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Compliance to threat as a function of knowledge of the sources' prior losses

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The present research investigated compliance to a threat as a function of the threatener's previous experience with another person. The subjects played four separate blocks of trials of Prisoner's Dilemma games. Partners (always fictitious) supposedly were changed from Block 2 to Block 3. Results indicated that when a threat was received prior to the start of Block 3, it was effective in increasing cooperative behavior only when the subject knew that the source had incurred losses during Block 2. In addition, this greater increase in cooperative responding was maintained when the possibility of incurring punishment was subsequently removed in Block 4. Results suggested that the source's prior losses gave justification to this use of threat and, therefore, increased compliance.

When conflict over interest exists between two individuals, attempts at solution often occur through the use of threat. A threat is a communication of conditional punishment which is contingent upon whether or not the target acts as the souce desires (Schelling, 1960). Generally, the extent of compliance to a coercive device is a positive function of the magnitude of threatened punishment and the likelihood of receiving it for noncompliance (Horai & Tedeschi, 1969). However, an individual who has little personal influence might still achieve his demands if they appear to be fair. Thus, although high magnitudes of punishment for noncompliance would be absent, the recipient of the threat would still be likely to comply because the fairness of the demands either gives incentive to do so or–as French and Raven (1958) suggested–reduces any resistance that might occur. Thus, in such situations a threat might be successful only because the legitimacy of the demands somehow contributed to what otherwise would have been insufficient personal influence.

Pepitone (1971) has recently shown that persons are tolerant of possible exploitative behavior by someone who was arbitrarily denied a fair share of rewards in a previous exchange with a third party. This study suggests that an individual with littler personal power might be able to wield a threat effectively because the recipient perceives its use as an instance of reasonable mistrust, and, therefore, considers the coercive device as justified, even though the losses were inflicted by someone else. Therefore, without the presence of dislike, face-saving, and the other forms of resistance, the low magnitude of punishment which can be threatened might be sufficient to gain compliance. Furthermore, the recipient might also comply because he is more likely to believe that the demands should be satisfied.

For these reasons, in the following study, it was hypothesized that an individual would be more likely to comply to a threat which promised only minimal punishment for disobedience when the source had been arbitrarily hurt by the past actions of another than when not. Similarly, the target's evaluation of the threatener should be more favorable when he had apparently incurred previous losses than when not. This should be reflected in ratings of the threatener on such dimensions as his fairness and attractiveness (French, Morrison, & Levinger, 1960; French & Raven, 1958).

Finally, the effects of the removal of threat conditions on cooperative behavior were also examined. Tedeschi and his colleagues (Tedeschi, Bonoma, & Brown, 1972) have demonstrated that coercive messages of relatively low punishment or low credibility have no discernible effect on behavior when removed. However, it is possible that the increase of cooperation which is expected to occur when the receipt of a threat is preceded by the knowledge that its source had incurred undeserved losses might continue when the possibility of being punished is eliminated. This maintenance of cooperative behavior could result either from the private acceptance of the influence attempt (French & Raven, 1958) or from learning that mutual cooperation was rewarding.

METHOD

Subjects

Thirty-two male subjects were tested in groups of four under one of the randomly chosen experimental conditions. In addition to receiving any money that might be won, they were given extra credit that went toward a course grade.

Design

In the first factor of a 2 by 2 design, the subject either received information that his partner's welfare had been hurt by another's behavior or was given no such information. The second factor manipulated whether or not the subject received a message in the form of a threat.

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Table 1
Matrix Values for the Prisoner's Dilemma Game During Block 3

New Partner's Choice	Subject's Choice	
	C	D
C	5 cents, 5 cents	−3 cents, 10 cents
D	10 cents, −3 cents	2 cents, 2 cents

Procedure

A Prisoner's Dilemma game was played in four blocks of trials. Prior to Block 1, the subjects were instructed in how to play but were not given any orientation toward the game such as maximizing personal gain. For the first two blocks, subjects played against a simulated strategy of noncontingent but intermittent cooperation. For Blocks 3 and 4, the strategy was conditional cooperation with a one-trial lag. However, on Trial 1 of Block 3, the simulated partner always defected. Finally, the subjects played the first block for practice and, therefore, knew that no money could be won until Block 2.

Supposedly, partners were changed for Block 3. The matrix values for this block are shown in Table 1. Subjects were also told that their new partner could send one message of their own composition, and, furthermore, could deduct four cents from their earnings on each trial. However, any deductions, if occurring, would be known only after the study was completed. Prior to the start of Block 3, the subjects either received a record showing that the new partner had attempted to cooperate during Block 2 but failed to induce the other to do so and, thus, had won only six cents or they were given no record. Also, the subjects then either received a threat to play cooperatively or received no message. The wording of the threat was, "If you don't choose C, I will deduct four cents every time you don't."

For Block 4, the same partner was kept but could no longer deduct any money or send a message. Finally, after Blocks 3 and 4, the subjects were asked to evaluate their partner on eight different scales containing the following adjective pairs: fair-unfair, selfish-unselfish, strong-weak, cooperative-uncooperative, trustworthy-untrustworthy, believable-unbelievable, trusting-untrusting, and forgiving-unforgiving.

RESULTS

The differences in percent of cooperation for each subject between Blocks 2 and 3 and between Blocks 2 and 4 were subjected to a 2 by 2 by 2 analysis of variance with repeated measures (that is, increase scores for Blocks 3 and 4) on the last factor. In addition, the responses to the scales on the questionnaires were examined through a multivariate analysis of variance with repeated measures.

Cooperative Behavior

In respect to cooperative behavior, it was hypothesized that a threat would be effective in increasing cooperation only when the subject knew that the source had incurred losses resulting from the behavior of another. It was also expected that the increase in cooperation would be maintained during Block 4. Support for this position required a Threat by Record interaction. This interaction did approach significance ($F = 3.47$, $df = 1/28$, $p < .08$). Cell means for this interaction are summarized in Table 2. Further analysis by tests of simple effects (Winer, 1971) revealed that the mean for the record-threat-received condition was significantly different from the other three conditions ($p < .025$). Further, none of the other means differed significantly from each other ($p > .10$). Finally, no effect for differences in increase scores for Blocks 3 and 4 were found. Thus, the results suggest strong support for the hypotheses.

Table 2
Mean Increase Scores Classified by Conditions of Threat and Record

Threat Condition	Record Received	
	Yes	No
Sent	36.87	4.85
Not Sent	2.48	2.79

Note–Means represent an average based on the increase of cooperation from Block 2 to 3 and from Block 2 to 4.

Evaluation of the Other Player

It was also hypothesized that the source of a threat would receive favorable ratings only under the record condition. Support for this position would require any significant multivariate F which included the variable of record. Although none of these effects were significant, the source of a threat was evaluated more favorably on nine of ten scales when the record was present than when not. The one exception was for a scale measuring credibility.

Finally, the results did reveal a significant message effect for potency ($F = 7.79$; $df = 1/28$, $p < .01$). The source of a threat was perceived as more potent ($\bar{X} = 4.38$) than someone who chose not to convey any message ($\bar{X} = 5.97$).

DISCUSSION

Given the present findings, the hypothesis that knowledge of undeserved losses from previous transactions would increase compliance to a threat was clearly supported. Also, as expected, this increase in cooperation was apparently maintained after the threat was removed. Thus, the results can be taken to suggest that a threat will be more effective in inducing compliance when the intent of the threatener appears to be self-protective rather than exploitative. However, the present study does not permit a clear understanding of how such a threat induces greater cooperation. It is possible that there is greater incentive to accept the influence, less incentive to resist, or both. Only further research can distinguish between these two possible explanations.

Also, it is of interest that the rate of cooperative responses during Block 4 was not significantly different from that during Block 3. Again, the design does not allow for a clear explanation of why the increase of cooperation from Block 2 to Block 3 was maintained during Block 4 for the record-threat condition. That is, it is unclear if the subjects in this condition perceived the increase of cooperation as still being appropriate when the threat was removed, or if they fouund the increase of cooperation to be rewarding and, therefore, continued to behave in this way.

However, these results do suggest that the use of threats, under the appropriate conditions, can have beneficial effects on further interaction which occurs when the threat is no longer present.

In conclusion, the present study suggests that threats, as coercive but justifiable devices, can induce a high rate of compliance without necessarily creating conditions which so often seem to result in an eventual increase of conflict.

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Intermittent reinforcement and intertrial interval effects on shuttlebox avoidance in the gerbil

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Separate groups of gerbils received 100% or 50% reinforcement during discriminative avoidance conditioning at either a 30-sec or 90-sec intertrial interval (ITI), and then each group was extinguished at the same ITI in effect during acquisition. Both 100% and 50% reinforcement animals showed superior acquisition performance at the 90-sec ITI, while in extinction the 30-sec ITI gerbils were more persistent than the 90-sec animals under both reinforcement schedules. These results were interpreted in terms of theories of avoidance in which the role of ITI length in reinforcement of the avoidance response is stressed.

The extensiveness of the instrumental learning literature dealing with the effects of partial reinforcement (PR) on performance in the appetitive case is in sharp contrast to the paucity of research concerned with intermittent reinforcement in aversive situations. In the case of discriminative avoidance learning, the neglect of investigating PR effects undoubtedly stems, at least in part, from the failure to identify unequivocally the sources of reinforcement for the avoidance response (see Bolles, Moot, & Grossen, 1971; Katzev & Enkema, 1973). Due to the uncertainty as to the nature of reinforcement in the avoidance situation, of course there arises a related difficulty in operationalizing nonreinforcement. In this connection, Davenport and Olson (1968) have proposed that a nonreinforced avoidance trial should involve the elimination of the avoidance contingency as well as the CS termination contingency. Thus, on a nonreinforced avoidance trial the CS is followed by the aversive stimulus irrespective of the animal's behavior, i.e., the subject receives a CS-US pairing. Studies of PR in discriminative avoidance in which nonreinforcement has been so defined (Davenport, Olson, & Olson, 1971; Galvani, 1971, 1973a, 1973b; Olson, Davenport, & Kamichoff, 1971) have consistently shown that intermittent reinforcement results in substantially inferior acquisition relative to continuous reinforcement.

To further explore the suppressive effect of PR

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