CONGRUENCE OF THIRD-PARTY INTERVENTION PROCEDURES AND DECISION-MAKERS' OBJECTIVES: INTEGRATIVE VERSUS DISTRIBUTIVE

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PREFACE

This study sought to clarify the nature of two variables suspected to interact in determining the effectiveness of third-party intervention. The study partially accomplished this objective, but also suggested the need for further refinement in the definition of one of the variables.

The inquiry also produced at least two significant by-products. First, there was considerable confirmation for the popularly held opinion that integrative decision making is superior to distributive decision making in terms of actual and perceived success and the parties' subsequent feelings about themselves and one another. Second, correlations between the dependent variables suggested the possibility that feelings about one's own decision-making behavior may affect perceptions of decision-making success, which may, in turn, affect feelings about the other party's decision-making behavior.

I wish to express my deepest gratitude to all those who have contributed to the completion of this project in various ways. First of all, thanks go to the researchers who have preceded me in this topic area, particularly Richard Walton, Robert McKersie, Morton Deutsch, Dean Pruitt, and Jeff Rubin.

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To He who is the source of all true knowledge, thank you for believing in me.

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CHAPTER I

INTRODUCTION

This study compared various third-party procedures that help decision makers achieve joint objectives. Recent research (Hiltrop & Rubin, 1982) suggests that third-party effectiveness is an interaction between (a) the manner in which the third party helps the decision makers reach agreement and (b) the intensity of conflict between the decision makers. The present study extended the latter variable to include situations of harmony as well as conflict, recognizing that third-party intervention may be beneficial to decision makers in both contexts.

Two relevant concepts were incorporated. The first pertains to variations in criteria which individuals may use to establish preferences among decision alternatives. Third parties may help determine the criterion to be used. The second relevant concept has to do with variations in the purpose for which individuals engage in joint decision making.

Criteria for Individual Preferences

Pruitt (1981) has suggested two different bases or criteria by which an individual may formulate preferences among decision alternatives. One is a quantitative cri-

terion and the other is a qualitative one.

The Quantitative Criterion

A criterion frequently used to evaluate alternatives is their degree of utility. This is quantifiable, involving an assessment along one or more dimensions of gain or loss (such as profit, satisfaction, usefulness, etc.) of that which would result from choosing each of the available alternatives. When using a solely quantitative criterion, a decision maker will prefer the alternative for which there is the largest quantity of utility. In joint decision making, knowledge of the other party's utility assessments also influences the individual's preferences for various alternatives (Pruitt, 1981). The quantitative criterion necessitates that, before a decision is made, there be a consideration of all available information about all available alternatives.

Qualitative Prominence

There are times when decision makers may prefer an alternative that has a salient quality other than utility. According to Schelling (1960), an alternative may be preferred because it "enjoy[s] prominence, uniqueness, simplicity, precedent, or some other rationale that makes it qualitatively differentiable from the continuum of possible alternatives" (p. 70, underline added). Pruitt (1981) has classified "principles of prominence" so as to include normative characteristics (such as equity, equality, and precedent)

and characteristics of perceptual salience (such as central position on a dimension, qualitatively different appearance, or a mediator's suggestion).

In joint decision making, knowledge of alternatives which are qualitatively prominent to the other party also influences which alternative is preferred by the individual (Pruitt, 1981). The qualitative criterion requires that the most prominent alternatives be considered for adoption first. If a decision cannot be reached, based on initially prominent alternatives, then other prominent alternatives are considered until a mutually acceptable alternative is found.

Purposes for Joint Decision Making

Much of the literature in the field of bargaining and negotiations distinguishes integrative from distributive decision making (e.g., see Pruitt, 1981; Walton & McKersie, 1965, 1966). Integrative decision making, in its extreme form, occurs when the joint objective is to increase the total quantity of a given resource, without regard for how this total should be distributed among the decision makers. In such situations, a state of pure cooperation or coordination exists. Each decision-maker's objective is to maximize joint gain.

Distributive decision making, in its extreme form, occurs when the joint objective is to allocate or distribute among the decision makers portions of an existing resource. In such situations, when the limits of the resource are

known, one decision-maker's gain necessarily predicts the other's loss, producing pure competition or conflict. Each decision-maker's objective is to maximize personal gain.

Congruence of Criteria and Objectives

In order for two individuals to reach a joint decision, they must somehow come to prefer the same alternative, one which will satisfy their objectives. Walton and McKersie (1966) suggest that this process may be troublesome in either the integrative or the distributive context if an inappropriate procedure is used. Procedures beneficial for integrative decision making are detrimental to distributive decision making. Procedures beneficial to distributive decision making are detrimental to integrative decision making. The procedure said to be best for integrative decision making seems to employ a quantitative criterion, while the procedure recommended for distributive decision making appears to employ a qualitative criterion. Hence, the achievement of a distributive or integrative objective might be hindered or facilitated depending on what criterion is used. No single study has specifically investigated this idea, yet, as will be seen, the idea is supported by several reviews and research articles on related topics.

Quantitative-Integrative Congruence

Effective integrative decision making requires that decision makers fully and accurately exchange their assessments of utility for each alternative and that their infor-

mation be combined in an joint assessment of utility. In other words, integrative decision makers identify a common objective and work together to use all the information they jointly possess to produce the best possible estimation of the utility associated with all alternatives (Janis, 1972, 1982; Pruitt, 1981; Walton & McKersie, 1965, 1966). For example, Pruitt and Lewis (1975) found that joint decision makers given an integrative objective exhibited a higher incidence of information exchange regarding their values and priorities than those given a distributive objective. Also, information exchange was found to be positively correlated with joint profit in the integrative condition. Schulz and Pruitt (1978) found very similar results. Thus, the use of the quantitative criterion is of utmost importance in the integrative context.

Qualitative-Integrative Congruence

Since integrative decision makers eventually formulate one or more common utility dimensions, the alternative which is best for one party will also be best for the other. Under these circumstances, the existence of an alternative with a characteristic that is mutually prominent in the qualitative sense is unnecessary. In fact, a mutually prominent alternative may interfere by cutting short the search for an alternative which is quantitatively best. Janis' (1972, 1982) analysis of the groupthink phenomenon suggests that when a specific alternative is suggested by an influential group leader (making it qualitatively prominent), group

decision makers are likely to settle on this alternative without first estimating the utility of it and all other alternatives. In doing so, they may overlook an alternative that offers higher utility with respect to their joint objective.

Quantitative-Distributive Congruence

In distributive decision making, the individuals have conflicting objectives. That is, they each have a different utility dimension negatively correlated with the other's. Under these circumstances it is not possible to find a mutually preferable alternative based solely on the quantitative criterion. The use of a quantitative criterion also necessitates that the parties fully disclose to each other their individual utility information. This may make an acceptable agreement even less likely in distributive decision-making. One reason for this, as suggested by Druckman and Zechmeister (1973) and Rubin (1980), is that these disclosures make the parties realize just how intense their conflict really is and further reduce their willingness to reach an agreement. For example, Erickson, Holmes, Frey, Walker, and Thibaut (1974) found that under high-confict conditions, joint decision makers reached fewer agreements when asked to state their priorities regarding decision issues than when this procedure was not used. Similarly, Johnson (1967) found that competition was engendered in distributive decision making when decision makers carefully explained their own positions and then, through role reversal, tried to explain

the other party's position.

A second reason that the quantitative criterion may interfere with distributive decision-making is that such disclosures may reveal each party's limit or bottom line. Then (unless a mutually prominent alternative exists), concessions may be interpreted as capitulation or movement toward the bottom line (Pruitt, 1981; Rubin, 1980). This motivates the other party to "mismatch" (Pruitt, 1981) or demand more as the other party demands less. Exploitation can occur, resulting in an inequitable outcome. For example, Leibert, Smith, Hill, and Kieffer (1968) found this to occur in a simulated used car sales transaction. Sellers who operated solely on a quantitative criterion demanded higher prices for their cars after buyers' initial offers were favorable to the seller than when initial buyers' offers were unfavorable to the seller. Thus, in distributive decision making, each party must avoid relying solely on the quantitative criterion and also avoid disclosing utility information to the other party.

Qualitative-Distributive Congruence

A qualitative rather than quantitative criterion should be used in the distributive context. When a mutually prominent alternative exists, concessions are viewed as movement toward this alternative, rather than capitulation and movement toward one's ultimate limit. In such instances, concessions are matched, rather than mismatched, such that the parties move together toward agreement. For example, Pruitt

and Johnson (1970) observed this phenomenon using a modified bilateral monopoly paradigm. Distributive decision makers made greater concessions when a third party suggested a price to agree upon than when no third-party suggestion was given. The suggestion provided the parties with an alternative which was mutually prominent due to its qualitative characteristic of being recommended by a third party. (See also Joseph & Willis, 1963; Krauss & Deutsch, 1966; Liebert, Smith, Hill, & Kieffer, 1968; Meeker & Shure, 1969; Podell & Knapp, 1969; Pruitt, 1981; Rubin, 1980.)

Third-Party Intervention

If decision makers are to use a criterion suitable to their objectives, perhaps a third party could assist by helping them find the better criterion. A distinction between forms of third-party intervention could be proposed on the basis of which criterion the third party advocates. Quantitative intervention would occur when the third party encourages the individuals to base their preferences only on their own and the other party's estimates of utility, while avoiding any consideration of qualitative characteristics. Qualitative intervention would occur when the third party encourages the decision makers to base their preferences on obtaining an alternative which is qualitatively prominent, while minimizing the influence of utility considerations.

Hypothesis

An interaction effect was predicted between the form of intervention and the form of joint decision-making objective. Specifically, quantitative intervention was predicted to be more effective than qualitative intervention when used in integrative decision making, and qualitative intervention was predicted to be more effective than quantitative when used in distributive decision making.

CHAPTER II

METHOD

Subjects and Design

Participants in the experiment were 120 undergraduate men and women enrolled at Oklahoma State University. They were recruited on a voluntary basis from several sections of an introductory psychology course. Fifteen dyads were assigned to each of the four conditions of a 2 X 2 factorial design.

Task

The task was presented as a game in which the objective was to reach a joint decision with another person so as to maximize profit. The game involved a business situation similar to that used by D. G. Pruitt and his colleagues (see Pruitt, 1981). In the present study, one person acted as a seller representing a manufacturer of personal computers. The other person acted as a buyer representing a department store chain which markets such computers. The seller and buyer had to agree upon a price for the computers, this price being selected from a table of alternatives provided by the experimenter (see Appendix A). Profits to be obtained at the various price levels were also included in

the table, in a method similar to that developed by Kelley (1966).

Apparatus and Materials

Subjects were seated across from one another at a small table with a one-foot-high partition between them. They were each given a pen and a booklet containing the printed materials to be used in the experiment. This booklet included (a) the individual's table of prices and profits, (b) a multiple choice quiz over the experimenter's instructions (see Appendix B), (c) a questionnaire consisting of rating scales used in the measurement of dependent variables (see Appendix C), and (d) a form on which the subjects signed a confidentiality agreement and provided their names and addresses (see Appendix D). A summary of the game objective and game procedure (see Appendix E) was posted in front of each subject on the table partition.

The profit tables (see Appendix A) used by the decision makers were specifically designed to meet several requirements of the experiment. The following is a list of table characteristics, along with supporting rationale.

1. Within dyads, each individual had a different profit table such that profits shown at each price were <u>negatively correlated</u> between the two individuals. This assisted in the operationalization of the integrative condition; mutual knowledge of profit tables was needed in order to select the price which maximizes joint profit. In the distributive condition, the negative correlation provided the two deci-

sion makers with opposing individual utility dimensions.

2. The individuals' tables also differed in that there was a wider range of values in the table of one decision maker than of the other, making it possible to obtain a different sum for each alternative when the profits in the individual's tables were added together. This was necessary for operationalizing the integrative condition, where decision makers had to choose between alternatives based on maximizing joint utility.

3. While the individuals' profit tables differed within a dyad, the same set of two tables was used across all conditions of the experiment. This provided for control.

4. The tables were constructed such that qualitatively prominent alternatives were not immediately obvious, but could be discerned by conscious application of qualitative principles. This helped ensure that subjects would not use a qualitative criterion in the quantitative condition. In the condition where subjects were instructed to use a qualitative criterion, prominent alternatives could be found by using the centrality principle (making the central alternatives in the table appear prominent) and/or the equality principle (making those alternatives providing for the most equal distribution appear most prominent). To make such alternatives not immediately obvious, two things were done: (a) there was an even number of alternatives in the tables and, thus, no alternative which was precisely in the center, and (b) there was no alternative which provided for a precisely equal distribution. In the qualitative condition,

however, subjects could look for the alternatives which represented the greatest centrality and/or equality.

Apparatus and materials used by the experimenter included a stopwatch, a written set of general instructions (see Appendix F), and a written set of instructions specific to each of the experimental conditions (see Appendix G). Also included were a sheet of instructions regarding questions about the game (see Appendix H), a sheet for making notes about the game and recording data from it (see Appendix I), a copy of the post game questionnaire and confidentiality agreement, and written debriefing statements and questions (see Appendix J). The debriefing questions were based on an approach suggested by Carlsmith, Ellsworth, and Aronson (1976).

Operational Definitions

Independent Variables

Decision-Making Objective. This manipulation was operationalized in a manner very similar to that used by Schulz and Pruitt (1978). In the integrative condition, the dyad members, acting as seller and buyer, were told that the individual companies they represented were both subsidiaries of the same parent company. They were told that their objective in the game was to agree on a price such that the profits of the parent company would be maximized. The parent company's profit at any particular price was represented by the sum of the profits shown in their individual

profit tables. Thus, the two individuals worked together as a team.

In the distributive condition, subjects were told that their objective in the game was to agree on a price such that they each would maximize the profits of the individual companies they represented. Their individual companies' profit at any particular price was represented by the profit shown in their own individual profit tables.

Third-Party Intervention. The experimenter served as the third party by introducing the procedure for the game. In the quantitative intervention condition, the procedure (see Appendix G) required that the individual decision makers first consider all the prices in terms of the information in both their profit tables before working on an agreement.

In the qualitative intervention condition, the procedure (see Appendix G) required the decision makers to start by trying to agree on any price which seemed to stand out to both of them "as the obvious choice for a sensible agreement." Other prices were to be considered only to the extent that an agreement could not be reached based on the initially prominent alternative.

Dependent Variables

There were 13 measures of the effectiveness of third-party intervention. These consisted of one measure of decision-making processes, one of actual profit outcomes, one of efficiency, and ten which were attitudinal ratings. For all

variables, the dyad was the unit of analysis.

Time Consumption. The decision-making process was assessed in terms of the time (in minutes and seconds) consumed by the dyad in attempting to reach an agreement. There was an ultimate 15-minute limit on time consumption, a limit imposed by the experimenter for the decision-making session.

Profit Maximization. This outcome measure tapped the degree to which the price agreement reached actually met the joint decision-making objective imposed by the experimenter. In the integrative condition, this was defined as the sum of the profits shown in the tables of the two individuals, at the agreed upon price, divided by the maximum possible sum. In the distributive condition, where individual profits differed, the dyadic profit was based upon the total amount of profit shared equally by the two parties. The profit obtained by the less successful of the two decision makers (see Pruitt, 1981; Sen, 1970) was multiplied by two and divided by the maximum possible equally shared profit. It is recognized that these bases for calculating profit maximization in the integrative and distributive conditions are not equivalent. It is felt, however, that they reflect true differences in the way success is typically measured in these two forms of decision making.

Efficiency. An efficiency ratio was computed for each dyad. This was done by dividing the profit maximization measure by the time consumed in decision making.

Attitudinal Ratings. The ten attitudinal ratings used

in this study (see Appendix C) involved a procedure which combined the two ratings of the individual dyad members into one dyadic measure. This was accomplished by computing the average rating of the individuals in the dyad. Each of the ten attitudinal ratings was made on a 30-point graphic rating scale divided into six major segments. Scale anchors varied depending upon the variable being measured.

The first scale was designed to be a measure of perceived absolute success and required subjects to rate the degree to which they felt successful in achieving the decision-making objective given by the experimenter. The second scale was intended as a measure of perceived comparative success and required subjects to rate how they felt their profits would rank among those obtained by all other subjects participating in the experiment.

The next three scales were assessments of self-perceived game behavior. They consisted of semantic differential scales (Osgood, Suci, & Tannenbaum, 1957) requiring the subject to describe his or her behavior in the game on three dimensions: evaluative (good-bad), potency (strong-weak), and activity (active-passive). Another three scales applied the same semantic differential dimensions in an assessment of the perceived other party's game behavior.

The next scale was designed to be a measure of satisfaction with the procedure introduced by the third party/experimenter. The experimenter indicated that he might conduct another experiment in the future, in which the participants might be able to win actual money based on

their success in the game. In planning ahead for this possible experiment, he was trying to decide whether or not to use the same procedure for the game, or change the game procedure in order to help the participants to be more successful. After having the subjects re-read the procedure, the experimenter then asked them to rate the degree to which they felt the procedure should be changed versus remain the same.

The last dependent variable was meant to be a more specific evaluation of the third-party intervention procedure, tapping the subject's quantitative vs. qualitative preference for the decision-making procedure. The question asked for a rating of the degree to which the subject would suggest more emphasis on considering all the prices vs. the obviously sensible prices. (The center point of the scale was designated as the appropriate place to respond for those suggesting no change in the procedure.)

Procedure

Subjects were scheduled to arrive at the laboratory in pairs, seated at the game table, and given their booklets. Then the experimenter read aloud to them the general instructions for the game and the instructions for the specific experimental condition to which they were assigned. Following this, they were allowed a brief time to ask any questions they might have about the game and were given the multiple choice quiz over the instructions. The experimenter then corrected any misconceptions revealed by the quiz.

Subjects were then asked to begin the game. No definite time limit was stated for reaching an agreement, although subjects were told that they might be asked to stop if they used an excessive amount of time. In actuality, if an agreement was not reached after 12 minutes, the experimenter indicated that the parties had three more minutes to reach an agreement. After two more minutes, the experimenter announced that one minute was left. The subjects were also told when fifteen seconds were left. After a total of 15 minutes, all decision making was terminated. This general approach was consistent with other studies (Schulz & Pruitt, 1978; Flowers, 1977) involving integrative decision making conditions, although less time was required for the task in the present experiment than for those in the other studies.

After reaching agreement (or the 15-minute deadline), the questionnaire was administered to subjects. Following this, they were given a partial debriefing, and asked to sign the confidentiality statement and provide their names and addresses. They were then dismissed. A full debriefing was given through the mail at the conclusion of the study.

CHAPTER III

RESULTS

Means within each of the four experimental groups and two-way analyses of variance (ANOVAs) were computed for each of the 13 dependent variables. Decision-making objective had a significant main effect on eight of these variables; third-party intervention procedure had a significant main effect on three of them. The objective and procedure interacted significantly for two dependent variables, which were subsequently analyzed for simple effects.

As an exploratory procedure, correlations were computed between all dependent variables. Of the 78 possible correlations, 42 were significant.

Means and Analyses of Variance

Time Consumption

Means for time consumption in each of the four experimental groups are presented in Table I. The analysis of variance (see Table II) indicates that the type of third-party intervention procedure had a significant effect upon the amount of time consumed in reaching an agreement. Time consumption was greater under the quantitative procedure than under the qualitative procedure.

TABLE I

MEAN TIME CONSUMPTION

	Procedure	
Objective	Quantitative	Qualitative
Integrative	4.59	3.31
Distributive	5.03	2.94

Note. Time consumption is expressed in minutes.

TABLE II

ANOVA FOR TIME CONSUMPTION

Source	SS	df	MS	F
Objective (OBJ)	0.01	1	0.01	0.00
Procedure (PRO)	42.67	1	42.67	8.56*
OBJ X PRO	2.44	1	2.44	0.49
Error	279.22	56	4.99	

*$p < .01$.

Profit Maximization

Mean profit maximization for dyads in each of the four experimental conditions is depicted in Figure 1. The analysis of variance (Table III) indicates that objective and procedure each had a significant main effect upon profit maximization.

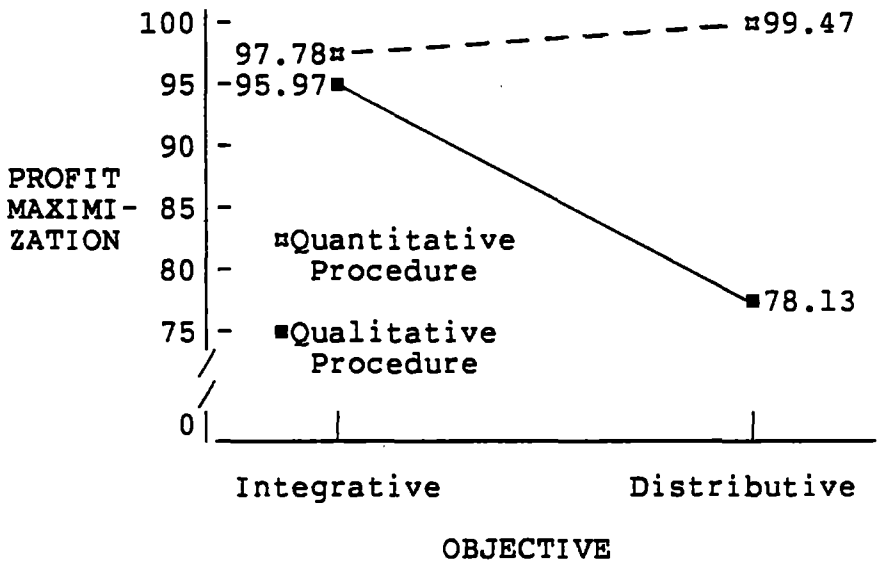

Figure 1. Mean Profit Maximization

It appeared that dyads given the integrative objective generally achieved higher profit maximization than those given the distributive objective. Likewise, it appeared that, overall, dyads instructed to use the quantitative procedure achieved higher profit maximization than those told to use the qualitative procedure. These main effects, how-

TABLE III

ANOVA FOR PROFIT MAXIMIZATION

Source	SS	df	MS	F
Objective (OBJ)	0.098	1	0.098	6.38*
Procedure (PRO)	0.201	1	0.201	13.12***
OBJ X PRO	0.143	1	0.143	9.33**
OBJ at PRO 1	0.002	1	0.002	0.13
OBJ at PRO 2	0.238	1	0.238	15.87***
PRO at OBJ 1	0.002	1	0.002	0.13
PRO at OBJ 2	0.341	1	0.341	22.73***
Error	0.858	56	0.015	

PRO 1 = quantitative. PRO 2 = qualitative.
OBJ 1 = integrative. OBJ 2 = distributive.
*$p<.05$. **$p<.01$. ***$p<.001$.

ever, are somewhat misleading, as the following results point out.

The analysis also shows that objective and procedure interacted significantly upon profit maximization. The simple effects analyses (see Table III) clarify that when the qualitative procedure was used, dyads given the integrative objective attained greater profit maximization than those given the distributive objective. For dyads using the quantitative procedure, however, the type of objective made no

difference in profit maximization. The procedure was found to affect profit maximization only when the distributive objective was given. In this condition, dyads using the quantitative procedure achieved greater profit maximization than those using the qualitative procedure. In the integrative condition, procedure made no difference. Hence, while the overall analysis showed main effects for both objective and procedure, the simple effects analyses indicated each to have an effect at only one level of the other variable. From Figure 1, it appears that the data from the distributive-qualitative combination markedly differed from that of the other three conditions and may well have been the source of all the significant results shown in Table III.

Efficiency

Mean efficiency levels are shown in Table IV. Procedure had a significant effect upon efficency (see analysis of variance in Table V) such that dyads using the qualitative procedure had higher efficiency than those using the quantitative procedure.

Perceived Absolute Success

Figure 2 depicts mean ratings of perceived absolute success for subjects in each of the four experimental conditions. The analysis of variance (see Table VI) shows a significant main effect for objective. Dyads working toward the integrative objective perceived more success toward their goal than those pursuing the distributive objective.

TABLE IV

MEAN EFFICIENCY

	Procedure	
Objective	Quantitative	Qualitative
Integrative	0.255	0.353
Distributive	0.257	0.390

Note. Efficiency = profit maximization / time consumption.

TABLE V

ANOVA FOR EFFICIENCY

Source	SS	df	MS	F
Objective (OBJ)	0.006	1	0.006	0.20
Procedure (PRO)	0.201	1	0.201	6.77*
OBJ X PRO	0.005	1	0.005	0.16
Error	1.664	56	0.030	

*$p<.05$.

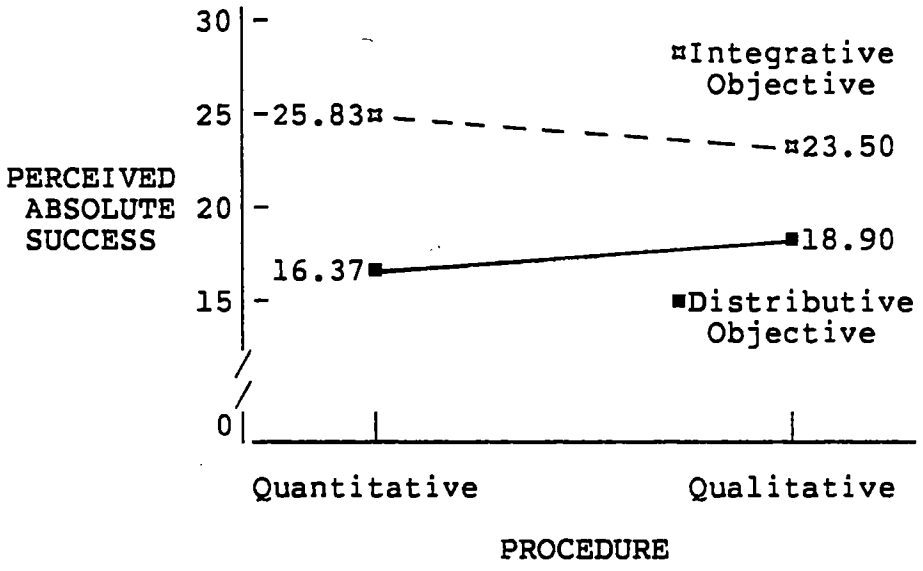

Figure 2. Mean Ratings of Perceived Absolute Success (Ratings are expressed in scale units. Zero success = 0; complete success = 30.)

The analysis of variance also shows a significant interaction effect of objective and procedure upon perceived absolute success. The simple effects analyses (see Table VI) show that the difference in the perceived absolute success ratings of integrative and distributive dyads was greater when a quantitative rather than a qualitative procedure was used.

Perceived Comparative Success

Table VII gives mean ratings of perceived comparative success in the four condiitons. The analysis of variance (see Table VIII) indicates that there was a significant main effect for objective, such that dyads given the integrative

TABLE VI

ANOVA FOR PERCEIVED ABSOLUTE SUCCESS

Source	SS	df	MS	F
Objective (OBJ)	742.02	1	742.02	33.90***
Procedure (PRO)	0.15	1	0.15	0.01
OBJ X PRO	88.82	1	88.82	4.06*
OBJ at PRO 1	672.13	1	672.13	30.70***
OBJ at PRO 2	158.70	1	158.70	7.25**
PRO at OBJ 1	40.83	1	40.83	1.87
PRO at OBJ 2	48.13	1	48.13	2.20
Error	1225.67	56	21.89	

PRO 1 = quantitative. PRO 2 = qualitative.
OBJ 1 = integrative. OBJ 2 = distributive.
*$p<.05$. **$p<.01$. ***$p<.001$.

objective perceived higher comparative success than did those given the distributive objective.

Self-perceived Game Behavior

Evaluative Dimension. Mean ratings of self-perceived game behavior (SPGB) on the evaluative dimension are shown in Table IX. According to the analysis of variance (Table X), members of dyads given the integrative objective rated their game behavior higher on the evaluative dimension than

TABLE VII

MEAN RATINGS OF PERCEIVED COMPARATIVE SUCCESS

	Procedure	
Objective	Quantitative	Qualitative
Integrative	20.67	22.73
Distributive	16.17	17.97

Note. Ratings are expressed in scale units. Worst = 0; best = 30.

TABLE VIII

ANOVA FOR PERCEIVED COMPARATIVE SUCCESS

Source	SS	df	MS	F
Objective (OBJ)	322.02	1	322.02	22.74*
Procedure (PRO)	56.07	1	56.07	3.96
OBJ X PRO	0.27	1	0.27	0.02
Error	792.83	56	14.16	

*$p<.001$.

TABLE IX

MEAN RATINGS OF SPGB: EVALUATIVE DIMENSION

	Procedure	
Objective	Quantitative	Qualitative
Integrative	23.23	23.93
Distributive	20.47	21.10

Note. Ratings are expressed in scale units. Bad = 0; good = 30.

TABLE X

ANOVA FOR SPGB: EVALUATIVE DIMENSION

Source	SS	df	MS	F
Objective (OBJ)	117.60	1	117.60	6.82*
Procedure (PRO)	6.67	1	6.67	0.39
OBJ X PRO	0.02	1	0.02	0.00
Error	966.20	56	17.25	

*$p<.05$.

did those who were given the distributive objective.

Potency and Activity Dimensions. SPGB on the both the potency and activity dimensions did not vary significantly as a function of either objective or procedure. The interaction effect was also nonsignificant.

Perceived Other's Game Behavior

Evaluative Dimension. Mean ratings of perceived other's game behavior (POGB) on the evaluative dimension are provided in Table XI. The analysis of variance (Table XII) indicates that individuals in dyads given the integrative objective rated the game behavior of the other person in the dyad significantly higher on the evaluative dimension than did those who were given the distributive objective.

Potency Dimension. Means (Table XIII) and the analysis of variance (Table XIV) for ratings of the perceived potency of the other party's game behavior indicate that the type of objective had a significant effect upon this variable. Individuals in dyads given the integrative objective rated the other party as stronger than did those given the distributive objective.

Activity Dimension. Table XV shows mean ratings of POGB on the activity dimension. According to the analysis of variance (Table XVI), subjects in dyads given the integrative objective rated the other party as more active than did those given the distributive objective.

TABLE XI

MEAN RATINGS OF POGB: EVALUATIVE DIMENSION

	Procedure	
Objective	Quantitative	Qualitative
Integrative	25.20	24.83
Distributive	21.47	20.20

Note. Ratings are expressed in scale units. Bad = 0; good = 30.

TABLE XII

ANOVA FOR POGB: EVALUATIVE DIMENSION

Source	SS	df	MS	F
Objective (OBJ)	262.50	1	262.50	25.84*
Procedure (PRO)	10.00	1	10.00	0.98
OBJ X PRO	3.04	1	3.04	0.30
Error	568.87	56	10.16	

*$p<.001$.

TABLE XIII

MEAN RATINGS OF POGB: POTENCY DIMENSION

	Procedure	
Objective	Quantitative	Qualitative
Integrative	24.67	21.80
Distributive	19.37	19.67

Note. Ratings are expressed in scale units. Weak = 0; strong = 30.

TABLE XIV

ANOVA FOR POGB: POTENCY DIMENSION

Source	SS	df	MS	F
Objective (OBJ)	207.20	1	207.20	16.00*
Procedure (PRO)	24.70	1	24.70	1.91
OBJ X PRO	37.60	1	37.60	2.90
Error	725.30	56	12.95	

*$p<.001$.

TABLE XV

MEAN RATINGS OF POGB: ACTIVITY DIMENSION

	Procedure	
Objective	Quantitative	Qualitative
Integrative	22.97	21.77
Distributive	20.03	19.50

Note. Ratings are expressed in scale units. Passive = 0; active = 30.

TABLE XVI

ANOVA FOR POGB: ACTIVITY DIMENSION

Source	SS	df	MS	F
Objective (OBJ)	101.40	1	101.40	6.27*
Procedure (PRO)	11.27	1	11.27	0.70
OBJ X PRO	1.67	1	1.67	0.10
Error	905.40	56	16.17	

*$p<.05$.

Satisfaction with Procedure

Neither the objective nor the procedure had a significant effect upon subjects' ratings of satisfaction with the procedure. The interaction of the two variables also had a nonsignificant effect upon satisfaction with the procedure.

Quantitative vs. Qualitative Preference

Mean ratings of subjects' quantitative vs. qualitative preference for the procedure are given in Table XVII. The analysis of variance (Table XVIII) indicates that dyads given the integrative objective tended to prefer a more quantitative procedure, while those given the distributive objective tended to prefer a more qualitative procedure. (The integrative subjects' overall mean of 17.52 falls on the quantitative side of the scale, whereas the distributive subjects' overall mean of 14.58 falls slightly on the qualitative side.)

Exploratory Correlational Analyses

Correlations between all dependent variables are shown in Table XIX. The following text summarizes these correlations, variable by variable.

Time Consumption

Time consumption was positively correlated with profit maximization and the activity dimensions of both SPGB and POGB. It was negatively correlated with efficiency and

TABLE XVII

MEAN QUANTITATIVE VS. QUALITATIVE PREFERENCE

	Procedure	
Objective	Quantitative	Qualitative
Integrative	17.50	17.53
Distributive	13.03	16.13

Note. Preference is expressed in rating scale units. Preference for quantitative procedure = 30. Preference for no change = 15. Preference for qualitative procedure = 0.

TABLE XVIII

ANOVA: QUANTITATIVE/QUALITATIVE PREFERENCE

Source	SS	df	MS	F
Objective (OBJ)	129.07	1	129.07	4.94*
Procedure (PRO)	36.82	1	36.82	1.41
OBJ X PRO	35.27	1	35.27	1.35
Error	1463.20	56	26.13	

*$p<.05$.

TABLE XIX

CORRELATIONS BETWEEN DEPENDENT VARIABLES

Variable	2	3	4	5	6	7
1. TC	.42***	-.77***	.00	-.19	-.05	-.07
2. PM	-	-.25	.19	.13	.15	-.02
3. EF		-	-.25	.07	-.13	-.08
4. PAS			-	.64***	.29*	.31*
5. PCS				-	.38**	.39**
6. SPGB:E					-	.65***
7. SPGB:P						-

Variable	8	9	10	11	12	13
1. TC	.30*	-.02	.09	.29*	.10	-.28*
2. PM	.19	.31*	.26*	.36**	.14	-.11
3. EF	-.39**	-.20	-.12	-.26*	-.19	.10
4. PAS	.19	.55***	.45***	.31*	.16	.27*
5. PCS	.23	.60***	.39**	.29*	.34**	.28*
6. SPGB:E	.49***	.67***	.47***	.58***	.27*	.14
7. SPGB:P	.72***	.62***	.50***	.52***	.16	.20
8. SPGB:A	-	.54***	.41**	.57***	.17	-.08
9. POGB:E		-	.66***	.61***	.30*	.26*
10. POGB:P			-	.72***	.15	.21
11. POGB:A				-	.23	-.05
12. SWP					-	-.03
13. QNQLP						-

Note. TC = time consumption; PM = profit maximization; EF = efficiency; PAS = perceived absolute success; PCS = perceived comparative success; SPGB:E = self-perceived game behavior: evaluative dimension; SPGB:P = self-perceived game behavior: potency dimension; SPGB:A = self-perceived game behavior: activity dimension; POGB:E,P,& A = perceived other's game behavior on the evaluative, potency, and activity dimensions, respectively; SWP = satisfaction with procedure; QNQLP = quantitative vs. qualitative preference. *p<.05. **p<.01 ***p<.001.

quantitative vs. qualitative preference. (The less the time consumption the greater the desire for a more quantitative procedure, and the greater the time consumption, the greater the desire for a more qualitative procedure.)

Profit Maximization

As just mentioned, profit maximization was positively correlated with time consumption. In addition, it was positively correlated with POGB on all three dimensions.

Efficiency

As previously noted, efficiency was negatively correlated with time consumption. It was also negatively correlated with the activity dimensions of both SPGB and POGB.

Perceived Absolute Success

Perceived absolute success (PAS) was positively correlated with perceived comparative success, SPGB on both the evaluative and potency dimensions, POGB on all three dimensions, and quantitative vs. qualitative preference. (The less the PAS the greater the desire for a more quantitative procedure, and the greater the PAS, the greater the desire for a more qualitative procedure.)

Perceived Comparative Success

In addition to being positively correlated with PAS, perceived comparative success (PCS) was also positively correlated with SPGB on the evaluative and potency dimensions,

POGB on all three dimensions, satisfaction with procedure, and quantitative vs. qualitative preference.

Self-perceived Game Behavior

Evaluative Dimension. SPGB on the evaluative dimension was positively correlated not only with PAS and PCS as mentioned above, but also with SPGB on the other two dimensions, POGB on all three dimensions, and satisfaction with procedure.

Potency Dimension. As mentioned previously, SPGB on the potency dimension was positively correlated with PAS, PCS, and SPGB on the evaluative dimension. It was also positively correlated with SPGB on the activity dimension, and POGB on all three dimensions.

Activity Dimension. As already noted, SPGB on the activity dimension was positively correlated with time consumption and SPGB on the evaluative and potency dimensions. In addition, it was positively correlated with all three dimensions of POGB. As previously noted, SPGB on the activity dimension was negatively correlated with efficiency.

Perceived Other's Game Behavior

Evaluative Dimension. As already mentioned, POGB on the evaluative dimension was positively correlated with profit maximization, PAS, PCS, and SPBG on all three dimensions. It was also positively correlated with POGB on the potency and activity dimensions, satisfaction with procedure, and quantitative vs. qualitative preference.

Potency Dimension. As noted previously, POGB on the potency dimension was positively correlated with profit maximization, PAS, PCS, SPGB on all three dimensions, and POGB on the evaluative dimension. In addition, it was positively correlated with POGB on the activity dimension.

Activity Dimension. As mentioned already, POGB on the activity dimension was positively correlated with time consumption, profit maximization, PAS, PCS, SPGB on all three dimensions, and POGB on the evaluative and potency dimensions. As noted previously, it was negatively correlated with efficiency.

Satisfaction with Procedure

As noted above, satisfaction with procedure was positively correlated with PCS and the evaluative dimensions of both SPGB and POGB.

Quantitative vs. Qualitative Preference

Quantitative vs. qualitative preference for the procedure was correlated only with the four variables already mentioned: positively with PAS, PCS, and POGB on the evaluative dimension and negatively with time consumption. (The greater the desire for a more quantitative procedure the greater the PAS, PCS, and evaluative POGB and the less the time consumption. The greater the desire for a more qualitative procedure, the less the PAS, PCS, and evaluative POGB and the more the time consumption.)

CHAPTER IV

DISCUSSION

This study was primarily concerned with the interacting effects of decision-making objective and third-party intervention procedure upon decision-making effectiveness (as measured by the 13 dependent variables). The additional analyses of main effects and dependent variable correlations produced findings which are both interesting in themselves and useful in interpreting the interactions. Consequently, these additional findings will be treated first in the following discussion.

Correlations

Figure 3 depicts a suggested model of relationships between the 13 dependent variables. The model is based upon the correlational data of this study as well as the findings of other relevant research. This section will discuss these relationships and allude to possible causal explanations.

Time Consumption and Efficiency

Time consumption's high negative correlation with efficiency would have been predictable based solely on the nature of the efficiency formula, which used time consumption as the denominator. Time consumption's positive corre-

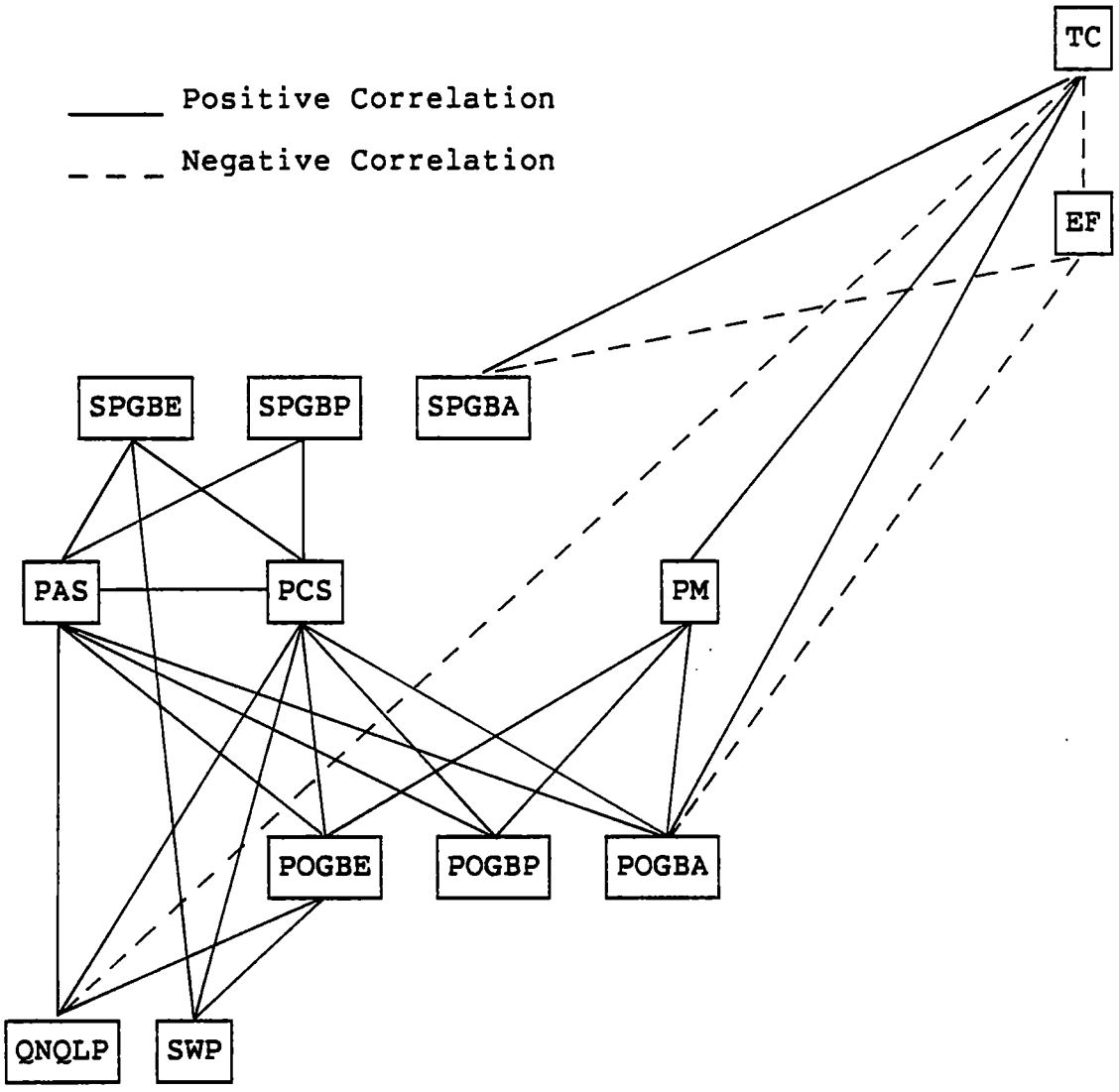

Figure 3. Suggested Model of Relationships Between Dependent Variables (Conjectured causality flows from top to bottom. To reduce crowding of lines, the positive correlations between all six measures of perceived game behavior are not shown. TC = time consumption; PM = profit maximization; EF = efficiency; PAS = perceived absolute success; PCS = perceived comparative success; SPGBE = self-perceived game behavior evaluative dimension; SPGBP = self-perceived game behavior potency dimension; SPGBA = self-perceived game behavior activity dimension; POGBE, POGBP, & POGBA = perceived other's game behavior on the evaluative, potency, and activity dimensions, respectively; SWP = satisfaction with procedure; QNQLP = quantitative vs. qualitative preference.)

lations with the activity dimensions of both self-perceived and other's perceived game behavior could also have been predicted. The dyads who took the most time also had the highest perceptions of activity.

Similarly, the negative correlation of efficiency to self-perceived and other's perceived activity is not surprising, given efficiency's high negative correlation to time consumption. Those who were least efficient had the highest perceptions of activity in the game.

The negative correlation between time consumption and quantitative vs. qualitative preference makes sense, as well. Those who took the most time had the least desire for a procedure which requires more consideration of all the alternatives.

Finally, time consumption's positive correlation to profit maximization is not surprising. Those who took the most time in decision making also had the highest actual success in maximizing profit.

Actual and Perceived Success

Interestingly, profit maximization, a measure of actual decision-making success, was not correlated with either of the two measures of perceived success (absolute or comparative). Apparently, the measures of perceived success were tapping something other than just success in achieving the profit-maximization objective. This possibility is supported by the fact that both measures of perceived success were positively correlated with SPGB on the evaluative and

potency dimensions while profit maximization was not. Perhaps it is difficult for joint decision makers to mentally separate profit maximization success from success in the sense of positive self-affect following the decision-making process.

Given the positive correlations between the perceived success measures and SPGB on these two dimensions, it is somewhat puzzling that the perceived success measures were not correlated with SPGB on the third dimension, activity (especially when activity was strongly correlated with the other two SPGB dimensions). Perhaps perceiving oneself to have been active in decision making is not as important for feelings of success as are perceptions that one's behavior was "good" and "strong."

Both profit maximization and the two measures of perceived success were positively correlated with POGB (on all three dimensions). Perhaps both profit maximization success and affective success lead to positive feelings about the other decision-making party. This might be predictable from attribution theory (Jones & Nisbett, 1971) which suggests that people tend to attribute their own behavior to external causes, which, in the present study, could include the behavior of the other decision maker. To the extent that this is true, it makes sense that higher success would lead to positive perceptions of the other party, while lower success would lead to negative perceptions of the other party.

The positive correlations of both of the two measures of perceived success with quantitative vs. qualitative pref-

erence suggest that those who felt successful also sensed the importance for considering all alternatives before making a decision. On the other hand, those who did not feel successful sensed an importance for considering "obviously sensible" prices.

It is not surprising that perceived absolute success was positively correlated with perceived comparative success. More interesting is the finding that perceived comparative success was positively correlated with satisfaction with procedure while perceived absolute success was not. Those who felt that their performance would compare favorably with that of other participants in the study were more satisfied with the procedure. The fact that perceived absolute success was not correlated with satisfaction with procedure suggests an explanation based on equity theory (Adams, 1965). Success in comparison to others may be more important than absolute success as a determinant of satisfaction with the decision-making procedure.

Perceived Game Behavior

All measures of perceived game behavior, regardless of dimension and regardless of whether the ratee was self or other, were positively correlated with one another. This suggests at least two possibilities: (a) all six constructs are really correlated or (b) these findings are the result of various kinds of rating error, specifically leniency, proximity, and logical error (see Cascio, 1978).

At first glance, the latter possibility is difficult to

rule out. Mean ratings (see Tables IX, XI, XIII, and XV) are all located on the favorable sides of their respective scales, suggesting a strong possibility of leniency error. Since the six scales of perceived game behavior were presented consecutively in the questionnaire (see Appendix C), it is also possible that proximity error could have occurred. The wording of the instructions preceding these scales could suggest to the rater that all six scales deal with closely related attributes, thus opening up the possibility of logical error.

At the same time, it is wise to note that all correlations of other variables with perceived game behavior variables involved only subsets of the latter and that the components of these subsets varied. This reduces the plausibility of the rating error explanation.

One example of the above situation is that only the evaluative dimensions of SPGB and POGB were positively correlated with satisfaction with procedure. This correlation suggests that joint decision making where parties view themselves and one another as having displayed "good" behavior is also joint decision making in which the procedure is viewed favorably.

The evaluative dimension of POGB was also positively correlated with quantitative vs. qualitative preference. That is, those who evaluated the other party the highest in terms of "good" behavior also had the greatest preference for a procedure with more emphasis on considering all the alternatives. Perhaps "other parties" seen as having dis-

played "good" behavior led to more trust that all options could be considered without diminishing consideration of "sensible" options. Conversely, those whose evaluative ratings of the other party leaned more toward the "bad" side preferred a procedure favoring more consideration of "obviously sensible" alternatives. Possibly, this occurred because the other party was viewed as not having behaved in a sensible manner during the decision-making process and thus needing direction toward sensible options.

Attitudes Toward the Game Procedure

Correlations involving satisfaction with procedure and quantitative vs. qualitative preference have all been noted in the foregoing discussion. It is worthwhile, however, to review them, touching upon patterns more apparent when these correlations are viewed as a group.

Both satisfaction with procedure and quantitative vs. qualitative preference were positively correlated with perceived comparative success. When decision makers felt their performance would compare favorably with that of others participating in the study, they apparently felt more satisfied with the procedure used and felt that, if anything, it might benefit from more emphasis on considering all the alternatives. On the other hand, the less they felt their performance would compare favorably with that of others, the less they felt satisfied with the procedure used and the more they felt the procedure could benefit from greater emphasis on considering "obviously sensible" alternatives.

Similarly, both measures of attitude toward the procedure were positively correlated with perceived other's game behavior on the evaluative dimension. Those who rated the other party highest in terms of displaying "good" game behavior seemed to feel more satisfied with the procedure and felt that it could only benefit from more emphasis on considering all the alternatives. Conversely, those who viewed the other party's behavior as leaning more toward the "bad" side were less satisfied with the procedure and desired more emphasis on considering "obviously sensible" alternatives.

Although both measures of attitude toward the procedure were positively correlated with perceived success in the comparative sense, only quantitative vs. qualitative preference was correlated with perceived success in the absolute sense. Perhaps absolute success is not important enough to the decision maker to have a bearing on overall satisfaction with the procedure. Yet, when presented with an opportunity to suggest specific types of changes in the procedure, subjects with greater perceived absolute success leaned toward more emphasis on considering all the alternatives; those with lesser perceived absolute success favored more emphasis on considering obviously sensible alternatives.

Likewise, only quantitative vs. qualitative preference was correlated with time consumption, this correlation being negative. Although the amount of time consumed bears no relation to general satisfaction with procedure, again, when faced with a choice between procedures, those taking the

most time had the greatest preference for considering obviously sensible alternatives, perhaps so as to avoid wasting time.

Interestingly, satisfaction with procedure was correlated with the evaluative dimension of SPGB while quantitative vs. qualitative preference was not. Perhaps self-evaluation may have influenced general satisfaction with the procedure, but not preferences for specific types of procedural change. Such changes may have been suggested solely for the purpose of bringing about desired changes in the other party's behavior, and, for this reason, may have been unrelated to self-evaluations of behavior.

Main Effects Observed

Although this study was not specifically concerned with the main effects of decision-making objective and third-party intervention procedure, these results nevertheless provides some interesting data, much of which lends support to past theory.

Decision-Making Objective

Decision-making objective's main effect on 8 of the 13 dependent variables suggests the integrative/distributive distinction to be a powerful and pervasive construct. The nature of the data, in all instances, suggest the integrative objective to be more effective than the distributive.

Subjects assigned the integrative objective had higher perceived success in both the absolute and comparative

senses and higher actual profit maximization. They saw their own behavior and that of the other party as better on the evaluative dimension and the other party's game behavior as stronger and more active than those given the distributive objective. In general, then, it can be said that integrative decision makers seem to be more successful and see themselves and the other party in a more positive light than distributive decision makers. This result agrees with past theory (e.g., Pruitt, 1981; Walton & McKersie, 1965, 1966), research (e.g., Pruitt & Lewis, 1975; Schulz & Pruitt, 1978), and popular literature (e.g., Fisher & Ury, 1981) which has drawn distinctions between the outcomes of integrative vs. distributive decision-making.

Third-Party Intervention Procedure

The effect of intervention procedure appears to be of less power and pervasiveness than the decision-making objective although it did reveal itself in three dependent variables. When comparing the quantitative and qualitative procedures (as they are defined in this study) it appears that the quantitative is generally the most effective for profit maximization.

Not surprisingly, however, the quantitative procedure was more time consuming and, as a result, less efficient than the qualitative. By definition, the quantitative procedure required considering more alternatives than the qualitative. This, presumably, would take more time. In a sense, this result acts as a manipulation check, verifying

that subjects in the quantitative and qualitative conditions followed their instructions regarding the number of alternatives to consider.

The effect of procedure on efficiency is somewhat of a natural consequence, given that efficiency was based on profit maximization divided by time consumption and that many of the subjects using the qualitative procedure actually did quite well on profit maximization (see Figure 1). This result is not very generalizable, however, since the effect of procedure on efficiency could easily vary as a function of the relative weightings applied to profit maximization and time consumption in the efficiency calculation. It must also be recognized that in real-life joint decision making there are often many costs in addition to time which must be considered in assessing efficiency.

The Hypothesized Interaction

Areas of Support and Nonsupport

The data on quantitative vs. qualitative preference, perceived absolute success, and profit maximization are helpful in assessing the validity of the hypothesized interaction between decision-making objective and third-party intervention procedure. Dyads given the integrative objective had a greater quantitative vs. qualitative preference than did those given the distributive objective. This seems to support the hypothesis, in that the quantitative procedure was apparently perceived as more effective for integra-

tive decision making and the qualitative procedure as more effective for distributive decision making.

The measurement of perceived absolute success also provides support for the hypothesized interaction effect. While those given the integrative objective always felt more successful in achieving their objective than those given the distributive objective, this difference was larger when the quantitative procedure was used.

The data on profit maximization, however, seem to run counter to the hypothesis. When the qualitative procedure was used, actual profit maximization was higher for those given the integrative objective than for those given the distributive objective. Under the distributive objective, profit maximization was higher for those using the quantitative procedure than for those using the qualitative one.

Explanations Based on Past Theory

The data on perceived absolute success suggest that integrative (vs. distributive) decision-makers' greater feelings of success are especially prevalent when the quantitative procedure is used. The data on quantitative vs. qualitative preference indicate that integrative decision makers recognize the need for a quantitative procedure, while distributive decision makers recognize the need for a qualitative one. These findings are congruent with existing research and theory in the areas of negotiation, groupthink, and third-party intervention. This literature (e.g., Pruitt & Lewis, 1975; Janis, 1972, 1982) indicates that in integra-

tive decision making, the parties need to employ a quantitative examination of all available information about all available alternatives and avoid focusing on alternatives which are prominent because of their qualitative characteristics. Otherwise, they may overlook the alternative which would be best for achieving their joint objective. When the objective is distributive, however, the literature (e.g., Erickson, et al., 1974; Johnson, 1967; Leibert, et al., 1968; Pruitt & Johnson, 1970) depicts a different pattern. Decision-makers must relinquish emphasis on the quantitative evaluation of alternatives and, instead, look for alternatives which are mutually prominent due to qualitative characteristics. Otherwise, they will not make the concessions necessary for agreement or they will adopt an agreement which is inequitable.

The counter-hypothetical data on profit maximization suggest that the qualitative procedure is better for integrative decision making and that the quantitative procedure is better for distributive decision making. These findings are not congruent with the existing research and theory just summarized. According to this literature, the quantitative procedure should have produced the highest profit maximization in the integrative condition, and the qualitative procedure should have produced the highest profit maximization in the distributive condition.

Though these findings may be counter-hypothetical they are not entirely counter-intuitive. The integrative objective may be so beneficial to joint decision making that

profits can be maximized using either the quantitative or qualitative procedure. With the distributive objective, however, the findings are both counter-hypothetical and counter-intuitive. It is puzzling as to why the quantitative procedure would be better than the qualitative procedure in distributive decision making. In any case, the possibility that these findings are methodological artifacts must be sufficiently examined before considering the adoption of a new theoretical explanation.

Artifactual Explanations

A closer examination of this study's methodology does provide support for certain artifactual explanations of the profit maximization data: (a) profit maximization and perceived absolute success may not be measures of the same construct, (b) the procedure construct may have been too vague and thus open to a variety of interpretations by subjects, and (c) the procedure construct chosen may not have been the best one for explaining the interaction between objective and procedure suggested by past literature.

Measurement of Profit Maximization vs. Perceived Success. The lack of correlation between profit maximization and perceived success indicates that they were not measuring the same construct. It may be that perceived success is influenced by factors other than sheer profit maximization. The correlational data, for example, suggest the possibility that the two measures of perceived success may have been influenced by self-perceptions of decision-making behavior

on the evaluative and potency dimensions.

Still, however, the question remains as to how the procedure could have had counter-hypothetical effects upon profit maximization.

Subjects' Interpretations of the Procedure Construct. Perhaps the answer to the above question lies in assessing whether subjects interpreted the procedure construct in the manner intended by the experimenter.

Apparently, this was not the case. Based on notes taken by the experimenter during the decision-making sessions, two repeated occurrences stand out. The first repeated occurrence was noted among dyads given the quantitative procedure and the integrative objective. It often seemed that subjects in this condition were so concerned with comparing profit levels for every alternative that they forgot to add the profits in their respective tables together to determine which alternative was best. Usually, they would remember this before making a final decision, but in some cases they did not. It may be for this reason that when the qualitative procedure was used integrative decision makers had higher profit maximization than distributive decision makers.

The second repeated occurrence was among subjects given the qualitative procedure. They sometimes seemed to respond more to the part of the instructions which said to try to agree on the first alternative proposed than to the part which said to try to agree on the "obviously sensible" alternative. Under the distributive objective this led to

several instances when one party proposed an alternative highly favorable to self-interests and the other party simply complied with little or no discussion. This might explain why those given the distributive objective had higher profit maximization with the quantitative procedure than with the qualitative.

These explanations also correspond with the positive correlations found between the two measures of perceived success and quantitative vs. qualitative preference. The latter measure asked subjects to suggest changing the procedure to more emphasis on considering all the alternatives (quantitative) vs. more emphasis in considering obviously sensible alternatives (qualitative). The less their perceived success, the more their desire for considering obviously sensible alternatives. Subjects who did not perceive success in the integrative-quantitative condition may have concluded that looking for the "sensible" alternative would be more practical for meeting their objective than spending time looking at all the alternatives. Subjects who did not perceive success in the distributive-qualitative condition may have concluded that looking for the most "sensible" alternative for meeting their objective would be more practical than just agreeing on the first alternative proposed. In sum, it is quite probable that subjects' interpretations of the procedure manipulation was often different from that intended by the experimenter.

Choice of the Procedure Construct. If the procedure construct used was so vague as to lead to varying interpre-

tations, then its power as an explanatory tool may also be questioned. This study sought to define a procedure construct which would better explain and integrate findings in past literature which suggest an interaction between the procedure and the intensity of conflict between the decision makers. (This study has redefined the latter variable as joint decision-making objective.)

Upon closer examination of the theory underlying the distinctions between integrative and distributive decision making, a clearer definition of the interacting procedural construct becomes apparent. This construct seems to deal with how the procedure affects the aspiration levels of the decision makers.

The idea of maximizing outcomes, in either the integrative or distributive contexts, carries with it the notion of evaluating alternatives along a quantitative dimension of utility. Aspirations to maximize utility, however, must often be bounded within certain reasonable limits. Behling and Starke (1973) have called this phenomenon "satisficing".

Satisficing is especially important in distributive decision making where the resource under consideration is of a known, fixed quantity (Krauss & Deutsch, 1966). The individuals must each, at least, limit their aspirations to the available quantity and, more likely, to some portion of that quantity. In setting such limits, the individuals will employ some qualitative principle (Pruitt, 1981; Schelling, 1960) such as equality, equity, precedent, or following a third-party's suggestion. In distributive decision making,

the failure of either party to appropriately limit aspirations according to some mutually accepted principle can result in an inequitable agreement and, perhaps, even no agreement.

On the other hand, it is not so important for integrative decision makers to limit their aspirations according to the existing quantity of the resource, or some qualitative principle. Of course the search for alternatives which provide greater expansion of the desired resource does consume time and energy and, in reality, the parties will tend to discontinue their search as soon as they have found an alternative which satisfies whatever minimal aspirations they have set (Longley & Pruitt, 1980). These minimal aspirations may be determined by some of the qualitative principles mentioned before, such as following a precedent or the suggestion of a third party. To the extent, however, that there are alternatives available which will result in different total quantities of the resource and to the extent that the individuals are willing to expend time and effort in search of them, we can say that their success is limited only by the aspirations they have set. Thus, the higher their aspirations the higher their gain will tend to be, and the lower their aspirations the lower their gain will tend to be. This relationship is supported by the "groupthink" literature (Janis, 1982; Longley & Pruitt, 1980).

In summary, success in integrative and distributive forms of decision making may require differential levels of aspiration. Integrative decision making requires a less

limited level of aspiration, while distributive decision making requires a more limited level of aspiration. The qualitative suggestion to try to agree on the first alternative proposed which seemed sensible may have actually lowered aspirations beyond the level necessary for distributive decision making. For integrative decision makers, however, the procedure had little effect on aspirations. It remains for some future study, then, to test whether the effects of various third-party intervention procedures can be explained by a "level of aspirations" hypothesis.

Implications

Theory

This study lends support for a theory of third-party intervention in which third-party effectiveness depends upon an interaction between the type of procedure used and the degree to which the decision-making objective is integrative vs. distributive. This theory would apply not only to procedures invoked by a third party but, also, to those implemented by the decision makers themselves. In fact, third-party intervention would seem unnecessary if the joint decision makers can adopt effective approaches by themselves.

Unfortunately, the interacting procedural construct has yet to be adequately defined. The quantitative vs. qualitative construct appears to be of limited value.

This study also provides considerable empirical support

for the theory that integrative decision making is more desirable than distributive. Previously, this theory has been based more on common sense knowledge than scientific data.

The correlational data suggest hypotheses on the role of affective response in joint decision making. It appears that positive self-perceptions of decision-making behavior may lead to higher perceptions of decision-making success, while negative self-perceptions may lead to lower perceptions of success. High perceived success, in turn, may lead to positive perceptions of the other decision-maker, while low success may lead to negative perceptions of the other party.

Not surprisingly, attitudes toward the decision-making procedure are also likely to vary as a function of success. Attitudes toward the procedure may also vary as a function of whether the other decision maker is seen as having displayed good or bad behavior, suggesting that the procedure may be seen as a way to ensure that the other party will exhibit appropriate behavior.

Practical Implications

The results of this study indicate that joint decision makers and/or third parties assisting them should be aware of the integrative vs. distributive nature of the joint decision-making objective and adjust their procedures accordingly. In addition, the distributive objective should be avoided, if possible, and integrative solutions explored.

Research

Further research should be devoted to defining the procedural variable which interacts with the joint decision-making objective. One possibility which should be explored is a variable of procedures which foster low vs. high levels of aspiration. Attention should also be given to determining how joint decision makers can discover integrative solutions for problems which, initially, seem to require a distributive objective. Finally, the validity of the present study's hypothesis on the role of affective response in joint decision making should be assessed through experimental (as opposed to correlational) methodology.

REFERENCES

Adams, J. S. (1965). Inequity in social exchange. In L. Berkowitz (Ed.), Advances in experimental social psychology (Vol. 2, pp. 267-299). New York: Academic Press.

Behling, J. M., & Starke, F. A. (1973). The postulates of expectancy theory. Academy of Management Journal, 16, 373-388.

Carlsmith, J. M., Ellsworth, P. C., & Aronson, E. (1976). Methods of research in social psychology. Reading, Massachusetts: Addison-Wesley.

Cascio, W. F. (1978). Applied psychology in personnel management. Reston, Virginia: Reston Publishing Company.

Druckman, D., & Zechmeister, K. (1973). Conflict of interest and value dissensus: Propositions in the sociology of conflict. Human Relations, 26, 449-466.

Erickson, B., Holmes, J. G., Frey, R., Walker, L., & Thibaut, J. (1974). Functions of a third party in the resolution of conflict: The role of a judge in pretrial conferences. Journal of Personality and Social Psychology, 30, 293-306.

Fisher, R., & Ury, W. (1981). Getting to yes: Negotiating agreement without giving in. New York: Penguin Books.

Flowers, M. L. (1977). A laboratory test of some implications of Janis's groupthink hypothesis. Journal of Personality and Social Psychology, 35, 888-896.

Hiltrop, J. M., & Rubin, J. Z. (1982). Effects of intervention mode and conflict of interest on dispute resolution. Journal of Personality and Social Psychology, 42, 665-672.

Janis, I. L. (1972). Victims of groupthink: A psychological study of foreign policy decisions and fiascoes. Boston: Houghton Mifflin.

Janis, I. L. (1982). Groupthink: Psychological studies of policy decisions and fiascoes (2nd ed.). Boston: Houghton Mifflin.

Johnson, D. W. (1967). Use of role reversal in intergroup competition. Journal of Personality and Social Psychology, 7, 135-141.

Jones, E. E., & Nisbett, R. E. (1971). The actor and observer: Divergent perceptions of the causes of behavior. Morristown, New Jersey: General Learning Press.

Joseph, M. L., & Willis, R. H. (1963). An experimental analog to two-party bargaining. Behavioral Science, 8, 117-127.

Kelley, H. H. (1966). A classroom study of the dilemmas in interpersonal negotiations. In K. Archibald (Ed.), Strategic interaction and conflict: Original papers and discussion (pp. 49-73). Berkeley, Calif.: Institute of International Studies.

Krauss, R. M., & Deutsch, M. (1966). Communication in interpersonal bargaining. Journal of Personality and Social Psychology, 4, 572-577.

Liebert, R. M., Smith, W. P., Hill, J. H., & Kieffer, M. (1968). The effects of information and magnitude of initial offer on interpersonal negotiation. Journal of Experimental Social Psychology, 4, 431-441.

Longley, J., & Pruitt, D. G. (1980). Groupthink: A critique of Janis's theory. Review of Personality and Social Psychology, 1, 74-93.

Meeker, R. J., & Shure, G. H. (1969). Pacifist bargaining tactics: Some "outsider" influences. Journal of Conflict Resolution, 13, 487-493.

Osgood, C. E., Suci, G. J., & Tannenbaum, P. H. (1957). The measurement of meaning. Urbana: University of Illinois Press.

Podell, J. E., & Knapp, W. M. (1969). The effects of mediation on the perceived firmness of the opponent. Journal of Conflict Resolution, 13, 511-520.

Pruitt, D. G. (1981). Negotiation behavior. New York: Academic Press.

Pruitt, D. G., & Johnson, D. F. (1970). Mediation as an aid to face saving in negotiation. Journal of Personality and Social Psychology, 14, 239-246.

Pruitt, D. G., & Lewis, S. A. (1975). Development of integrative solutions in bilateral negotiation. Journal of Personality and Social Psychology, 31, 621-633.

Rubin, J. Z. (1980). Experimental research on third-party intervention: Toward some generalizations. Psychological Bulletin, 87, 379-391.

Schelling, T. C. (1960). The strategy of conflict. Cambridge, Massachusetts: Harvard University Press.

Schulz, J. W., & Pruitt, D. G. (1978). The effects of mutual concern on joint welfare. Journal of Experimental Social Psychology, 14, 480-491.

Sen, A. K. (1970). Collective choice and social welfare. San Francisco: Holden-Day.

Walton, R. E., & McKersie, R. B. (1965). A behavioral theory of labor negotiations: An analysis of a social interaction system. New York: McGraw-Hill.

Walton, R. E., & McKersie, R. B. (1966). Behavioral dilemmas in mixed-motive decision-making. Behavioral Science, 11, 370-384.

APPENDIXES

Note: In Appendixes B and E, alternative forms for each of the four experimental conditions are presented in the order of integrative-quantitative, integrative-qualitative, distributive-quantitative, and distributive-qualitative.

APPENDIX A

PROFIT TABLES

slrtab.text

P R O F I T T A B L E
F O R
S E L L E R
(REPRESENTING COMPUTER MANUFACTURING COMPANY)

PRICE*	PROFIT
A	$450
B	$430
C	$410
D	$390
E	$370
F	$350
G	$330
H	$310
I	$290
J	$270
K	$250
L	$230
M	$210
N	$190
O	$170
P	$150
Q	$130
R	$110
S	$90
T	$70

*PRICES ARE REPRESENTED BY THE LETTERS A-T, RATHER THAN ACTUAL MONEY VALUES.

byrtab.text

P R O F I T T A B L E
F O R
B U Y E R
(REPRESENTING DEPARTMENT STORE CHAIN)

PRICE*	PROFIT
A	$25
B	$50
C	$75
D	$100
E	$125
F	$150
G	$175
H	$200
I	$225
J	$250
K	$275
L	$300
M	$325
N	$350
O	$375
P	$400
Q	$425
R	$450
S	$475
T	$500

*PRICES ARE REPRESENTED BY THE LETTERS A-T, RATHER THAN ACTUAL MONEY VALUES.

APPENDIX B

QUIZZES OVER INSTRUCTIONS

Q U I Z O N T H E

G A M E I N S T R U C T I O N S

1. My role in the game is
   a. seller.
   b. buyer.

2. The profits shown in the other person's profit table
   a. are exactly the same as mine.
   b. may be different from mine.

3. I may talk with the other person about
   a. only the information in our profit tables.
   b. anything, including the information in our profit tables.
   c. anything, and we may also show one another our profit tables.
   d. anything, except the information in our profit tables.

4. How much time will be allowed for reaching an agreement?
   a. exactly ten minutes
   b. as much time as it takes
   c. a reasonable, but not excessive amount of time

5. My game objective is to maximize the profit of
   a. the parent company, as represented by the combined profits of the individual companies.
   b. my individual company, as represented by the profits shown in my own profit table.

6. The game procedure is to
   a. start by trying to agree on a specific price, and, if that doesn't work, try agreeing on another price.
   b. start by considering the profits shown in both person's tables for each and every price, and THEN work to agree on a price.

iqlqz.text

Q U I Z O N T H E

G A M E I N S T R U C T I O N S

1. My role in the game is
   a. seller.
   b. buyer.

2. The profits shown in the other person's profit table
   a. are exactly the same as mine.
   b. may be different from mine.

3. I may talk with the other person about
   a. only the information in our profit tables.
   b. anything, including the information in our profit tables.
   c. anything, and we may also show one another our profit tables.
   d. anything, except the information in our profit tables.

4. How much time will be allowed for reaching an agreement?
   a. exactly ten minutes
   b. as much time as it takes
   c. a reasonable, but not excessive amount of time

5. My game objective is to maximize the profit of
   a. the parent company, as represented by the combined profits of the individual companies.
   b. my individual company, as represented by the profits shown in my own profit table.

6. The game procedure is to
   a. start by trying to get the other person to agree to a price which seems sensible to you, regardless of whether it seems sensible to the other person, and, if that doesn't work, try to get the other person to agree to another price which seems sensible to you.
   b. start by trying to agree on a specific price which, to both of you, seems to stand out as the obvious choice for a sensible agreement, and, if that doesn't work, try agreeing on another price which seems to stand out in this way, etc.

dqntqz.text

Q U I Z O N T H E

G A M E I N S T R U C T I O N S

1. My role in the game is
   a. seller.
   b. buyer.

2. The profits shown in the other person's profit table
   a. are exactly the same as mine.
   b. may be different from mine.

3. I may talk with the other person about
   a. only the information in our profit tables.
   b. anything, including the information in our profit tables.
   c. anything, and we may also show one another our profit tables.
   d. anything, except the information in our profit tables.

4. How much time will be allowed for reaching an agreement?
   a. exactly ten minutes
   b. as much time as it takes
   c. a reasonable, but not excessive amount of time

5. My game objective is to maximize the profit of
   a. my individual company, as represented by the profits shown in my own profit table.
   b. both my company and the company the other person represents.

6. The game procedure is to
   a. start by trying to agree on a specific price, and, if that doesn't work, try agreeing on another price.
   b. start by considering the profits shown in both person's tables for each and every price, and THEN work to agree on a price.

dqlqz.text

Q U I Z O N T H E

G A M E I N S T R U C T I O N S

1. My role in the game is
   a. seller.
   b. buyer.

2. The profits shown in the other person's profit table
   a. are exactly the same as mine.
   b. may be different from mine.

3. I may talk with the other person about
   a. only the information in our profit tables.
   b. anything, including the information in our profit tables.
   c. anything, and we may also show one another our profit tables.
   d. anything, except the information in our profit tables.

4. How much time will be allowed for reaching an agreement?
   a. exactly ten minutes
   b. as much time as it takes
   c. a reasonable, but not excessive amount of time

5. My game objective is to maximize the profit of
   a. my individual company, as represented by the profits shown in my own profit table.
   b. both my company and the company the other person represents.

6. The game procedure is to
   a. start by trying to get the other person to agree to a price which seems sensible to you, regardless of whether it seems sensible to the other person, and, if that doesn't work, try to get the other person to agree to another price which seems sensible to you.
   b. start by trying to agree on a specific price which, to both of you, seems to stand out as the obvious choice for a sensible agreement, and, if that doesn't work, try agreeing on another price which seems to stand out in this way, etc.

APPENDIX C

QUESTIONNAIRE

howrate.text

HOW TO USE A RATING SCALE

In the examples below, a rating scale is used to show how the weather is on a particular day. To show how the weather is, you would draw a vertical (up and down) line through the one dot that best describes your feeling.

Suppose, for example, that it was cloudy and rainy. In that case, you might answer the question in the following way:

EXCELLENT !....!....!....!....!....!...|! POOR

If it were a rather sunny day, you might answer the question in the following way:

EXCELLENT !.|..!....!....!....!....!....! POOR

If it were not too nice but not too bad either, you might answer the question in the following way:

EXCELLENT !....!....!....!|...!....!....! POOR

Of course, the rating scales in the questionnaire will not deal with weather but they are used the same way. Is there any question about how to use this kind of rating scale? (PAUSE FOR QUESTIONS.)

There are six questions in the questionnaire, each on a separate page. PLEASE DO NOT TURN ANY PAGE UNTIL I INSTRUCT YOU TO DO SO. I would like you to read each question silently as I read it aloud. If you don't understand the question please tell me. Please take all the time you need, so that you can think about each question carefully and answer it as accurately as possible. After answering a question, please sit quietly until I instruct you to turn to the next page. Please DO NOT communicate with the other person in ANY WAY about your answers. I want YOUR OWN, INDIVIDUAL responses.

You may turn the page now to Question 1.

Q U E S T I O N N A I R E

1. How successful do you feel you were in achieving the game objective? Re-read the game objective, as summarized on the board in front of you, before answering this question. I will re-read it with you. (Pause to re-read.) Now rate how much success you had in achieving this game objective by making a mark through the appropriate dot on the following scale, ranging from "ZERO SUCCESS" to "COMPLETE SUCCESS".

ZERO SUCCESS !....!....!....!....!....!....! COMPLETE SUCCESS

2. Compared to all the other people who are participating in this experiment, how do you think you will rank on achieving the game objective? In other words, do you think you will rank worst of all, best of all, or somewhere in between, on acheiving the game objective? Please indicate how you think you will rank by making a mark through the appropriate dot on the following scale, ranging from "I WILL RANK WORST OF ALL PARTICIPANTS" to "I WILL RANK BEST OF ALL PARTICIPANTS".

I WILL RANK WORST OF ALL PARTICIPANTS !....!....!....!....!....!....! I WILL RANK BEST OF ALL PARTICIPANTS

3. How would you describe your behavior in the game you have just played? Please rate how you feel about your behavior in the game by placing a mark through the appropriate dot on the following three scales, one ranging from "GOOD" to "BAD", a second one ranging from "WEAK" to "STRONG", and a third one ranging from "ACTIVE" to "PASSIVE".

GOOD !....!....!....!....!....!....! BAD

WEAK !....!....!....!....!....!....! STRONG

ACTIVE !....!....!....!....!....!....! PASSIVE

4. The next three scales are to be used just like the previous three except that, this time, you are to use the scales to describe how you feel about the behavior of the other person during the game. The other person will not see your ratings, so please feel free to give an accurate rating. Rate the other person's game behavior on each of these three scales now.

GOOD !....!....!....!....!....!....! BAD

WEAK !....!....!....!....!....!....! STRONG

ACTIVE !....!....!....!....!....!....! PASSIVE

5. I am considering the possibility of conducting this experiment again in the future. In this future experiment, I may be giving the participants the opportunity to win actual money based on how successful they are in meeting their game objective. If I do this, I need to decide whether to use the same game procedure in the next experiment or change the game procedure to help the participants be more successful. I would appreciate your suggestion on this. On the following scale, please rate the degree to which you feel the game procedure should be changed or remain the same. Before doing this, let's read together the game procedure again, as summarized on the board in front of you. (Pause to read game procedure.) Now please tell me what you feel I should do by making a mark through the appropriate dot on the following scale, which ranges from "COMPLETELY CHANGE THE GAME PROCEDURE" to "LEAVE THE GAME PROCEDURE COMPLETELY UNCHANGED".

COMPLETELY CHANGE THE GAME PRODECURE	!....!....!....!....!....!....!	LEAVE GAME PROCEDURE COMPLETELY UNCHANGED

6. I would also like your honest opinion on HOW the game procedure might be improved. On the following scale, you have three basic choices about improving the game procedure, with a scale connecting them. You can suggest that I put more emphasis on considering <u>all</u> the prices by making your mark somewhere toward the left side of the scale. You can suggest that I put more emphasis on considering the <u>obviously</u> <u>sensible</u> prices by making your mark somewhere toward the right side of the scale. You can suggest that I make no change in the game procedure by making your mark somewhere toward the middle part of the scale. Please make your rating now by making your mark through the dot which best expresses your opinion about what I should do with the game procedure.

APPENDIX D

CONFIDENTIALITY FORM

CONFIDENTIALITY AGREEMENT

I hereby agree that I will not discuss information about this experiment with others until after I receive a report in the mail at the conclusion of the experiment.

_____
signature of participant

_____
name printed

_____
mailing address

_____
city, state, zip code

APPENDIX E

SUMMARIES OF PROCEDURES AND OBJECTIVES

S U M M A R Y O F G A M E
P R O C E D U R E A N D O B J E C T I V E

PROCEDURE

1. START by considering EACH and EVERY price, in terms of the PROFITS shown in YOUR table and whatever you can learn about the profits in the OTHER PERSON'S table.

2. AFTER you have considered each and every price in this way, THEN begin to work on reaching an agreement.

3. When you have reached an agreement, please tell me WHICH PRICE you have agreed upon and wait for further instructions.

OBJECTIVE

Reach an agreement with the other person on a price for the computers so as to maximize the total profit of the parent company.

S U M M A R Y O F G A M E
P R O C E D U R E A N D O B J E C T I V E

PROCEDURE

1. START by considering any price which seems to STAND OUT, to BOTH of you, as the OBVIOUS choice for a SENSIBLE agreement.

2. If it happens that you cannot agree on THIS price, THEN consider any OTHER price, or prices, which seem to stand out in this way, UNTIL you reach an agreement.

3. When you have reached an agreement, please tell me WHICH PRICE you have agree upon and wait for further instructions.

OBJECTIVE

Reach an agreement with the other person on a price for the computers so as to maximize the total profit of the parent company.

S U M M A R Y O F G A M E
P R O C E D U R E A N D O B J E C T I V E

PROCEDURE

1. START by considering EACH and EVERY price, in terms of the PROFITS shown in YOUR table and whatever you can learn about the profits shown in the OTHER PERSON'S table.

2. AFTER you have considered each and every price in this way, THEN begin to work on reaching an agreement.

3. When you have reached an agreement, please tell me WHICH PRICE you have agreed upon and wait for further instructions.

OBJECTIVE

Reach an agreement with the other person on a price for the computers to as to maximize the profit of the individual company you represent.

S U M M A R Y O F G A M E
P R O C E D U R E A N D O B J E C T I V E

PROCEDURE

1. START by considering any price which seems to STAND OUT, to BOTH of you, as the OBVIOUS choice for a SENSIBLE agreement.

2. If it happens that you cannot agree on THIS price, THEN consider any other price, or prices, which seem to stand out in this way, UNTIL you reach an agreement.

3. When you have reached an agreement, please tell me WHICH PRICE you have agreed upon and wait for further instructions.

OBJECTIVE

Reach an agreement with the other person on a price for the computers to as to maximize the profit of the individual company you represent.

APPENDIX F

GENERAL INSTRUCTIONS

G E N E R A L I N S T R U C T I O N S

I would like to thank you both for coming and welcome you to my decision-making laboratory. First of all, you will notice that there is a booklet turned face down on the table in front of you. PLEASE DO NOT TURN THIS BOOKLET OVER OR TURN ANY PAGES, EXCEPT WHEN I TELL YOU TO DO SO. This booklet contains materials which you will use in the experiment.

You are going to be participating in a rather enjoyable and interesting study about decision making. All you need to do is relax, listen carefully to the instructions, and do your very best. If you should wish to withdraw from the experiment, for any reason or at any time, you may feel free to do so.

In this experiment you will play a decision-making game. The game involves a business transaction between a buyer and a seller of COMPUTER SYSTEMS. You will be either the buyer or the seller in the game. The card on the board in front of you indicates which person you will be. If you are the seller, you will represent a large company which manufactures computer systems. If you are the buyer, you will represent a department store chain which markets such computer systems. In the game, the seller and buyer will work to AGREE on a PRICE for the computers.

YOU WILL NOT NEED TO KNOW ANYTHING ABOUT COMPUTERS TO BE SUCCESSFUL IN THIS GAME. I will provide all the information you need. This includes only three things: (1) a profit table, (2) the game objective, and (3) the game procedure. Turn your booklets over now and you will see a copy of the PROFIT TABLE. You will choose the price you want to agree upon from this table. As you can see, the various prices are not represented by actual money values, but, instead, are symbolized by the letters "A" through "T". Beside each letter is a dollar value showing your company's profit if that price is agreed upon. The higher this dollar value the more profit for your company. The profits shown in the other person's profit table may be different from yours. In the game, you may TALK to one another about anything you'd like, INCLUDING the information in your profit tables. You CANNOT, however, SHOW your profit tables to one another. Please turn your booklets back over now.

Though you may see me timing your game with a stopwatch, please do not feel that I am rushing you. I am merely keeping a record of time in the game. Most likely, you will be able to finish in about ten minutes, but you are certainly not limited to that amount of time. Remember that achieving the game objective and following the game procedure is more important than worrying about time. Of course, if you begin to take an excessive amount of time, I may need to ask you to stop. If this should happen, I would give you plenty of advanced notice of WHEN you would need to stop.

In a moment, I will tell you the game objective and the game procedure, but, for now, are there any questions on what I've said about the general idea of the game, the profit table, or anything else? It's important that you understand, so don't be afraid to ask. Are there any questions? (PAUSE FOR QUESTIONS.)

APPENDIX G

INSTRUCTIONS FOR EXPERIMENTAL CONDITIONS

G A M E O B J E C T I V E (I N T E G R A T I V E)

Both the computer manufacturer and the department store chain happen to be subsidiaries (or divisions) of the same parent company. Your game OBJECTIVE is to reach an agreement with the other person on a price for the computers so as to maximize the profit of the PARENT company--that's right, NOT your individual companies, but the PARENT company. The parent company's profit on each computer is the total of the profits made by your individual companies. In other words, it is the total of the profits shown in each of your individual profit tables for the price you agree upon. It is this TOTAL profit which you should try to maximize for the parent company.

In a few weeks, when I have finished my entire experiment, I will send you a report on how well YOU, as well as all the other participants in the experiment, have done in trying to maximize the profits of the parent company. At that time, you will be able to compare your success to theirs. Remember that your objective is to maximize the total profit of the parent company. Are there any questions about this game objective? (PAUSE FOR QUESTIONS.)

G A M E O B J E C T I V E (D I S T R I B U T I V E)

Your game OBJECTIVE is to reach an agreement with the other person on a price for the computers so as to maximize the profit of the individual company you represent. This is the profit shown in your individual profit table for the price you agree upon.

In a few weeks, when I have finished my entire experiment, I will send you a report on how well YOU, as well as all the other participants in the experiment, have done in trying to maximize the profits of their individual companies. At that time, you will be able to compare your success to theirs. Remember that your objective is to maximize the profit of the individual company you represent. Are there any questions about this game objective? (PAUSE FOR QUESTIONS.)

G A M E P R O C E D U R E (Q U A N T I T A T I V E)

The game PROCEDURE is to START by considering EACH and EVERY price, in terms of the PROFITS shown in YOUR table and whatever you can learn about the profits shown in the OTHER PERSON'S table. Let me repeat this. START by considering EACH and EVERY price, in terms of the PROFITS shown in YOUR table and whatever you can learn about the profits shown in the OTHER PERSON'S table.

AFTER you have considered each and every price in this way, THEN begin to work on reaching an agreement. When you have reached an agreement, please tell me WHICH PRICE you have agreed upon and wait for further instructions. Are there any questions about this game procedure? (PAUSE FOR QUESTIONS.)

G A M E P R O C E D U R E (Q U A L I T A T I V E)

The game PROCEDURE is to START by considering any price which seems to STAND OUT, to BOTH of you, as the OBVIOUS choice for a SENSIBLE agreement. Let me repeat this. START by considering any price which seems to STAND OUT, to BOTH of you, as the OBVIOUS choice for a SENSIBLE agreement.

If it happens that you cannot agree on THIS price, THEN consider any OTHER price, or prices, which seem to stand out in this way, UNTIL you reach an agreement. When you have reached an agreement, please tell me WHICH PRICE you have agreed upon and wait for further instructions. Are there any questions about this game procedure? (PAUSE FOR QUESTIONS.)

APPENDIX H

INSTRUCTIONS ON QUESTIONS ABOUT THE GAME

qpage.text

A N Y Q U E S T I O N S ? ? ?

It is very important that you follow the game prodecure AND the game objective. To help you do this, I will now place a summary of them on the board in front of you. Please read this summary now and tell me if you have any questions. (PAUSE FOR QUESTIONS.)

To further make sure that you know what to do in the game, I have prepared a short multiple choice quiz over the instructions. When you have finished the quiz, please hand it back to me so that I can quickly check your answers. Please turn the page and begin the quiz. (ALLOW SUBJECTS TIME TO COMPLETE QUIZ, THEN CHECK FOR ERRORS AND RE-EXPLAIN ALL POINTS WHERE ERRORS ARE MANIFESTED.)

In a moment, I will tell you to turn to the next page in the booklet, on which you will find a copy of the profit table you saw earlier. You will use this copy of the profit table during the game. Before I tell you to turn the page and start the game, are there any other questions? (PAUSE FOR QUESTIONS.)

Ready? (PAUSE TO SEE IF THEY ARE READY AND ASSIST IF NOT.) Turn the page and start the game. (ACTIVATE STOPWATCH AT THIS TIME AND TURN TO "NOTES AND DATA" PAGE.)

APPENDIX I

NOTES AND DATA SHEET

NOTES AND DATA

NOTES. (NOTE ANY UNUSUAL OR INTERESTING OCCURRENCES DURING THE GAME. ALSO, INCLUDE ANYTHING SUGGESTING INVALID DATA OR THE NEED FOR IMPROVED METHODOLOGY. WHEN AN AGREEMENT IS REACHED, DEACTIVATE STOPWATCH AND PROCEED TO THE STATEMENTS BELOW.)_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Thank you. Please wait while I record the time and the price you agree agreed upon. (RECORD TIME CONSUMED AND PRICE AGREED UPON.)

TC_____ PR_____ DP_____ EF_____

In a few moments, I will give you a questionnaire dealing with the game you have just played. The questionnaire includes several rating scales. Please turn now to the next page in your booklet which shows you HOW to use a rating scale. Read along silently as I go over these instructions. (GO TO "HOW TO USE A RATING SCALE" PAGE.)

APPENDIX J

DEBREIFING STATEMENT AND QUESTIONS

dbrf.text

D E B R I E F I N G S T A T E M E N T

(READ WHEN SUBJECTS HAVE COMPLETED QUESTIONNAIRE.)

This concludes the questionnaire. Please close your booklet and turn it face down on the table.

This experiment has dealt with an area of psychology called social psychology. Social psychologists study how people perceive, interact, and influence one another. The specific purpose of today's experiment has been to learn about factors which affect the quality of decisions which are made jointly by two or more people. Your participation may help to advance scientific knowledge in this area. Later, I will mail you a report on the experiment which will include a more complete explanation of what the experiment was all about. For now, we will take just a few minutes to discuss your reactions to the experiment. (GO TO "DEBRIEFING QUESTIONS" PAGE.)

It is very important that none of us discuss what we know about the experiment with others until the experiment is over. This is crucial because if others came to the experiment already knowing what will happen, they would probably not respond naturally. This, of course, would interfere with finding the true answers to the problems this experiment is designed to explore. Ultimately, it could slow down scientific progress in this important area of research. I would like to ask you, therefore, to turn now to the last page of your booklet and sign a confidentiality agreement. Your signature simply indicates that you will assist this research endeavor by not discussing what you know about the experiment with others until I have notified you that the experiment is over.

Please also print your name and an address to which I can send your report. (PAUSE WHILE SUBJECTS COMPLETE THEIR FORMS.) If any further questions arise about this study you may contact me in care of the OSU Psychology Department. I will see that your instructor is notified of you participation in this experiment. You may go now. Thank you for your participation.

dbrfq.text

D E B R I E F I N G Q U E S T I O N S

(RECORD ANY RESPONSES WHICH MIGHT INDICATE INVALID DATA OR THE NEED FOR IMPROVED METHODOLOGY.)

1. Do you have any questions about the experiment?

2. Were the instructions and all other aspects of the experiment perfectly clear to you?

3. Different people react to different things in different ways. Did you have any specific reactions or feelings about the experiment that you'd like to share?

4. Did you find any aspect of the experiment odd, confusing, or disturbing?

5. Were there any questions going through your mind which might have affected your behavior, and, if so, how?

6. Can you think of any ways the experiment might be improved?

(RETURN NOW TO "DEBRIEFING STATEMENT", PAGE TWO.)

VITA

William Joel Rivers

Candidate for the Degree of

Doctor of Philosophy

Thesis: CONGRUENCE OF THIRD-PARTY INTERVENTION PROCEDURES AND DECISION-MAKERS' OBJECTIVES: INTEGRATIVE VERSUS DISTRIBUTIVE

Major Field: Psychology

Biographical:

Personal Data: Born in Shelbyville, Tennessee, January 28, 1955, the son of John T. and Marie Rivers. Married to Virginia Mai Conner on April 18, 1975. One child, Joel Daniel Rivers, born July, 19, 1978.

Education: Graduated from Dickson County High School, Dickson, Tennessee, in May, 1973; received Bachelor of Science degree from Middle Tennessee State University in August, 1977; received Master of Arts degree from Middle Tennessee State University in August, 1978; completed requirements for the Doctor of Philosophy degree at Oklahoma State University in May, 1986.

Professional Experience: Graduate Teaching Assistant, Department of Psychology, Department of Applied Behavioral Studies and College of Education Extension Services, Oklahoma State University, January, 1979 to May, 1982 and August, 1984 to May, 1985; Graduate Research Assistant, Department of Psychology, Middle Tennessee State University, January, 1978 to May, 1978; Graduate Research Assistant, Department of Psychology and School of Architecture, Oklahoma State University, September, 1979 to May, 1981.

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