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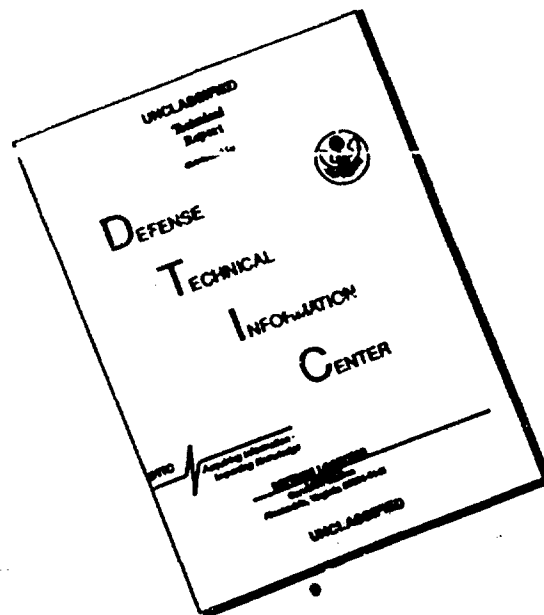
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Persuasive Communication in Functional Organizations

A. Introduction

A series of studies have been conducted on the problem of factors affecting the persuasiveness and accuracy of communication between persons whose relationship is partially cooperative and partially competitive. This type of relationship, referred to in the scientific literature as a "mixed-motive" relationship (Schelling, 1960), is common in everyday life, occurring in work settings, functional organizations, professional relationships, and economic affairs. A central feature of this type of relationship is the conflict it poses for its members regarding communication (Kelley, 1966). To the degree they depend upon each other for information (and a considerable degree of such dependence is another common feature of social relationships), the competitive component of the relationship motivates them to be less than wholly honest and open with one another. On the other hand, their common interests--the cooperative component of the relationship--can not be fulfilled without some degree of frank and accurate communication.

The participant in the type of relationship just described has a basis for very mixed feelings about his associates. In view of his informational dependence upon them, it is important for the attainment of his own goals that they transmit accurate information to him. At the same time, he recognizes the fact (inasmuch as it applies to himself also) that they are not motivated to be completely honest. One set of our experiments has been directed to investigating reactions, both attitudinal and behavioral, to this situation where the individual is informationally dependent upon a person who has some interest in deceiving him.

A mixed-motive relationship can evolve most effectively if the participants are clearly aware of their respective orientations to the relationship, i.e., how each one resolves the conflicts created by the relationship and, accordingly, how much emphasis he places upon cooperation vs. competition. Thus, the most important facts about which the interdependent persons may communicate concern their respective intentions or goals for the relationship. However, communication about this important matter is rarely open and direct. Communication about such matters is at best an imperfect process and, as noted above, the competitive aspect of the mixed-motive relationship serves to heighten its inefficiency. This line of thinking has led to the second topic chosen as a research focus, namely, the perception of intentions under conditions of limited communication.

B. Reactions to Information Dependence and Deception.

This research is in the tradition of experimental studies of reactions to various events that occur in the course of an interpersonal exchange. For example, Deutsch and Krauss (1962) and Kelley (1965) have presented studies of reactions to threats as these occur in a mixed-motive relationship. The present studies are among the first conducted on reactions to deceit, work having begun independently on this topic by Gahagan and Tedeschi (1967). These latter investigations examined variations in the credibility of a promise to act cooperatively within the Prisoner's Dilemma Game (cf. Rapoport, A. and Chammah, A., 1965). Whether or not the promise was kept was made known to the subject without his decision to seek such information. In contrast, we have been interested in the expression of distrust through decisions to bypass an information source of dubious honesty and go directly, at extra cost, to a source known to be dependable. Therefore, we found it necessary to develop, within the general domain of two-person mixed-motive games, an entirely new experimental procedure.

In this procedure, the subject (A) is interdependent with another individual (B) with respect to outcomes and dependent upon B for information. On each trial, whether A or B deserves to gain a reward depends upon the state of an unpredictable variable external to the relationship (a shuffled deck of cards). However, only B has cost-free knowledge about the successive states of this variable inasmuch as he always has a direct view of the cards. The subject, A, can gain direct knowledge for himself on any occasion only at a cost which is levied against both members of the pair. As the trials proceed, A can either take B's word for the state (and thus permit the successive outcomes to be determined by B's assertions) or he can bypass B (at their mutual expense) and insure that the distribution of rewards is determined by the cards. It is in their mutual interest, of course, for A to rely upon B's assertions about the relevant state. At the same time it is in B's obvious interest not to report the state accurately but to distort it in the direction of his own interests. This is not an advantage that B can exploit freely, of course, because such exploitation may stimulate A's distrust which is costly to both. In the two investigations conducted to date with this experimental game, person B was simulated by a sequence of programmed actions and the real subjects took the role of A, the informationally dependent one.

In the first study (described in #1 and #2 of the publications list), the rate of misrepresentation by person B was varied over the values 0%, 25%, 50%, and 75%. This rate refers to the proportion of instances when the cards favored A that B reported them as favoring himself. Reactions to the general situation of informational dependence and to these various rates of deceit were studied for male vs. female subjects and for those expressing high vs. low initial trust of B.

The results show, not surprisingly, that A's rate of doubting is higher for the higher rates of deception (75% and 50% elicit significantly more doubting than does 25% and the latter, more than 0%). The trends over trials are different for the different rates, there being a significant decrease in the rate of doubting at 0%, no change at 25% and 50%, and an increase at 75%. Thus, initial tendencies to be distrustful are extinguished under the 0% deception rate (apparently under the negative reinforcement of the cost incurred for doubting), but are maintained or even heightened by the higher rates.

The initially trusting subjects doubt less often than the initially suspicious but this difference is largely attributable to the different rates of doubting at the 25% deception level. With no deception (0%), both trusting and suspicious subjects doubt little, and with high rates (50% and 75%), both doubt a great deal and to about the same degree. Thus, initial trust makes a difference in reactions only to low levels of deceit.

The results were closely examined to see if they suggested any set of conditions under which it was profitable, in the long run, for the person in the B role, in control of the information, to attempt to deceive A. The only suggested answer is related to the result just reported: At the 25% level, initially trusting subjects doubted infrequently enough that the B person gained more reward with such opponents than if he didn't attempt to deceive them at all. While the specific parameters of this result are undoubtedly unique to the particular setting and payoff schedule of the present experiment, the general implication, that attempts at deception are profitable only with the more vulnerable segments of the population, is probably widely valid.

The importance of individual differences in determining reactions to information dependence and deceit is particularly underlined by sex differences observed in this experiment. There are a number of indications that the females felt less comfortable in the subject role: they less often preferred that role in compari-

son with the B role, more often preferred another partner to the one they experienced, gained less satisfaction from catching the partner in a lie, felt less successful in influencing the partner, and felt less responsibility for the outcomes of the interaction. The discomfort females reflect in this situation did not lead them to inhibit their doubting the partner's claims. Indeed, at the 75% deception rate, the female doubt rate increases sharply over trials (whereas the male's rate remains stable) and they show a corresponding decrease in their feelings of responsibility for the course of the interaction. These data are generally consistent with those from other studies (e.g., Kelley, 1965) in suggesting that females are less able to cope unemotionally with this sort of situation which entails conflict of interest and deception.

The second study (see item #3 in the publications list) compared several schedules of misrepresentation involving changing rates (increasing abruptly from 0% to 25% and from 0% to 50%, and decreasing abruptly from 25% to 0% and from 50% to 0%) and two schedules of contingent misrepresentation. Again, male and female subjects were compared as they took the A role. The changing rate schedules were designed to determine whether the B person could gain an advantage by establishing a good reputation through initial honesty and then exploiting it, and contrastingly, whether B would suffer deleterious consequences from establishing the image of a dishonest group member early in the interaction. The data indicate that dishonesty early in the interaction, even though followed by total honesty, results in a significantly higher overall rate of doubting on the part of A, with a corresponding decrease in the rewards of both A and B, than does this same rate of dishonesty following an initial period of total honesty. This was due to the fact that A maintained his initial heightened rate of surveillance during the latter phases of the interaction, despite the fact that B was behaving in a totally honest way, whereas A did not increase his doubting rate to this level during the latter stages of the interaction, when B was lying to a relatively high degree.

The contingent schedules seemed particularly interesting in the light of suggestions from the first study that (1) A's initial doubting extinguishes when he encounters no deceit and (2) a high level of trust can be exploited by an appropriately low level of deceit. The contingent schedules were designed to capitalize on both these tendencies, by following expression of doubt with honesty and expressions of trust with (limited) dishonesty. The results suggest that B was most effective, particularly when interacting with another male, when consideration was given to A's pattern of responses over a relatively large number of interactions (in the present study, four trials on which B announced that he was entitled to the reward), rather than just a single trial. By lying only when A's rate of doubting was 25% or less B achieved more reward than he did by any of the non-contingent schedules utilized in the first study, save 0%.

The female A's, as in the first study, indicated a greater dislike for the task and preference for the role of B than did the males.

C. Perception of Intentions

The experimental vehicle used for the studies on this problem was an adaptation of the Prisoner's Dilemma Game (Rapoport and Chammah, 1965). In the first study, (described in items #4 and 5 in the list of publications), subjects privately stated their intentions with respect to the relationship and were then paired off into dyads having different combinations of intentions. At several points, their interaction was interrupted and they were asked to report what they judged each other's intentions to be. These judgments were evaluated in the light of additional evidence obtained from their behavior (their sequences of competitive and/or cooperative actions) and parallel judgments made by non-partici-

part observers of the interactions.

The intentions and the judgments made of them were treated in terms of the degree of cooperativeness toward the partner that they expressed. They formed a continuum with strong cooperativeness (SC) at one end, weak (or tentative) cooperativeness (WC) in the middle and non-cooperativeness (NC) at the other extreme. The results indicate that the last persons, the NC's, are judged most accurately. The degree of cooperativeness of these players (all of whom, had, in this experiment, adopted the intention of playing "individualistically," so as to maximize only their own scores) was judged more accurately than would be expected by chance and this was true regardless of the intentions of the persons with whom they were interacting. In contrast, the degree of cooperativeness of the SC and WC persons was judged more accurately than chance only when they were playing a person with the same intention as their own.

Upon examination, most of the errors made in judging the cooperative (SC and WC) persons proved to be assimilative to the opponent, i.e., the person is judged to have an intention of the same degree of cooperativeness as that of the opponent. Of two possible interpretations of these assimilative errors, projection vs. influence, the evidence favors the latter. Most striking is the tendency for persons with cooperative intentions to be influenced so that they exhibit behavior similar to that of the other player. In contrast, the behavior of the non-cooperative person is stable regardless of the kind of opponent he faces.

Data from a post-experimental questionnaire are consistent with the above pattern of results. Cooperative members of mixed pairs (cooperative vs. non-cooperative), report greater difficulty than their partners in maintaining their chosen intentions and also attribute greater responsibility for the course of the interaction to their competitive partners. However, the partners did not make a differential attribution in the latter respect.

In short, the results point to the instability of the expression of the cooperative intention when it is confronted in a mixed-motive relationship, with non-cooperativeness. It is not that the intention completely disappears: we were able to identify one behavior index that distinguished cooperators from non-cooperators and with respect to which the cooperator's behavior was not assimilated to that of their non-cooperative opponents, namely, persistence in cooperation following non-reciprocation.

These results have important implications, particularly when viewed in the light of recent developments of attribution theory (Kelley, 1967). Consider the implications of the asymmetrical assimilation that occurs in the mixed pairs for the different views of their social environments that cooperative and non-cooperative persons are likely to develop. As the former, in the course of their day-to-day activities, move between mixed and homogeneous (cooperative-cooperative) pairs, they will observe variations in the apparent cooperativeness of their successive partners and will conclude that people differ in this important respect. In contrast, as non-cooperators move between mixed and homogeneous (NC-NC) pairs, they will observe little variation in their partners' cooperativeness: The partners will usually react non-cooperatively. Not being able to vary their own presence in these relationships (and thereby perform the presence-absence test necessary for an accurate attribution, cf. Heider, 1958), the non-cooperators will be inclined to attribute the observed non-cooperativeness to the persons with whom they interact and will, then, conclude that their own orientation to social relationships is widely shared. This implication itself entails further implications, for example, regarding evaluations made of the orientations and shifts in their distribution within a population, but these become too tenuous to pursue here. It is worth noting, however, that evidence consistent with the first-order implication has been obtained in investigations of authoritarianism via the F-scale. Compared with the low-F person, the high-F individual has been found to be more

competitive in interpersonal relationships (Deutsch, 1960) and, as our implication suggests, the high-F person is more likely to assume that his attitudes (as measured by the F-scale) are widely shared (Crockett and Meidinger, 1956).

The results from the first study raise the question of how errors in the perception of intention can be avoided. A second study (#6 in the publications list) tests an hypothesis suggested by attribution theory: A person made highly aware of his own possible influence on the partner will be a better judge of the partner's intentions than otherwise. It is thought that making salient an individual's influence will enable him to partition out his own effects on the stimulus pattern he is observing (the other person's behavior) and thereby arrive at a more veridical interpretation of the other person's underlying predispositions. Inasmuch as the first study shows that judgments of cooperative players are often in error, in this second experiment players who adopted a weak cooperative intention were pitted against a program (played by a confederate) which incorporated cooperative initiatives along with high susceptibility to influence. After the interaction proceeded for 10 trials, it was interrupted and subjects in the high salience condition were given one of two sets of instructions. The first set stated the following: "The other player has been following your lead. Your moves are affecting how she makes her moves. She is letting you initiate the kinds of moves to be made and the kind of relationship to be developed. You are the more active person." Within the high salience condition, this first set of instructions were called 'high power' instructions. The second set of instructions stated the following: "The other player has not been following your lead. Your moves are not affecting how she makes her moves. She appears to be the initiator of the kinds of moves to be made and the kind of relationship to be developed. You are the less active person." These were the 'low power' instructions within the high salience condition. In contrast, subjects in the low salience condition were given no instructions concerning power or influence. Tentatively, the results indicate that subjects in both the high and low power conditions (the high salience condition) show a higher note of accuracy in judging the confederate's programmed intention than do subjects in the low salience condition. The results do not indicate differences between high and low power subjects in accuracy of judgment of the confederate program.

D. Conclusion

These experiments reveal some of the factors that are important in determining the effectiveness, in terms of persuasiveness and accuracy, of communication processes in interpersonal relationships. The evidence repeatedly confirms the importance of individual differences, both as they affect the orientation and initial reactions to these relationships and as they affect the course of the interactions and final attitudes toward them. The events occurring in the course of these relationships are, quite naturally, important in determining the final psychological outcomes, but these effects are often far from obvious. For example, variations in the rate at which one party attempts to deceive the other produces co-variations in evaluations of both the former's "honesty" and his "goodness," but the functions describing the relations of deception rate to each of these two psychological variables are different. (Thus, it is possible, with the appropriate degree of deception, to be seen as "dishonest" but not "bad.") The purpose of experimental research on these phenomena is twofold: (1) to investigate the interrelationships among social phenomena which individually may be commonplace but the patterned occurrence of which is often not known, and (2) to reveal, through the power and precision of the experimental method, the processes by which such phenomena, be they commonplace or not, are mediated.

Publications and Papers Resulting from
Grant AF-AFOSR-1133-66

1. Benton, A. A., Gelber, E. R., Kelley, H. H., & Liebling, B. A. Reactions to various degrees of deceit in a mixed-motive relationship. Convention Proceedings, American Psychological Association, September, 1968.
2. Benton, A. A., et al. Reactions to various degrees of deceit in a mixed-motive relationship. (To be submitted to Journal of Personality and Social Psychology.)
3. Benton, A. A. Reactions to various patterns of deceit in a mixed-motive relationship. (In preparation.)
4. Kelley, H. H. & Stahelski, A. J. Errors in perception of intentions in a mixed-motive game. (To be submitted to Journal of Experimental Social Psychology.)
5. Stahelski, A. J. The attribution process and judgments of intentions in a Prisoner's Dilemma Game. Paper presented at Western Psychological Association Convention, San Diego, March, 1968.
6. Stahelski, A. J. Social perception in a Prisoner's Dilemma Game as a function of stimulus cues and power manipulations. (In preparation.)

References

- Crockett, W. H. & Meidinger, T. Authoritarianism and interpersonal perception. Journal of Abnormal and Social Psychology, 1956, 53, 378-380.
- Deutsch, M. Trust, trustworthiness, and the F scale. Journal of Abnormal and Social Psychology, 1960, 61, 138-140.
- Deutsch, M. & Krauss, R. The effect of threat upon interpersonal bargaining. Journal of Abnormal and Social Psychology, 1960, 61, 181-189.
- Gabagan, J. P. & Tedeschi, J. T. Effects of credibility of promises and strategy in the Prisoner's Dilemma Game. Paper presented at the meeting of the American Psychological Association, Washington, D. C., September, 1967.
- Heider, F. The psychology of interpersonal relations. New York: John Wiley & Sons, 1958.
- Kelley, H. H. A classroom study of the dilemmas in interpersonal negotiation. In K. Archibald (Ed.), Strategic interaction and conflict. Berkeley: Institute of International Studies, University of California, 1966. Pp.49-73.
- Kelley, H. H. Attribution theory in social psychology. In D. Levine (Ed.), Nebraska Symposium on Motivation, 1967. Lincoln: University of Nebraska Press, 1967. Pp. 192-238.
- Rapoport, A. & Chammah, A. Prisoner's dilemma. Ann Arbor: University of Michigan Press, 1965.
- Schelling, T. C. The strategy of conflict. Cambridge: Harvard University Press, 1965.

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13. ABSTRACT The research deals with factors affecting the accuracy and persuasiveness of communication between persons whose relationship is partly cooperative and partly competitive. In this situation, persons are not motivated to be wholly honest and open with one another but neither can they fully satisfy their respective interests without some degree of frank and accurate communication. Four experiments on this kind of relationship are reported. Two concern reactions to detected dishonesty and indicate the relations between amount and pattern of deception and (1) expressions of distrust and (2) evaluations of the relationship. Consistent sex differences reveal that females are less comfortable in their dependence upon a potentially untrustworthy person and more reactive to different degrees of deceit. Two experiments investigate the perception of intentions. The results indicate that persons who emphasize the cooperative aspects of the relationship are more often misunderstood as to their intentions than are those who emphasize the competitive aspects. This reflects the greater influence of the more competitive person's behavior upon that of the more cooperative. The experiments suggest ways in which errors in perception of intentions can be avoided.			

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