

NONVERBAL EXPRESSIVENESS AND MACHIAVELLIANISM IN A
MIXED-MOTIVE CONFLICT SITUATION

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Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
DOCTOR OF PHILOSOPHY
December, 1982

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ACKNOWLEDGMENTS

I wish to thank my committee, Bob Helm, Larry Hochhaus, John Mowen, and James Price for their time and assistance in this endeavor. My chairman, Bob Helm deserves special recognition for the help and latitude he has given me in the years we have worked together.

This research would have never been completed without the untiring data collection by three research assistants, Cheryl Caldwell, Dan Dauderman, and Jonice Webb. Your assistance will always be remembered.

Finally, I would like to thank my parents and family for their support and understanding in the many years I have been in school. My friends, especially John Pinto, Joe Brown and Tom Taylor, were always there to listen and give me the needed push to reach this goal. Lastly, Renee Gann has been my biggest supporter and friend, and without her patience and love I could never have finished this project.

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CHAPTER I

INTRODUCTION

While social psychologists and others have exerted considerable effort in understanding the dynamics of cooperative, competitive, and mixed-motive games (e.g., the PDG: prisoner's dilemma game) as models of social interaction, relatively little attention has been given to the nonverbal behaviors of these situations. Research that has been conducted has concentrated on such nonverbal behaviors as duration of eye contact (Exline, 1963), the proxemic effects on subsequent behavior (Gardin, Kaplan, Firestone, & Cowan, 1973), or the effects of the presence or isolation of the other interactant (Wichman, 1970). Conflict studies in which subjects speak into a strange apparatus, pass "canned notes", or write notes and talk to each other before making a decision, have all been treated together under the common label "communication", while the many important nonverbal forms of communication have been largely ignored (Wichman, 1970). Rubin and Brown (1975) reflect the prevalent view in the literature that nonverbal communication has an important role in bargaining and negotiation, but their summary of relevant research, points

basically to a lack of information on the subject of how nonverbal communication affects bargaining and negotiation.

Nonverbal expressiveness is not entirely a new field. Darwin (1872) wrote about the expressiveness of emotion in man and animals long before the term nonverbal behavior was popularized. Recent interest in nonverbal expressiveness seems to include a belief that some nonverbal behaviors may not be totally under voluntary control and may thus serve as a vector to true inner feelings and beliefs.

Hayes, Meltzer, and Bouma (1968) have suggested that some interpersonal dimensions may be controlled by a particular communication mode. An extension of this idea would suggest that people may communicate some messages essential to interpersonal rapport only (or at least primarily) by nonverbal means. The transmission of emotional meaning, for example, which plays a large part in social control is often carried out nonverbally by such expressions as frowns and smiles. Current studies show that much information about a person's affective state, the cooperative and competitive nature of social interactions, and interpersonal intimacy can be communicated accurately in nonverbal expressive behaviors (e.g., Ekman & Friesen, 1975; Hall, 1966).

Goffman (1959) has compared social interaction to a theatrical performance with verbal and nonverbal "lines" which we manage to keep appropriate to the current situation. Individuals do try to influence and control the

images that others form of them during social interaction. Impression management through the use of "lines" seems to be a fact of social life, and this is particularly true in bargaining and conflict situations. However, studies have shown distinct and important differences in the extent to which people can and do control and manage their self-presentation, expressive behaviors, and nonverbal displays of affect (Snyder, 1979).

Interpersonal Orientation

Rubin and Brown (1975) in a review of individual differences in bargaining behavior, suggest that the bargaining world can be divided into two basic types of people on a dimension they call Interpersonal Orientation or IO. Along this dimension, bargainers view and react very differently. A bargainer who is high on the Interpersonal Orientation continuum (high IO) is thought to be responsive to the interpersonal aspects of a relationship with others. There is concern and reaction to variation in the other person's behavior. The high IO person seeks information about the other person and usually will attribute changes in behavior to the person's personality rather than to situational attributions. The observant bargainer is also likely to draw upon nonverbal cues from the actor (other person) and to be particularly sensitive to the actor's manner (Thomas & Pondy, 1977).

The other end of the interpersonal orientation continuum is the low IO person. This person is nonresponsive to interpersonal aspects of a relationship with the other person. The low IO person is neither interested in cooperating or competing with the other but only in maximizing personal gain. The low IO individual basically treats the other as a nonperson, a machine who is expected to reason and behave much like the low IO person. Changes in the other's behavior is attributed to situational factors, rather than to the other person's personality.

On a separate dimension, an individual may be competitively or cooperatively predisposed. The high IO person who is cooperatively inclined enters the bargaining relationship with a posture of trust, expecting his/her cooperative gestures to be reciprocated. The high IO person who is competitively inclined enters the bargaining arena with an eye on taking advantage of the other person. There is suspicion, a view of the other person as untrustworthy. The high IO competitively oriented person expects the other person to also be competitive, and a cooperative other is viewed as being a sucker or a fool.

In a review of individual difference variables, Rubin and Brown (1975) characterized a number of these variables in relation to Interpersonal Orientation. In the study of individual differences in conflict and bargaining, nonverbal expressiveness has not been examined in relation to

interpersonal orientation. The study of individual differences in nonverbal expressiveness has generally employed a group of observers to serve as judges. If the judges are able to recognize the emotion, the subject was said to be a good sender. This method is extremely costly in terms of equipment and subject time. Sender ability can also vary as a function of the judges used. Recently, there have been several attempts to develop paper-and-pencil self-report measures of nonverbal expressiveness (e.g., the Self-Monitoring Scale by Snyder, 1974). Such methods could and have been used in a number of studies involving nonverbal communication.

Friedman, Prince, Riggio, and DiMatteo (1980) have developed a self-report measure called the Affective Communication Test (ACT) which purports to measure nonverbal expressiveness. Nonverbal expressiveness, as measured by the ACT, might be viewed as an aspect of the Interpersonal Orientation dimension. More specifically, the highly expressive person should be more like the high IO person than the low IO person. However, expressiveness by itself can not determine whether the person will be cooperatively or competitively oriented. Machiavellianism has been found to be negatively related to cooperativeness.

Machiavellianism is an interpersonal orientation associated with skills in the kind of social influence known as "conning" or manipulating others in certain situations.

The Machiavellianism Scale, developed by Christie and Geis (1970a), is a measure of this orientation. Machiavellianism will be used to represent a personality characteristic along the common cooperative-competitive dimensional continuum. A person's level of nonverbal expressiveness will be used to represent an aspect of the interpersonal orientation continuum. Thus, by relating cooperative behavior in the PDG to the relationship between nonverbal expressiveness and Machiavellianism, a two-dimensional view of individual differences in "bargaining" behavior can be tested. While there are other two-dimensional models for describing conflict behaviors (e.g., Thomas, 1976; Hall, 1969), none of these models include any nonverbal considerations. The major purpose of this study is to test this dimensional concept with nonverbal expressiveness representing one of the possible dimensions. Further research on the ACT and Machiavellianism is described in more detail later.

CHAPTER II

LITERATURE REVIEW

Rubin and Brown (1975, p. 2) define bargaining as "the process whereby two or more parties attempt to settle what each shall give and take, or perform and receive, in a transaction between them." Rubin and Brown (1975) further delineate structural and social psychological characteristics of bargaining relationships. These include:

- a. At least two parties are involved.
- b. The parties have a conflict of interest with respect to one or more different issues.
- c. Regardless of the existence of prior experiences or acquaintance with one another, the parties are at least temporarily joined together in a special kind of voluntary relationship.
- d. Activity in the relationship concerns: (a) the division or exchange of one or more specific resources and/or (b) the resolution of one of more intangible issues among the parties or among those whom they represent.
- e. The activity usually involves the presentation of demands or proposals by one party, evaluation of these by the other, followed by concessions and counterproposals. The activity is thus sequential rather than simultaneous (p. 18).

The method chosen to study conflict and bargaining with non-verbal behaviors should contain these prominent characteristics of the bargaining relationship.

The Prisoner's Dilemma Game

The Prisoner's Dilemma Game (PDG), attributed to a mathematician, A.W. Tucker (Luce & Raiffa, 1957), is a two-person situation in which each player must abandon the possibility of maximizing his/her short-term profit to enjoy the greatest long-term profit. Thus, the PDG represents a mixed-motive situation, in which there are incentives both to cooperate and to compete. In the PDG, players make repeated choices between alternatives which have been labeled "cooperativeness" and "defection" (Rapoport & Chamma, 1965). The two responses are assumed to represent the motives of cooperation and competition. Because the PDG paradigm represents these motives so classically, extensive research in the area of conflict and negotiation has employed it as a model. Appendix A shows the PDG model to be used in this study.

An analysis of the extent to which the PDG satisfies each of the characteristics of a true bargaining relationship (Rubin & Brown, 1975), shows that all of the characteristics except for (c) (which is partially satisfied) are satisfied. In a true bargaining situation, each party must be able to choose when to enter, and how long to remain in the relationship. While this is not true for the PDG, it should not adversely affect the results of this exploratory study.

The PDG model to be used in this study will allow players to send and receive message choices prior to their actual choices. This has the added advantage of allowing for the study of deceptive communication at the same time that conflict is studied. Each message event in this PDG model represents a pure case of truth or lying on the part of a player. This serves the secondary purpose of this study, to investigate the effects of deception on further interactions and to study the relationship of deception to nonverbal expressiveness.

Researchers in the area of conflict and negotiations have varied a number of experimental variables using the PDG model including: the number of trials, the structure of the payoff matrix, the presence of a real other player, and many others (Lave, 1965). These experiments have shown that the PDG is an extremely delicate situation in which apparently subtle changes in conditions give rise to wide differences in the amount of cooperation found. This review of the literature will deal with variables that concern nonverbal conditions related to conflict and cooperation using the PDG model as well as other models of bargaining.

Availability of Communication

In a social interaction, communication is not restricted to only verbal information. Extensive research has shown that nonverbal communication plays a major role in

influencing social interactions (Duncan, 1969). Several social psychologists have studied the effects of verbal and nonverbal communication in a bargaining situation. Wichman (1970) investigated the effects of the extent to which subjects may see or hear one another while engaged in a bargaining task. Wichman (1970) had pairs of subjects play the PDG with either no communication, audio-only, vision-only, or audio-vision. Subjects were allowed to communicate anything they wished given the various constraints of each experimental condition. Results showed significantly more cooperation in the audio-vision condition (87%), with lower cooperation for audio-only (72%), vision-only (48%), and no communication (41%) conditions. Wichman concluded that the high degree of competitiveness typically found in the PDG studies may largely be mediated by the isolation imposed on the players. Similarly, LaPlante (1971) investigated the effects of communication mediums with the type of message sent, using a PDG model in which only one of the pair was a subject, the other being a confederate. At certain points in the game, the confederate sent a standardized friendly or unfriendly message in written form, by audio-only, by audio-video, or face-to-face. There was significantly less cooperation by subjects in the audio-only unfriendly message condition, as compared with the other seven conditions. The subjects' rating results also showed a significant medium effect.

These results suggest that the "richer" mediums, such as face-to-face, emphasize the affective content of the messages more than other mediums, such as the audio-only or the written notes.

In an experiment on conflict and negotiations with an alliance, Vitz and Kite (1970) varied physical facilities which regulate the kind and degree of nonverbal information available between bargainers. Subjects played a mixed-motive game called "crisis" either face-to-face, by telephone, or by sending typewritten messages. In contrast to findings of Wichman (1970) and LaPlante (1971), players reported almost no difficulty in negotiating over the telephone. The absence of visual information was apparently unimportant. Vitz and Kite (1970) concluded that lack of difference may have been caused by the informal procedures and especially the fact that both subjects met each other and interacted during the period when the game was explained and their role as players were set up.

The present study will also investigate the effects of seeing one another while interacting in a PDG situation. It is expected that players that can see each other will exhibit more cooperative behavior. Wiley (1973, p. 537), however, states that "nonverbal cues available during a game situation of short length are not relevant where subjects have seen each other before the game." Therefore, subjects in this study will not be allowed to see each other before the game begins.

Physical Arrangement

The physical seating arrangement of a bargaining situation, while seemingly trivial, has been approached with great seriousness in many important international negotiations. An example is the heated, time-consuming debate over the size of the negotiation table and the seating arrangements of the participants that preceded the Paris peace talks on the Vietnamese war.

Sommer (1969) asked people to draw preferred seating arrangements for various activities using a diagram of rectangular tables. A majority preferred side-by-side to across-table seating for a hypothetical cooperative task, while a large plurality preferred across-table to side-by-side seating for a hypothetical competitive task. Sommer suggests that the preference for opposite seating typically found in competitive relationships probably reflects a desire to obtain information about one's competitor, rather than a desire to establish a friendly interpersonal relationship with the person.

Gardin, Kaplan, Firestone, and Cowan (1973) investigated the effects of seating arrangement and the availability of eye contact on cooperation in a PDG situation. Their results showed more positive cooperation tended to be correlated with side-by-side seating when eye contact is blocked. However, when eye contact is available, more cooperation was found with the across-table seating arrangement.

Eye Contact and Gazing

Research has shown that eye contact may serve a number of functions in a social interaction. Argyle and Dean (1965) postulated that eye contact serves the following functions: (1) information seeking, (2) signaling when the channel is open, (3) concealment and exhibitionism, and (4) establishment and recognition of social relationship. Kleinke and Pohlen (1971) define "gaze" as the process of one person focusing his eyes on another, the latter not reciprocating. When two people are involved in simultaneous gaze, the condition is called "eye contact", or mutual gaze.

Ellsworth and Carlsmith (1968) found an interaction between eye contact and the favorableness of the message. Subjects were interviewed by an interviewer instructed to give positive or negative messages while making eye contact or not looking (gazing at the subject's ear). When the verbal content was positive, the gazing interviewer was rated more favorably. In contrast, gazing increased subjects' negative evaluations of the interviewer when verbal content was negative. Exline (1963) induced a cooperative or competitive orientation into three person discussion groups, and found that the duration of eye contact decreased in the competitive condition for high affiliators but increased for low affiliators. These two studies suggest that while eye contact may affect interpersonal relations, what the person is saying and their social needs are also important.

Kleinke and Pohlen (1971) investigated the relationship between gazing and attitudes of liking and attraction. They had subjects play the PDG against a confederate opponent who emitted a constant gaze or no gaze and played with a strategy of either 100% cooperation, 90% cooperation or 100% competition. They found that the confederates' cooperation but not their gaze affected ratings of liking. However, these results do not generalize to many situations because the confederate gazed constantly or not at all. There are very few examples of this type of interaction in the real world. In a better study, Foddy (1978) videotaped naive subjects playing a bargaining game called the "minimum necessary share game". She found that the average length of gaze and mutual gazing (eye contact) was greater for cooperators, while the frequency of gaze and eye contact were the same for both cooperation and competition. Foddy suggests that visual behavior may provide a major means of signaling a particular intention. A cooperative gaze pattern may be used to make advances to the other player without initial commitment. Refusal to engage in eye contact may indicate a desire to enter into competition.

Self-Monitoring Scale

Snyder (1974) proposed a social psychological construct of self-monitoring of expressive behavior. Snyder advanced the idea that people differ in the extent to which they

monitor their behavior according to situational cues of social appropriateness. To measure these differences, the Self-Monitoring Scale was developed (Snyder, 1974). The self-monitoring scale is a set of 25 true-false, self-report statements designed to discriminate between high and low self-monitors. The prototypic high self-monitor is one who: (1) is concerned with the social appropriateness of self-presentation, (2) is attentive to social-comparison information as cues to situation-appropriate, expressive self-presentation, (3) has the ability to control and modify self-presentation, (4) can use this ability in particular situations, and (5) shows cross-situational variability in behavior.

The popularity of the self-monitoring scale is evident in the volumes of research that have employed its use. In the area of nonverbal expressiveness, several studies have investigated its relationship to encoding and decoding. Snyder (1974) reported that high self-monitors were more accurate senders of posed facial expressions and vocal cues than were low self-monitors. Krauss, Geller, and Olson (1976) reported that high self-monitors were more able to fake expressions of honesty while delivering a deceptive message. While Geizer, Rarick, and Soldow (1977) found that high self-monitors were more accurate in judging or decoding deception than low self-monitors, several other studies have found little relationship between self-monitoring and

nonverbal decoding skills (Zuckerman, Hall, DeFrank, & Rosenthal, 1976; Cunningham, 1977). Rosenthal, Hall, DiMatteo, Rogers, and Archer (1979) found only very low correlations between self-monitoring and decoding in six studies and the median correlation was negative ($r = -.08$).

In a recent study by Danheiser and Granziano (1982), self-monitoring was studied in relation to cooperation. Using a decomposed PDG, they predicted and found that the prospects of future interaction with the other player (confederate) increased cooperation of the high self-monitors, but not the low self-monitors. No relationship was found between self-monitoring and cooperation. In the present study, self-monitoring will again be used as a dependent measure to investigate its relationship to cooperation and competition and also with the Affective Communication Test.

Machiavellianism Scale

Machiavellianism is a personality disposition towards interpersonal control and manipulation for self gain. Christie and Geis (1970a) have attempted to describe and measure this orientation with the use of two Mach scales. A twenty item Likert-type Mach IV Scale has been the predominately used measure of this orientation reported in the literature. The Mach IV scale has been a very popular tool in several areas of social psychology including several studies that have examined the relationship between Machiavellianism and bargaining behavior.

In an experiment by Geis (1965), high, middle, and low scorers on the Mach scale bargained over the division of a number of points with each other in a three-person coalition game. Information as to the relative power status of the players was also varied. The results showed that the high Machs consistently outbargained the low and middle Machs, and this effect was more pronounced when information on the power status was ambiguous. Christie and Geis (1970b), in a replication of this experiment, found the same effect using greater stakes, the division of \$10 instead of points.

Christie, Gergen, and Marlowe (1970) investigated the effect of Machiavellianism using a variant of the PDG in which the players played against a preprogrammed experimental strategy. After playing the first ten trials for points, they played for either a penny or a dollar a point. High and low Machs did not differ in cooperativeness when playing for points, but high Machs were more cooperative than low Machs when the stakes were changed from points to pennies, and even more cooperatively inclined when playing for dollars. High Machs seem to play cooperatively when it is to their advantage.

Machiavellianism has also been shown to be related to success at lying (DePaulo & Rosenthal, 1979; Exline, Thibaut, Hickey, & Gumpert, 1970). Edelstein (1966), in an unpublished study cited in Christie and Geis (1970a), found that High Machiavellians bluffed more frequently and took

greater risks than Low Machiavellians in a two-person game. Exline et al. (1970) found High Machiavellians to be better at "keeping their cool" when accused of cheating. DePaulo and Rosenthal (1979) found that high Machiavellians were fairly successful at lying but not particularly skilled at detecting lies. In an unpublished study by Nickell (1980) in which the detection of lying was investigated, it was found that High Machiavellians perceived fewer lies than Low Machiavellians. Thus, while Machiavellians may tell more lies, and be more successful at lying, they may not expect the same strategy from others.

The Affective Communication Test

The Affective Communication Test (ACT) is a 13 item self-report scale, developed by Friedman, Prince, Riggio, and DiMatteo (1980) which measures individual differences in nonverbal expressiveness or what is know as "charisma." Based on a nine point scale, the maximum score is 117 with a minimum of 13. The article by Friedman et al. (1980) contains four main areas of research on the ACT. First, pilot studies and reliablity studies were conducted. Second, the relationship between nonverbal expressiveness and aspects of interpersonal relations were investigated. Third, the ties between nonverbal expressiveness and other personality approaches were examined. Finally, the links between nonverbal expressiveness and nonverbal communication skills were studied.

Reliability estimates based on two test-retest samples were found to be relatively high ($\underline{r} = .90$ and $\underline{r} = .91$), as well as internally consistent ($\underline{r} = .77$). Friedman et al. (1980) found there to be a significant relationship between the ACT scores and the ratings by friends, $\underline{r} = .39$, $p < .05$, indicating some validity. Friedman et al. (1980) also expected that salespersons would tend to be nonverbally expressive, especially those in face-to-face persuasion. A case study in which the number one Toyota salesman in the United States scored 99 on the ACT suggests that expressiveness is indeed characteristic of salesmanship. Friedman et al. (1980) also believed that expressive people tend to interact with lots of people or have lots of followers. Using family physicians as an example, the ACT was found significantly related to the popularity (patients' visits) of the physicians, $\underline{r} = .52$, $p < .01$, (Friedman et al., 1980). In a study of nonverbal greetings, Riggio, Friedman, and DiMatteo (1981) found the ACT to be significantly related to an overall index of intimacy, $\underline{r} = .40$, $p < .01$.

The relationship between the ACT and several personality variables was studied by Friedman et al. (1980). The ACT was found to be positively related to extraversion and slightly negatively related to neuroticism using the Eysenck Personality Inventory, suggesting that expressiveness is not due to emotional responsivity. The correlation between the ACT and social desirability, which is the tendency to

describe oneself in favorable ways (Crowne & Marlowe, 1964), showed a low correlation, $r = .22$, $p < .06$, suggesting that the ACT does contain a small element of social desirability. Machiavellianism, or the tendency to manipulate or "con" others for selfish reasons, was unrelated to the ACT. The ACT was found related to the internal-external locus of control, $r = -.28$, $p < .05$. Friedman et al. (1980) posit that some people may feel that they want and can control those around them. They also found self-esteem, an individual's judgment of self worth, to be positively related to the ACT, $r = .27$, $p < .05$.

In order to distinguish nonverbal expressiveness from self-monitoring, Friedman et al. (1980) gave the ACT and the self-monitoring scale (Snyder, 1974) to two samples of subjects. The ACT was found only slightly related to self-monitoring in both samples, $r = .14$ and $r = .21$. This is not unexpected because expressiveness refers mainly to communication rather than to monitoring. Because it is uncertain exactly how expressiveness and self-monitoring are related or affect cooperation and competitiveness, both measures will be used in this study.

The relationship between the ACT and nonverbal communication skills is important if the ACT is to be used as a substitute measure of nonverbal ability. The relationship of nonverbal expressiveness and acting ability (posed sending) would be one indication of this question.

Recent research has shown moderate to large correlations between posed sending and spontaneous sending (Cunningham, 1977; Zuckerman et al., 1976). In a study that investigated the relationship between the ACT and posed emotional sending (Friedman et al., 1980), expressiveness as measured by the ACT was demonstrated to be positively related to acting ability, but the effects were small. A large sex difference was also found. For females, a strong correlation emerged between the ACT and acting ability. For males, however, the relationship was zero or even slightly negative. In general, the ACT seems related to but by no means identical with nonverbal sending ability.

In conclusion, nonverbal expressiveness as measured by the ACT is expected to effect the level of cooperation in a conflict game. Subjects who are expressive may be able to use this ability to deceive their opponent in progressive stages of the PDG. This effect is expected only for those players who can see each other during the game. Expressive players are also expected to lie more in the messages they send before making their decision, but again only when the other player is visible. It is possible, however, that expressive persons may use this ability to facilitate cooperation and trust during the game.

Sex Differences

Competition and Cooperation

A large number of studies of competitive game situations have included considerations of sex differences. Rubin and Brown (1975) report that their search of the literature uncovered over 100 studies which dealt with sex differences, although usually as a secondary consideration. They reason that the relative "economy" of the sex variable (e.g., easily varied, college populations tend to be co-ed in composition) can account for the number of studies.

A review of the studies on sex differences yields a series of confusing, often contradictory, findings. A number of studies have found no systematic relationship between gender and the relative frequency with which players behave cooperatively in a two-person game (e.g., Tedeschi, Gahagan, Aranoff, & Steele, 1968; Voissem, & Sistrunk, 1971). A number of other studies report that males bargain more cooperatively than females (e.g., Rapoport & Chammah, 1965; Oskamp, & Pelman, 1965). In direct opposition are an even greater number of studies reporting that females bargain more cooperatively (e.g., Aranoff, & Tedeschi, 1968; Bond, & Vinacke, 1961).

Based on a number of studies, females appear to be more sensitive than males to a number of interpersonal cues in a conflict situation (Rubin & Brown, 1975). Grant and Sermat

(1969) found that females are more influenced than males by the sex of the other player in a PDG. They found that females were more competitive when playing males and more cooperative when they played a female player. Kahn, Hottes, and Davis (1971) found females to be influenced by the attractiveness of the other player, cooperating more often in the presence of an attractive other player. Horai, Lindskold, Gahagan, and Tedeschi (1969) found that when no communication was allowed, men were more cooperative than women, and the reverse was true when players received communication promises from the other player. Wiley (1973) found that with verbal communication allowed, there were no sex differences with same sex players, but when verbal communication was allowed, and the players were of the opposite sex, a high level of cooperativeness was evident. In conclusion, Rubin and Brown (1975) argue that males and females do not differ in their inherent nature to cooperate, but that they are sensitive to different cues. This sensitivity may have a possible effect in this study.

Nonverbal Skills

It appears from the evidence that women have a slight edge over men in several areas of nonverbal communication. Hall (1978) summarized the results of 75 studies that report accuracy for males and females at decoding nonverbal communication. The results showed that more studies show a

female advantage than would be expected by chance. The average effect was of moderate magnitude and was significantly larger than zero. Hall (1979) reviewed previous nonverbal expressive studies and concluded that adult females are also slightly more expressive (in the sense of being communicators of posed emotions) than males.

Hall (1979) reviewed several possible explanations for why females are superior to males in decoding and encoding nonverbal expressions. Females seem to have an advantage in affective responsiveness or empathy (Hoffman, 1977). The empathy hypothesis would mean that women's greater advantage to decode and encode nonverbal cues is due to their greater empathy or emotional responsiveness. Another explanation for gender difference might be gender-role stereotypes, and the nature of masculinity-femininity (Buck, 1977). For example, boys may learn to mask their emotions through the socialization process. English (1972) and others have hypothesized that the superiority of women may be due to an adaptation to an asymmetrical degree of social power and that when they are denied such controls, they become especially alert to the behaviors and moods of others and develop subtle ways of evoking social influence. Rosenthal and DePaulo (1979) have also proposed that women are socialized to be more accommodating toward others. This leads to greater encoding and decoding abilities on the part of the accommodator who wants his or her message to be easy to read.

Research with the ACT is consistent with the research and interpretation cited above; women were found slightly more expressive than males (Friedman et al., 1980). Evidence of sex difference have also been found showing women to be better self-monitors, which is analogous to self-decoding (Snyder, 1974).

Hypotheses

Hypothesis 1: It is expected that a Nonverbal Expressiveness by Machiavellianism by Visual Communication interaction will occur for cooperativeness. No main effect for Nonverbal Expressiveness is expected. However, subjects who are High Nonverbally Expressive, Low Machiavellian, and are able to see the other player are expected to be the most cooperative. Highly Expressive, High Machiavellian subjects when they are able to see the other player are expected to be least cooperative.

Hypothesis 2: High Machiavellians are expected to be more competitive than Low Machiavellians. While there is some evidence that Machiavellians will cooperate when it is to their advantage (Christie, Gergen, and Marlowe, 1970), a number of studies have found that High Machiavellians tend to be more competitive than Low Machiavellians (e.g., Geis, 1965).

Hypothesis 3: It is expected that subjects will be more cooperative when they can see the other player than

when their vision is blocked. Research by Wichman (1970) indicates that the richer mediums, such as face-to-face, increase the level of cooperation in the PDG.

Hypothesis 4: High Machiavellians are expected to win more money (points) than Low Machiavellians. Several studies, (e.g., Christie & Geis, 1970b; Christie, Gergen, and Marlowe, 1970), have found that High Machiavellians consistently outbargain Low and Middle Machiavellians in bargaining games. In fact, High Machiavellians have been found to even cooperate if it is to their advantage in making more money (Christie, Gergen, & Marlowe, 1970).

Hypothesis 5: It expected that Low Machiavellians will perceive more trust between themselves and the other player. This prediction is consistent with several studies including (Christie, Gergen, & Marlowe, 1970) who found that High Machiavellians rated the other player as significantly less trustworthy than did Low Machiavellians.

Hypothesis 6: High Nonverbally Expressive subjects are expected to score higher on the Self-Monitoring scale than Low Nonverbal Expressive subjects. While nonverbal expressiveness and self-monitoring are not equivalent constructs, both are related nonverbal skills. While Friedman et al. (1980) found relatively low correlations between these two measures, their sample size was fairly small and this may have accounted for the lack of a significant relationship in their study.

Hypothesis 7: similar to Hypothesis 1, a Nonverbal Expressiveness by Machiavellianism by Visual Communication interaction is expected for lying. Highly expressive, High Machiavellians, when they can see the other player are predicted to lie the most. Low Expressive, Low Machiavellians will lie least when they are able to see the other player.

Hypothesis 8: High Machiavellians are expected to lie more than Low machiavellians. A number of studies have shown that Machiavellians lie more often and are also more successful at deception. This effect should be even more pronounce when Visual Communication is available, thus a Machiavellianism by Visual Communication interaction is also expected. Exline et al. (1970) found High Machiavellians to be better at "keeping their cool" when accused of cheating and confronted with the task of lying in a face-to-face situation.

Hypothesis 9: A Nonverbal Expressiveness by Visual Communication interaction is predicted for deception. High Nonverbally Expressive players are expected to lie more when the other player is visible. Expressive ability should have no effect on the frequency of deception when the other player is not visible.

CHAPTER III

METHOD

Subjects

Eighty female subjects participated in this study, with 40 serving as Player-confederates. All subjects were recruited from introductory psychology classes, and received extra credit toward their grades. Subjects were also payed a small amount of money dependent on their play in the experimental game.

Design

The experimental design was a 2 X 2 X 2 three factor mixed design with repeated measures on the last factor. The classification variables were nonverbal expressiveness of the player and Machiavellianism of the player. A third variable, visual communication, was manipulated as a within-subject factor. These variables will be described in detail below. Nonverbal expressiveness of the player was operationally defined as their score on the ACT. The two levels of expressiveness were determined by a 3-way split of the potential subjects pool. The middle third of potential subject on the ACT served as Player-Confederates. Machiavelli-

anism was operationally defined as a subject's score on the MACH IV scale. The two levels of Machiavellianism were also determined by a 3-way split with the upper third of the distribution designated as High Machiavellians and the lower third of the distribution as Low Machiavellians. Visual communication was defined by whether visual communication was available or not. The players played two games, one in which they were able to see each other and one in which a curtain barrier blocked their view. This repeated measure variable was counterbalanced during the study.

Apparatus

The games utilized three prisoner's dilemma game machines: a control unit which was operated by the experimenter in order to relay game play, and two player units. The player units consist of a number of labeled buttons which allow for the sending of standard messages, and two labeled push-buttons which designate possible game choices. The player units also contained a matrix that would light up to signify the outcome of the previous round. When both players made a cooperative choice (choice 1) on a trial, each received four points. When both players made a competitive choice (choice 2), each lost four points. When one player made a cooperative choice (choice 1) and the other player made a competitive choice (choice 2), the cooperative player lost five points and the competitive player gained

five points. The two player units were located in the same room and faced each other. The control unit was in a separate room that overlooked the players' room through one-way mirrors.

Procedures

Before the actual game phase began, several hundred potential subjects were given the ACT (see Appendix B) and the MACH IV scale (see Appendix C) during their introductory psychology class for extra credit. They were asked if they would like to be in the second part of the study for more extra credit, and if so to indicate "yes" on their cover sheet (see Appendix D) and to indicate a phone number where they could be reached. Subjects who indicated "no" on the cover sheet, failed to include a phone number, or had any missing data on the two scales were discarded from the subject pool. Three-hundred and fifty-seven subjects, 164 males and 193 females, completed both scales and agreed to be in the rest of the study. Separate 3-way splits for males and females were conducted for both the ACT and the MACH IV scale. Males and females were separately categorized into 9 cells (3 levels of expressiveness by 3 levels of Machiavellianism). Based on this categorization, it was decided to use females in the second part of the study, as only 12 males were found to be High ACT and High MACH, with 10 of these 12 needed in the actual study. At least 18

females were found in each category, therefore providing a better potential subject pool. Confederate-players were sampled out of the middle third of the ACT distribution to control for the expressiveness of the other player. The subjects were later called to set up appointments for participation in the actual game.

As soon as either the player or player-confederate showed up, she was moved to a separate room to ensure that the players would not see each other before the actual game. Both the player and player-confederate were taken to the game room and given the general instructions at the same time (see Appendix E). To motivate both the confederate player and the player, a monetary incentive was provided. Both players started with \$1.00 and every point gained added one cent. Thus according to the way the game was explained, the players believed that they could win a possible \$2.00 or end up even. Because the experimenter controlled the other players' choices, the players could actually only win \$1.10 or end up with \$.90 for each game. Both the player-confederate and the player were given a game quiz (Appendix F) which ensured a working knowledge of the game. The player-confederate and the player kept track of the score with separate game sheets (see Appendix G). To control for confounding based on the player-confederate play, both players played against a randomly determined play selection in which there were 50% cooperative choices and 50% competitive

choices. This preprogramed play circumvented controlling for the player-confederate's level of Machiavellianism. At the completion of the first twenty-trial game, the player-confederate was led to a separate room and asked to complete a game rating (see Appendix H). The player also completed the game rating. While both subjects complete the game rating for the first game, the curtain was either opened or closed in order to manipulate the visual communication variable. The player-confederate was led back to the game room, and both players played another 20 trial game. At the completion of this twenty trial game, the player and player-confederate were asked to complete a second game rating (see Appendix H) and the Self-Monitoring Scale (See Appendix I). Both the player-confederate and the player were payed their appropriate sums and given a debriefing (see Appendix J). After being debriefed, they were asked to read and sign a confidentiality agreement (see Appendix K). Any further questions were answered, and the subjects were thanked for participating, and then released.

Dependent Variables

The primary dependent variable was the frequency of cooperative responses by the player. This was operationally defined as the number of Choice 1's made during the game. The score of the game, which relates to the choices made, was also measured. The messages sent by the player before

each decision were also scored. The possible messages were: "I will make Choice 1", "I will make Choice 2", or "I won't say." Also, based on the message sent and the decision made, the number of lies were tabulated. A lie was any message, except for "I won't say", that was followed by a different choice decision, e.g., a message "I will make Choice 1" followed by a Choice 2 decision.

The game rating measure (Appendix H) contains several game perception ratings that concern the players' perceptions of: meeting the game objectives, effectiveness in the game, cooperativeness in the game, affective feelings about the results, and feelings of trust during the game. The final dependent variable was the subjects' scores on the self-monitoring scale (Appendix I).

CHAPTER IV

RESULTS

Subject Pool Data

Except for the original publication by Friedman et al. (1980), no normative data is available on the Affective Communication Test (ACT). Therefore, it seems appropriate to first report the results for the large subject pool that was used for the actual experiment. Overall, 358 subjects, 164 males and 194 females, completed both the ACT and the Machiavellianism Scale, and agreed to take part in the rest of the study. The norms for the ACT in the present subject pool and for two separate samples by Friedman et al. (1980) are presented in Table I. The overall mean ACT score in the present study was 72.85 compared to 71.2 and 71.3 found in the two samples by Friedman et al. (1980). These means and other descriptive statistics show very close agreement.

The mean Machiavellianism score for the subject pool was 88.82. This is relatively low, but with college populations it is not considered unusual. The relationship between the ACT and Machiavellianism is important in delineating whether expressiveness, as measured by the ACT, and Machiavellianism, as measured by the MACH IV Scale,

represent two separate dimensions of interpersonal orientation. The correlation between the ACT and the MACH IV was .08 in both the present study and in the study by Friedman et al. (1980). This indicates that expressiveness and Machiavellianism are orthogonal dimensions.

Sex Differences in the Subject Pool

As found by Friedman et al. (1980), there were significant sex differences in expressiveness as measured by the ACT. In this sample of 164 males and 194 females, the mean scores were 69.9 and 75.3 respectively, $t(356) = 3.47$, $p < .001$. Thus, these results are consistent with the findings of Friedman et al. (1980) that report women to be slightly more nonverbally expressive than men. Consistent with the literature, men scored higher on the Machiavellian scale than women. For the 164 males and 194 females, the means were 91.5 and 86.6 respectively, $t(356) = 3.85$, $p < .001$.

Experimental Results

All hypotheses, except for expected interactions, were tested by a priori test (one-tailed) at the .05 significance level. In order to provide the most complete description of the results, effects that are significant at the .10 level or better will be cautiously reported. Because of the numerous dependent measures, all summary ANOVA's are found

in Appendix L. The analysis of the results were computed using the SAS computer program package (Helwig & Council, 1979).

Pre-choice Messages

Before each trial, subjects were asked to send a message concerning what they would do on the next trial. Overall, for each twenty trial game, subjects sent 40.1% cooperative messages, 36.4% competitive messages, and 23.2% "I won't say" messages. For the experimental variables, very little effect was found for any of the messages except for a possible Expressiveness by Machiavellianism by Visual Communication interaction for cooperative messages, $F(1,36) = 3.60$, $p < .07$. As shown in Table II, this trend effect indicates that the High Expressive, and High Machiavellian subjects sent the most cooperative messages when they could not see the confederate player.

Player Choices

Overall, subjects made 46.3% cooperative choices and 53.7% competitive choices. It was expected that a Nonverbal Expressiveness X Machiavellianism X Visual Communication interaction would occur for cooperativeness (Hypothesis 1); however this effect was not found. It was also expected that High Machiavellians would make more competitive choices than Low Machiavellians (Hypothesis 2). However, Low Machiavellians made slightly more competitive choices

($\bar{M} = 10.90$ than high Machs ($\bar{M} = 10.60$). It was also hypothesized that when subjects could see the other player, they would make more cooperative responses (Hypothesis 3). While subjects were more cooperative when they could see the other player ($\bar{M} = 9.60$) than when the other player was blocked ($\bar{M} = 8.93$), this effect was not significant, $F(1,36) = 1.51$, (ns).

Total Money Won by Subject

Overall, subjects averaged \$1.01 for each game played or a total of \$2.02 for the two games played. The maximum won by any one player was \$1.10 and the minimum won was \$.90. It was expected that High Machiavellians would win more money (Hypothesis 4). The results showed that Low Machiavellians actually made slightly more money in the game. An interesting trend between Machiavellianism and Visual communication, $F(1,36) = 3.08$, $p < .09$, shown in Table III, indicates that low Machiavellians made more money (scored more points) when they could see the other person, while the High Machiavellians made more money when their vision of the other player was blocked. This effect is just the opposite of what the literature predicts (e.g., Christie, Gergen, & Marlowe, 1970).

TABLE I
DESCRIPTIVE STATISTICS FOR THE ACT

Statistics	Present Study	Friedman et al. (1980)	
		Sample 1	Sample 2
N	358	289	311
Mean	72.8	71.2	71.3
Median	73.0	71.1	71.3
Mode	73.0	69.0	68.0
Minimum	30.0	28.0	25.0
Maximum	115.0	114.0	116.0
SD	15.0	16.4	15.2

TABLE II
MEANS FOR COOPERATIVE PRE-CHOICE MESSAGES

Variable	Low Machiavellian		High Machiavellian	
	Low ACT	High ACT	Low ACT	High ACT
See Other Player	7.60	7.90	8.80	8.40
Cannot See Other	7.60	7.10	7.80	9.50

TABLE III
MEAN MONEY MADE FOR THE GAME

Variable	Machiavellianism	
	LOW	HIGH
See Other Player	\$1.014	\$1.000
Other Player Blocked	\$1.004	\$1.014

Player Game Perceptions

Following each game, players were asked to rate their perceptions of the game (see Appendix H). On their perception of meeting the game objectives (to win as many points as possible), an Expressiveness by Machiavellianism interaction was found, $F(1,36) = 4.27$, $p < .05$. As shown in Table IV, Low Expressive, Low Machiavellians and High Expressive, High Machiavellians felt more strongly that they had met the game objectives.

Although subjects did not play more cooperatively when they could see the other player than when the other player was not visible, players did perceive the game as being played more cooperatively when they could see the other player ($M = 3.55$) than when they could not see the other player ($M = 3.28$), $t(39) = 1.84$, $p < .05$.

As expected in Hypothesis 5, Low Machiavellians perceived more player trust in the game ($M = 2.98$) than High Machiavellians ($M = 2.45$), $t(38) = 1.81$, $p < .05$. A possible interaction between Expressiveness and Visual Communication for perceived trust was also indicated, $F(1,36) = 3.08$, $p < .09$. As shown in Table V, High Expressive players tended to perceive more trust when they could see the other player while Low Expressive players tended to perceive more trust when they did not see the other player during the game.

TABLE IV
MEANS FOR MEETING GAME OBJECTIVES

Variable	Machiavellianism	
	Low	High
Low Expressive	4.00	3.55
High Expressive	3.40	3.80

TABLE V
MEANS FOR PLAYER PERCEPTION OF TRUST

Variable	Expressiveness	
	Low	High
See Other Player	2.65	2.80
Other Player Blocked	2.90	2.50

No significant effects were found for players' perceptions of their effect on what happened during the game, nor their feeling good about what happened during the game. A fairly strong correlation was found between making competitive choices during the game and players' perceptions of their effect on what happened during the game, $r = .47$, $p < .001$. A subject's feeling of trust was positively related to the perception of the game being played cooperatively, $r = .47$, $p < .001$. The relationship between perceived cooperativeness and perceived satisfaction about the game was also found significant, $r = .26$, $p < .02$.

Self-Monitoring Scale

It was expected that High expressive players would score higher on the self-monitoring scale (Hypothesis 6). High expressive players did score higher on the self-monitoring scale than Low expressive players; the means were 13.45 and 11.45 respectively, $t(38) = 1.88$, $p < .05$. The relationship between subjects ACT and self-monitoring scores was significant, $r = .23$, $p < .04$. Also not totally unexpected, High Machiavellians scored higher on the Self-Monitoring scale ($M = 13.55$) than Low Machiavellians ($M = 11.35$), $t(38) = 2.07$, $p < .05$. The relationship between subject Self-monitoring and MACH IV Scores was significant, $r = .25$, $p < .02$. Self-monitoring was not found to be significantly related to cooperativeness, $r = .12$, (ns).

Lying Behavior

The PDG methodology used in this study provided a very convenient way of studying lying or bluffing. While players were told it was not necessary to make the same game choice they indicated in their message statement (e.g., "I'll make Choice 1", followed by a Choice 1 response), such behavior did constitute deception on the part of the player. This is reflected in the study where subjects stated more cooperative intentions and yet made more actual competitive responses. It should also be noted that subjects could choose the "I won't say" message, in which case no lying (or truthfulness) would occur. Overall, subjects averaged 4.50 lies for the twenty-round game with a minimum of zero lies and a maximum of 13 lies by one player.

It was expected that a Nonverbal Expressiveness by Machiavellianism by Visual communication interaction would occur for lying (Hypothesis 7), but the predicted effect was not found. It was also expected that High Machiavellians would send more deceptive messages than Low Machiavellians, especially when visual communication was available between the players (Hypothesis 8). High Machiavellians did send more deceptive message ($\bar{M} = 5.33$) compared to Low Machiavellians ($\bar{M} = 3.60$), $t(38) = 2.08$, $p < .03$. A possible Machiavellianism by Visual Communication trend was indicated, $F(1,36) = 3.67$, $p < .07$, but the expected relationship was not evident. As shown in Table VI, High

Machiavellians told more lies when visual communication was blocked between the players, while Low Machiavellians told more lies when they could see the other player. It should be noted in Table VI, that High Machiavellians in a face-to-face interaction did send more deceptive messages than for either conditions for the Low Machiavellians. The expected interaction between nonverbal expressiveness and visual communication for sending deceptive messages was also found (Hypothesis 9), $F(1,36) = 5.23, p < .03$. As shown in Table VII, no difference in lies was found between expressiveness when the players could see one another, however while Low Expressive players told more lies than the High Expressive players when visual communication was blocked, a simple effects test revealed that this difference was not significant, $t(38) = 1.62, (ns)$. Lying or bluffing evidently is a good strategy for winning, shown by the significant correlation between lying and the total number of points (money) that the player scored, $r = .22, p < .04$. However, lying was also negatively related to the perception of player trust, $r = -.22, p < .05$.

TABLE VI
MEAN LIES FOR MACHIAVELLIANISM BY VISIBILITY

Variable	Machiavellianism	
	Low	High
See Other Player	3.80	4.80
Other Player Blocked	3.35	5.85

TABLE VII
MEAN LIES FOR EXPRESSIVENESS BY VISIBILITY

Variable	Expressiveness	
	Low	High
See Other Player	4.25	4.40
Other Player Blocked	5.45	3.75

CHAPTER V

DISCUSSION

Normative data on the Affective Communication Test (ACT) from the present study is very consistent with the findings by Friedman, Prince, Riggio, & DiMatteo (1980). While not providing any additional validity data, the results from this subject pool support the idea that studies using the ACT may be compared across certain geographical areas. Sex differences using the ACT were also consistent with Friedman et al. (1980), showing that females report being more nonverbally expressive than males. If in fact the ACT does measure nonverbal expressiveness, the results support the notion that females are more nonverbally expressive. Several studies support this idea that women appear to hold a slight advantage over men in several areas of nonverbal communication (Hall, 1979; Rosenthal & DePaulo, 1979). The present results and the findings of Friedman et al. (1980) imply that not only are women better at certain nonverbal behaviors, they also believe and/or are aware that they are more nonverbally expressive.

Indications of sex differences in nonverbal communication skills raise important questions concerning the origin

and nature of these differences. It is possible that much of these differences are based on sex role socialization. Buck, Miller, and Caul (1974) found females tended to be "externalizers" while males tended to be "internalizers". Lanzetta and Kleck (1970) suggest that internalizers are persons who have been dissuaded from displaying emotional responses overtly. Thus, it may be that our culture tends to socialize boys to inhibit and mask many kinds of emotions to a greater extent than girls, possibly leading to the tendency of adult males to be internalizers of emotions. Other possible explanations include the hypothesis that, from an evolutionary point of view, women may be endowed with a greater innate capacity for learning to communicate nonverbally (Hall, 1981). There is also the possibility that these sex differences are tied to cognitive determinants. Using a facial judgment task, Allport (1924) found women were not more accurate than men, but they did make these decisions quicker. He speculated that women may be more intuitive than men who are more analytic. He assumed that the intuitive mode was faster in processing the information. More recently, Safer (1978) speculates that women's advantage in recognizing emotions may be tied to gender differences in hemispheric lateralization.

A great deal more work is needed to determine the nature of these sex differences and their origins. If socialization is the key determinant, specialized training

in the school system etc., may be useful in helping boys learn to express emotional affect.

A Two Dimensional Study of Conflict

The great majority of studies on conflict have treated conflict as a unidimensional variable. The overwhelming preponderance have investigated only the cooperativeness-competitiveness dimension in the study of conflict behavior. Several lines of research propose that the cooperative-competitive dimension is insufficient in reflecting the subject's perception of conflict behavior (Ruble & Thomas, 1976). The major purpose of this study was to test a two-dimensional schema for conflict behavior. Nonverbal expressiveness, as measured by the ACT, was used to represent an aspect of one dimension called interpersonal orientation (IO) by Rubin and Brown (1976). The cooperative-competitive dimension was represented by the Machiavellianism continuum, measured by the Mach IV scale.

The results showed little support for the nonverbal expressiveness-Machiavellianism dimensions as descriptors of conflict behavior. Hypothesis 1 predicted that highly nonverbal expressive, Low Machiavellian persons would be most cooperative when they could see the other player. This effect was not found, and in fact none of the variables or interactions effected cooperativeness.

There are several possible explanations for why nonverbal expressiveness failed to mediate any effects. One, the PDG as a representation or model of conflict is too artificial for subjects to get highly involved in the interaction. The PDG apparatus used in this study requires that the subject watch buttons light up, push buttons, and finally record the results. Random observation by the experimenters saw little indication that the players were watching each other. Perhaps the trials were too fast for face-to-face interactions or nonverbal expressiveness to have any effect. Pilisuk, Skolnick, Thomas, & Chapman (1967) found an increase in cooperativeness by increasing the number of minutes between trials. They interpreted the change in terms of "cognitive reappraisal". Secondly, the monetary incentives used in the study may not have been enough incentive to get the players actively involved in the game. Thirdly, the type of PDG played can have an effect. Players in this study played against a preprogramed opponent. This preprogramed play was neither predominantly cooperative (50%) nor competitive (50%). If the highly nonverbally expressive female subjects were also good decoders of nonverbal cues, perhaps they were confused by any inconsistencies in the confederate player's behavior and the actual trial outcome. Finally, perhaps nonverbal expressiveness is not a salient aspect of a person's interpersonal orientation to conflict in some situations. A recent study by Danheiser and Granzi-

ano (1982) investigated the relationship between self-monitoring and cooperation. They found that self-monitoring by itself did not affect the level of cooperation but the inclusion of a situational variable, the prospects of future interaction with the other player, produced an interaction effect. The prospects of possible future interaction with the other player increased cooperation for high self-monitors but not for low self-monitors. Thus, the nonverbal aspects of the interaction may have become more salient in that situation.

The other dimension, cooperative-competitive, represented by Machiavellianism, also failed to effect cooperativeness (Hypothesis 2). This contradicts several studies that have shown High Machiavellians to be more competitive using the PDG paradigm (e.g., Christie, Gergen, & Marlowe, 1970). The incentive system used may have influenced this finding. Christie, Gergen, and Marlowe (1970) found that competitiveness decreased as the incentive values changed from points to pennies to dollars.

It was expected that not only would Machiavellians be more competitive, they were also expected to make more money (Hypothesis 4). Studies have shown that High Machiavellians even seem willing to cooperate if it is to their advantage in making more money (Christie, Gergen, & Marlowe, 1970). This study found no significant difference although the trend was opposite of the prediction, that is, Low Machiav-

ellians made slightly more money than High Machiavellians. Similarly, in an experiment by Lake (1967), Low Machiavellians also made more money than High Machiavellians but again the effect was nonsignificant. An interesting interaction between Machiavellianism and visual communication showed that Low Machiavellians made more money when they could see the other person while the High Machiavellians made more money when their vision was blocked. Although this effect showed only a trend towards significance ($p < .09$), the results are opposite of what the research would predict unless you consider the situation. Machiavellians generally do better on a variety of tasks when in in a face-to-face situation and the face-to-face variable is salient to the situation. When High Machiavellians won more money in the face-to-face bargaining in the ten dollar game (Christie & Geis, 1970b) but did not win more in the study by Christie, Gergen, and Marlowe (1970) which employed a PDG in which subjects were not playing a live opponent, the face-to-face variable was not salient (Geis & Christie, 1970). Geis and Christie (1970) suggest that the lack of an opportunity to improvise could account for this difference. This could also explain the results of the present study where subjects did not have any chance to improvise.

As expected, High Machiavellians perceived less player trust than Low Machiavellians (Hypothesis 5). This is consistent with several studies including (Christie, Gergen, &

Marlowe, 1970) which found that High Machiavellians rated the other player as significantly less trustworthy than did Low Machiavellians.

Although the present study failed to find evidence of a two-dimensional model for conflict behavior, several lines of research have found support for it (Thomas, 1976; Hall, 1969). Stemming from the work of Blake and Mouton (1964), Thomas and his colleagues proposed that two separate dimensions are important to conflict behavior (Thomas, 1976; Thomas & Kilmann, 1974; Ruble & Thomas, 1976). One dimension, "assertiveness", concerns the degree to which a party would like to satisfy his/her own concerns. The second dimension, "cooperativeness", is based on the degree to which he/she would like to satisfy the concerns of others. Based on these two dimensions, five possible conflict orientations are possible: competitive, collaborative, avoidant, accommodative, and compromising. Based on this theoretical model of conflict behavior, the Thomas-Kilman Conflict MODE (Management Of Difference Exercise) instrument was designed (Thomas & Kilmann, 1974). This forced-choice instrument was designed to reduce social desirability responses that affect some of the other measures of conflict management strategies (Kilman & Thomas, 1977; Thomas & Kilman, 1978). There have been some external validity studies conducted on the MODE (e.g., Jamieson & Thomas, 1974; Ruble & Thomas, 1976) but few studies have been reported that have not been done

by Thomas and his associates. For example, introverted persons tend to score higher on avoidance while individuals who emphasize expressing feelings rather than thinking, score higher on accommodation (Kilmann & Thomas, 1975). The major use of the MODE and other such measurement devices, e.g., the Management of Conflict Survey (Hall, 1969), seems to be in conflict management workshops. Based on a recent trend all across the country to set up informal mediation programs, Weider-Hatfield (1981) believes that the use of measurement devices such as the MODE will increase as many mediator training classes include analysis of the participants own conflict management system.

The crux of this discussion on the two dimensional model of conflict behavior concerns the lack of evidence for a nonverbal expressiveness and Machiavellianism model. Based on the two dimensional model proposed by Thomas (1976), further research on the effects of nonverbal expressiveness could be tested within the assertiveness and cooperativeness framework.

Visual Communication

It was expected that players would be more cooperative when they were able to see the other player (Hypothesis 8). While this effect was in the right direction, the trend was not significant. While several studies have suggested that this effect should occur (e.g., Wichman, 1970; LaPlante,

1971), others have found equivocal results (e.g., Vitz & Kite, 1970). Williams (1977) suggests that the communication mediums that are richer in nonverbal cues lead to more favorable impressions, but this effect does not appear to be strong. An indication that this may be true was found in this study. Although players were not significantly more cooperative when they could see the other player, they did perceive the game as being played more cooperatively when they could see one another.

Self-Monitoring

As expected, high nonverbally expressive subjects scored higher on the self-monitoring scale than low nonverbally expressive subjects. This is somewhat discrepant from the findings reported by Friedman et al. (1980). They found nonverbal expressiveness and self-monitoring to be only slightly related. This relationship was slightly stronger for females in their study and gender differences may account for the effect in the present study. At least with females, evidently nonverbal expressiveness does have something to do with the ability to control one's communication so that their expressions seem appropriate to the situation.

Although not hypothesized, High Machiavellians also scored significantly higher on the self-monitoring scale than Low Machiavellians. Snyder (1979) reported that self-

monitoring and Machiavellianism were unrelated. In addition to this F-test, the correlation between Machiavellian scores and self-monitoring scores were positive and significant. Caution should be noted however as only High and Low Machiavellian scores were computed into this correlation. Based on the multitude of research on Machiavellianism, being aware of one's behavior would seem to indicative of a High Machiavellian. Further research is needed before any strong conclusions can be made concerning the exact nature of this relationship.

As in a recent study (Danheiser & Granziano, 1982), self-monitoring was not related to cooperativeness. In their study, a situational variable, the prospect of future interaction, did produce an interaction between self-monitoring and cooperativeness.

Lying Behavior

A secondary purpose of this study was to investigate bluffing or lying on the part of participants in a conflict situation. In most PDG studies, pre-choice messages are not a part of the methodology. However, this study demonstrates that this kind of PDG may be a very convenient method for studying deception. Many methods for the study of deception suffer from demand characteristics. The fact that the game (PDG) does concern conflict could easily be used to disguise the real purpose of studying deception.

In the present study, several interesting results concerning deception were found using this method. A predicted three-way interaction was not found (Hypothesis 7). This same predicted interaction was also not found for cooperativeness. However, the expected interaction between nonverbal expressiveness and visual communication was found (Hypothesis 9), although the exact nature of this interaction was surprising. It was expected that the high nonverbally expressive subjects would lie more than the low nonverbally expressive subjects when in a face-to-face interaction. However, no difference was found for nonverbal expressiveness when in a face-to-face confrontation, but low nonverbally expressive subjects did lie more when visual communication was blocked. Possibly, subjects low on nonverbal expressiveness felt more comfortable lying in a non face-to-face interaction, whereas for the highly expressive subjects, visibility made no difference.

As predicted, Machiavellianism also had an effect on the deceptiveness of subjects. It was expected that High Machiavellians would lie more than Low Machiavellians, and that this effect would be especially true in face-to-face interactions (Hypothesis 8). Previous research indicates that Machiavellians are especially good liars in face-to-face situation such as being accused of cheating (Exline, et al., 1970). While High Machiavellians did send more deceptive messages than Low Machiavellians, the expected interac-

tion was opposite in nature. That is, High Machiavellians sent more deceptive messages when visual communication was blocked, while Low Machiavellians sent more deceptive messages in face-to-face interactions. Evidently, while Machiavellians use more deception in an attempt to manipulate others, situational variables are also important.

Further Research and Conclusions

In their review of twenty years of experimental gaming, Pruitt and Kimmel (1977) suggest the need to develop methods for studying and understanding how people gather information about one another's willingness to cooperate. One viable way in which people can gain this information is through nonverbal channels. Although this study found little evidence for the importance of nonverbal behaviors (e.g., nonverbal expressiveness and visual communication) in a conflict situation, a recent study by Danheiser and Granziano (1982) hints to possible reasons. For nonverbal behaviors to become salient enough to affect the conflict process, certain situational features need to be present. In this study, the trials were probably too brief to allow any improvising and attempts to influence the other interactant with nonverbal behaviors. Further evidence is indicated by the lack of replication of previous results for Machiavellianism and visual communication in the conflict process. This suggests that future research using the PDG as the

principle method should include fewer and much longer trials in order to make nonverbal behaviors more salient. Increasing the monetary value of each trial might also help increase the motivation of subjects to look for and seek information relevant to the conflict process. Other situational variables, such as the prospects of future interaction with the other player, used in the Danheiser and Granziano (1982) study, could also produce interaction effects.

The PDG method itself may not be most appropriate in studying nonverbal behaviors and conflict. Other conflict methods such as the "Crisis Game" (Vitz & Kite, 1970), a negotiation procedure outlined by Johnson, McCarty and Allen (1976), or the modification of the "Minimum Necessary Share Game" (Foddy, 1978) may be more effective in facilitating the salience of nonverbal behaviors in the conflict process.

Finally, although the PDG may not be the most appropriate method for studying nonverbal effects, the PDG is still quite useful and relevant in several different research domains. This study indicates the possibility of using the PDG in the study of deception. A recent review by Sommer (1982) also suggests that the PDG is very relevant to the criminal justice system. In particular, Sommer (1982) suggests the focus of PDG research should be shifted back to the original description of the dilemma, that is, the plea bargaining process between two suspects and the District Attorney. He describes a recent case in which the PDG was

extremely analogous to the real world of plea bargaining. Sommer suggests that the PDG could be a valuable training tool in law schools and to assist inmates to make informed choices if they should ever become involved in plea bargaining in the future.

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APPENDIX A

PDG SCORING SYSTEM

<u>CHOICES</u>		<u>POINTS</u>	
PLAYER 1	PLAYER 2	PLAYER 1	PLAYER 2
<u>1</u>	<u>1</u>	<u>+4</u>	<u>+4</u>
<u>2</u>	<u>2</u>	<u>-4</u>	<u>-4</u>
<u>1</u>	<u>2</u>	<u>-5</u>	<u>+5</u>
<u>2</u>	<u>1</u>	<u>+5</u>	<u>-5</u>

APPENDIX B

AFFECTIVE COMMUNICATION TEST

Self-descriptive Questionnaire

SEX: Male ___ Female ___

Code# ___

Please Read These Instructions Carefully. Below you will find a series of statements indicating an attitude or behavior that might be true as it applies to you or might not be true of you. Your task is to read carefully each statement and circle the number between minus four (-4) and plus (4) that best indicates your answer. The more negative your answer, the more you believe the statement is false as it applies to you. The more positive your answer, the more you believe the statement is true of you.

EXAMPLE:

I feel very happy when I see pretty flowers.

-4	-3	-2	-1	0	1	2	3	4
Not at all true of me						Very true of me		

Circling 2 would indicate that you feel somewhat happy when you see flowers but not as much as if you had circled number 4. If you had circled -4, this would mean that the opposite is true--that you feel very unhappy when you see flowers.

There are no right or wrong answers. Please circle only one number on each scale. Read each statement carefully and indicate an answer for every one.

1. When I hear good dance music, I can hardly keep still.

-4	-3	-2	-1	0	1	2	3	4
Not at all true of me						Very true of me		

2. My laugh is soft and subdued.

-4	-3	-2	-1	0	1	2	3	4
Not at all true of me						Very true of me		

3. I can easily express emotion over the telephone.

-4	-3	-2	-1	0	1	2	3	4
Not at all true of me						Very true of me		

4. I often touch friends during conversations.

-4	-3	-2	-1	0	1	2	3	4
Not at all true of me						Very true of me		

5. I dislike being watched by a large group of people.

Not at all true of me -4 -3 -2 -1 0 1 2 3 4 Very true of me

6. I usually have a neutral facial expression.

Not at all true of me -4 -3 -2 -1 0 1 2 3 4 Very true of me

7. People tell me that I would make a good actor or actress.

Not at all true of me -4 -3 -2 -1 0 1 2 3 4 Very true of me

8. I like to remain unnoticed in a crowd.

Not at all true of me -4 -3 -2 -1 0 1 2 3 4 Very true of me

9. I am shy among strangers.

Not at all true of me -4 -3 -2 -1 0 1 2 3 4 Very true of me

10. I am able to give a seductive glance if I want to.

-4 -3 -2 -1 0 1 2 3 4
 Not at all true of me Very true of me

11. I am terrible at pantomime as in games like charades.

-4 -3 -2 -1 0 1 2 3 4

Not at all true of me Very true of me

12. At small parties I am the center of attention.

-4 -3 -2 -1 0 1 2 3 4

Not at all true of me Very true of me

13. I show that I like someone by hugging or touching that person.

Not at all true of me -4 -3 -2 -1 0 1 2 3 4 Very true of me

APPENDIX C

MACHIAVELLIAN SCALE

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 based on the scale below. Give your opinion on every statement. If you find that the numbers to be used in answering do not adequately indicate your opinion, use the one which is closest to the way you feel.

1	2	3	4	5	6	7
Disagree						Agree
Strongly						Strongly

- ___ 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 it is morally right.
- ___ 4. Most people are basically good and kind.
- ___ 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. Honesty is the best policy in all cases.
- ___ 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 reason 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.

APPENDIX D

COVER SHEET

Personal Values Study

INSTRUCTIONS: The following psychological scales concern personal values and opinions about yourself and others. There are no right or wrong answers. Please carefully read the directions for each scale before beginning that scale.

The results of this study will be used in connection with another study that will be conducted later in the semester. If you would like to participate in the future study for more extra credit, answer "yes" to the question below and indicate your phone number. If you do not want to participate in the future study, indicate only your name and class instructor. Regardless of whether you say yes or no, you will receive extra credit for this study. All results from this study will be kept in strict confidence and all names and phone numbers will be destroyed upon completion of the the study. Thank you for your participation and help.

Name: _____

Your Instructor: _____

Would you like to participate in the future study? ____YES
____NO

If you answered yes,
what is a phone # that you can be reached
at? _____

APPENDIX E

GENERAL INSTRUCTIONS TO PLAYERS

Your task today will involve communicating with another person. But rather than just talking to each other, all of the verbal communication will be accomplished with the use of the machines in front of you.

In order to familiarize you with the procedures involved, we will practice the communication process using these machines. In addition to the machines in front of you, there is a central unit which will be operated by the experimenter, and is located in a separate adjacent room. Players will simply send and receive messages concerning some decisions they will be making.

The overall objective for players is to accumulate as many points as possible. Notice that the players' panels each have a matrix of four squares containing various numbers with plus and minus signs. The numbers in the upper triangles (POINT OUT) of the squares correspond to the number of points you would receive in a particular round. The other player would receive the number of points designated in the lower triangle (POINT OUT) of the square. The points you receive in a round depend partly on a choice you make, and partly upon the choice the other player makes. Notice that if you both make CHOICE 1, you both gain points (DEMONSTRATE). If you both make CHOICE 2, you both lose points (DEMONSTRATE). If you make CHOICE 1 and the other player makes CHOICE 2, then the outcome is that you lose points while the other player gains points (DEMONSTRATE).

Likewise, if you make CHOICE 2 and the other player makes CHOICE 1, the outcome is that you gain points and the other player loses points (DEMONSTRATE). So you see, you gain or lose points depending on the choices you and the other player make on any given round. Remember, the objective of the game is to gain as many points as possible and avoid losing points.

Prior to making your choice, you will be asked to send one of three messages to the other player concerning the choice you are about to make on a particular round. The other player will do the same. The messages you may send before you make your choice are located under the "MESSAGE TO" sign in the upper right corner of your panel. The messages you will receive from the other player are located under the "MESSAGE FROM" sign in the upper left corner of the machine. If you say that you will make a particular choice, it is totally up to you as to whether you make the choice you said you would. Keep in mind that you are free to use the message, "I won't tell my choice."

In order to help motivate you in your decision making, you will start out with \$1.00 and for every point gained you will add 1 cent. Thus for the twenty round game, you can possibly make \$2.00 or end up even. In order to keep track of the score of the game, you will fill out a scoring sheet as the game goes along.

In summary, each round of the game requires three actions of each player:

- (1) Send a message to the other player pertaining to the choice you will make.
- (2) Make either CHOICE 1 or CHOICE 2.
- (3) Mark the choices and points scored on the scoring sheet.

Are there any questions about what has been said up to this point? (DEAL ONLY WITH QUESTIONS PERTAINING TO WHAT'S BEEN SAID).

APPENDIX F

KNOWLEDGE OF GAME QUIZ

1. When the red CHOOSE light comes on, you should:
 - a. choose a message to send.
 - b. make "Choice 1" or "Choice 2".
 - c. pick the other players' message choice.
2. The MESSAGE TO light indicates that you:
 - a. should push a button and send a message to the other player.
 - b. should wait for a message from the other player.
 - c. should make "Choice 1" or "Choice 2".
3. When the light beside MESSAGE FROM is on, this tells you:
 - a. the other player is about to send a message to you.
 - b. to send a message from yourself to the other player.
 - c. the experimenter is sending a message to you.
4. The light beside the _____ statement begins a new round.
 - a. MESSAGE TO
 - b. MESSAGE FROM
 - c. CHOOSE
5. Each point you win is equal to
 - a. \$.01
 - b. \$.05
 - c. Nothing

APPENDIX G

PLAYER SCORING SHEET

TRIAL	MY CHOICE		OTHER'S		POINTS	TOTAL
#	1	2	1	2		100
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

APPENDIX H

GAME RATING

Circle the number which indicates your feeling on the following items.

1. My performance met the objectives given for my role.

Strongly Disagree		Don't Know		Strongly Agree
1	2	3	4	5

2. I had a greater effect than the other player on what happened in this game.

Strongly Disagree		Don't Know		Strongly Agree
1	2	3	4	5

3. This game was played cooperatively.

Strongly Disagree		Don't Know		Strongly Agree
1	2	3	4	5

4. I feel good about what happened in this game.

Strongly Disagree		Don't Know		Strongly Agree
1	2	3	4	5

5. The players showed that they trust each other.

Strongly Disagree		Don't Know		Strongly Agree
1	2	3	4	5

APPENDIX I

SELF-MONITORING SCALE

Personal Reaction Inventory

Instructions: The statements that follow concern your personal reactions to a number of different situations. No two statements are exactly alike, so consider each statement carefully before answering. If a statement is TRUE or MOSTLY TRUE as applied to you, blacken the "a" response on the computer answer sheet. If a statement is FALSE or NOT USUALLY TRUE as applied to you, blacken the "b" response on the computer answer sheet. Do not answer on the test booklet. It is important that you answer as frankly and as honestly as you can. Your answers will be kept in the strictest confidence.

1. I find it hard to imitate the behavior of other people.
2. My behavior is usually an expression of my true inner feelings, attitudes, and beliefs.
3. At parties and social gatherings, I do not attempt to do or say things other will like.
4. I can only argue for ideas which I already believe.
5. I can make impromptu speeches even on topics about which I have almost no information.
6. I guess I put on a show to impress or entertain people.
7. When I am uncertain how to act in a social situation, I look to the behaviors of others for cues.
8. I would probably make a good actor/actress.
9. I rarely need the advice of my friends to choose movies, books, or music.
10. I sometimes appear to others to be experiencing deeper emotions than I actually am.
11. I laugh more when I watch a comedy with others than when alone.
12. In a group of people I am rarely the center of attention.
13. In different situations and with different people, I often act like very different persons.

14. I am not particularly good at making other people like me.
15. Even if I am not enjoying myself, I often pretend to be having a good time.
16. I'm not always the person I appear to be.
17. I would not change my opinion (or the way I do things) in order to please someone else or win their favor.
18. I have considered being an entertainer.
19. In order to get along and be liked, I tend to be what people expect me to be rather than anything else.
20. I have never been good at games like charades or improvisational acting.
21. I have trouble changing my behavior to suit different people and different situations.
22. At a party I let others keep the jokes and stories going.
23. I feel a bit awkward in company and do not show up quite so well as I should.
24. I can look anyone in the eye and tell a lie with a straight face (if for the right end).
25. I may deceive people by being friendly when I really dislike them.

APPENDIX J

DEBRIEFING STATEMENT

This completes your participation in the study. There really was no right or wrong way to respond. Your natural responses will greatly help us understand how people in general react in this type of situation. As you might have guessed, this is a study about conflict between people. Our basic purpose is to see how people deal with conflict and how nonverbal expressions influence cooperation and competition. The last scale you rated is a Self-Monitoring Scale that measures how well you monitor your nonverbal behaviors. Earlier in your class, you took another scale that measured nonverbal expressiveness. The study also concerns the effect of seeing one another during the game.

APPENDIX K

CONFIDENTIALITY AGREEMENT

I hearby agree to keep any information concerning this experiment in strictest confidence until the experiment is completed and at which time the full nature and results of this experiment are made available to all who participated and would like any information.

Signed: _____

Thank you for participating and for you confidentiality. If you have any problems or questions concerning this experiment, feel free to contact me.

Gary Nickell (X6024)

APPENDIX L

SUMMARY TABLES

TABLE VIII
ANALYSIS OF VARIANCE FOR COOPERATIVE MESSAGES

SOURCE	DF	SS	F	P
Between				
ACTgroup (A)	1	1.51	0.07	.79
MACHgroup (B)	1	23.11	1.11	.30
A * B	1	2.81	0.14	.72
SUB(A * B)	36	749.45		
Within				
Visual (C)	1	0.61	0.21	.65
A * C	1	2.11	0.72	.40
B * C	1	1.01	0.35	.56
A * B * C	1	10.51	3.60	.07
C * Sub(A * B)	36	105.25		

TABLE IX
ANALYSIS OF VARIANCE FOR COMPETITIVE MESSAGES

SOURCE	DF	SS	F	P
Between				
ACTgroup (A)	1	2.45	0.12	.73
MACHgroup (B)	1	8.45	0.41	.53
A * B	1	4.05	0.19	.66
SUB(A * B)	36	748.00		
Within				
Visual (C)	1	1.80	0.62	.44
A * C	1	3.20	1.10	.30
B * C	1	1.80	0.62	.44
A * B * C	1	1.80	0.62	.44
C * SUB(A * B)	36	104.40		

TABLE X
ANALYSIS OF VARIANCE FOR NO MESSAGE

SOURCE	DF	SS	F	P
Between				
ACTgroup (A)	1	0.11	0.01	.93
MACHgroup (B)	1	3.61	0.29	.59
A * B	1	0.11	0.01	.93
SUB(A * B)	36	450.15		
Within				
Visual (C)	1	0.31	0.17	.68
A * C	1	0.11	0.06	.80
B * C	1	0.11	0.06	.80
A * B * C	1	3.61	2.02	.16
C * SUB(A * B)	36	64.35		

TABLE XI
ANALYSIS OF VARIANCE FOR COOPERATIVE CHOICES

SOURCE	DF	SS	F	P
Between				
ACTgroup (A)	1	0.11	0.01	.94
MACHgroup (B)	1	1.51	0.09	.77
A * B	1	9.11	0.53	.47
SUB(A * B)	36	622.25		
Within				
VISUAL (C)	1	9.11	1.51	.22
A * C	1	0.61	0.10	.75
B * C	1	13.61	2.25	.14
A * B * C	1	5.51	0.91	.34
C * SUB(A * B)	36	217.65		

TABLE XII
ANALYSIS OF VARIANCE FOR COMPETITIVE CHOICES

SOURCE	DF	SS	F	P
Between				
ACTgroup (A)	1	0.20	0.01	.92
MACHgroup (B)	1	1.80	0.10	.75
A * B	1	9.80	0.57	.46
SUB(A * B)	36	624.20		
Within				
Visual (C)	1	8.45	1.39	.24
A * C	1	0.45	0.07	.79
B * C	1	14.45	2.37	.13
A * B * C	1	6.05	0.99	.32
C * SUB(A * B)	36	219.60		

TABLE XIII
ANALYSIS OF VARIANCE FOR POINTS SCORED

SOURCE	DF	SS	F	P
Between				
ACTgroup (A)	1	0.11	0.01	.94
MACHgroup (B)	1	1.01	0.06	.81
A * B	1	12.01	0.66	.42
SUB(A * B)	36	651.85		
Within				
VISUAL (C)	1	1.01	0.11	.74
A * C	1	12.01	1.34	.25
B * C	1	27.61	3.08	.08
A * B * C	1	0.01	0.01	.97
C * SUB(A * B)	36	322.85		

TABLE XIV
ANOVA FOR PERCEIVED MEETING OF OBJECTIVES

SOURCE	DF	SS	F	P
Between				
ACTgroup (A)	1	0.61	0.72	.40
MACHgroup (B)	1	0.01	0.01	.90
A * B	1	3.61	4.27	.05 *
SUB(A * B)	36	30.45		
Within				
VISUAL (C)	1	0.11	0.45	.51
A * C	1	0.61	2.44	.13
B * C	1	0.11	0.45	.51
A * B * C	1	0.61	2.44	.13
C * SUB(A * B)	36	9.05		

TABLE XV
ANOVA FOR PERCEIVED EFFECTIVENESS IN GAME

SOURCE	DF	SS	F	P
Between				
ACTgroup (A)	1	2.11	2.10	.16
MACHgroup (B)	1	1.51	1.51	.23
A * B	1	0.61	0.61	.43
SUB(A * B)	36	36.15		
Within				
VISUAL (C)	1	1.01	1.88	.18
A * C	1	0.11	0.21	.65
B * C	1	0.01	0.02	.88
A * B * C	1	0.01	0.02	.88
C * SUB(A * B)	36	19.35		

TABLE XVI
ANOVA FOR PERCEIVED COOPERATIVENESS

SOURCE	DF	SS	F	P
Between				
ACTgroup (A)	1	0.11	0.05	.82
MACHgroup (B)	1	2.11	0.97	.33
A * B	1	0.02	0.01	.94
SUB(A * B)	36	78.65		
Within				
VISUAL (C)	1	1.51	3.39	.07
A * C	1	0.31	0.70	.41
B * C	1	0.61	1.37	.25
A * B * C	1	0.01	0.03	.87
C * SUB(A * B)	36	16.05		

TABLE XVII
ANOVA FOR PERCEIVED FEELING ABOUT THE GAME

SOURCE	DF	SS	F	P
Between				
ACTgroup (A)	1	0.01	0.01	.92
MACHgroup (B)	1	0.01	0.01	.92
A * B	1	0.31	0.23	.63
SUB(A * B)	36	48.65		
Within				
VISUAL (C)	1	0.01	0.02	.88
A * C	1	0.11	0.20	.66
B * C	1	0.31	0.56	.46
A * B * C	1	0.01	0.02	.88
C * SUB(A * B)	36	20.05		

TABLE XVIII
ANOVA FOR PERCEIVED PLAYER TRUST

SOURCE	DF	SS	F	P
Between				
ACTgroup (A)	1	0.31	0.19	.67
MACHgroup (B)	1	5.51	3.29	.08
A * B	1	2.81	1.68	.20
SUB(A * B)	36	60.25		
Within				
VISUAL (C)	1	0.01	0.03	.87
A * C	1	1.51	3.08	.09
B * C	1	0.01	0.03	.87
A * B * C	1	0.31	0.64	.43
C * SUB(A * B)	36	17.65		

TABLE XIX
ANOVA FOR SELF-MONITORING SCALE

SOURCE	DF	SS	F	P
Between				
ACTgroup (A)	1	80.00	3.55	.07
MACHgroup (B)	1	96.80	4.30	.05 *
A * B	1	24.20	1.07	.31
SUB(A * B)	36	810.80		

TABLE XX
ANALYSIS OF VARIANCE FOR LYING

SOURCE	DF	SS	F	P
Between				
ACTgroup (A)	1	12.01	0.87	.36
MACHgroup (B)	1	59.51	4.33	.04 *
A * B	1	1.01	0.07	.79
SUB(A * B)	36	495.15		
Within				
VISUAL (C)	1	1.51	0.46	.50
A * C	1	17.11	5.23	.03 *
B * C	1	12.01	3.67	.07
A * B * C	1	0.01	0.03	.95
C * SUB(A * B)	36	117.85		

VITA

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