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Cognition & Emotion
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/pcem20

Gratitude: Prompting behaviours that build relationships

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Available online: 24 May 2011

To cite this article: Monica Y. Bartlett, Paul Condon, Jourdan Cruz, Jolie Baumann & David Desteno (2012): Gratitude: Prompting behaviours that build relationships, Cognition & Emotion, 26:1, 2-13

To link to this article: http://dx.doi.org/10.1080/02699931.2011.561297

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COGNITION AND EMOTION
2012, 26 (1), 2–13

Psychology Press
Taylor & Francis Group

Gratitude: Prompting behaviours that build relationships

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The emotion gratitude is argued to play a pivotal role in building and maintaining social relationships. Evidence is accumulating that links gratitude to increases in relationship satisfaction. Yet, there is currently little evidence for *how* gratitude does this. The present paper provides experimental evidence of gratitude facilitating relationship-building behaviours. Study 1 provides evidence that gratitude promotes social affiliation, leading one to choose to spend time with a benefactor. Study 2 offers further evidence of gratitude's ability to strengthen relationships by showing that gratitude facilitates socially inclusive behaviours, preferentially towards one's benefactor, even when those actions come at a cost to oneself.

Keywords: Gratitude; Relationships; Social behaviour.

Gratitude is the positive emotion felt when one recognises that another has given one something of value (McCullough, Kilpatrick, Emmons, & Larson, 2001). Philosophers and scientists have for centuries suggested that gratitude plays a pivotal role in promoting positive social relationships (Simmel, 1908/1996; Smith, 1790/1976; Trivers, 1971). In fact, it has been argued to play such an important role that it has been billed as "the moral memory of mankind" (Simmel, 1908/1996) and a "moral barometer" signalling a kindness and then motivating the grateful individual to reciprocate the prosocial behaviour (McCullough et al., 2001). Thus, gratitude is argued to play a pivotal role in building relationships because it flags another's kindness as important and prompts the beneficiary of a kindness to behave prosocially also. Experimental research has now shown that, indeed, experiencing gratitude directly facilitates recognition of a kind act and repayment of the favour. This has been illustrated in controlled lab settings in which feeling grateful leads one to reciprocate with costly helping behaviours (Bartlett & DeSteno, 2006; Tsang, 2006) and to act cooperatively in economic exchanges (DeSteno, Bartlett, Baumann, Williams, & Dickens, 2010). Yet, this experimental research into gratitude's behavioural outcomes has to date focused exclusively on prosocial reciprocity between relative strangers.

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http://www.psypress.com/cogemotion http://dx.doi.org/10.1080/02699931.2011.561297

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If gratitude is to play a pivotal role in building and maintaining relationships its ability to do so must move beyond simple repayment of kind acts between strangers (Algoe, Gable, & Maisel, 2010; Algoe, Haidt, & Gable, 2008). Indeed, many long-term, committed relationships are not characterised by tit-for-tat reciprocity but by a sense of responsibility for the other's welfare, referred to as communally oriented relationships (Clark & Mills, 1979; Mills & Clark, 1994). The norms for giving and receiving in communal relationships are marked by assisting and caring for one another as needs arise as opposed to a desire to payback a favour (Clark & Mills, 1979; Mills & Clark, 1994). Gratitude, then, must motivate prosocial behaviours more widely.

Several studies have now found links between gratitude and relationship quality in existing long-term dyads such as romantic partnerships and friendships. For example, experiencing gratitude is linked to relationship satisfaction in well-established, committed relationships (Algoe et al., 2010). Other work has found that an expression of gratitude towards one's partner is linked to increases in one's own perception of the communal strength of that relationship (Lambert, Clark, Durtschi, Fincham, & Graham, 2010). In our earlier work we argued that gratitude helps to facilitate this kind of relationship quality at least in part because it facilitates *behaviours* that promote the relationship (of which prosocial reciprocity is one type). In the studies reported in this paper we extend this investigation into gratitude's ability to promote relationships by examining its causal role in facilitating relationship strengthening behaviours *beyond* that of reciprocity. In order for gratitude to produce relationship benefits, in either on-going, committed relationships or relationships that are newly forming it likely encourages actions that promote those relationships. In this paper we examine two such behaviours: choosing to affiliate with one's partner and acting socially inclusively towards one's partner even when that action comes at some cost to oneself.

A functional approach to gratitude

From a functionalist approach to understanding emotions, emotions have evolved to help individuals solve problems of adaptive import. For a highly social species, such as human beings, this importantly includes negotiating the social landscape (e.g., construction and maintenance of relationships) as well as navigating physical challenges (e.g., avoiding predators, securing food; Keltner & Haidt, 1999). Emotions both motivate particular, problem-solving behaviours as well as signal to others that we are experiencing a particular emotion (Keltner & Haidt, 1999). For example, experiencing embarrassment leads one to attempt to repair the social damage done as well as signal to others that one recognises that the social error has occurred (Keltner, 1995; Keltner & Anderson, 2000; Keltner & Buswell, 1997). Thus, the emotional state helps to produce actions that aid in solving a problem (trying to make amends for a social mis-step) and signals to others that we understand the situation in a particular way (we recognise the social mis-step).

Broadly speaking, one of the significant challenges that individuals face for negotiating relationships, both in the short term (interaction with a stranger in the lab) as well as the long term (interactions between spouses) is what Robert Frank referred to as the "commitment problem" (Frank, 1988). That is, individuals must overcome the worry that they will expend time and resources building and maintaining a relationship only to receive little from their partner in return. For instance, when deciding whether to enter into a business partnership, one must determine how likely the other person is to uphold his or her end of the bargain. If one chooses to trust another in error the decision could result in serious economic and psychological damage (e.g., financial loss, dissolution of an important relationship). The commitment problem, then, rests on a determination of trust. Issues of trust likely manifest differently in short-term versus long-term relationships. For example, in a short-term interaction, such as a business exchange, trust may rest on each individual giving in direct proportion to

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receiving (e.g., money given for an item purchased). In a long-term relationship, such as a marriage, trust may rest on an on-going perception of care and understanding, as opposed to tit-for-tat exchanges. (Clark & Mills, 1979; Mills & Clark, 1994). In either case emotions are pivotal for successfully negotiating these commitment problems because they encourage individuals to adopt behaviours that support the partnership even when such behaviours are costly to oneself (Baumeister, Stillwell, & Heatherton, 1994; Frank, 1988; Gonzaga, Keltner, Londahl, & Smith, 2001; Trivers, 1971). For example, if one would feel guilty for acting dishonestly towards one's spouse, even if there is no conceivable way that he or she would discover the indiscretion, that person is less likely to cheat than if he or she would not feel guilty.

In line with this functionalist view of emotions, we expect that gratitude helps solve problems of trust at least in part *because* it encourages prosocial behaviours, even when these actions are costly to oneself. That is, feeling gratitude acts as a "moral barometer", drawing one's attention to the fact that a kind action has occurred and as a moral motivator that then encourages one to continue behaving in ways that help build the relationship (McCullough et al., 2001). These prosocial behaviours, in turn, signal one's commitment to the relationship.

Gratitude's role in short-term versus long-term relationships

Experimental research that allows direct examination of gratitude's impact on prosocial, behavioural outcomes has argued that gratitude helps to facilitate relationships because it fosters these sorts of behaviours. Yet, to this point, this experimental work has exclusively examined prosocial reciprocity between strangers in a lab (short-term relationship; Bartlett & DeSteno, 2006; DeSteno et al., 2010). These experimental designs have importantly provided evidence that the emotion gratitude is leading to these positive behaviours and not awareness of reciprocity norms or positivity more generally (Bartlett & DeSteno, 2006; DeSteno et al., 2010). Yet, more experimental work is needed to understand how the emotion gratitude may foster prosocial outcomes beyond reciprocity. Indeed, others have found that the emotion gratitude is linked to satisfaction in long-term unions, such as romantic relationships (Algoe et al., 2010) as well as helping to heal relationships that are hurting (Gottman & Silver, 1999). Furthermore, research would suggest that simple repayment of a kind act may not be how these satisfied, long-term relationships express gratitude (Gottman & Silver,1999). In fact, Clark and Mills (1979; Mills & Clark, 1994). have argued for two qualitatively different types of relationships. Communally oriented relationships (e.g., marriage, friendship) are distinguished from exchange oriented relationships (e.g., business interaction) by the norms which surround individuals' giving and receiving of favours (Mills & Clark, 1994). Communally oriented relationships are focused on giving as needs arise, caring for the other as opposed to a careful back and forth system of payment and repayment as characterises exchange oriented relationships. This would suggest that in order for gratitude to play a meaningful role in relationships, both in fostering new relationships and strengthening existing ones, it must encourage prosocial actions that encompass more than simple reciprocity. This paper examines two such behaviours: a desire to spend time with one's benefactor and a willingness to act socially inclusively towards one's benefactor even at a cost to oneself.

Experimental overview

Two studies were designed to examine gratitude's direct role in facilitating relationship-strengthening behaviours beyond that of repaying a kind act. Study 1 examined how feelings of gratitude lead one to desire affiliating with (i.e., spending more time with) one's benefactor. Building on this, Study 2 examined gratitude's ability to foster relationship-strengthening behaviours in the face of cost to oneself. Study 2 examined gratitude's role in encouraging socially inclusive actions towards one's benefactor even when those actions

ended in participants receiving a lower monetary payment. Importantly, the two studies reported here capitalised on a procedure for inducing gratitude in the lab (Bartlett & DeSteno, 2006; DeSteno et al., 2010) that allows us to experimentally examine the downstream effects of the emotional state. While this induction relies on strangers' interactions in a lab, it affords us the important ability to make causal statements about gratitude's effects on behaviour.

STUDY 1

The emotion induction used in Study 1 was the same as that used in Study 2 with some minor changes. The induction will be explained in detail for Study 1 and the alterations to the induction will be explained for Study 2. In Study 1 we investigated gratitude's role in fostering a desire to spend more time with one's benefactor. Participants came to the lab with one other person (in reality a confederate) and were randomly placed in either the gratitude or the neutral condition. At what appeared to be the conclusion of the study participants were given the opportunity to complete a second experiment for course credit. They could choose to return to the lab and complete the experiment alone or work with their current partner. The dependent variable was participants' choice to either return to work alone or return to work with their partner and thus be able to spend more time with this person.

Method

Participants

Forty-two participants (32 women, 10 men) were recruited from an undergraduate general psychology course at a small, private university in the Northwest. They received course credit for their participation in the study. Participants were randomly assigned to one of two conditions (gratitude or neutral).

Procedure

Participants believed that they were one of two people participating in an experiment that examined "individual versus group problem solving". In actuality, the other "participant" was a confederate blind to the hypotheses of the study; all confederates were women. All confederates were trained to carefully follow a scripted set of comments and all confederates were used in both conditions. The amount of time that confederates spent interacting with participants was similar across the two conditions. Upon arrival, the experimenter seated the participant and confederate at individual computer workstations and then left the room for 1 minute, allowing the confederate time to establish friendly but benign contact with the participant.

When the experimenter re-entered, she explained that the experiment examined individual versus group problem solving and that participants would complete several tasks. The first task was described as a test of their general knowledge. Although working individually, participants believed that they and their partner would receive one score for their joint effort on the multiple-choice questionnaire. This task was solely 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 a hand–eye coordination assessment. Participants, working individually, had to decide whether a string of letters that flashed on the screen constituted an English word or not. 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 with a summary of their scores appearing at the end of the task for the experimenter to record. In reality, the scores had been created ahead of time and were identical for all participants. The hand–eye coordination task was designed to be tedious for participants as it required vigilance on a repetitive task. The hand–eye coordination task was completed in both emotion conditions, though the purpose of this task was solely to provide an aversive experience that would play a central role in the gratitude induction.

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To induce the appropriate emotions, variations in the common script began to occur from this point onward. Following the inductions, participants completed emotion-manipulation checks and encountered the opportunity to participate in a second experiment for credit (the dependent variable).

Manipulations and measures

Gratitude manipulation. 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 computer had been set up so that the monitor flickered several times and then went black. 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, even though she appeared to be done with her portion of the experiment and was free to leave, stayed to help the participant determine what happened. The confederate, following a scripted set of comments and behaviours, tried several sequences of computer keys and checked the wires and plugs behind the computer station, looking for a solution to the problem. During this sequence the confederate surreptitiously hit a key that was designed to bring the participant's scores on the hand–eye-coordination task back onto the monitor after a designated amount of time. Once the confederate appeared to fix the problem and the participant's scores were back on the screen, the experimenter entered the room and allowed the participant to continue with the remaining tasks rather than starting the hand–eye coordination task over again. The confederate and experimenter then left the room.

Neutral manipulation. In the neutral condition the computer did not crash. The participant and confederate finished the hand–eye coordination task and then the confederate carried on a brief exchange with the participant regarding whether the participant had finished his/her hand–eye coordination task and where the experimenter was located. This interaction was included to allow a verbal exchange, similar in length to that carried on in the gratitude condition. The confederate then retrieved the experimenter who moved them onto the next task.

Emotion-manipulation check. Directly following the manipulations, participants completed questionnaires designed to assess their emotional states and feelings toward their partner (i.e., the confederate). Participants rated how well different emotion descriptors represented both their current feeling states and their feelings toward their partner using 5-point Likert scales (Bartlett & DeSteno, 2006). Gratitude was assessed as the mean response to the following three questions: How *grateful* (*appreciative*, *positive*) do you feel toward the other participant? ($\alpha = .89$).

Socially affiliative decision. In order to assess participants' desire to spend additional time with the partner that they had in the current study we offered them the chance to sign up for an additional study in which they could designate whether they wanted to return to the lab and work alone or work with their current partner again. It was made clear to participants that this second study would take the same amount of time (15 minutes) whether they worked alone or with a partner and the partner would always be the participant they had worked with in the current study. Several steps were taken in order to ensure that participants felt completely anonymous when marking their preference to work alone or with a partner. The confederate had already finished the experiment and left the room so the participant was alone when making this choice. The experimenter indicated that a piece of paper was lying on a table in the main lab room. The paper contained a line for the participant to sign up for the second study and then two options of which

the participant was to check the one preferred: "Work alone" or "With a Partner". Participants were instructed to then slip their paper into a large envelope also lying on the table that contained many other forms. After participants filled out the form they were free to go. The participant's choice, to work alone or with their partner again, was the dependent variable.

Results and discussion

An independent samples *t*-test revealed that the emotion manipulation successfully produced elevated gratitude; participants felt more grateful when receiving assistance from a benefactor ($M = 4.25$, $SD = 0.88$) than when they did not ($M = 3.12$, $SD = 0.74$), $t(40) = 4.49$, $p = .01$, $d = 1.43$. To test our prediction that gratitude would lead to a heightened desire to affiliate with one's benefactor we performed a chi-square test to examine condition differences in choice to work alone or to see one's benefactor again. Two participants (one from the grateful condition and one from the neutral condition) did not mark a preference for working alone or with their partner and were left out of this analysis. The chi-square test overwhelmingly supported our prediction. Those in the grateful condition chose to come back to the lab and work with their benefactor ($f = 17$) more than work alone ($f = 5$) while those in the control condition showed the opposite pattern ($f_{\text{partner}} = 7$, $f_{\text{alone}} = 11$), $\chi^2 = (1,\ N = 40) = 6.08$, $p = .01$.

Study 1 provided support for gratitude's ability to build and maintain relationships by shaping the social choices that people make: those in the grateful condition overwhelmingly chose to see their benefactor again. A desire to spend time with another person is a key component of building relationships, both in starting a new relationship and in fostering an existing one. Study 2 moves beyond a choice to either accomplish a task alone or with another person and examines whether gratitude can facilitate socially inclusive behaviours even when they come at some cost to oneself.

STUDY 2

In Study 2 we investigated gratitude's role in fostering the decision to forego net gain in order to act socially inclusively towards one's benefactor. Participants came to the lab with three other "participants" (all confederates), as opposed to one confederate in Study 1, and were randomly assigned to either the gratitude or the control condition. Following a neutral or gratitude emotion manipulation, participants played a game described as a simulation of human interaction within a virtual environment. To this end, we employed Cyberball, a program developed by Williams and colleagues (Williams, Cheung, & Choi, 2000; Williams & Jarvis, 2006), originally used to manipulate feelings of social exclusion. In short, Cyberball gives participants the perception that they are tossing a ball back and forth with other participants within a virtual environment. In reality, the "other" participants are fictitious. The program allows researchers to manipulate the proportion of tosses to each participant, the total number of tosses in the game, the identification of the fictitious participants, the speed of game play, and the instructions given at the start-up page (see Williams & Jarvis, 2006, for complete details). Cyberball was originally used as an independent variable to make participants feel ostracised by setting the program to cease throws to them after a certain point in the game.

In the current study we employed Cyberball as a dependent variable to examine socially inclusive behaviours (i.e., to whom does one choose to throw the ball). Under neutral conditions, participants have been shown to compensate for the ostracism of an individual by over-including them in the simulated interaction (i.e., a compensation effect; Wesselmann et al., 2010). Participants demonstrate a natural inclination to include others with the belief that exclusion from the game causes suffering to the ostracised individual (Wesselmann, Wirth, Pryor, Reeder, & Williams, 2009). Study 2 tests the ability of gratitude to enhance this compensation effect specifically toward one's benefactor even when a financial gain is at stake. That is, we used Cyberball as a means

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to measure our primary dependent variable (i.e., costly social affiliation) by examining whether participants would choose to reduce the exclusion presumably felt by the benefactor even when the participant had to forgo financial gain to do so.

Method

Participants

Twenty-five (13 women, 12 men) introductory psychology students from a large university in the northeast participated in exchange for partial fulfilment of a course requirement and were randomly assigned to one of two emotion conditions (gratitude or neutral). In addition, participants also received monetary compensation of $5 or $6 depending on the outcome of experimental tasks.

Procedure

In Study 2 participants believed that they were one of four participants, rather than two as in Study 1, taking part in the experiment. In actuality, the other "participants" were all confederates who were blind to the hypotheses of the study. Confederates and participants were matched on gender, such that female participants completed the study with three female confederates while male participants completed the study with three male confederates. Upon the participant's arrival, the experimenter seated the participant and the confederates at individual computer workstations. The experimenter then left, allowing the confederates time to establish friendly but benign contact with each other and the participant. Each confederate recited a scripted line, thus insuring that each spent a similar amount of time talking with the participant.

After the experimenter returned, he or she explained that the experiment would examine group versus individual problem solving (as in Study 1) and that the participants would complete several tasks. In addition to the tasks completed in Study 1, participants in Study 2 were also told that they would complete a game at the end of the experiment (which constituted our measure of costly affiliative behaviour). At this point, the experimenter gave everyone a piece of cardstock, each having a different colour, and explained that the colour would be relevant for a later task. The colour actually served to ensure that participants could accurately identify the different confederates in the final task. After handing out the colours, the experimenter explained that, in the first task, the individuals would be divided into two groups of two. Moreover, the experimenter would extend a room divider in order to minimise interaction between the two groups. The true purpose for extending the divider was to allow for the emotion manipulations to occur exactly as they had in Study 1.

At this point the study began to unfold just as it did in Study 1, with the participant and his/her confederate completing the task of general knowledge, the participant completing the hand–eye coordination task, and the emotion manipulations and manipulation check happening exactly as in Study 1. Gratitude was again assessed as the mean response to three items: "How grateful/appreciative/positive do you feel toward the other participant?" ($\alpha = .88$). General positivity, or happiness, was assessed as the mean response to three items: "How happy/amused/content do you feel?" ($\alpha = .84$).

After participants finished the emotion-manipulation check, the experimenter explained that they would be playing a game to test how people interact in a virtual environment. The experimenter explained that they would play online, but at individual computers in separate rooms. The experimenter then asked the participants to take another look at the colours each of the other participants had been given at the beginning of the study as they could identify each other during the game according to these colour designations. At this point, the experimenter explained that a computer had randomly assigned the participants to different rooms such that the participant was left to complete the game in the current room while the three confederates were placed elsewhere. Before leaving, the confederates each left their coloured cardstock at their workstations, in clear sight to the participant. After taking the

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confederates out of the lab, the experimenter returned to set up Cyberball for the participant. At this point, the experimenter disclosed to the participant the random assignment of monetary incentives and then instructed him or her to read the start-up page before starting the game.

Measure of costly social inclusion. We used Cyberball to create our measure of costly social inclusion. Specifically, participants were told that they could earn $0.25 each time a certain target confederate received the ball (hereafter referred to as the monetary-target). The monetary-target was not the confederate that the true participant had been paired with at the beginning of the experiment (i.e., not the participant's benefactor). The monetary-target could also earn $0.25 each time the true participant received the ball, thus setting up motivation to gain a maximum profit by repeatedly exchanging the ball between the participant and the monetary-target. Participants were also told that the other two, the non-target confederate (hereafter referred to as the neutral-target) and the partner/benefactor, would not receive any money and were not aware that anybody in the game had any financial incentives (see Figure 1). As a result of this design, any throw from the true participant to the neutral-target or the partner/benefactor would constitute a decision to include the others in the simulated interaction while forgoing the opportunity to increase one's profit. Beyond this addition of monetary incentives, we made specific modifications to give participants the perception that the neutral-target and the partner/benefactor probably felt ostracised (see also Figure 1 for a pictorial representation). Specifically, the monetary-target was programmed to throw to the participant 90% of the time, to the neutral-target 10% of the time, and to the partner/benefactor 0% of the time (the neutral-target received 10% of the target's throws so that the true participant would realise that he or she could throw outside the reciprocal monetary exchange if wanted). Both the neutral-target and partner/benefactor were programmed to reciprocate on every throw, thus they threw the ball

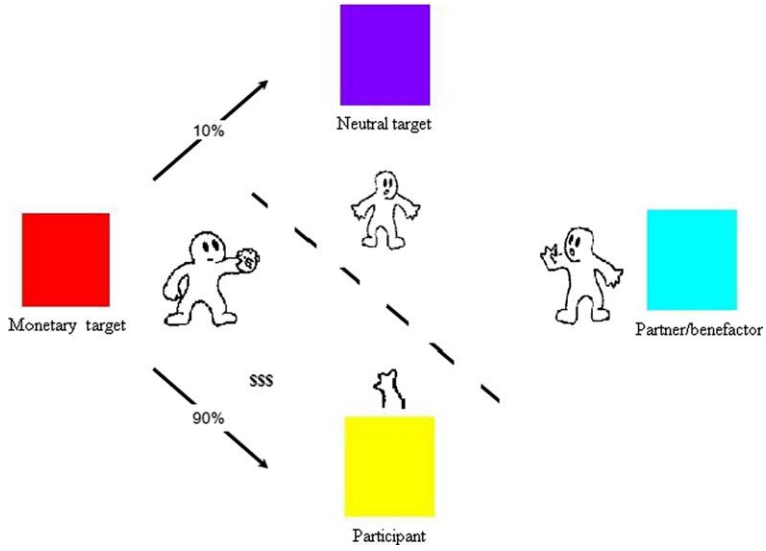

Figure 1. *Demonstrates the pattern of throws as programmed for the current use of Cyberball. The dashed line represents the distinction of monetary incentives. Participants believed that they would receive $0.25 for every toss to the monetary target, while the monetary target would receive $0.25 for every toss to the participant. Participants were told that the neutral target and the partner/benefactor had no such incentive nor were they aware that any incentives were part of the game. The arrows emanating from the monetary target demonstrate the percentage of throws in each direction. The neutral target and benefactor were programmed to reciprocate on every throw. [To view this figure in colour, please visit the online version of this Journal.]*

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back to the person that just threw to them. The game ended after 60 total throws. Each true participant threw the ball 27 times.

Given the monetary incentive, we expected that participants across emotion conditions would favour the monetary-target at similar rates. However, we also predicted that participants in the grateful condition would sacrifice net gain in order to include their partner/benefactor, but not the neutral-target, when deviating from the reciprocal economic exchange strategy. That is, participants in the gratitude condition would show a preference for acting socially inclusively toward their benefactors, thus showing a greater compensation effect for the partner/benefactor compared to the neutral-target. Participants in the neutral condition should not favour the partner/benefactor over the neutral-target to the extent that the grateful individuals do. That is, we expected gratitude to heighten the desire to protect one's benefactor, to act inclusively toward them in a privileged way. Therefore, the difference in throws to the neutral target and the benefactor constituted our measure of costly social inclusion directed toward a benefactor.

Results and discussion

An independent samples *t*-test revealed that the emotion manipulation successfully produced elevated gratitude; participants felt more grateful when receiving assistance from a benefactor ($M = 4.19$, $SD = 0.78$) than when they did not ($M = 2.88$, $SD = 0.76$), $t(23) = 4.098$, $p = .000$, $d = 1.71$. To examine whether our monetary incentive induced motivation to throw prominently according to a reciprocal economic exchange strategy with one confederate, we conducted a paired-samples *t*-test contrasting number of throws to the monetary target versus all throws outside of the reciprocal exchange (i.e., to the neutral-target or partner/benefactor). As expected, participants across emotion conditions threw more often to the monetary-target ($M = 23.32$, $SD = 2.59$) compared to the neutral-target and the partner/benefactor ($M = 3.68$, $SD = 2.59$), $t(24) = 18.93$, $p < .00$, $d = 3.78$. On average, the pattern of throws followed a reciprocal exchange between the participant and the monetary-target, leaving the benefactor and neutral confederate relatively ostracised.

We next considered whether feeling grateful would cause participants to show a preference for the partner/benefactor over the neutral-target when deviating from the established economic strategy. In order to examine the pattern of throws outside of the economic strategy, we conducted a 2 (Emotion: gratitude vs. neutral) × 2 (Throws: to neutral vs. to benefactor) mixed analysis of variance (ANOVA), which provided clear evidence for a main effect of target, $F(1, 23) = 52.17$, $p = .000$, $\eta^2 = .694$. Across emotion conditions, participants threw more frequently to the partner/benefactor ($M = 2.44$, $SD = 1.56$) than to the neutral target ($M = 1.24$, $SD = 1.17$). This effect makes sense given that participants had greater interaction with the partner/benefactor resulting from the general knowledge task. However, the main effect was moderated by the predicted interaction, $F(1, 23) = 13.26$, $p = .001$, $\eta^2 = .366$. Compared to neutral participants, grateful participants showed a greater preference for throwing to the partner/benefactor over the neutral target (see Figure 2). To further analyse the simple effects, we created a difference score indicating the difference in throws to the partner/benefactor compared to the neutral-target. Participants in the grateful condition threw more times on average to the partner/benefactor than to the neutral-target ($M = 1.77$, $SD = 0.93$), whereas participants in the neutral condition showed considerably less preference for their partner/benefactor ($M = 0.58$, $SD = 0.67$), $t(23) = -3.64$, $p = .001$, $d = 1.52$.

These findings support the view that gratitude promotes socially inclusive behaviours particularly toward one's benefactor even in the face of cost. We next employed structural equation modelling to provide additional certainty that gratitude was the mediator of this difference and, in so doing, to differentiate its influence from any associated with a general positive feeling (i.e., positive mood). As depicted in Figure 3, emotion condition led to increases in both gratitude ($\beta = 0.65$, $p < .001$)

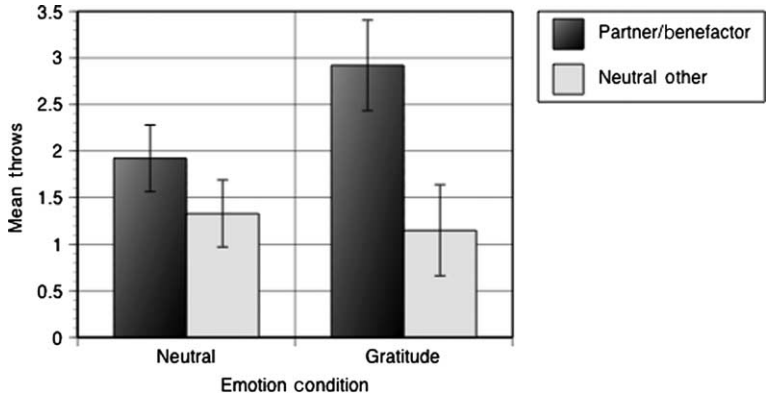

Figure 2. *Mean throws given as a function of emotion condition and target identity. Note that the term benefactor refers to the known partner (who did not supply any benefit in neutral condition). Error bars indicate ±1 standard error.*

and positivity ($\beta = 0.39$, $p < .05$). However only gratitude predicted socially inclusive behaviours towards one's benefactor (i.e., $\beta = 0.43$, $p = .055$). General positivity did not ($\beta = -0.03$, $p = .859$), thereby demonstrating the unique mediating role of gratitude. In order to test the significance of the indirect path through gratitude, we used a bootstrap procedure recommended by Preacher and Hayes (2004). Using 5000 bootstrap resamples, the indirect effect was significant; zero was not included in the 95% confidence interval [0.0017, 1.0787]. Confirming predictions, the impact of the manipulation on costly social affiliation proved negligible when controlling for gratitude.

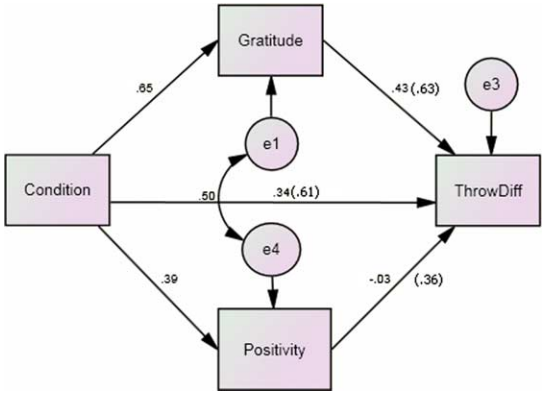

Figure 3. *Path model depicting relations among manipulated emotion condition, gratitude intensity, positivity, and the difference in throws to the partner/benefactor versus the neutral target. Numbers in parentheses represent zero-order correlations.*

Accordingly, the ability of the manipulation (i.e., receipt of a favour) to engender costly social inclusion occurred as a direct function of gratitude, not positivity more generally. The more grateful one felt as a result of receiving assistance, the more one sacrificed in order to include the benefactor *particularly*, as opposed to a neutral other, in the simulated social interaction.

GENERAL DISCUSSION

In two studies we found support for the emotion gratitude facilitating behaviours that encourage and build relationships. These studies move us beyond gratitude's known ability to facilitate prosocial reciprocity and begin to provide us with further evidence of gratitude's positive behavioural impact on relationships. In Study 1 we found evidence that gratitude fosters a desire to spend time with one's benefactor (i.e., those in the gratitude condition overwhelmingly chose to see their benefactor again while those in the control condition preferred to remain alone). Building on Study 1, Study 2 provided evidence that grateful individuals will engage in socially inclusive behaviours specifically toward their benefactor even when those actions come at a cost to oneself (i.e., foregoing money in order to protect one's benefactor from feeling excluded).

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These studies help to further our knowledge of how gratitude builds and strengthens relationships, both in short-term exchanges as well as on-going relationships. While previous experimental work has shown that gratitude facilitates prosocial exchange (Bartlett & DeSteno, 2006; DeSteno et al., 2010; Tsang, 2006) the studies reported here are some of the first to experimentally illustrate gratitude promoting relationship-building behaviours that move beyond reciprocity. As communally oriented relationships are characterised by giving as one another's needs become apparent, as opposed to the tit-for-tat reciprocal style of exchange oriented relationships (Clark & Mills, 1979; Mills & Clark, 1994), gratitude must function to do more than initiate a simple payback. The studies reported here find that gratitude prompts socially affiliative behaviours, both the desire to spend more time with one's benefactor and the willingness to show preferential, socially protective behaviour towards one's benefactor even when these actions will be costly. Such behaviours have clear indication for building trust between two people, therefore, helping to bolster existing relationships as well as promoting new ones.

Continued research is needed to expand on the findings here and to clarify how these gratitude-induced behaviours help to build positive relationships. Current literature shows that gratitude, both experienced and expressed, is linked to positive relationship perceptions such as communal strength of a relationship (Lambert et al., 2010) and satisfaction with a relationship (Algoe et al., 2010). Work is needed to understand how positive behaviours might play a role in facilitating these sorts of beliefs. Furthermore, we have argued here that prosocial behaviours stemming from experienced gratitude should also facilitate beliefs about how trustworthy another is. Future research should examine if gratitude does indeed lead to increases in perceived trustworthiness of the grateful individual and what role relationship-building behaviours such as those found here play in mediating that relationship. Finally, an investigation of how these experimentally derived behavioural outcomes function in real relationships would provide important further support. While the studies reported here have the benefit of being experimental in design, including live inductions of gratitude, they lack in their ability to speak to real, established relationships. Future research could build on these experimental findings by examining the role that desire to affiliate and willingness to socially protect another have in relationships outside of lab-created settings. Taken together, answers to these questions would help to build our knowledge of *how* gratitude plays this role in establishing and strengthening social bonds between people.

Original manuscript received 10 August 2010
Revised manuscript received 17 January 2011
Accepted revision received 28 January 2011
First published online 15 April 2011

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