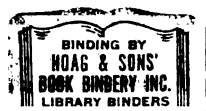


NEED FOR INFLUENCE AND  
BARGAINING BEHAVIOR

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## ABSTRACT

### NEED FOR INFLUENCE AND BARGAINING BEHAVIOR

By

Riffat Moazam

This study dealt with the need for influence in bargaining behavior. Morgan and Sawyer's bargaining board which involves unequal out-comes (money) for the two players, was used.

The subjects were 96 male students from Michigan State University. They were administered the TAT and on the basis of their n Influence scores, approximately the upper and lower one third were chosen (56 in all). Then 28 pairs of one high and one low n influence subjects were formed. Each pair played the form board game in which they communicated verbally. In 14 pairs, the high n Influence subjects played on the advantaged side (AS) with higher possible payoffs. In the remaining 14 pairs, the high n influence subjects were on the disadvantaged side (DS), with lower possible payoffs. Before beginning, each subject wrote down his expectancies regarding winning. After playing the game they had to answer questions

regarding perception of influence. They were then administered Shure and Meeker's Personality Attitude Scale (PAS) and the Machiavellianism (Mach V) Scale. The bargaining session was tape recorded.

Surprisingly, most of the bargaining indices were relatively independent. Regardless of side, winning correlated with realistic expectancy. Winnings did not relate to the influence variables and bargaining processes. Those who judged themselves influential, initiated and also made the final offer. Those judged more influential, were more likely to make the final offer.

n Influence correlated positively with maximum and realistic expectancy (in the latter only on the AS). No other effects were found with this personality measure. The high n Influence subjects were optimistic, but not unusually effective in the situation.

The two sides of the game strongly influenced the results, so that no personality variable could be interpreted without considering the side the subject was on. Those expecting to win more on the AS were the aggressive militarists (PAS I). On the DS the ones with high expectancies were those ready to take risks (PAS IV). The aggressive militarists besides expecting more, also won more regardless of the side they were on. The winners on the AS were the internally controlled (PAS V), while on the DS, the suspicious (PAS IV), belligerent (PAS II) and manipulative (Mach V) subjects won more. Regarding judged

influence on the DS it was again the belligerent, clever manipulators and those not easily intimidated by authority, who were high on consensus and subjective influence. On the AS however, this variable was associated with more positive traits of trust and belief in one's ability to change or modify a situation.

Approved

Date

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NEED FOR INFLUENCE AND  
BARGAINING BEHAVIOR

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## DEDICATION

To my parents and Farro

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## INTRODUCTION

This is the study of the need for influence (Uleman, 1966) as expressed through bargaining behavior. Several studies have been done relating personality variables and bargaining behavior. Such studies frequently use the Prisoner's Dilemma game (PD) to study bargaining behavior. In the present study, however, instead of the PD game, Morgan and Sawyer's (1967) bargaining form board was used. This board is so constructed that the final outcome (amount of money won) depends upon the mutual verbal agreement of the two players from a large number of alternatives available. Another characteristic of the form board is the asymmetric position of the two subjects playing the game (Morgan & Sawyer, 1967). These characteristics seemed to provide a good situation for the expression of the need for influence (n influence). The Mach V. (Christie, 1962) and PAS (Shure & Meeker, 1967) scales were also given to the subjects to investigate if any relationship existed between the traits they measured and the bargaining behavior. In general, it was expected that those scoring high on personality characteristics like aggression, dominance, authoritarianism, wanting to

control others and the situation, etc., would be the ones to expect more, win more, and demonstrate the above mentioned characteristics in their bargaining behavior. In short, the assumption was that personality characteristics measured through certain personality tests would be observable, given a relevant situation. The bargaining game, the personality tests, and the hypotheses related to them will now be explained in some detail.

### The Bargaining Game

Morgan and Sawyer's (1967) form board game was designed to represent the basic characteristics of a bargaining situation. It presents the subjects with more than two alternatives. The nature of the outcome arising from an alternative is different for the two individuals playing the game.

	A	B	C	D	E	F	G
Side I	30¢	25¢	20¢	15¢	10¢	5¢	-
Side II	-	25¢	50¢	75¢	\$1.00	\$1.25	\$1.50
	A	B	C	D	E	F	G

Figure 1.--The form board.

As implied in Figure 1, the sections on side I hold nickels, and the sections on side II hold quarters. Each section is named by a letter of the alphabet. The rules of the game require that the two opponents, seated

on side I and side II, reach an agreement on one and the same alternative (ranging from A to G). If they agree on an alternative, then each subject gets the money lying on his side. An outcome of "equality" would be both agreeing on section B, each having 25 cents. An outcome of "equity" is choosing section D, where each gets half of his maximum possible. This would mean 15 cents for side I and 75 cents for side II. "Public welfare" is when both agree on alternative G, where the person on side II gets \$1.50, and the one on side I gets nothing but the sum of rewards is maximal. Accordingly, side I is called the disadvantageous side, and side II, the advantageous. Bargaining in this game is carried out verbally.

Morgan and Sawyer (1967) who were the first ones to use the form board in their bargaining study chose fifth and sixth grade boys as their subjects. Bargaining was carried out between friends and non-friends, with and without information regarding expectations of one another. It was found that "equality" was preferred by most pairs. Knowing what the other expected reduced the bargaining time between non-friends even though strict equality was still preferred. Information in the case of friends increased the number of equal outcomes but did not affect the duration of bargaining. A significant correlation of .53 was found between pair average regarding expectancy and actual outcome.

- I. a. The above results suggest the following general hypotheses: In the present research, there would be a correlation between winning and expectancies. Further, those winning more and expecting more would also be the ones perceived as being more influential in the situation, by themselves and their opponents. Perceived influence should not only be related to winning and expectancies, but also to other kinds of influence processes in the bargaining situation.

Another result in Morgan and Sawyer's study deals with the concept of "pair overlap." Pair overlap is the difference in the "least-expected winning for self" scores for the two subjects in a pair. This phenomenon was related to outcome as well as bargaining time. Bargaining time increased with the range of pair overlap. Also, outcomes were more predictable when the overlap was narrow and did not exceed three mutually agreeable alternatives. From these findings, hypotheses applicable to the present study would be:

- I. b. Pairs with a large number of mutually acceptable alternatives would take a longer time to reach a final agreement. Narrow pair overlap would be related to more accurate prediction about winning.



Motives and n Influence in  
Bargaining Studies

A number of studies have found relations between motives, measured in a variety of ways, and bargaining behavior. None, however, has used n influence to date.

Chaney and Vinacke (1960) compared the behavior of subjects high in achievement with subjects high in nurturance, in a three-person game. The third member served as a control. Achievement and nurturance were measured by the Edward Personal Preference Scale. Subjects high in nurturance received more offers. Those high in achievement tended more to initiate offers and seek alliances when strong as well as weak (power being determined at the beginning by the drawing of differential weights). Also, high achievement subjects more often refused alliances when powerful. Amidjaja and Vinacke (1965) replicated the Chaney and Vinacke study (1960) to compare female with male triads. This time the French Test of Insight was administered to measure achievement and nurturance. Triads of the same sex were composed with one subject high in achievement, one high in nurturance, and the third serving as a control. With male triads, the results were similar to the former study. There was a tendency for the controls and the subjects high in nurturance to form coalitions. Also, those high in achievement frequently initiated offers, while those high in nurturance were the recipients. No such significant differences

were observed in the female triads. The females displayed a relatively higher degree of accommodative attitude, regardless of motivational characteristics.

Marlowe (1963) selected subjects on the basis of need abasement, aggression, autonomy, deference, dominance and nurturance. The test used was Heilbrun adaptation of the Gough ACL. Each subject played against a stooge, who made co-operative choices on all trials of the two person non-zero sum game being played. A comparison of the co-operative and non-co-operative subjects revealed the former to be high scorers in need abasement and deference, while the latter were high scorers in need aggression and autonomy. A study using similar personality variables was done by Terhune (1968). By administering the TAT, subjects were chosen on their need for Achievement, Affiliation and Power. The hypotheses supported were: Those high in need for Affiliation, but low in the other two needs, were co-operative in the PD game. The subjects high in need for Power and low in the other two needs, made competitive choices in the PD game. Subjects high in need for Achievement and low in the other two needs, varied between co-operative and conflicting choices in the game.

From the above studies it is obvious that need for Affiliation, Achievement and Power are motives relevant to bargaining behavior. The present study is the first one to select subjects on the basis of need for influence.

### n Influence

Early studies that measured motives through fantasy stories, were done by McClelland and Atkinson (1953). The motives that were investigated in that period, were the achievement motive and the affiliation motive. Veroff (1958) later utilized the scoring categories of n Affiliation and n Achievement, to assess the need for power. Veroff's system had some major problems of validity, choice of subjects and scoring categories. Uleman (1966) conducted his study, in order to devise a new n power measure (n Influence). The nine categories identified in his new scoring system were: (1) Prestige, (2) Organization, (3) No self-depreciation, (4) No reminiscence, (5) No dread, (6) Counter-reaction, (7) Consultation, (8) Threat, and (9) Separation.

The Uleman's study, n Influence was aroused by placing subjects in the role of an experimenter. As experimenters, they were required to play certain bargaining games with their subjects. As they had previously been taught the tricks of winning, they were in the position of manipulating and controlling the outcome of those who played with them. Among other tests, the subjects were given Mach V, the California F scale, and a Research Evaluation questionnaire which assessed their feelings regarding their role as experimenters. As was hypothesized, those high in n Influence not only won more in the games,

but also felt comfortable and in control of the situation. They tended to be satisfied with their roles as experimenter, and were rated more dominant by their peers. With regard to the other measures, Mach V test correlated negatively with n Influence. Also, Uleman's n Influence system was found to be independent of Veroff's n power system and the F scale. From the results, those high in n Influence emerged as ones who enjoy power and influence for its own sake, rather than as a defensive measure. When given the opportunity, they try to influence others, and derive pleasure from it. They are comfortable with power, and are perceived by peers as being dominant. These points suggest the following hypotheses, for the present study:

- II. a. The high n Influence subjects will win more than the low n Influence subjects.
- b. There will be a positive correlation between n Influence and expectancies regarding winning.
- c. The high n Influence subjects will perceive themselves as being more influential in the game.
- d. The high n Influence subjects will be perceived by their opponents as exercising more influence in the game.
- e. In addition, it was generally hypothesized that in their bargaining conversations, it would be

possible to identify factors which would distinguish the high n Influence subjects from the low n Influence subjects.

The Personality Attitude  
Schedule (PAS)

The PAS is a combination of items from 24 test scales, which were presumed to be relevant to bargaining behavior (Shure & Meeker, 1967). All the scale items were intercorrelated and factor analyzed; out of this process six scales emerged (I-VI). The final test form consisted of 102 items.

In the following discussion, each scale and the tests from which most of its items are derived will be described. Relevant research regarding the tests included in the PAS will also be cited.

Aggressive Militarism  
(Scale I)

High scorers on this scale believe in the use of threats and armed strength. They are willing to fight physically for what they consider to be right. Most of the items of Scale I were from Gladstone's International Scales, G8 (Belligerence in general) and G9 (Belligerence under threat). Gladstone's scales (1955) were devised to investigate certain general attitudes that may underlie reactions to different international events. Crow and Noel (cited in Shure & Meeker, 1967) gave the PAS to Navy

recruits. Those high on factor I preferred high risk alternatives. In a study by Lane and Messé (1970), the subjects distributed monetary rewards to themselves and co-workers. A positive correlation was found between Aggressive Militarists and self interested responses (where amount of reward is maximized for oneself).

Regarding Scale I, the following was hypothesized:

- III. a. There will be a positive correlation between Scale I and expectancies regarding winning.
- b. Scale I will positively correlate with winning.
- c. Those scoring high on Scale I would be perceived as being influential by themselves and their opponents.

Conciliation Versus Belligerence  
in Interpersonal Relations  
(Scale II)

The high scorers on Scale II are persons who emphasize understanding, friendliness, etc., towards others. They give importance to diplomatic and co-operative behavior. The items are mostly derived from Gladstone's Interpersonal Scales (1955), G2, G3, and G4, which measures Belligerence under Threat, Pacification in General and Pacification under Threat, respectively. These scales are parallel to the Gladstone International Scales. The difference between the two is that the items in the Interpersonal Scales deal with reactions to people,

rather than nations. Shure et al, (cited in Shure & Meeker, 1967) found that bargaining pairs who were high scorers on Scale II, earned more than pairs low on this scale. Lane and Messé (study cited under Scale I) found a negative correlation between self interest responses and Scale II. Personality characteristics associated with Scale II lead to the following hypotheses:

- IV. a. Scale II will negatively correlate with expectancies regarding winning.
- b. There will be a negative correlation between Scale II and winning.
- c. Those scoring low on Scale II will be perceived as being influential.

Authoritarian Nationalism Versus  
Equalitarian Internationalism  
(Scale III)

High scorers are characterized by authoritarianism, ethnocentrism and nationalism. They are afraid of expressing their weaknesses or showing aggressiveness towards friends. They may, however, submit to authority. Most items in this scale are derived from the F scale, the IN scale, and Gladstone's International Scales G10 and G11, denoting Pacification in General and Pacification under Threat, respectively.

The F scale (Adorno, et al, 1950) evolved from working on Anti-Semitism (AS) and the Ethnocentrism (E)

scale. Its items are constructed so as to find deep underlying anti-democratic trends present in the personality. Compared to the other tests included in the PAS, the F scale has most frequently been used in bargaining studies. Wrightsman (1966) tried to detect attitudinal and personality correlates of trusting and trustworthy behavior, in a 2-person non-zero sum game. Instruments which were administered prior to the game included the F, Mach V, Social Desirability, and Philosophies of Human Nature scales. The only scale however, which related to game behavior was Philosophies of Human Nature. Those subjects who believed human nature to be altruistic and trustworthy behaved in more trusting ways in the game than those who had negative attitudes towards human nature.

The F scale was also used by Deutsch (1960), to study trusting and trustworthy behavior, in the Prisoner's Dilemma (PD) Game. He found a significant relationship between a subject's game behavior and his score on the F scale. Those high on the F scale tended to make suspicious and untrustworthy choices. The low scorers made trusting and trustworthy choices. McKeown et al. (1967) also made use of the F scale. By manipulating numerical values, asymmetry was built into the PD game, which made one player "weak" and the other "strong." The high F subjects were placed in both the positions, (strong and weak), and made to play with a dummy who utilized three strategies of



co-operation. The high authoritarians were more plaintive than the low authoritarians. Plaintiveness was described as "the weak player choosing co-operatively on the trial, after both he and the strong player chose competitively." On the strong side, a significant interaction effect was found between authoritarianism and sex, on the dependent variable of masochism. Low authoritarian females were more masochistic than high authoritarian females. The reverse was true for males. In the study, masochism was defined as "the strong player co-operating on the trial after he co-operated while the weak player competed." In a study mentioned earlier under Scale I (Crow & Noel, cited in Shure & Meeker, 1967) it was also found that those Navy recruits high on Scale III, preferred "higher levels of military response," than the low scorers.

The Internationalism (IN) scale is the second scale whose items are mostly included in Scale III. The IN scale applies only to the United States. It deals with foreign policy orientations, which at one extreme can be called, "Internationalism," and at the other, "Nationalism." Internationalism includes a wish to minimize barriers between nations, rejection of military activity and a preference for peace organizations. Nationalism, which is the opposite, includes an ethnocentric orientation, emphasis on military strength, etc. The items in the IN scale deal with controversial issues of 1951,

mostly covering topics like military versus economic aid, choice of allies in a cold war, etc. (Levinson, 1957).

The IN scale has also been used in studies dealing with game behavior and personality variables. Lutzker (1960) selected his subjects on the basis of their extreme scores on the IN scale. While playing the PD game, the Internationalists made significantly more co-operative choices than the Nationalists. Also, the Nationalists and control groups became more competitive as the game progressed. Later, a study done by Charles et al. (1963) was consistent with Lutzker's study (1960). Here too, the Internationalists made more co-operative choices than the Nationalists. As the game progressed, both groups became competitive, but the Nationalists were significantly more so.

The characteristics associated with high scorers on PAS III and the research on the F scale suggest the authoritarian individuals to submit to authority when placed in a "weak" position. They behave in the opposite way, however, when initially placed in a "strong" position where it is easy to dominate another. In Shure et al.'s study (already mentioned under Scale II) those pairs who were high on PAS III earned more than pairs low on this scale. The hypotheses suggested from these statements are:

- V. a. On the disadvantaged side, there will be a negative correlation between Scale III and expectancies.

- b. On the disadvantaged side, there will be a negative correlation between Scale III and winning.
- c. On the advantaged side, there will be a positive correlation between Scale III and winning.
- d. On the advantaged side, there will be a positive correlation between Scale III and expectancies.
- e. On the advantaged side, high scorers on Scale III will be seen as more influential.
- f. On the disadvantaged side low scorers will be seen as more influential

#### Risk Avoidance (Scale IV)

Those scoring high on this scale are ones with low activity level and are afraid to take risks (material and personal). The items in this factor are primarily derived from Guilford's RM (material risk) and RP (personal risk) scales, plus Thurstone's A (active) scale.

Guilford's scales were developed to investigate the basic interest dimensions. RM and RP are a part of a larger test, that includes 33 primary interests. Risk-taking--material connotes interest in taking a chance with one's possessions, interest in gambling, etc. A sample item of RM is, "you like to wager small bets just for the kick you get out of gambling." Risk-taking--personal measures interest in participating in dangerous and thrilling activities. A sample item here is, "you like to drive a hot rod in a race" (Guilford, et al., 1953).

The A scale was one out of the nine linearly independent factors which were obtained from Guilford's 13 scores (Thurstone, 1951). Previously, Guilford had factor analyzed various personality schedules, and had come up with 13 personality scores. The A scale was found to correlate positively with Guilford's "General activity" and "Co-operativeness." Within the nine factors obtained by Thurstone, the A scale correlated negatively with "Sociability." Shure, et al. (cited in Shure & Meeker, 1967) in their study found some significant relationships between game behavior and certain factor scales. Bargaining pairs who were high scorers on scale IV earned more than the pairs low on the same scale. (The other relevant results of the study are cited under Scales II and III.) The characteristics associated with factor IV suggested the following hypotheses:

- VI. a. There will be a negative correlation between Scale IV and expectancies.
- b. There will be a negative correlation between Scale IV and winning.
- c. The low scorers on this scale will be seen as being more influential.

#### External Versus Internal Control (Scale V)

The high scorers believe events to be controlled by external factors, and therefore unrelated to one's own behavior. The low scorers are internally controlled

people who perceive events as being a consequence of their own actions. This scale is mostly composed of items from Liverant Internal/External Control Scale (IE).

The items in the IE scale were made to fit into four specific need categories, and two general classes. For example, under a specific need "Academic Recognition," an item demonstrating internal control would be, "The marks I get in class are my own responsibility." Under the same need, an item dealing with external control would take the form, "Getting good grades seems largely to be a matter of taking the right course at the right time" (Rotter, et al., 1962).

The hypotheses framed from this scale were:

- VIII. a. Scale V will negatively correlate with expectancies regarding winning.
- b. There will be a negative correlation between Scale V and winning.
- c. The internally controlled subjects will be perceived themselves and their opponents as exercising more influence in the game.

#### Suspiciousness Versus Trust (Scale VI)

High scorers are characterized by selfishness, tenseness, projection of hostility, etc. Low scorers are trusting, unselfish, calm, etc. Most items of this scale are derived from Gladstone's Interpersonal Scales,

particularly G5 (Tendency to feel threatened), and from Thurstone's S (emotional stability) scale.

Gladstone's Interpersonal Scales have been described earlier, and so will not be dealt with in this section. Thurstone's factor S correlated positively with Guilford's "Emotional Stability" and "Freedom from Depression." Within the nine factors derived by Thurstone, S correlated positively with "Sociability" and negatively with "Reflective" (Thurstone, 1951). For further information about Thurstone's scale, refer back to the discussion under factor IV. Shure, et al. (cited in Shure & Meeker, 1967) during game play used an index to measure the subject's generosity. The suspicious subjects were found to be less generous than the non-suspicious ones.

No hypotheses were framed for PAS VI; it was difficult to hypothesize, specifically what direction the characteristics associated with PAS VI would take in Morgan and Sawyer's bargaining situation.

#### The Mach V Scale

This was the third and last personality scale used in the present study. Richard Christie devised this scale in order to investigate those characteristics in a personality that enable one to manipulate others. The main source from which the items were derived was the writings of Machiavelli. Christie found no significant

correlation between Mach V and the F Scale. The test does correlate positively with Allport-Vernon's Political value scale and the Psychopathic Deviation Scale of MMPI (Christie, 1962).

Bargaining situations include the possibility of one manipulating another. The Mach V seems an appropriate test for such situations. Geis (1964) chose high, low and medium Mach V scorers as her subjects. The subjects had to play a three man game in which one player was a high Mach, the other low Mach, and the third player a middle scorer on the scale. Ambiguous and unambiguous situations were also created through the type of instructions given. The mean scores indicated the high Machs to be more successful as manipulators of others than the middle scorers, who were in turn more successful than the low scorers. This was present in both ambiguous and non-ambiguous situations. The high Machs used the ambiguous situation in their favor, and did better at it. Geis and Christie (1970) wanted to test further the behavior of high and low Machs, in a situation where real money could be won. Ten dollars were placed in front of triads with different Mach V scores. Any two who decided to join a coalition, could obtain the money and divide it any way between themselves. In all seven triads, the highest Mach was a member of the final coalition. In the two uneven splits, the higher Machs obtained larger share of the money. Cowan (1969) studied game behavior (in Prisoner's

Dilemma Game) of high and low Machs, under two types of instructions, the individualistic and co-operative. Further, defection and the conciliatory conditions were also employed. In the former, the partner (a computer) responded co-operatively in the first half of the game, and competitively in the last half. In the conciliatory condition, the pattern was reversed. As hypothesized, the low Machs became equally competitive in the "defection" condition. But they did not become co-operative in the "conciliatory" condition. The high Machs showed greater change to the conciliatory strategy. Further, the high Machs were more likely than low Machs to change their behavior with co-operative instructions. The low Machs were more likely to change their behavior with individualistic instructions, without determining the direction of the change. The high Machs increased their co-operative responses over trials, while the low Machs decreased their co-operative responses. Therefore the hypotheses regarding Mach V were:

- VIII. a. High Machs will have higher expectancies than low Machs.
- b. High Machs will win more than low Machs.
- c. High Machs will perceive themselves as exercising more influence in the game than low Machs.



- d. High Machs will be perceived by themselves and their opponents as exercising more influence in the game.

## THE EXPERIMENTAL STUDY

### Subjects' Selection

Ninety six male volunteers from Michigan State University served as the subjects for this study. Most of them were from the Introductory Psychology course 151 and were given course credit for the hours they served as subjects. A few others came merely because they were interested. The only previous information given to them was that it was an experiment dealing with "Creative Imagination." This information was put up on the bulletin board, and the volunteers could sign up for it.

The initial choice of subjects was done on the basis of their TAT scores on n Influence. When subjects arrived at the auditorium, each was handed a TAT form. They were asked to write down their name and phone number so that they could be contacted if they were needed for the second part of the experiment. They were then asked to read the instructions (presented in Appendix A) on the first page of the form. After this, slides were projected on a screen. The four 2 by 2 glass slides that were used were of the following nature:

Slide I--Soldiers in a meeting

Slide II--Young men around table

Slide III--Two men with papers

Slide IV--One man reading news

For each slide, the subject wrote a story in response to four questions (presented in Appendix A). Each slide was projected for a minute, and then subjects were given four minutes to write the story.

The next step was to score the TAT stories according to Uleman's n Influence scale. The scoring was done by the investigator (see Appendix B). After obtaining scores for the 96 subjects, approximately one-third of the lowest and one-third of the highest scorers were chosen. The highest one-third were those who scored 17 or above, and the lowest were the ones scoring 14 or below. At this stage there were 34 high and 34 low subjects.

### Procedure

This part of the experiment involved playing the bargaining board game (as described in Chapter I). Each of the 34 pairs consisted of one subject who was high on n Influence and one who was low. Initially this pairing was done randomly. Contacts were made over the phone and appointments arranged when it was convenient for the pair to get together. Relying on each subject's convenience had its disadvantage. Often it was difficult, if not impossible, to arrange a common time for the selected

pair. The process finally ended up with pairing any subject high on n Influence to any other low on n Influence, as long as a common free hour could be arranged. Altogether, 28 pairs played the game. For 14 pairs, those low on n Influence played on the disadvantaged side. For the other 14 pairs, the high scorers on n Influence played on the disadvantaged side.

The game was played in a small room. At one end of the room, the pair of subjects sat facing each other across a table. The experimenter sat at the other end of the room. Once the subjects were seated, the board game was placed on the table in front of them. The experimenter knew beforehand which subject was to play on what side, so the board was placed accordingly. The subjects, however, were not aware of their preplanned positions in the game. After this, the following instructions were read to them:

In front of you is a board with seven pockets. These are further divided in half, so that there are seven sections on Side I and seven on Side II. Each section is denoted by a letter of the alphabet, ranging from A to G. Section A on Side I has a section directly opposite it on Side II also labeled A. This follows for all the other sections, too; that is, each section has one opposite it labeled by the same letter. Thus, each pocket has two sections which are opposite each other and are named by a common letter.

The sections on Side I hold nickels, and those on Side II, quarters. On Side I the maximum number of nickels (i.e., six in all) is in Section A. And in each section there is reduction of a nickel until in Section G we find no nickels. Similarly, on Side II, also, each adjacent section has one quarter less, but the difference is that on this side the maximum number of quarters (also six in number) is in Section G, while there are none in A. Thus, money on Side II ranges in exactly the opposite way from Side I.

What we want the two of you to do is to agree upon a common pocket. This means each of you will get the money in the agreed upon side. For example, if the person on Side II wants the money in his section of pocket D, then he can obtain it only if the person on Side I also agrees to take the money which lies in his own section of D. So, agreement on a common pocket means agreeing to take the money which lies in one's own section of that pocket.

You can communicate verbally, and of course, each of you can reject the other's proposal and indicate your own preference. You will be given a limited amount of time within which to reach an agreement. If you are unable to reach an agreement on the same pocket, then no money will be given to either one of you. If you reach an agreement before the time is up, inform me and then take the amount of money in your section of that pocket. This money is yours to keep and yours alone. You may not agree to split your total earnings after the game is over.

Your conversation will be recorded on a tape recorder. Study the board for a moment. If you have any questions, do not hesitate to ask.

After having looked at the board for a few seconds and asked any questions they wanted to, the pair was handed the following questions:

1. What is the most that you think you could win?  
This may or may not be the maximum possible.
2. What is the least that you think you could win? This may or may not be the minimum possible.
3. What do you realistically guess you'll win, that is, at the end of the game how much do you think you will be able to win?

Once they had answered these questions and handed back the papers, they were told to begin. The tape recorder was turned on, and the experimenter sat at the other table.

Once the pair had decided upon a common alternative the game ended and each subject was given the money lying on his side. Immediately following the end of the game, the subjects were handed the following questions to answer:

1. What do you think was the purpose of the game?
2. In the game, who do you think was exercising more influence?
3. If given another chance, do you think you could win more?

After writing down the answers to the above questions, they filled out the PAS and then Mach V. They were then told the purpose of the experiment. Finally, they were requested not to talk about it to others, for the experiment was not yet over and more subjects were still needed.

In the instructions it was conveyed to subjects that they had to decide within a time limit (the limit, however, was not mentioned). In reality, this was not the case. The instructions were such so as to create some sort of a pressure which would hasten the decision. In only three cases, when the argument had extended 20 minutes were the subjects given the warning that they were reaching their time limit. This helped in settling for a common alternative within the next few minutes. In only one case, such repeated warnings had no effect. This particular

pair went on for 53 minutes, and it seemed evident that they were far from reaching any compromise. After 53 minutes they were told that their time was up, and so were not given any money.

### Analyses



The actual winnings were not recorded in terms of money but in terms of numbers which were later assigned to the pockets on the board game. The numbers assigned were as follows:

	7	6	5	4	3	2	1
	30¢	25¢	20¢	15¢	10¢	5¢	-
Side II	-	25¢	50¢	75¢	\$1.00	\$1.25	\$1.50
	1	2	3	4	5	6	7

For example, if a pair agreed on 25 cents each, then the person on Side I would be assigned the number six while his opponent on Side II would be given number two. This scale was also used for questions one, two and three which dealt with expectations regarding winning.

The answers to the question, "Who do you think was exercising more influence?" were rated on a three point scale and termed "subjective influence." The answer "other" was assigned number one, "equal" was given two, while "me" was assigned number three. In order to get a rating of "consensus influence," the joint perception of the pair had to be considered. For example, if the

subject answered "me," then he was considered influential (or had consensus influence) only if his opponent answered "other." The scale devised for consensus influence ranged on a continuum of one to five. It was as follows:

other,me	other,equal	equal,equal	equal,other	me,other
1	2	3	4	5
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;">  </div> <div style="text-align: center;">consensus influence</div> <div style="text-align: center;">  </div> </div>				

For example, a score of one was given to the subject when he answered "other," while his opponent responded with "me." This meant that the subject did not have consensus influence. Number five was at the other extreme of the scale, denoting greatest amount of consensus influence. Three indicated "equal" influence. The six pairs that were assigned this number were excluded from the analysis whenever a 2 x 2 AOV was used. Three pairs not included at all were ones with complete disagreement (for example both responding with "other" or both with "me").

Questions one and three which were presented after the game had been played, were omitted in the analysis. Question one (What do you think was the purpose of the game?) served merely as a check. As was expected, no subject revealed a thorough awareness of the purpose of the experiment. After going through the answers given to question three ("If given another chance, do you think you could win more?") it became clear that the question was



worded ambiguously. The answers to this were conditional upon the side on which the subject would be placed, and the type of opponent he would play against. Most of the answers were not in terms of a simple "yes" or "no," but were conditional. Categorizing these responses was difficult, and so this question was dropped out of analysis.

Tape recording the conversations was an afterthought, and at the time the experimenter had no idea as to how they could be utilized in the final analysis of the study. However, after several hours of listening to the tapes, it became clear that one could identify the following factors:

1. Which subject took the initiative.
2. Who made the final offer, that is, whose offer was finally accepted.
3. The total time that each pair took to decide upon a common alternative.

This categorizing was done individually by the experimenter and her assistant. Only those results were kept where there was an agreement between the two scorers. Results regarding the tapes are incomplete for two reasons. Firstly, due to a mechanical failure in the tape recorder, the conversation of four pairs couldn't be taped. Secondly, out of the 24 pairs that were recorded, in the case of four pairs, it was practically impossible to point out the initiator and the final decision maker. The reason for

this mostly lay in the brief decision time of some pairs. Some conversations did not extend beyond a very few brief sentences, and it seemed that the pair had silently decided upon a common pocket, even before the game had begun. In the case of all the subjects, the two in a pair were strangers to each other, so quick decisions could not be attributed to previous acquaintance of a pair.

## RESULTS

### The Game

Sixteen out of 28 pairs settled for equality. This is very close to Morgan and Sawyer's results, where equality was agreed upon by 18 out of 28 pairs. The bargaining time ranged from 14 seconds to 33 minutes (this excludes the pair that couldn't reach an agreement after 53 minutes of bargaining) with a mean of 3 1/2 minutes. This time is much less than the mean of nine minutes reported by Morgan and Sawyer. The range of average minimum expectancy to average maximum expectancy on the advantaged side fell within the range of average expectancies (maximum and minimum) on the disadvantaged side (see Figure 2). Thus those placed on the advantaged side were more constrained in their expectancies, in terms of the range of pockets, though not in monetary terms.

As hypothesized, realistic expectancies correlated positively with actual winnings on the advantaged and the disadvantaged sides ( $\text{Rho} = 0.35$ , 1-tail  $p \leq 0.05$ ; and  $\text{Rho} = 0.33$ , 1-tail  $p \leq 0.05$ , respectively). Maximum expectancy correlated with winnings on the advantaged side ( $\text{Rho} = 0.40$ , 1-tail  $p \leq 0.05$ ), while minimum expectancy

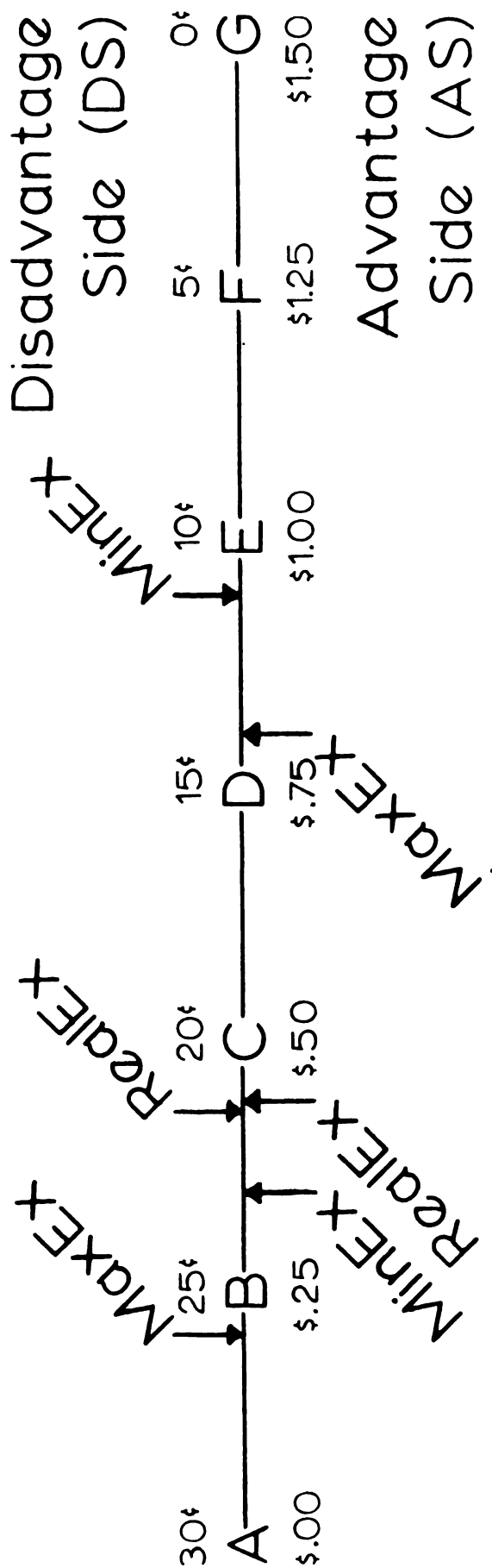


Figure 2.--Range of average minimum expectancy to average maximum expectancy.

correlated with winnings on the disadvantaged side ( $Rho = 0.34$ , 1-tail  $p \leq 0.05$ ). On the whole realistic expectancy was more accurate in predicting the outcome (see Table 1). Winning did not correlate with subjective influence or consensus influence. Initial offer and final negotiation were not significantly different by sides. There were no significant differences between winnings and the variables of initiation and final negotiation (Mann-Whitney  $U$  and  $t$  tests).

Significant results were found regarding judged influence and bargaining processes. Those high on subjective influence initiated ( $t = 2.58$ , 1-tail  $p \leq 0.01$ ) and also made the final offer ( $t = 3.60$ , 1-tail  $p \leq 0.001$ ). Subjects high on consensus influence made significantly more final offers (Mann-Whitney  $U = 391.5$ , 1-tail  $p \leq 0.01$ ).

Unlike Morgan and Sawyer's study, a positive linear relationship was not found between the range of "pair overlap" and the time taken to agree upon a common pocket, among pairs with positive overlap (only one pair had negative overlap). The hypothesis that large "pair overlap" would be associated with greater discrepancy between winnings and expectancy was supported in the case of both realistic and minimum expectancies (Fisher's exact tests were significant at 0.05 level). In using Fisher's test, the relevant variables were dichotomized as follows:

TABLE 1.--Correlations (rho) among expectancies, winnings, and judged influence variables (rho for advantaged side above diagonal; disadvantaged side below diagonal).

Expectance Regarding				
	Most (28)	Least (28)	Realistic (28)	Actual winnings (27)
				Who more influ- ential (28)
				Consensus on influ- ential (25)
Most exp.		.31*	.63****	.40**
Least exp.	-.03		.58****	-.00
Realistic	.50***	.11		.35**
Actual win	.05	.34**	.33**	
Who more	.18	-.16	-.24	-.00
Consensus	.04	-.05	-.27*	-.07

\* p < .10 (1-tail)  
 \*\* p < .05 (1-tail)  
 \*\*\* p < .01 (1-tail)  
 \*\*\*\* p < .001 (1-tail)

(I) "high" pair overlap was defined as agreement on four or more pockets, while agreement on three or less pockets was viewed as "low" pair overlap; (II) outcome minus average minimum expectancy, was defined as "low" if less than or equal to one in absolute value, and "high" otherwise; (III) similarly, the discrepancy between outcome and average realistic expectancy was considered "low" when less or equal to one half in absolute value, and "high" otherwise.

#### Game Behavior and Personality Variables

Before dealing with hypotheses about personality variables, a check was made regarding the personality variables and the two sides of the game. As most of the personality tests (except n influence) were administered after the game had been played, there was a possibility that the scores obtained could have been influenced by game behavior. Mann-Whitney U and the t tests did not yield any significant differences in the personality scores on the two sides. Thus, personality scores had not been affected by game behavior. In addition, n influence did not significantly correlate with Mach V or any PAS scale. This indicated that the initial choice of high and low n influence subjects was not related to high and low scores on the other personality variables.

### n Influence

There was an identical positive correlation on both sides between n influence and maximum expectancy ( $\rho = 0.37$ , 1-tail  $p \leq 0.05$ ). When combined z scores of both sides were considered, then n influence correlated with maximum expectancy ( $\rho = 0.37$ , 1-tail  $p \leq 0.01$ ), and with realistic expectancy ( $\rho = 0.27$ , 1-tail  $p \leq 0.05$ ). No correlation was found between n influence and winnings (see Table 2).

As 2 x 2 AOV (side x initiator vs. non-initiator) summarized in Table 3 illustrated a significant initiator main effect. Those who made the initial offer were lower on n influence (mean = 14.0) than those who didn't (mean = 17.25). This was contradictory to what was hypothesized. No other significant result was found in connection with this personality variable.

### PAS I

On the advantaged side, PAS I correlated positively with maximum expectancy ( $\rho = .46$ , 1-tail  $p \leq .01$ ) and realistic expectancy ( $\rho = .26$  1-tail  $p \leq .10$ ). A positive correlation was also found between PAS I and winning on each side. On the advantaged side,  $\rho = .33$  (1-tail  $p \leq .05$ ), while on the disadvantaged side,  $\rho = .32$  (1-tail  $p \leq .05$ ). Surprisingly, no significant correlations were found between PAS I and consensus influence. Thus, those high on PAS I were also high on their maximum and



TABLE 2.--Correlations (rho) between personality and expectancy and winning variables, and personality differences (t) on initial and final offers.

	Expectancy regarding winnings								Actual Winnings (27)	Who was more influential		Consensus on more influential		t tests <sup>b</sup> (N = 40)			
	Most could win				Least could win					Adv. (28)	Dis. (28)	Adv. (25)	Dis. (25)				
	Adv. (28)	Dis. (28)	Both <sup>a</sup> (56)		Adv. (28)	Dis. (28)	Both <sup>a</sup> (56)										
n Infl.	.37**	.37**	.37**	.07	-.02	.03	.30*	.22	.27**	-.02	.09	.01	.23	.15	.06	-2.55**	0.55
PAS I	.46***	-.07	.27**	.07	.19	.10	.26*	-.14	.01	.33**	.32**	-.11	.01	.20	-.05	0.94	0.78
PAS II	-.23	-.19	-.22*	.17	.14	.11	.14	-.02	.07	.06	-.34**	.27	-.38**	.27	-.30*	-1.03	-0.47
PAS III	.18	-.20	.14	.02	.30*	.18	.22	-.23	-.09	.08	.09	-.16	-.38**	-.11	-.47**	-0.35	-1.93**
PAS IV	-.05	-.34**	-.05	.15	-.20	-.11	.23	-.25*	-.04	.14	.10	-.11	-.15	-.23	-.13	-1.12	-1.90**
PAS V	-.17	-.07	-.10	.09	.32**	.26*	-.23	-.16	-.29***	-.38**	.23	-.08	.14	-.29*	.11	0.35	-2.32***
PAS VI	.09	-.29*	.08	.17	-.05	.05	.01	-.22	-.18	.04	.35**	-.23	.09	-.51***	.08	-1.85*	-1.33
Mach V	.09	.23	.07	-.29*	.13	.00	-.18	.04	-.08	-.02	.38**	-.32**	.38**	-.24	.37**	1.02	0.09

<sup>a</sup>Based on combining z scores, computed separately for each side.<sup>b</sup>Positive t indicates ss high on personality variable made initial or final offer.\*  $p \leq 0.10$  (1-tail)\*\*  $p \leq 0.05$  (1-tail)\*\*\*  $p \leq 0.01$  (1-tail)

TABLE 3.--Analysis of variance of n influence.

Source of variance	df	MS	F
A (sides)	1	9.025	0.538
B (initiator vs. not)	1	105.625	6.299*
A x B	1	3.025	0.180
Error	36	16.769	

\* $p \leq .05$ .

TABLE 4.--Analysis of variance of PAS II.

Source of variance	df	MS	F
A (sides)	1	.008	.000
B (Cns. Inf. vs. not)	1	73.342	.726
A x B	1	726.997	7.201*
Error	38	100.959	

\* $p \leq .05$ .

realistic expectancies and winning, but were not the ones to perceive themselves or be perceived by the opponent as being influential (see Table 2).

#### PAS II

Significant results were not found in the case of PAS II and expectancies. There was, however, a negative correlation between PAS II and winning on the disadvantaged side ( $\rho = .34$ , 1-tail  $p \leq .05$ ). This partially supports the hypothesis. The  $2 \times 2$  AOV (side  $\times$  more consensus influence vs. less consensus influence) on PAS II summarized in Table 4, yielded a significant interaction. Examination of each cell mean, indicates that on the advantaged side, subjects high on PAS II (high conciliation) also had consensus influence. On the disadvantaged side, subjects low on PAS II (high belligerence) had consensus influence.

#### PAS III

The only hypothesis supported was that dealing with PAS III and consensus influence. On the disadvantaged side, PAS III correlated negatively with consensus influence ( $\rho = -.47$ , 1-tail  $p \leq .01$ ), indicating that the "authoritarian nationalists" did not have consensus influence and neither did they make the final offer ( $t = 1.93$   $p \leq .05$ ). Results did not support the hypothesis that dealt with expectancies and winning (see Table 2).

PAS IV

As hypothesized, a negative correlation was found between PAS IV and maximum and realistic expectancy, but only on the disadvantaged side ( $\rho = -.34$ , 1-tail  $p \leq .05$  and  $\rho = -.25$ , 1-tail  $p \leq .10$  respectively). Those subjects afraid to take risks (high PAS IV) had lower maximum and realistic expectancies than ones less afraid to take risks (low PAS IV). Those low on PAS IV also made significantly more final offers than those high on the scale ( $t = -1.90$ ,  $p \leq .05$ ). This finding did not extend to the other variables that were included in the hypothesis (see Table 2).

PAS V

PAS V yielded some interesting results. There was a negative correlation between realistic expectancy (based on combination of z scores on both sides) and PAS V ( $\rho = -0.29$ , 1-tail  $p \leq .05$ ). Those who were externally controlled (high PAS V) were the ones to have low realistic expectancies. On the advantaged side, PAS V correlated negatively with winning ( $\rho = -.38$ , 1-tail  $p \leq .05$ ) and consensus influence ( $\rho = -.29$ , 1-tail  $p \leq .10$ ). This meant that the externally controlled subjects besides having less consensus influence also won less on the advantaged side than the internally controlled. This was in accordance to what was expected (see Table 2). In the 2 x 2 AOV (side x final offer vs. not final offer)

summarized in Table 5 it was found that the ones making the final offer were internally controlled subjects. As in the case of the above two results, this too was in line with what was hypothesized (see Table 5). What was contrary to expectation was the positive correlation between PAS V and minimum expectancies on the disadvantaged side ( $\rho = .32$ , 1-tail  $p \leq .05$ ). When placed on the disadvantaged side, it was the more externally controlled subjects that had higher minimum expectancy.

#### PAS VI

No specific hypotheses were framed in connection with PAS VI. Nevertheless, significant results regarding this personality variable were found. On the disadvantaged side, positive correlation between winning and PAS VI ( $\rho = .35$ , 1-tail  $p \leq .05$ ) suggested that the suspicious subjects (high PAS VI) when at a disadvantage won more than the less suspicious ones. PAS VI correlated negatively with consensus influence on the advantaged side ( $\rho = -.51$ , 1-tail  $p \leq .01$ ). Also, the less suspicious subjects made significantly more initial offers than the high suspicious subjects ( $t = -1.85$ ,  $p \leq .10$ ) (see Table 2).

#### Mach V

Positive correlations were hypothesized between this personality test and the variables in the game. Except for the negative correlation between minimum

TABLE 5.--Analysis of variance of PAS V.

Source of variance	df	MS	F
A (sides)	1	.0040	.0014
B (final offer vs. not)	1	14.304	5.078*
A x B	1	5.681	2.017
Error	36	2.817	

\*  $p \leq .05$ .

TABLE 6.--Analysis of variance of Mach V.

Source of variance	df	MS	F
A (sides)	1	6.158	0.674
B (Cns. Inf. vs. not)	1	5.015	0.549
A x B	1	77.547	8.491*
Error	38	9.133	

\*  $p \leq .01$ .

expectancy and Mach V ( $\rho = -.29$ , 1-tail  $p \leq .10$ ) on the advantaged side, there were no results regarding expectancies. A positive correlation was found between Mach V and consensus influence but limited only to the disadvantaged side ( $\rho = .37$ , 1-tail  $p \leq .05$ ). On the disadvantaged side Mach V also positively correlated with winning ( $\rho = .38$ , 1-tail  $p \leq .05$ ). With regards to this test, more significant results were found on the disadvantaged side. High Machs won more, perceived themselves as influential, and also had consensus influence when playing on the disadvantaged side. In one instance alone, a negative correlation was found between Mach V and subjective influence on the advantaged side ( $\rho = -.32$ , 2-tail  $p \leq .05$ ) (see Table 2). In the  $2 \times 2$  AOV (summarized in Table 6) an interaction was found between side and consensus influence. On the disadvantaged side, high Machs had high consensus influence, while on the advantaged side, low Machs had high consensus influence. The other AOV's did not yield any significant relation between Mach V and the variables, initiation and final negotiation.

## DISCUSSION

The subjects behaved very differently on the two sides of the board. Correlations between personality variables and game behavior depended to a large extent on the side the subject was placed on. Most surprising of all was that the game variables did not relate to each other in the way it was expected. In fact, most of them seemed to function independently.

Correlations were found within the three measures of expectancies (most, least and realistic). Realistic and maximum expectancies correlated positively on both sides, with rhos as high as .50 and .63. Except for realistic expectancies, winning was unrelated to the other bargaining indices. The absence of a relationship between winning and consensus influence is most puzzling, for one would expect that the outcome (money won) would play an important role in determining perceived influence. Subjective influence was related to initiation and final offer, while consensus influence was related to final offer alone. Subjects who initiated had a strong tendency to perceive themselves as being influential. But to convince the opponent of one's influence (consensus influence) more



is required than mere initiation of conversation. Final negotiation however, is a more complex variable and may reflect a great deal more than what is suggested by its name. By the time final negotiation was reached, the pair had had some opportunity at forming opinions about one another. This may have been one reason why consensus influence was related to final offer but not to initial offer. Thus one can divide the bargaining indices into three relatively independent groups: (1) Expectancies, (2) Winning, and (3) Judged influence and bargaining processes.

The frequent preference for equality (16 out of 28 pairs), requires some discussion at this point. Morgan and Sawyer (1967) discussed the prevalence of equality from the point of view of Nash's game--theoretic rationale (that specifies equity as the common outcome) and Piaget's concepts of stages in development. Underlying Nash's prediction of frequency of equity, is his assumption of transformation invariance, and equalizing the face value of money with its utility (i.e., marginal utility of money being constant). By using a non-linear transformation of the definition of the utility of money, Morgan and Sawyer derived equality as the maximum outcome, and therefore a more frequently chosen alternative. This rationale is regardless of the age of the subjects, and would therefore apply as much to freshmen (Ss of present study) as it would

to fifth and sixth grade boys (Morgan and Sawyer's subjects). So these results support Morgan and Sawyer's rather than Nash's formulation.

Moving away from the realm of game theory and regarding these results from Piaget's developmental point of view, the frequent choice of "equality" is difficult to explain. According to Piaget, "equity" is preferred after 10-12 years. In the present study, the reason why adults chose "equality" may have partly been due to the total amount of money that was available. Settling in for equality was perhaps the simplest decision, when the money in the other pockets was not large enough to argue and bargain about. After all, the largest sum that could have been won was \$1.50, which doesn't mean a great deal to a university student. It would be worthwhile to study the effect of larger outcomes on preferred alternatives. Perhaps larger monetary rewards or a different socio-economic sample would yield results more in accord with Piaget's theory.

The average bargaining time in the present study was considerably less than the average bargaining time in Morgan and Sawyer's study. This could have been due to the older subjects in the present study understanding the game more thoroughly than the younger ones in Morgan and Sawyer's study.

### n Influence

On both sides n Influence correlated significantly with maximum expectancy. As far as actual game behavior was concerned, there were no results with n Influence. The high n Influence subjects were optimistic and expected to win more, but in the game situation there was no other variable that distinguished the high from the low n Influence Ss. In Uleman's study, the high n Influence won more. But in that study, the game situation was not as competitive and "real," and the winning was in terms of chips. In the present research however, the board presented a situation which was not very different from other competitive situations encountered in real life. Confronted with such a situation, the high n Influence subjects did not, or could not be influential. Their fantasy of high expectation was not actualized. No other personality variable operated the way n Influence did, and it is interesting to note that no correlations were found between n Influence and other personality measures (see Appendix C). It is however very likely that with a larger sample (where it would be possible to select high and low n Influence subjects more than three points apart) more results would have been apparent.

### Other Personality Variables and Expectancies

Besides n Influence, few significant results were found between expectancies and the remaining personality

variables. On the advantaged side, only the aggressive militarists (PAS I) expected more. On the disadvantaged side, those believing in fate and therefore accepting little responsibility for their actions (PAS I) and those ready to take risks (PAS II) were the ones to expect more. It was as if, in the case of the former (PAS V) it didn't really matter how much they expected, for the situation was not within their control. To the risk takers (PAS IV) it was a matter of risking all or none.

#### Other Personality Variables and Winning

The aggressive and competitive subjects (PAS I) were the ones to actualize their expectancies to winning, regardless of the side they were on. On the advantaged side, the internally controlled (PAS V) won more. On the disadvantaged side besides aggressive militarists, the suspicious (PAS VI), manipulative (Mach V) and belligerent (PAS II) subjects were the ones to end up with higher outcomes. The disadvantageous side was relevant in engaging the above mentioned qualities which successfully intimidated the opponent into settling for less. One may hypothesize that the manipulative tactics included the arousal (with plead or threats) of feelings of guilt in the advantaged opponent for having initially been placed on the desired side. For example, the disadvantaged frequently alluded to their positions with remarks like "I am in a hole,"

"Nickels don't go very far," "I keep on diminishing," etc. The reasons given for wanting the money were, being broke, going away for the weekend, not being able to cash any checks, etc.

#### Other Personality Variables and Judged Influence

As in the case of winning and expectancies, more significant results were found with judged influence on the disadvantaged side. It seemed that under stress (if disadvantaged side can be considered stressful) certain personality traits were exaggerated or at least manifested in a more obvious and noticeable manner. On the disadvantaged side, subjective and consensus influence were associated with the hostile, belligerent (PAS II) and clever manipulators (Mach V) who are not easily intimidated by authority in any way (PAS III). As PAS I (aggressive militarism) doesn't relate to judged influence, the picture is one of aggression and belligerence which, however, is carried out with some tact, rather than a blatant militarist attitude.

On the advantaged side, the trusting (PAS VI) and internally controlled subjects are the ones to have high consensus influence. It is as if the advantaged persons had to display positive attributes to be considered influential. The disadvantaged were the underprivileged who had some kind of a right or justification to behave

differently. A result very contradictory to the hypothesis was that the high Machs were found to be low on subjective influence. Considering the qualities associated with the high Machs, this result is difficult to explain.

### Bargaining Processes

Besides those low on n Influence the trusting subjects (PAS VI) were ones to make the initial offer. This suggests some kind of a naivety and a readiness to begin interaction which perhaps may be expected of trusting individuals. But those who made the final offer after they had interacted with the other, were the internally controlled (PAS V), those ready to take risks (PAS IV) and the ones with democratic tendencies (PAS III).

A few personality variables that did interact with the game variables in the hypothesized way, suggest that the qualities measured through personality inventories are not "isolated units" lying dormant within the individual. Rather, these interact meaningfully only in a relevant and appropriate situation. For example, the internally controlled (PAS V), besides making the final offer and having higher realistic expectations, when placed on the advantaged side, win more and have higher consensus influence.

### Suggestions for Future Research

It is possible that variations in the nature of the form board game, would yield interesting results. In the present study, the situation was unambiguous in that the form board was placed in front of the subjects and each knew the outcome of the other. An ambiguous situation however, may be more adequate and relevant for the expression of characteristics that are measured through projective techniques. For example, the form board may be constructed in a way such that the two players are ignorant of the possible outcomes available to their opponents. Also, as previously mentioned it would be fruitful to vary the sum of money and observe its effect on the choices made.

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## **APPENDICES**

APPENDIX A

PERSONALITY TESTS USED IN

THE RESEARCH

## TEST OF CREATIVE IMAGINATION

**INSTRUCTIONS:** This is a test of your creative imagination. Four pictures will be projected on the screen before you. You will then have 60 seconds to look at the picture and then four minutes to make up a story about it. Notice that there is one page for each picture. The same four questions are asked. They will guide your thinking and enable you to cover all the elements of a plot in the time allotted. Plan to spend about a minute on each question. I will keep time and tell you when it is about time to go on to the next question for each story. You will have a little time to finish your story before the next picture is shown.

Obviously there are no right or wrong answers, so you may feel free to make up any kind of a story about the pictures that you choose. Try to make them vivid and dramatic, for this is a test of creative imagination. Do not merely describe the picture you see. Tell a story about it. Work as fast as you can in order to finish in time. Make the stories interesting.

PICTURE 1.

What is happening? Who are the people?

What has led up to this situation? That is, what has happened in the past?

What is being thought? What is wanted? By whom?

What will happen? What will be done?

APPENDIX

A Personality/Attitude Schedule

In this booklet there are a number of questions designed to obtain information for a research study. These questions ask about reactions to tests, social reactions, personal reactions, likes and dislikes, and personal opinions.

It is very important to the success of this project that you fill out each question as completely and as honestly as you can. Only the scientific personnel involved in this project will have access to your responses to these questions. Your responses will be held in strict confidence and will be used only for research purposes.

Separate instructions are presented in each section of the schedule. Please read the instructions carefully. When you wish to have a question answered, raise your hand. If you have any questions about what is required, do not hesitate to ask the experimenters.



### Opinion Survey

The items below are a study of what people think about a number of social questions. The best answer to each statement is your personal opinion. Many different points of view are covered; you may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others. Whether you agree or disagree with any statement, you can be sure that many other people feel the same way you do.

For each statement write in the column on the left side of the statement the number which best fits your reaction according to how much you agree or disagree with it. Please mark every one, using the following scheme:

- |                        |                           |
|------------------------|---------------------------|
| 7: I agree very much   | 3: I disagree a little    |
| 6: I agree pretty much | 2: I disagree pretty much |
| 5: I agree a little    | 1: I disagree very much   |

If you are really completely neutral about an item, or if you are completely uncertain how you feel about an item, or if you don't understand it, write h in the column, against the appropriate statement.

If you want to change an answer, carefully erase the answer you have written and write with your pencil the correct number for your answer. Do not skip any items.

There is no time limit, but try to work rapidly and don't spend too much time on any one question.

- 
- |      |  |
|------|--|
| A-02 | To deal successfully with an unfriendly foreign power does not require greater armed strength.   |
| A-04 | When someone has been nasty to you, you should try to understand what's bothering him, so that you can be helpful.                         |
| A-06 | If the United Nations doesn't show more signs of getting tough with Russia soon, America must be prepared to carry on the fight by itself. |
| A-08 | Even people who appear friendly to you may be unreliable because they are mainly concerned with their own interests.                       |
| A-10 | The United States is not justified in building up armaments which can be used only for attack.   |
- 

- |      |  |
|------|--|
| A-12 | We should always help those who are in need, even if they are very unfriendly to us.   |
| A-14 | While we should give military aid to countries which are prepared to fight our enemies, we ought to cut down on foreign economic help, or else the other countries will just play us for a sucker. |

A Personality/Attitude Schedule For Use  
In Experimental Bargaining Studies

- a. Aggressive militarist items (numbered to correspond to their order of appearance in the "Opinion Survey"):
- 31. To deal successfully with an unfriendly foreign power does not require greater armed strength. (negative)
  - 35. The United States is not justified in building up armaments which can be used only for attack. (negative)
  - 39. Threats are never a good way to get other countries to do what we want them to. (negative)
  - 43. Armed strength does not assist the process of negotiation. (negative)
  - 47. If disarmament negotiations are not successful, the United States should begin a gradual program of unilateral disarmament--i.e., disarm whether other countries do or not. (negative)
  - 51. We should not rely on military strength to preserve our way of life against external threats. (negative)
  - 55. If an undemocratic nation threatens to attack us, we should encourage a revolution in that country.
  - 59. We should build our national policy much more on trust and confidence in the motives of other countries. (negative)
  - 63. We should not try to keep our military strength as great as possible. (negative)
  - 67. If another country threatens us in some way, we should not reply with counterthreats. (negative)
  - 71. The United States is too ready to interpret the activities of foreign governments as threatening. (negative)
  - 75. Weapons which can only be used for attack will not help the United States defend itself against external threats. (negative)

- 79. Our government should support revolutionary movements in undemocratic countries.
  - 83. If another country attacks us, we should try to get them to stop without resorting to military defense measures. (negative)
  - 87. There are some situations in which a man should fight (physically) for what is right.
- b. Conciliation items (numbered to correspond to their order of presentation in the "Opinion Survey"):
- 32. When someone has been nasty to you, you should try to understand what's bothering him, so that you can be helpful.
  - 36. We should always help those who are in need, even if they are very unfriendly to us.
  - 40. You can't make friends with people who are hostile to you to begin with. (negative)
  - 44. In quarrels with other people we should make a point of admitting it when we are wrong.
  - 48. We should always feel responsible for helping others less fortunate than ourselves.
  - 52. There is nothing more satisfying than doing something which pleases another person.
  - 56. Doing favors for people who aren't in a position to return them is a waste of time. (negative)
  - 60. When you quarrel with someone you should make an especial effort to understand his point of view.
  - 64. When someone has said something to hurt you, it is not good to pay him back, even if the things you say about him are perfectly true.
  - 68. Doing something to please a person who doesn't like you can give you a lot of satisfaction.
  - 72. It is not worthwhile to make compromises and give up your own preferences in order to make peace with a personal enemy. (negative)

- 76. When you are engaged in a personal dispute, you shouldn't do favors for people who won't take your side. (negative)
  - 80. We should try to get people from other countries to visit us and explain their points of view.
  - 84. We should be completely frank in telling other people about our own shortcomings and mistakes.
  - 88. When people are uncooperative, the most effective way to get them to do what you want is to use threats. (negative)
  - 90. It's a good idea to know the problems and worries of people around you, so that you can be helpful.
  - 92. We should try to show other nations that we do not threaten them in any way.
  - 94. In spite of occasional lapses, most people are pretty trustworthy.
- c. Authoritarian nationalist items (numbered to correspond to their order of presentation in the "Opinion Survey"):
- 33. If the United Nations doesn't show more signs of getting tough with Russia soon, America must be prepared to carry on the fight by itself.
  - 37. While we should give military aid to countries which are prepared to fight our enemies, we ought to cut down on foreign economic help, or else the other countries will just play us for a sucker.
  - 41. If it weren't for Russia and her satellites, the world would be headed for peace and prosperity by now.
  - 45. In these troubled times, if we are to be strong and united against our common enemy, we must have more laws and safeguards against the spreading of dangerous ideas.
  - 49. Pacifist demonstrations--picketing missile bases, peace walks, etc.--are harmful to the best interests of the American people.
  - 53. Obedience and respect for authority are the most important virtues children can learn.

57. Every person should have complete faith in some supernatural power whose decisions he obeys without question.
61. We need more leaders like MacArthur, who have morals and the strength to put our national honor above appeasement.
65. Our government has shown too much patience in negotiating with nations which disagree with us.
69. The greater the danger of war, the less use there is in working for world disarmament.
73. Our diplomats have been too patient in conducting negotiations with other countries.
77. The first principle of our foreign policy should be to join forces with any country, even if it is not very democratic, just as long as it is strongly anti-Communist.
81. We should not trade with nations whose policies we don't approve.
85. No sane, normal, decent person could ever think of hurting a close friend or relative.
89. Young people sometimes get rebellious ideas, but as they grow up they ought to get over them and settle down.
91. If people would talk less and work more, everybody would be better off.
93. Sex crimes, such as rape and attacks on children, deserve more than mere imprisonment; such criminals ought to be publicly whipped, or worse.
96. Some leisure is necessary but it is good hard work that makes life interesting and worthwhile.
97. What youth needs most is strict discipline, rugged determination, and the will to work and fight for family and country.
98. There is hardly anything lower than a person who does not feel a great love, gratitude, and respect for his parents.

99. Books and movies ought not to deal so much with the unpleasant and seamy side of life. They ought to concentrate on themes that are entertaining and uplifting.
- d. Risk avoidance items (numbered to correspond to their order of presentation in the "Temperament Inventory"):
1. When you have money do you like to invest it in business ventures?
  2. Do you like to wager for very small stakes just for the kick you get out of gambling?
  3. Would you like to do stunt flying in an aerial circus?
  5. Would you like to dive from a high-spring board?
  6. Do you like to play games when money is at stake?
  7. Would you like to ride with dare-devil drivers?
  9. Do you drive a car rather fast?
  10. Would you like to drive a "hot-rod" in a race?
  11. Do you like to bet money on athletic events?
  13. Do you like to invest money in a promising invention?
  14. Would you like to be a test pilot?
  15. Would you like to run river rapids in a motor boat?
  17. Would you like to work as a flying trapeze acrobat in a circus?
  18. Would you like to ride out a storm in a small boat?
  19. Would you be willing to take a chance by accepting a job you know nothing about?
  21. Do you usually work fast?
  22. Do you like to drive a car rather fast when there is no speed limit?

23. Would you like to speculate in the stock market occasionally?
  24. Would you like to go on the first rocket-ship expedition to the moon?
- e. External versus internal control items (numbered to correspond to their order of appearance in the "Social Reaction Inventory"):
1. 1. The average citizen can have an influence in government decisions.  
2. This world is run by a few people in power, and there is not much the little guy can do about it.
  2. 1. If I make an effort, I can get people I like to become my friends.  
2. No matter how hard you try, some people just don't like you.
  3. 1. People's misfortunes usually result from the mistakes they make.  
2. Sometimes I feel that I don't have enough control over what happens to me.
  4. 1. In the long run, people get the respect they deserve in this world.  
2. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
  5. 1. Some guys are born to take orders and others are bound to give them.  
2. In the long run, the guy with more ability ends up giving the orders.
  6. 1. I could usually tell whether I had done well or poorly on a test in school as soon as I had finished taking the test.  
2. I often felt that I couldn't predict which grade I would get on a test.

7. 1. If one gets the right teacher, he can do well in school, otherwise he has trouble.
  2. The grades a person gets in school are up to him.
  8. 1. I often can't understand how it is possible to get people to do what I want them to.
  2. Getting people to do what you want takes hard work and patience.
  9. 1. Getting a good job depends partly on being in the right place at the right time.
  2. If you've got ability, you can always get a job.
  10. 1. People are lonely because they don't know how to be friendly.
  2. Making friends is largely a matter of being lucky enough to meet the right people.<sup>1</sup>
- f. Suspiciousness items: (1) The following are numbered to correspond to their order of presentation in the "Opinion Survey":
34. Even people who appear friendly to you may be unreliable because they are mainly concerned with their own interests.
  38. Some people just have it in for you.
  42. There are some people who can't be trusted at all.
  46. Even nations who appear friendly to us may be unreliable because they are mainly concerned with their own interests.
  50. Most people are not always straightforward and honest when their own interests are involved.
  54. A surprising number of people are cruel and spiteful.

---

<sup>1</sup>Items 5, 7, 8, and 9, are keyed negatively.



- 58. You are likely to have some personal enemies that you don't even know about.
  - 62. You should not have anything to do with people who are hostile to you.
  - 66. There are some people who can't be trusted at all.
  - 70. Most activities are more fun when you compare your abilities with other people's.
  - 74. You shouldn't be modest if it leads people to underestimate your abilities.
  - 78. It is extremely upsetting to be more poorly dressed than most of the people you associate with.
  - 82. You should not have anything to do with people whom you don't approve of.
  - 86. United States' propaganda should not hesitate to show the faults of other countries.
- (2) The following are numbered to correspond to their order of presentation in the "Temperament Inventory":
- 8. Do you often alternate between happiness and sadness?
  - 12. Do you feel impatient?
  - 15. When you are emotionally upset, do you tend to lose your appetite?
  - 19. Does it irritate you to be interrupted when you are concentrating?

Name \_\_\_\_\_  
Date \_\_\_\_\_

### Mach V Attitude Inventory

You will find 20 groups of statements listed below. Each group is composed of three statements. Each statement refers to a way of thinking about people or things in general. They reflect opinions and not matters of fact -- There are no "right" or "wrong" answers and different people have been found to agree with different statements.

Please read each of the three statements in each group. Then decide first which of the statements is most true or comes the closest to describing your own beliefs. Mark a plus (+) in the space before this statement:

Just decide which of the remaining two statements is most false or is the farthest from your own beliefs. Place a zero (0) in the space before this statement.

Here is an example:

- \_\_\_\_\_ A. It is easy to persuade people but hard to keep them persuaded.  
\_\_\_\_\_ + \_\_\_\_\_ B. Theories that run counter to common sense are a waste of time.  
\_\_\_\_\_ 0 \_\_\_\_\_ C. It is only common sense to go along with what other people are doing and not be too different.

In this case, statement B would be the one you believe in most strongly and A and C would be the ones that are not as characteristic of your opinion. Statement C would be the one you believe in least strongly and is least characteristic of your beliefs.

You will find some of the choices easy to make; others will be quite difficult. Do not fail to make a choice no matter how hard it may be. You will mark two statements in each group of three -- the one that comes closest to your beliefs with a + and the one farthest from your own beliefs with a 0. The remaining statement should be left unmarked.

Do not omit any groups of statements.

1. ☐ A. It takes more imagination to be a successful criminal than a successful business man.  
☐ B. The phrase, "the road to hell is paved with good intentions" contains a lot of truth.  
☐ C. Most men forget more easily the death of their father than the loss of their property.
2. ☐ A. Men are more concerned with the car they drive than with the clothes their wives wear.  
☐ B. It is very important that imagination and creativity in children be cultivated.  
☐ C. People suffering from incurable diseases should have the choice of being put painlessly to death.
3. ☐ A. Never tell anyone the real reason you did something unless it is useful to do so.  
☐ B. The well-being of the individual is the goal that should be worked for before anything else.  
☐ C. Once a truly intelligent person makes up his mind about the answer to a problem he rarely continues to think about it.
4. ☐ A. People are getting so lazy and self-indulgent that it is bad for our country.  
☐ B. The best way to handle people is to tell them what they want to hear.  
☐ C. It would be a good thing if people were kinder to others less fortunate than themselves.
5. ☐ A. Most people are basically good and kind.  
☐ B. The best criteria for a wife or husband is compatibility--other characteristics are nice but not essential.  
☐ C. Only after a man has gotten what he wants from life should he concern himself with the injustices in the world.
6. ☐ A. Most people who get ahead in the world lead clean, moral lives.  
☐ B. Any man worth his salt shouldn't be blamed for putting his career above his family.  
☐ C. People would be better off if they were concerned less with how to do things and more with what to do.
7. ☐ A. A good teacher is one who points out unanswered questions Rather than gives explicit answers.  
☐ B. When you ask someone to do something for you, it is best to give the real reasons for wanting it rather than giving reasons which might carry more weight.  
☐ C. A person's job is the best single guide as to the sort of person he is.

8. \_\_\_\_\_ A. The construction of such monumental works as the Egyptian pyramids was worth the enslavement of the workers who built them.  
\_\_\_\_\_ B. Once a way of handling problems has been worked out it is best to stick with it.  
\_\_\_\_\_ C. One should take action only when sure that it is morally right.
9. \_\_\_\_\_ A. The world would be a much better place to live in if people would let the future take care of itself and concern themselves only with enjoying the present.  
\_\_\_\_\_ B. It is wise to flatter important people.  
\_\_\_\_\_ C. Once a decision has been made, it is best to keep changing it as new circumstances arise.
10. \_\_\_\_\_ A. It is a good policy to act as if you are doing the things you do because you have no other choice.  
\_\_\_\_\_ B. The biggest difference between most criminals and other people is that criminals are stupid enough to get caught.  
\_\_\_\_\_ C. Even the most hardened and vicious criminal has a spark of decency somewhere within him.
11. \_\_\_\_\_ A. All in all, it is better to be humble and honest than to be important and dishonest.  
\_\_\_\_\_ B. A man who is able and willing to work hard has a good chance of succeeding in whatever he wants to do.  
\_\_\_\_\_ C. If a thing does not help us in our daily lives, it isn't very important.
12. \_\_\_\_\_ A. A person shouldn't be punished for breaking a law which he thinks is unreasonable.  
\_\_\_\_\_ B. Too many criminals are not punished for their crime.  
\_\_\_\_\_ C. There is no excuse for lying to someone else.
13. \_\_\_\_\_ A. Generally speaking, men won't work hard unless they're forced to do so.  
\_\_\_\_\_ B. Every person is entitled to a second chance, even after he commits a serious mistake.  
\_\_\_\_\_ C. People who can't make up their minds aren't worth bothering about.
14. \_\_\_\_\_ A. A man's first responsibility is to his wife, not his mother.  
\_\_\_\_\_ B. Most men are brave.  
\_\_\_\_\_ C. It's best to pick friends that are intellectually stimulating rather than ones it is comfortable to be around.
15. \_\_\_\_\_ A. There are very few people in the world worth concerning oneself about.  
\_\_\_\_\_ B. It is hard to get ahead without cutting corners here and there.  
\_\_\_\_\_ C. A capable person motivated for his own gain is more useful to society than a well-meaning but ineffective one.

16. \_\_\_\_\_ A. It is best to give others the impression that you can change your mind easily.  
\_\_\_\_\_ B. It is a good working policy to keep on good terms with everyone.  
\_\_\_\_\_ C. Honesty is the best policy in all cases.
17. \_\_\_\_\_ A. It is possible to be good in all respects.  
\_\_\_\_\_ B. To help oneself is good; to help others even better.  
\_\_\_\_\_ C. War and threats of war are unchangeable facts of human life.
18. \_\_\_\_\_ A. Barnum was probably right when he said that there's at least one sucker born every minute.  
\_\_\_\_\_ B. Life is pretty dull unless one deliberately stirs up some excitement.  
\_\_\_\_\_ C. Most people would be better off if they controlled their emotions.
19. \_\_\_\_\_ A. Sensitivity to the feelings of others is worth more than poise in social situations.  
\_\_\_\_\_ B. The ideal society is one where everybody knows his place and accepts it.  
\_\_\_\_\_ C. It is safest to assume that all people have a vicious streak and it will come out when they are given a chance.
20. \_\_\_\_\_ A. People who talk about abstract problems usually don't know what they are talking about.  
\_\_\_\_\_ B. Anyone who completely trusts anyone else is asking for trouble.  
\_\_\_\_\_ C. It is essential for the functioning of a democracy that everyone vote.

## APPENDIX B

### AGREEMENT BETWEEN EXPERT'S AND RM'S RANKING OF PRACTICE TAT STORIES

Percentage agreement and rank-order correlation between exper's and Riffat Moazam's ranking of practice TAT stories.

<u>n</u> Achievement	% agreement on presence of IM	% agreement on presence of EM	rho between expert's and RM's ranking <sup>b</sup>
Set C <sup>a</sup>	100	92.41	.966
Set D	88.89	86.18	.839
<u>n Affiliation</u>			
Set A	94.34	85.66	.793
Set B	100	90.00	.793
Set C	96.00	88.42	.726
Set D	97.87	89.39	.813

<sup>a</sup>Each set includes 30 stories.

<sup>b</sup>Ranking of protocols is done according to total score of each story.

## APPENDIX C

CORRELATIONS ( $r$ ) AMONG PERSONALITY  
VARIABLES ( $N = 56$ )



	n	Infl.	PAS I	PAS II	PAS III	PAS IV	PAS V	PAS VI
PAS I: aggressive mili- tarism	.03							
PAS II: conciliation	.01	-.31**						
PAS III: authoritarian nationalism	-.16	.51****	-.09					
PAS IV: risk avoidance	.03	-.02	-.08	.03				
PAS V: external control	.11	-.12	-.09	.04	.09			
PAS VI: suspiciousness	-.13	.20	-.46****	.35****	-.06	.28**		
Mach V: Machiavellianism	-.05	.15	-.41****	-.15	-.04	.25*	.29**	

\*p ≤ .10 (2-tail)

\*\*p ≤ .05 (2-tail)

\*\*\*p ≤ .01 (2-tail)

\*\*\*\*p ≤ .001 (2-tail)

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