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Research Article

Gratitude and Prosocial Behavior

Helping When It Costs You

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ABSTRACT—*The ability of the emotion gratitude to shape costly prosocial behavior was examined in three studies employing interpersonal emotion inductions and requests for assistance. Study 1 demonstrated that gratitude increases efforts to assist a benefactor even when such efforts are costly (i.e., hedonically negative), and that this increase differs from the effects of a general positive affective state. Additionally, mediational analyses revealed that gratitude, as opposed to simple awareness of reciprocity norms, drove helping behavior. Furthering the theory that gratitude mediates prosocial behavior, Study 2 replicated the findings of Study 1 and demonstrated gratitude's ability to function as an incidental emotion by showing it can increase assistance provided to strangers. Study 3 revealed that this incidental effect dissipates if one is made aware of the true cause of the emotional state. Implications of these findings for the role of gratitude in building relationships are discussed.*

Gratitude is the positive emotion one feels when another person has intentionally given, or attempted to give, one something of value (McCullough, Kilpatrick, Emmons, & Larson, 2001; McCullough & Tsang, 2004). For centuries, thinkers from various disciplines have believed this emotion to be essential for building and preserving social relationships, so much so that gratitude has been labeled “not only the best, but the parent of all other virtues” (Cicero, 1851, p. 139), “the moral memory of mankind” (Simmel, 1908/1996, p. 45), and the “sentiment which most immediately and directly prompts us to reward” (Smith, 1790/1976, p. 68).

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In line with these earlier writers' assertions, several theorists, ourselves included, believe that gratitude functions to nurture social relationships through its encouragement of reciprocal, prosocial behavior between a benefactor and recipient (Algoe & Haidt, 2004; Emmons & McCullough, 2004). An important part of relationship construction is overcoming what the economist Robert Frank (1988) has labeled the commitment problem. That is, individuals must overcome the worry that they will expend time and resources building a relationship only to receive little or nothing in return. For instance, when deciding whether to enter into a social exchange or economic partnership, one must determine how likely the other person is to uphold his or her end of the bargain. Emotions, such as gratitude, guilt, and love, may play a pivotal role in building trust by encouraging one to adopt behaviors that support the partnership even when such behaviors are costly to oneself in the short term (Baumeister, Stillwell, & Heatherton, 1994; Frank, 1988; Gonzaga, Keltner, Londahl, & Smith, 2001).

For social beings, negotiating such interpersonal decisions is as important to survival as is navigating the physical landscape (e.g., avoiding predators, securing food). From a functionalist view, emotions motivate individuals to behave in ways that help them solve challenges of adaptive import. Accordingly, emotions should help guide decisions about social exchange in a social species (Keltner & Haidt, 1999). We expect that gratitude functions to encourage an individual to reciprocate a favor, even if such reciprocation will be costly to him or her in the short term. We also expect that over time, this reciprocal prosocial behavior aids in building trust and, consequently, preserving relationships.

In accord with this view, recent research has shown that individuals who report habitually experiencing gratitude engage more frequently in prosocial behaviors than do individuals who experience gratitude less often (McCullough, Emmons, & Tsang, 2002). Although congruent with the proposed link between gratitude and prosocial behavior, such correlational findings do

not offer conclusive evidence for gratitude as a mediator of prosocial action, especially within the context of short-term costly behavior. To make a strong case for this assertion, a laboratory paradigm in which gratitude is manipulated and helping behavior assessed in a controlled interaction is necessary to disambiguate gratitude's proposed impact from many other potential causal forces (e.g., idiographic factors, prosocial norms). If one is to make a functional argument for the emotion gratitude, evidence directly linking manipulated differences in its intensity to prosocial behavior is required (McCullough et al., 2002).

That emotional states can mediate helping behavior is not a novel idea. Much previous research has documented that positive moods can increase prosocial responding (e.g., Carlson, Charlin, & Miller, 1988; Isen & Levin, 1972). However, this effect is known to be limited by hedonic constraints; it holds only as long as the requested help is not costly to the helper. For example, when complying with a request for help would knowingly ruin their good mood, individuals in a positive state have been shown to be less willing to help than those not experiencing an emotional state (Isen & Simmonds, 1978). As noted, however, it is beneficial to forgo one's short-term self-interest at times, such as when one wants to build or maintain a long-term relationship. Accordingly, it is our view that the purpose of gratitude is to encourage prosocial acts toward one's benefactor, even if those acts are costly to oneself at the moment. Therefore, gratitude's influence on decisions to help should be distinct from the influence of a general positive affective state.

Beyond showing that gratitude facilitates helping behavior in a manner different from the way general positive states influence helping behavior, it is also necessary to distinguish the effect of gratitude from that of the reciprocity norm (i.e., cognitive awareness that one should repay another person who has provided assistance). Historically, psychologists have attributed much reciprocal prosocial behavior to awareness of this social norm (e.g., Pruitt, 1968; Walster, Berscheid, & Walster, 1973; Wilke & Lanzetta, 1970). Although the bulk of research on the reciprocity norm has not assessed participants' emotional states, and consequently cannot determine the role of affective responding in adherence to this norm, it is not our assertion that a purely cognitive response is incapable of leading to prosocial behavior. Rather, we argue that under certain circumstances, gratitude can facilitate prosocial behavior in a way that a social norm isolated from emotional reactions cannot.

STUDY 1

The goals of Study 1 were to demonstrate gratitude's direct effect on costly helping behavior and to differentiate this effect from the influence of simple positivity and awareness of reciprocity constraints. To accomplish these goals, we created highly orchestrated situations in which trained confederates interacted with participants experiencing distinct emotional states.

Method

Participants

One hundred five individuals (70 female) participated in this experiment in partial fulfillment of course requirements and were randomly assigned to one of three emotion-induction conditions.

Procedure

Participants believed that they were one of two people participating in the experiment. In actuality, the other "participant" was a confederate blind to the hypotheses of the study; all confederates were women. Upon the participant's arrival, the experimenter seated him or her and the confederate at individual computer workstations and then left, allowing the confederate time to establish friendly but benign contact with the participant.

When the experimenter reentered, she explained that the experiment was intended to examine individual versus group problem solving and that the participants would complete several tasks. The first task was designed to test general knowledge. Although working individually, participants believed that they and their partner would receive one score for their joint effort. This task was created to give later legitimacy to an emotion-manipulation check that assessed feelings toward the other participant.

Upon completion of this task, the experimenter explained the second task as an assessment of hand-eye coordination. Participants, working individually, had to decide whether a string of letters flashed on the screen constituted an English word. They were instructed to do this as quickly and as accurately as possible and were told that they would receive their score after each block of trials. In reality, the scores had been created ahead of time and were identical for all participants. This task was designed to be tedious, as it required vigilance and was repetitive. The experimenter explained that after the third block, all three of the participants' scores would appear on the screen to be recorded. Participants then completed the task. Although this task was completed in all emotion conditions, its purpose was solely to provide an aversive experience that would play a central role in the gratitude induction.

At this point in the procedure, the common script diverged in the three emotion conditions in order to induce the appropriate emotions. An emotion-manipulation check and the measure of helping behavior followed the inductions.

Manipulations and Measures

Gratitude Manipulation. In the *gratitude* condition, after participants finished the hand-eye coordination task and were waiting for their scores to be displayed on the computer, the screen went blank. In actuality, the confederate had quietly pulled the monitor's plug partially out of the power strip. Ostensibly having completed her tasks on the computer, the

confederate gathered her belongings and began to walk out of the room, when she pretended to notice that the participant was having a problem. The experimenter entered the room and explained that a technician would be called to fix the computer and that the participant would need to start the hand-eye coordination task over again. While the experimenter went to call the technician, the confederate stayed to help the participant determine what happened. The confederate, following a scripted set of comments and behaviors, tried to figure out what was wrong with the computer. After searching for a minute, she noticed the loose monitor cord. When she plugged the cord back into the power strip, the computer screen came back on, and the participant's scores were displayed. The experimenter then allowed the participant to continue with the experiment from that point rather than starting over again. The confederate and experimenter then left the room.

Amusement Manipulation. Amusement was induced using a humorous video clip, one of several commonly employed methods for inducing general positivity (e.g., Forgas, 2001; Isen, Johnson, & Mertz, 1985). We refer to this condition as the *amusement* condition, rather than the positive-mood condition, in order to differentiate the positive experiences of the participants, as gratitude itself is a positive state.

After the participant and confederate finished the hand-eye coordination task, the experimenter prepared a monitor to present a segment from "Saturday Night Live." The participant and confederate were told they were going to watch a short video and then perform a task based on the video. When the video was over and before the experimenter reentered, the confederate expressed enjoying the clip and asked the participant if he or she had seen another movie in which the protagonist had acted. This interaction was included in order to allow verbal exchange between the participant and confederate, as occurred in the gratitude induction. The experimenter then instructed the individuals to decide which of a checklist of words had been spoken in the video. This task was included to provide plausible justification for showing the video.

Neutral Manipulation. In the *neutral* condition, after the participant and confederate finished the hand-eye coordination task, the confederate carried on a brief exchange with the participant, discussing where the experimenter might be. This interaction was included to allow a verbal exchange, as occurred in the other two conditions. The confederate then retrieved the experimenter, who introduced the next task.

Emotion-Manipulation Check. Directly following the manipulations, participants completed a questionnaire designed to assess their emotional state and feelings toward their partner (i.e., the confederate). Participants rated how well different emotion descriptors represented both their current feeling state and their feelings toward their partner using 5-point Likert scales. Gratitude was assessed as the mean response to the

following three items: "How grateful do you feel toward the other participant?" "How appreciative do you feel toward the other participant?" and "How positive do you feel toward the other participant?"¹ Amusement was assessed by participants' responses to the descriptor *amused*.

Helping Behavior. After completing the other measures, the participant left the lab to receive course credit and obtain an experiment-evaluation form. He or she was asked to sit on a chair outside the lab door, ostensibly to complete the evaluation form. Note that the confederate always appeared to complete her tasks first and then left the room so that she would be ready to request assistance. After 1 min, the confederate approached the participant and asked if he or she would be willing to help with a problem-solving survey the confederate was administering for her work-study advisor. This survey was designed to be tedious and cognitively taxing. The confederate made it clear that completing the task would take at least half an hour and that the participant could do as much as he or she wished, but that the more questions were completed, the more helpful it would be. If the participant agreed to help, the confederate pointed to an envelope containing other finished questionnaires and indicated the participant could deposit the survey in that envelope when finished. The experimenter surreptitiously timed how long the participant spent working on the task. Time spent (in minutes) served as the primary measure; refusals were coded as zero minutes.

Results and Discussion

As predicted, a planned contrast revealed that participants in the gratitude condition felt more grateful ($M = 3.08, SD = 1.08$) than did those in the amusement ($M = 2.72, SD = 1.09$) and neutral ($M = 2.52, SD = 0.84$) conditions, $F(1, 102) = 4.54, p_{rep} = .88, d = 0.52$.² Similarly, those in the amusement condition felt more amused ($M = 3.58, SD = 1.20$) than did those in the gratitude ($M = 2.52, SD = 0.99$) and neutral ($M = 2.40, SD = 1.14$) conditions, $F(1, 102) = 22.37, p_{rep} = .99, d = 1.15$. Also as predicted, participants in the gratitude condition exerted more effort to help their benefactors ($M = 20.94, SD = 9.83$) than did those in the amusement ($M = 12.11, SD = 8.93$) and neutral ($M = 14.49, SD = 12.88$) conditions, $F(1, 102) = 10.18, p_{rep} = .95, d = 0.77$.

To this point, the findings are consistent with the view that gratitude facilitated prosocial behavior. However, one could argue that increased helping stemmed from awareness of reciprocity concerns rather than an emotional state. Participants in the gratitude condition received a favor, a necessary component of eliciting gratitude, whereas those in the other conditions did

¹Average Cronbach's alpha was .83 across the three studies.

²Residuals for all reported contrasts were not significant. All reported p_{rep} values meet or exceed standard levels of significance.

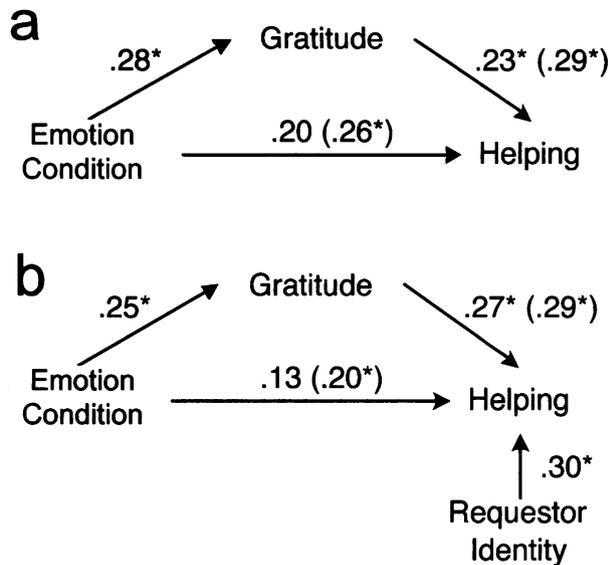


Fig. 1. Gratitude as a mediator of helping behavior in Study 1 (a) and Study 2 (b). Numbers in parentheses are zero-order correlations. The other numbers are coefficients for a model regressing helping on all predictors simultaneously. Emotion condition was dummy-coded (neutral = 0, gratitude = 1). Asterisks indicate parameters with a p_{rep} value greater than .87.

not. Awareness of this fact might have been responsible for increased helping, with gratitude being epiphenomenal. To hold reciprocity constant and look for the unique contribution of the feeling state, we conducted a mediational analysis using data from the gratitude and neutral conditions.³ As Figure 1a illustrates, the zero-order correlations were significant. However, when helping was regressed on gratitude and condition simultaneously, only the intensity of gratitude remained a reliable predictor. The decrease in the ability of condition to influence helping behavior was significant, Freedman-Schatzkin $t(68) = 2.08$, $p_{rep} = .88$, which suggests that awareness of having received a favor possessed no causal efficacy to elicit helping beyond that mediated by the intensity of gratitude experienced (cf. MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002).

Results also supported a dissociation between the effects of gratitude and amusement on helping.⁴ Results for the amusement condition were consistent with the results of previous re-

search in that increasing levels of amusement were associated with less time spent working on the aversive task for the confederate, $\beta = -.33$, $p_{rep} = .86$.

These findings provide strong initial evidence that gratitude shapes prosocial responding by increasing the likelihood that one will engage in effortful helping behavior. Moreover, these findings clearly distinguish the effect of gratitude from that of a general positive state. However, although the mediational analysis provides support for the causal role of gratitude, one could argue that experienced gratitude paralleled individuals' estimates of how much they owed their partner, and it was this awareness of what they owed that drove their helping behavior, not their feeling state. The effects of gratitude and of estimated debt to a benefactor would be difficult to disentangle statistically because of the high degree of correlation between such estimates and feeling states. Consequently, we decided to use an experimental manipulation that pitted the reciprocity norm against gratitude in order to provide stronger evidence that gratitude's effects on prosocial responding are distinct from those of the social norm alone.

We designed two experiments in which it was possible to eliminate the reciprocity norm, among other potential prosocial norms, as a plausible explanation for our findings. We did this by employing well-known methodologies from the emotion literature. Much research has demonstrated that emotions produced in one setting can carry over into another and affect decision making and behavior unrelated to the original source of the emotion (i.e., incidental emotion effects; Petty, DeSteno, & Rucker, 2001; Schwarz & Clore, 1996). Simply put, an emotion can continue to influence judgments for as long as it lasts, even if such judgments are unrelated to the original source of the emotion. However, if the original cause of the emotional state is made salient, individuals will correct for the emotional state's suspected influence on unrelated decisions or behaviors (DeSteno, Petty, Wegener, & Rucker, 2000; Schwarz & Clore, 1996). Borrowing from these findings, we designed Studies 2 and 3 to determine if gratitude would produce the incidental effects expected if it were indeed the emotion, as opposed to simple awareness of reciprocity concerns, that was driving helping.

STUDY 2

If gratitude was responsible for the helping behavior found in Study 1, then participants in the gratitude condition would be expected to help anyone, benefactor or stranger, more than participants in the neutral condition would. In contrast, if the reciprocity norm was responsible for the helping behavior found in Study 1, then participants in the gratitude condition would be expected to be no more likely than those in the neutral condition to help a stranger, as a stranger, by definition, has not provided any favor. In Study 2, we tested these two possibilities by crossing the neutral and gratitude conditions of Study 1 with

³Given that amusement is a separate positive emotion known to reduce costly helping behavior, data from this condition were not used in this analysis.

⁴Our manipulation check included a rating of general positivity that enabled us to differentiate further the influence of gratitude from that of simple positive mood. As noted, participants in the gratitude condition felt significantly more grateful than did amused or neutral participants. As expected given the positive nature of gratitude, grateful and amused participants reported equal levels of positivity ($M = 3.6$), and neutral participants reported a significantly lower level of positivity, $F(1, 102) = 4.58$, $p_{rep} = .88$. This finding clearly demonstrates that positive mood alone was not responsible for increased helping among grateful participants. Additionally, when helping was regressed on both gratitude and positivity for participants in the gratitude condition, gratitude was positively associated with helping ($\beta = .59$, $p_{rep} = .99$), whereas positivity was negatively associated with helping ($\beta = -.39$, $p_{rep} = .95$).

conditions in which the request for help came from the benefactor or a stranger.

Method

Ninety-seven individuals (70 female) participated in this study for partial fulfillment of course requirements. The procedure and measures for Study 2 were identical to those of Study 1 with two exceptions. First, having differentiated the effects of gratitude from those of a general positive state, we dropped the amusement condition. Second, the two emotion conditions were crossed with two conditions varying the identity of the person asking for help: stranger or benefactor. In the stranger condition, a second confederate approached the participant and asked for assistance in the same way that the benefactor did in the benefactor condition.

Results and Discussion

As expected, participants in the gratitude condition felt more grateful ($M = 3.46$, $SD = 0.83$) than those in the neutral condition ($M = 2.99$, $SD = 0.91$), $F(1, 93) = 6.70$, $p_{\text{rep}} = .95$, $d = 0.54$. Of central import, we found the predicted main effect for gratitude. As Figure 2 illustrates, participants in the gratitude condition helped more than those in the neutral condition regardless of whether the person asking for help was a stranger or benefactor, $F(1, 93) = 3.92$, $p_{\text{rep}} = .88$, $d = 0.41$. A main effect of requestor also emerged; participants helped the benefactor more than the stranger, regardless of emotion condition, $F(1, 93) = 9.65$, $p_{\text{rep}} = .95$.⁵ No interaction was present.

To determine whether gratitude again played a causal role in the behavioral outcome, we conducted a mediational analysis. As depicted in Figure 1b, the zero-order correlations among the variables of interest were significant.⁶ As in Study 1, the ability of emotion condition to shape helping became negligible when controlling for gratitude, Freedman-Schatzkin $t(95) = 2.84$, $p_{\text{rep}} = .95$. The fact that gratitude increased helping of benefactors and strangers in a parallel manner strongly supports claims of gratitude's causal efficacy; the reciprocity norm clearly cannot explain increased helping of strangers.

STUDY 3

Having demonstrated that gratitude, like most emotions, can exert an incidental effect, we next sought to eliminate this effect by making individuals aware of the dissociation between their emotional state and the person asking for assistance. More specifically, if participants unintentionally allowed gratitude to influence their behavior toward a stranger in Study 2, making

⁵This finding is in accord with research demonstrating that people are more willing to help people they are familiar with than to help strangers (Costin & Jones, 1992; Sacco, Milana, & Dunn, 1985).

⁶The requestor's identity was included in this path model because of its impact on helping behavior.

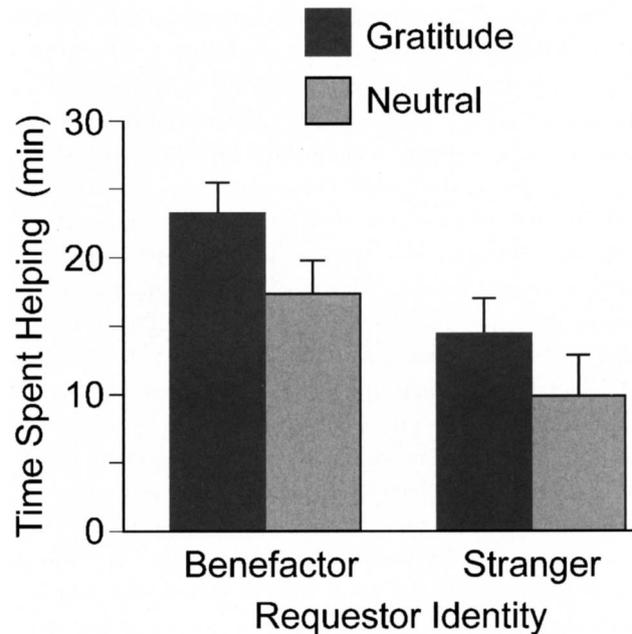


Fig. 2. Mean time spent completing the helping task as a function of emotion condition and requestor in Study 2. Error bars indicate +1 SE.

participants aware of the correct cause of their gratitude should remove this effect.

Method

Thirty-five individuals (20 female) participated in this study for partial fulfillment of course requirements.

Study 3 differed from Study 2 in two ways. First, given that the manipulation in Study 3 involved differentiating the person who requested help from the person whose behavior prompted feelings of gratitude, only strangers requested help. Second, we included a condition in which the cause of gratitude was made salient (the *gratitude-source* condition). Thus, the design included three conditions: neutral, gratitude, and gratitude-source. The first two conditions were identical to those in Study 2 (except that a stranger, and never the benefactor, asked for help); the gratitude-source condition was identical to the gratitude condition except that right before participants left the lab and encountered the stranger, the experimenter asked, "Was it the other participant who figured out what was wrong with your computer?" thus drawing participants' attention to the benefactor's role in inducing their gratitude.

Results and Discussion

A planned contrast revealed more intense gratitude among participants in the gratitude ($M = 3.64$, $SD = 0.72$) and gratitude-source ($M = 3.94$, $SD = 0.61$) conditions than among those in the neutral condition ($M = 3.15$, $SD = 1.08$), $F(1, 32) = 4.60$, $p_{\text{rep}} = .88$, $d = 0.91$. Our primary prediction was also confirmed; a planned contrast showed that participants in the gratitude

condition helped a stranger significantly more ($M = 19.71$, $SD = 15.01$) than did those in the neutral ($M = 11.43$, $SD = 5.72$) and gratitude-source ($M = 5.88$, $SD = 7.41$) conditions, $F(1, 32) = 9.18$, $p_{rep} = .95$, $d = 1.29$. The neutral and gratitude-source conditions did not significantly differ from each other.

Confirmation of this prediction not only provides additional evidence that the emotional state mediated prosocial behavior in these studies, but also demonstrates further that prosocial norms were not the cause of helping. By definition, the reciprocity norm is not relevant to conditions in which a stranger requests help. However, in drawing participants' attention to the fact that the benefactor bestowed a favor on them, we also made several other prosocial norms salient (e.g., "pay it forward," "do unto others as you would have them do unto you"). Research has shown that making an injunctive norm (i.e., what people *should* do) salient leads to an increase in associated behavior (Reno, Cialdini, & Kallgren, 1993). Accordingly, the manipulation of salience in Study 3 should in no way have diminished helping in the gratitude-source condition if any such norm were the primary causal force behind this behavior.

GENERAL DISCUSSION

In combination, the studies reported here provide strong evidence that gratitude plays an important role in facilitating costly helping behavior in a manner distinct from that of a general positive state or simple awareness of prosocial norms. To our knowledge, these studies provide the first direct experimental evidence of gratitude's causal force in shaping prosocial behavior. Thus, they add to the emerging literature documenting the roles played by positive social emotions in adaptively shaping human sociality, economic exchange, and morality.

Given this clear demonstration of gratitude's ability to facilitate prosocial behavior in the moment, several related questions arise. For example, we (and other researchers) argue that gratitude aids in the ongoing construction of a relationship. Therefore, examining how gratitude affects the relationship between a recipient and benefactor at a time distant from the initial experience of this emotion may offer insight into its long-term effects. Also, continued focus on understanding the mechanisms by which gratitude may generate positive personal outcomes is merited. Indeed, a growing body of research has provided evidence that focusing on events for which one is grateful leads to increased life satisfaction and optimism, among other benefits (Emmons & McCullough, 2003; McCullough et al., 2002).

In sum, the current findings give increased credence to the theory that social emotions such as gratitude play a central role in guiding adaptive social behavior. We believe that we have identified one way in which gratitude fosters relationships: by encouraging individuals to accept short-term losses in order to reap longer-term rewards and, thereby, begin to solve a "commitment problem" central to social living.

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