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OF NEGOTIATOR BEHAVIOR.

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MANDATE BASE AND EVALUATION SOURCE
AS DETERMINERS OF NEGOTIATOR BEHAVIOR

A DISSERTATION
Presented in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy in the
Graduate School Ohio State University

by
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Think, think, think hard,
Use your own head...(But)
No investigation,
No right to speak

-Mao Tsetung-
Acknowledgements

A dissertation is like a mule - it takes a hell of a lot of energy to make it go. This energy came from many people and it is with pleasure that I acknowledge sweat where it is due.

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Chapter I

Introduction

Conflict has been conceptualized in various ways (Aubert, 1963). Schmidt and Kochan (1973) outline the various inadequacies and difficulties with past definitions of conflict and settle on an integrative multi-dimensional conceptualization. They distinguish between "potential" and "actual" conflict the former occurring in cases where interdependent groups, sharing the same resources have incompatible goals. Conflict is manifested when the groups interfere with each other's goals and block each other's attainment of the shared resources.

Within this framework, conflict may occur in various settings (e.g., intra-organizationally or internationally) and may be settled in various manners (e.g., obliteration of the opponents through war or accommodation through mediation and/or negotiation). Whereas conflict is sometimes helpful in that it signals organizational problems (Pondy, 1973; Weick, 1969) it is often the case that it must be resolved if the organizational goals are to be met. Similarly, conflict between groups must often be resolved if either group is to survive. (For example, armed conflict, as in the Middle-East, drains the resources of opposing factions, diverting that energy from other areas).
A number of methods for resolving conflict are possible but one of the major procedures involves negotiation. In this context, conflicting groups appoint or elect representatives who meet on behalf of their respective referents to settle differences. Since much conflict-resolution activities are carried out by these representatives, the prediction of their behaviors is an important area for psychological research. Moreover, representatives are role occupants and research in that area should increase our theoretical and empirical knowledge of role behaviors.

A great body of literature has focused on negotiator behavior, however, the research is difficult to integrate for two basic reasons: First, (and most importantly) no predictive theoretical model exists to guide that research. Consequently, research has focused on the manipulations of many variables whose relationships to other variables is obscure. Second, the same variables have been conceptualized and operationalized differently in various studies. This has inhibited generalization and rendered difficult direct comparisons of studies.

This paper presents the nucleus of a predictive theory. Generally the "theory" draws from role theory to present two variables which might affect representative behavior.

1However, two descriptive models (i.e., McGrath, 1966; Adams, 1972) have been proposed. These are useful for literature review purposes but cannot (1) predict the relative importance of independent variables and (2) isolate individual variables which impact on negotiator behavior.
First, the negotiator is a role occupant who's role is defined by the organizational environment (i.e., those represented). Second, his behavior is subject to influence attempts by that environment.

To partially verify this model two variables were crossed in a factorial design. The basis of representative mandate (whether the negotiator has reached his position because of his competence or because of affect) was crossed against whether he is held accountable to his membership groups or to strangers.

A representative is subject to multiple forces as he performs his function. He is subject to pressures emanating from his own constituency. He is also simultaneously subject to pressures which accrue from the opposing group. Finally, a third set of forces, representing overall (community) interests, operate (McGrath, 1966). These overall forces consist of the action of various variables (such as personality, attitudes and beliefs, within-group cohesiveness, etc.), which "pull" the negotiator in different directions. Simply put, the research task now consists in making explicit those variables which bind the representative

\[\text{^2For simplicity "he" will be used to refer to negotiators. No sexist consideration is motivating this arbitrary choice of pronouns.}\]

\[\text{^3Although McGrath does not define the limits or nature of community interest, it may be presumed that these vary with negotiator individual differences. For example, a community interest might be "compromise is a worthy achievement." This statement may be true or false and may influence negotiators or it may not, depending on cultural differences, etc.}\]
to his own party or which pull him towards the other (opposing) position. The following sections sample the literature focusing on two approaches to understanding the behaviors of negotiators.

**Interpersonal Behaviors and Conflict Reduction**

A number of studies have focussed on the behaviors of negotiators who are not group representatives. These studies may be roughly dichotomized into those concerned with personality determiners and those dealing with the behaviors of one negotiator as a function of the other's (constant) actions.

Summer, Stewart and Oncken (1968) observed the effects of dyads' attitudinal and cultural similarities on conflict reduction. Arab and American students with predetermined attitudes on international politics were assigned to homogeneous dyads (all Arab or all American) or to heterogeneous ones (one Arab and one American). Crossed against this cultural factor was the attitudinal similarity (high or low) of the pairs. Dyads were to discuss and reach joint decisions on American foreign policy. Results showed that quicker agreement was reached by culturally and attitudinally similar dyads than by dissimilar ones. Thus, personality variables (presumably indexed by attitudinal and cultural congruencies) do impact on the negotiation process.
Deutsch (1960) showed that negotiators behave in a manner consistent with their expectations of the other's behaviors, and that these expectations are shaped by their own personalities. Thus subjects scoring high on trustworthiness (as measured by the Fascism scale) acted in a trustworthy manner and expected their opponents to follow suit, while those scoring low on that dimension behaved in an opposite manner.

Slack and Cook (1973) contrasted the behaviors of dyads composed of homogeneously authoritarian personalities (high-high or low-low) with those of heterogeneous ones (high-low F scale scores). Using a non-zero sums game specially developed by Cook (1968) it was shown that homogeneously low authoritarians performed better than uniformly high authoritarian groups (with payoff to the players, and economic controls as dependent measures). However, heterogeneous dyads performed consistently worse than the other groups. These results converge with Summer, et al. and Deutch towards the general conclusions that (1) bargaining outcomes are affected by interpersonal characteristics of negotiators and (2) that incongruencies in the personalities of bargaining agents presage more turbulent and less fruitful outcomes for both parties. This conclusion has been repeatedly demonstrated in other research (e.g., Kelly and Stahelski, 1970).
In other studies the behaviors of one dyadic partner was held constant and the behaviors of the other observed. Variables of interest have included the effects of extremity of offers, concession rates and time pressures on negotiator behavior.

Early research revealed that the concession rates (slow versus rapid) exhibited by one negotiator did affect the behaviors of the other. Two theoretical models have been advanced to predict the effectiveness of concession rates in conflict reduction. Seigel and Fouraker's (1960) model suggest that concessions by one party serve to increase the other's aspiration level resulting in a "tough" bargaining posture. However, Osgood's (1959) GRIT model (graduated reciprocation in conflict reduction) predicts that concessions will be reciprocated.

Empirical evidence has supported both positions. Benton, Kelly and Liebling (1972) support the Seigel-Fouraker model in that subjects responded with extreme offers to the (programmed) opponent's extreme bids. Komorita and Brenner (1968) showed an inverse relationship between the other's concession rate and concessions by subjects. However, other research have shown inconsistent results. For example, Pruitt and Drews (1969) and Chertkoff and Conley (1967) showed that concession rates had no effect on negotiator behaviors. In another study, Chertkoff and Baird (1971) contradicted the earlier Chertkoff and Conley experiment
and found that extreme demands by an accomplice increased the yielding exhibited by the subjects.

To reconcile these contradictory findings a number of "moderating" variables have been proposed. Komorita and Barnes (1969) document that negotiators will yield under extreme offers only if delaying agreement is personally costly.\(^4\) When the other is perceived to be under pressure to settle (i.e., delaying is costing the programmed other money) the negotiator will adopt a more obstinate posture. Thus, the two models may be valid but only when the cost parameter is included as a moderator (i.e., Osgood's model holds when the costs of not reaching agreement outweigh the advantages of holding out, while Seigel and Fouraker's predictions hold when costs are inconsequential—see Komorita and Brenner, 1968 and Komorita and Barnes, 1969).

However, costs are rarely inconsequential in "real-life" negotiations. The GRIT is then a potentially more practical and valid model than Seigel and Fouraker's.

Other authors (e.g., Liebert, Smith, Hill and Keiffer, 1968; Benton et al., 1972) support the notion that knowledge of the other's break-even point moderate the concession rate.

\(^4\)It is to be noted that in the Komorita-Barnes study costs were confounded with time pressures. Thus, Pruitt and Drews (1969) used a task in which bargainers did not win or lose any money as a function of the time they took. However, a deadline was set within which agreement was to be reached or both parties would not win any money. Results clearly showed that concessions on the subject's part increased as the time deadline loomed closer. Results by Klimoski and Ash (1973), in which no payoff was involved, conform to Pruitt and Drews'.
findings. Thus, Leibert, et al. (1968) showed that uninformed bargainers (who were ignorant of the other's break even point) used the opponents opening bids to set their own goals. Informed negotiators used initial bids to assess the reasonableness of the opponent's goals.

It would then appear that negotiation outcomes and processes may be at least partially predicted from an analysis of the two-person events per se. Concession rates, extremity of offers, aspiration levels of opponents and time pressures all impact on the negotiation process. However, the exact manner in which these variables affect negotiations is subject to various interpretations.

The preceding studies were designed to isolate variables which mediate conflict reduction in dyads. Whereas these studies are useful in understanding two-party conflict reduction, they cannot be readily applied to the more general bargaining case. Negotiations and bargaining are often invoked to reduce conflict between groups. In most cases practicality precludes total group interactions, and conflict reduction is attempted via the use of group representatives. The negotiators represent their groups as well as themselves. It is then likely that inter-group behaviors are affected by within-group (see Walton and McKersie, 1965), as well as between group events.

It is now possible to view the negotiation process in terms of more general role theory (Katz and Kahn, 1966). In effect, the group representative may be indexed as a role
occupant. As in Katz and Kahn's (1966) conceptualization, the delegate's role may be defined by those for whom he is acting (the membership group). But not only is he a role occupant, he also represents contact point with the environment and may be called a Boundary Role Person (BRP - see Adams, 1972; Katz and Kahn, 1966). As such, he is subject to distinct pressures and influence attempts emanating both from his membership group and by the opposing (external) environment. The problem can then be reduced to the identification of variables which either encourage or inhibit the BRP to deviate from his group position.

Within Group Determiners of Between Group Outcomes

Since negotiators or BRP's\(^5\) are role occupants, and since roles are defined by those surrounding that function, it is likely that role clarity affects BRP behavior. Simply put, if a representative is clear about his role, he is more likely to adhere to it. Bass's (1966) research represents an early attempt at observing the effects of role clarity on intergroup events. In his study, MBA students represented either union or management in negotiating a collective agreement. Subjects either represented themselves or a group (high versus low role obligations respectively). Further, prior to bargaining they either established a pre-negotiation position or did not. On dependent measures

\(^5\)In this paper, negotiator, BRP, delegate, representative and bargainer are synonymous, and will be used interchangeably.
including number of deadlocks, time needed for settling the contract, and final contract characteristics (i.e., favorable to one or the other party), it was shown that those with pre-negotiated positions fared worse than those without a previous position. Further, as compared with controls, those with role obligations faced more turbulent discussions - they deadlocked more often and took longer. This study does support the BRP concepts in that prenegotiated positions tend to clarify (for the delegate) the membership group expectations and mandate. For negotiators in the position- adoption conditions, their roles were more explicit and deviations from that position would clearly violate their mandate - hence more difficult bargaining.

Explanation of Bass's role obligation findings in BRP terms is more complex. Consistent with role theory it is not likely that role obligations should enhance role clarity. Role obligations in the negotiation literature refer to whether a person represents a group or not. These may be more diffuse (when several negotiators are appointed) or non-existant (when the negotiator does not represent a group). However, a BRP is subject to influence attempts from within his constituency as well as from without. It may well be that role obligations simply act as conduits for influence attempts (see Lambert, Libman and Poser, 1960), such that negotiators who represent pre-negotiated positions and hold high role obligations should defend their own position...
more strongly. Statistically, then, role obligations should have an interactive effect (with position adoption) and not a main effect. Perusal of Bass's data reveal just such a relationship and he reports that prenegotiation sums with role obligations to inhibit conflict reduction.

Druckman (1967, 1968) used a procedure very similar to Bass (1966) to assess the relative importance of pre-negotiation position adoption and role obligations. Although his methodology is complex and subject to debate (Vidmar, 1971, discusses these at great length) Druckman concludes that role obligations are less salient determiners of negotiation postures than position adoption. This supports BRP considerations.

Vidmar (1971) noted a number of methodological weaknesses in Druckman's (1967) work and designed a study to more directly test role obligation effects. S's were assigned to one of two groups depending on attitudinal orientation. They either defended the view that the goal of a university was to foster "broad" education or to be career orientated and specialized. Role obligations were manipulated by either

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6Chief among these is the contention that the distinction between those who represented themselves (low role obligations) and group representatives (high role obligations) was obscured by the fact that both groups of subjects were "committed" to the group position. This occurred since S's were assigned to groups because of favorability of attitudes and were given additional persuasive messages to reinforce these already favorable attitudes (Vidmar, 1971, page 49).
having the subjects sign a "contract" constituting (1) "an agreement to represent the position to the best of his ability (page 51)" (high role obligation) or (2) to try to be "good group members and setting forth a fair and constructive solution (page 51)" (low role obligations). His results showed a strong impact of role obligations. These with low obligations were more successful than those with high obligations. However, these results are unconvincing since the role obligation induction hopelessly confounds role obligations with initial conflict. From a demand characteristics (Orne, 1962) viewpoint subjects in the "high" conditions were (implicitly) instructed not to cooperate while those in the "low" cells were told the reverse. Then it is not clear whether the inductions manipulated role obligations and it is probable that they in fact affected initial conflict levels and subject expectations of desirable behaviors (for the experimenter).

Klimoski's (1970, 1972) research may also be interpreted in BRP terms. Klimoski varied three variables in a factorial design: within-group cohesiveness (high or low); negotiator accountability to the referent group (yes or no); and position adoption (permitted or not). Using a task similar to Druckman's and Bass's, Klimoski showed that (1) position adoption did not affect negotiation outcomes, (2) that group cohesiveness adversely affected negotiation success and (3) group cohesiveness and accountability interacted such that negotiators accountable to cohesive groups were most constrained during their inter-group discussions.
This position adoption finding is counter to previous research. However, in the Klimoski study "negotiators in both the (position adoption) and (no position adoption) conditions personally adopted a position on an average of over half the issues, despite explicit instructions to the contrary for the latter groups (Klimoski, 1970, page 83)." Thus, his findings are equivocal since the manipulation's effectiveness are in doubt.

However, the "cohesiveness" manipulation was effective and the results very interesting. Negotiators appointed to represent cohesive groups faced tougher bargainings then those who's constituencies were not cohesive. Since the negotiator roles are defined by and subject to influence attempts by membership groups, then ideally loyal representatives would behave in a manner most beneficial to that group. Cohesiveness may be conceptualized in terms of group norm acceptance (Cartwright and Zander, 1968; Davis, 1969). Therefore, cohesiveness may act to enhance loyalty towards the group thereby binding negotiators closer to their group positions.\(^7\) Behaviorally this is indexed as longer bargainings which frequently deadlock.\(^8\)

\(^7\)In Klimoski's study, groups began negotiating from opposite and fixed positions. Therefore, whether position adoption was permitted or not, a team position was evident (i.e., the starting points for negotiation).

\(^8\)These dependent variables are typically reported in the negotiation literature: Negotiators usually enter
To this point the discussion has focussed upon group definitions of negotiator roles. The conclusion that role clarity is a critical variable in understanding negotiator behavior is derived inferentially from the evidence on cohesiveness, position adoption and role obligations. However, a more direct body of knowledge has focussed more clearly on this issue. The following studies have dealt with negotiator status and mandate and it is to the study of these issues that this study is geared.

**Mandate Base and Status - The Problem**

Hermann and Kogan (1968) had dyads, composed of one high status person (senior or junior at Princeton) and one low status person (freshmen and sophomores), meet and adopt positions on the Choice Dilemma Questionnaire (Kogan and Wallach, 1964). Each member of the dyad then met with another person of equal status to reach joint decisions on the CDQ with each person representing his original group. Using negotiation time, number of deadlocks and departure from original prenegotiation position as dependent measures it was shown that low status negotiators were more discussions holding demands on opposite ends of a continuum representing the problematic issue. Agreement may only be reached if either or both parties move away from their positions. The time needed to reach agreement can thus index bargaining difficulty (if negotiators essentially agree with each other at the onset, agreement would be quickly achieved). Deadlocks represent extreme bargaining difficulty since the representatives did not stray appreciably away from their initial stands.
constrained in their negotiations than high status members. That is, low status members tended to defend the prenegotiated position to a greater extent than high status group members who changed their original position more readily. Thus, the authors suggest that the status of the negotiator vis-à-vis his membership group has a decided impact on his inter-group negotiation behaviors in that the lower status members may have felt a greater danger in deviation from the preset positions than their higher status group member.

Based on this interpretation, Lamm and Kogan (1970) replicated the study but allowed the negotiator to earn his status (in the earlier Hermann-Kogan research, status was ascribed). They reasoned that the importance of status may be more decidedly demonstrated if an equivalent pattern of results recurred when the negotiator earns his status. Using the same CDQ task, Lamm and Kogan had three-member groups prenegotiate a position. Following this, group members voted for a representative (high achieved status) and an alternate (medium achieved status). The third member became a non-representative (low achieved status). All three were asked to enter inter-group negotiations in case the others failed to reach agreement on some of the issues. Contrary to the earlier Hermann-Kogan, it was found that higher status negotiators had a more difficult time in negotiation.
They remained closer to the original position and used more conservative strategies for inter-group conflict reduction. Thus, the effects of status per se is not a simple determiner of representative behavior. The manner in which status was attained is also important.

In a further study Kogan, Lamm and Trommsdorff (1972) investigated "loss of face motivation." Presumably being observed by lower or higher status individuals should differentially affect the behaviors of negotiators (as indexed by negotiation outcomes). But due to the lack of empirical research addressing the issue of face saving, they hesitated to hypothesize the direction of this effect. However, fear of sanction would be a more probable motivation for lower status negotiators and fear of loss of face would be more likely for high status negotiators when observed by a higher or lower status person respectively.

The design of the Kogan et al. study was similar to Hermann and Kogan's. Dyads were induced high or low status sets via instruction (i.e., one member was a leader who was to lead the prenegotiation experience, hold veto power and generally be more powerful and influential than the other who acted as a subordinate). Following this, subordinates engaged in negotiation with three other "subordinates" from other teams while their leaders observed them or vice-versa. They also discussed issues which had been prenegotiated (in their groups) or open issues. Every negotiator was
allowed to consult with his group if he so desired. Analysis revealed that lower status persons were more constrained than higher status ones and that subordinates returned to their original groups for consultations more frequently than leaders. The former also deadlocked more often than leaders. Kogan, et al. (1972) conclude that the presence of higher status observer is more inhibitive for subordinates than is the presence of subordinates for leaders. However, their data actually only serve to support the Hermann-Kogan and contradict the Lamm-Kogan studies in that they do not explain why the reported effects occurred. The strongest conclusion one can draw is that individuals with high ascribed status (as in the Kogan, et al. and Hermann-Kogan) are more successful in negotiations than those with low ascribed or high achieved status (i.e., the difference between the Hermann-Kogan and Lamm-Kogan). In other words, negotiators with ascribed status run little risk of having their status damaged while those who achieve status as a result of group action (i.e., election) may also be more vulnerable to group sanctions. However, the ascribed-achieved status differential cannot readily explain a fourth study.

Klimoski and Ash (1973) had groups prenegotiate a position on the NASA Moon Wreck problem (see Cammalleri, et al., 1973). Negotiators were then elected (achieved status) or selected by the experimenter (ascribed status)
to represent their group's position in an intergroup setting. Individuals also negotiated under high, medium or low evaluation-potential (see below). If the ascribed-achieved distinction is salient then selected negotiators should have been more successful than elected ones. In fact, the reverse occurred and the elected leaders were more successful than the selected ones. Thus, the ascribed-achieved explanation cannot guide us further.

The inconsistent effect of "status" on negotiator behavior is not surprising. Status may be derived from various sources (i.e., competence, wealth, heredity, etc. see Linton, 1936). It is likely that status-determined behaviors vary as a function of that status. For Hermann and Kogan (1968) status was determined by undergraduate rank. By assuming that seniors and juniors are more knowledgeable than "younger" students, it is likely that the former may have perceived themselves as more competent than their group partner. In fact, Kogan et al. (1972) high status negotiators were implicitly told by E that they were most competent and they behaved similarly to the seniors at Princeton (Hermann-Kogan).

In Lamm and Kogan (1970) the original groups elected a representative, an alternate and a non-representative. However, by instructions, all three were asked to negotiate in case the others failed. By the addition of this clause, however, it is likely that the induction of competence became less stringent. If they were not elected on the
basis of competence (as it was recognized that they could fail) they may have been elected on the basis of affect. It is possible that negotiators whose mandates are derived from group affect are more attentive to within group wishes (since deviating from the group position would jeopardize that mandate by incurring group member's wrath). As suggested by Adams (personal communication) it would also seem likely that "competent" representatives are more outcome orientated and that "liked" representatives are increasingly attendant to the membership group.

These interpretations are consistent with research on group structure and communication flow (Shaw, 1964). For example, Guetzkow (1968) showed that the emergence of leadership roles within ad hoc groups was predictable from intelligence scores. Intelligent people tended to assume leadership roles and influence. This is related to the data provided by Mulder and Wilke (1970). They showed that individuals with expert power tend to increase their influence following a power-equalization experience. Again, we find that those who perceive themselves to be competent are outcome orientated and act to consolidate their personal influence. 9

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9 Another likely interpretation of Mulder and Wilkes (1970) data is that the enhancement of personal influence exhibited by "experts" may be related to individual power motives and is independent of outcome orientation. However, both of these interpretations are consistent with other research and at this point equi-probable.
Other research suggest that competent individuals are more immune to influence attempts (from a membership group) and are less subject to retaliations for deviant behavior (e.g., Stogdill, 1948; Worcel, 1959; Reiser, Reeves and Armington, 1955; Hollander, 1964). These findings may provide one explanation for the immunity from accountability which the elected negotiators in the Klimoski-Ash study exhibited. If they had in fact felt that they had been elected because of competence, then their dyadic behaviors are clear. Consistent with past research, they were unaffected by the evaluation potential.

It would then seem that negotiators who believe that they have reached their status because of competence should behave differently then negotiators who achieve their roles because of affect.

Since representatives elected on the basis of competence may be less responsive to group pressures, the following hypothesis may be made:

$H_1$ Negotiators elected on the basis of competence are less bound to their initial group positions, suffer fewer deadlocks and reach final agreement more quickly when they enter inter-group negotiations.

As representatives elected because of affect are more attentive to their membership groups then:

$H_2$ Negotiators elected on the basis of affect are more bound to their initial group positions, suffer more frequent deadlocks and reach final agreement less quickly when they enter inter-group negotiations.
In effect hypotheses 1 and 2 suggest that competent negotiators tend to be less responsive to group pressure than "liked" ones. This suggests that competent representatives perceive greater latitude in their conflict-reduction role than "liked" ones. Therefore:

\[ H_3 \] Killnegotiators elected on the basis of competence perceive that their membership group provides them with more discretion than those elected on the basis of affect.

**Evaluation Apprehension or Accountability**

Observations by a number of authors indicate that negotiators who face review by membership groups suffer difficult negotiations. For example, Vitz and Kite (1970) note (page 235-footnote) that the presence of an "advisor" increased the amount of tough and realistic negotiating. Katz (1959) argues for continuous monitoring of negotiators to insure high quality, creative settlements. Field observations by Walton and McKersie (1965) and Stevens (1963) report on the importance of the negotiation monitoring function.

A number of empirical studies have assessed the impact of accountability on conflict resolution. Klimoski's (1970, 1972) negotiators were either led to believe that they would be critiqued by their membership group or not. His results indicate that evaluation potential is an important determinant of negotiation outcomes. The most "immobilized" negotiators originated from cohesive groups who could evaluate them. He concludes that "groups in
the high-attraction-evaluation possible conditions" were in the best position to monitor and punish negotiators who didn't do a "good" job (i.e., hold out) (Klimoski, 1970, page 85). Groups facing no review did objectively better (i.e., they took less time when time cost money).

Studies by Benton and Barturek (1971) and Benton (1972) investigated the effects of accountability on negotiator behavior. In the latter study, three levels of accountability were created by varying the manner in which a sum of money was to be allocated between a group and its representative. In the low accountability condition, the negotiator alone decided his share of the money. In the medium accountability condition, the group and the negotiator decided, while the group alone decided in the high accountability condition. A fourth "representing self" condition completed the study. Results showed no differences in the behaviors of negotiators in the high and medium accountability and low and representing self treatments. But high and medium accountability negotiators (as a group) took longer, were less compromising, and believed their own groups as holding greater win-lose orientations (Blake and Mouton, 1961; Benton and Barturek, 1971) than low and representing-self bargainers (taken as a group). Benton concludes that direct accountability increases competitive behaviors. Thus, accountability would seem to exert important effects on negotiator actions.
In a similar vein, Klimoski and Ash (1973) had selected or elected negotiators perform under three levels of accountability. In the high accountability condition, negotiators were led to believe that they would be monitored during and evaluated after the negotiations by their teams. A lower level of accountability was created by telling negotiators that their membership group would evaluate them at the end of the negotiation encounter. Finally, a no-evaluation control group completed the 3X2 design. Analysis showed that the least successful negotiators were the ones evaluated but there were no significant differences in the behaviors of negotiators who faced either types of accountability.

The debilitating effects attributable to accountability have been explained in terms of the censure or praise which a group can bring to bear on an observed representative.\(^\text{10}\) In fact, the Benton (1972) procedures in and of themselves encourage censure or approval since money was to be distributed. Kogan et al. (1972) interpret some of their data in terms of facing review by higher or lower status group members. Although all representatives faced review

\(^{10}\) It is the case, however, that past authors have interpreted accountability effects to be due to only a fear of sanctions. But it is possible that for some, accountability may represent potentially positive reinforcements. This could be expected to vary with individual differences (e.g., Atkinson's motive to approach success versus motive to avoid failure - see Atkinson and Feather, 1966; Atkinson and Litwin, 1960). This distinction in terms of motives is interesting but beyond the scope of this study.
only the low status delegates reviewed by high status observers seemed constrained.¹¹

However, if accountability in terms of praise or censure is critical then differences between types or levels of accountability should exist. The few empirical studies addressing the issue have not been able to provide any evidence that negotiator behaviors become more constricted as accountability increases. In fact, only "gross" effects have been noted (negotiators are less successful when they are evaluated and more successful when they are not). This "all or none" effect of accountability suggests that perhaps being observed by one's membership group is not as critical as the mere condition of being observed.

Zajonc (1965; Zajonc and Sales, 1966) has proposed a "social facilitation" theory which may well explain those results obtained by Klimoski and Benton. The theory suggests that audience presence increases the drive levels of "actors." As in learning theory high drive facilitates the emission of dominant responses, and depreciates the performance of subordinate responses. Thus, audience effects would enhance worker productivity on well-learned tasks (when task-salient responses dominate) and inhibit productivity on

¹¹However, as discussed earlier their results may be interpreted in terms of role expectations. From their data it is not clear whether accountability to high status people caused the difficulty of low-status representatives, or whether the differences were attributable to the low status per se - irrespective of the accountability.
new tasks (where task-related behaviors are subordinate). Granting the simple assumption that negotiating was not a dominant response for the undergraduates in Klimoski and Benton's work, then social facilitation would constitute a most parsimonious interpretation of the research results. Thus, whereas Klimoski and Benton suggest that negotiators are inhibited because they are responsible to a salient membership group, Zajonc would argue that it is the process of being observed per se which accounts for the reported results.

This interpretation is reinforced by more recent research on social facilitation. For example, Saleh and Brown (1972) and Saleh (1971) have shown that social facilitation effects are enhanced as a function of task difficulty. It is clear that the negotiating tasks in the Klimoski-Ash and Benton studies were difficult.

Further, research has shown that social facilitation effects are more stringent when the audience is perceived as evaluative.\(^{12}\) All research concerned with accountability used evaluative audiences. Thus, Henchy and Glass (1968) showed that social facilitation effects are more pronounced in the presence of evaluative audiences then with non-evaluative ones. They also found that recording of the

\(^{12}\) And some authors have argued that social facilitation responses occur only as a function of evaluation apprehension (e.g., evaluation apprehension and not audience presence yield social facilitation behaviors - see Cottrell, Sekerak, Wack and Pittle, 1968).
performance for future evaluation also created social facilitation. In further work, Paulus and Murdoch (1971) supported the Henchy and Glass (1968) conclusions in that anticipation of review was a sufficient condition for creating Zajonc's effects. Hence the lack of differences between levels of accountability demonstrated by Klimoski and Ash (1973) may be explained by social facilitation. However, the interpretation given to accountability results have ignored the evaluation apprehension effects and have focused on fear of sanction for "betraying" the membership group. In other words, the accountability interpretations suggest that the observed difficulties exhibited by negotiators is in response to evaluation by a salient membership group, while Zajonc's interpretation suggest that evaluation by any group would create those effects.

Thus, a second goal of this study is to reconcile these two interpretations of accountability. This is an important issue since we are interested in isolating those unique intragroup forces which potentially impact on negotiator behavior. If the social facilitation interpretation is correct, then negotiators evaluated by their membership groups should perform equivalently to those evaluated by a non-membership group. The important issue is that the evaluation parameter is kept constant, but that the nature of the evaluative group varies. If the composition of the evaluative group finds meaning over and beyond being socially
inhibitive, then negotiators evaluated by their membership groups should be more inhibited than those observed by an out-group. These two interpretations may then be phrased as competing hypotheses.

\( H_4 \) Negotiators evaluated by their membership groups take as long, deadlock as frequently and are bound to the group's position to a degree equivalent to those evaluated by a non-membership group.

Conversely,

\( H_5 \) Negotiators evaluated by their membership groups take longer, deadlock more frequently, and are more closely bound to the group's position than those evaluated by a non-membership group.

Hypotheses 4 and 5 may be related to hypotheses 1 and 2 and 3. If it is the case that negotiators elected on the basis of competence perceive a less restrictive mandate, then being observed by either their membership groups or by strangers will have equivalent effects.

\( H_6 \) Negotiators elected on the basis of competence are as successful, deadlock as frequently and stray equally away from their group position when evaluated by their membership group or by a non-membership group.

Further, if it is true that people elected on the basis of affect are in fact more responsive to within-group influence attempts then,

\( H_7 \) Negotiators elected on the basis of affect experience more success, deadlock less frequently, and stray further from their group position when evaluated by a non-membership group then when evaluated by their own group.
Chapter II

Method

Subjects. The final sample participating in the study consisted of 108 people. Two-thirds of the subjects (N=72) were females and the remainder (N=36) were males. The sample averaged 19.95 years of age, 104 were undergraduates, 2 were graduate students and 2 were not enrolled in the university.

Recruitment. All participants in the study were recruited via advertisements placed in the "Want" ads section of The Ohio State University student newspaper. The ad (see Appendix A) simply stated the author's needs for volunteers, promised payment and provided a phone number for interested students.

Callers were told by standard instructions (see Appendix B) that volunteers were needed to participate in research concerned with the study of human decision making, that the study would be run in the evening, in the Behavioral Science Laboratory at Ohio State, that it would take two-hours, that it was interesting and that a cash payment of $3.00 would be made immediately following their participation. Interested callers were told when and where to report. Since schedules were filled weeks ahead of time, every participant was called and reminded of his commitment at least two hours before his scheduled appearance. Six
subjects were scheduled for each experimental session and a total of 18 sessions were held during May, 1973.

Task

The task used in the study was the National Aeronautics and Space Administration (NASA) Moon Wreck Problem. The problem (see Appendix C) involves determining the relative importance of 15 items for surviving and traveling on the moon following a crash landing. Some of the items have clear importance (e.g., oxygen) while others derive their importance from variable assumptions one must make about the situation. For example, the problem only states that a crash landing has occurred and that the Mother Ship to which they must travel is 200 miles away on the lighted side of the moon. The problem solvers must assume whether they have landed on the dark or light side of the moon. These assumptions are objectively equi-probable but acceptance of one or the other has distinct implications for the utility of some items (e.g., solar-powered equipment).

The Moon Wreck Problem (see Hall, 1971; Cammallari et al., 1973 for fuller descriptions) is ideally suited for negotiation research. This is so for a number of reasons: The problem is enjoyable and conducive to subject involvement. It is ambiguous enough to insure that no clear solution is apparent, thus reducing the probability of people arriving at exactly the same solution. The task also depends
on knowledge, on assumptions and on logic for an adequate solution, and since variable assumptions are needed for problem resolution, adequate levels of conflict may be assumed to be present. (This assumption empirically is born out by Klimoski and Ash as well as in the present study). The problem may also be adequately couched in decision-making terms which is of critical importance.  

Finally, the Moon Wreck Problem is ideally suited for determining (behaviorally) the degree of influence which a person has had in shaping intra-group solutions, or in estimating the degree of congruency between a prenegotiated and a final intergroup solution. This is done by deriving

13(In many other negotiation studies - e.g., Bass, 1966; Druckman, 1967, 1968; Klimoski, 1972 - union-management collective bargaining simulation was used. This kind of task is problematic for at least three reasons. First, prior subject attitudes (pro-union or pro-management) may interact with the actual experimental condition to which the subject is assigned, such that the behaviors exhibited by a pro-union subject assigned to uphold management's viewpoint may well be different from a pro-management person in the same experimental treatment. This might preclude valid inferences from the data. Second, one can never be sure that college students who typically participate in these studies, are role-playing stereotyped behaviors of union-management debates, or whether "real" behaviors are being displayed. Third, these tasks lack objective standards for determining the quality of the bargained solutions. Typically a compromise solutions (split the difference) has been accepted as criterion. However, other writers (e.g., Katz, 1959; Weick, 1969) have argued that compromise solutions are not optimal since all sides lose something. It is argued that a different solution which is not a compromise represents the most creative and long-lasting agreement. The NASA problem does provide an objective external quality standard - provided by NASA and shown in Appendix C - against which all solutions may be matched.)
rank order correlations between individual solutions and intra-team solutions (a direct measure of the individual's influence in deriving the team position) and the rank order correlations between intra-team and final inter-group solutions (a direct estimate of the impact of team solution on inter-group solution and an indirect measure of negotiator yielding).

Procedure

Once all six subjects scheduled for a session had arrived at the lab, they were separated into two three-person teams. This procedure was random with the proviso that those subjects who demonstrated that they knew each other (e.g., roommates with the same phone numbers, or people who called for friends) were assigned to different teams and would not interact further in subsequent phases of the study. Further, all subjects who reported for a given session were homogeneous with regards to sex.

Each of the two teams were placed in separate cubicles in the Behavioral Science Laboratory (BSL), where video taped instructions were provided. The complete instructions are reported in Appendix D. All experimental materials and questionnaires were laid out in 6 manila envelops labelled A through F (shown in Appendix E). Subjects were instructed to (a) keep those envelops with them as they progressed throughout the study and (b) to open an envelop only if and when told to do so.
First, subjects were instructed (by video) to open envelop A which requested them to solve the Moon Wreck Problem by themselves. No consultation or discussion was permitted during the ten minutes allowed for task completion.

After eight minutes, taped instructions reminded S's that two minutes remained in which to complete the task. After the 10 minutes deadline had passed, S's were instructed to replace the contents of envelop A and to put it aside.

Next, S's were instructed to open envelop B, introduce each other, write down each other's name on a form in envelop B, and as a group define a team solution to the Moon Wreck Problem. Although S's were permitted to use their individual solutions as a starting point, instructions stressed that a team solution be reached, that all should input in the decisions reached and that all choices be rationally explained. All groups were given thirty minutes to do this, and were told the amount of time remaining after 15 minutes, 25 minutes and one minute. All three team members were further instructed to keep a copy of the team solution and to verify and sign each other's copies for authentication.

In a third phase of the study, each of the 6 people in the lab were led to individual cubicles. Once in place all subject manipulations were delivered by video tape (see Appendix D).
Briefly, Ss were told that one of their team members was to be selected to represent their team solution in a final "decision making" session with another team's representative. The fairest way to do this, they were told, was via a secret election. One third of the sample was told to vote for that member of their team (including themselves) who was "the best liked, most emotionally supportive, nicest..." and not for the one who seemed "the most competent, and most intelligent." Another third of the sample were told the reverse and the final third were told to elect "someone" to represent them. Votes were collected on especially prepared ballots (Appendix E) which reinforced the experimental sets. (For example, the ballots for the subjects in the "competence" condition read: "I cast my vote for __________ because I think he is the most competent and intelligent member of my team").

Subjects filled in the ballots and placed them outside. While the ballots were being collected by members of the research team, the second manipulation was delivered. Half the sample was told that they would either observe or be observed by members of their own team, depending on the election outcome. If they were elected they would meet with the other team's representative and their inter-group discussions would be monitored by their own team via closed
circuit T.V. The observers would be evaluating them throughout their discussions and would meet with them later for a "post-decision making" critique and evaluation. The other half of the sample were told that they would either observe or be observed by another team (not their own) depending on the results of the balloting. They were led to believe that they would not meet with their original teams again.

Subjects then filled out a short 5 item questionnaire (Appendix E) designed to measure intra-group perceptions of satisfaction, influence, commitment, team solution quality and team cohesiveness.

Following this, each subject was told that he had won the election (and was the only one who had), was congratulated and moved to another cubicle in the BSL where he met with another team's representative. This room contained a table, chairs, an intercom, a camera, two microphones and a T.V. monitor. The camera was to be used by the observers to monitor the representatives (it was actually a dud), the T.V. monitor was to provide instructions, and the microphones (supposedly) broadcast the conversation by the dyad to the observers. Actually the microphones were connected to the main control room where a member of the research team could monitor them.

To strengthen the evaluation source manipulation (which pilot testing revealed inadequate) the following strategy was used. Once the dyads were in place, E walked into
the room, introduced himself and announced that he had to check the equipment because of some earlier technical difficulties. He then spoke into the microphones and told the "technician for the lab" (actually a member of the research team) that he wished to speak with the observers by intercom. The following conversation ensued:

E (to one representative) "what is your name please?"
S's: __________

E (to technician): I have someone here called ____. What team is she/he from and who is observing her/him"?
Technician: She/he is from team A and is being observed by team A (or team C depending on whether the subject was to be observed by the original or by another team).
The "technician's" voice was piped in through an overhead speaker.

E (to technician): I want to check that they are monitoring this room so please give me an intercom connection
E (aside to Ss and while the technician was finding the proper connections) "I want to make sure that your team" (or "that other team") is getting you. You see we have three different experiments going in the lab and in our own study we have 4 teams, so you see things
can get confused.  

Technician (to E) O.K. (the representative) is being observed by Team ___. They are upstairs and you can dial them at 32.

E then thanked the technician, dialed the proper number on his intercom and "spoke to the observers." Actually the telephone line was dead.

After an appropriate pause to allow for the "observers" to answer their phone (perfected by pilot testing) E introduced himself and the following conversation with the observers took place:

E (to observers). This is Robert Haccoun speaking15 (pause) I'm the guy on the T.V. who was giving you instructions! O.K. I'm checking the equipment here, but first who am I speaking with (pause). You are ___________ and (in the "other team ___ evaluation source" condition any two names were used, while in the "own team-evaluation source" condition E had memorized the names of the representatives' team members and recited those).

14Although the subjects only saw a total of 6 people while waiting for the experiment to begin, it was important that they think that more than 6 people were present in the lab. If this had not been done, the subjects could not have believed that they were being observed by "another" team. To insure this, all S's were called prior to coming to the lab. They were exhorted to show up since "12 people are needed in the lab at the same time or the study cannot be run. If one person doesn't show then we would have to turn the other 11 people away."

15For about 33% of the subjects, other members of the research team served as E.
The following remarks to the observers on the phone followed:

"You are to observe this person (E points to appropriate subject). He/she is (your representative as you know) (another team's representative) and his/her name is ________. Write down that name on the observer sheets in envelop F."

The following 6 answers to (fictional) observer questions were made such that three were made while E was speaking to one representative's observers and three while speaking to the other representative's observers. These were utter ed to reinforce the critical belief that observers existed.

1. (To observers) Oh you have trouble hearing. Turn the volume up on your receiver. (Pause). I thought that would be better!

2. (To observers) Oh you only see a part of ________ (the person they were observing). O.K. I'll ask him/her to move and you tell me when you see all of him/her well. (To S's) would you please move to your right, they are not seeing you properly. O.K. they tell me its O.K.

3. (To S's) They say that you look good on T.V.

If the subjects spoke to each other during the phone calls, E would interrupt them and ask for quiet as he was having difficulty hearing the phone conversations. This was done to insure that the observers overheard E's statements.
4. (To observers) That is right you are to only observe and evaluate that representative (or your representative) which I have pointed out. You are not to pay any attention to his/her opponent.
(Pause) No, that other person will not feel left out. He/she is being observed by other people (or her own team).

5. (To observers) No I'm not going to tell you the name of the other person. It doesn't matter since you are not to monitor them.

6. (To observers) Yes, read the instructions in envelope F. Thanks. We will be ready to go in about 5 minutes.

The following remark was made, in response to an "observer" question but only in the other group-evaluation source condition.

7. (To observers). Well the reason you haven't seen these people up to now is that they came in through the 404C side of the lab while you came in through the 404B side. Yes, it was intentional since we wanted you to remain strangers.

Upon termination of the phone call, E asked the technician to cut off the intercom which he promptly did and acknowledged. 17

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17 This precaution was taken to preclude (a) a suspicious S from finding out the phone was dead or (b) any subject's temptation to speak with the observers.
E then told the subjects that (a) they were to read the instructions in envelope D (Appendix E), (b) that a clock was to be projected onto their T.V. monitor, (c) that they were to bargain for 5 minutes and then take a two minutes break, (d) that the clock would tell them when to begin and break discussions, (e) to remain silent during the breaks since any talking would disrupt the task which the observers had to complete during the break, \(^{18}\) (f) that further instructions would be forthcoming from the clock, (g) to keep a progress report of the discussions, by noting the number of items upon which agreement was achieved during the preceding bargaining interval and (h) to make a note of the exact time at which total agreement was reached.

These instructions were repeated via video tape (Appendix E) and in their written instructions (Appendix E).

E then delivered the same manipulations to the other two dyads. Each manipulation took between 4 and 5 minutes. \(^ {19}\) The tape of the clock was started and beamed to the various rooms where dyads negotiated.

\(^{18}\) This was done since pilot testing showed that some S's ignored the breaks and continued their discussions, thus contaminating one of the main dependent measures - the number of intervals needed to reach agreement.

\(^{19}\) This created a situation in which S's waited as long as 10 minutes for their manipulation. To speed this up, these manipulations were delivered simultaneously by E and other members of the research team for the last third of the sample such that three dyads in each cell received this treatment.
All dyadic conversations were monitored by members of the research team to insure strict adherence to the instructions and to enable a precise determination of final agreement by the dyads.

Once a dyad had reached agreement on the Moon Wreck Problem, E entered their room and said:

I just got a call from the observers telling me that you had finished. Is that right? Good, now make sure you have recorded the time when that agreement was reached, please check and sign each other's copy of the final solution and individually and by yourself fill out questionnaire E in envelope E. Make sure that you replace all the contents of the envelopes back in the correct envelopes. Once you have both finished, we'll go on to the final part of the study.

Questionnaire E (Appendix E) was designed to (a) tap the success of the experimental inductions (b) tap perceptions of the negotiating situation, of the other negotiator, of satisfaction, nervousness etc... This information was collected to hopefully explain some of the dynamics of the negotiating process not reflected in the behavioral data.

Following completion of Questionnaire E, S's were debriefed, paid, "sworn" to secrecy, thanked and dismissed.

Dependent Measures

Four behavioral measures were taken: (1) individual responses to the Moon Wreck Problem (2) Group solutions and (3) final (dyadic) solutions to the Moon Wreck Problem and (4) deadlocks. By inter-correlating individual, group and final solutions and the NASA criterion (using the rank
order correlation coefficient \( \rho \) the following behavioral dependent measures were derived.

1. Quality of individual solutions (\( \rho \) individual with NASA).
2. Quality of group solutions (\( \rho \) group with NASA).
3. Quality of final solution (\( \rho \) final with NASA).
4. Individual influence in the determination of the group solution (\( \rho \) individual with group).
5. Individual influence in the shaping of the final solution (\( \rho \) individual with final).
6. Group influence on final solution (\( \rho \) group with final).

This last measure could be used to indicate the degree to which the representative fought for or strayed away from his team solution. A low group-final \( \rho \) indicates greater straying from the team solution than a higher one.

Another dependent measure was the number of bargaining intervals used to achieve final agreement. Consistent with past research (e.g., Bass, 1966; Druckman, 1967) time may be taken as a direct approximation of bargaining difficulty.

Post-negotiation variables were also measured by a thirty-two item questionnaire administered after the dyads had achieved a final solution or had deadlocked. These variables measured were:
1. Manipulation checks (7 scales)
2. Satisfaction with the dyadic processes and outcomes.
3. Perceived quality of the original team solution, and the negotiated (final) one.
4. Influence in the shaping of the final solution.
5. Perceptions of the other representative and of the dyadic atmosphere.
6. Implicit mandate (i.e., how dyads felt their team would have liked them to behave).
7. Perceived congruency of own and team solutions with the final one.
8. Expected outcome of the evaluation.

Finally, a series of attitudinal-type dependent measures were collected by 5 single item 9 points rating scales. The following variables were tapped:

1. influence (in the shaping of the group decision)
2. commitment (to the group solution)
3. quality (of the group solution)
4. satisfaction (with the group experience)
5. cohesiveness

These data were collected to explore whether they could predict negotiation outcomes.
Chapter III

Results

Immediately following the termination of the dyadic task all subjects responded to a 32 item questionnaire. It was designed to assess the degree of success of the experimental inductions, as well as perceptions of the inter-group negotiation (see Appendix E). Thirty one of the questions were 9 point rating scales. Responses on these scales were submitted to 3x2 analysis of variance (ANOVA) procedures (Bases of mandate X evaluation source). This section represents the results of these analyses.

Manipulation Checks

Manipulation induction success was assessed by means of 9 point rating scales incorporated in the post-dyadic questionnaire. Tables 1 to 7a summarize the results of the 3x2 ANOVA's. In all cases a successful induction would be represented by one significant main effect and no other significant effects.

Bases of Mandate

Tables 3, 3a, 4 and 4a summarize the degree to which subjects believed that they had been elected on the basis of affect or competence alone. Significant main effects (F = 24.01, p < .001) in the predicted direction were observed. That is those S's in the "competence" condition reported that they believed to have been elected because
of their competence to a greater degree than those in the "affect" or "open" (control) conditions. Similarly, tables 4 and 4a, show that those in the "affect" condition believed that they had been elected on that basis rather than because of competence ($F = 21.63, p < .001$).

However, a word of caution about this data is warranted. Whereas the mean difference between the levels of the mandate base factor were highly significant, the absolute means indicate more modest success. Generally, "competent" negotiators perceived themselves to have been elected because of moderate likeability. Those in the "affect" condition attributed their election victory primarily to affect and secondarily to competence. Thus, all subjects believed to have been selected principally because of the experimentally intended reason but also (less strongly) because of the unintended one. Therefore, the manipulation of bases of mandate was moderately successful.

**Evaluation Source**

Subjects in the experiment were either told that they were monitored and evaluated by their own membership group or by a team of strangers. Tables 1, 1a, 2, 2a, 5, 5a, 6, 6a, 7 and 7a summarize the means and analysis for the appropriate manipulation checks. Perusal of tables 1, 1a, 2 and 2a indicate the very high level of success of this manipulation. Subjects believed the manipulation, and no statistical interactions with "bases of mandate" were observed.
Thus both manipulations were deemed successful, with the evaluation source being powerful then the bases of mandate.  

\[\eta^2 = \frac{(K-1) F}{(K-1) F + (N-K)}\]

This approximation was used instead of the more direct computation because the computer print-out did not provide total sums of square.
Table 1

Manipulation Check A
(Means S.D.)

Source of Evaluation

<table>
<thead>
<tr>
<th>Source of Evaluation</th>
<th>Own Team</th>
<th>Other Team</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \bar{X} )</td>
<td>( \bar{X} )</td>
</tr>
<tr>
<td>Competence</td>
<td>1.94</td>
<td>7.67</td>
</tr>
<tr>
<td></td>
<td>SD (2.12)</td>
<td>SD (2.66)</td>
</tr>
<tr>
<td>Mandate</td>
<td>Affect</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( \bar{X} )</td>
<td>3.17</td>
</tr>
<tr>
<td></td>
<td>SD (3.11)</td>
<td>(1.42)</td>
</tr>
<tr>
<td>Base</td>
<td>Open</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( \bar{X} )</td>
<td>2.11</td>
</tr>
<tr>
<td></td>
<td>SD (2.29)</td>
<td>(3.25)</td>
</tr>
</tbody>
</table>

To what extent was your original team observing, watching and was able to monitor your discussions with the other representative? (1 = My team did observe...; 9 = My team did not observe.)

Table 1a

Anov Summary Manipulation A

<table>
<thead>
<tr>
<th>Source</th>
<th>M.S.</th>
<th>d.f.</th>
<th>F ratio</th>
<th>Eta(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandate Base</td>
<td>17.29</td>
<td>2,102</td>
<td>2.65</td>
<td>--</td>
</tr>
<tr>
<td>Evaluation Source</td>
<td>767.99</td>
<td>1,102</td>
<td>117.68*</td>
<td>0.534</td>
</tr>
<tr>
<td>Interaction</td>
<td>1.58</td>
<td>2,102</td>
<td>&lt;1.0</td>
<td>--</td>
</tr>
</tbody>
</table>

\*p < 0.001
Table 2  Manipulation Check B

<table>
<thead>
<tr>
<th>Evaluation Source</th>
<th>Own Team</th>
<th>Other Team</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competence</td>
<td>6.17</td>
<td>2.72</td>
</tr>
<tr>
<td>Mandate</td>
<td>4.94</td>
<td>2.11</td>
</tr>
<tr>
<td>Base</td>
<td>3.83</td>
<td>2.06</td>
</tr>
<tr>
<td>SD (3.28)</td>
<td>(2.76)</td>
<td></td>
</tr>
<tr>
<td>SD (3.39)</td>
<td>(2.22)</td>
<td></td>
</tr>
<tr>
<td>SD (3.40)</td>
<td>(2.58)</td>
<td></td>
</tr>
</tbody>
</table>

To what extent was another team (not your original team) observing, watching, and was able to monitor your discussions with the other representatives (1 = Another team did observe...; 9 = another team did not.)

Table 2a  ANOV for Table 2

<table>
<thead>
<tr>
<th>Source</th>
<th>M.S.</th>
<th>d.f.</th>
<th>F ratio</th>
<th>Eta²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandate</td>
<td>20.58</td>
<td>2,102</td>
<td>2.33</td>
<td>--</td>
</tr>
<tr>
<td>Evaluation Source</td>
<td>194.67</td>
<td>1,102</td>
<td>22.06*</td>
<td>.178</td>
</tr>
<tr>
<td>Interaction</td>
<td>6.40</td>
<td>2,102</td>
<td>&lt;1.0</td>
<td>--</td>
</tr>
</tbody>
</table>

*p < .001
Table 3  Manipulation Check C (Means & SD)

**Evaluation Source**

<table>
<thead>
<tr>
<th>Competence</th>
<th>Own</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competence</td>
<td>2.72</td>
<td>2.06</td>
</tr>
<tr>
<td>Mandate Base</td>
<td>SD</td>
<td>(1.23)</td>
</tr>
<tr>
<td>Affect</td>
<td>5.78</td>
<td>5.50</td>
</tr>
<tr>
<td>SD</td>
<td>(2.29)</td>
<td>(2.46)</td>
</tr>
<tr>
<td>Open</td>
<td>4.11</td>
<td>4.00</td>
</tr>
<tr>
<td>SD</td>
<td>(2.25)</td>
<td>(1.97)</td>
</tr>
</tbody>
</table>

To what extent did your original team elect you because they believed you to be the most intelligent and competent member (1 = ...elected because of intelligence; 9 = did not elect because of intelligence)

Table 3a  ANOV for Table 3

<table>
<thead>
<tr>
<th>Source</th>
<th>M.S.</th>
<th>d.f.</th>
<th>F ratio</th>
<th>Eta²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandate Base</td>
<td>95.08</td>
<td>2,102</td>
<td>24.01*</td>
<td>.320</td>
</tr>
<tr>
<td>Evaluation Source</td>
<td>3.34</td>
<td>1,102</td>
<td>&lt;1.10</td>
<td>--</td>
</tr>
<tr>
<td>Interaction</td>
<td>.73</td>
<td>2,102</td>
<td>&lt;1.10</td>
<td>--</td>
</tr>
</tbody>
</table>

*p < .001
Table 4  Manipulation Check D

<table>
<thead>
<tr>
<th>Competence</th>
<th>Own</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\bar{X}$</td>
<td>5.67</td>
</tr>
<tr>
<td>Mandate</td>
<td>SD (2.30)</td>
<td>(2.57)</td>
</tr>
<tr>
<td>Base</td>
<td></td>
<td>Affect</td>
</tr>
<tr>
<td></td>
<td>SD (1.53)</td>
<td>(1.67)</td>
</tr>
<tr>
<td>Open</td>
<td>$\bar{X}$</td>
<td>4.33</td>
</tr>
<tr>
<td></td>
<td>SD (1.97)</td>
<td>(1.81)</td>
</tr>
</tbody>
</table>

To what extent did your original team elect you because they believed you to be the most amiable, supportive and nicest team member (1 = elected because of amiability; 9 = was not elected because of amiability)

Table 4a  ANOV for Table 4

<table>
<thead>
<tr>
<th>Source</th>
<th>M.S.</th>
<th>d.f.</th>
<th>F ratio</th>
<th>Eta$^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandate Base</td>
<td>87.15</td>
<td>2,102</td>
<td>21.63*</td>
<td>.297</td>
</tr>
<tr>
<td>Evaluation Source</td>
<td>.15</td>
<td>1,102</td>
<td>&lt;1.0</td>
<td>--</td>
</tr>
<tr>
<td>Interaction</td>
<td>.70</td>
<td>2,102</td>
<td>&lt;1.0</td>
<td>--</td>
</tr>
</tbody>
</table>

*p < .001
Table 5  Manipulation Checks E

<table>
<thead>
<tr>
<th>Competence</th>
<th>Own</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competence</td>
<td>2.17</td>
<td>8.06</td>
</tr>
<tr>
<td>SD</td>
<td>(1.65)</td>
<td>(2.01)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mandate Base</th>
<th>Affect</th>
<th>1.33</th>
<th>7.28</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD</td>
<td>(1.03)</td>
<td>(2.97)</td>
<td></td>
</tr>
</tbody>
</table>

| Open       | 2.33 | 8.17 |
| SD         | (2.64) | (2.12) |

In the next part of the study who will meet with you and evaluate you (1 = my original team; 9 = another team)

Table 5a  ANOV for Table 5

<table>
<thead>
<tr>
<th>Source</th>
<th>M.S.</th>
<th>d.f.</th>
<th>F ratio</th>
<th>Eta²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandate Base</td>
<td>9.36</td>
<td>2,102</td>
<td>2.0</td>
<td>---</td>
</tr>
<tr>
<td>Evaluation Source</td>
<td>936.33</td>
<td>1,102</td>
<td>199.99*</td>
<td>.662</td>
</tr>
<tr>
<td>Interaction</td>
<td>.03</td>
<td>2,102</td>
<td>&lt;1.0</td>
<td>---</td>
</tr>
</tbody>
</table>

*p < .001
Table 6

<table>
<thead>
<tr>
<th></th>
<th>Own</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competence</td>
<td>1.89</td>
<td>7.22</td>
</tr>
<tr>
<td>Mandate Base</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affect</td>
<td>2.22</td>
<td>7.89</td>
</tr>
<tr>
<td>Open</td>
<td>1.78</td>
<td>7.78</td>
</tr>
</tbody>
</table>

Following my discussions with another team's representative, I will be evaluated by my original team (1 = completely true; 9 = completely false)

Table 6a

<table>
<thead>
<tr>
<th>Source</th>
<th>M.S.</th>
<th>d.f.</th>
<th>F ratio</th>
<th>Eta^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandate</td>
<td>2.26</td>
<td>2,102</td>
<td>&lt;1.0</td>
<td>--</td>
</tr>
<tr>
<td>Evaluation Source</td>
<td>866.99</td>
<td>1,102</td>
<td>170.06*</td>
<td>.625</td>
</tr>
<tr>
<td>Interaction</td>
<td>1.0</td>
<td>2,102</td>
<td>&lt;1.0</td>
<td>--</td>
</tr>
</tbody>
</table>

*p < .001
Table 7  Manipulation Check G

<table>
<thead>
<tr>
<th></th>
<th>Own</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \bar{X} )</td>
<td>8.50</td>
<td>2.78</td>
</tr>
<tr>
<td>SD</td>
<td>(1.10)</td>
<td>(2.96)</td>
</tr>
<tr>
<td>Mandate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affect</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \bar{X} )</td>
<td>7.28</td>
<td>3.44</td>
</tr>
<tr>
<td>SD</td>
<td>(2.72)</td>
<td>(2.94)</td>
</tr>
<tr>
<td>Open</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \bar{X} )</td>
<td>7.44</td>
<td>2.22</td>
</tr>
<tr>
<td>SD</td>
<td>(2.98)</td>
<td>(2.60)</td>
</tr>
</tbody>
</table>

Following my discussions with another team's representative, I will be evaluated by another team (neither mine nor my opponent's team) (1 = completely true; 9 = completely false)

Table 7a  ANOV for Table 7

<table>
<thead>
<tr>
<th>Source</th>
<th>M.S.</th>
<th>d.f.</th>
<th>F ratio</th>
<th>Eta(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandate</td>
<td>6.03</td>
<td>2,102</td>
<td>&lt;1.0</td>
<td>--</td>
</tr>
<tr>
<td>Evaluation Source</td>
<td>655.14</td>
<td>1,102</td>
<td>94.49*</td>
<td>.481</td>
</tr>
<tr>
<td>Interaction</td>
<td>8.62</td>
<td>2,102</td>
<td>1.24</td>
<td>--</td>
</tr>
</tbody>
</table>

\*p < .001
Test of the Hypotheses

Behavioral Measures

Hypotheses 1 and 2 predicted that negotiators elected on the basis of competence would depart from the team solution to a greater degree than those in the affect condition. To test this, rank ordered correlations (rho) were computed between each representative's group and final (dyadic) solution. Mean group-final rhos were derived for each dyad.\(^{21}\) The higher the rank order correlations, the closer the final solution was to the group's position. This can then serve as a direct index of the degree to which a negotiator strayed from his group position. Table 8, 8a and figure 1 summarize the results of the 3x2 ANOVA's using the "straying index" as a dependent measure.

\(^{21}\)To avoid the statistical problems associated with the use of correlation coefficients in analysis of variance, all scores were standardized using Fisher's \(r\) to \(Z\) transformation tables (Ferguson, 1971). These \(Z\) scores were then used as dependent measures in the analyses of variance. For ease of interpretation, the cell means and standard deviations shown in tables 8, 11 and 12 are expressed as correlation coefficients. These were derived by transforming the \(Z\) scores into \(r\)'s using Fisher's tables. The ANOVA source tables (8a, 11a and 12a) are based on the \(r\) estimates and were not transformed into \(r\)'s. Two of the dyads deadlocked preventing computations of group-final rank order correlation coefficient for them. This explains the unequal N's shown in tables 8 and 8a.
Table 8  
\( N, \overline{X}, \text{SD} \) of the rank order correlations between group and final solutions for each dyad.

<table>
<thead>
<tr>
<th>Evaluation Source</th>
<th>Own</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competence</td>
<td>N 9</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>( \overline{X} ) .83</td>
<td>.64</td>
</tr>
<tr>
<td></td>
<td>SD .16</td>
<td>.25</td>
</tr>
<tr>
<td>Mandate Affect</td>
<td>N 8</td>
<td>8</td>
</tr>
<tr>
<td>Base</td>
<td>( \overline{X} ) .83</td>
<td>.85</td>
</tr>
<tr>
<td></td>
<td>SD .36</td>
<td>.35</td>
</tr>
<tr>
<td>Open</td>
<td>N 9</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>( \overline{X} ) .88</td>
<td>.84</td>
</tr>
<tr>
<td></td>
<td>SD .29</td>
<td>.12</td>
</tr>
</tbody>
</table>

Table 8a  
Anov Source for Table 8

<table>
<thead>
<tr>
<th>Source</th>
<th>M.S.</th>
<th>d.f.</th>
<th>F ratio</th>
<th>Eta(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandate Base</td>
<td>.572</td>
<td>2</td>
<td>7.277*</td>
<td>.240</td>
</tr>
<tr>
<td>Evaluation Source</td>
<td>.420</td>
<td>1</td>
<td>5.383*</td>
<td>.107</td>
</tr>
<tr>
<td>Interaction</td>
<td>.507</td>
<td>2</td>
<td>3.225**</td>
<td>.124</td>
</tr>
<tr>
<td>With cells error</td>
<td>.078</td>
<td>46</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*\( p < .01 \)  
**\( p < .05 \)
Figure 1  Degree of Relationship Between Group and Final Solution: The "Straying" Index

- Competence
- Affect
- Open
In table 8 and figure 1 a low score indicates a greater degree of "straying." Two significant main effects and an interaction were noted, indicating that negotiators evaluated by "another team" strayed more than those evaluated by their membership team. Further, "competent" negotiators strayed more than those elected on the basis of affect. However, post hoc probing of the interaction (Neuman-Keuls) revealed that only the "competence-other" cell was significantly different from the other cells \((p < .01)\). This indicates that the main effects observed were all attributable to the interaction of bases of mandate and evaluation source for the one cell. In other words, only competent negotiators strayed appreciably away from their group position and this occurred only if they faced evaluation by strangers. Therefore, that section of hypothesis one dealing with "straying" was partially supported. The comparable prediction for hypothesis two was not supported.\(^{23}\)

\(^{22}\)To handle the unequal N's a harmonic mean was derived following Winer's (1971, page 216) technique. When the cell sizes are not too different a harmonic mean cell size may be substituted for the unequal ones by this formula:

\[
K = \frac{1}{(1/n_1 + 1/n_2 + \ldots + 1/n_k)}
\]

For this analysis the harmonic equalled 8.70.

\(^{23}\)To insure the validity of these findings, it was important to determine that negotiators entered their discussions with equally different solutions - i.e., that the potential conflict would be equivalent at the onset. To test this rank order correlations between the group and the
Hypotheses one and two also predicted that competent negotiators would deadlock less frequently and take less time to reach agreement than those elected on the basis of affect. A deadlock was declared when agreement on all 15 issues of the Moon Wreck Problem was not reached by any dyad during the allotted time period (30 minutes). Only two deadlocks occurred, one in the affect-own cell, the other in the affect-other cell. Table 9 shows the number of deadlocks across the six cells. The predictions made about deadlocks cannot be supported.

Table 9 Number of deadlocks across the six cells

<table>
<thead>
<tr>
<th>Evaluation Source</th>
<th>Own</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandate Base</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competence</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Affect</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Open</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

23 Con't NASA criterion were derived for each member of the dyad. The absolute difference between those then served as dependent measure for a 3x2 ANOV. If no statistically reliable differences were observed, then it may be concluded that dyadic members entered negotiations with equally different positions. This in fact occurred (F mandate = 1.027, p < .40; F evaluation source = 2.525, p < .15; F interaction = 1.138, p < .40). Therefore, since the two team solutions were equally different across cells, the straying index is valid.
The final sections of hypotheses 1 and 2 state that competent negotiators reach final agreement more quickly than "liked" ones. As discussed in chapter 1 and consistent with past research (e.g., Klimoski and Ash, 1973) time may serve as a direct index of bargaining difficulty.

Dyads in the study were allowed a total of six (5 minutes) intervals to reach agreement on all issues of the problem. The number of intervals used by negotiators was recorded and submitted to a 3x2 ANOV. Means, standard deviations and cell sizes are shown in Table 10 while Table 10a summarizes the ANOV results. Figure 2 depicts the relationships obtained. Significant main effect and interaction were noted (F mandate base = 4.25; p < .02; F interaction = 3.197, p < .05). When facing review by their own teams, negotiators elected on the basis of affect took longer than those elected because of competence who in turn took longer than those without a specific mandate. There were no significant differences in behaviors between those who were observed by their own team versus those evaluated by strangers. Post hoc probings using the Neuman-Keuls procedures (Ferguson, 1971) showed only two significant differences (with α = .05). These show that the majority of the significant difference for the mandate base factor was dependent on the difference between affect-own and open-own conditions. The overall interaction was attributable to the difference in being evaluated by one's
own team or by strangers within the affect-condition. In other words, negotiators elected on the basis of affect had more difficult bargainings when evaluated by their own team and easier ones when monitored by strangers. Those elected because of competence did not differ when facing review by their own or another team. This finding supports hypothesis six which predicts that negotiators elected because of affect will be adversely affected by own-team evaluation while competent ones behave equivalently under either type of evaluation.
Table 10  

N, X, SD of bargaining intervals used by dyads

<table>
<thead>
<tr>
<th>Evaluation Source</th>
<th>Own</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Competence</td>
<td>9</td>
<td>4.222</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>4.093</td>
</tr>
<tr>
<td>Mandate Base</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affect</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.269</td>
</tr>
<tr>
<td>Open</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.311</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.364</td>
</tr>
</tbody>
</table>

Table 10a  

Source Table for Table 10 Anov

<table>
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<tr>
<th>Source</th>
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<th>d.f.</th>
<th>F ratio</th>
<th>Eta^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandate Base</td>
<td>6.834</td>
<td>2</td>
<td>4.25**</td>
<td>.156</td>
</tr>
<tr>
<td>Evaluation Source</td>
<td>.044</td>
<td>1</td>
<td>.027</td>
<td>--</td>
</tr>
<tr>
<td>Interaction</td>
<td>5.214</td>
<td>2</td>
<td>3.197*</td>
<td>.122</td>
</tr>
<tr>
<td>Within error term</td>
<td>1.631</td>
<td>46</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**p < .02
*p < .05
Figure 2  Number of bargaining intervals needed by negotiators

Number of Intervals

5.5

5.0

4.5

4.0

3.5

3.0

Evaluation Source

Competence

Affect

Open
The evaluation source distinctions postulated in the introduction were complex. Being observed by strangers or by one's membership group did not affect the number of deadlocks. The own-other distinction operated on the straying index but only for competent negotiators who alone strayed more under the "other" condition. The "time" dependent measure discriminated between own and other only for negotiators elected on the basis of affect. Moreover, "open" mandate delegates took less time than all other ones, irrespective of their evaluation source.

The hypotheses distinguishing between "affect" and "competence" behaviors (H₁ and H₂) imply that "competent" representatives are more outcome oriented than those elected because of amiability. Therefore, it would be expected that competent negotiators produce higher quality final solutions than other ones. To test this the final solutions for each dyad was correlated with the NASA solution to the problem. (The NASA answer may be taken as the optimum one. Therefore, the higher the rank ordered correlation between the dyadic and NASA solution, the better the solution). There rho's were then transferred to r₂'s and used as dependent measures on a 3x2 ANOV. Tables 11, 11a and Figure 3 summarize the data. As is readily apparent, competent negotiators did not produce higher quality solutions than liked ones. However, being observed by one's own team
Table 11  
N, $\bar{X}$ and SD for the quality of the final solution

**Evaluation Source**

<table>
<thead>
<tr>
<th>Source</th>
<th>Own</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Competence</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>$\bar{X}$</td>
<td>.80</td>
</tr>
<tr>
<td></td>
<td>SD</td>
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<td>8</td>
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<tr>
<td></td>
<td>$\bar{X}$</td>
<td>.79</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>.16</td>
</tr>
<tr>
<td>Open</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>$\bar{X}$</td>
<td>.78</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>.29</td>
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</table>

Table 11a  
Anov Summary of Table 11

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<th>M.S.</th>
<th>d.f.</th>
<th>F ratio</th>
<th>Eta$^2$</th>
</tr>
</thead>
<tbody>
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<td>Mandate Base</td>
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<td>.116</td>
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</tr>
<tr>
<td>Evaluation Source</td>
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<td>1</td>
<td>9.832*</td>
<td>.176</td>
</tr>
<tr>
<td>Interaction</td>
<td>.023</td>
<td>2</td>
<td>.387</td>
<td>--</td>
</tr>
<tr>
<td>Within error term</td>
<td>.059</td>
<td>46</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .01
Figure 3  The Quality of the Final Solutions

Quality of the Final Solution

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Competence

Affect

Open
does lead to higher quality solutions than being observed by strangers ($F = 9.832, p < .01$).

**Individual Influence and Quality — Behavioral Indices**

To aid data interpretation other behavioral measures (besides straying, time taken and deadlocks) were collected. These are reported in this section.

The degree of influence which a negotiator has in the shaping of his team solution may impact upon his willingness to defend it. To test this, behavioral measures of influence were derived. This index consisted of the average rank ordered correlation between an individual's and his group's solution for each dyad. A low correlation indicates less influence than a higher one. 3x2 ANOV's were run on the $r_z$ transformations of this data as shown in Tables 12 and 12a. Perusal of these data reveal that those in the competence condition had significantly less influence in their final solution than those in other conditions. However, it is important to remember that no manipulations were made until after the group settled on a team solution. In fact, the ANOV was performed on cells defined by later treatments. This finding at first had threatened the internal validity of the experiment since influence was not equal across cells. However, if behavioral influence (as indexed in the

---

24One person did not provide an individual solution. Thus, his dyad's average score was dropped from this analysis.
Table 12  
N, \( \bar{X} \), SD for the degree of individual influence on the group solution

<table>
<thead>
<tr>
<th>Evaluation Source</th>
<th>Own</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Competence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>( \bar{X} )</td>
<td>.62</td>
<td>.65</td>
</tr>
<tr>
<td>SD</td>
<td>.24</td>
<td>.27</td>
</tr>
<tr>
<td><strong>Mandate Base</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>( \bar{X} )</td>
<td>.75</td>
<td>.75</td>
</tr>
<tr>
<td>SD</td>
<td>.24</td>
<td>.30</td>
</tr>
<tr>
<td><strong>Open</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>( \bar{X} )</td>
<td>.72</td>
<td>.73</td>
</tr>
<tr>
<td>SD</td>
<td>.21</td>
<td>.21</td>
</tr>
</tbody>
</table>

Table 12a  
Anov Summary for Table 12

<table>
<thead>
<tr>
<th>Source</th>
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<th>d.f.</th>
<th>F ratio</th>
<th>Eta(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandate Base</td>
<td>.222</td>
<td>2</td>
<td>3.367*</td>
<td>.125</td>
</tr>
<tr>
<td>Evaluation Source</td>
<td>.001</td>
<td>1</td>
<td>.013</td>
<td>--</td>
</tr>
<tr>
<td>Interaction</td>
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<td>.036</td>
<td>--</td>
</tr>
<tr>
<td>Within error term</td>
<td>.066</td>
<td>47</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\*p < .05
above procedure) is an important determiner of "straying" then influence and straying should correlate negatively (i.e., the greater the within group influence, the lower the "straying"). In fact, the correlation of these two variables was very low ($r = .05$, n.s.). Further contrasts of Table 12 with Table 8 show that only those negotiators in the competence-other condition strayed. If influence affects negotiator loyalty then both competence-own and competence-other should have departed from the group solution. In fact, only those evaluated by others failed to support their team solution. Thus, within the constraints of this operationalization, behavioral influence in within group events did not affect dyadic behaviors.\(^{25}\)

\(^{25}\) It should be noted that influence correlated more strongly, with another index of bargaining difficulty - number of time intervals taken ($r = -0.18$, $p > .15$). Those with more influence took less time in bargaining. Further, this operational definition of influence may be inadequate. This might be the case if the subjects perceived the deviation of individual and team solution as independent events.

This interpretation is reinforced by the responses given to a 9 point rating scale tapping pre-dyadic influence perceptions. As Tables 14 and 14a indicate, all negotiators perceived statistically equal influence in the shaping of their team solution. The correlation between the behavioral and perceptual measures of influence was minute ($r = -0.05$, n.s.). All this data suggests that (1) the planned behavioral index of within group influence was not appropriate and (2) that the internal validity of the study was not severely damaged.
The quality of individual and team solutions was derived by correlating those solutions with the NASA criterion. No differential quality in either team or individual solutions across the experimental cells were observed. However, team's achieved better quality solutions than individuals (\( \rho \) individual = 0.55; \( \rho \) team = 0.68).\(^{26}\) These results correspond to Klimoski and Ash's (1973) findings using the same tasks. Apparently repeated exposure to the task increases the quality of the solution.

**Dyadic Perceptions**

Hypothesis 3 states that competent negotiators perceive greater freedom in their roles than liked ones. To test this, all subjects responded to a 9 point rating scale (included in the final questionnaire) which read:

"How do you think your original team would have liked you to behave during your discussions with the other team's representative? 1 = use discretion, compromise as you wished/ 9 = don't compromise if at all possible."

Hypothesis 3 predicts that those elected on the basis of affect would rate themselves closer to the "don't compromise" end of the scale than those elected on the basis of competence. Tables 13, 13a and Figure 4 depict the results of the 3x2 ANOV.

\(^{26}\)Mean \( r_z \) individual = 0.62; Mean \( r_z \) team = 0.84.
Table 13  
\( \overline{x} \), SD degree of freedom perceived by the negotiators (n = 18)

<table>
<thead>
<tr>
<th>Evaluation Source</th>
<th>( \overline{x} ) (Own)</th>
<th>SD (Own)</th>
<th>( \overline{x} ) (Other)</th>
<th>SD (Other)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competence</td>
<td>2.000</td>
<td>1.188</td>
<td>2.444</td>
<td>1.886</td>
</tr>
<tr>
<td>Affect</td>
<td>3.278</td>
<td>2.024</td>
<td>3.056</td>
<td>2.313</td>
</tr>
<tr>
<td>Open</td>
<td>2.056</td>
<td>1.162</td>
<td>2.444</td>
<td>2.617</td>
</tr>
</tbody>
</table>

Table 13a  
Anov Summary for Table 13

<table>
<thead>
<tr>
<th>Source</th>
<th>M.S.</th>
<th>d.f.</th>
<th>F ratio</th>
<th>Eta(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandate Base</td>
<td>10.398</td>
<td>2,102</td>
<td>2.759*</td>
<td>.051</td>
</tr>
<tr>
<td>Evaluation Source</td>
<td>1.12</td>
<td>1,102</td>
<td>.297</td>
<td>--</td>
</tr>
<tr>
<td>Interaction</td>
<td>1.231</td>
<td>2,102</td>
<td>.327</td>
<td>--</td>
</tr>
</tbody>
</table>

\*p < .06
Figure 4  Perceived negotiator freedom

Don't compromise

Use discretion

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Competence

Affect

Open
As predicted "affect" representatives felt that their group wished them to adopt a tougher negotiating stand than those in the open or competence conditions. The evaluation source had no effect on this variable. However, this result is only marginally statistically significant ($F = 2.759, p < .06$).

Prior to the dyadic interaction, a number of perceptual variables were measured. These included pre-dyadic (1) perceived influence into the formation of the team solution (2) commitment to the team solution (3) perceived team solution quality (4) satisfaction with the within group experience and (5) perceptions of how the team got along (cohesiveness). These five variables were measured by nine-point rating scales appropriately anchored at the extremes (see Appendix E). Table 14 shows the means and standard deviations for these variables while Table 14a reports the $3\times2$ ANOV run on each variable.
Table 14  $\bar{x}$, SD for 5 pre-dyadic perceptions of the within group experience

<table>
<thead>
<tr>
<th>Variable</th>
<th>Conditions</th>
<th>Influence</th>
<th>Commitment</th>
<th>Quality</th>
<th>Satisfaction</th>
<th>Cohesiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Competence-Own</td>
<td>$\bar{x}$</td>
<td>3.167</td>
<td>3.611</td>
<td>3.111</td>
<td>4.111</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD</td>
<td>1.200</td>
<td>2.033</td>
<td>1.491</td>
<td>1.811</td>
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<tr>
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<td>$\bar{x}$</td>
<td>3.278</td>
<td>3.611</td>
<td>3.22</td>
<td>3.111</td>
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<td></td>
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<td>2.173</td>
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<tr>
<td></td>
<td>Affect-Own</td>
<td>$\bar{x}$</td>
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<td>2.611</td>
<td>2.222</td>
<td>2.333</td>
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<tr>
<td></td>
<td></td>
<td>SD</td>
<td>1.396</td>
<td>1.501</td>
<td>.878</td>
<td>1.782</td>
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<td></td>
<td>Affect-Other</td>
<td>$\bar{x}$</td>
<td>3.333</td>
<td>3.333</td>
<td>3.056</td>
<td>3.333</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD</td>
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<td>1.862</td>
<td>2.142</td>
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<tr>
<td></td>
<td>Open-Own</td>
<td>$\bar{x}$</td>
<td>3.611</td>
<td>3.944</td>
<td>2.500</td>
<td>2.500</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD</td>
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<tr>
<td></td>
<td>Open-Other</td>
<td>$\bar{x}$</td>
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<td>3.167</td>
<td>2.333</td>
<td>2.944</td>
</tr>
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<td>1.414</td>
<td>1.616</td>
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Table 14a  Anov Summary for Table 14

<table>
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<th>Source</th>
<th>Variable</th>
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<th>d.f.</th>
<th>F ratio</th>
<th>Eta $^2$</th>
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<tbody>
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<td>1.127</td>
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</tr>
<tr>
<td></td>
<td>Quality</td>
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<td>2.652</td>
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</tr>
<tr>
<td></td>
<td>Satisfaction</td>
<td>8.444</td>
<td>2,102</td>
<td>2.770</td>
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</tr>
<tr>
<td></td>
<td>Cohesiveness</td>
<td>6.333</td>
<td>2,102</td>
<td>3.212*</td>
<td>.059</td>
</tr>
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<td>Influence</td>
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<td>1,102</td>
<td>.095</td>
<td>--</td>
</tr>
<tr>
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<td>1,102</td>
<td>.002</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Quality</td>
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<td>1,102</td>
<td>.901</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Satisfaction</td>
<td>.593</td>
<td>1,102</td>
<td>.194</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Cohesiveness</td>
<td>5.333</td>
<td>1,102</td>
<td>2.705</td>
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</tr>
<tr>
<td>Interaction</td>
<td>Influence</td>
<td>.009</td>
<td>2,102</td>
<td>.004</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Commitment</td>
<td>5.065</td>
<td>2,102</td>
<td>1.265</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Quality</td>
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<td>2,102</td>
<td>1.191</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Satisfaction</td>
<td>9.592</td>
<td>2,102</td>
<td>3.146*</td>
<td>.058</td>
</tr>
<tr>
<td></td>
<td>Cohesiveness</td>
<td>5.444</td>
<td>2,102</td>
<td>2.761</td>
<td>--</td>
</tr>
</tbody>
</table>

*p < .05
Perusal of these data indicates that all participants were quite pleased with their team experience. However, some significant differences were noted. Negotiators subsequently elected on the basis of competence felt somewhat more negative about their groups than others. Further, the significant interactions on the satisfaction measure indicates that affect representatives were more satisfied when they were to be evaluated by their own team while competent one's were more satisfied when facing review by strangers. These measures, it is important to recall, were taken after the video-taped instructions were given but before the representative knew the outcome of the election. Thus, the mere induction of the various sets yielded perceptual differences in group cohesiveness and satisfaction.

Post-Dyadic Perceptions

The post negotiation questionnaire tapped the dyadic perceptions of the representatives. Data were collected on a number of variables deemed important to the study of negotiation. This section deals with these.

Two rating scales dealt with satisfaction. One satisfaction scale tapped the representative's overall satisfaction with the negotiation process. (1 = very satisfied / 9 = not at all satisfied). The other scale tapped the individuals satisfaction with the negotiation outcomes (1 = very satisfied). Significant differences
were obtained on both these variables as shown in tables 15, 15a and Figure 5.
Table 15  \( \bar{X}, SD \) of negotiator overall satisfaction and satisfaction with outcomes.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Condition</th>
<th>Overall Satisfaction</th>
<th>Satisfaction with outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>( X )</td>
<td>( SD )</td>
</tr>
<tr>
<td>Competence-Own</td>
<td>( X )</td>
<td>1.444</td>
<td>.856</td>
</tr>
<tr>
<td></td>
<td>( SD )</td>
<td>1.305</td>
<td>1.305</td>
</tr>
<tr>
<td>Competence-Other</td>
<td>( X )</td>
<td>2.056</td>
<td>1.132</td>
</tr>
<tr>
<td></td>
<td>( SD )</td>
<td>1.132</td>
<td>1.132</td>
</tr>
<tr>
<td>Affect-Own</td>
<td>( X )</td>
<td>1.944</td>
<td>1.211</td>
</tr>
<tr>
<td></td>
<td>( SD )</td>
<td>1.211</td>
<td>1.211</td>
</tr>
<tr>
<td>Affect-Other</td>
<td>( X )</td>
<td>2.611</td>
<td>1.801</td>
</tr>
<tr>
<td></td>
<td>( SD )</td>
<td>1.801</td>
<td>1.801</td>
</tr>
<tr>
<td>Open-Own</td>
<td>( X )</td>
<td>1.556</td>
<td>.705</td>
</tr>
<tr>
<td></td>
<td>( SD )</td>
<td>.705</td>
<td>.705</td>
</tr>
<tr>
<td>Open-Other</td>
<td>( X )</td>
<td>2.000</td>
<td>1.616</td>
</tr>
<tr>
<td></td>
<td>( SD )</td>
<td>1.616</td>
<td>1.616</td>
</tr>
</tbody>
</table>

Table 15a  Anov Summary for Table 15

<table>
<thead>
<tr>
<th>Source</th>
<th>M.S.</th>
<th>d.f.</th>
<th>F ratio</th>
<th>Eta²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandate Base</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall satisfaction</td>
<td>3.176</td>
<td>2,102</td>
<td>1.770</td>
<td>--</td>
</tr>
<tr>
<td>Satisfaction w/outcome</td>
<td>6.694</td>
<td>2,102</td>
<td>5.117**</td>
<td>.092</td>
</tr>
<tr>
<td>Evaluation Source</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall satisfaction</td>
<td>8.898</td>
<td>1,102</td>
<td>4.958*</td>
<td>.043</td>
</tr>
<tr>
<td>Satisfaction w/outcomes</td>
<td>4.481</td>
<td>1,102</td>
<td>3.425+</td>
<td>.032</td>
</tr>
<tr>
<td>Interaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall satisfaction</td>
<td>.120</td>
<td>2,102</td>
<td>.067</td>
<td>--</td>
</tr>
<tr>
<td>Satisfaction w/outcome</td>
<td>1.176</td>
<td>2,102</td>
<td>.899</td>
<td>--</td>
</tr>
</tbody>
</table>

*\( p < .05 \)
**\( p < .01 \)
+\( p < .06 \)
Figure 5  Negotiator overall satisfaction and satisfaction with outcomes

Lo  Overall Satisfaction

Satisfaction

3.0

2.5

2.0

1.5

1.0

H

Own  Other

Competence

Affect

Open
Generally, liked representatives were less satisfied with the negotiation outcomes than competent ones ($F = 5.117, p < .01$) who were as satisfied as those in the open condition. Further, negotiators facing review by their membership groups were more satisfied with the dyadic process and outcomes than those observed by strangers. Post hoc tests showed that the own-other differences were important only for affect representatives. The satisfaction of negotiators holding competence or open mandates were not (statistically) affected by the evaluating group.

Another variable of interest was the perceived quality of the team solution. Subjects indicated this on 9 point rating scales administered before and after the negotiation session. Prior to negotiations all representatives reported that their team solutions were good ($\bar{X} = 2.741$, $1 = excellent; 9 = poor$) and no statistically significant differences

---

27 Overall satisfaction and satisfaction with outcomes were highly correlated ($r = 0.66, p < .001$) and in a subsequent factor analysis loaded on the same "satisfaction" factor.

28 It is noteworthy that the analysis of variance did not produce an interaction but that post-mortem probes showed that in "affect" the mandate base yielded differential results. The low variability and small range exhibited by the data may account for the ANOV results which appear to contradict the post-mortem tests.
occurred across cells (F mandate base = 2.65; p < .10; F evaluation source = .901 p < .35; F interaction = 1.191 p < .30).

Following dyadic interactions, subjects rated themselves on the following two 9 point rating scales: (1) How good was your original team solution? (1 = excellent; 9 = poor) and (2) To what degree did you think your team position deserved to be defended (1 = deserved to be defended; 9 = did not deserve to be defended). These two measures correlated very well (r = .86 , p < .001) and loaded on the same factor. Each was then submitted to a 3X2 ANOV as Tables 16, 16a and figure 6 show.
Table 16  \( \bar{X}, SD \) for post-dyadic perceptions of original team solution quality

<table>
<thead>
<tr>
<th>Variable</th>
<th>( \bar{X} )</th>
<th>SD</th>
<th>Quality Deserved to be defended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competence-Own</td>
<td>3.00</td>
<td>1.24</td>
<td>2.50</td>
</tr>
<tr>
<td>Competence-Other</td>
<td>3.89</td>
<td>2.39</td>
<td>2.50</td>
</tr>
<tr>
<td>Affect-Own</td>
<td>2.78</td>
<td>1.11</td>
<td>2.39</td>
</tr>
<tr>
<td>Affect-Other</td>
<td>3.44</td>
<td>1.92</td>
<td>3.17</td>
</tr>
<tr>
<td>Open-Own</td>
<td>2.78</td>
<td>1.00</td>
<td>2.33</td>
</tr>
<tr>
<td>Open-Other</td>
<td>3.17</td>
<td>1.30</td>
<td>2.67</td>
</tr>
</tbody>
</table>

Table 16a  Anov Source for Table 16

<table>
<thead>
<tr>
<th>Source</th>
<th>Variable</th>
<th>M.S.</th>
<th>d.f.</th>
<th>F ratio</th>
<th>Eta(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandate Base</td>
<td>Quality</td>
<td>2.120</td>
<td>2,102</td>
<td>.855</td>
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</tr>
<tr>
<td></td>
<td>Deserved to be defended</td>
<td>2.259</td>
<td>2,102</td>
<td>.915</td>
<td>--</td>
</tr>
<tr>
<td>Evaluation Source</td>
<td>Quality</td>
<td>11.343</td>
<td>1,102</td>
<td>4.574*</td>
<td>.043</td>
</tr>
<tr>
<td></td>
<td>Deserved to be defended</td>
<td>13.370</td>
<td>1,102</td>
<td>5.417*</td>
<td>.050</td>
</tr>
<tr>
<td>Interaction</td>
<td>Quality</td>
<td>.565</td>
<td>2,102</td>
<td>.228</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Deserved to be defended</td>
<td>1.037</td>
<td>2,102</td>
<td>.420</td>
<td>--</td>
</tr>
</tbody>
</table>

*\( p < .04 \)
Figure 6  Post-dyadic perceptions of team solution quality

Quality

Deserved To Be Defended

Competence

Affect

Open
These data clearly show that the quality of the team solutions tended to be depreciated when one faced review by strangers, and enhanced when review by one's own group was anticipated. This is interesting, particularly in view of the facts that objectively (i.e., correlations with the NASA criterion) all team solutions were equally good.

The "atmosphere" created by dyadic events may forecast bargaining outcomes. Thus uncomfortable and hostile negotiations may predict difficult outcomes. To test this all negotiators described their discussions with the other team members on two 9 point rating scales. These measures were collected following the bargaining session. The two scales measured bargaining atmosphere (scale A: 1 = easy; 9 = difficult; scale B 1 = relaxed, 9 = frustrating). The two scales were highly correlated (r = 0.837, p < .001). They were summed with each other and for each dyad yielding one score per dyad. A low score on this composite indicates a "pleasant" dyadic atmosphere while high scores indicate less positive climate. The minimum score would be 4 while the maximum would stand at 36. Overall dyads reported a "relaxed" and "easy" atmosphere (\( \bar{X} \) = 9.593) and this did not vary across cells as the 3X2 ANOV on this composite showed (F mandate base = .994, p > .40; F evaluation source = .646, p > .43 F interaction = 1.423, p > .26). However, it is possible that dyadic atmosphere is related to
dyadic outcomes. Therefore, the atmosphere measure was correlated with the dyad's straying and the amount of time taken. This index correlated significantly with both the "straying" measure ($r = -0.34, p < .01$) and the number of intervals used ($r = 0.33, p < .01$). Thus, the more negative the dyadic climate the greater the straying (note that a low score on the straying index indicates greater departure from the group position) and the more time needed to reach total agreement. However, straying and time were only slightly related, although in the proper direction ($r = -0.12$, n.s.). These results seem to indicate that poor dyadic atmosphere and "tougher" negotiations (i.e., bargainings which take longer and involve less loyalty to the group position) occur together. Although it would be tempting to causally relate atmosphere and outcomes, this would not be appropriate.

In a final analysis, an attempt was made to predict negotiation outcomes based on the dyad's differences in the perceptions of their original group. Prior to bargaining, subjects estimated the influence, commitment, quality, satisfaction and cohesiveness of their original groups. If these perceptions are important then the degree to which negotiator pairs differed on these, the easier the bargaining. This assumes that the more "positive" the negotiator feels towards his group, the more loyal he will be. Thus if the difference between individuals is small,
each would be equally loyal thus rendering more salient those forces constraining the negotiators.\(^{29}\)

To test this, the responses on questionnaire C (administered before the onset of negotiation and shown in Appendix E) were noted and the absolute difference in the dyads' perceptions of their original teams on each of the five scales were computed. These were used as predictors (in a multiple correlation) of the following variables (1) the degree of relationship between the individual's and the negotiated solutions (\(\bar{X}\) rho individual and dyadic for each dyad); (2) the quality of the final solution (rho dyadic – NASA); (3) the straying index (\(\bar{X}\) rho group-dyadic) and (4) the number of bargaining intervals used. The correlation tables, means and other results of this analysis are shown in Tables 17, 17a, 17b and 17c.\(^{30}\)

\(^{29}\) It is possible that some dyads would feel equally negative about their groups. This would weaken the index since the difference between them would be low and so would loyalty. However, before this measure was accepted all differences were noted and none were low because of similarly negative perceptions. See the means in Table 17.

\(^{30}\) The author acknowledges the computer programming expertise of Evans W. Curry.
Perusal of the means in Table 17 clearly shows that all negotiators felt relatively similarly positive about their membership groups, and the variability of the predictors was fairly low. The five predictor variables did not correlate significantly with any of the dependent measures, except for the quality of the final solution ($R = .44$, $p < .05$). However, the only predictor which appreciably affected the variance of the quality of the final solution was the difference in the satisfaction with the original membership teams. In other words, the greater the difference in the reported satisfaction of the pairs with their teams, the better the quality of the final solution.\(^{31}\) Pre-dyadic satisfaction difference was also the best predictor of the degree of relationship between the individual and final solution and the number of intervals used. This finding is based on the fact that the only regression coefficients which differed significantly from zero were those which weighed the satisfaction predictor. The one-tailed t-test is an appropriate index of significance since the correlations for the "individual-final solution" and "interval" criteria are in the predicted direction.

\(^{31}\)This discussion is based on the results of an analysis in which the range and variance of the predictors is relatively low. Combined with the small sample sizes, these results are suggestive at best and by no means definitive. Also two dyads did not produce a final solution (deadlock) and one did not show an individual solution. The computer program sets missing data at zero's which explains the total $N=54$. Consequently the numbers reported are slight underestimates of the true relationships.
Further, table 17a shows that satisfaction correlates best with each predictor (although only the quality-satisfaction correlation is statistically significant).
<table>
<thead>
<tr>
<th>Variable</th>
<th>$\bar{X}$</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influence</td>
<td>1.889</td>
<td>1.396</td>
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<tr>
<td>Commitment</td>
<td>2.093</td>
<td>1.835</td>
</tr>
<tr>
<td>Quality</td>
<td>1.389</td>
<td>1.498</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>1.907</td>
<td>1.496</td>
</tr>
<tr>
<td>Cohesiveness</td>
<td>1.259</td>
<td>1.469</td>
</tr>
<tr>
<td>Ind-Final Solution</td>
<td>.552</td>
<td>.198</td>
</tr>
<tr>
<td>Quality of Final Solution</td>
<td>.752</td>
<td>.229</td>
</tr>
<tr>
<td>Straying</td>
<td>.830</td>
<td>.246</td>
</tr>
<tr>
<td>Intervals</td>
<td>4.074</td>
<td>1.490</td>
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</table>
Table 17a  Intercorrelation for pre and post dyadic variables

<table>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<td></td>
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<td></td>
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<tr>
<td>2</td>
<td>.394*</td>
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<tr>
<td>3</td>
<td>.274</td>
<td>.412*</td>
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<tr>
<td>4</td>
<td>.049</td>
<td>.347*</td>
<td>.092</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>.354*</td>
<td>.488*</td>
<td>.511*</td>
<td>.269</td>
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<td></td>
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<tr>
<td>6</td>
<td>-.037</td>
<td>.066</td>
<td>.142</td>
<td>.246</td>
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<tr>
<td>7</td>
<td>-.072</td>
<td>-.021</td>
<td>.142</td>
<td>.369*</td>
<td>.117</td>
<td>.414*</td>
<td>---</td>
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</tr>
<tr>
<td>8</td>
<td>-.192</td>
<td>.018</td>
<td>.057</td>
<td>.207</td>
<td>-.092</td>
<td>.680*</td>
<td>.688*</td>
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<tr>
<td>9</td>
<td>.140</td>
<td>.122</td>
<td>.012</td>
<td>-.158</td>
<td>.163</td>
<td>-.141</td>
<td>-.125</td>
<td>.103</td>
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N=54, *p < .01

<table>
<thead>
<tr>
<th>Variable Number</th>
<th>Variable Name</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Δ Within group influence</td>
</tr>
<tr>
<td>2</td>
<td>Δ Commitment to team solution</td>
</tr>
<tr>
<td>3</td>
<td>Δ Quality (perceived) of team solution</td>
</tr>
<tr>
<td>4</td>
<td>Δ Satisfaction with team</td>
</tr>
<tr>
<td>5</td>
<td>Δ Within-group cohesiveness</td>
</tr>
<tr>
<td>6</td>
<td>Relationship between individual and final solution</td>
</tr>
<tr>
<td>7</td>
<td>Quality of final solutions</td>
</tr>
<tr>
<td>8</td>
<td>Straying</td>
</tr>
<tr>
<td>9</td>
<td>Number of bargaining intervals used</td>
</tr>
</tbody>
</table>
### Table 17b  
**Standardized Regression Coefficients for Multiple Correlation**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Influence</th>
<th>Commitment</th>
<th>Quality of Final Solution</th>
<th>Straying</th>
<th>Intervals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual-Final Solution</td>
<td>-.045</td>
<td>-.027</td>
<td>-.065</td>
<td>-.196</td>
<td>.061</td>
</tr>
<tr>
<td>Quality</td>
<td>.220</td>
<td>.247</td>
<td>.200</td>
<td>.035</td>
<td>.142</td>
</tr>
<tr>
<td>S traying</td>
<td>.279&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.427&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.241</td>
<td>-.151</td>
<td>-.255&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Cohesiveness</td>
<td>-.158</td>
<td>.044</td>
<td>.192</td>
<td>.218</td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> $t = 1.872$ df = 48 $p < .05$ one-tailed test  
<sup>b</sup> $t = 3.040$ df = 48 $p < .01$ two-tailed test  
<sup>c</sup> $t = 1.706$ df = 48 $p < .05$ one-tailed test

### Table 17c  
**Multiple Correlation**

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>df</th>
<th>R</th>
<th>$R^2$</th>
<th>Standard Error</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual-final Solution</td>
<td>5,48</td>
<td>.316</td>
<td>.099</td>
<td>.226</td>
<td>1.063</td>
</tr>
<tr>
<td>Quality of final Solution</td>
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<td>.448</td>
<td>.201</td>
<td>.163</td>
<td>2.414*</td>
</tr>
<tr>
<td>Straying</td>
<td>5,48</td>
<td>.340</td>
<td>.116</td>
<td>.191</td>
<td>1.257</td>
</tr>
<tr>
<td>Intervals</td>
<td>5,48</td>
<td>.316</td>
<td>.099</td>
<td>.149</td>
<td>1.063</td>
</tr>
</tbody>
</table>

$p < .05$
Chapter IV

Discussion

In the introduction of this paper the outlines of a general predictive model of negotiation behavior was presented. The model draws on role theory and the works of Adams (1972) and Katz and Kahn (1966). The two variables of role clarity and immunity from influence attempts should be related to negotiator behavior. It was earlier predicted that the greater the negotiator's role clarity the greater the probability that his behaviors conform to his role. From role theory we know that roles and role-appropriate behaviors are defined by the environment surrounding that role. Therefore, in this study negotiator roles were defined by their membership groups - vis-a-vis their constituencies the delegates were either elected on the basis of competence or affect. These constitute explicit role definitions. An open-mandate control condition represented a less clear role structure. If it is the case that role clarity increases role adherence, than it follows that the behaviors of negotiators with clear roles are more predictable than the behaviors of representatives with more ambiguous mandates. Consequently, hypotheses concerning the differential behaviors of affect (A) and competent (C) representatives were formulated but no hypotheses about "open" (O) representatives were made.
As a second factor of this study, negotiators were led to believe that they were monitored and would eventually face evaluation by either their own membership group or by strangers. Competing hypotheses were made: On the one hand, social facilitation (Zajonc, 1965) predicts that the behaviors of representatives facing either type of review would be equivalent. It argues that evaluation apprehension, per se is a sufficient condition to explain past accountability effects (e.g., Klimoski, 1972). On the other hand, from role theory it may be predicted that the behaviors of negotiators accountable to their own group would be different than those of delegates accountable to strangers. The rationale again drew on role theory. It was argued that a negotiator is subject to influence attempts from those who define this role. In this paradigm, then, negotiators facing review by their own groups would be more responsive to their constituents than those evaluated by others.32

These considerations were phrased as direct predictions and tested in this study. It was predicted that A delegates would be more responsive to within-group pressures and would face more difficult bargainings - they would take longer, deadlock more frequently, deviate very little from their team solutions and strive for acceptable

32It is salient to note that influence attempts are defined in very inclusive terms. The influence attempts in this design would conceivably occur after the dyadic encounter - in the evaluation. The representative would still have to be attentive to it.
rather than optimal solutions. In short, it was predicted that they would be more constrained in their negotiations. For C negotiators, a different pattern of results was predicted: they would take less time, abandon their group positions more readily, strive for optimal solutions and deadlock less frequently. Contrary to the A negotiators, they should perceive a freer mandate.

It was further hypothesized that C negotiators would be relatively more immune to influence attempts than A representatives. Since the most salient influence group is one's constituents\(^{33}\) (because they define the role and grant the mandate) it was hypothesized that C negotiators would not behave differentially when facing review by either their team or strangers, while the A negotiators would be less constrained under the later evaluation condition. The behaviors of open-mandate delegates were not predicted.

The general distribution of results conformed to the hypotheses. However, some unexpected complexities did emerge.

Some worked and some didn't — Discussion of the hypotheses

Negotiators elected because of affect deadlocked more frequently than those with competence or unspecified mandates.

\(^{33}\) It is perhaps the case that E may have served as a constituency. However, this effect would have been present for all treatments and should thus be constant. To the extent that this occurred it would have had no effect on the relative differences noted.
In fact, the only deadlocks occurred in the affect condition! However, only two deadlocks occurred which does not support the predictions. Perhaps the low frequency of deadlocks is attributable to a methodological artifact. The subjects had solved the task individually and in groups and both times they were pressed for a complete solution. They may have felt, in the negotiation session, that total agreement was expected by the experimenter. From a demand characteristic viewpoint, they simply obliged.

Affect representatives were also affected by the evaluation source. When they faced review by their own groups they produced good quality solutions and took a long time. When they were no longer responsible to their groups and faced review by strangers, they produced lower quality solutions and dispatched the task with greater speed. Clearly, A negotiators were more constrained when they were held accountable to their own groups. They also deviated from their group position to a greater extent when they believed to be monitored by strangers. However, this difference, although in the predicted direction, is too small to permit valid inference.

\[^{34}\text{In other research, deadlocks were more frequent. In this study under 4% of the dyads did not reach total agreement. In Klimoski and Ash the overall deadlock rate was almost 14% and in one cell reached 33%}.\]
C negotiators also conformed to some of the hypotheses. They did not deadlock, and perceived their mandate as being freer than affect representatives (Figure 4). However, they too were responsive to the nature of the evaluation group. Contrary to the hypotheses, they did not uniformly deviate from their group positions to a greater extent than A delegates. In fact, they strayed as much as the A and O representatives when they were accountable to their own team. On the other hand, once the potential for influence attempts by their own team was checked (in the "other" condition) they deviated considerably. Apparently, a competence mandate alone is not sufficient to allow representatives to stray. Only when that representative believes himself immune from membership group influence attempts does he abandon the team position. It is also noteworthy that A negotiators did not deviate appreciably (although in the predicted direction) when faced with either type of review. On the basis of these data, it seems that the potential for deviation is stronger when a negotiator perceives himself as competent rather than well liked. But this potential is exercised only when within group influence attempts are inconsequential. The A representatives did not deviate because their mandate would not allow it. This interpretation is reinforced by the subjects report of how they felt their
team would have liked them to behave (implicit mandate—see figure 4). Clearly A delegates perceived a more constraining mandate, the perceived group definition of which excluded discretion and freedom.

On another level, subjects perceived more latitude in their mandate when held accountable to strangers rather than to those who elected them. Thus, one of the post-dyadic rating scales measured whether the subjects felt that they had relied on their team or their own solutions in shaping the final one. Those observed by their own team relied on their team solution to a greater extent than those in the "other" cell who, in turn, used their individual one. However, competent-other negotiators reported that they used their individual solutions to a greater extent than any other groups of negotiators in the study.

Contrary to the hypotheses, competent people did not produce better final solutions. All negotiators (except one group) arrived at essentially good solutions ($\overline{\text{rho}} = .75$. The exception was with those C representatives who deviated the most from their team solutions (i.e., competence-other). In fact, these people produced final solutions, which, on

$\overline{\text{35}} F \text{ mandate base} = 2.24, \text{df} 2,102, p > .12; F \text{ evaluation source} = 6.237, \text{df} 1,102, p < .02; F \text{ interaction} = .706, \text{df} 2,102, p > .50.$

$\overline{\text{36}} \text{Mean } r_z \text{ quality of the final solutions} = .979.$
the average, were inferior to their teams'. These findings run very much counter to the predictions made: It was hypothesized that those negotiators who were free from influence attempts and who held competence mandates, would be free to stray from their group position in search for the best and most creative one. Although they strayed, it was not a productive effort.

Perhaps an explanation for the peculiar (and contradictory!) behaviors of these representatives is available within these data. First, as indicated earlier, they relied on their own solutions to a greater extent than their team solutions. Second, their team solutions were already quite good ($\rho = .68$)\(^{37}\) while their individual solutions were not ($\rho = .55$). Clearly these representatives did not compromise with each other. Instead, they constructed a new solution which was based on an aggregate of their individual solutions - which were essentially poor. This interpretation explains two findings (a) the poor quality of the solutions reached by competence-other dyads and (b) why they needed more time (than either 0 or A representatives) to reach final agreement. Whereas the others simply re-arranged their original positions, competence-other negotiators derived a new one and the construction of a new solution

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\(^{37}\)These coefficients represent the correlation between the team and individual solutions with the NASA criterion. The higher the rho the higher the quality of that particular solution.
is more time consuming than the modification of an older one.

From this perspective it is easy to see why the stray-
ing index (one measure of bargaining difficulty) was not
related to the time interval (another index). In fact,
the correlation of these two variables was minute \( r = -0.12, \)
n.s.), and they may well be functionally independent. The
competent other representatives may have forged a more
difficult task for themselves (the construction of a new
position) but this does not necessarily indicate greater
bargaining difficulty. Unfortunately no measures of per-
ceived task difficulty were taken - so the verification of
this interpretation remains open for future research.

It should be pointed out however, that repeated ex-
posure to this task leads to better solutions. Thus,
consistent with the Klimoski-Ash findings, the final
solutions were best \( \rho = 0.75 \) followed by the team sol-
utions \( \rho = 0.68 \) followed by the individual ones
\( \rho = 0.55 \). It may also be true, however, that independ-
dent of task familiarity, conflict leads to the creation
of better quality products (see Katz, 1959). Of further
interest however, is the results depicted in Figure 3.
Negotiators who were immune from membership group super-
vision produced poorer quality products. This was true
for C and A, but not for 0 negotiators. It is apparent
that accountability to one's constituency highlights
task attentiveness. This may explain why the negotiators
in the own condition expected a more favorable evaluation then those in the other condition. They may well have expected negative retribution for impoverished performance.

These data do support the original role theory considerations. The data converge on the tentative conclusion that immunity from membership group influence attempts introduce greater negotiator liberty. They deviate from their group position, perceive more mandate latitude, and are less task attentive, even though they do expect a more negative evaluation. Further, the differences between C and A representatives are marked. C representatives deviate from their initial positions and appear to strive for a new solution. This effect becomes most pointed when they face review by a non-membership group. In effect, competent negotiators tend to disregard their representation- al obligations and do not produce better quality solutions. If anything, they tend to consolidate their personal influence and disregard those who elected them. In flavor, at least, these results conform to Mulder and Wilke (1970), who found that those with expert power tended to consolidate their influence and power, following a power-equalization experience.

38 How favorably do you think the team observing you will evaluate you? (1 = very favorably; 9 = not at all favorably). F mandate base = .946, df 2,102, p > .40; F evaluation source = 3.750, df 2,102, p < .06; F interaction = .168, df 2,102, p > .85.
The Special Case of the Open Mandate

The open mandate negotiator behaviors were not predicted since their behaviors would vary as a function of the mandate which they read into their role assignments. The behaviors of these representatives, on a number of behavioral measures, were interesting. On dependent measures which included deadlocks, time intervals, deviation from the group position and quality of final solutions open-mandate negotiators seemed to be least affected by evaluation source. They took less time than anyone else, did not deadlock, did not deviate from their team solutions and produced equally good qualities under both types of evaluation. Behaviorally, they behaved very similarly to Klimoski and Ash's elected and Hermann and Kogan's (1968) high status negotiators. In terms of satisfaction and post-dyadic perceptions of their team solution quality, they did not differ appreciably under either review. In effect an open mandate may well constitute a super-mandate. This is consistent with Klimoski and Ash's interpretation of their findings and in fact, the Klimoski-Ash and the present results are strikingly similar to each other.

On the manipulation checks, open-mandate representatives reported that they had reached that position as a function of moderate competence and likeability ($\overline{X}_c = 4.06, 1 = \text{competence}; \overline{X}_a = 4.22, 1 = \text{affect};$ on 9
point scales). But in behaviors, they modeled that specific mandate group which was the most successful. On deadlocks and time needed for negotiation they paralleled competent negotiators and not affect ones. The quality of their final solutions were closer to the affect solutions than the ones produced by competent ones.

The total thrust of these data suggest that an open mandate signals greater role latitude. They read into their roles whatever best facilitates their task. In a sense, then, it would be beneficial for conflicting groups to simply elect representatives rather than elect them on specific bases. Perhaps role ambiguity signifies role flexibility!

The attempt to predict dyadic outcomes given differences in the feelings of the dyadic members relative to thier group proved unsuccessful. The only significant finding was that the greater the differences in the satisfaction of dyadic members vis-a-vis their respective membership group, the higher the final solution quality. This is a difficult finding to explain. It may be that dissatisfaction with own's team reduces one's commitment to that team's solution. Evidence for this would include high correlations between satisfaction difference and commitment differences. In fact, these differences were noted ($r = .34, p < .01$). Therefore, it is likely that the dissatisfied partner may have been less committed to his team solution and more willing to persue a more creative path. Although this is possible, the low variation in the predictors indicate caution about these data.
Conclusion

Overall these results tend to conform to the analysis proposed in chapter 1, where it was argued that status affects negotiation behaviors in a manner consistent with the bases of that status. If the assumption that Hermann and Kogan (1968) and Kogan et. al (1972) negotiators' reached status because of implied competence and Lamm and Kogan (1970) delegates earned theirs because of amiability, then, the behaviors of competent and affect representatives should have conformed to those of Hermann-Kogan and Lamm-Kogan respectively. On most dependent measures this was indeed the case. Overall, as in Lamm-Kogan, affect negotiators seemed more constrained than others. Conversely, the competent representatives in this study seemed to more closely conform to the high status people in the other Kogan experiments.

Apparently, the implicit mandate which a representative obtains is a strong determiner of his behaviors. This has a number of implications. From a research standpoint it would be advisable to make explicit and then control for the mandate which an individual brings to the negotiations. This would enable clearer inferences about the effects of other variables (e.g., position - adoption or cohesive- ness) on negotiations.

At a second level, these findings reassert the importance of intra-group events in controlling negotiator
behavior. Changing perceptions of the relationships between a representative and his constituency does impact on the former's behaviors. Consequently the delineation of intra-group forces, such as mandate base, are advancing knowledge of negotiator behavior.

From a practitioner's viewpoint, the choice of a representative really depends on the goals of the constituency. If a group desires a speedy solution, they may be well advised to elect someone with competence, but the cost of that selection is negotiator freedom and deviation from the group position. If however, they are extremely committed to their position, they would be better served by a liked representative. This is especially true if time is not important. If the quality of the final solution or contract is critical, in all cases the constituency had best monitor their representatives closely. These later generalizations support Katz (1959) hypotheses that consistent monitoring and reaction to negotiators insures high quality solutions.

In a more theoretical vein, the results of the present study do not support a social facilitation interpretation of accountability. Accountability to one's own group yields tougher, more realistic and better negotiations than observation by strangers. However, accountability to one's own membership group seemed most constraining
to negotiators who had reached their position because of affect. Competent representatives were the least con-
strained when they faced review by a non-membership group. Open mandate representatives were less affected by the evaluation source, but were also the least inhibited overall. These complex relationships deserve future investiga-
tion.

Finally, this study demonstrates the viability of using role theory to predict the behaviors of negotiators. The behaviors of those with explicit mandate were predicted with a modicum of accuracy. What was not done in this study was an attempt at determining the kind of mandate which those with non-specific mandates (open conditions) constructed for themselves. This would indeed be interest-
ing to know.
References


Aubert, V. Competition and dissensus: Two types of conflict and of conflict resolution. Journal of Conflict Resolution 1963, 7, 26-42.


Pondy, Reviewers comment. Letter to the editor of Administrative Science Quarterly,


Appendix A

Newspaper Advertisement to Recruit Subjects
The Ohio State University Lantern Ad

WANTED STUDENTS to participate in interesting psychological study of decision making. Will be paid. Call R. Haccoun at 422-8145.
Appendix B

Standard Phone Instructions
Delivered to Callers
Are you calling about the Lantern ad? Well, let me tell you a little about what is happening. A group of us doctoral students in the Psychology department have received a grant to continue our research into human decision making. Now we are soliciting volunteers to participate in our study. In the study, you will be experiencing different types of decision making situations. You will be asked to reach decisions in groups and as individuals. In the past, other volunteers have told us that they have enjoyed their experiences and found their role in the study rather interesting. Since we are interested in making sure that the participants in the study will learn something about themselves and about psychology, all participants will be provided with the results of the study once it is finished. Also, we have been authorized to pay each volunteer some money. We will pay each volunteer $3.00 for signing up. The study will last approximately 2 hours and to make sure that it does not interfere with your school work, we are running the study in the evening. You will be paid in cash on the same day that you participate. If you would like to volunteer, I'd like to sign you up; (AFTER AN AFFIRMATIVE REPLY CONTINUE). Good can you come in for two hours at (STATE THE TIME AND PLACE. REMEMBER THE SEX RULE).
PLEASE TELL THEM TO WRITE DOWN OUR ADDRESS...404C Door to the Stadium, opposite from the police station. Tell Ss to report at 5:55 or 7:55 and to be on time. Also please take their phone numbers.)

CLOSE THE CONVERSATIONS WITH: Thank you very much (mention their name) and I look forward to seeing you on (reiterate time and date and place).
Appendix C

The Moon Wreck Problem with the NASA Solution
OSU Decision Making Project

PROBLEM STATEMENT

Your spaceship has just crash-landed on the moon. You were scheduled to rendezvous with a mother ship 200 miles away on the lighted surface of the moon, but the rough landing has ruined your ship and destroyed all the equipment on board, except for the fifteen items listed below.

Your crew's survival depends on reaching the mother ship, so you must choose the most crucial items available for the 200-mile trip. Your task is to rank the fifteen items in terms of their importance for survival. Place the numeral 1 by the most important item, 2 by the second most important, and so on through 15, the least important (on your decision forms only).

15 Box of matches
14 Solar-powered FM receiver-transmitter
13 Solar-powered heating unit (portable)
12 One case of dehydrated milk
11 Two .45 caliber pistols
10 Signal Flares
9 Self-inflating life raft
8 Parachute silk
7 First-aid kit containing injection needles
6 Fifty feet of nylon rope
5 Solar-powered FM receiver-transmitter
4 Food Concentrate
3 Stellar map of the moon's constellation
2 Five gallons of water
1 Two 100-pound tanks of oxygen
Appendix D

Script of the Video Tapes
Used to Induce the Treatments
Hello, my name is Robert Haccoun. I am from the Psychology Department at Ohio State University. Thank you for volunteering to participate in this study. This study is concerned with human decision making and during the next two hours you will be participating in different types of decision making in different situations, alone and in groups. Some of you will also have the opportunity to observe others reaching decisions, or you yourself may reach decisions while others are observing you. More about this later.

First, we would like you to make decisions alone. Now you will notice that there are six envelopes in front of you. Envelopes A-F. You are to keep those envelopes with you as we shift you from room to room and this will happen a couple of times. You are not to open the envelopes until you are told to do so. Now the first thing you are to do is open envelope A. In envelope A you will see two sheets of paper. The first sheet of paper asks for some basic information about yourself. You should use and fill in this sheet of paper if you desire a copy of the results of the study. If you fill in that sheet, I will mail you the results sometime in late May or June.

O.K. After that there is a problem called the MOON WRECK PROBLEM. I would like you to solve that problem and I would like you to solve it by yourself. You
will have 10 minutes to solve this problem and I will keep you posted on the amount of time which you have remaining. Now, when I tell you, solve this first problem by yourself. You should not converse with anyone while you are working on this problem. O.K. Please take out all the contents of envelope A, read the instructions, fill in that sheet if you wish to receive the results and please solve the problem. Do this now. You have 10 minutes starting now.

(8 minutes pause)

You have two minutes left, please finish up.

(2 minutes pause)

Good. Now put everything back into envelope A and put it aside. Take out envelope B, remove its contents and examine them. There is a sheet marked "Decision Team Member". On this sheet you are to put down the names of the people in the room with you. Now, you three form a decision making team. You three will be working together for the next 1 1/2 hours or so. Make sure you have everybody's name because this will be very important later. I will wait while you introduce yourselves.

(2 minutes pause)
Now when I tell you, you are to solve and discuss the Moon Wreck problem, that is the one you have just completed. You may use your individual solutions as a starting point but the final solution that you come up with must be as truly a group product as you can make it. Try to incorporate everybody's ideas into the final solution which you have reached. You are encouraged to take notes. Try to delineate the rational, the argumentation, the thinking behind your choice of ranks. And again, make sure that everybody participates. I am gonna give you 30 minutes to do that. I will keep you posted on the amount of time you have left every so often. You have 30 minutes starting now.

(15 minutes pause)

You have 15 minutes left.

(10 minutes pause)

You now have five minutes left to reach agreement on all items. You should be finishing. Make sure that you all have a copy of the final team solution. And please sign each others copy to make sure you know what the team solution is. You now have five minutes left.

(5 minutes pause)
Now make sure you all know the first name of the members of your team. Gather all of your envelopes and wait for a member of the research team who will take you to a separate room by yourself. A member of the research team will be here shortly.

EXPERIMENTAL CONDITIONS

AFFECT

Please pay close attention to what I am going to say. Take out envelope C. In envelope C there is a brief questionnaire and voting ballot. One of the members of the team will be selected to represent your team solution in a final decision making session with a representative from another team. The fairest way to pick that representative is for you, as well as the other members of your group, to vote and elect the representative. Now as you may recall from your other psychology courses or in general, you may know that certain people in group-decision making teams tend to take on different functions or roles. For example, you may have someone who is the most intelligent, the most competent, seems to talk the most, that kind of thing, and you may have someone else who seems to be the nicest and most supportive. Now, I want you to vote for that person in your group who seems the nicest, the most supportive, the most liked person, the one whom you would most like to be friends with, something like that. This is the person
I wish you to vote for. You should not vote for the person who seems the most intelligent. It is very important that everyone who is elected in the study is elected for the same reason. Now we only want to have those kind of people, those who are well liked, elected so please think about the people in your group including yourself, (You should not be modest about this. If you think you are the best liked person in your group, you should vote for yourself.) and pick out that person who you consider the best liked. O.K. Please do this on the ballot which is in envelope C. Do this right away because a member of the research team will pick up that ballot right away. Do this now and then we will go on.

(1 minute pause)

O.K. Now just place the ballot outside the door and it will be picked up.

OTHER

O.K. Now before you fill in questionnaire C, I will tell you what will happen. That person which you have elected (that is which the majority of you have elected) will be taken to another room where he will bring your group decision and discuss it with another team's representative. Their roles, their jobs, will be to come out with a final solution to the Moon Wreck problem, each representing their own team solution. Meanwhile,
the people who have not been elected by the group will be taken to another room. In that other room you will be observing someone else's representative coming out with those decisions. In other words, you will be observing someone else's representative not your own. You will be observing people and your job will be to evaluate them and later to meet with and critique them to see what kind of a job they did in the final decision making session. Meanwhile, the representative which you elected, your own team representative, will be again taken to another room where he will again meet with another representative from another team. And these two people, your representative and somebody else's representative, will be observed and evaluated by members of yet a third and fourth team. Other people will be observing them and they will be rating them to determine how well they did. O.K. Therefore, I think that I will just recap. Now what will happen is that in a few minutes someone will come in and tell you if you have won the election. If you have won, you will be taken to another room where you will meet with a representative from another team in order to hammer out a final solution to the Moon Wreck problem. Meanwhile, other people from other teams will be observing you and will be observing your opponent and later you will again meet with those people who have been observing you. You will not meet with your team again. If you have not been elected, you will be
taken to another room where you will observe yet another stranger who will come up with a final solution to the problem. So the person from the research team will be in to tell you the outcome of the election and to determine where you will go.

O.K. now I am gonna tell you what's going to happen. The person which you have elected, (i.e., which your team has elected) will be taken to another room where he will meet with a representative from another team and they will hammer out a final solution to the Moon Wreck problem. Your representative will be representing your team solution and his opponent will be representing his team solution. Meanwhile, those of you who have not been elected will be taken to another room where you will be sat in front of a T.V. set. You will be able to observe your own representative going through decisions and you will be evaluating him as you observe him. Evaluate him on a number of rating scales and after you have evaluated him he will again come back and meet with you. For a few minutes you will again discuss how your representative performed and you will evaluate him and critique him. The idea is, of course, to see how well he worked on your own position. Therefore, to recap, the person who is elected will be observed by you,
the other people who have not been elected, or if you have not been elected, you will be taken to another room where you will observe the person who has, in fact, been elected. O.K. Now let's fill in questionnaire C and await the results of the election.

COMPETENCE

Please pay close attention to what I am now going to say. Take out envelope C and inspect its contents. You will see a ballot and a brief questionnaire. Now, some instructions about the ballot. What the next part of the experiment calls for is to have one of the members of your team represent the team solution (the team decision to the Moon Wreck problem) in a final decision making session with a representative from another team. The fairest way to do this, to select that representative, is to have you, the members of the group, actually elect him. What you are to do now is to vote for that person in your group who you want to represent you. As you may know from your psychology courses and in general, you will probably recall that in group decision making teams different people take on different functions or roles. So, for example, you may have somebody who seems to be the nicest, the most emotional supportive. On the other hand, you may have someone who is the most competent the most intelligent the most able person. Now, we want you to vote for that person in your group who you personally consider the most intelligent and competent person. It is
very important for the experiment that every representative in the study is elected on the same basis. On the basis of competence and intelligence. You should not be modest about this. If you think you are the most competent, you should vote for yourself. Now I want you to vote for that person in your group who is the most competent. Do this now and I will wait.

(1 minute pause)

O.K. Now please place the ballot outside your door and it will be picked up.

OPEN

Now please pay close attention to what I am going to say. Look, find and inspect the contents of envelope C. There are two pieces of paper in envelope C. One is a brief questionnaire and the other is a ballot. Now one of the members of your team will be selected to represent your team solution in a final decision making session with a representative from another team. The fairest way to do this, is for you to vote for the representative. To actually elect him. Therefore, please vote for that person in your group who you would like to represent your team solution in that final decision making session. No point in being modest about this, you
may vote for yourself. Do this now and put the ballot, filled in ballot, outside your door. A member of the research team will come and pick it up. Do this now and I will wait.
Appendix E

The Experimental Materials Given to the Subjects
OSU Decision Making Project

QUESTIONNAIRE A

Name ____________________________________________________________
Address _______________________________________________________
City ____________________________________________________________

Year in School    F _____, So _____, Jr _____, Sr _____
Age _____

Number of experiments in which you have already participated _____
OSU Decision Making Project

DECISION TEAM MEMBERS

Myself _______________________________________

Others _______________________________________
OSU Decision Making Project

QUESTIONNAIRE B

GROUP DECISION MAKING

You are now to reach decisions on the same NASA moon walk problem. This time however, you are to reach a common and joint decision with your group. All four of you are to discuss and reach a solution all of you will agree with. In other words all four of you must agree on the same rank ordering of the fifteen items. Each of you should write down and keep a copy of the decision all four of you have reached. Remember that each of you should have a say in the decisions taken. Good luck and remember that you have thirty minutes to reach agreement. If you finish early make sure you all have a copy of the decision your group has taken and then wait for further instructions.
Instructions: On the next page you will find a problem given to NASA astronauts as part of their training. You are now to solve that problem by making decisions. Although you may wish for additional information, NASA only provided the information which we have given you. Therefore, you may have to assume a few things. Good luck and remember that you must be through within twenty minutes. If you finish early just sit quietly and wait for further instructions.
OSU Decision Making Project

Questionnaire C

REACTIONS TO TEAM DECISION MAKING

While waiting for the results of the vote please answer these questions, by placing a check ( ) mark on that point along each continuum which represents your opinion.

1. How much influence did you have in your group's decision?
   A great deal ________ ________ ________ ________ ________ Very little

2. How committed do you personally feel towards your group's decision?
   Very committed ________ ________ ________ ________ ________ Not at all committed

3. How good do you think your group's decision is?
   Excellent ________ ________ ________ ________ ________ Poor

4. How satisfied are you with your group's experience?
   Very satisfied ________ ________ ________ ________ ________ Not at all satisfied

5. How did your team get along?
   Very well ________ ________ ________ ________ ________ Poorly
OSU Decision Making Project

VOTING BALLOT

I cast my vote for ________________________________________

because I like him more than the other members of my group.

(remember: you may vote for yourself)
I cast my vote for ________________________________
because I think he is the most competent and intelligent
member of my group. (Remember: You may vote for yourself)
OSU Decision Making Project

VOTING BALLOT

I cast my vote for _________________________________.

(Remember: You may vote for yourself)
Your team has elected you to represent it in a decision-making session with a representative elected by another team. You have been elected because your team considers you the ablest and most competent member.

You will note a T.V. camera in your room. With this camera your team is observing you. They can hear and see you but of course it is not possible for them to talk to you. After you are through with this session you will meet back with them for a post decision-making evaluation.

You will not meet with another team's representative. Together you will have about 40 minutes to work out a joint solution which both of you agree with. You are being observed and evaluated by your team and he is being observed and evaluated by his team. However, because of a limitation in the size of the rooms in the lab, your team is in a different room than his team.
Your team has elected you to represent it in a decision-making session with a representative elected by another team. You have been elected because your team considers you the ablest and most competent member.

You will note a T.V. camera in your room. With this camera another team is observing you. They can hear and see you but of course it is not possible for them to talk to you. After you are through with this session you will meet with them for a post decision-making evaluation. You will not meet with your original group again.

You will now meet with another team's representative. Together you will have about 40 minutes to work out a joint solution which both of you agree with. You are being observed and evaluated by one team (not yours) and he is being observed and evaluated by another team (not his). However, because of a limitation in the size of the rooms in the lab, the team observing you is in a different room than the team observing him.
Your team has elected you to represent it in a decision-making session with a representative elected by another team. You will note a T.V. camera in your room with this camera another team is observing you. They can hear and see you but of course it is not possible for them to talk to you. After you are through with this session you will meet with them for a post decision-making evaluation. You will not meet with your original group again.

You will now meet with another team's representative together you will have about 40 minutes to work out a joint solution which both of you agree with. You are being observed and evaluated by one team (not yours) and he is being observed and evaluated by another team (not his). However, because of a limitation in the size of the rooms in the lab, the team observing you is in a different room than the team observing him.
Your team has elected you to represent it in a decision-making session with a representative elected by another team.

You will note a T.V. camera in your room. With this camera your team is observing you. They can hear and see you but of course it is not possible for them to talk to you.

After you are through with this session you will meet back with them for a post decision-making evaluation.

You will now meet with another team's representative. Together you will have about 40 minutes to work out a joint solution which both of you agree with. You are being observed and evaluated by your team and he is being observed and evaluated by his team. However, because of a limitation in the size of the rooms in the lab, your team is in a different room than his team.
Your group has elected you to represent it in a decision-making session with a representative elected by another team. You have been elected because your team considers you its best liked and most popular member.

You will note a T.V. camera in your room. With this camera another team is observing you. They can hear and see you but of course it is not possible for them to talk to you. After you are through with this session you will meet with them for a post decision-making evaluation. You will not meet with your original group again.

You will now meet with another team's representative. Together you will have about 40 minutes to work out a joint solution which both of you agree with. You are being observed and evaluated by one team (not yours) and he is being observed and evaluated by another team (not his). However, because of a limitation in the size of the rooms in the lab, the team observing you is in a different room than the team observing him.
Your team has elected you to represent the team solution in your discussions with another team's representative. You have been elected because your team considers you its best liked member.

You will note a T.V. camera in your room. With this camera your team is observing you. They can hear and see you but of course it is not possible for your team to talk to you. After you are finished with this session you will meet back with them for a post-decision evaluation.

You will now meet with another team's representative. Together you will have about 40 minutes to work out a joint solution which is mutually agreeable. You are being observed and evaluated by your team members and your opponent is being observed and evaluated by his team. However, because of a limitation in the size of the rooms in the lab, your team is in a different room than his team.
Your task now consists of hammering out a final solution to the decision-making Moon Wreck problem. By now you should be very familiar with the way the problem is to be solved. You will have about 40 minutes to solve as much of the problem as you can. Remember that you must both fully agree with whatever ranks you assign to the items. You should not accept a rank unless you agree with it.

Now, here are a few other rules to follow. On the T.V. monitor in your room a clock will be shown. This clock is to be used as follows: (1) The moment you and the other representative agree on all fifteen items not the exact time (minutes and seconds). Put this time on the sheet marked "Final Solution". (2) Every five minutes a voice will come on to announce the time. When you hear this person you and the other spokesman are to stop your discussions and do the following (a) write down the number of items which you both have agreed upon. Write this down on the sheet marked "Discussion Session One", (b) you must then initial this and have the other spokesman initial your sheet. This is to insure that you each agree and no misunderstanding occured. You will have two minutes to do this, so work quickly. Then a voice will come on again and say "Continue Discussion". You should then continue your discussions for another five minute interval. After this you will repeat the same procedure as before. That is, write down and have you and the other representative initial the number of items agreed on the sheet marked "Discussion Session Two." Again, you have two minutes to do that.
Continue in this fashion until you reach agreement on all issues or until time is up.

Example: Representatives A and B are solving the problem.

When the first discussion session is over, both A and B use form "Discussion Session One" to announce that they have reached agreement on two items. They then pass it to each other. A checks B to make sure he is correct and B does the same for A.

As soon as you have reached agreement on all 15 items each of you fill out a "Final Solution" form, and both you and the other team representative sign it.

Finally, as was mentioned at the beginning of the study, a prize will be given in this study. This prize consists of $10.00 to be given to EACH member of a winning team and its representative.

The winning team will be decided as follows. The team which is observing you will be rating you on a 25 scale. If the team observing you gives you the best rating from all the teams involved this month you and your original team will be declared the winner. Of course, the observers will not know that these ratings will determine which team wins. This is done to keep the procedure fair.

When you are told to "start discussion session one" begin to solve the problem. You may refer to any notes you have, to your solution or your team's solution or use any arguments you wish. GOOD LUCK!
DISCUSSION SESSION ONE

We representatives have agreed on ______________________
items (write in number of items agreed upon).

Initials _________
DISCUSSION SESSION TWO

We representatives have agreed on ________________
items (write in the number of items agreed upon).

Initials _______
DISCUSSION SESSION THREE

We representatives have agreed on ____________________
items (write in the number of items agreed upon).

Initials ________

__________
DISCUSSION SESSION THREE

We representatives have agreed on ________________________ items (write in the number of items agreed upon).

Initials ________

________
DISCUSSION SESSION FOUR

We representatives have agreed on ________________________
items (write in number of items agreed upon).

Initials ________

__________
DISCUSSION SESSION FIVE

We representatives have agreed on ________________ items (write in the number of items agreed upon).

Initials ________

_________
DISCUSSION SESSION SIX

We representatives have agree on ________________ items (write in the number of items agreed upon).

Initials ______

_________
O.S.U. DECISION-MAKING PROJECT
FINAL SOLUTION

<table>
<thead>
<tr>
<th>ITEMS</th>
<th>RANK AGREED UPON</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Box of matches</td>
<td></td>
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<tr>
<td>2. Food concentrate</td>
<td></td>
</tr>
<tr>
<td>3. Fifty feet of nylon rope</td>
<td></td>
</tr>
<tr>
<td>4. Parachute silk</td>
<td></td>
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<tr>
<td>5. Solar-powered portable heating unit</td>
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<tr>
<td>6. Two .45 caliber pistols</td>
<td></td>
</tr>
<tr>
<td>7. One case of dehydrated milk</td>
<td></td>
</tr>
<tr>
<td>8. Two 100 pound tanks of oxygen</td>
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<tr>
<td>9. Stellar map of the Moon's constellation</td>
<td></td>
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<tr>
<td>10. Self-inflating life raft</td>
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<tr>
<td>11. Magnetic compass</td>
<td></td>
</tr>
<tr>
<td>12. Five gallons of water</td>
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</tr>
<tr>
<td>13. Signal flairs</td>
<td></td>
</tr>
<tr>
<td>14. Firstaid kit containing injection needles</td>
<td></td>
</tr>
<tr>
<td>15. Solar-powered FM receiver-transmitter</td>
<td></td>
</tr>
</tbody>
</table>

Exact time when final solution was achieved

minutes ____

seconds ____

Signatures __________________________________________

________________________________________
OSU Decision Making Project

QUESTIONNAIRE E

REACTIONS BY GROUP REPRESENTATIVES

Name __________________________

Before we go on to the next part of the study and while it is still fresh in your mind, please answer the following questions. Some of the questions may seem obvious to you, but the agency funding our research (and paying you) wants to make sure that the instructions you received were clear. Just check that number along the continuum which best reflects your opinion.

EXAMPLE I am a participant in this study

Completely true 1 2 3 4 5 6 7 8 9 Completely false

This person circled 1 indicating that he feels that it is completely true that he is a participant in this study.

1. All things considered, how satisfied are you with your discussions with the other representative?

Very satisfied 1 2 3 4 5 6 7 8 9 Not at all satisfied

2. How satisfied do you think your opponent is with the discussions with you?

Very satisfied 1 2 3 4 5 6 7 8 9 Not at all satisfied

3. To what extent was your original team observing, watching and was able to monitor your discussions with the other representative?

My team did observe and monitor my discussions 1 2 3 4 5 6 7 8 9 My team did not observe, watch and monitor my discussions

4. How much influence or say did you have in the final solution reached by you and the other representative?

Very much influence 1 2 3 4 5 6 7 8 9 Very little influence

5. How satisfied are you with the final solution you and the other representative have reached?

Very satisfied 1 2 3 4 5 6 7 8 9 Not at all satisfied
6. To what extent was another team (not your original team) observing, watching and was able to monitor your discussions with the other representative?

Another team did 1 2 3 4 5 6 7 8 9 Another team
do not observe, watch and
don not monitor my discussions

7. How satisfied do you think your original team would be with your final solution?

Very satisfied 1 2 3 4 5 6 7 8 9 Not at all satisfied

8. To what extent did your original team elect you because they believed you to be the most intelligent and competent member?

My team elected me 1 2 3 4 5 6 7 8 9 My team did not elect me because of intelligence and competence

9. How good was your original team solution?

Excellent 1 2 3 4 5 6 7 8 9 Poor

10. To what degree did you think your team position deserved to be defended?

Deserved to be 1 2 3 4 5 6 7 8 9 Did not deserve to be defended

11. Describe the other team's representative

Likeable 1 2 3 4 5 6 7 8 9 Not likeable
Stubborn 1 2 3 4 5 6 7 8 9 Not stubborn
Compromising 1 2 3 4 5 6 7 8 9 Uncompromising

12. How do you think a representative should act?

He should strive 1 2 3 4 5 6 7 8 9 He should stick for the best solution to the team solution no matter what

13. To what extent did your original team elect you because they believed you to be the most amiable, supportive and nicest team member?

Elected because of 1 2 3 4 5 6 7 8 9 Was not elected because of amiability
14. In the next part of the study who will meet with you and evaluate you?

My original team 1 2 3 4 5 6 7 8 9 Another team

15. How do you think your original team would have liked you to behave during your discussions with the other team's representative?

Use discretion, 1 2 3 4 5 6 7 8 9 Don't compromise as you wished

16. I felt nervous during my discussions with the other representative

Strongly agree 1 2 3 4 5 6 7 8 9 Strongly disagree

17. I think that my original team solution was the best solution.

Strongly agree 1 2 3 4 5 6 7 8 9 Strongly disagree

18. How close was your final solution to your team's solution?

Very close 1 2 3 4 5 6 7 8 9 Not at all close

19. How close was your individual solution to your final solution?

Very close 1 2 3 4 5 6 7 8 9 Not at all close

20. Did the final solution reached coincide to your team's solution or to your opponents team solution?

Coincided with my 1 2 3 4 5 6 7 8 9 Coincided with his team solution

21. Who do you think won in the final solution (check one)

My team _____, other team _____, no one _____, both _____

22. During the final discussion session, who's solution did you rely on?

Relied on my indiv-1 2 3 4 5 6 7 8 9 Relied on my team's solution

23. How favorably do you think the observers will evaluate you?

Very favorably 1 2 3 4 5 6 7 8 9 Very unfavorably
24. Describe your discussions with the other team's representative.

Easy 1 2 3 4 5 6 7 8 9 Difficult
Relaxed 1 2 3 4 5 6 7 8 9 Frustrating

25. Following my discussions with another team's representative I will be evaluated by my original team.

Completely true 1 2 3 4 5 6 7 8 9 Completely false

26. Following my discussions with another team's representative I will be evaluated by another team (neither mine nor my opponent's team)

Completely true 1 2 3 4 5 6 7 8 9 Completely false

27. So far I have enjoyed my participation in this study.

Strongly agree 1 2 3 4 5 6 7 8 9 Strongly disagree

28. I look forward to having my behaviors during the discussions with another team's representative evaluated by the observers.

Strongly agree 1 2 3 4 5 6 7 8 9 Strongly disagree

29. If you have any thoughts about the study (such as what the hypotheses are) or certain things you liked or disliked please write them below.

Thank you. We shall go on in a few minutes.
OSU Decision Making Project

QUESTIONNAIRE F

This questionnaire is to be viewed by observers. If you are not an observer DO NOT read this further and put it away.

**Instructions**: You will be observing your team’s representative as he meets with another team’s representative. After they have finished these discussions you will meet with your team’s representative to evaluate him.

You are to evaluate your representative on this 25 point scale. You should rate him at the end of the sixth discussion session.

**Rating Scale**

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He's doing a terrible job  So-so  Fantastic job
This questionnaire is to be viewed by observers. If you are not an observer DO NOT read this further and put it away.

Instructions: You will be observing another team's representative as he meets with yet another team's representative. After they have finished their discussion you will meet with the representative you observed and you will evaluate him.

You are to evaluate the representative on this 25 point scale. You should rate him at the end of the sixth discussion session.

Rating Scale

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

He's doing a terrible job So-so Fantastic job
Appendix F

Taped Instructions Delivered to Dyads
INSTRUCTIONS TO DYADS

(Taped instructions...a clock shown on the monitor)

You two have been elected by your respective teams to represent them in a final decision making session. Please remove the contents of envelop D. You will note a statement of the Moon Wreck problem, a final decision making form of the 15 items of the problem, and 6 sheets marked "Discussion Session one" through "Discussion Session six." You will also note a T.V. camera and some microphones. The T.V. camera and microphones are being used by the observers to monitor you. You will also notice the clock projected onto your television screen.

In this final decision making session you are to discuss the Moon Wreck problem in five minute intervals. You are to discuss the problem with the other team representatives for five minutes then take a two minute break then go on for another five minutes etc.. The clock will tell you when to begin discussions and when to take the two minute breaks.

During the two minute breaks you are to write down the number of items which you and the other team representatives have reached. Please use the sheets title "Discussion Session one through six" to do this. For example, in a few minutes the clock will instruct you to begin your deliberation. After five minutes the clock will tell you to break your
discussions. You are then to take out the sheet marked "Discussion Session One" and each of you are to write down the number of items upon which you have reached agreement. Also verify each other's sheets and make sure that the other person has the same number that you do. Once you are satisfied that the other person is correct, sign his or her sheet. Then wait until the clock tells you to begin.

Please observe those breaks faithfully and do not discuss the problem or talk during those breaks. The reason for this is that the observers will be doing things during the break and they should not be disturbed.

You will have a total of six intervals. However, you may finish before this. If you do, note the exact time at which this total agreement is reached. Then each of you fill out the sheet marked "Final Solution", making note of the time at which the agreement was reached. Then check each other's copy of the final solution and sign both your's and the other person's copy. I will now start the clock.

(Clock is started)

Begin discussion session one

(Pause 5 minutes - clock running)

(Stop clock)

End of discussion session one. Please fill in and sign the Discussion Session One sheets

(Pause 2 minutes)
Begin discussion session two
(Pause 5 minutes - clock running)
(Stop Clock)
End of discussion session two. Please fill in and sign the Discussion Session Two Sheets. If you have reached agreement on all items, fill in the "Final Solution" Sheet, note the time and sign each other's copies
(Pause 2 minutes)

Begin discussion session three
(Pause 5 minutes - clock running)
(Stop clock)
End of discussion session three. Please fill in and sign the Discussion Session Three Sheets. If you have already reached agreement on all items, fill in the "Final Solution" Sheet, note the time and sign each other's copies
(Pause 2 minutes)

Begin discussion session four
(Pause 5 minutes - clock running)
(Stop clock)
End of discussion session four. Please fill in and sign the Discussion Session Four Sheets. If you have already reached agreement on all items, fill in the "Final Solution" Sheet, note the time and sign each other's copies
(Pause 2 minutes)
Begin discussion session five
(Pause 5 minutes - clock running)
(Stop clock)

End of discussion session five. Please fill in and sign the Discussion Session Five Sheets. If you have already reached agreement on all items, fill in the "Final Solution" Sheet, note the time and sign each other's copies
(Pause 2 minutes)

Begin discussion session six
(Pause 5 minutes - clock running)
(Stop clock)

End of discussion session six. Please fill in and sign the Discussion Session Six Sheets. You are not to discuss the problem further. Please fill in the "Final Solution" Sheet, not the time, and sign each other's copies.