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Praise Is Reciprocated with Tangible Benefits:

Social Exchange between Symbolic Resources and Concrete Resources

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Abstract

A recent study in the field of neuroscience showed that a class of symbolic resources (praise) activated the brain's reward circuitry, which was similarly activated by monetary resources. This result implies that the two distinct classes of resources are mutually exchangeable. The present experiment addressed this possibility by comparing four conditions. Participants in the praise condition received a positive evaluation and decided how much money they would give to the evaluator, while participants in the no praise condition did not receive any evaluation. To distinguish the effect of praise from positive mood effect, participants in the positive mood condition decided how much money they would give to someone other than the evaluator. To explore the differential effects of praise and flattery, participants in the flattery condition were led to suspect the intention of the evaluator. Participants in the praise condition behaved more generously than those in the other three conditions.

Norms of reciprocity (i.e., if A gives benefits to B, B should give benefits back to A) dictate our day-to-day social lives (Gouldner, 1960). Recipients of a favor are inclined to help or give resources to the benefactor (e.g., Burger, Ehrlichman, Raymond, Ishikawa, & Sandoval, 2006; Burger, Sanchez, Imberi, & Grande, 2009; Regan, 1971; Tsang, 2006), recipients of self-disclosure tend to disclose themselves to the discloser (e.g., Berg & Archer, 1982; Miller & Kenny, 1986), and people tend to like those who like them (e.g., Beckman & Secord, 1959; Lowe & Goldstein, 1970; Montoya & Insko, 2008). Although the currency of social exchanges varies from concrete resources (e.g., material goods, services) to symbolic resources (e.g., information, affection), people tend to repay what they receive from each other in kind (Foa & Foa, 1980).

A recent functional magnetic resonance imaging (fMRI) study revealed that common regions of reward circuitry in the human brain are activated by both concrete and symbolic resources (Izuma, Saito, & Sadato, 2008). Izuma et al. compared human brain responses to monetary rewards and social rewards (i.e., praise). In order to assess brain activities upon receipt of praise, their experiment consisted of two sessions: the self-introduction session and the fMRI session. In the self-introduction session, participants completed a set of self-introduction tasks (e.g., completing personality measures, giving a self-introduction talk to a video-camera). Participants were told that eight people would form impressions of them based on their responses to the self-introduction tasks. A week after the self-introduction session, participants were placed in an fMRI scanner and shown the eight people's impressions of them (half were positive and the other half neutral). Izuma et al. found that exposure to the positive impressions (i.e., praise) activated the left caudate nucleus and putamen, both of which were similarly activated during a task involving monetary rewards.

Izuma et al.'s (2008) result raises the following question: If both monetary and social rewards share common components of the brain's reward circuitry, are concrete, monetary

resources and symbolic, social resources mutually exchangeable? The answer is at least partly "yes," given the custom that people return symbolic resources (e.g., gratitude) for concrete resources (Foa & Foa, 1980). Such social exchanges between distinctive classes of resources may be facilitated under constraints (e.g., when one has no appropriate in-kind resource to return). Little is known, however, about whether recipients of symbolic resources, such as praise, return concrete resources. This lack of knowledge may be due to a mundane fact: symbolic resources, such as gratitude, are more often available than concrete resources. Thus, the experimental manipulation prohibiting participants from repaying with symbolic resources provides an interesting test setting.

Only a few studies have investigated whether people return concrete resources for symbolic resources. In a study on ingratiation, Kipnis and Vanderveer (1971) explored whether subordinates' ingratiation (i.e., symbolic resource) is effective in eliciting favorable treatments from bosses. Participants in this study played the role of a supervisor and made a series of decisions, including about a pay raise for subordinates. The results indicated that participants treated ingratiatory subordinates more favorably than non-ingratiatory subordinates. However, participants in Kipnis and Vanderveer's study paid no real cost of reciprocating the ingratiation because they merely played a hypothetical supervisor's role. As monetary incentives often change participants' behavior significantly (Smith & Walker, 1993), the result of this study cannot be considered decisive.

A recent study of expressed gratitude is also suggestive. Grant and Gino (2010) tested whether the expression of gratitude would solicit costly helping behavior from participants. From our perspective, the expression of gratitude could be considered a class of symbolic resources, while the costly helping behavior could be considered a class of concrete resources. Participants in Grant and Gino's study first engaged in a helping behavior as an experimental task. Half of them then received a message saying "Thank you so much! I am

really grateful," while the other half did not. The expressed gratitude made participants more likely to engage in further helping, which was costly in terms of time and effort. The observed result, however, may be accounted for by the operant conditioning of previously performed behavior by social rewards (Henderlong & Lepper, 2002).

The first purpose of the present study is to examine whether recipients of symbolic resources reciprocate with concrete resources. To avoid the problems associated with the previous studies, in the present study real money was at stake and participants did not engage in prosocial behavior prior to receiving praise. Izuma et al.'s (2008) procedure was adapted for a behavioral experiment: Participants first wrote a self-introduction essay, which was subsequently evaluated by another participant. In the *praise condition*, all participants received pseudo feedback that their partner had evaluated them favorably, while in the *no praise condition*, participants were kept ignorant of their partner's evaluations. Participants were then asked to decide how much money, out of a fixed amount, they would give to their partner. This task, called the dictator game, is often employed to assess participants' altruism in experimental economics (Camerer, 2003). It was predicted that *participants in the praise condition would allocate more money to the evaluator than those in the no praise condition*.

Effect of Positive Mood

Even if the predicted pattern (i.e., more generous allocations in the praise condition than in the no praise condition) is observed, the result could be interpreted as a well-documented positive mood effect, which is different from the effect of reciprocity motivation. A substantial body of studies has shown that people in a positive mood are more likely to engage in prosocial behavior (see Carlson, Charlin, & Miller, 1988, for a review). It has also been shown that praise makes people pleased (e.g., Fogg & Nass, 1997; Matsumura & Ohtsubo, 2010; Vonk, 2002). Therefore, the greater generosity could be due to the positive mood caused by praise.

The positive mood effect is, however, known to be moderated by the type of prosocial behavior (Carlson et al., 1988). Recent evidence suggests that a positive mood itself does not facilitate generous resource allocation. In Tsang's (2006) study, participants obtained a handsome amount of money in an experimental game by chance or through the partner's benevolent intention. Although participants were pleased in both conditions, only the monetary rewards associated with the partner's benevolent intention, which probably triggered some reciprocity motivation in participants, facilitated the participants' generous resource allocation in a subsequent game. In DeSteno, Bartlett, Baumann, Williams, and Dickens's (2010) study, beneficiaries of a confederate's helping behavior were more generous in an experimental game setting than non-beneficiaries. However, this effect was mediated by the beneficiaries' gratitude to the confederate, not by their positive mood.

Based on these findings, it was predicted that a positive mood due to praise would not affect participants' resource allocation. To test this prediction, the present study included a third condition (referred to as the *positive mood condition*), in which participants were pleased by a positive evaluation but played the dictator game with a different partner (thus having no chance to reciprocate). It has been demonstrated that prosocial behavior induced by a positive mood is not restricted to the benefactors but extends to third parties (e.g., Isen, Clark, & Schwartz, 1976; Isen & Levin, 1972). If the positive mood effect applies to the present experiment, participants in the positive mood condition should be as generous as those in the praise condition. In contrast, if (as we predicted) the reciprocity motivation is responsible for the generous resource allocation, *participants in the praise condition should be more generous than those in the positive mood condition*. As such, the positive mood condition provides a litmus test for the positive mood explanation.

Problem of Manipulative Flattery

The hypothesized effect of praise in eliciting a monetary return tacitly assumes that

the recipients of praise would accept it as being honest. A recipient, however, may doubt the honesty of praise when an evaluator is dependent on him or her for some important outcome. This is the situation that Jones and Pittman (1982) called the ingratiator's dilemma: The more important it is for the evaluator (or ingratiator) to be liked by a recipient, the less likely the ingratiation is to succeed. Therefore, it was predicted that praise would be less effective when it is expressed by someone whose outcome-dependency on participants is salient.

It has been shown that in the presence of outcome-dependency, people tend to dislike ingratiators, who are potentially exploitative flatterers (e.g., Jones, Jones, & Gergen, 1963; Lowe & Goldstein, 1970). Moreover, a recent study showed that the presence of outcome-dependency reduced not only the participants' liking for an ingratiator but also their behavioral intention to interact with him or her (Montoya & Insko, 2008). It has also been shown that suspicious people deliberate on persuasive messages more cautiously and are less vulnerable to manipulation (Boush, Friestad, & Wright, 2009; Schul, 2004).

In order to test the prediction that the evaluator's outcome-dependency on participants curtails the reciprocity motivation induced by praise, the present experiment involved a fourth condition (referred to as the *flattery condition*), in which participants were informed of the dictator game prior to the self-introduction task. Participants in the flattery condition might well suspect that their partner would elevate his or her evaluation out of an ulterior motivation to receive more money in the dictator game. A previous study confirmed that this manipulation would be sufficient to induce suspicion from participants (Matsumura & Ohtsubo, 2010).

The flattery condition serves as another litmus test for the positive mood explanation. Some studies that assessed participants' emotional reaction to the potential flattery revealed that participants were pleased regardless of whether the outcome-dependency was present (e.g., Matsumura & Ohtsubo, 2010; Vonk, 2002). As an emotional reaction to praise seems to

be dissociable from a behavioral reaction (Lee, 2009), it was predicted that *although participants would be equally pleased both in the praise and flattery conditions, participants in the flattery condition would be less generous than those in the praise condition*.

Prediction and Analysis

The present study included four conditions: praise, no praise, positive mood, and flattery. The basic prediction was that participants in the praise condition would allocate money more generously than in the other three conditions. The last two conditions were similar to the praise condition in terms of the presence of a positive mood. However, we reasoned that (i) in the positive mood condition, reciprocation would be inhibited by the partner change from the first task (i.e., the self-introduction task) to the second task (i.e., the dictator game), and (ii) in the flattery condition, the reciprocity motivation would be curtailed by participants' suspicions.

A straightforward analysis to test the above prediction would be a planned contrast between the praise condition and the other three conditions. However, since the above contrasts could become significant due to the positive mood effect, we first tested the positive mood effect by comparing the no praise condition and the other three conditions. We then compared the praise condition with the positive mood and flattery conditions so that the second contrast was orthogonal to the first contrast.

Method

Participants

Participants were 206 undergraduates (108 females and 98 males; mean age = 19.23 years) who voluntarily took part in the study for a monetary reward. It was explained that they would receive 800 Japanese yen (JPY), and have the chance to earn some extra money in the second task (during the experiment, 1 USD was approximately 90 JPY). The experiment was run in small groups (range of group size = 3 – 6). Each group was randomly

assigned to one of the four experimental conditions. The sample size was 49, 55, 53, and 49 in the praise, no praise, positive mood, and flattery conditions, respectively.

Procedure in the Praise Condition

The procedures used in the four conditions were slightly different. We shall first describe the procedure used in the praise condition and then explain how the other three conditions differed.

Self-introduction task. After receiving general descriptions of the experiment (e.g., they would engage in two separate tasks), participants signed the informed consent form. They were then provided with the following instructions regarding the self-introduction task: The self-introduction task involves two roles, the target and the evaluator; the targets (i.e., participants) will write a self-introduction essay; and the evaluators will rate the targets based on the self-introduction essay. Participants were then led to believe that other participants were ushered to another room and were taking part in the same experiment. Participants were told that they would play the target role and the participants in the other room would play the evaluator role. Participants were assured that the experiment would be conducted in complete anonymity by matching participants with randomly assigned ID cards.

Participants were handed an essay sheet on which brief instructions were printed. The instructions read that (1) they had five minutes to write the self-introduction essay; (2) they had to write about their hobbies, favorite music, favorite TV programs, and personality; and (3) they should not include any information that could identify them (e.g., the name of a club they belong to). The second instruction was included to inhibit participants from spending too much time thinking about what they should write. After five minutes (with a forewarning of one minute), the experimenter terminated the essay writing task and collected the essays.

The essays were then handed to another experimenter who ostensibly delivered them

to the other room. Participants were told to wait approximately five minutes while the evaluators were evaluating their essays. In fact, the other experimenter rated in terms of how well three trait words (*kindness*, *friendliness*, and *trustworthiness*) would describe each participant on an 11-point scale (0 = "not at all" – 10 = "very well"). These three trait words were chosen from Anderson's (1968) trait word list based on a pilot-test indicating that undergraduate students from a comparable population would be delighted if they were described as such. All participants received two 8 points and one 7 point, which were close to the most desirable evaluations observed in a similar experiment involving naïve evaluators (Matsumura & Ohtsubo, 2010). The second experimenter read the essays and determined the most appropriate distribution of the 8 points and the 7 point over the three traits for each participant. After the second experimenter had completed the ratings, he or she returned to the room and handed the feedback sheets to the first experimenter.

Participants examined the feedback and filled out a post-experiment questionnaire of the self-introduction task. The questionnaire included two items measuring participants' moods and two items measuring their suspicions of flattery. These four items were embedded in filler items. All items were accompanied by a 7-point scale. The mood items were as follows: "How much are you delighted by your partner's evaluation of you?" and "How much are you annoyed by your partner's evaluation of you?" (correlation between the two items = –.53). The average of these two items (after the second item scores were reversed) was the positive mood score. The suspicion items were as follows: "Do you think that your evaluator made a safe evaluation taking into account that you would see the evaluation?" and "Do you think that your evaluator tried to please you taking into account that you would see the evaluation?" (r = .62). The average of these two items was the suspicion score.

Dictator Game. The nature of the dictator game was first explained. Participants were told that each of them would play the dictator game with his or her ex-evaluator. The

participants' task was to decide how much, out of a fixed amount of money, to give to the ex-evaluator. The ex-evaluators (i.e., the recipients) would do nothing except receive the allocated money. Both the participants and recipients would receive the money exactly as the participants had allocated it.

A previous study (Matsumura & Ohtsubo, 2010), which followed a similar procedure to the present study, found exceptional generosity among the dictators: Most of them made an equal allocation, while many participants in previous dictator game experiments kept more than half of the resource (see Camerer, 2003 for a review). The exceptional generosity might be attributable to a diluted sense of anonymity due to the writing of a self-introduction essay. To circumvent this problem, we attempted to minimize participants' concern for the equality norm and the recipient's feeling. Participants were instructed that the total amount to be allocated in the dictator game would be randomly determined by the experimenter. The experimenter showed participants many cards that allegedly had various amounts of money, ranging from 100 to 500 JPY, written on them. The experimenter then selected one card in an ostensibly random manner. The selected card always indicated 430 JPY. The experimenter told the participants that the recipients would remain ignorant of the total amount. This procedure was employed to make it transparent to the participants that their recipients would have no idea about the equality (or inequality) of their allocations. Moreover, the minimal unit of allocation was set as 10 JPY so that a precise equal allocation (i.e., 215 JPY for each) was impossible.

After the completion of the dictator game, participants were fully debriefed. The experimenter explained every deceptive aspect of the experiment and apologized for the deceit. All participants received 1500 JPY for their participation in the study.

Differences in the Other Three Conditions

We shall now explain how the procedure used in each of the other three conditions

differed from the procedure used in the praise condition (see Supplementary Figure S1 for a graphical summary of the four conditions).

No praise condition. In the no praise condition, participants wrote a self-introductory essay, and were told that other participants would evaluate them. However, they received no feedback regarding their evaluator's ratings. Since there was no feedback, we were unable to administer the post-task questionnaire to assess participants' moods and suspicions. Despite this limitation, the no-feedback procedure was employed because it was difficult to empirically determine the neutral evaluation.

Positive mood condition. In the positive mood condition, after the self-introduction task, pairs were re-matched for the dictator game. In order to assure that they would not play the dictator game with their evaluator, each participant was provided a new ID card, which always contained a different ID number than that in the self-introduction task. Participants were further told that those in the other room would keep the same ID cards that they had used in the self-introduction task. Therefore, participants knew that they would be playing the dictator game with someone other than their evaluator in the first task.

Flattery condition. In the flattery condition, participants were explained about the dictator game prior to the self-introduction task. The contents of the instructions were the same as those in the praise condition, while the timing of delivering them was shifted from right before the dictator game to the outset of the entire experiment. Participants were also explicitly informed that the participants in the other room (i.e., evaluators) were receiving the same instructions synchronously.

Problems of the Deceptive Procedure

This experiment included deceptions. Although the experiment was conducted before our department created the institutional review board system, we complied with the ethical guidelines for research with human subjects and the deceptive procedure was limited

to absolutely necessary aspects. We noted no indications that participants had come to the laboratory with any knowledge of the present experiment, including the deceptive procedure.

Results

Manipulation Checks

The underlying assumptions of the main analyses (i.e., the two orthogonal planned contrasts) are that (1) participants' moods were equally positive in the praise, positive mood, and flattery conditions, and (2) participants in the flattery condition were more suspicious than those in the praise and positive mood conditions. The no praise condition was not included in the following manipulation check analyses because moods and suspicions had not been measured. In the following sections, the reported test statistics were computed using SPSS 14.0.

A one-way ANOVA with the positive mood score as a dependent variable indicated a non-significant difference among the three conditions, $F(2, 151) < 1$, *ns*. The mean positive mood scores (*SD*s) were 5.70 (1.06), 5.73 (1.13), and 5.56 (.82) in the praise, positive mood, and flattery conditions, respectively. A planned contrast between the flattery condition and the praise and positive mood conditions revealed that participants in the flattery condition were more suspicious, 4.53 (1.18), than those in the other two conditions, 4.10 (1.25), $F(1, 128) = 4.12$, $p = .04$, $\eta^2 = .027$. These manipulation checks confirmed the two assumptions.

Hypothesis Testing

The dictator game results are depicted as a boxplot with the means and standard deviations at the bottom (Figure 1). Visual inspections of the boxplot tell us that the allocations were heavily concentrated around the nearly-equal allocations (i.e., 210 JPY and 220 JPY) in the praise condition, while allocations in the other conditions were widely distributed from extremely greedy allocations to nearly equal allocations.

Two orthogonal contrasts were conducted to test the hypotheses. Mostly due to the

smaller variance in the praise condition, Levene's tests indicated that it was inappropriate to assume equal variances for the two contrasts, $F(1, 204) = 8.91$, $p = .003$ and $F(1, 149) = 10.84$, $p = .001$ for the first and second contrasts, respectively. Accordingly, we decided to run two orthogonal *t*-tests for unequal variances and correct the familywise error rate with the Bonferoni procedure (i.e., $\alpha' = .025$).

The first contrast, which tested the positive mood effect (i.e., no praise vs. praise, positive mood, and flattery), revealed that the difference was not significant, $t'(78.40) = 1.81$, $p = .074$, $d = .30$. The second contrast (i.e., praise vs. positive mood and flattery) revealed that those in the praise condition made significantly more generous allocations than those in the other two conditions, $t'(122.02) = 2.30$, $p = .023$, $d = .38$.

Although the above results confirmed the hypotheses, there are two potential criticisms: (1) The *t*-tests were vulnerable to the presence of outliers (Figure 1), and (2) the three hypotheses were tested only conjointly. For a complementary purpose, we tested each of the three hypotheses by a nonparametric test (Mann-Whitney *U* test, one-tailed). The results showed that the allocation was more generous in the praise condition than the no praise condition ($U = 915.5$, $p = .002$), the flattery condition ($U = 864.5$, $p = .008$), and the positive mood condition ($U = 1073.0$, $p = .063$), respectively.

Auxiliary Correlation Analyses

The non-significant positive mood effect was corroborated by non-significant correlation coefficients between the positive mood score and the allocation, $r = -.03$ ($N = 151$) when the three conditions were combined, and r's = .12, –.03, and –.21 (n's = 49, 53, and 49) when computed separately for the praise, positive mood, and flattery conditions, respectively.

We assumed that the suspicion would curtail the reciprocity motivation in the flattery condition. The correlation coefficient between the suspicion score and the allocation was in

the predicted direction, but not significant, $r = -.12$, $n = 49$, $p = .40$. The small correlation might be due to the presence of pure egalitarians who allocated the resource equally irrespective of their suspicion. In future studies, it would be useful to assess participants' egalitarian attitudes in addition to their allocation behavior.

Discussion

The present study showed that praise, a class of symbolic resources, is efficacious to elicit reciprocation with money, a class of concrete resources. The significant difference observed in the second planned contrast (i.e., praise vs. positive mood and flattery) combined with the non-significant difference in the first contrast (i.e., control vs. praise, positive mood, and flattery) eliminates the positive mood explanation and supports the social exchange explanation. The complementary nonparametric tests indicated that the difference between the praise condition and each of the other three conditions was at least marginally significant. These results are in line with the recent finding in neuroscience that social and economic rewards activate common areas in the brain's reward circuitry (Izuma et al., 2008).

Limitations and Future Directions

The present study did not include subjective measures of reciprocity motivation. It may be difficult, however, to empirically assess this motivation. First, assessing it before the resource allocation might alter participants' behavior. If it is assessed after the resource allocation, participants' self-reports might simply confirm their behavior. Second, it is not clear if participants are consciously aware of their reciprocity motivation.

In relation to the assessment of motivation, it is noteworthy that the effect of praise was primarily due to the decrease in greedy allocations (Figure 1). The praise did not push participants to give more money beyond the equal allocation.[1] However, if participants had received a tangible resource prior to the dictator game, being driven by the reciprocity motivation, they might have returned more than the equal split. By exploring whether the

receipt of concrete and symbolic resources would elicit different patterns of reciprocal behavior, future studies may be able to assess the underlying motivation triggered by praise.

The present study showed that the positive mood effect on resource allocation was not significant. This result is in agreement with the results of previous studies (DeSteno et al., 2010; Tsang, 2006). However, the present study cannot be considered a direct test of the positive mood effect. Admittedly, we did not assess participants' positive moods in the no praise condition, and thus had no data to confirm that participants in the other three conditions (i.e., praise, positive mood, and flattery) were in more positive moods than those in the no praise condition. Although testing the positive mood effect was not our original purpose, future studies examining the control group's mood may be informative.

A corollary of the present result is that people might, to some extent, be vulnerable to flattery, especially if ingratiators carefully conceal their manipulative intentions. A defense mechanism against manipulative ingratiators may be a kind of suppression of behavioral reciprocation, which, as shown in the present study, seems to be triggered by awareness of the evaluator's outcome-dependency. There may also be a social defense mechanism against manipulative flatteries. It has been shown that people dislike manipulative ingratiators (Vonk, 1998). Moreover, people seem to have some inclination to punish liars even when they themselves are not deceived (Ohtsubo, Masuda, Watanbe, & Masuchi, 2010). The punishment of liars has been proven to be an effective measure in maintaining honest communication (Lachmann, Számadó, & Bergstrom, 2001). To explore the presence of social defenses against manipulative ingratiators, future studies need to directly examine people's inclinations to punish such ingratiators.

As noted above, the exchangeability between symbolic and concrete resources make people at least potentially vulnerable to manipulative ingratiatiors. Is there any social function in the exchangeability? Fu and Lee (2007) recently argue that flattery is a form of

social grooming that facilitates the development of intimate relationships. This argument implies that potentially costly exchanges of concrete resources in intimate relationships can be initiated by relatively cheap, symbolic exchanges of praise and flattery. The exchangeability across distinct classes of resources, thus, might function to bridge the transition from less risky, symbolic exchanges to more risky, concrete exchanges. The social functions of exchangeability between symbolic and concrete resources seem to merit further investigations.

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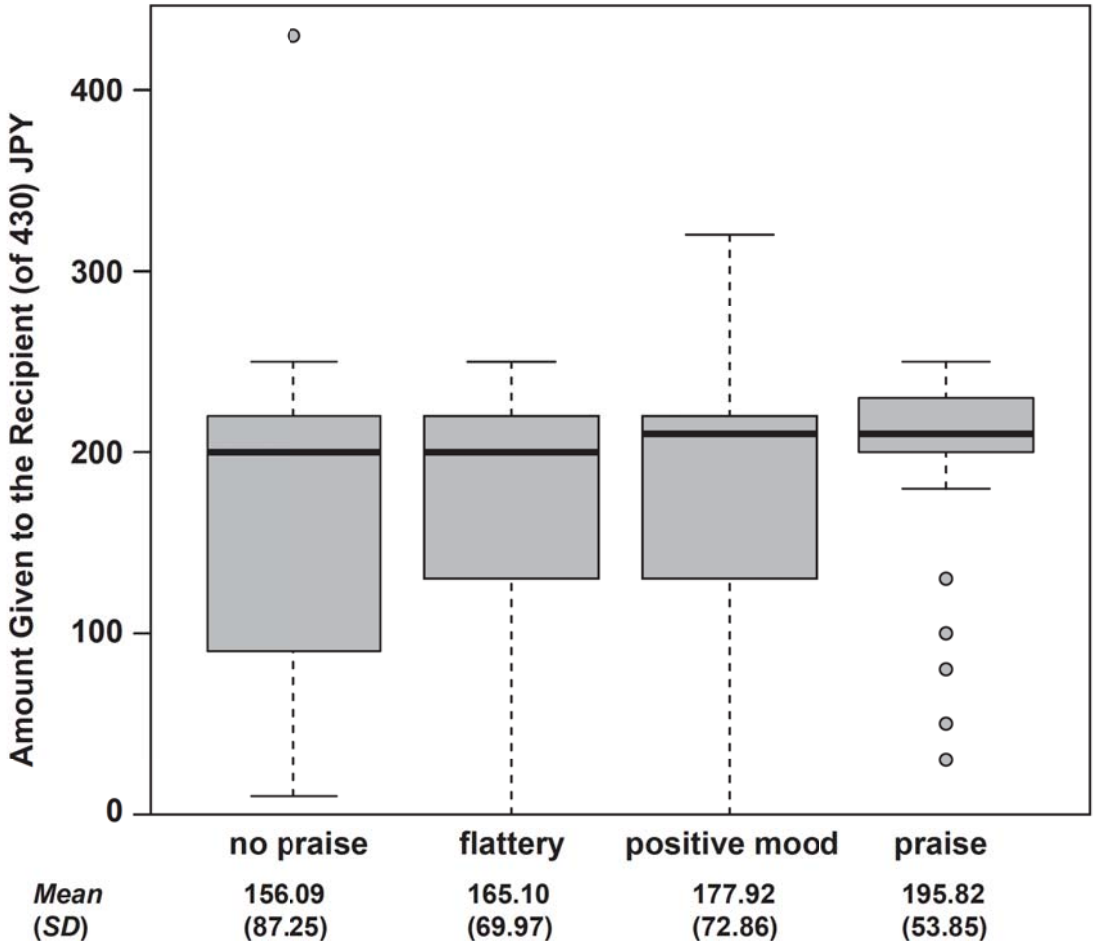
Footnote

[1] We are grateful to an anonymous reviewer for raising this point.

Figure 1. The boxplot showing the distribution of allocated money to the partner as a function of the experimental condition. The boxplot was drawn following the standard rule: Each horizontal line represents the location of the median; each rectangle covers the middle 50% of the data; each whisker was extended to the adjacent value; and each circle indicates an outlier.



	no praise	flattery	positive mood	praise
Mean	156.09	165.10	177.92	195.82
(*SD*)	(87.25)	(69.97)	(72.86)	(53.85)

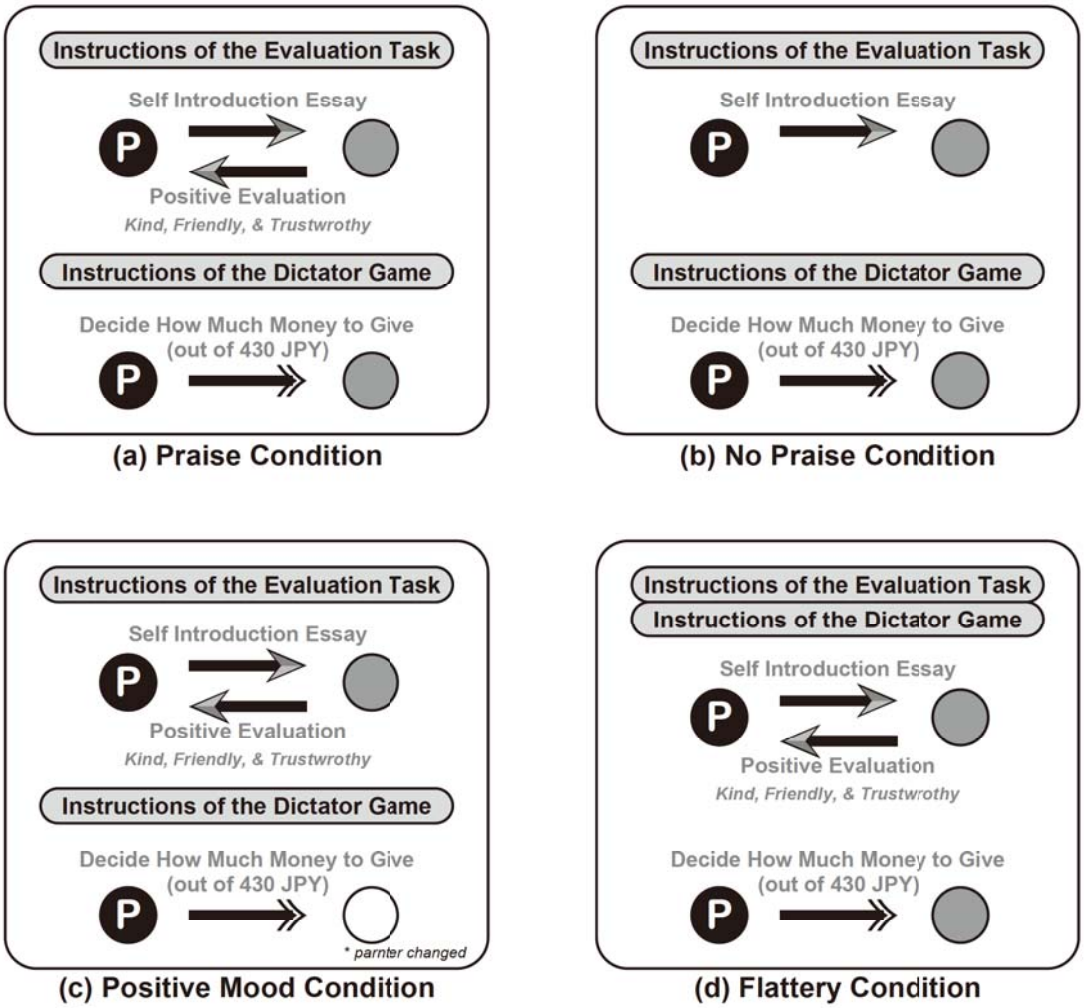


Figure S1. *Graphical Summary of the Four Conditions. "***P***" in the Circle Represents the Participant.*