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EXPLOITATIVE GAME BEHAVIOR AS A FUNCTION
OF THE INDIVIDUAL'S EXPLOITATIVE VALUE
JUDGMENTS AND OF HIS OPPONENT'S
STRATEGY AND SUCCESS

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

By
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The Ohio State University
1963

Approved by

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The young man who served as the experimenter's accomplice deserves a word of thanks for indefatigably participating in every game session.

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CHAPTER I
INTRODUCTION

Historical Perspective

The present study can be described for the moment and in general terms as a two-fold effort to validate empirically a recently constructed scale measuring an unethical value of exploitation and concomitantly to investigate the effects of unethical value judgments upon subsequent game behavior when two important situational variables are systematically manipulated. Personal values, unethical behavior, and games have been studied individually but rarely in combination. Therefore, before the specific problem of the present study is introduced, the typically separate treatment of these variables will be traced historically.

The Psychology of Values

It was not until four decades after its genesis that psychology squarely faced the problem of studying the individual's values. Fortunately, this delay probably hastened rather than impeded the discipline's early career. Once the responsibility was finally taken, however, this science of human behavior set out not to philosophize about the individual's values, but to describe them by the process of measurement. Considering the
ubiquitous but elusive variable under scrutiny, psychology had assigned itself an awesome task.

Before something is measured it is usually defined; that is, it is distinguished from other somethings. Within the last 30 years psychologists have attached an array of different meanings to the concept of value, and the number of definitions have by far outnumbered the different measures of values. In their dictionary of psychological terms, English and English (1958) have provided two representative definitions in addition to the conventional numerical and economic meanings. One meaning denotes value as an abstract concept which refers to the means and ends that are desired by individuals or aggregates of individuals, and the second meaning is that of goal object which either has a degree of worth ascribed to it or is an intrinsic value.

The pioneer measure (Vernon & Allport, 1931) of personal values was derived from a German psychologist's typology (Spranger, 1928) of individuals according to the values they believed were most important. Within the following 30 years, almost a plethora of different value-measuring instruments were to be developed.

Underlying the diversity in substance of these different value measures was one common element, an indirect approach. Psychologists had learned not to ask the individual directly just what his values were. A recent study (Nickels & Renzaglia, 1958), for example, has underscored the need for this technique by demonstrating the discrepancies between individuals' expressed and
measured values. A highly indirect but relatively more subjective approach is that of White's content analysis (1951) which can be applied to documents, speeches, and the like. Unfortunately, even indirect measures cannot altogether escape the individual's insidious habit of responding normatively, and it is for this reason that sophisticated analytical devices have been applied. Rettig (1960) has contended that the objective method of factor analysis is most suitable not only for partialling out a measure's social desirability but for determining as well the invariance of value structures across different samples and time.

The fact that an individual holds a set of values suggests a psychological structure, such as a hierarchy of values ordered along a continuum of intensity of commitment or severity of judgment. The stability of this structure has been a variable experimented upon by various researchers. In a study by Jacob (1957), for example, the general conclusion was drawn that college students' basic values remain largely unchanged, although Jacob specifically noted that fourth-year students have relinquished their extreme judgments. Rettig and Pasamanick (1959a, 1959b) collected cross-sectional samples of moral value judgments in order to study the effects of time and age. A salient finding was the relaxation of judgments of general morality and an increase in severity of judgments of economic morality by older respondents.

Paralleling more or less chronologically the measurement of the individual's values was the measurement of his interests, attitudes, temperament and social milieu, and this development has
prompted studies in which these variables have been correlated with measures of personal values. Sarbin and Berdie (1940) investigated the relation of interests to values. They observed, for instance, that individuals interested in science scored higher on a measure of value ascribed to theoretical activities than did individuals not interested in science. In another study (Jones & Morris, 1956), a temperament scale was correlated with a novel test comprised of paragraphs depicting different ways to live. Each way of life was described so that different cultural values were reflected. The researchers found, for example, that individuals who could be described as impulsive, vigorous, sociable and dominating liked most a way of life replete with enjoyment and progressive action.

The individual is always a member of some social structure; consequently, his interactions with other members become significant. Recognition of this fact has led to studies relating the individual's values to his social surroundings. Gordon (1960), for example, constructed a questionnaire which surveys the different kinds of interpersonal relationships which the individual values. Again exploring the realm of moral value judgments, Rettig and Pasamanick (1961), compared college students with blue-collar workers, and it was observed that differences in social class were related to the dimensionality of those judgments. Comparative studies which extend beyond the social group are exemplified by the work of Kluckhohn and Strodtbeck (1961) who surveyed the value orientations of respondents in five communities and by the work of
Morris and Jones (1955) who administered their value scales to college students in different countries.

What probably inspired the measurement of values was the question of their psychological function in human behavior; a question which had to be deferred until the individual's values had been described and classified. Thus, Dodd (1951) regarded his classification of values into a logical schemata as a prerequisite to an improved prediction of the individual's valuing behavior. Apparently, however, psychology has yet to emerge fully from the measurement stage, for a review of the literature reveals a preponderance of descriptive studies and a dearth of prediction and experimental studies in which either individual differences in values are correlated with behavioral measures (other than test performance) or mean effects of experimentally controlled measures of values upon behavior are tested. This imbalance between descriptive and experimental research is even more noticeable in the specific area of unethical value judgments.

Brief mention will be made of the few but noteworthy studies which were predictive or experimental rather than descriptive in purpose. A classical experiment by Bruner and Goodman (1947) documented the function of needs and values as selective mechanisms in poor and rich children's perceptions of the values of different coins. In a similar study (Postman, Bruner, & McGinnies, 1948), it was shown that the recognition threshold for words presented on a tachistoscope varied inversely with the viewer's personal values.
With the advent of decision-making theory, the role of values in influencing the individual's choice of alternatives became evident. In this context, the concept of values has usually signified economic utility, although some theorists have argued for the incorporation of a concept of personal values into decision-making models. Proponents of the less formalistic approach have thus conducted studies to determine the relationships between differences in decisions and measures of personal values. In one study (Scodel, Ratoosh, & Minas, 1959) of betting behavior, for example, it was found that subjects who preferred high pay-off, low-probability alternatives scored high on measures of theoretical and aesthetic values.

Two studies (Rawson, 1961, and Rawson, Rettig, & Pasamanick, 1961) provide exceptions to the noted lack of research on the relationship between moral values and behavior. In one study by Rawson, students' scores on socioeconomic and moral value scales were correlated with unethical behavior in a classroom situation under conditions of high and low risk. Of interest to the above researcher was a particular moral value dimension, that of exploitation and manipulation, which had been extracted from a factor analysis of a revised version of Crissman's (1942) moral values questionnaire.

In the high-risk condition of Rawson's study, the instructor administered a modified mid-term examination to the students who were instructed to indicate on a five-point scale how certain they were of the correct answer. The instructor claimed that while this procedure was for diagnostic purposes, their certainty scores
probably would be used in assigning mid-term grades. It was assumed that students would perceive this situation as one providing an opportunity for personal gain (a better grade if amount of knowledge overestimated) but with the high risk that the instructor might test their actual rather than estimated knowledge at a later date. In the low-risk condition, a pseudo-representative from a textbook company used the same diagnostic testing procedure on another group of students allegedly for the purpose of discovering guidelines for the publishing of new textbooks. Thus, in this situation neither risk nor personal gain was involved.

Rawson found, as he had hypothesized, that the exploitation-manipulation value scale predicted the amount of deceptive overestimation only under the condition of high risk. However, the actual correlation coefficient was quite low even though significant, and it should be pointed out that since the effects of the risk versus no-risk condition were not isolated from the possible effects of a gain versus no-gain condition, a definitive conclusion about the effects of risk on unethical behavior cannot be made.

In the second study, Rawson and his associates devised an ingenious measure of deceptive behavior and then correlated students' scores on it with their scores on the same socioeconomic and moral value measures. The experimental task, ostensibly a test of tracking skill during simulated night flying, required a subject and a stooge individually and with eyes closed to track five-pointed stars that were outlined on flat surfaces. Both the
subject and stooge were given five of these stars to track, and money in amounts ranging from 50 cents for one point to $12.50 for 25 points was awarded each subject.

The role of the stooge, who was paired with each of the subjects separately at different times, was a subtle one. After completing each star, the stooge casually remarked that he had successfully tracked so many points. Since pure chance alone dictated how many points could be tracked successfully if the eyes were closed, it was assumed that the subject would infer that the stooge was peeking. It was further assumed that if the subject decided to peek, he would be doing so under a perceived condition of high risk since there was the possibility that his deceptiveness might be exposed by the experimenter whenever the latter returned to the room after presumably answering a telephone call.

The degree of the subjects' deceptions was then correlated with their socioeconomic and moral value scores. It was found that the moral value scales alone did not significantly predict the subjects' deceptive behaviors.

Psychological Studies of Unethical Behavior

With the recent exception of the previously cited research by Rawson and his associates, relatively few psychological studies of unethical behavior have been conducted since the classical work by Hartshorne and May (1928), who refuted the trait theory of honesty by demonstrating that the moral knowledge of children did not generalize to different behavioral situations. The few remaining studies reported in the psychological literature have all
dealt with a specific form of unethical behavior, that of classroom cheating. Kato (1959), for example, found that school children whose instructor cited a falsely high standard subsequently cheated more in grading their own examinations than did children who were cited a normal standard.

The study of unethical behavior has been primarily in the domain of the sociologist. Merton (1957), for example, has theorized that individuals adapt to the social structure by either accepting or rejecting its goals or its institutionally approved means for reaching them. When a society disproportionately exalts its goals, and when the society places restrictions upon the attainment of these goals (as the case often is with lower social class members), there are likely to be persons, classified by Merton as innovators, who reject the legitimized means in favor of unethical but more expedient ones.

**Games in Research**

The characteristics of games have rendered them quite amenable to research by the economist who, with assistance from the mathematician, has derived sophisticated contests for the study of economic behavior. The behavior studied, however, has been ethically neutral, and the concept of value has connoted economic utility. Braithwaite (1955), a British moral philosopher, has provided an amusing exception by modifying the game-theory model to cover the hypothetical case of two apartment-dwelling tenants, one living directly above the other, who play different musical instruments at the same hour every evening. While the
usual procedure is to order each player's preferences of the alternative solutions to the conflict, Braithwaite also includes the possibility that one player may have no other preference than simply and maliciously to annoy the other.

Games have been used lately as a tool in psychological research to study such processes as decision-making and learning. The previously cited research by Scodel, Ratoosh, and Minas on betting behavior is an example of the use of games in studying decision making under conditions of risk. An example of the application of games to research on learning is provided by the work of Flood (1954) who investigated how a player learns to improve his strategy after a series of preceding plays. Neither unethical value judgments nor unethical game behaviors have been experimentally investigated, however.

The Problem

The orientation of the present study was derived from earlier research based on a theoretical framework (Shartle, 1958) for predicting behavior in organizations. A central concept of this framework was that of value acts (that is, evaluative behavior) which were theorized to be potentially important predictors.

Shartle and his associates then developed a relatively unique method for measuring these value acts. Items describing a wide range of practices that could or do occur in three generalized organizations—the military service, the public high school, and the business firm—were written, administered, analyzed and
revised, and finally re-administered to various samples of college students. Their evaluative responses to these items were then submitted to a series of factor analyses. One of the most significant factors extracted from an analysis of the business firm questionnaire was identified as a value dimension of exploitation. This dimension seemed to be measuring value judgments about unethically competitive business behavior, which violates the social structure's regulations or norms regarding ways for reaching its goals. Two of the items which had high loadings on the exploitation factor are presented below as examples.

Because of special favors they have received, the police force gives the firm extra attention.
In order to compete effectively, the firm must take the risk of violating some antitrust laws.

Because so little research had been conducted on the functional relationship between unethical values and unethical behavior, the exploitation factor was selected for experimental study. Furthermore, the empirical validity of the exploitation factor had never been established with an overt behavioral measure.

One question the present investigation attempted to answer was whether exploitative value judgments, as obtained from respondents' projections onto a generalized business firm's practices, carry over into the respondents' overt behaviors in a situation which is nonbusiness but which nevertheless offers an opportunity for personal gain and various means for attaining it.

In an earlier study (Brumback, 1960), it was found that evaluative responses to business firm practices correlated significantly with
a more generalized measure (that is, one that is not restricted to a particular referent, such as an organization) of personal values. The Allport-Vernon-Lindsey (1960) economic values scale, for example, correlated significantly with several of the business firm factors. The social values scale was another measure which correlated significantly and positively with evaluations of business practices which reflect social responsibility and employee consideration. These data suggested that subjects' evaluative responses were a reflection of their projected personal values rather than simply an expression of their specific judgments about a particular kind of organization. It thus seemed reasonable to assume that, if values are important determinants of behavior, individuals with unethical value commitments would engage in unethical behavior for reasons of personal gain in a competitive situation—if no other equally optimal means for attaining the gain were available.

A simple two-person game was invented to simulate a competitive, non-business situation which offered an opportunity for personal gain and several ethical and unethical means or strategies that could be adopted by the player. The advantage of a game, of course, is that real-life conditions hypothesized to be significantly relevant can be simulated and systematically manipulated.

The game was designed in such a way as to permit the following additional questions to be raised and possibly answered. Do individuals with ethical value commitments behave ethically when another individual competing for the same personal gain
behaves unethically? Do the outcomes or successes of an opponent's intermediate actions as he approaches the goal have an effect upon the other individual's strategy? In other words, in order to demonstrate unequivocally that ethical individuals will not be influenced by an unethical opponent, the relative intermediate successes of the two must be controlled. The experimenter was able to control the strategy and relative successes of the opponent by having an accomplice play that role.

The questions raised above will be converted into experimental hypotheses (with underlying rationale presented) in the next chapter after the methodological details have been described.
CHAPTER II

METHODOLOGY

Pilot Study

The subject's choice between two alternative courses of action available in fictitious travel situations provided one measure of unethical strategy for the major study. An example of one of these situations is presented below.

You become acquainted with a custom's official in a London cafe. As a friendly gesture he offers to overlook several of your heavy and expensive souvenirs when you later pass through his custom's inspection line. Either take advantage of this situation by allowing him to do this; thus, you can automatically save $____ of your travel budget, or reject this situation and throw _____ six(es) out of three die throws for $____. Save $____ if you do not get _____ six(es).

Thus, if the subject decides to take the automatic personal gain, he must choose the unethical course of action as depicted in the travel situation. If he decides not to exploit the travel situation, he can choose the die-throw alternative.

The single purpose of the pilot study was to derive empirically the pay-offs associated with the two alternative courses of action and the die-throw contingency. A modified version of the game used in the major study was played by 30 male undergraduate students who were required to choose between an unethical course of action and an ethical die throw on each of eight different
travel situations. The actual pilot game procedure is outlined in the game manual in Appendix II. The eight travel situations are described in Appendix III. The business firm exploitative dimension was also administered to each subject prior to the game. The items used in scoring this dimension appear in Appendix IV.

The 30 subjects were assigned to three experimental conditions so that the three mean value scores were identical. In the first condition, 10 subjects were instructed to choose between an automatic gain of $10.00 and the same amount for a successful die throw. A successful outcome was defined as the throwing of one six out of three die throws, and a failure yielded only $5.00. Another 10 subjects were tested under the second pay-off condition of $10.00 for the unethical alternative, $20.00 for a successful die throw (two sixes out of three die throws), and $5.00 for an unsuccessful outcome. The pay-off for the remaining 10 subjects was $10.00 for the unethical alternative, the same amount for a successful die throw (one six out of three die throws), and $9.00 for a failure.

A subject was classified as an exploiter if he chose the unethical alternative five or more times and as a non-exploiter if he chose the die-throw alternative five or more times. All 10 subjects tested under the first condition adopted unethical strategies. Three of the 10 subjects tested under the second condition could be classified as non-exploiters, but two of these latter subjects were high-factor scorers (that is, they tended to condone unethical business firm practices).
Only the third condition produced a significant difference between the proportion of high-factor scorers adopting unethical alternatives and the proportion of low-factor scorers adopting ethical alternatives. Of the 10 subjects tested, there were six low-factor scorers who elected to throw the die more often than not, and the four who could be classified as exploiters were all high-factor scorers. Consequently, the game designed for the major study utilized the pay-offs of $10.00 for both the unethical alternative and the successful ethical alternative, $9.00 for a failure, and the contingency of one six out of three die throws.

**Major Study**

**Pre-Game Value Measure**

An independent pre-game measure of exploitative value judgments was obtained from subjects' responses to certain items contained in the "Organizational Value Dimensions Questionnaire: Business Firm." The subjects were administered the complete questionnaire, however. The questionnaire and answer sheet are presented in Appendix I. As was mentioned previously, the 33 items selected for scoring and their factor loadings appear in Appendix IV.

A subject's value score was computed by summing his scale responses to these 33 items. The seven-point scale from one, "extremely poor," to nine, "excellent," permits a possible range of composite scores from 33 to 297. The composite score of an individual who unfavorably evaluated the exploitative practices
of a business firm would thus be lower than that of an individual who favorably evaluated these same practices.

**Game Equipment**

The game equipment included a game board, two playing pieces, one die, play money, and 96 travel-experience cards.

Forty cells formed the surface boundaries of an 18-inch by 18-inch square game board. Upon each cell was typed a description of a travel experience that might be encountered by a traveler in real life. There were 20 different experiences, each duplicated once. Twenty cells which cost the player $50.00 of his travel budget for each occupancy alternated with 20 cells enabling the player to save (that is, gain) $10.00 for each occupancy. The 10 travel-expense items and the 10 gain items appear in Appendixes V and VI respectively.

The travel-experience cards were composed of board-move cards which directed the player to move a given number of cells and of decision-making cards which required the player to choose among alternative courses of action. There were two kinds of decision-making cards: (1) travel-situation cards and (2) Type A and Type B incumbency cards. The travel-situation cards were explained in reporting the pilot study. As was mentioned, the descriptions of the eight different travel situations appear in Appendix III.

The Type A and Type B incumbency cards directed the player to move to the incumbent's cell (that is, the opponent's cell) and
then to choose one among four alternative dispositions. The four
Type A alternatives are illustrated below:

1) You save $10.00, but the incumbent spends nothing
2) You do not save $10.00, but the incumbent must spend $15.00
3) You do not save $10.00, but the incumbent must spend $20.00
4) You do not save $10.00, but the incumbent must spend $25.00

The player could invoke one of the following four Type B
dispositions:

1) You save $10.00, but the incumbent spends nothing
2) You save $10.00, and the incumbent must spend $10.00
3) You save $10.00, and the incumbent must spend $20.00
4) You save $15.00, and the incumbent must spend $25.00

It was assumed that the incumbency cards provided measures
of ethically competitive game strategies; that is, players' de-
cisions with regard to these cards would not constitute implied
violations of ethical norms. While these two measures were quite
similar, the players' choices of the second, third, or fourth
Type A alternatives required them to sacrifice an immediate gain
in order to inflict a loss upon their opponents. Whether or not
subjects would perceive these alternatives as requiring more ag-
gressive competition, it was nevertheless expected that the
majority of the subjects would choose corresponding alternatives
when drawing either the Type A or Type B incumbency cards.

The 96 travel-experience cards thus included 14 travel-
situation cards (six of which the accomplice drew), 14 Type A
incumbency cards (six of which the accomplice drew), the same
number of Type B incumbency cards, and 54 board-move cards (30 of
which the accomplice drew).
Experimental Design

The major study's experimental design was three-dimensional, employing two levels of the subjects' pre-game value scores, three levels of the accomplice's exploitative and competitive game behavior, and three levels of the accomplice's successful board moves relative to that of the subjects'. This $3 \times 3 \times 2$ matrix can be geometrically illustrated in the following diagram.

![Diagram of experimental design matrix]

If this solid block diagram were three-dimensional and transparent, 18 component blocks could be discerned. These individual blocks correspond to 18 combinations of eight levels among three experimental conditions or independent variables. The two levels (high and low) of factor scores are symbolized by the letters H and L in the diagram. The H-EC, S-EC, and N-EC abbreviations refer to the accomplice's game strategies of high-exploitative and high-competitive, semi-exploitative and semi-competitive, and non-exploitative and non-competitive respectively.
The three success levels (A>S, A=S, S>A) determined whether the accomplice (A) was either conspicuously more successful than the subject (S) when landing on the 40 board cells, equally successful, or conspicuously less successful.

The accomplice adopted a high-exploitative and high-competitive strategy throughout the game by choosing the automatic gains offered by the travel situations and by choosing the fourth of both Type A and Type B alternatives (A-4 and B-4) whenever he drew these decision-making cards. He played the semi-exploitative and semi-competitive role by choosing the above alternatives only one-half of the time. Interspersed with these choices were the accomplice's decisions to throw the die and to invoke the A-l and B-l alternatives. The exact arrangement of his decisions under this S-EC condition is shown in Appendix VII. Finally, when playing against subjects tested under the non-exploitative and non-competitive condition, the accomplice always threw the die and always chose the A-l and B-l alternatives.

The exploitative (travel-situation decisions) and the competitive (incumbency-card decisions) strategies of the accomplice were not varied independently for two reasons. First, the sample size would have been tripled to accommodate the increase from 18 to 54 combinations. Secondly, it was assumed that this change would not show any different effects upon the subjects' decisions. This assumption, in turn, was deduced from the expectation that the subjects' decisions regarding the travel-situation cards would not vary as a function of the accomplice's
strategy and that differences in the subjects' competitive game behaviors could logically be attributed to the accomplice's competitive, rather than exploitative, decisions. For example, the effect of a single condition of non-exploitation, high-competition (NE-HC) upon the subjects' competitive decisions should be similar to the effect produced by the single H-EC condition, since it is plausible that these competitive decisions would be influenced more by the corresponding competitive decisions of the accomplice than by his exploitative decisions. No data were available to check these assumptions, however.

There were three sets of 96 travel-experience cards which differed only in the content of the board-move cards. This scheme enabled the experimenter to vary the three success levels since the board-move cards determined where the players landed. The three sets of cards paralleling the A>S, A=S, and S>A levels appear in Appendix VIII.

The sequence of cards was identical for all three sets and was so arranged that the accomplice's strategy could be displayed before the subject had an opportunity to adopt or at least display his own strategy. Another characteristic of these sets was that the order of the first 48 cards matched the order of the second 48 cards. This symmetry allowed the experimenter to compute the split-half reliability coefficients of the subjects' travel-situation scores and incumbency scores.

In order to avoid arousing the suspicions of the subjects tested under the two extreme levels, occasional losses or gains
were handed the accomplice, as can be observed in Appendix VIII. For the A=S level, the accomplice drew a total of 20 cards directing him to move to gain cells and a total of 10 cards directing him to move to expense cells. Thus, his net loss on the board amounted to $300.00. For the same level, the subject drew a total of 10 gain cards and a total of 14 expense cards for a net loss of $600.00. For the A=S level, the net loss incurred by both the accomplice and the subject was $420.00. For the S A level, the accomplice's net loss totaled $900.00 as compared to a $360.00 loss suffered by the subject.

Sample

The pre-game questionnaire was group administered to 200 male, undergraduate students enrolled in various sections of an introductory psychology course during the Autumn Quarter, 1962, at The Ohio State University. For a period of approximately two weeks, on the average five different subjects answered the questionnaire every testing hour. Accompanying each questionnaire was an instruction sheet which informed the subject that there was no connection between the first and second experiments; both were alleged to involve independent research objectives. The instruction sheet is presented in Appendix IX. After answering the questionnaires, subjects were individually assigned an appointment time for their game session. Each subject was led to believe that he would be paired with some other subject who happened to choose the same time.
An interim of one week lapsed between the end of the first sessions and the beginning of the second sessions. During this period each of the 200 subject's responses to the 33 items measuring the exploitation factor was scored. The highest 45 scorers were assigned to the nine treatments (five subjects each) for the high-factor level and the 45 lowest scorers were similarly allocated to the nine treatments for the low-factor level. An additional 36 respondents were assigned to the various conditions as a precaution against sample attrition. Four of these respondents eventually replaced four of the 90 subjects who did not play the game. An extra five respondents whose composite scores fell at about the median of the distribution of 200 scores were also retained and tested at the beginning of the game sessions in order to provide rehearsal trials for the experimenter and the accomplice.

The same individual served as the experimenter's accomplice and played every game as the opponent of each of the subjects tested. This young man was not enrolled in the university and therefore could avoid interacting with any of the subjects outside the game situation. Moreover, since there were approximately 1500 students enrolled in several sections of the introductory psychology course, it was unlikely the fact would ever be noticed that the accomplice did not attend class.

Game Procedure

At the beginning of each subject's second session, the experimenter led him to a small cubicle where he was left unattended for five minutes in order to read the game manual and to
count the play money allotted to him. The game manual appears in Appendix X.

The subject learned from the manual that his objective in playing the game would be to keep the amount of his travel expenses lower than that of his opponent's. The subject was told, furthermore, that if he were successful in doing this, his name would be thrown into a hopper containing the names of the other successful players, and the three players whose names were drawn at the end of the entire experiment would be given three bonuses of $15.00, $10.00, and $5.00.

The subject was instructed to check the various denominations comprising the $2000.00 of his initial travel budget. Unknown to the subject, an extra $20.00 bill had been planted. If the subject reported this fact to the returning experimenter, the latter replied that apparently in his haste he had inadvertently supplied the subject with 11 instead of 10 of these bills. However, an absolute check was not available on whether all subjects did in fact realize that there was an extra $20.00 bill.

The subject was then escorted to the game room which was divided into two areas separated by a partition. Seated before a desk located in the front area was the accomplice who pretended to be perusing his manual. After the two individuals were introduced by numbers rather than by names, they were led to the back area and seated at the game table. The experimenter shuffled a false deck of travel-experience cards in the presence of the players as they examined the game board placed between them. The experimenter then went behind the partition ostensibly to get the
die, playing pieces, and scoring sheet. This maneuver enabled him to substitute one of the three fixed decks for the false one.

Relying on more chicanery, the experimenter always guaranteed that the accomplice would start the game and thus draw the first card (and all the odd-numbered cards thereafter). Before the game began, the accomplice asked a few naive questions in order to disguise his true function further. He also endeavored to standardize all incidental behavior during the game. In playing the H-EC, S-EC, or N-EC role, the accomplice never tried to induce or coerce the subject.

Throughout the game, the experimenter acted as banker and recorder of the accomplice and subject's savings and expenses. He also dispensed each of the 96 cards to prevent the subject from accidentally drawing the wrong ones.

After the stack of 96 cards had been exhausted, the subject was ushered out of the room after being given a false reason for the accomplice's retention. The accomplice and the experimenter then prepared for the arrival of the next subject.

Scoring of the Dependent Variables

Whether or not the experimenter was notified by the subject of the extra $20.00 constituted a dichotomously scored measure of unethical game behavior (this measure will be designated frequently hereafter as dependent variable I). The subject who concealed the inequity would be exploiting or unfairly taking advantage of both the accomplice and the experimenter. Since this measure was
obtained prior to the actual game, the former could not be in-
fluenced by the independent variables mediated by the accomplice.

The subjects' decisions made upon drawing the eight dif-
ferent travel-situation cards were scored in terms of the frequency
of unethical alternatives chosen (this measure will be designated
frequently hereafter as dependent variable II). Thus a subject
with a score of zero chose the die-throw alternative on all eight
occasions while a subject with a score of eight chose the unethical
alternative upon all eight draws.

Each subject drew eight Type A and eight Type B incumbency
cards. His two scores on these measures were obtained by summing
his individual gains which were equivalent to the accomplice's
expenses plus the subject's savings (these measures will be desig-
nated frequently hereafter as dependent variables III and IV
respectively). For example, a subject with a score of 320 chose
eight B-4 alternatives.

Experimental Hypotheses

The following experimental hypotheses were formulated and
tested.

1. There would be a significantly greater proportion of
high-factor scorers than that of low-factor scorers who would not
report the extra $20.00.

2. Subjects' scores on the travel-situation measures
would vary as a function of their scores on the exploitation
factor. That is, high-factor scorers, on the average, would score
significantly higher on this dependent variable than would the low-factor scorers.

3. The low-factor scorers' travel-situation scores would not vary significantly by the three levels of the accomplice's game behavior or by the three success levels; the travel-situation scores of the high-factor scorers would vary significantly as a function of these game variables.

4. Subjects' scores on both Type A and Type B incumbency-card measures would vary significantly as a function of variations in all three independent variables.

5. There would be significantly positive intercorrelations among the four dependent variables. That is, the subjects' decisions upon drawing the different kinds of travel-experience cards would be interrelated.

It was unlikely that subjects would know in advance that incumbency-card decisions and board-move outcomes would contribute disproportionately more than would the travel-situation decisions to the final game outcome.\(^1\) If a subject believed that the 96 travel-experience cards were shuffled, then he might presumably entertain the possibility that his opponent could draw exactly the same number of incumbency and travel-situation cards and incur the same final net loss via the game-board cells, and that consequently the game would end in a stalemate if both his opponent and he initially adopted and maintained an unethically

\(^1\)Each subject voluntarily signed a secrecy pledge after his game session.
competitive strategy. This strategy would therefore be the optimal one to adopt.

While all the subjects sampled may have been intelligent individuals, it was assumed that subjects with ethical values would not adopt the optimal-and-unethical strategy even if they realized that their chances for personal gain were thereby jeopardized; conversely, it was expected that subjects with unethical values would adopt this strategy because of the personal gain involved.

The second hypothesis does not rely upon or bespeak the assumption of an intelligent subject who can foresee all potential goal paths and associated probabilities of success, although this hypothesis does assume that all subjects could distinguish between the ethical and unethical nature of the alternatives that were available. This hypothesis obviously depends on the existence of an opportunity for personal gain.

The third experimental hypothesis assumes that individuals with ethical value commitments would not adopt an unethical strategy even in a situation where unethical behavior was associated with success and ethical behavior was associated with failure. High-factor scorers, on the other hand, might be expected to switch strategies if an unethical one no longer seemed necessary. It was further assumed that any differences either in proportions of the accomplice's die-throw successes or in proportions of the subjects' die-throw successes among the various experimental

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2 Even if the subject suspected the fixed sequence of the cards, he could only guess what their actual order would be.
conditions would not affect the subjects' decisions regarding the travel-situation cards. While it was expected that the proportions of successful die throws would vary randomly, the effects of non-random variation, if the latter occurred, could be tested statistically.

The hypothesis that the subjects' scores on the incumbency-card measures would be effected significantly by the three independent variables needs to be elaborated. First, it was assumed that there probably would be some subjects who would not only score low on the exploitation factor but who would also disapprove of any form of competition, ethical or unethical, and would thus score low on the incumbency-card measures. Second, if the accomplice adopted a competitive strategy at the outset, it was expected that the subjects would follow suit if they hoped to win the game. If the accomplice started out by choosing A-1 and B-1 alternatives, it was assumed that the subjects would tend to choose the same alternatives instead of inviting retaliation by trying the A-4 and B-4 alternatives and thereby risking defeat should their opponent not only switch strategies but also proceed to draw relatively more incumbency cards. Third, it was postulated that the three success levels would have a main effect upon the subjects' incumbency-card scores because it was assumed that the subjects would perceive the game-board moves as an important determinant of the final game outcome.
CHAPTER III

RESULTS

Statistics Describing Factor Scores and Dependent Variables

During the Summer Quarter, 1962, a test-retest (with interim of three weeks) administration of the business firm questionnaire to a sample of 103 male and female students yielded a reliability coefficient of .83 for the exploitation factor. Such a coefficient demonstrated that this pre-game measure was sufficiently reliable, especially for studying mean effects of the high-low factor levels.

The mean and standard deviation of the original 200 scores and the same statistics for the scores of the 90 subjects whose game behavior was analyzed appear in Table 1. The mean factor scores of these latter subjects when grouped for the experimental conditions appear in Table 2. These data show that the methodological requirement of equal means for the nine groups for the high-factor level and equal means for the nine groups for the low-factor level was nearly satisfied. The 45 high-factor scorers used on the average an average scale value slightly higher than five ("don't care or neutral") in evaluating the 33 items. The 45 low-factor scorers used on the average an average scale value of approximately three ("quite poor").
TABLE 1
MEANS AND STANDARD DEVIATIONS OF FACTOR SCORES FOR ORIGINAL QUESTIONNAIRE SAMPLE (N=200) AND GAME SAMPLE (N=90)

<table>
<thead>
<tr>
<th>N</th>
<th>Mean</th>
<th>N</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>138.46</td>
<td>200</td>
<td>24.24</td>
</tr>
<tr>
<td>90</td>
<td>138.90</td>
<td>90</td>
<td>34.34</td>
</tr>
</tbody>
</table>

TABLE 2
MEAN FACTOR SCORES ACROSS 18 EXPERIMENTAL CONDITIONS

<table>
<thead>
<tr>
<th>High-Low Factor Scores</th>
<th>H</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accomplice's Strategy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A&gt;S</td>
<td>170.40</td>
<td>170.40</td>
</tr>
<tr>
<td>A=S</td>
<td>170.00</td>
<td>170.20</td>
</tr>
<tr>
<td>S&gt;A</td>
<td>167.80*</td>
<td>170.00</td>
</tr>
<tr>
<td>Mean of Means</td>
<td>169.93</td>
<td>107.87</td>
</tr>
</tbody>
</table>

*Deviation from mean of means due to slight sample attrition.

When the number of high-factor and low-factor scorers who did or did not notify the experimenter of the extra $20.00 bill was tabulated, it was found that 24 out of the 90 subjects did not. Out of the smaller number, there were seven times as many high-factor scorers as there were low factor scorers. The difference in these proportions yielded a significant chi square of 16.42 (df = 1, P less than .001).
The means and standard deviations of the 90 subjects' scores on the three remaining dependent variables are presented in Table 3. The means and standard deviations of subjects' scores on the first-half measure and on the second-half measure of these variables are also included.

### Table 3

**Means and Standard Deviations (SD.) of Subjects' Scores (Total and Split-Half) on Dependent Variables II, III, and IVa,b**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>II</th>
<th></th>
<th>III</th>
<th></th>
<th>IV</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD.</td>
<td>Mean</td>
<td>SD.</td>
<td>Mean</td>
<td>SD.</td>
</tr>
<tr>
<td>Total</td>
<td>5.17</td>
<td>2.95</td>
<td>167.50</td>
<td>41.35</td>
<td>286.10</td>
<td>62.82</td>
</tr>
<tr>
<td>First half</td>
<td>2.69</td>
<td>1.42</td>
<td>83.50</td>
<td>20.90</td>
<td>143.05</td>
<td>34.25</td>
</tr>
<tr>
<td>Second half</td>
<td>2.48</td>
<td>1.73</td>
<td>84.00</td>
<td>22.42</td>
<td>143.05</td>
<td>35.33</td>
</tr>
</tbody>
</table>

aDependent variable II is the travel-situation measure, III is the Type A incumbency measure, and IV is the Type B incumbency measure.

bThe differences between the first-half and the second-half means for the three dependent variables were not significant.

Split-half reliability coefficients were computed for dependent variables II (travel-situation), III (Type A incumbency), and IV (Type B incumbency). The uncorrected and corrected coefficients appear in the diagonals of the intercorrelation matrix of Table 4. The intercorrelations among the dependent variables appear in the upper-half of the matrix.

The findings shown in Tables 3 and 4 indicate that the decisions made by the subjects were consistent throughout the game.
TABLE 4
SPLIT-HALF RELIABILITY AND INTERCORRELATION COEFFICIENTS AMONG DEPENDENT VARIABLES I, II, III, AND IV<sup>a</sup>,<sup>b</sup>

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>---</td>
<td>.46&lt;sup&gt;c&lt;/sup&gt;</td>
<td>.14</td>
<td>.14</td>
</tr>
<tr>
<td>II</td>
<td>.75&lt;sup&gt;c&lt;/sup&gt;</td>
<td>.41&lt;sup&gt;c&lt;/sup&gt;</td>
<td>.33&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>.80&lt;sup&gt;c&lt;/sup&gt;</td>
<td>.89</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>.83&lt;sup&gt;c&lt;/sup&gt;</td>
<td>.91</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>Uncorrected split-half reliability coefficients appear in the upper diagonals; corrected ones appear in the lower diagonals.

<sup>b</sup>No reliability coefficient could be computed for dependent variable I.

<sup>c</sup>df = 89, P less than .001.

Furthermore, the different kinds of decisions made were positively and significantly intercorrelated except for the correlation between dependent variables I and III and between I and IV. Thus, the fifth hypothesis was only partially supported.

An effort was made, when the situations depicted by the travel-situation cards were written, to equate the degree of unethical content manifested by each card. If the degree of unethical content was uniform for all eight cards, the resulting choices of unethical alternatives would be rectangularly distributed. The actual number of subjects choosing the unethical alternatives upon drawing the eight cards appear in Table 5. This distribution did not differ significantly from a rectangular one of equal frequencies (chi square = 4.00, df = 7, P greater than .05).
### TABLE 5

**COMPOSITE RANK ORDER OF JUDGMENTS BY SIX INDEPENDENT Raters OF UNETHICAL CONTENT IN THE TRAVEL-SITUATION CARDS AND NUMBER OF SUBJECTS CHOOSING UNETHICAL ALTERNATIVES UPON DRAWING THESE CARDS**

<table>
<thead>
<tr>
<th>Travel-Situation Cards&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Number of Subjects Choosing Unethical Alternatives</th>
<th>Composite Rank&lt;sup&gt;b&lt;/sup&gt; Order of Judges</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-S1</td>
<td>66</td>
<td>7</td>
</tr>
<tr>
<td>T-S2</td>
<td>63</td>
<td>1</td>
</tr>
<tr>
<td>T-S3</td>
<td>61</td>
<td>2</td>
</tr>
<tr>
<td>T-S4</td>
<td>52</td>
<td>5</td>
</tr>
<tr>
<td>T-S5</td>
<td>58</td>
<td>6</td>
</tr>
<tr>
<td>T-S6</td>
<td>61</td>
<td>7</td>
</tr>
<tr>
<td>T-S7</td>
<td>50</td>
<td>3</td>
</tr>
<tr>
<td>T-S8</td>
<td>53</td>
<td>4</td>
</tr>
</tbody>
</table>

<sup>a</sup>T-S1, for example, refers to the first travel-situation card described in Appendix III.

<sup>b</sup>Rank of one signifies the most unethical situation relative to the others.

Six psychologists were instructed to rank order the eight cards in terms of the degree of unethical content manifested. The resulting agreement among the six independent rank orderings yielded a coefficient of concordance of .77 (df = 7, P less than .001). This high index indicates that the relative degree of unethical content varied recognizably, at least for sophisticated judges. Their composite rank orders appear in Table 5. All of the judges pointed out that each card depicted an unethical situation even though they were able to rank them.

The observed and expected frequencies of the accomplice's and subjects' die-throw successes appear in Tables 6 and 7.
TABLE 6
OBSERVED AND EXPECTED FREQUENCIES OF ACCOMPLICE'S DIE-THROW SUCCESSES DISTRIBUTED OVER 12 CONDITIONS\(a,b\)

<table>
<thead>
<tr>
<th>Success Levels</th>
<th>Accomplice's Strategy</th>
<th>H</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-EC</td>
<td>N-EC</td>
<td>6.8</td>
<td>14.5</td>
</tr>
<tr>
<td>A&gt;S</td>
<td>H-EC</td>
<td>6.0</td>
<td>17.0</td>
</tr>
<tr>
<td>A=S</td>
<td>N-EC</td>
<td>6.9</td>
<td>14.9</td>
</tr>
<tr>
<td>S&gt;A</td>
<td>H-EC</td>
<td>7.3</td>
<td>15.6</td>
</tr>
<tr>
<td></td>
<td>H-EC</td>
<td>7.0</td>
<td>15.0</td>
</tr>
</tbody>
</table>

\(a\) Observed frequencies appear directly below corresponding expected frequencies.

\(b\) Chi square = 2.72 (df = 6, P greater than .05).

\(c\) Accomplice did not choose die-throw alternatives under H-EC conditions.

TABLE 7
OBSERVED AND EXPECTED FREQUENCIES OF SUBJECTS' DIE-THROW SUCCESSES DISTRIBUTED OVER NINE CONDITIONS\(a,b,c\)

<table>
<thead>
<tr>
<th>Success Levels</th>
<th>Accomplice's Strategy</th>
<th>H-EC</th>
<th>S-EC</th>
<th>N-EC</th>
</tr>
</thead>
<tbody>
<tr>
<td>A&gt;S</td>
<td>H-EC</td>
<td>11.1</td>
<td>14.2</td>
<td>14.6</td>
</tr>
<tr>
<td></td>
<td>H-EC</td>
<td>7.0</td>
<td>19.0</td>
<td>14.0</td>
</tr>
<tr>
<td>A=S</td>
<td>H-EC</td>
<td>13.4</td>
<td>17.1</td>
<td>17.5</td>
</tr>
<tr>
<td></td>
<td>H-EC</td>
<td>16.0</td>
<td>14.0</td>
<td>18.0</td>
</tr>
<tr>
<td>S&gt;A</td>
<td>H-EC</td>
<td>11.4</td>
<td>14.6</td>
<td>14.9</td>
</tr>
<tr>
<td></td>
<td>H-EC</td>
<td>13.0</td>
<td>13.0</td>
<td>15.0</td>
</tr>
</tbody>
</table>

\(a\) Observed frequencies appear directly below corresponding expected frequencies.

\(b\) Chi square = 4.62 (df = 4, P greater than .05).

\(c\) Frequencies for high-low factor level were summed because of the small number of die-throw choices made by the high-factor scorers. However, proportion of successes out of throws attempted was identical for both groups.
respectively. Since these frequencies varied randomly across the experimental conditions, variations in scores on the unethical travel-situation variable would have to be attributed either to error or to the experimental conditions.

**Analyses of Variance**

The results of the three analyses of variance for dependent variables II, III, and IV are summarized in Tables 8, 9, and 10 respectively. These results upheld the second hypothesis (that subjects' travel-situation scores would vary as a function of their scores on the exploitation factor) and to some extent the third hypothesis (level of accomplice's strategy and level of success did not significantly affect the high-factor group's travel-situation scores). The fourth hypothesis (that subjects' scores on both sets of incumbency-card measures would vary as a function of variations in all three independent variables) was not completely supported since level of success had no significant effect upon dependent variables III and IV.

The mean scores on the travel-situation cards and on the Type A and Type B incumbency cards for those experimental conditions which produced significant main effects are presented in Table 11. It can be inferred from this table that the group of high-factor scorers on the average scored significantly higher on all three dependent variables than did the group of low-factor scorers.

In order to locate the significant differences among the mean scores obtained for the three levels of the accomplice's
### TABLE 8
SUMMARY OF ANALYSIS OF VARIANCE OF SCORES ON DEPENDENT VARIABLE II

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-Low Factor Scorers (1)</td>
<td>1</td>
<td>240.0</td>
<td>38.71b</td>
</tr>
<tr>
<td>Accomplice's Strategy (2)</td>
<td>2</td>
<td>12.5</td>
<td>2.02</td>
</tr>
<tr>
<td>Success Levels (3)</td>
<td>2</td>
<td>6.0</td>
<td>0.97</td>
</tr>
<tr>
<td>1 x 2</td>
<td>2</td>
<td>15.0</td>
<td>2.42</td>
</tr>
<tr>
<td>1 x 3</td>
<td>2</td>
<td>2.5</td>
<td>0.40</td>
</tr>
<tr>
<td>2 x 3</td>
<td>4</td>
<td>5.5</td>
<td>0.89</td>
</tr>
<tr>
<td>1 x 2 x 3</td>
<td>4</td>
<td>2.2</td>
<td>0.35</td>
</tr>
<tr>
<td>Error (within)</td>
<td>72</td>
<td>6.2</td>
<td>----</td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>----</td>
<td>----</td>
</tr>
</tbody>
</table>

*Travel-situation measure.*

*P less than .001.*

### TABLE 9
SUMMARY OF ANALYSIS OF VARIANCE OF SCORES ON DEPENDENT VARIABLE III

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-Low Factor Scorers (1)</td>
<td>1</td>
<td>8,900.0</td>
<td>6.06b</td>
</tr>
<tr>
<td>Accomplice's Strategy (2)</td>
<td>2</td>
<td>12,620.0</td>
<td>8.59c</td>
</tr>
<tr>
<td>Success Levels (3)</td>
<td>2</td>
<td>2,006.0</td>
<td>1.36</td>
</tr>
<tr>
<td>1 x 2</td>
<td>2</td>
<td>632.0</td>
<td>0.43</td>
</tr>
<tr>
<td>1 x 3</td>
<td>2</td>
<td>997.0</td>
<td>0.68</td>
</tr>
<tr>
<td>2 x 3</td>
<td>4</td>
<td>362.0</td>
<td>0.25</td>
</tr>
<tr>
<td>1 x 2 x 3</td>
<td>4</td>
<td>976.0</td>
<td>0.66</td>
</tr>
<tr>
<td>Error (within)</td>
<td>72</td>
<td>1,469.0</td>
<td>----</td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>----</td>
<td>----</td>
</tr>
</tbody>
</table>

*Type A incumbency-card measure.*

*P less than .05.*

*P less than .001.*
### TABLE 10

**SUMMARY OF ANALYSIS OF VARIANCE OF SCORES ON DEPENDENT VARIABLE IV**

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-Low Factor Scorers (1)</td>
<td>1</td>
<td>19,360.00</td>
<td>5.40b</td>
</tr>
<tr>
<td>Accomplice's Strategy (2)</td>
<td>2</td>
<td>22,314.00</td>
<td>6.23c</td>
</tr>
<tr>
<td>Success Levels (3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 x 2</td>
<td>2</td>
<td>3,124.00</td>
<td>0.87</td>
</tr>
<tr>
<td>1 x 3</td>
<td>2</td>
<td>1,990.00</td>
<td>0.56</td>
</tr>
<tr>
<td>2 x 3</td>
<td>4</td>
<td>3,874.00</td>
<td>1.08</td>
</tr>
<tr>
<td>1 x 2 x 3</td>
<td>4</td>
<td>753.00</td>
<td>0.21</td>
</tr>
<tr>
<td>Error (within)</td>
<td>72</td>
<td>3,584.00</td>
<td>----</td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>----</td>
<td>----</td>
</tr>
</tbody>
</table>

*Type B incumbency-card measure.*

*P less than .05.*

*P less than .01.*

### TABLE 11

**MEAN SCORES ON DEPENDENT VARIABLES II, III, AND IV FOR INDEPENDENT VARIABLES HAVING SIGNIFICANT MAIN EFFECTS**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>H</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>II</td>
<td>6.78</td>
<td>3.51</td>
</tr>
<tr>
<td>III</td>
<td>177.89</td>
<td>158.00</td>
</tr>
<tr>
<td>IV</td>
<td>302.89</td>
<td>273.56</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>H-EC</th>
<th>S-EC</th>
<th>N-EC</th>
</tr>
</thead>
<tbody>
<tr>
<td>III</td>
<td>184.50</td>
<td>174.33</td>
<td>145.00</td>
</tr>
<tr>
<td>IV</td>
<td>311.00</td>
<td>295.67</td>
<td>258.00</td>
</tr>
</tbody>
</table>
strategy, a sequential test (Duncan, 1955) of all the differences was computed. As a result of this subsidiary analysis, it was discovered that the difference between the two mean scores on dependent variable III for the H-EC and S-EC levels was not statistically significant, whereas the remaining pairs of differences between the H-EC and N-EC levels and between the S-EC and N-EC levels were significant (df = 72, P less than .01).

Similarly, the difference between the H-EC and S-EC mean scores on dependent variable IV was not statistically significant but the remaining pairs of differences were significant (df = 72, P less than .05). Thus, subjects who played against high-exploitative and high-competitive, or semi-exploitative and semi-competitive strategies were on the average significantly more competitive than were subjects who played against a non-exploitative, and non-competitive strategy.

**Multiple-Regression Equations**

The relationships between the independent variables (predictors) 1, 2, and 3 and dependent variables (criteria) II, III, and IV were computed (predictor 1 is factor-score level, 2 is accomplice's strategy, and 3 is success level). The resulting correlation coefficients appear in Table 12. Because the independent variables were orthogonal, the validity coefficients became the Beta weights applied to the standard scores of the following multiple-regression equations.
These equations, in turn, produced the corresponding multiple correlation coefficients of \( R_{II} \cdot 1,2,3 = .85 \), \( R_{III} \cdot 1,2,3 = .82 \), and \( R_{IV} \cdot 1,2,3 = .96 \). Thus, for example, the three predictors accounted for 92 percent of the variance of dependent variable IV although the contribution of predictor 3 was insignificant.

**Interaction Trends Among Experimental Conditions**

The double and triple interactions among the experimental conditions, while not statistically significant, were plotted and examined for possible trends. The 12 interaction plots appear in Figures 1 through 12 of Appendix XI.

Examination of Figures 1 through 4 suggests that the A=S and S>A success levels and the N-EC strategy of the accomplice when playing against low-factor scorers could have contributed to the factor-score condition's main effect upon the travel-situation scores. Moreover, high-factor scorers did not seem to be influenced in the expected direction by the N-EC strategy. The mean travel-situation score of the five high-factor scorers tested under the S>A and N-EC combination was somewhat higher than the two mean scores of the 10 high-factor scorers who played against N-EC strategies under the other two success levels.
TABLE 12
CORRELATIONS BETWEEN INDEPENDENT VARIABLES (PREDICTORS) 1, 2, AND 3 AND DEPENDENT VARIABLES (CRITERIA) II, III, AND IV

<table>
<thead>
<tr>
<th></th>
<th>II</th>
<th>III</th>
<th>IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.52</td>
<td>.22</td>
<td>.26</td>
</tr>
<tr>
<td>2</td>
<td>.18</td>
<td>.40</td>
<td>.60</td>
</tr>
<tr>
<td>3</td>
<td>.03</td>
<td>.05</td>
<td>.06</td>
</tr>
</tbody>
</table>

Independent variables 1, 2, and 3 identify high-low factor scorers, accomplice's strategy, and success levels respectively.

b df = 89, P less than .05.
c df = 89, P less than .01.
d df = 89, P less than .001.

As would be expected from the high degree of correlation between the two types of competition measures, the patterns of interactions plotted (in Figures 5 through 12) for these two independent variables are quite similar. Furthermore, there do not appear to be any definite interaction trends.
CHAPTER IV

DISCUSSION

Interpretation of Results and Conclusions

Exploitative and Competitive Strategies

Two of the dependent variables measured permit a comparison between actual (behavioral) and implied (verbal) exploitation. Twenty-seven percent or 24 of the subjects actually behaved unethically by not reporting the extra $20.00 bill. On the other hand, more than twice as many subjects implied that they would be exploitative travelers by choosing more often than not the unethical travel-situation alternatives. Whether or not these subjects would actually take advantage of identical or similar unethical opportunities outside the laboratory setting can only be conjectured. Other things being equal, it would be less speculative to predict that individuals who behaviorally exploit (as contrasted with individuals who implicitly exploit) in a game situation will tend to do so in situations outside the laboratory setting.

It can be observed from Table 4 that the intercorrelations between the exploitative and the competitive measures were lower than the correlations within either the exploitative or competitive pairs. Thus, individuals who adopted competitive strategies were
not necessarily unethical as well. There was, as expected, a
relatively high degree of correlation between the two sets of
incumbency-card measures. Inspection of the raw data revealed
that, for the total sample of incumbency-card decisions, A-l
alternatives were more frequently chosen than were the B-l al-
ternatives, although the mean A alternative selected was only
slightly lower than the mean B alternative selected. Apparently,
some subjects were unwilling to sacrifice the immediate gain of
$10.00 required in order to inflict a $25.00 loss upon the in-
cumbent.

Exploitative Value Judgments

The finding that subjects' value judgments about business
firms' exploitative practices were a significant antecedent to
actual exploitation demonstrates empirical validity for a value
measure which had not been tested against any behavioral criteria
prior to this investigation. Furthermore, the fact that value
judgments expressed in one context carried over into behavior
evoked in a different context assumes theoretical importance in
documenting the role of values in determining in part the behavior
of the valuer.

While the finding that the travel-situation decisions were
a function of the subjects' values and not of the game situation
suggests that an individual's ethical behavior cannot be modified
unless his ethical values are changed, the trade-off point found in
the pilot study would seem to dispute this conclusion. In the con-
text of this investigation, a trade-off point defines the transition
from an individual's ethical value commitments to his adoption of unethical behavior.

Upon encountering the abstract travel situations in the pilot study, the low-factor as well as the high-factor scorers presumably regarded as irrational the choice of either a die-throw alternative offering identical gain but considerably reduced compensation in case of an unlikely failure or of a die-throw alternative offering considerably greater gain in case of an unlikely success with the same reduced gain for failure. Apparently, low-factor scorers would not trade off their ethical value commitments for an unethical gain when the probability was relatively high that this same gain could be obtained ethically without risking a substantially depleted gain in case of failure.

The abstractness of the travel-situation measure probably accounted for this trade-off phenomenon since the subjects did not actually have to exploit real-life travel situations. The finding in the major study that only three low-factor scorers actually exploited by concealing the extra $20.00 bill indicates that almost all the subjects in this group did not trade off their ethical value commitments, although less than one-half of the high-factor scorers kept the extra bill.

**Accomplice's Strategy and Game-Board Success**

As was hypothesized, the low-factor scorers' decisions when drawing the travel-situation cards were not influenced by the accomplice's strategy or game-board success. Thus, it can be
concluded that individuals with ethical value commitments will not engage in unethical game behavior even though a competing peer is successfully doing so in the same situation. Furthermore, the finding that the subjects' and the accomplice's die-throw successes varied randomly supported the assumption that the significant difference in the high- and low-factor groups' travel-situation scores could not be attributed to differences in the successes or failures of the die-throw attempts.

It had been hypothesized that high-factor scorers would start choosing the die-throw alternatives when it seemed that their opponent could not possibly proceed to win the game. In the case of the S A and N-EC combination, for example, when the subject drew the first of his last two travel-situation cards, he was already two and one-half times more successful on the board than was the accomplice who was persevering with a losing game strategy as well. Inspection of the raw data disclosed, however, that all five subjects tested under this combination chose the unethical alternative on each of the remaining two travel-situation cards; that is, these subjects did not switch strategies once the final game outcome seemed apparent.

There may be two possible reasons why high-factor scorers would not switch to die throwing. First, these subjects may have reasoned that since they could not be certain about either the remaining cards or the inflexibility of the opponent's strategy, they would not change to a less optimal strategy. On the other hand, these subjects may have preferred to remain consistent simply
for the sake of consistency since only $1.00 differentiated a
die-throw success from a die-throw failure.

The study's results upheld the hypothesis that the two
sets of incumbency-card scores would be significantly effected
by the accomplice's strategy. It will be recalled that further
analysis of the data revealed that the two mean scores of the
H-EC and S-EC groups each differed significantly from the N-EC
group's mean score but did not differ significantly from each
other. This finding is understandable because a competitive
strategy is an optimal one to adopt and maintain against an
opponent who vacillates between competition and cooperation.

The hypothesis that the three levels of success would
significantly affect the subjects' incumbency-card scores was
refuted. Thus, subjects tended to choose from the various alter-
natives on the basis of their own value commitments and on whatever
alternatives the accomplice was choosing rather than on the basis
of their game-board successes. This finding can perhaps be ex-
plained by the fact that the success levels were controlled by
board-move cards and not by competitive behavior. Consequently,
subjects could never be certain whether their luck or that of the
accomplice's would change in drawing board-move cards.

Implications

Value Apathy

The notion of value apathy was suggested by the finding
that the high-factor scorers tended to use an average scale response
of 5.14 in evaluating the exploitative business firm practices.
This mean scale response reflected an indifferent or neutral rather than an extreme or severe value judgment. However, if these subjects had been instructed to suppose that business firms could not realize a profit without engaging in exploitative practices, the mean scale response of this group probably would have been higher. Whether or not high-factor scorers would be equally indifferent toward items describing unethical behavior required by non-business organizations is a problem needing further study. While the investigator has helped to construct and administer value-measuring questionnaires containing items describing either military or public school practices, the items were not unethical in content.

While it had been hypothesized that high-factor scorers would choose the unethical travel-situation alternatives for reasons of personal gain, the fact that they did do so in the presence of the experimenter is an interesting finding. The subjects' tendencies to exploit for an opportunity to win one of the three bonuses evidently were not modified by their perception either of the experimenter or of the real research objective (a fact which could hardly be veiled successfully unless the subjects were incredibly naive). If the experimenter had emphasized this objective by verbalizing it to the subjects before the game started, the results might have been different unless an indifferent attitude toward the experimenter prevailed.

There had not been enough time either to conduct a post-game interview or to administer a questionnaire for the purpose of
measuring the subjects' perceptions and attitudes concerning the experiment. While it was not known what effects the experimenter's various subterfuges had upon the subjects, the effects were assumed to be negligible. McKinney (1955), for example, after surveying a group of deceived subjects, concluded that deception is more of an abstract than a practical problem. However, there is always the possibility that the results of an experiment will be misinterpreted if the subjects' responses are based upon perceptions of the experiment which do not coincide with the experimenter's assumptions.

Whatever the subjects' perceptions of the experimenter were, the latter attempted to standardize his behavior across all game sessions, for it has been shown (Sarason, 1962) that variations in the experimenter's incidental behavior produces non-chance effects upon the subjects' performances. Moreover, it has been shown (Rosenthal, Fode, Friedman, & Vikan, 1960) that subjects' perceptions of the incidental behaviors of experimenters, such as gestures, speaking mannerisms, and general professional comportment, correlated significantly with the degree of research bias held by those experimenters.

It was not known what effect the type and degree of the accomplice's bias (if any existed) had upon the subjects' game behaviors. While the accomplice was, of necessity, familiar with the experimental procedure and was vaguely aware of the experimental hypotheses, he did not know in advance which subjects were low- or high-factor scorers.
Dimensions of Exploitative Value Judgments

The extraction of a single factor of exploitation from a previous sample of college students indicated that different exploitative business practices were being evaluated along a common value dimension. However, the possibility that more specific dimensions of exploitation exist should be explored by constructing a large number of items in which subject (leader, subordinate, organization, outsider, and so on) of the exploitative act and the object (individual, organization, government, and so on) of that act are systematically varied. Moreover, these items should be administered to individuals in businesses as well as to college students. While it is assumed that most college students have at least a general knowledge of business firms, mature individuals in the business world will probably make more specific discriminations toward different kinds of business practices.

Simulated Business Situations

A logical future step in research on value judgments about exploitative business practices is to study the effects of these judgments upon the judge's decisions in simulated and then actual business situations. The highly specific nature of the game of Travel limits any broad generalizations that can be made about the decisions and behaviors of individuals in situations oriented toward solving business problems.
Summary

The purpose of the present study was to investigate exploitative behavior as a function of the individual's exploitative value judgments and of his opponent's strategy and success in a competitive situation. Exploitation and competition were defined as the adoption of unethical versus ethical means, respectively, for attaining personal gain. One of the general questions which the study was designed to answer was whether or not individuals who hold ethical value judgments about exploitative practices would resort to an unethical strategy for reasons of personal gain.

Value judgments were obtained from 200 undergraduate male college students' evaluative responses to 33 items describing exploitative practices engaged in by a generalized business firm. These items were contained in a questionnaire entitled: "Organizational Value Dimensions Questionnaire: Business Firm," an instrument which had been constructed and factor analyzed in previous research but had yet to be empirically validated against behavioral measures. The highest 45 scorers and the lowest 45 scorers on this exploitation factor were selected to serve as subjects in the experiment.

A two-person game, dubbed Travel, was invented to simulate a competitive situation. The subject's objective was to save more of his travel budget than that saved by his opponent. The subject could adopt exploitative and/or competitive strategies in playing the game. If he won, he became eligible for a chance to win money.
An experimenter's accomplice (a young non-student male) served as each subject's opponent. The accomplice's game strategy was varied across three levels: high-exploitative and high-competitive, semi-exploitative and semi-competitive, and non-exploitative and non-competitive. The relative successes of the subjects' and accomplice's game-board moves were varied by fixing an allegedly shuffled deck of travel-experience cards (some simply directed the player to move a certain number of board cells, others required him to make decisions). Three levels of success were studied: for one level the accomplice was conspicuously more successful than the subject; the reverse occurred for the other extreme level; and for the intermediate level no difference in success existed between the subject and the accomplice. There were thus 18 experimental conditions including the high-low factor level. Five different subjects were assigned to each condition.

The game yielded two measures each of exploitative and competitive game behavior. Whether or not the experimenter was notified of an extra $20.00 bill (play money) planted in the subject's initial travel budget constituted one measure of actual exploitative behavior. The second measure was based upon the subject's decision either to exploit hypothetical travel situations or to choose alternative but ethical courses of action. The subject was scored on the two competitive variables in terms of his choices for inflicting travel-budget losses upon his opponent when landing on the latter's cells (an occurrence the frequency of which was controlled by the fixed sequence of travel-experience cards).
Analysis of the results showed that, as hypothesized, a significantly greater proportion of subjects with unethical value judgments (high-factor scorers) did not report the extra money than low-factor scorers. Similarly, high-factor scorers were significantly more exploitative when encountering travel situations than were the low-factor scorers. As was hypothesized, subjects with ethical value judgments did not adopt an unethical strategy even when faced with an unethical opponent who was successful as well.

The other primary finding was that adoption of ethically competitive strategies was a product of the individual's value judgments and his opponent's strategy. The hypothesis that the accomplice's relative success on the game board would also significantly affect the subjects' competition scores was refuted. Apparently, subjects were not influenced by this variable because they could never be certain when their luck on the game board would change.
APPENDIX I

ORGANIZATIONAL VALUE DIMENSIONS QUESTIONNAIRE:
BUSINESS FIRM

Developed at The Ohio State University
under the Supervision of Carroll L. Shartle

Instructions:

Business and industrial firms in the United States vary
in their characteristics, and how they operate. We are in-
terested in learning what is good and what is poor, as you
see it.

Please evaluate each of the items in accordance with
your own point of view, ranging from extremely poor to
excellent.

Write plainly the number you select as your judgment
of each item from the following scale, after the number of
the item, on the answer sheet. Please do not write anything
on the item sheets.

Don't Care
Extremely Very Quite Slightly or Slightly Quite Very Excel-
Poor Poor Poor Poor Neutral Good Good Good lent

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
BUSINESS FIRM

1. Each employee is put on his own.
2. The board of directors holds the president solely responsible for the firm.
3. The firm donates money only when such gifts appear to benefit the firm directly or indirectly.
4. Executives in the firm are rotated from one job to another.
5. The firm prefers to sell more goods to its present customers rather than simply to increase the number of customers.
6. The firm plans to set up many branch offices so that more customers can be conveniently reached.
7. The firm prefers that its employees live in company housing.
8. Clever strategy is necessary for one to get promotions.
9. The firm emphasizes hiring office personnel who are dignified and responsible.
10. Length of service in the firm is the principal qualification for promotion.
11. The firm allows coffee breaks if they increase worker productivity.
12. Most of the employees are required to wear uniforms.
13. The firm is not vitally concerned with safety and safety programs for their workers.
14. The firm encourages the wives of employees to voice their opinions about the firm.
15. The basic objectives of the firm never change.
16. The firm backs aid to foreign countries.
17. Workers in the firm have never unionized.
18. The firm has all employees punch a time clock.
19. The firm places large profits as a top objective.
20. The firm spends money on a training program to keep its employees up to date and well informed.
21. High quality of product is emphasized.
22. The firm pays women less than men for the same kind of work.
23. Executives sometimes pad their expense accounts.
24. Executives treat all the employees as their equals.
25. Executives avoid any display of authority.
26. The firm holds back marketing new products until other firms have introduced them.
27. The workers in the firm dislike the president.
28. How well an employee gets along with others on the job is considered more important than his production.
29. The firm attempts to aid in solving international problems.
30. A procedure or policy is never changed in the firm until a better one has been proved.
31. The goals of the firm and the union are considerably different.
32. Activities of the firm frequently conflict with the planned activities of executives' families.
33. The firm places greater emphasis on quality than it does on quantity.
34. The firm has occasionally waged price "wars" with its competitors.
35. The firm is extremely particular in checking every detail of the finished product.
36. The firm has the right political connections.
37. The firm insists that each employee carry hospitalization insurance.
38. The firm asks its executives to keep quiet about political views.
39. The workers in the firm consider management uncooperative.
40. The firm allows its employees to bring alcoholic beverages to its special parties and celebrations.
41. The firm has a system whereby employees are paid in relation to cost of living.
42. The firm will not compensate a worker for injury on the job if his carelessness was the cause.
43. Many unnecessary free services are given to customers.
44. Employees are asked to leave their personal worries at the door as they come to work.
45. Executives are transferred from one position to another more frequently than in other firms in this industry.
46. The objectives of top management appear to differ with those of middle management.
47. Executives act without consulting their subordinates.
48. The firm does not have a recreational program for its employees and their families.
49. Employees who volunteer to work extra hours are the ones more likely to get ahead.
50. Executives make their attitudes clear to the employees.
51. Executives criticize poor work.
52. The firm always puts a larger advertisement in the media than its competitors.
53. The president knows everyone in the firm by name.
54. The firm does not provide medical service for employees.
55. The firm tends to overtrain its personnel.
56. The firm takes big chances and sometimes gambles wrong.
57. The firm pays the highest wages in the community.
58. The firm will keep most any employee who puts in a full day's work.
59. Promotion is slow but steady.
60. The union in the firm limits the number of workers allowed on the job.
61. The firm has a noisy plant that disturbs residents in the neighborhood.
62. The firm is constantly trying to raise the employees' pride in the firm.
63. A firm does what is best for itself regardless of whom or what it hurts.
64. The firm is a leader in keeping taxes down.
65. The firm forces retirement on those over 65.
66. Rate of pay in the firm automatically goes down as the cost of living decreases.
67. The firm does not hire individuals who are radical in their beliefs.
68. Whenever possible, the firm hires college graduates rather than persons of less education.
69. The firm is sympathetic with the personal worries of its employees.
70. The firm encourages the employees to go to a church of their own choice.
71. Children of employees are encouraged to prepare for vocations found in the firm.
72. The firm is losing profits because of union demands.
73. The firm lobbies in state and national capitals to influence legislation.
74. Executives require their subordinates to have definite standards of performance.
75. The firm recognizes and rewards initiative.
76. The firm encourages employees and their families to join community activities that will help the firm.
77. When work is slack, hours and weekly pay are reduced rather than lay off anyone.
78. The firm requires that all employees belong to the local union.
79. The firm's management is composed of a group of upper-class families in the community.
80. Younger employees in the firm are under more pressure to produce than are the older employees.
81. The firm takes advantage of loopholes in laws which restrict it.
82. Executives drive firm-owned cars to conferences and other events related to its business.
83. Executives receive bonuses.
84. Executives refuse to explain their actions.
85. The firm transfers few executives to minimize moving established homes.
86. Each stockholder has one vote in elections regardless of how many shares he owns.
87. The firm uses all legal means to weaken unions.
88. One section of the firm has no respect for another section.
89. The firm is located in a rural area.
90. The firm capitalizes on the conditions of the economy in times of distress.
91. The firm has employees working at dangerous jobs without proper equipment.
92. The firm realizes that all workers have occasional "bad" days.
93. The firm is owned by its customers.
94. In bad times during economic recessions the firm gives its employees special discounts in order to improve its business.
95. A new method is never adopted unless it earns money.
96. Employees in the firm set their own speed of work.
APPENDIX I (Continued)

97. The firm pushes research even though it may have no immediate practical benefit.
98. The wives of executives are influential in the firm.
99. The firm stresses the importance of the job to be done more than the person who does it.
100. The firm gives special considerations to its bigger customers.
101. The firm has its properties guarded by uniformed police.
102. Executives find time to listen to the employees.
103. Because of special favors they have received, the police force gives the firm extra attention.
104. The firm never reduces the rate paid the worker per item produced.
105. The firm gets rid of "undesirables" by putting them in jobs they cannot do.
106. The firm has occasionally violated some state laws.
107. Every employee must learn what the objectives and goals of the firm are.
108. The firm allows its name to be listed as one of the supporters of a political party.
109. The firm takes big risks to beat its competitors.
110. There is a carefree atmosphere in the firm.
111. The firm attempts to hold its production and sales at a constant rate regardless of what other firms do.
112. The firm's management is comprised mainly of civic leaders.
113. In order to compete effectively, the firm must take the risk of violating some antitrust laws.
114. The firm seems to spend money freely.
115. The firm is strict about changing standard prices.
116. The firm does not like to hire employees who belong to minority groups.
117. Executives look out for the welfare of the individual employees.
118. Executives try out their new ideas on the employees.
119. The firm takes little time in deciding things.
120. The firm requires that its employees take work "breaks" during the day.
121. The firm's policies are based on the belief that happy employees are productive employees.
122. The firm engages in open fights with union officers.
123. The firm uses every legitimate means to avoid paying taxes.
124. The firm is always very cautious in making changes.
125. Employees of the firm must sell their stock in the company if they leave.
126. Many persons who quit the firm go into business for themselves.
127. The firm uses high pressure sales promotion.
128. Executives see to it that employees are working up to capacity.
129. The offices of the firm are plain and simple.
130. The top positions in the firm are highly valued by the employees.
131. The firm relies on piece work to retain as much individual initiative as possible.
132. Policies are changed quickly and often.
133. Supreme power in the firm is held by the employees who own most of the stock.
134. The firm tries to locate new branch plants near housing developments.
135. Executives receive bonuses.
136. Executives keep to themselves.
137. Many of the firm's executives are active participators in political activities.
138. The executives of the firm have more comfortable working conditions than does the office staff.
139. Wives of executives discuss affairs of the firm among themselves.
140. Employees feel the way the firm is run is no concern of theirs.
141. The firm has its major departments compete heavily with each other for efficiency and output.
142. The firm has very conservative political views.
143. The firm frequently carries out programs to "lift" the cultural level of its community.
144. The plant is equipped with the latest safety devices.
145. The firm will absorb a competitor if it can.
146. Older employees discourage new ideas.
147. The firm solicits contracts from all sources, government as well as others.
148. Executives let the employees know what is expected of them.
149. A firm reviews salaries of professional employees at least once a year.
150. The firm pays junior executives higher salaries than research scientists.
151. The firm urges everyone to follow the organization chart.
152. Executives emphasize meeting deadlines.
153. The firm is lenient in lending money to its employees.
154. The firm contributes to college athletic scholarships.
155. The firm is located in an area where labor can be obtained cheaply.
156. The firm is as big as a small city.
157. The firm has an elaborate system for inspecting the quality of its product.
158. Executives make employees feel at ease when talking with them.
159. Executives of competing firms may be good friends but they do not trust each other.
160. Executives make sure their part in the firm is understood by the employees.
161. Executives get approval from their assistants on important matters before going ahead.
162. The firm would sell out to a competitor if a fair price were offered.
163. The firm has salesmen in all states soliciting business.
164. An elected committee of supervisors settles problems with workers.
165. Occasionally, an employee has to cover up for the actions of his superior.
166. The firm has a narrow profit margin.
167. The younger executives are the ones who really run the firm.
168. The firm has the right to expect employees to work hard, to do the best they can, and to produce a fair day's work.
169. The firm pushes hard to be first in introducing new products and services.
170. Employees are given standard vacation periods regardless of the length of service they have had.
171. Employees act as if their lives belong to the firm.
172. Employees are asked on short notice to work overtime.
173. The firm makes many of its products by hand rather than by machine to ensure highest quality.
174. The firm has misleading advertising.
175. The firm's officials are called by their first names.
176. The firm will not promote an employee who neglects his family.
177. The firm works on Sunday when the production schedule gets behind.
178. Executives put suggestions by the employees into operation.
179. The firm makes it rough for competitors.
180. Executives encourage the use of uniform procedures.
181. The firm helps the employee plan his future.
182. The firm is attempting to become the largest in its field.
183. The firm has a family controlled management.
184. The firm has weekly pay checks instead of bi-monthly or monthly checks.
185. Some workers in the firm make more than their bosses or foremen.
186. The firm emphasizes individual achievement rather than achievement as a team member.
187. The firm is managed by a small group who own most of the stock.
188. The firm tries to recruit top personnel from its competitors.
189. The firm believes that its employees can never learn too much about its organization and policies.
190. Executives do personal favors for the employees.
191. The firm has a scholarship plan for the employees' children.
192. The executive in the firm who is a smart manipulator is more likely to get ahead.
193. The firm keeps the quality of its services high even when it loses business.
194. The firm sponsors a television program not interrupted by any commercials.
195. Employees of the firm are do-it-yourself enthusiasts.
196. Executives see to it that the work of employees is co-ordinated.
APPENDIX I (Continued)

197. The firm is managed by a small group who own very little, if any, of the stock.
198. The firm has a chaplain who leads devotional services for employees.
199. Employees continually aspire and strive for higher positions in the firm.
200. Executives do little things to make it pleasant to be an employee of the firm.
201. Executives speak in a manner not to be questioned.
202. The firm does not transfer or promote employees who desire to remain on their present job.
203. The firm's management is opposed to a closed shop.
204. The firm donates money to charitable causes if such a contribution will indirectly increase its business.
205. Ideas and suggestions go through many channels of communication before they are put into operation.
APPENDIX I (Continued)

ANSWER SHEET - O. V. D. Q.: BUSINESS FIRM

Please evaluate each of the items in accordance with your own point of view, ranging from extremely poor to excellent.

Write plainly the number you select as your judgment of each item from the following scale, after the number of the item, on the answer sheet. Please do not write anything on the item sheets.

Don't Care
Extremely Very Quite Slightly or Slightly Quite Very Excellent
Poor Poor Poor Poor Neutral Good Good Good Good

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APPENDIX II

GAME MANUAL FOR PILOT STUDY

Game Manual

Objective of the Game

Your objective in playing the game is to minimize travel expenses. You are allotted, on paper, an initial travel budget of $1000.00. Your objective is to retain as much of this budget as possible by the end of the game.

Board Moves

Board moves are made with a playing piece taken clockwise around the board. There are two kinds of board moves: every odd turn is an option between a die throw or a draw of one card from the optional-draw stack, and every even turn must be based on the must-draw card stack. There are two general kinds of cards in the optional- and must-draw stacks: cards which direct the player to move and then to add or subtract from his travel budget, and cards which describe situations that you might encounter if you were traveling abroad and which require you to make a decision.

The following is an example:

The tour guide you hire on contract for one week becomes ill and is unable to accompany you the last day. Either take advantage of this situation by demanding he forfeit his entire fee; thus, you can automatically save $10.00 of your travel budget,
APPENDIX II (Continued)

or reject this situation and throw one six out of three die throws for $10.00. Save $9.00 if you do not get a six.

In other words, if you decide to take advantage of the situation as described, you can automatically save $10.00. If you decide not to take advantage of the situation, you still save $10.00 if you get a six out of three die throws. You save $9.00 if you do not get a six.

End of Game

The game is ended by exhausting the must-draw stack of cards plus one final optional turn.
APPENDIX III

SITUATIONS DEPICTED BY THE EIGHT TRAVEL-SITUATION CARDS

1. You pay for tourist-class accommodations but are accidentally mailed first-class reservations. Either take advantage of this situation by keeping the first-class tickets; thus, you can automatically save $10.00 of your travel budget, or reject this situation and throw one six out of three die throws for $10.00. Save $9.00 if you do not get a six.

2. The tour guide you hire on contract for one week becomes ill and is unable to accompany you the last day. Either take advantage of this situation by demanding he forfeit his entire fee; thus, you can automatically save $10.00 of your travel budget, or reject this situation and throw one six out of three die throws for $10.00. Save $9.00 if you do not get a six.

3. You become acquainted with a politician from the United States who is touring the same country you are. He offers to add the costs of your sightseeing of this country to his government expense account. Either take advantage of this situation by accepting his offer; thus you can automatically save $10.00 of your travel budget, or reject this situation and throw one six out of three die throws for $10.00. Save $9.00 if you do not get a six.

4. You rent camping equipment from a Bavarian resort proprietor who speaks poor English and consequently undercharges you. Either take advantage of this situation by not telling him; thus, you can automatically save $10.00 of your travel budget, or reject this situation and throw one six out of three die throws for $10.00. Save $9.00 if you do not get a six.

5. The speedometer cable becomes disconnected accidentally in the foreign car you rent. Either take advantage of this situation by driving one day before connecting it; thus, you can automatically save $10.00 of your travel budget, or reject this situation and throw one six out of three die throws for $10.00. Save $9.00 if you do not get a six.
65

APPENDIX III (Continued)

6. The tour agency which arranged your itinerary forgets to claim from you the initial travel budget. Either take advantage of this situation by not reminding the agency; thus, you can automatically save $10.00 of your travel budget, or reject this situation and throw one six out of three die throws for $10.00. Save $9.00 if you do not get a six.

7. An individual approaches you on a Parisian street with the following offer: purchase from him an expensive article at a black market price and resell it in the States at a profit. Either take advantage of this situation by accepting his offer; thus, you can automatically save $10.00 of your travel budget, or reject this situation and throw one six out of three die throws for $10.00. Save $9.00 if you do not get a six.

8. You become acquainted with a custom's official in a London cafe. As a friendly gesture he offers to overlook several of your heavy and expensive souvenirs when you later pass through his custom's inspection line. Either take advantage of this situation by allowing him to do this; thus, you can automatically save $10.00 of your travel budget, or reject this situation and throw one six out of three die throws for $10.00. Save $9.00 if you do not get a six.
APPENDIX IV

ITEM COMPOSITION OF EXPLOITATION FACTORS

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<th>Item</th>
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<tbody>
<tr>
<td>103</td>
<td>.53</td>
<td>Because of special favors they have received, the police force gives the firm extra attention.</td>
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<tr>
<td>113</td>
<td>.52</td>
<td>In order to compete effectively, the firm must take the risk of violating some antitrust laws.</td>
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<tr>
<td>145</td>
<td>.51</td>
<td>The firm will absorb a competitor if it can.</td>
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<tr>
<td>179</td>
<td>.51</td>
<td>The firm makes it rough for competitors.</td>
</tr>
<tr>
<td>81</td>
<td>.50</td>
<td>The firm takes advantage of loopholes in laws which restrict it.</td>
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<tr>
<td>36</td>
<td>.49</td>
<td>The firm has the right political connections.</td>
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<tr>
<td>204</td>
<td>.49</td>
<td>The firm donates money to charitable causes if such a contribution will indirectly increase its business.</td>
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<tr>
<td>100</td>
<td>.48</td>
<td>The firm gives special considerations to its bigger customers.</td>
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<td>63</td>
<td>.46</td>
<td>A firm does what is best for itself regardless of whom or what it hurts.</td>
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<td>159</td>
<td>.43</td>
<td>Executives of competing firms may be good friends but they do not trust each other.</td>
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<td>23</td>
<td>.43</td>
<td>Executives sometimes pad their expense accounts.</td>
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<td>174</td>
<td>.43</td>
<td>The firm has misleading advertising.</td>
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<td>122</td>
<td>.41</td>
<td>The firm engages in open fights with union officers.</td>
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<td>192</td>
<td>.41</td>
<td>The executive in the firm who is a smart manipulator is more likely to get ahead.</td>
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<td>3</td>
<td>.41</td>
<td>The firm donates money only when such gifts appear to benefit the firm directly or indirectly.</td>
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<td>.40</td>
<td>The firm uses all legal means to weaken unions.</td>
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<td>106</td>
<td>.40</td>
<td>The firm has occasionally violated some state laws.</td>
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<tr>
<td>182</td>
<td>.39</td>
<td>The firm is attempting to become the largest in its field.</td>
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<td>109</td>
<td>.39</td>
<td>The firm takes big risks to beat its competitors.</td>
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<td>136</td>
<td>.38</td>
<td>Executives keep to themselves.</td>
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<td>127</td>
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<td>The firm uses high pressure sales promotion.</td>
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<td>.36</td>
<td>The firm tries to recruit top personnel from its competitors.</td>
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<td>95</td>
<td>.36</td>
<td>A new method is never adopted unless it earns money.</td>
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<td>.35</td>
<td>Clever strategy is necessary for one to get promotions.</td>
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<td>22</td>
<td>.35</td>
<td>The firm pays women less than men for the same kind of work.</td>
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<td>90</td>
<td>.35</td>
<td>The firm capitalizes on the conditions of the economy in times of distress.</td>
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<td>105</td>
<td>.34</td>
<td>The firm gets rid of &quot;undesirables&quot; by putting them in jobs they cannot do.</td>
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<td>156</td>
<td>.33</td>
<td>The firm is as big as a small city.</td>
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<td>19</td>
<td>.32</td>
<td>The firm places large profits as a top objective.</td>
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<td>34</td>
<td>.32</td>
<td>The firm has occasionally waged price &quot;wars&quot; with its competitors.</td>
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<td>.32</td>
<td>Employees are asked on short notice to work overtime.</td>
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<td>52</td>
<td>.31</td>
<td>The firm always puts a larger advertisement in the media than its competitors.</td>
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<td>84</td>
<td>.30</td>
<td>Executives refuse to explain their actions.</td>
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APPENDIX V

DESCRIPTION OF BOARD CELLS EACH REQUIRING A $50.00 EXPENSE

1. You take a jet instead of a propeller plane; spend $50.00 for the difference.

2. You lose your camera in a crowded terminal; spend $50.00 to replace it.

3. You join one more tour than you had expected; spend $50.00 for the extra expense.

4. Spend $50.00 for new pieces of luggage.

5. Only first-class hotel accommodations are available; spend $50.00 for the difference.

6. Spend $50.00 for dining in elegant and expensive European restaurants.

7. Spend $50.00 for a painting you decide to purchase at a foreign exhibit.

8. You miss a tour bus connection; spend $50.00 for other arrangements.

9. You go on a shopping spree; spend $50.00.

10. You remain abroad one day longer than you had expected; spend $50.00 for the extra expense.
APPENDIX VI

DESCRIPTION OF BOARD CELLS EACH OFFERING A $10.00 SAVINGS

1. More members than the tour agency expected signed for the group plan; save $10.00.

2. You are able to pack your articles compactly into one less suitcase; save $10.00.

3. Save $10.00 because more tourist-class accommodations are available than you had expected.

4. Save $10.00 because you are invited to stay overnight with some friends.

5. You rent a bicycle to take some excursions; save $10.00.

6. Because of some inclement weather you do less shopping; save $10.00.

7. You rely more on bus than taxi service; save $10.00.

8. You do not accumulate much baggage weight; save $10.00.

9. You buy less camera film than you had expected; save $10.00.

10. You purchase fewer souvenirs than you had anticipated; save $10.00.
### APPENDIX VII

**SEQUENCE OF ACCOMPLICE'S DECISIONS UNDER S-EC CONDITION**

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<sup>a</sup>T-S6, for example, refers to the sixth travel-situation card illustrated in Appendix III.

<sup>b</sup>U and E denote unethical and ethical alternatives respectively. A-1 and B-1, for example, refer to the first of the four alternatives of the Types A and B incumbency cards.
### APPENDIX VIII

**TRAVEL-EXPERIENCE CARDS UNDER CONDITIONS A>S, A=S, S>A\(^a,b\)**

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\[a\]S denotes subject and A to the left of draw number denotes accomplice, but A to the right of draw number denotes a Type A incumbency card.

\[b\]M denotes a board-move card which directs the player to move to a board cell costing him $50.00 (50), or saving him $10.00 (10).
APPENDIX IX

INSTRUCTION SHEET FOR FIRST SESSION

Instructions

The first experiment requires that you answer the attached questionnaire. Before you begin, read the following directions:

1. Your answers on this questionnaire in no way affect your chances to win one of the three bonuses offered by the second experiment. The entirely different second experiment is designed to study the possibility of using games for future research. Therefore, do not worry about how you answer the questionnaire. Base your answers on your own judgments and not upon how you think the experimenter would answer it.

2. Answer every item; do not leave any blank.

3. Put your full name, campus address and telephone number at the top of the answer sheet.

4. Do not write anything on the questionnaire pages.

5. Read carefully the instructions on the front page of the questionnaire before you begin to answer the items.

6. When you are finished, bring this sheet, the answer sheet, and the questionnaire to the experimenter, who will then arrange a time convenient with you for the second experiment.
APPENDIX X

GAME MANUAL FOR MAJOR STUDY

Game Manual

The purpose of this second experiment is to determine whether conventional parlor games can be modified for future use as research instruments. The game you will play is called Travel and is designed for two players. Your opponent will be another subject who chose this same appointment time.

Object of the Game

Your objective in playing Travel is to keep the amount of your travel expenses lower than that of your opponent's so that by the end of the game you will have saved more of your initial travel budget than your opponent will have saved of his initial travel budget (how much more you save is not important). The name of each player from every pair of players who saves more than his opponent will be thrown into a hopper. Those three players whose names are drawn at the end of the entire experiment will be awarded the three top bonuses of $15.00, $10.00, and $5.00.

Game Equipment

The game equipment consists of a game board, two playing pieces, play money for the travel budgets of each player, 96 travel experience cards, and one die.
APPENDIX X (Continued)

Design of the Game Board

The game board is made up of 40 travel-experience cells. These are divided into 20 cells which require the player to spend $50.00 every time he lands on one of them, and into another 20 cells which enable the player to save $10.00 every time he lands on one of them.

Travel Budget

At the beginning of the game, each player is allotted a travel budget of $2000.00 in play money. Check your travel budget now to make sure that it is broken down into the following denominations: one $500, five $100's, ten $50's, ten $20's, twenty $10's, and twenty $5's.

Travel-Experience Cards

The players' turns are taken by drawing from a deck of 96 randomly ordered travel-experience cards. The experimenter holds the deck so that the player will not accidentally draw more than one card a turn. The game is ended when the last card has been drawn.

There are two general kinds of travel-experience cards. One of these is the board-move card which simply directs the player to move his playing piece a specified number of cells (varying from one through six cell moves). These cards serve the same function as dice throwing in the conventional parlor game. It has been found in some preliminary research that less time is
consumed by drawing these board-move cards than by having players throw dice for their board moves.

The other general travel-experience card is the decision-making card. Each time a player draws one of these, he is required to make a decision; that is, he must choose one alternative from a set of alternatives. There are two specific types of these decision-making cards: Type A and Type B incumbency cards, and travel-situation cards.

When a player draws one of the incumbency cards, he is directed to move to the cell currently occupied by the other player (the incumbent). The moving player can then choose one of four alternative courses of action to be taken against the incumbent.

In drawing a Type A incumbency card, you can choose one of the following four alternatives:

1) You save $10.00, but the incumbent spends nothing
2) You do not save $10.00, but the incumbent must spend $15.00
3) You do not save $10.00, but the incumbent must spend $20.00
4) You do not save $10.00, but the incumbent must spend $25.00

In drawing a Type B incumbency card, you can choose one of the following four alternatives:

1) You save $10.00, but the incumbent spends nothing
2) You save $10.00, and the incumbent must spend $10.00
3) You save $10.00, and the incumbent must spend $20.00
4) You save $15.00, and the incumbent must spend $25.00
The following is an example of a travel-situation card which describes a situation that you might encounter if you were traveling abroad:

The tour guide you hire on contract for one week becomes ill and is unable to accompany you the last day. Either take advantage of this situation by demanding he forfeit his entire fee; thus, you can automatically save $10.00 of your travel budget, or reject this situation and throw one six out of three die throws for $10.00. Save $9.00 if you do not get a six.

In other words, when you draw a travel-situation card, you have two alternatives from which to choose. If you decide that you would take advantage of this situation, you automatically save $10.00. If you decide that you would not take advantage of this situation, you can choose the alternative of throwing one die three times. If you throw one six out of these three throws, you still save $10.00. You save $9.00 if you do not get a six on any of these three throws.

Rules for Board Play

1) Upon drawing an incumbency card and moving to the incumbent's cell, the player is restricted to choosing one of the four alternative courses of action; the travel experience described on the incumbent's cell does not apply to the player directed to move there.

2) If a player, in drawing a board-move card, should land on a cell already occupied by the other player, the moving player
APPENDIX X (Continued)

is not entitled to choose any Type A or Type B alternatives. These alternatives are restricted to the event where an incumbency card is drawn. However, the moving player is subject to the travel experience described on that occupied cell.
Mean scores on dependent variable II

Figure 1. Interaction between independent variables 1 and 2.
Figure 2. Interaction between independent variables 1 and 3.
Appendix XI (Continued)

Figure 3. Interaction between independent variables 2 and 3.
Figure 4. Interaction among independent variables 1, 2, and 3.

APPENDIX XI (continued)
Figure 5. Interaction between independent variables 1 and 2.
Figure 6. Interaction between independent variables 1 and 3.
Figure 7. Interaction between independent variables 2 and 3.
Figure 8. Interaction among independent variables 1, 2, and 3.
Figure 9. Interaction between independent variables 1 and 2.
Figure 10. Interaction between independent variables 1 and 3.
Figure 11. Interaction between independent variables 2 and 3.
Figure 12. Interaction among independent variables 1, 2, and 3.
LIST OF REFERENCES


I, Gary Bruce Brumback, was born in New Castle, Indiana, July 23, 1935. I received my secondary-school education in the public schools of New Castle, Indiana, and my undergraduate training at Indiana University, which granted me the Bachelor of Arts degree in 1958. I received the Master of Arts degree from The Ohio State University in 1960. While in residence there, I worked as a Graduate Assistant in the Department of Psychology. I also served as a Research Assistant at the Personnel Research Board, The Ohio State University, while completing the requirements for the degree Doctor of Philosophy.

I have been a Senior Research Engineer at North American Aviation, Columbus Division, Columbus, Ohio, since November, 1962.