condition for the demonstrated time course. However, we assume that the standard case—and the one that is critical for testing the instrumentality-boost hypothesis—is one in which the beneficiary has high expectations for achieving the goal with the helper's assistance. Otherwise, the helper would not be seen as instrumental, and our predictions would not hold.

In general, the present research provides a richer understanding of emotional responses to prosocial action, documenting a specific (counterintuitive) time course of appreciation and the more general influence of instrumentality on appreciation. Whereas previous work has demonstrated that posttask appreciation decreases over time (Flynn, 2003), we documented that appreciation peaks before help is complete. Timing is important for understanding relationship dynamics, impression-management processes, and strategic interactions such as negotiations and social influence. If, to extract commitments, strategic helpers plan to make requests at the peak of a beneficiary's appreciation, they should do so while they are most useful. However, the demonstrated mismatch between beneficiaries' feelings and helpers' expectations suggests that helpers tend to mistake this timing.

Conclusion

We accumulated empirical support for an instrumentality boost that qualifies the classic conceptualization of appreciation as an assessment of benefits transferred. Beneficiaries' appreciation can increase, without additional benefits, because of helpers' instrumentality. As a consequence, people will sometimes be more appreciative for less help.

Acknowledgments

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Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

Supplemental Material

Additional supporting information may be found at http://pss.sagepub.com/content/by/supplemental-data

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