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NOTE

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Reward power and bilateral communication in conflict resolution

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Eighty female Ss served as targets of contingent promise messages sent intermittently during the course of a prisoner's dilemma game. Ss were either provided with or lacked intentional reply messages to respond to the source and faced an influencer who rewarded target compliance to her promises 0%, 10%, 90%, or 100% of the time. Ss with reply capability were more cooperative on nonpromise occasions than were no-reply Ss, but neither reply availability nor probability of reward mediation affected behavioral compliance. Postgame ratings indicated that Ss in the high probability of reward conditions evaluated the source as more attractive, but less potent, than the source who seldom or never kept her promises.

Recent studies have reliably found that S's compliance to contingent threats is a direct function of both punishment magnitude and the cumulated probability of punishment over an interaction sequence (cf. Tedeschi, 1970). Similar studies of promises have yielded contradictory results. Two investigations found no relationship between the probability of rewards and compliance to the promisor's requests (Lindskold, Bonoma, Schlenker, & Tedeschi, 1971; Lindskold & Tedeschi, 1971). However, Horai, Haber, Tedeschi, & Smith (1970) obtained a direct relationship between probability of reward and S's compliance. Retrospective comparisons of the three promise studies indicated two possible differences in methodology which might account for the divergent findings. First, the studies which failed to establish a relationship between probability and compliance varied the probabilities between 10% and 90%, while the study which found the direct relationship used probability levels of 0% and 100%. It is possible that a single lie causes the target to have suspicions about all succeeding promises. Alternatively, a single reward may be sufficient to obtain relatively high levels of compliance. Secondly, in the first two studies, S was required to reply to the promises with a statement of behavioral intentions, although he could choose

to be truthful, untruthful, or evasive in his replies. The study which found the probability-compliance relationship did not allow S to announce his behavioral intentions. Since investigations such as that of Tedeschi, Bonoma, & Lindskold (1970) have shown the importance of such replies in achieving conflict amelioration and resolution, it is plausible that the inclusion or omission of statements of verbal commitments could change the character of the interaction and account for the contradictory findings at issue.

The above differences between studies were investigated in a 2 by 4 factorial design. Ss were targets of promises from a simulated opponent during a mixed-motive conflict. The simulated promisor offered the S a reward if the latter would make the cooperative response in a two-choice situation. Ss were either given the opportunity to announce their own intentions in reply to the promisor's messages or else they could not communicate at all. The simulated promisor gave the promised reward 0%, 10%, 90%, or 100% of the times the Ss made the compliant response.

METHOD

The Ss were 80 female undergraduates who satisfied a requirement at the United States International University by their participation. Ss were recruited in pairs to foster the impression that each

was participating with a peer. This impression was maintained throughout the interaction, although E simulated the play of the "other" for all Ss. Ss faced a prisoner's dilemma (PD) game panel, which included two buttons, one for the cooperative (Choice 1) and one for the competitive (Choice 2) strategy selections. A 2 by 2 payoff matrix was mounted at the top of the panel, each cell of which could be separately illuminated to provide feedback about own and "other's" payoffs following each trial. The payoffs displayed in the matrix were such that both S and E won 4 points if both cooperated, and both lost 4 points if both competed; if one cooperated while the other competed, the former lost 5 points and the latter won 5 points. Two add-subtract cumulative counters, mounted on the upper right-hand side of the panel, provided feedback regarding each player's scores. Two rows of message slots were placed on the face of the panel below the matrix. Next to each message slot was a button on the outside part of the panel (to transmit) and a light on the inside part of the panel (to receive). Signal lights served to order events and regulate play throughout the interaction.

A promise message was posted on the incoming (left) side of the S's panel and read: "If you make Choice 1 on the next trial, I will add 10 points to your counter." Ss in the bilateral communication conditions had three reply messages posted on the outgoing (right) side of their panel which read: (M1) "I will make Choice 1 on the next trial," (M2) "I will make Choice 2 on the next trial," and (M3) "I do not wish to disclose my intentions." Ss in the unilateral communication condition did not, of course, have any reply messages posted on the panel.

In order to equate the number of rewards received by Ss within cells and to establish fixed probabilities of rewards, a criterion of 10 successful promises (i.e., promises to which S complied by making Choice 1) was set. After each S reached criterion, no further promises were sent to her. To establish the criterion, the E predesignated that there would be two options to send the promise during each block of 10 PD trials. One successful promise per block was the criterion pace, but if the S fell behind the pace, both messages per block were sent until either the pace was reestablished or the criterion of 10 successful promises was met. After each S reached the criterion, no further messages were sent to her. E always made the cooperative game choice on the trial immediately following the transmission of a promise and maintained a fixed, but

randomly determined, 50% cooperative schedule of choice on all nonmessage PD trials. Thus, Ss made PD game choices along with the E. Occasionally, and according to the above criteria, the E sent a promise and cooperated on the message-relevant trial. In the 100% probability conditions, all compliances by Ss were rewarded (purportedly from the "other person") by the operation of automatically adding 10 points to the Ss' cumulative counter; in the 90% conditions, all but the fifth compliance was rewarded; in the 10% conditions, only the fifth compliance was rewarded; and in the 0% conditions, no rewards were given for any compliance.

At the conclusion of the interaction, Ss were asked to give their impressions of the "other person" on a shortened form of the Semantic Differential, were debriefed, and dismissed.

RESULTS

Because a criterion number of 10 successful promises had been established, compliant behavior by Ss was measured by how many promises had to be sent to each S to establish the criterion. Analyses of variance (4 by 2) were performed on the number of promise messages sent, the proportion of cooperative choices by Ss on nonmessage PD trials, and scores obtained on the three subscales (evaluative, potency, and activity) of the Semantic Differential.

There were no significant effects on the measure of behavioral compliance (all $F_s < 1$). The overall compliance mean score of 13.8 indicated that Ss cooperated 72% of the time on message-relevant trials, as compared to 48% cooperation on nonmessage PD trials. There was a significant effect ($F = 7.53$, $df = 1/72$, $p < .01$) of the reply conditions on the proportion of cooperation on nonmessage trials; more cooperation occurred when the replies of intent were available ($\bar{X} = .51$) than when they were not ($\bar{X} = .45$).

The probability of reward did produce a main effect on the evaluative interpersonal rating ($F = 4.38$, $df = 3/67^1$, $p < .01$). Duncan multiple range tests indicated that, while Ss rated the promisor as mildly positive when the probability of reward was either 0% or 10%, they evaluated the promisor as more strongly positive ($p < .05$) in the 90% and 100% probability conditions. Potency ratings were also significantly affected by the probability that the E would give the promised reward ($F = 3.72$, $df = 3/67^1$, $p < .05$). A promisor who never rewarded the S was perceived as more potent than either the 90% or 100% credible

promisors ($p < .05$); the 10% rewarding promisor was rated just below the zero point on the potency scale, intermediate but significantly different from none of the other groups. There were no significant effects on the activity subscale.

DISCUSSION

Regardless of the probability of reward or the availability or unavailability of messages of own intentions, Ss provided the promisor with a uniformly high level of behavioral compliance to the latter's requests. Thus, although the present experiment has not provided a basis for understanding why Horai et al (1970) obtained an effect of probability of promised reward upon behavioral compliance, the findings provide confirmation of the Lindskold et al (1971) and Lindskold & Tedeschi (1971) studies. A very high level of cooperation on message-relevant trials² (as compared to nonmessage trials) must be attributable to the fact that the promisor was 100% cooperative on message-relevant trials and that both players benefit if Ss cooperate. This accommodative pattern of behavior by the promisor elicits the norm of reciprocity—we should help those who help us. The added side-payoff becomes an unnecessary bribe in such a situation. It is clear that the Ss more positively evaluate promisors who give the added benefits, but it is a sign of weakness to provide unnecessary rewards—Ss rated the promisor less potent the more often the latter provided the positive side-payoff of 10 points.

If the promisor were exploitative on the promise-relevant trials by making the competitive PD choice, the norm of reciprocity should not be aroused; and the magnitude or probability of reward might then be expected to become a more important consideration for the target before compliance is given. Partial support for this hypothesis was found by Lindskold et al (1971). When the simulated promisor was partially or totally exploitative on promise-relevant PD trials, target compliance was a direct function of reward magnitude. While the norm-laden character of promises is strongly supported by these findings, the reciprocity interpretation must be tempered by the contrary findings of the Horai et al study. In any case, it is clear that, contrary to the contention of some conflict theorists (cf. Schelling, 1960), the operation of reward power is not simply the obverse of the operation of coercive power. The view of reward power (i.e., promises) as "positive threats" must be discarded in favor of explanations which admit to the normative

character of positive human relationships. Rapoport (1964) has strongly criticized strategic thinkers for omitting such ethical considerations from the policy planning process.

Bilateral communications helped to ameliorate conflict as compared to unilateral communications. Verbal commitments made by persons apparently do facilitate subsequent responses to fulfill such commitments. When no such verbal communication is available to a target of promises, fewer normative constraints exist for producing cooperative behavior. It seems clear that the promise of an accommodative source elicits norm-regulated behaviors of the target, including the clear choice to reply most frequently with the unilateral promise to comply³ to the promisor's requests. And, when the Ss verbally commit themselves, they increase the saliency of normative constraints on their own behaviors. A benign cycle begins to occur, serving to break down the conflict between the parties. However, since the simulated player was only 50% cooperative on nonmessage trials and was not responsive to the choices of Ss, the degree of cooperation by Ss was probably limited, and the conflict could not be fully resolved.

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NOTES

1. No data on postimpression ratings for four Ss were available.
2. The overall compliance mean in the Lindskold et al study was 62%; that in the Lindskold and Tedeschi investigation was 60%.
3. Unanalyzed data across the bilateral message conditions indicated strong S preference for M1 and, additionally of course, its truthful use.