Instructional set and Machiavellianism

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INSTRUCTIONAL SET AND MACHIAVELLIANISM

By
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B.A., Michigan State University, 1971

Presented in partial fulfillment of
the requirements for the degree of

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Chairman, Board of Examiners

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Date June 30, 1975
This study was conducted (1) to substantiate previous research findings that the effectiveness of the manipulative behavior of high Machiavellians can be reduced by instructions to low Machiavellians and (2) to determine if this reduction holds over time or whether high Machiavellians are able to recover and once more become successful manipulators. Fifty-four female subjects, eighteen each of high, middle, and low Machiavellian orientation, played the Con Game in an effort to win points. In the control condition, the game was played according to the original instructions with no additional manipulation. Prior to the experimental sessions, however, low Machiavellians were given counter-Machiavellian instructions relative to the true nature of the experiment and then were allowed to proceed according to the original instructions. Although it had been hypothesized that low Machiavellians in the experimental group would initially score more points in the Con Game than high Machiavellians and would sustain the advantage, analysis of variance of the data indicated that no significant differences in point accumulation were found for high or low Machiavellians throughout the games in either the experimental or control condition. Experimental subjects did, however, reject significantly more proposals to form coalitions in the game than control subjects (p < .01). Likewise, more proposals were made to subjects in the experimental group over the control group (p < .06) and it was found that low Machiavellians in the control group broke more proposals (p < .07) at an inopportune time, while in the experimental group, high Machiavellians made the same error more frequently. Thus, although no significant differences in overall point accumulation in the Con Game were noted for high and low Machiavellians, a significant effect of the experimental manipulation was demonstrated.
ACKNOWLEDGMENTS

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CHAPTER I

INTRODUCTION

Purpose of Study

Research has demonstrated that individuals with a strong Machiavellian orientation, when placed in certain situations, are able to continually manipulate or manage the behavior of others who have less of a Machiavellian orientation. When given prior information about what to expect, however, it appears that low Machiavellian subjects are able, for at least a short time, to resist manipulation effectively. The purpose of the present investigation was, then, twofold:

1. An attempt was made to substantiate previous research findings that the effectiveness of the manipulative behavior of high Machiavellians can be reduced by instructions to low Machs.
2. An attempt was made to determine if this reduction would hold over time or whether high Machiavellians would be able to recover and once again become successful manipulators.

Introduction to Machiavellian Research

With the publication of The Prince in 1532, Machiavelli presented a view of man as characterized by guile, deceit,
and opportunism in interpersonal relations. The term "Machiavellian," then, became associated with those people who view and manipulate others for their own purposes.

Although the concept of Machiavellianism dates well back into history, it has only been recently that this phenomenon has come to the attention of experimentally-oriented social scientists. One of the first to attempt experimental examination of this topic was Richard Christie, a psychologist from Columbia University. Through study of Machiavelli's works, Christie hypothesized that certain specific traits would characterize the Machiavellian individual. These include a relative lack of affect in interpersonal relationships, a lack of concern with conventional morality, a lack of gross psychopathology, and a low ideological commitment (Christie, 1970a). From this, Christie developed the Mach Scales (Mach IV and Mach V) for the purpose of identifying those individuals with high and low Machiavellian orientation.

Mach IV (see Appendix A) consists of a twenty item Likert format scale in which ten items are keyed to endorsement of Machiavellian statements and ten are keyed in the opposite direction to avoid the problem of acquiescent response style. The items themselves are paraphrased statements taken directly from Machiavelli's writings. Due to the apparent high correlation between this scale and the scales of social desirability, however (Budner, 1962), Mach V
was constructed (see Appendix B) in an attempt to reduce the effects of social desirability. Mach V also is made up of twenty items, each consisting of three statements of which the respondent must choose the one most true of his own beliefs and the one most false. One statement in each item is identical to Mach IV items. Since the statements have been matched for social desirability, this forced-choice technique makes it difficult for the average respondent to determine which is the socially "correct" answer.

Research by Geis, Weinheimer, and Berger (1966) indicated that the reliability of Mach IV is in the .70's while that of Mach V averages in the .60's. Lowin (1966) found retest reliability (from three weeks to two months) to be +.70 for Mach IV and +.59 for Mach V.
CHAPTER II

REVIEW OF THE LITERATURE

Personality Correlates

Since the development of the Mach Scales, research on Machiavellianism has extended in many directions, making it difficult to distinguish any single explicit trend of study. However, it appears that much effort has been given to the correlation of specific personality variables with Machiavellianism. For example, a factor analytic study conducted by Wrightsman and Cook (1965) indicated that manifest hostility, anomie, verbal hostility, anti-police attitude, and suspicion were significantly related to Machiavellianism. A negative correlation was demonstrated between faith in human nature and a high Mach orientation. In comparing Mach IV responses of both male and female college students with a scale designed to measure philosophy of human nature, Wrightsman (1964) found that Machiavellianism was significantly negatively correlated with trustworthiness, altruism, independence, and strength of will. No relationship was demonstrated between a belief in the complexity and variability of human nature and Machiavellianism.

A number of studies have been conducted in an attempt
to correlate Machiavellianism with measures of intellectual ability. Christie (1970b) reported that the Verbal scores on the Medical College Admission Test (MCAT), given to 161 medical students, showed no significant correlation with Machiavellianism. Likewise, intelligence aptitude scores for 115 students at Columbia University were not related to their Mach IV and Mach V scores. Singer (1964) reported that in a sample of 994 entering students at Pennsylvania State University, no significant correlation was found between Mach V scores and the Moore-Castore tests of intellectual aptitude. However, the fact that no standardized data were available for this locally constructed test reduces the generality of this study. Wrightsman and Cook (1964) attempted to correlate the Mach IV scores of 177 female college students with the individual subtests of the Guilford-Zimmerman Abilities Test. None of the correlations were significant at the .05 level. It appears then that intellectual ability is not related to Machiavellianism, at least for such intellectually homogeneous subjects. It should be noted, however, that this homogeneity may have operated to reduce the magnitude of the correlations reported in these studies.

Two studies have explored the relationship between Machiavellianism and need for achievement. Weinstock (1964) administered Strodtbeck's (1958) eight-item achievement scale and nine items from the Mach IV Scale to fifty
Hungarian refugees. A correlation of +.29, significant at the .05 level, was found. Geis, Weinheimer, and Berger (1966) gave fifty-four college male subjects a ten-item test of need for achievement. The results of this test were found to correlate -.03 with Mach scores. The fact that American subjects were used in the latter research as well as the administration of the total Mach Scale, may give greater validity to the Geis et al. study. However, at present, the only conclusion that seems warranted is that more research is needed to determine the relationship of Machiavellianism to need for achievement.

With regard to authoritarianism, several studies have attempted to show a relationship between this characteristic and Machiavellianism by examining F-Scale and Mach Scale scores. Christie (1970b) reported that in 1955-56 he administered the Mach Scales and F-Scales to nine groups (four classes of medical students and five of college undergraduates) of subjects. No correlation between the two scales was found. In 1964, however, the same procedure, administered to 1782 college students, yielded a statistically significant correlation of -.20. Christie accounted for this discrepancy over time by referring to the increasing sophistication of society and to the increase in test sophistication of more recent students, making them less prone to agree with F-Scale items. However, he also suggested the possibility that Mach scores are increasing over
time. Again, it appears that more research is needed to determine what, if any, trends are occurring in this regard.

In attempting to assess the political preferences of high Machs and high F-Scale scorers, Wrightsman, Radloff, Horton, and Mecherikoff (1961) gave a battery of scales (including Mach IV) to college students before the 1960 election. Results indicated that high F-Scale individuals significantly favored a Republican orientation. However, no relationship was found between preference for a particular political party and Machiavellianism, which was interpreted as congruent with the hypothesized low ideological commitment of high Machs.

Primavera and Higgins (1973) correlated the scores of 104 undergraduates on the Breskin Test of Non-verbal Rigidity, the Rokeach Dogmatism Scale, and Christie's Mach Scale. They found that non-verbal rigidity was not related to either Machiavellianism or dogmatism but that dogmatism showed a low, positive relationship (significant at the .05 level) to Machiavellianism.

To explore racial attitudes among high Machiavellians, Wrightsman and Cook (1965) used white, southern college women as subjects. No relationship was found between a Machiavellian orientation and measures of racial attitude. However, there was a significant tendency for these Machiavellian women to stereotype indiscriminately both whites and blacks. It would be interesting to replicate this
study using males or northerners as subjects to determine if similar results obtain.

Using the same subjects as in the study above, Wrightsman and Cook (1964) also attempted to correlate Machiavellianism with scales on the MMPI. They found a correlation of -.27 between Mach IV and the K-Scale (a measure of test-taking defensiveness) on the MMPI. Similarly, the Lie Scale of the MMPI correlated -.40 with Machiavellianism. If these findings can be generalized, they suggest that high Mach scorers give relatively fewer positive self-references than the general population when taking tests and that they are relatively sophisticated with regard to statements concerning themselves.

Harris (1966) attempted to examine how Machiavellians evaluate others. Employing seventy-six male subjects, he had each subject interact separately with a high Mach and a low Mach on the task of rating characters in Waiting for Godot (Beckett, 1954). Later, using a semantic differential, each subject was asked to rate a partner. It was found that high Machs rated their partner significantly lower on "good" qualities than did low Machs. These data strongly suggest that the negative view taken by high Machs of their fellow man is not restricted to general statements that show up on tests, but is also true of ratings made of actual persons with whom they have just interacted.
Rosenblatt and Hannum (1969) examined the relationship between Machiavellianism and sociopathy using females in a penal institution as subjects. They were given the Mach IV Scale, the Mach V Scale, and the Coalition-Triad Game, as well as peer and self ratings to determine Machiavellian orientation. To assess tendencies toward sociopathy, the women were given selected MMPI scales and the Lykken Scale. In addition, judgments by institutional psychologists and biographical data were utilized. Results indicated no significant relationship between sociopathic tendencies and Machiavellianism.

In an attempt to experimentally assess the ability of Machiavellians to manipulate others, Geis, Christie, and Nelson (1970) designed a rather complex study. High and low Machs were individually tested by a confederate on an embedded figures test. Later the subjects were told that their experimenter (the confederate) had performed some deceptions when giving them feedback. The subjects were then asked to test a subject (another confederate) on the same measure and were told that they could be as deceptive as they wished. Results indicated that high Machs were significantly more manipulative than low Machs in both number and variety of manipulative techniques. Furthermore, high Machs were more innovative in their manipulations and, according to later questionnaires, enjoyed the manipulation more. It was found, however, that high Machiavellians were
neither more punitive nor more suggestible than low Machs.

A number of studies have been concerned with opinion change as related to various degrees of Machiavellianism. Jones, Gergen, and Davis (1963) found that high Machs were relatively unaffected by positive or negative feedback about their personalities while low Machs changed significantly in the direction of giving positive self-descriptions after receiving a negative evaluation of their personality. Harris (1966), in assessing judgment independence, found that high Machs did not change their ratings of fictional characters when confronted with dissimilar ratings by others. Low Machs, on the other hand, shifted to agree more with their partner. Feiler (1967) engaged high and low Mach subjects in two debates in one of which each subject was forced to defend an issue contrary to his own belief. Attitude change ratings suggested that low Machs changed their position after both consonant and dissonant debates, while high Machiavellians showed no significant change in either situation. From this research, it can be speculated that Machiavellians are relatively impervious to external influence.

**Game Playing Behavior**

Another emphasis in Machiavellian research has been placed on competitive game playing behavior of high and low Machs. One of the frequently used games is the Con Game developed by Geis (1964), which attempts to measure
success at manipulating others. In an initial study utilizing this game, Geis (1970) used sets of three players—a high Mach, a middle Mach, and a low Mach. Degree of ambiguity and degree of power were varied in this competitive game situation. It was found that high Machs outbargained lows and consistently won more points in the game. Similarly, highs were even more successful when the bargaining situation was more ambiguous, but highs failed to increase their success more than lows did with an increase in power position in the groups. It appears, then, that Machiavellians are able to successfully manipulate others. What is more, they are best able to exploit their manipulative talents in relatively ambiguous situations.

An attempt to replicate the above study, as well as assess the affects of social desirability on Machiavellianism, was made by Doctor (1969). She not only found no significant relationship between social desirability and Machiavellianism, but was also unable to obtain a significant Machiavellian effect. Clearly, these results do not support Geis' hypothesis that Machiavellianism accounts for the variance among game scores. Doctor commented, however, that some methodological problems, as well as the small number of subjects utilized, may have seriously limited the generalizability of these results.

In the Ten Dollar Game, Christie and Geis (1970) examined the situation where the stakes were more tangible.
Again, results indicated that high Machs won overwhelmingly. It was proposed that the real stakes made the situation more serious which, while not affecting the high Machs, put lows at a disadvantage since a moral conflict may have been initiated due to the greater emotional value of the game.

Another game which has been devised to assess Machiavellian behavior is the Penny-Dollar Game (Christie, Gergen, and Marlowe, 1970), a variation of Prisoner's Dilemma. Here, each subject believes himself to be dependent upon another person in order to accumulate winnings. In this situation, high Machiavellians took a more cooperative rather than exploitive point of view, thus allowing both partners supposedly to collect substantial winnings. The authors concluded that the high Mach is a very rational game player. Similarly, results of questionnaires demonstrate that high Machs view others as they perceive themselves and so believe others to be fully capable of utilizing exploitive techniques. Thus, it is speculated that rather than risk retaliation from their partner for their own exploitation, the high Machs believed that in this case cooperation was more fruitful than mutual exploitation.

In line with the Machiavellian's hypothesized rationality, a Legislature Game was developed to explicitly test the effect of emotionality on game outcome (Geis, Weinheimer, and Berger, 1966). Here, subjects were asked to make speeches concerning neutral, consonant, and dissonant issues in the
hopes of gaining votes from other players. Results indicate that when neutral issues were involved, both low and high Machs received an equal number of votes. On emotionally loaded issues, however, high Machs significantly outscored lows. The authors hypothesize that the rationality of Machiavellians kept them from being distracted by emotional issues. Lows, however, became emotionally involved in the issues and thus were more easily distracted.

Other games devised to study Machiavellianism include a variation of dominos (Edelstein, 1966) and the Products Game (Hornstein and Deutsch, 1967). In general, the outcomes of game research with Machiavellians tend to be consistent—high Mach subjects generally win and appear to become less involved in emotional issues which arise during play. One notable exception is a study by Wahlin (1967) who, using a variation of the Prisoner's Dilemma Game, found that high Machs consistently lost more points than low Machs. However, in this situation, the "partner," a pre-programmed fictional opponent, tended to become vindictive when the subject became aggressive. Since high Machs were more aggressive and competitive than lows, they tended to lose more points overall. These results appear to be contradictory to those described in the Penny-Dollar Game research (Christie, Gergen, and Marlowe, 1970) where high Machs took a relatively cooperative stand. Apparently, further research is needed to determine the nature of this discrepancy.
Antecedents of Machiavellianism

Recently, several studies have emerged which explore the antecedents of Machiavellianism. O'Kelley and Solar (1971) attempted to correlate parental orientations toward Machiavellianism with similar attitudes in their children. They found that high Mach parents tended to have high Mach children while low Mach parents had low Mach offspring. They hypothesize that social modeling is responsible for the emergence of a Machiavellian attitude. Touhey (1973), however, suggested that Machiavellianism arises from a failure to identify with parents. His findings suggested that only minimal support can be given to the hypothesis that children learn Machiavellianism from their parents or other family models. Rather, he concluded that Machiavellianism emerges from sources outside the family. At present, much more research needs to be conducted on this issue. It seems likely, however, that the origins of Machiavellianism are rather complex and may arise from various combinations of parental attitudes and external experiences.

Summary

In general, the research on Machiavellianism has suggested that the high Machiavellian is a person who has minimal affective involvement with both people and ideologies. He does not seem to be bound by traditional morality and so
is able to disregard conventional concerns for the welfare of others. He behaves rationally in terms of his own advantage and does not appear to be overly influenced by guilt or anxiety. Likewise, he seems resistant to external attempts to change his ideas. Because of these characteristics, the Machiavellian has proven to be a highly successful manipulator of people. He usually wins in bargaining situations and has been shown (Geis, Christie, and Nelson, 1970) to more effectively and innovatively manipulate others in an experimental situation. Likewise, the Machiavellian is able to lie convincingly when confronted with a misdeed (Erline, Thibaut, Hickey, and Gumpert, 1970).

Although the Machiavellian's manipulative tendencies have been frequently demonstrated through research, there have been exceptions where the high Mach has not been so successful. One such study (Wahlin, 1967) has already been mentioned. Similarly, Christie and Boehm (1970) attempted to evaluate the Machiavellian's ability to respond to subtle cues in a learning situation. Contrary to expectation, they found that the high Mach individual was not able to discriminate such cues readily. In fact, low Mach women were significantly better! Research by Walters (1973) has shown that if low Machs are aware of the high Mach's manipulative tendencies in the Con Game they are able, at least on a short term basis, to prevent the Machiavellian from winning in this bargaining situation. Thus, it appears that al-
though he is generally able to succeed in his dealings with others, the Machiavellian is not infallible. The present research, then, was an attempt to replicate Walters' findings and, furthermore, to explore the durability of the success reversal.

Statement of Hypotheses

It has been demonstrated that low Machs, when given instructions as to what to expect, are able to overcome the advantage of the high Machs in a bargaining situation. However, it has been an open issue as to whether low Machs could maintain this advantage, or if high Machs would, over time, regain control. In theory, an equally good case could be made for either position. On the one hand, studies have shown that the high Machiavellian is a successful manipulator and that he enjoys such manipulation (Geis, Christie and Nelson, 1970). Similarly, the fact that he has proven to be a convincing liar (Exline et al., 1961) attests to the high Mach's social skill in deceiving others. Thus, it could be predicted that the Machiavellian, if put at an initial disadvantage, will have both the desire and the means to regain control. On the other hand, research has demonstrated that the high Mach is a very rational game player who does not become involved in emotional issues (Christie, Gergen, and Marlowe, 1970). Thus, one could speculate that the Machiavellian may not become especially upset at losing. Simi-
larly, the fact that, at least at present, research does not support the notion that high Machs are unusually achievement oriented (Geis et al., 1966), could lend one to hypothesize that the Machiavellian may not always be so concerned with winning that he feels a need to exert special effort to overcome the low Mach's advantage. It may be that the high Mach's manipulative tendencies are not the result of a conscious desire to exploit and manipulate others, but rather are a by-product of his uninvolved and generally detached life style. In this context, one could hypothesize that the high Machiavellian would not be concerned with regaining control per se but would continue to perform in the same rational, detached manner, regardless of the game outcome.

In analyzing the style of the low Mach game players, one notes especially this person's susceptibility to emotional issues (Geis et al., 1966) and his reluctance and lack of enjoyment in manipulating others (Geis, Christie, and Nelson, 1970). These factors may serve to reduce the low Mach's motivation to continue his initial advantage. On the other hand, although no research to date has been conducted to investigate this issue, it seems highly possible that the low Mach's emotional susceptibility will be more influenced by the experimenter's desires than by his concern for the welfare of the high Machs. In other words, it may be that the low Mach will be motivated to maintain his initial advantage in the games in order to please the experimenter
and that this motivation will override any distaste occurring from manipulating the high Machs.

Again, it must be emphasized that this issue of control over time has been an open one and that it was the purpose of the present study to make an empirical investigation of the issue. Nevertheless, it was the belief of the experimenter that the high Machs, when put at an initial disadvantage, would not attempt to regain control in a bargaining situation due to an hypothesized lack of motivation to win for the sake of winning. Likewise, it was predicted that low Machs would be able to sustain their initial advantage in an effort to cooperate with the experimenter and to please her.

Thus, specific hypotheses were:

1. Low Machs in the experimental group who earlier received counter-Machiavellian instructions will initially score more points in the Con Game than high Machs.

2. Low Machs will sustain this initial advantage over time.

3. Conversely, high Machs will not regain control of the game (i.e., consistently win more points than low Machs) over time.
Subjects

Subjects for the present study were selected from 184 female undergraduate students at the University of Montana who were administered Christie's Mach V Scale. The possible range of scores on this scale is between 40 and 160 points. Previous research (Christie, 1970b) defined 40-79 as identifying low Machs, 80-119 signifying middle Machs, and 120-160 equaling high Machs. Scores on the present administration of the scale, however, ranged from 80 to 120 points. Since almost all scores fell within the objective scoring category of middle Machiavellian, it was decided to utilize relative scores, defining those scoring in the top one-third as high Machs, those falling in the middle one-third as middle Machs, and those scoring in the bottom one-third as low Machs.

Subjects were then ranked according to their Mach V scores. Those scoring at the high end of the scale were phoned in order (beginning with that subject scoring highest) and asked to participate in the study (as high Machs). Similarly, those scoring lowest on the scale were called in order (beginning with that subject scoring lowest) and asked to
participate until the appropriate number of low Machs was obtained. Middle Machs were selected from those subjects whose scores were one hundred points (the middle score on the scale) or closest to that score. This procedure resulted in the selection of eighteen high Machiavellians, eighteen middle Machiavellians, and eighteen low Machiavellian subjects. The ages of subjects ranged between seventeen and forty-two years, with a mean age of 19.4 years.

Procedure

From the sample of students given the Mach V Scale, fifty-four subjects, eighteen each of high, middle, and low Machs, were selected. One-half of the subjects in each group (high, middle, and low) were randomly assigned to a control group and one-half were assigned to an experimental condition. Six sessions (three for the control group and three for the experimental group) were scheduled, with each session consisting of a series of fifteen tournament games utilizing the Con Game (Geis, 1964) as the specific procedure. In this game, three players (one high, one middle, and one low Mach) were seated around a game board at a small table. The board (see Figure 1) had a path divided into numbered spaces running from START at one side to FINISH in the center. The game was played with power cards, dice, and individual place markers. To begin, each player was given a hand of six power cards, much like ordinary playing cards.
GAME BOARD FOR THE CON GAME (Geis, 1970)

FIGURE 1
These cards were identical for each player. At his turn, a player tossed the dice and moved his marker toward FINISH the number of spaces equal to the higher of his two die values multiplied by whichever of his power cards he chose to play at that turn. A player could use only one card at each turn, and a card could be used only once in the game. The player or coalition of players to reach FINISH first received one hundred points. The losing player or players received zero.

Three rules were used in this game: 1) Players could form coalitions within their triad. Coalition partners played as a single unit. At the turn of a coalition, only one toss of the dice was made, but each member played a power card. Then both moved forward, together, the number of spaces equal to their higher die value multiplied by the sum of the two power cards. 2) Each coalition agreement had to include an agreement between the partners as to how they would divide the one hundred points if they should win. Points could be divided any way the partners chose. 3) Coalitions could be made and broken at will at any time in the game.

Nine subjects (three each of high, middle, and low Machs) were run during each session. At the end of the first game, two players from each table were systematically rotated to two other tables, so that all subjects played their second game in the completely new triad, but again composed of one
high, one middle, and one low Mach. This procedure was repeated after every game. In the three control group sessions, the games were played according to the original instructions (see Appendix C) without further intervention. The low Machs in each of the three experimental group sessions were initially given the counter-Machiavellian instructions used by Walters (1973) (see Appendix D) relative to the true nature of the experiment and the manipulative tendencies of high Machs. Other than this, the games in the experimental group sessions proceeded according to the original instructions (Geis, 1970).

At the end of each of the six sessions, each subject was given two hours of experimental credit for participation in the study. In addition, the subject who had obtained the most points each evening was given one extra hour of credit.

Three experimental assistants were present at each game session, one being stationed at each table. These assistants had a thorough knowledge of game procedure and scoring but were not familiar with the nature of the study or the Mach classification of any of the subjects. It was the role of the assistants to keep a record of the coalitions formed and point-splits for each game. A protocol sheet (see Appendix E) was provided each assistant during each game to systematize recording (Geis, 1970). Subjects also kept a tally of their total points earned on score cards provided by the experimenter. In addition, each assistant rated the three players at her table for desire to win after each game.
At the end of each game session, each player was asked to fill out a short questionnaire (see Appendix F). The purpose of this procedure was to provide some hypotheses as to the players' rationale for their game behavior, as well as to elicit any other comments or observations the subjects might want to offer.
CHAPTER IV

RESULTS

Although Mach V Scale scores for those in the subject pool ranged from 80 to 120 points, the Mach scores for the fifty-four selected subjects ranged from 84 to 118 points. Those eighteen subjects categorized as low Machs scored between 84 and 92 points (mean score = 88.8 points), middle Mach scores ranged from 98 to 102 points (mean score = 100.3 points), and those selected as high Machs scored between 106 and 118 points on Christie's Mach V Scale (mean score = 109.7 points). Analysis of variance of the high and low Mach Scale scores indicated that the two groups were highly significantly different with $p < .001$ (see Appendix G for statistical analysis summary table).

The total number of points scored for each high Mach subject and each low Mach subject were calculated for games one through five, games six through ten, and games eleven through fifteen of the Con Game. The design for statistical analysis was a conventional split plot utilizing three factors (Edwards, 1964). Factor A incorporated the experimental-control variable ($A1$ and $A2$, respectively),
while Factor B was concerned with the Mach score ranking (high vs. low) of subjects (B1 and B2, respectively). Factor C included each five-game sequence (C1, C2, and C3, respectively) of the Con Game. Both the experimental design and scores for individual subjects are diagrammed in Table 1.

It should be noted that middle Mach scores were not included in the analysis. This was due to the fact that analysis of middle scores would have resulted in a lack of independence among the data and a consequent loss of degrees of freedom. Since middle Mach scores were not of major interest in the present study, it was decided to retain greater degrees of freedom by eliminating analysis of middle Mach scores.
### TABLE 1

Summary of Subjects' Point Scores in the Con Game

<table>
<thead>
<tr>
<th></th>
<th>C 1 (games 1-5)</th>
<th>C 2 (games 6-10)</th>
<th>C 3 (games 11-15)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B 1</strong> (high)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>150</td>
<td>95</td>
<td>176.6</td>
</tr>
<tr>
<td>2</td>
<td>150</td>
<td>0</td>
<td>40</td>
</tr>
<tr>
<td>3</td>
<td>190</td>
<td>250</td>
<td>200</td>
</tr>
<tr>
<td>4</td>
<td>100</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>5</td>
<td>300</td>
<td>140</td>
<td>410</td>
</tr>
<tr>
<td>6</td>
<td>240</td>
<td>160</td>
<td>280</td>
</tr>
<tr>
<td>7</td>
<td>180</td>
<td>250</td>
<td>350</td>
</tr>
<tr>
<td>8</td>
<td>100</td>
<td>270</td>
<td>125</td>
</tr>
<tr>
<td>9</td>
<td>100</td>
<td>0</td>
<td>200</td>
</tr>
<tr>
<td><strong>B 2</strong> (low)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>100</td>
<td>210</td>
<td>173.3</td>
</tr>
<tr>
<td>2</td>
<td>150</td>
<td>205</td>
<td>193.3</td>
</tr>
<tr>
<td>3</td>
<td>150</td>
<td>110</td>
<td>250</td>
</tr>
<tr>
<td>4</td>
<td>190</td>
<td>260</td>
<td>140</td>
</tr>
<tr>
<td>5</td>
<td>150</td>
<td>100</td>
<td>150</td>
</tr>
<tr>
<td>6</td>
<td>200</td>
<td>140</td>
<td>50</td>
</tr>
<tr>
<td>7</td>
<td>150</td>
<td>170</td>
<td>165</td>
</tr>
<tr>
<td>8</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>9</td>
<td>135</td>
<td>50</td>
<td>340</td>
</tr>
<tr>
<td><strong>B 1</strong> (high)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>243.3</td>
<td>113.3</td>
<td>166.6</td>
</tr>
<tr>
<td>2</td>
<td>166.6</td>
<td>73.3</td>
<td>166.5</td>
</tr>
<tr>
<td>3</td>
<td>185</td>
<td>250</td>
<td>135.2</td>
</tr>
<tr>
<td>4</td>
<td>185</td>
<td>60</td>
<td>180</td>
</tr>
<tr>
<td>5</td>
<td>150</td>
<td>100</td>
<td>250</td>
</tr>
<tr>
<td>6</td>
<td>200</td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td>7</td>
<td>150</td>
<td>50</td>
<td>66.6</td>
</tr>
<tr>
<td>8</td>
<td>183.3</td>
<td>200</td>
<td>226.6</td>
</tr>
<tr>
<td>9</td>
<td>150</td>
<td>200</td>
<td>83.3</td>
</tr>
<tr>
<td><strong>A 2</strong>, Control Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>230</td>
<td>149.9</td>
</tr>
<tr>
<td>2</td>
<td>213.3</td>
<td>100</td>
<td>233.2</td>
</tr>
<tr>
<td>3</td>
<td>166.6</td>
<td>156.6</td>
<td>233.2</td>
</tr>
<tr>
<td>4</td>
<td>215</td>
<td>250</td>
<td>20</td>
</tr>
<tr>
<td>5</td>
<td>150</td>
<td>50</td>
<td>150</td>
</tr>
<tr>
<td>6</td>
<td>220</td>
<td>350</td>
<td>350</td>
</tr>
<tr>
<td>7</td>
<td>250</td>
<td>200</td>
<td>233.3</td>
</tr>
<tr>
<td>8</td>
<td>83.3</td>
<td>200</td>
<td>206.6</td>
</tr>
<tr>
<td>9</td>
<td>150</td>
<td>150</td>
<td>166.6</td>
</tr>
</tbody>
</table>
The analysis of variance for both main effects and interactions can be seen in Table 2:

TABLE 2
ANOVA Summary Table - Points Scored in the Con Game

<table>
<thead>
<tr>
<th>Source</th>
<th>Sums of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>456.333</td>
<td>1</td>
<td>456.333</td>
<td>0.054</td>
</tr>
<tr>
<td>B</td>
<td>300.000</td>
<td>1</td>
<td>300.000</td>
<td>0.035</td>
</tr>
<tr>
<td>A x B</td>
<td>106.000.9</td>
<td>1</td>
<td>106.000.9</td>
<td>1.249</td>
</tr>
<tr>
<td>S (A x B)</td>
<td>271580.32</td>
<td>32</td>
<td>8486.87</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>19614.1</td>
<td>2</td>
<td>9807.07</td>
<td>1.937</td>
</tr>
<tr>
<td>A x C</td>
<td>5181.36</td>
<td>2</td>
<td>2590.68</td>
<td>0.512</td>
</tr>
<tr>
<td>B x C</td>
<td>8016.67</td>
<td>2</td>
<td>4008.33</td>
<td>0.792</td>
</tr>
<tr>
<td>A x B x C</td>
<td>5457.41</td>
<td>2</td>
<td>2728.71</td>
<td>0.539</td>
</tr>
<tr>
<td>S (AxB) x C</td>
<td>324028.64</td>
<td>64</td>
<td>5062.93</td>
<td></td>
</tr>
</tbody>
</table>

None of the main effects or interactions were statistically significant (p < .10). This is further exemplified by examining Figures 2 through 5. Figure 2 provides a graph of the A x B interaction; that is, of the relationships between levels of Machiavellianism and the experimental vs. control group situation. Graphs of the A x B interaction over the three levels of C (five-game sequences within the Con Game) are shown in Figures 3 through 5.

FIGURE 2
Graph showing interaction of Experimental vs. Control condition (A1 and A2) with levels of Machiavellianism (High, B1; Low, B2) over the first five-game session (C1) of the Con Game.

FIGURE 3
Graph showing interaction of Experimental vs. Control condition (A1 and A2) with levels of Machiavellianism (High, B1; Low, B2) over the second five-game session (C2) of the Con Game.
Graph showing interaction of Experimental vs. Control condition (A1 and A2) with levels of Machiavellianism (High, B1; Low, B2) over the third five-game session (C3) of the Con Game.

**FIGURE 5**
It was decided to conduct a number of subsequent analyses of the data. Although these post hoc analyses had not been specified in the original design of the experiment, it was hoped that further analysis might provide some insight into the results already mentioned as well as stimulate possible research material for the future. The following factors were analyzed according to a conventional split plot design: number of proposals made by each subject, number of proposals accepted by each, number of proposals rejected by each player, number of coalitions broken by each player which served to win the game and number broken which lost the game, number of proposals made to each player, and response to each of the questions answered on the post-game questionnaire. Analysis of variance indicated that only one of these variables, number of proposals rejected by each player, was within .05 limits of statistical significance (p < .01). (See Appendices H to K for ANOVA summary tables for variables not discussed in this chapter.) A summary table of this analysis is provided in Table 3.

Results for Factor A (experimental vs. control variable) show that those subjects in the experimental group rejected significantly more proposals than those in the control group. Factor B (high vs. low Machiavellian orientation) and the A x B interaction were not significant.
TABLE 3

ANOVA Summary Table -
Number of Proposals Rejected by Each Subject

<table>
<thead>
<tr>
<th>Source</th>
<th>Sums of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>30.2500</td>
<td>1</td>
<td>30.2500</td>
<td>6.630**</td>
</tr>
<tr>
<td>B</td>
<td>3.36111</td>
<td>1</td>
<td>3.36111</td>
<td>0.737</td>
</tr>
<tr>
<td>A x B</td>
<td>0.694444</td>
<td>1</td>
<td>0.694444</td>
<td>0.152</td>
</tr>
<tr>
<td>S (A x B)</td>
<td>146.000</td>
<td>32</td>
<td>4.56250</td>
<td></td>
</tr>
</tbody>
</table>

It should be noted that two of the other variables mentioned above, number of proposals made to each subject and number of coalitions broken by each subject which lost the game for that person, came near statistical significance (p < .06 and p < .07, respectively). With regard to the number of proposals made to each subject, results for Factor A (experimental vs. control variable) indicate that more proposals were made to subjects in the experimental group than the control group. Factor B (high vs. low Machiavellian orientation) and the A x B interaction were not close to significance. A summary table for this data is provided in Table 4.

The second variable on which near-significance was obtained was number of coalitions broken by each subject that lost the game for that person. Although Factor A (experimental vs. control variable) and Factor B (high vs. low
TABLE 4

ANOVA Summary Table -
Number of Proposals Made to Each Subject

<table>
<thead>
<tr>
<th>Source</th>
<th>Sums of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>51.3611</td>
<td>1</td>
<td>51.3611</td>
<td>3.629</td>
</tr>
<tr>
<td>B</td>
<td>1.36111</td>
<td>1</td>
<td>1.36111</td>
<td>0.096</td>
</tr>
<tr>
<td>A x B</td>
<td>0.27777</td>
<td>1</td>
<td>0.27777</td>
<td>0.002</td>
</tr>
<tr>
<td>S (A x B)</td>
<td>452.889</td>
<td>32</td>
<td>14.1528</td>
<td></td>
</tr>
</tbody>
</table>

Machiavellian orientation) were not close to significance, the A x B interaction reached the .07 level of significance. Results indicate that in the control group condition, low Machs made more errors in breaking coalitions than high Machs while, in the experimental condition, the reverse occurred--high Machs broke more coalitions at a personally inopportune time than low Machs. A summary table for this data is provided in Table 5:

TABLE 5

ANOVA Summary Table - Number of Coalitions
Broken by Each Subject That Lost The Game

<table>
<thead>
<tr>
<th>Source</th>
<th>Sums of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0.0000000</td>
<td>1</td>
<td>0.0000000</td>
<td>0.000</td>
</tr>
<tr>
<td>B</td>
<td>0.0000000</td>
<td>1</td>
<td>0.0000000</td>
<td>0.000</td>
</tr>
<tr>
<td>A x B</td>
<td>1.00000</td>
<td>1</td>
<td>1.00000</td>
<td>3.349</td>
</tr>
<tr>
<td>S (A x B)</td>
<td>9.55556</td>
<td>32</td>
<td>0.298611</td>
<td></td>
</tr>
</tbody>
</table>
Each experimental assistant rated players at her table after every game on desire to win. Ratings consisted of marking either "high," "medium," or "low" for the trait. Although no formal statistical analysis was conducted on this variable, Table 6 depicts a summary of the rating data. Results suggest that the overwhelming majority of the subjects were rated in the middle range of enthusiasm for the game. Noting the low enthusiasm portion of the summary table, there is some indication that experimental subjects were less intent on winning the game than control subjects.

TABLE 6

Summary of Ratings of Subject Enthusiasm

<table>
<thead>
<tr>
<th>Games</th>
<th>High Enthusiasm</th>
<th>Middle Enthusiasm</th>
<th>Low Enthusiasm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control</td>
<td>Exper.</td>
<td>Control</td>
</tr>
<tr>
<td></td>
<td>H M L</td>
<td>H M L</td>
<td>H M L</td>
</tr>
<tr>
<td>1-5</td>
<td>4 4 6</td>
<td>1 2 7</td>
<td>32 31 33</td>
</tr>
<tr>
<td>6-10</td>
<td>7 9 8</td>
<td>6 8 8</td>
<td>36 32 33</td>
</tr>
<tr>
<td>11-15</td>
<td>6 8 7</td>
<td>13 9 11</td>
<td>37 34 36</td>
</tr>
<tr>
<td>Totals</td>
<td>17 21 21</td>
<td>20 19 26</td>
<td>105 97 102</td>
</tr>
<tr>
<td></td>
<td>59 65</td>
<td>304</td>
<td>262</td>
</tr>
</tbody>
</table>

Number for which no rating recorded: Control - 9; Experimental - 3.
CHAPTER V

DISCUSSION

Overall, the results of this experiment do not support the hypotheses made prior to the onset of the study. These hypotheses consisted of the following three statements:

a. Low Machs in the experimental group who had received counter-Machiavellian instructions would initially score more points in the Con Game than high Machs.

b. Low Machs would sustain this initial advantage over time.

c. Conversely, high Machs would not regain control of the game (i.e., consistently win more points than low Machs) over time.

In fact, low Machs in the experimental group who had received counter-Machiavellian instructions did not initially score more points in the Con Game than high Machs. Observation of the data indicates that low Machs in neither the experimental nor control group significantly outscored high Machs during any of the three 5-game sequences (C1, C2, and C3) which were statistically analyzed. Thus, the first
hypothesis was unsupported resulting in an inability to adequately test the second hypothesis. A similar non-significant relationship obtains with regard to high Mach scoring trends—high Machs in neither the control nor experimental group ever showed evidence of manipulation by gaining significantly more points than low Machs. In other words, no significant difference in point scores were noted for either high or low Machs throughout any of the five-game sequences over both experimental and control conditions. A number of reasons for the non-significant outcome are possible:

1. It may be that Machiavellianism, as measured in this study, is not a useful construct to describe interpersonal behavior. Perhaps no real differences between subjects scoring high and those scoring low on the Mach V Scale were manifested in the Con Game. On the other hand, it may be that the Mach V Scale is not a useful instrument for predicting any behavioral differences in Machiavellian orientation if any, in fact, do exist.

2. The range of Mach V scores for the subjects was quite narrow (all were objectively within what has generally been described as the Middle Mach scoring range). It may be that the trait of Machiavellianism is observable behaviorally only in those subjects whose scores on the Mach Scales
are more extreme. In effect, then, it may be that, due to lack of variability among subjects, the hypotheses presented above were not given an adequate test.

3. There was some indication that the number of games played during each session (fifteen) was too many, resulting in a number of the players becoming bored and losing interest. It was observed that some players tended to become restless, fidgeting and looking at their watches, later in the evening. Comments by players support this hypothesis: "You get to a point after awhile when you don't care" (a high Mach during game #13); "Everybody's doing them three at a time" (referring to forming a coalition of all three players) "so we can go home" (low Mach during game #13). Similarly, the subjects were asked to fill out questionnaires following the session and were asked to make comments concerning the game. Two middle Machs stated: "I didn't care for fifteen consecutive games--too boring," and "The first couple of games I felt a need to win, but it tapered off fast." The comment of one high Mach is as follows: "Near the end I kind of lost interest and didn't really care how many points I got." It may be, then, that a lack of motivation on the part of the subjects had a
direct influence on the outcome of the experiment. For example, high Machs may not have taken control of the game (i.e., won more points than low Machs) in the latter stages due to factors of boredom and fatigue because of the number of games played.

4. Another issue related to motivation is the possibility that the stakes in the game were not high enough to give subjects a real incentive to win. All of those participating were students in an introductory psychology course who were required to participate in research studies to earn experimental credit. Although subjects were given credit for participation, an attempt was made to increase incentive by offering one extra credit hour each evening to the subject scoring the most points overall. In fact, however, it appeared from observation that this incentive was not particularly effective. A number of subjects laughed or made gestures when the extra credit hour was mentioned to indicate that they were not impressed. Similarly, it was learned that, with the credit hours given for participation in the experiment, many subjects had fulfilled their requirement and did not need the extra credit hour offered as incentive. One subject commented thus: "If you had
money alongside, it would probably last a little longer, you could get more involved." Here, then, is another issue of motivation which may have influenced the outcome of the experiment. It may be that the subjects did not perceive the stakes as being high enough to warrant making a strenuous effort to win.

5. The three experimental sessions were conducted quite late in the school quarter, so that for many subjects final exams were only two to three weeks away. It was observed that a number of the students discussed term papers that were coming due, end of quarter exams, etc. prior to the onset of the games and at breaks between games. It may be, then, that an extraneous variable was introduced unintentionally since experimental subjects may have been more preoccupied and concerned with school work than control subjects, who were run earlier in the quarter. Thus, subjects in the experimental condition may have been less attentive to and interested in their participation in the Con Game. Support for this hypothesis can be obtained from the ratings of subject enthusiasm made by the three experimental assistants throughout the games (see Table 6, p. 36). While "high"
enthusiasm ratings were approximately equal for control and experimental group conditions, seventy-five ratings of "low" enthusiasm were made for subjects in the experimental group in contrast to thirty-three "low" enthusiasm ratings for control group subjects. Similarly, it was noted that while giving counter-Machiavellian instructions to one group of experimental low Machs, the subjects showed great inattentiveness. Little eye contact was made with the experimenter and one subject continued to clip her fingernails during administration of the directions. Although the experimenter raised her voice and clearly emphasized instructions in an attempt to elicit the subjects' attention, no effect was perceived and the experimenter was left with the impression that the counter-Machiavellian instructions had made little impact on these particular subjects. Thus, it may be that an attentional factor was operating particularly during the three experimental sessions which served to influence the negative outcome of the experiment.

Although the overall results of this experiment do not support the hypotheses made prior to the study, post hoc statistical analysis of several factors indicates that some
interesting effects did result from the experimental manipulation. The subjects in the experimental group rejected significantly more proposals (p < .01) than the control group. Similarly, a greater number of proposals (p < .06) were made to high and low Machs in the experimental group over the control group. Since no significant differences (p = .13) were found in the number of proposals made by high and low Machs in the experimental group (recall that middle scores were not analyzed), it follows that the middle Machs were responsible for the increased number of proposals in the experimental group such that a greater number of proposals might be made to highs and lows in this group over the control group. Observation of the data reveals that middle Machs made 69 proposals in the control group and 103 in the experimental group.

The rationale for the increased number of proposals made by middle Machs appears to be that high and low Machs in the experimental group formed more coalitions with each other (sixty-five in the experimental group, forty-five in the control group) so that middle Machs, who were now being left out of coalitions, were forced to expend more effort to become a partner in a coalition and maintain that partnership. Thus, middle Machs proposed more coalitions to both high and low Machs in an attempt to break up existing high Mach—low Mach coalitions and become a member of another. It appears, however, that not only were high and low Machs forming more coalitions among themselves in the experimental condition,
but they were also more resistant to having those coalitions broken up by a middle Mach, thus accounting for the significantly greater number of proposals rejected in the experimental condition—higns and lows rejected thirty-five middle Mach proposals in the experimental group in contrast to twenty-one rejections in the control group. It appears, then, that highs and lows in the experimental group tended to be more involved with each other and were more impervious to the influence of the middle Machs than those in the control group. As a result of the increased number of proposals by middle Machs and the greater number of coalitions between high and low Machs, a significantly greater number of proposals were rejected in the experimental group as compared with the control group.

The greater number of coalitions between high and low Machs appears to be related to the experimental manipulation. It may be that following the administration of counter-Machiavellian instructions, the low Machs maintained a more confident and assertive manner throughout the games, thus receiving more notice by the high Machs who then sought them for partners more frequently.

Further support for the hypothesis that low Machs in the experimental condition maintained a more aggressive and confident manner comes from the fact that low Machs in the control group broke more proposals at an inopportune time than high Machs, while, in the experimental group, high Machs made the
same error more frequently (p < .07). In the control group, low Machs, who may have been less confident, made five errors in judgment when breaking coalitions in contrast to only two similar errors by high Machs. Observation of data from the experimental group, however, indicates that low Machs in this group made only two errors in breaking coalitions, giving support to the hypothesis that they were more calm and confident (rational) in the game-playing situation. Furthermore, it should be noted that high Machs in the experimental condition broke five coalitions at the wrong time in contrast to two in the control group. It may be that the more confident and assertive manner of the low Machs in the experimental condition reduced the ability of high Machs to control the situation, resulting in a greater number of errors in judgment.

Thus, although the experimental subjects were not able to show significant differences in point accumulation in the games, a definite effect of the experimental manipulation was demonstrated.

Further research is called for in this area. The present study should be replicated utilizing subjects who obtain more extreme scores on the Mach V Scale, in order to more adequately evaluate the hypotheses proposed in this study. Similarly, replication with emphasis on motivation of subjects to win should be undertaken. In this regard, limiting the number of games per session to nine or even twelve would be worthwhile,
as would the use of a more appealing reward (e.g., money) for winning. An attempt should also be made to assess the validity of the hypothesis that low Machs in the experimental group, subsequent to receiving counter-Machiavellian instructions, do, in fact, present a more confident and assertive manner, thus leading to greater involvement with high Machs during the games. Trained observers might be utilized to rate level of assertiveness of players. Other techniques might be self-report of low Machs as well as the report of high Machs regarding level of assertiveness of the lows and their own reaction to the low Machs' behavior. Another issue of interest is that concerning the extent to which subjects must score in the extreme ranges of the Mach scales in order to behaviorally manifest Machiavellian traits. Perhaps replication of this and other studies using Machiavellianism as the variable of interest might be undertaken using subjects with progressively more extreme scores in order to determine more adequately the limits of this trait both for practical and experimental purposes.
CHAPTER VI

SUMMARY

The purpose of this investigation was twofold: (1) to substantiate previous research findings that the effectiveness of the manipulative behavior of high Machiavellians can be reduced by instructions to low Machiavellians; and (2) to determine if this reduction holds over time or whether high Machiavellians are able to recover and once more become successful manipulators.

Fifty-four female subjects, eighteen each of high, middle, and low Mach orientation, were chosen from those administered Christie's Mach V Scale. During each of six sessions (three control and three experimental sessions) nine subjects (three each of high, middle and low Machiavellians) played the Con Game in an effort to win points. In the control condition, subjects were given the original instructions for the game and allowed to proceed. Counter-Machiavellian instructions were administered to the low Machs in the experimental group before play began.

Three major hypotheses regarding experimental outcome were developed:

1. low Machs in the experimental group who received
counter-Machiavellian instructions would initially score more points in the Con Game than high Machs;
2. low Machs would sustain this initial advantage;
3. high Machs would not regain control of the game over time.

Analysis of variance of the data indicated, however, that these hypotheses were not supported overall by the experimental results. In fact, no significant differences in point accumulation were noted for high or low Machs throughout the three five-game sequences in either the experimental or control condition. It was noted, however, that high and low Machs in the experimental condition did reject significantly more proposals than those in the control group. Similarly, more proposals were made to high and low Machs in the experimental group over the control group and, finally, it was noted that low Machs in the control group broke more coalitions at an inopportune time while, in the experimental group, high Machs made the same error more frequently. Thus, it appears that although no significant differences in point accumulation were noted, a significant effect of the experimental manipulation was demonstrated.

Future research in this area might be aimed at replication of this study utilizing: 1) subjects with more extreme scores on the Mach V Scales, and 2) more appealing incentives to win. Similarly, research designed to investigate the overall parameters of the trait of Machiavellianism is encouraged.
REFERENCES
REFERENCES


APPENDICES
Mach IV

Directions

Print your name clearly on your answer sheet.

Mark your answers to the following items on your answer sheet, not in the question booklet. If you want to change an answer, erase the incorrect mark as thoroughly as possible. Be sure that you have marked only one alternative for each item.

Listed below are a number of statements. Each represents a commonly held opinion and there are no right or wrong answers. You will probably disagree with some items and agree with others. We are interested in the extent to which you agree or disagree with such matters of opinion.

Read each statement carefully. Then indicate the extent to which you agree or disagree by blacking out the corresponding alternative on your answer sheet. The number alternatives and their meanings are:

- If you disagree strongly: Mark 1
- If you disagree somewhat: Mark 2
- If you disagree slightly: Mark 3
- No opinion: Mark 4
- If you agree slightly: Mark 5
- If you agree somewhat: Mark 6
- If you agree strongly: Mark 7

First impressions are usually best in such matters. Read each statement, decide if you agree or disagree and the strength of your opinion, and then mark the appropriate alternative on the answer sheet. Read the items carefully, but work as rapidly as you can. Give your opinion on every statement.

If you find that the numbers to be used in answering do not adequately indicate your own opinion, use the one which is closest to the way you feel.

1. Never tell anyone the real reason you did something unless it is useful to do so.
2. The best way to handle people is to tell them what they want to hear.
3. One should take action only when sure it is morally right.
4. Honesty is the best policy in all cases.
5. It is safest to assume that all people have a vicious streak and it will come out when they are given a chance.
6. Most people are basically good and kind.
7. There is no excuse for lying to someone else.
8. Generally speaking, men won't work hard unless they're forced to do so.
9. All in all, it is better to be humble and honest than to be important and dishonest.
10. 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 carry more weight.
11. Most people who get ahead in the world lead clean, moral lives.
12. Anyone who completely trusts anyone else is asking for trouble.
13. The biggest difference between most criminals and other people is that the criminals are stupid enough to get caught.
14. Most men are brave.
15. It is wise to flatter important people.
16. It is possible to be good in all respects.
17. Barnum was wrong when he said that there's a sucker born every minute.
18. It is hard to get ahead without cutting corners here and there.
19. People suffering from incurable diseases should have the choice of being put painlessly to death.
20. Most men forget more easily the death of their father than the loss of their property.

CHECK YOUR ANSWER SHEET TO BE SURE YOU HAVE ANSWERED EVERY ITEM.
Directions

Mark your answers to the following items on your answer sheet, not in the question booklet. If you need to change an answer, erase the incorrect mark as thoroughly as possible. Be sure that you have marked two alternatives for each item.

Below are twenty groups of statements. Each group contains three statements. Each one refers to a way of thinking about people or things in general. They reflect opinions and not matters of fact, and different people have been found to agree with different ones.

Read the three statements in each group. Decide first which of the three, A, B, or C, is most true or comes the closest to describing your own beliefs. Mark a + on the answer sheet next to the letter that represents this statement. Then decide which of the remaining two statements is most false or the farthest from your own beliefs. Write a 0 on the answer sheet next to this letter.

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 most strongly (or reject least strongly), and A and C would be less characteristic of your opinion. Statement C would be the one you believe least strongly of the three. On your answer sheet you would mark a + next to B and a 0 next to C.

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. Do not omit any groups of statements.

21. A. It takes more imagination to be a successful criminal than a successful businessman.
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.
22. 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.

23. 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.

24. 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.

25. 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.

26. 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.

27. 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 giv­
ing reasons which might carry more weight.
C. A person's job is the best single guide as to the sort of
person he is.

28. 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.
29. 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.

30. 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.

31. 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.

32. 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.

33. 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.

34. 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.

35. 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.

36. 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.
37. 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.

38. 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.

39. 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.

40. 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.

CHECK YOUR ANSWER SHEET TO BE SURE YOU HAVE ANSWERED EVERY ITEM.
GAME INSTRUCTIONS

The game consists, essentially, of a race from START to FINISH. At his turn, each player tosses the dice, and moves his marker toward FINISH the number of spaces equal to the product of the higher of the two die faces and whichever of his power coefficients he chooses. The player or coalition unit to reach FINISH first receives the prize of 100 points for that game.

1. The experimenter in charge of your table will assign each player a set of power coefficients for the game. One of these coefficients must be played at each turn, and then cannot be used again in that game.

2. After the power coefficients have been assigned, players may bargain for coalitions to improve their chances in the game. Coalitions may be formed between any two or all three competitors at a table. Coalition partners play as a single unit with power at each turn equal to the sum of all individual coefficients played at that turn. For example, in a coalition of A and B, if A plays a coefficient of 2, and B plays one of 8, their coalition would have the power of 10 for that turn, and they would multiply the result of the dice toss by 10 to determine their move for that turn.

A coalition agreement is entered by consent of the players involved and must include an agreement as to how they will divide the prize of 100 points between them in the event their coalition wins the game.

Coalitions can be formed at any time before the end of the game. Coalitions formed after play has begun start midway between the positions of the partners.

Coalitions can be broken at any time before the end of the game. A two-man coalition is automatically broken if either member accepts a coalition offer from the third player, or if either member makes a coalition offer to the third player and he accepts it.

3. Each player or coalition unit tosses the dice to determine order of play. The higher player goes first.

4. In turn, each player tosses the dice, plays one of his power coefficients, and moves his marker toward FINISH the number of spaces equal to the product of the higher die face and his power at that turn. In coalition units, only one member tosses the dice for the coalition, each member plays a power coefficient, and all members move a number of spaces equal to the product of the higher die face and the sum of all coefficients played at that turn.

Note that since your power coefficients are used to multiply your die values, you will do better if you use one of your
lower coefficients when you have a low die value, and save your higher coefficients for your higher die values: e.g., \((1 \times 1) + (5 \times 5)\) is greater than \((1 \times 5) + (5 \times 1)\).

5. The player or coalition unit to reach FINISH first receives the 100 point prize, and the game is over.

6. Any player may concede at any time. In this event the other two players continue the game.

7. All players record their score at the end of the game (whether they have won any points in that game or not).

8. The enforcement of these rules is the responsibility of the players, not the experimenter. However, the experimenter may intervene if she chooses, and will arbitrate if the players cannot agree among themselves.

9. The experimenter may, at any time, announce a time limit for the completion of a game. If a time limit expires before the game is completed, the prize is forfeited and all players receive a zero for that game.

10. The experimenter in charge of each table will make notes on the bargaining that occurs during the game. To make this easier for us, please state your coalition offers in terms of the number of prize points you are offering your prospective partner.

Remember, the objective results of your decisions will be evaluated by the number of points you succeed in winning in each individual game, and over the entire tournament. The player with the highest grand total wins the tournament.
APPENDIX D
COUNTER-MACHIAVELLIAN INSTRUCTIONS

The object of this game is, of course, to win as many points as possible. Your best chance of winning occurs if you are willing to form coalitions, but are just as willing to break them if it is to your advantage.

In other words, the people who do best at this game are willing to go back on agreements, even if that seems dishonest, and even if it may upset your partner or make him angry at you. To win at this game, you must put your feelings aside, and really take a cool, unemotional look at what will be most to your advantage. We have a name for people who can do this. We call them "gamesmen." There is a "gamesman" sitting in on every one of these games. The gamesman doesn't seem any different than anyone else, is not any more intelligent or expert than you, but the gamesman usually wins because he (1) stays calm and emotionally uninvolved, and (2) he isn't a bit afraid to lie or break an agreement.

You, on the other hand, seem not to be a "gamesman." Your test scores indicate that you do care if you break an agreement, and that you do get very emotionally involved in the game. You worry about the impression you make on the other players, and that makes it easier for them to take advantage of you.

In the games that you are about to play, I want you to really try to win, no matter what. Watch out for the "gamesman:" he'll try to trick you or take advantage of you. Try to give him a dose of his own medicine; look out for your own best interests and really look out for yourself.

Any questions?
Protocol Sheet for Scoring Con Game

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Point Totals*

*Remember to note how involved each player seemed during the game (H, M, L).

Record the following:

1. (P) Proposal to form a coalition. If a specific point split is suggested, the number of points the initiator is offering the recipient is recorded.
2. (#) Acceptance of a coalition proposal.
3. (n) Rejection of a coalition proposal.
4. (///) Breaking an existing coalition.
APPENDIX F
POST GAME QUESTIONNAIRE

Please answer all of the following questions by circling the response which most indicates how you feel.

1. How much did you enjoy playing these games?
   a. Very much
   b. Somewhat
   c. Slightly
   d. Not at all

2. How hard did you try to win in these games?
   a. Very hard
   b. Somewhat
   c. Slightly
   d. Not at all

3. How important was it for you to win?
   a. Very important
   b. Somewhat
   c. Slightly
   d. Not important at all

4. Was it important to you to cooperate with the experimenter while playing these games.
   a. Very much
   b. Somewhat
   c. Slightly
   d. Not at all

Please feel free to write any comments you may have here:
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Analysis of Variance of Mach V Scale Scores
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Analysis of Variance for the Number of Proposals Made by Each Subject
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Analysis of Variance for the Number of Proposals Broken by Each Subject That Were Beneficial
APPENDIX K
Analysis of Variance of Responses to Questions on the Post-Game Questionnaire.

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ANOVA Summary Table - Question #1

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<th>Mean Squares</th>
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</thead>
<tbody>
<tr>
<td>A</td>
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<td>0.444444</td>
<td>1.306</td>
</tr>
<tr>
<td>B</td>
<td>0.111111</td>
<td>1</td>
<td>0.111111</td>
<td>0.327</td>
</tr>
<tr>
<td>A x B</td>
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<tr>
<td>S (A x B)</td>
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ANOVA Summary Table - Question #2

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<td>0.694444</td>
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</tr>
<tr>
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<td>0.69444</td>
<td>0.893</td>
</tr>
<tr>
<td>A x B</td>
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ANOVA Summary Table - Question #3
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<tr>
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ANOVA Summary Table - Question #4