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Religious Orientation, Jungian Personality Type, and Stage of Ego Development of the Machiavellian Personality

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RELIGIOUS ORIENTATION, JUNGIAN PERSONALITY TYPE, 
AND STAGE OF EGO DEVELOPMENT OF THE 
MACHIAVELLIAN PERSONALITY 

Jerome E. Elson 

A Dissertation 
Submitted to the 
Faculty of The Graduate College 
in partial fulfillment of the 
requirements for the 
Degree of Doctor of Education 
Department of Counselor Education 
and Counseling Psychology 

Western Michigan University 
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This study explored the religious orientation, Jungian personality type, and stage of ego development of the Machiavellian personality. Eighty-six freshman students, from a 4-year college with an emphasis on business subjects, completed four questionnaires. These questionnaires were: (1) the Mach V (a measure of the Machiavellian personality), (2) the Religious Orientation Scale (a survey of religious orientation), (3) the Myers-Briggs Type Indicator (an appraisal of Jungian personality type), and (4) the Sentence Completion Test (an assessment of ego development).

Subjects whose Mach V scores were in the top fourth of the population were called "High Machs" (and were referred to as displaying the Machiavellian personality), while subjects whose Mach V scores were in the bottom fourth of the population were called "Low Machs." The relationship between the Machiavellian personality and religious orientation was measured with a chi-square calculation, as was the relationship between the Machiavellian personality and ego development. The correlation of the Machiavellian personality with Jungian personality type was measured with t-test calculations.

The results of this study revealed that High Machs scored as
thinking types on the Myers-Briggs Type Indicator significantly more often than did Low Machs. High Machs were not significantly more extraverted, intuitive, or perception oriented on the Myers-Briggs Type Indicator when compared to Low Machs. High Machs were not significantly more extrinsic on the Religious Orientation Scale when contrasted with Low Machs. And High Machs did not score on the Sentence Completion Test's four highest stages of ego development significantly more often than did Low Machs.
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Elson, Jerome E., Ed.D.
Western Michigan University, 1989
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Jerome E. Elson
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CHAPTER I

INTRODUCTION

Background of the Problem

A review of the literature of the past 20 years indicates an increasing number of research articles concerning the Machiavellian personality. The number of people who embody the Machiavellian personality style appears to be increasing from generation to generation (Christie, 1970c; Murray & Okanes, 1980). Strengthening this interest is the fact that many graduate students in the counseling field tend to have Machiavellian personality characteristics (Abramson, 1973; Christie & Geis, 1970a). Finally, the Machiavellian personality is reported to be fairly prevalent in undergraduate and graduate business students (Siegel, 1973; Skinner, 1976, 1981; Steininger & Eisenberg, 1976a).

Statement of the Problem

The purpose of this study is to examine possible significant relationships between the Machiavellian personality and three personality measures: Allport's (1967) measure of religious orientation, Myers' (1962) assessment of personality "type," and Loevinger's (1970) system of ego development. The study proposes a clearer understanding of the religious orientation (Allport), the personality type (Myers), and the stage of ego development (Loevinger) of the
Machiavellian personality.

Conceptual Definitions

Individuals with the Machiavellian personality (i.e., Machiavellian or High Mach) are described as being frequently manipulative and extremely innovative in the creation of these manipulations. They use these manipulations in competitive situations and because they are such adroit manipulators, they frequently win. Studies involving competitive situations have supported this notion. In laboratory studies involving a need to bargain, the Machiavellian tends to be very efficient, to have a keen sense of timing, and to be goal oriented to the point of ignoring ethical considerations. The High Mach's intense desire to win results in the employment of whatever tactics are necessary for victory, and is positively correlated with a determined tendency to pursue leadership positions. This personality group does not become distracted by emotional considerations when trying to negotiate a victory, but remain coolly rational and continue to logically calculate what is needed in order to be triumphant (Christie & Geis, 1970b).

Christie and Geis (1970b) describe this personality type not only as being convincing and skillful at lying and cheating, but also as not receptive to the manipulations of others. Still other research has found that the Machiavellian personality tends to be overly suspicious, and to have little faith in the "golden rule." Also of interest is the finding that the Machiavellian does not correlate significantly with measures of high intellectual ability.
The Machiavellian personality is usually measured with a scale called the Mach V (Christie & Geis, 1970b).

Allport invented the Intrinsic-Extrinsic Religious Orientation Scale to measure three types of religious orientation: intrinsic, extrinsic, and indiscriminately proreligious (Allport & Ross, 1967). A person with an intrinsic religious orientation tries to lie within the guidelines of his or her religious beliefs. The intrinsically oriented individual's first priority is an intense loyalty to his/her particular religious creed. All other needs become secondary in importance to this primary religious need (Allport & Ross, 1967).

An individual with an extrinsic religious orientation uses religion for his or her own personal gains—such as security, status, and social connections. Religious belief is not very important to this individual, and is subordinated to these and other primary needs (Allport & Ross, 1967).

Finally, the indiscriminately proreligious individual is simplistically positive about religion. This type of person superficially supports anything having to do with his or her religion (Allport & Ross, 1967).

The Myers-Briggs Type Indicator (MBTI) is a self-report inventory, developed to measure the personality typology of Jung (Myers & McCaulley, 1985). It was created by Myers (1980) and consists of four scales to measure opposite extremes: extraversion-introversion; sensing-intuition; thinking-feeling; and judgement-perception.

Extraverts tend to focus toward the external world and outer objects, while introverts focus inwardly on their internal world.
Sensing types are concerned with analyzing information stemming directly from the five senses; intuitives tend to be spontaneously hunch oriented and perceive the flow of information as it pertains to the past, present, and future. Thinking types emphasize logical and objective processes when judging a particular situation, while feeling types base their judgment on personal subjective values. Finally, judging types live life in a planned and orderly manner, as they prefer closure over open options; perceptive types prefer to keep their options open. Judging represents thinking and feeling functions while perception represents sensing and intuitive functions.

The main use of judgment and perception is to indicate the extraverted function (i.e., if a person is a judging type, the extraverted function will be either thinking or feeling; if a person is a perceptive type, the extraverted function will be either sensing or intuition (Myers & McCaulley, 1985; Schroeder, 1985).

According to Loevinger, ego development progresses along a series of stages. The stages progress over time from the simplistic to the most complex. Also, Loevinger states that one cannot skip any of the stages. Each stage builds on the previous one as well as anticipates the next stage. As a person moves up this hierarchical sequence, he or she develops a more complex ego structure. This movement enables the individual to more thoroughly understand and more effectively interact with his or her environment. Loevinger developed the Sentence Completion Test to measure a person's stage of ego development (Loevinger & Wessler, 1970).

The 10 stages of Loevinger's model are as follows: presocial,
symbiotic, impulsive, self-protective, autonomous, and integrated (Loevinger, 1976).

Research Questions

This investigation hopes to find whether the Machiavellian personality will be extrinsically or intrinsically oriented on Allport's (1967) measure of religious orientation. From the work of Ray (1982) and Hegarty and Sims (1979) one could expect to find that the Machiavellian has an extrinsic orientation toward religion.

This study will also try to determine whether the Machiavellian personality is either an extravert or an introvert on the Extravert-Introvert scale on the MBTI, an intuitive or a sensing type on the Sensing-Intuition scale of the MBTI, a thinking or a feeling type on the Thinking-Feeling scale of the MBTI, and a perception or judgment type on the Judgment-Perception scale of the MBTI. From the research findings of Skinner (1983), Myers (1980), Keirsey and Bates (1978), and Jung (1971) one could anticipate that the Machiavellian personality will be an extraverted, intuitive, thinking, and perception type.

This research study will finally attempt to understand where the Machiavellian personality is on Loevinger's system of ego development. From the research of Nedd and Marsh (1980), Blumstein (1973), DiMarco and Wilhelm (1973) one could predict that the Machiavellian will be in the four highest stages of ego development.
Significance of the Study

It is suggested that the results of this research study should be of interest to the fields of psychology and education. First, because of the number of people who embody the Machiavellian personality is increasing (Christie, 1970c), and because many in the counseling profession reportedly have the Machiavellian personality style (Abramson, 1973; Christie & Geis, 1970a), psychologists should want to study this personality in further detail. Second, because many undergraduate and graduate business students reportedly have the Machiavellian personality style (Siegel, 1973; Skinner, 1976, 1981; Steininger & Eisenberg, 1976a), educators may want to study this personality style in greater detail. Hence this dissertation study should be of interest to those in the fields of psychology and education.

More specifically, these three proposed research questions should have implications for the understanding of the Machiavellian personality. First, the correlation of Allport's Intrinsic-Extrinsic Religious Orientation Scale with the Machiavellian personality will allow for an investigation of the Machiavellian personality's orientation to religion. In addition, this study was specifically recommended by one of the original investigators of the Machiavellian personality in a personal communication (Christie, 1985).

Second, the correlation of the Myers-Briggs Type Indicator with the Machiavellian personality will allow for a more extensive study of the Machiavellian in relation to Jungian personality type. Previously the only research in this area explored the Machiavellian
personality's relation to introversion and extraversion, and found
that the Machiavellian personality was more extraverted (Skinner,
1983). However the other three parts of the Myers-Briggs Type
Indicator (sensing-intuition, thinking-feeling, judgment-perception)
have yet to be correlated with the Machiavellian personality. To
further explore this correlation, this research study is being con­
ducted. In addition, the results of this study could have valuable
implications for those psychologists who use the MBTI as part of
their therapeutic approach to counseling and psychotherapy. The MBTI
can be of utility when selecting a rapport building approach (Birck­
head, 1984), and when selecting a therapeutic modality (Provost,
1984; Quenk, 1984). If the Machiavellian personality can be defined
in terms of the MBTI, psychologists could use this information when
choosing the most effective therapeutic approaches for their clients,
because certain types respond most favorably to specific forms of
psychotherapy (Birckhead, 1984; Provost, 1984; Quenk, 1984). Final­
ly, because this study has not previously been conducted, one of the
foremost researchers into the MBTI has requested (M. McCaulley,
personal communication, June, 1988) that the author mail the results
of this study to the Center for Applications of Psychological Type
for inclusion in the next edition of her book entitled Manual: A
Guide to the Development and Use of the Myers-Briggs Type Indicator
(Myers & McCaulley, 1985).

Third, the correlation of the Machiavellian personality with
Loevinger's Sentence Completion Test will permit a more lucid assess­
ment of this personality type in terms of Loevinger's system of ego
development. This is important because Loevinger's system can be related to the seven stage process of Rogerian psychotherapy (Loevinger, 1976) as well as to a more complex system of eclectic psychotherapy (Ivey, 1986, 1988). If one can assess where the Machiavellian personality lies on Loevinger's developmental continuum, one could make more knowledgeable decisions as to the course of therapy. Another important reason to study this correlation between Loevinger's system of ego development and the Machiavellian personality, is that this study was conducted previously (Redmore & Waldman, 1975) without success. The reason for this lack of success may have been because the researchers incorrectly hypothesized that the Machiavellian personality would correlate with one of Loevinger's lower ego stages. In the present research study it is hypothesized that the Machiavellian personality will correlate to Loevinger's highest stages of ego development.
CHAPTER II

REVIEW OF THE SELECTED LITERATURE

The Machiavellian Personality

Some of the earliest research on the Machiavellian personality involved a two-person experimental situation where the experimenter was deliberately called out of the room, and the subjects were encouraged by a confederate to cheat on the experimental task. Later, when the experimenter interviewed the subjects, it was discovered that High Mach subjects denied cheating more frequently than would Low Machs while maintaining direct visual contact with the experimenter. High Machs also lied more believable than did Low Machs (Exline, Thibault, Hickey, & Gumpert, 1970). This relationship between effective lying and cheating, and Machiavellianism has been corroborated by the research findings of Geis and Moon (1981).

Additional research has revealed other interesting aspects of the relationship between the Machiavellian personality and cheating. For example, researchers have concluded that after being allowed or encouraged to cheat in an experimental situation, Low Machs did not refuse to cheat more often than did High Machs (Geis & Christie, 1970). It was also noted that Low and High Machs cheated under different circumstances. High Machs tended to cheat when the incentives for cheating were high, or when the cost of getting caught was low. Low Machs were more inclined to cheat because they were more
suggestible, or more easily persuaded to cheat by the repeated re-
quests of the experimenter or confederate. In this way Low Machs can
get caught up and carried away by the interaction process, and follow
in whatever direction the "other" is going. As a result, Low Machs
could be induced to cheat, though in principle they were opposed to
cheating (Burgoon, Lombardi, Burch, & Shelby, 1979; Geis & Christie,

In other research High and Low Mach subjects were administered a
personality test by a student experimenter who was directed to per-
form three deceptions while administering the test. After completing
the test, subjects were shown how they were deceived. These High and
Low Mach subjects were then instructed to play the role of experi-
menter, and were told to use their power arbitrarily while adminis-
tering a personality test to another subject. High Machs were more
manipulative than were Low Machs. In addition High Machs were more
innovative in the manipulations which they used. Conversely, Low
Machs expressed a decided preference for not using any manipulative
deceptions on their subjects. Also, High Machs were found to be
interpersonally distant, while performing the manipulations with
great skill and authority. Low Machs were warm and friendly, but
performed the manipulations in a disinterested and unimpressive
manner. Finally, after the experiment, High Machs reported greater
enjoyment in regards to the performing of these manipulations (Geis,
Christie, & Nelson, 1970). These conclusions on the relationship
between the Machiavellian personality and the frequent, innovative,
and successful use of interpersonal manipulation, have been
corroborated in the research of Braginsky (1970a), and Jones and White (1983).

Another research study involved groups of three subjects in a game involving the need to bargain for points. This game was called the "con game." Three players participated in each game. They were allowed to form diadic coalitions, which could be formed at will by two of the three players, and could be broken at will also. Within each coalition partners had to agree on how they would divide the points, should they win. The game was set up so that the two players in the diadic coalition were most likely to win. Every player had the opportunity to be part of a coalition in every game. It was found that High Machs outbargained and outmanipulated Low Machs, and won more points in these games. In addition, High Machs were more successful when the bargaining situation was more ambiguous. In fact, as the bargaining situation was made more ambiguous, the High Mach approximately doubled his or her ability to outbargain the Low Mach. Finally, a correlation of 0.71 was discovered between a subject's score on the Mach V, and his or her success at bargaining for points in this game (Geis, 1970a).

Further study of the con game revealed that High Machs typically assess a situation in terms of how much they can successfully manipulate others, without receiving negative consequences for this manipulation (Geis, 1970a). The authors concluded that High Machs have a keen sense of timing, which they use to opportunistically bargain and manipulate toward their desired goal. Additionally, High Machs were found to be the leaders in these games. They appeared to control the
bargaining process by: controlling the formation of successful coalitions, breaking the coalition at the point in the game when it was most personally advantageous, and controlling the division of the prize within the various coalitions. Meanwhile the Low Mach was more suggestible, persuadable, and interpersonally reciprocative.

As previously stated, the High Mach is the most manipulative in ambiguous situations. The researchers hypothesized that the ambiguity confused the situation, such that the High Mach was able to apply his or her manipulative tactics even more effectively. More specifically, Geis and Christie (1970) stated that confusion produced an increased "latitude for improvisation" (p. 287), so that more innovative and effective manipulations could be applied, in order to win more points. Other research has corroborated this finding on the relationship between the Machiavellian personality and ambiguous experimental settings (Braun & Daigle, 1973).

Research has clearly determined that High and Low Machs have different approaches toward interpersonal reciprocity. In the con game, High Machs and Low Machs each asked their partner to promise that he/she would not leave a coalition. This request was made in four cases by Low Machs and in seven cases by High Machs. In all four cases the Low Mach maintained the coalition, while the High Mach did not maintain any of these coalitions. Clearly Low Machs believe in interpersonal reciprocity, while High Machs do not. At least High Machs do not endorse interpersonal reciprocity in situations where it is implicitly assumed that it will occur. In cases where High Machs explicitly promised (in written form) not to break the coalition,
they always followed through on this promise (Geis, 1970a).

In other research, subjects played a bargaining game, which was very similar to the con game, except that the reward for winning was changed. The reward for winning in the con game was points; the reward for winning in this research study was $10.00, which was to be divided among the players of the winning team. It was found that High Machs were even more successful at manipulation in this version of the con game. The authors attributed the increased success rate to the reward for winning, which was hard currency, as opposed to points (Christie & Geis, 1970c).

In still another bargaining game involving legislative log rolling, groups of seven were formed, such that each group had a mix of High Machs and Low Machs. Subjects were instructed to pretend that each group was a session of congress, and their job was to get various issues either passed or defeated. It was discovered that Low Machs got sidetracked by their emotional investment in certain issues, and these emotions distracted them from the primary goal of getting the issue either passed or defeated in congress. Conversely, High Machs were not distracted by their emotions, and concentrated totally upon winning. In the first game researchers used issues which were too trivial and insignificant to arouse the emotions of the subjects; in the second game the issues aroused strong personal feelings in the subjects. The results of the first game revealed no difference in winning by either High or Low Machs, because the issues were too inconsequential to arouse an emotional reaction in either group. However in the second game, High Machs won more often,
because Low Machs became too involved with their own emotional reactions to the various issues, and consequently lost because they no longer concentrated exclusively on manipulative bargaining (Geis, Weinheimer, & Berger, 1970).

In a study involving groups of seven in a two-hour "semi-competitive bargaining game," subjects were asked at the game's completion to select one member of the group and to complete the Mach IV as they believed this group member had previously completed it. The results revealed that High Mach subjects more accurately assessed: the general level of Machiavellianism in others, their subject's exact score on the Mach IV, and whether others were higher or lower than themselves on this measure of Machiavellianism (Geis & Levy, 1970).

In an experiment designed to measure the behaviors of High and Low Machs in regards to cognitive dissonance, subjects were encouraged to cheat by a partner (who was really a member of the experimental team) when taking a very difficult exam. This encouragement to cheat took place when the experimenter was ostensibly called out of the room to deal with an emergency occurring elsewhere in the building. Of those who did cheat, only Low Machs changed their inner cognitions to be in agreement with their behavior. That is, only Low Machs claimed to be less moral, after having cheated in the experiment (this was determined by changes in subjects' before and after scores on the Mach IV). High Machs did not change their cognitions to agree with their cheating behavior. The authors concluded that only Low Mach subjects behaved in a way that could be predicted by
cognitive dissonance theory (Festinger, 1957). The behavior of High Machs could not be predicted by cognitive dissonance theory, because they were emotionally unconcerned with the opinions of others regarding the inconsistencies in their behavior. Their primary motivation was to manipulate and exploit their way toward their goal, by whatever means necessary; all other motivational factors were secondary for the High Mach (Bogart, Geis, Levy, & Zimbardo, 1970). Other research on the Machiavellian personality has agreed with these results (Bogart, 1971; Epstein, 1969; Widgery & Tubbs, 1972).

Researchers have explored the relationship between the Machiavellian personality and measures of psychopathology. The results of these studies tend to vary. One study administered the Mach V, the Eysenck Personality Inventory, and the Minnesota Multiphasic Personality Inventory (MMPI) to a group of subjects. The results revealed no significant correlation between the Machiavellian personality and measures of neuroticism or psychoticism, or between the Machiavellian personality and any of the scales on the MMPI (Skinner, 1982). In addition, the original conceptualization of the Machiavellian personality (Christie, 1970d) hypothesized "a lack of gross psychopathology" (p. 3). The reasoning was that in order to make objective evaluations of other people or situations, so as to be able to successfully manipulate and exploit them, the High Mach could not be grossly pathological. If the High Mach was pathological, this could allow their emotional needs to distort their objective view of reality, and hence seriously limit their ability to manipulate. In a study of peace corp trainees no correlation was found between the
Machiavellian personality and any of the clinical scales on the MMPI (Christie, 1970a). Finally, research by Saruk (1975) and Widom (1978) did not uncover a significant relationship between Machiavellianism and the MMPI Psychopathic Deviate scale.

However, Smith and Griffith (1978) found a correlation between the Machiavellian personality and scores on the MMPI Psychopathic Deviate (PD) scale. A group of college students was given the Mach IV and the MMPI, and a statistically significant correlation was found between the Machiavellian personality and the PD scale on the MMPI. Another study involved a mailing of the Mach IV and MMPI to a randomly selected sample of Australians. The results also revealed a significant correlation between the MMPI PD scale and Machiavellian personality (Ray & Ray, 1982).

Thus there is still debate as to whether the Machiavellian personality is associated with psychopathology. Some researchers claim no correlation between measures of psychopathology and the Machiavellian personality (Christie, 1970a; Jones, Nickel, & Schmidt, 1979; Saruk, 1975; Skinner, 1982; Widom, 1978). Other researchers claim that there is a correlation between measures of psychopathology and the Machiavellian personality (Ray & Ray, 1982; Smith & Griffith, 1978). The final and definitive conclusion still waits to be discovered.

Other research on the Machiavellian personality has resulted in very precise and definitive conclusions. In seven studies correlating High Machs and Low Machs with various measures of intellectual ability, no significant relationship was found. This relationship
held true regardless of gender, level of education, or measure of intelligence (Christie, 1970a).

Research on a group of female college students from Nashville, TN, turned up a negative correlation between the Machiavellian personality and a factor called "positive attitude toward people" (Christie & Geis, 1970a, p. 46). The loadings of the scales comprising this factor were: anomie (-.70), suspicion (-.51), faith in human nature (+.57), and external locus of control (-.40). Also found was a very high correlation between the Machiavellian personality and a measure of manifest hostility (Siegel, 1956). The authors concluded that the High Mach has: little faith in the goodness of human nature, a high level of suspicion toward others, and an ability to recognize and reveal hostile affect (Christie & Geis, 1970a).

Other researchers have measured the inclination for High Machs to take the lead in a "leaderless" group discussion. Each group was composed of at least two High Machs and two Low Machs, and each group discussed a version of the Mach V item: "the best way to handle people is to tell them what they want to hear" (Christie & Geis, 1970a, p. 392). The experimenter conducted the experiment by eliciting personal opinions of the various group members, and upon leaving the room he directed the group to come to a consensus. After the experiment, each subject completed a questionnaire which rated his fellow group members on six dimensions, one of which was the "amount of leadership displayed." The results indicated that High Machs were rated as being higher in leadership by both High and Low Machs alike.
(Christie & Geis, 1970a). Several researchers have agreed with this conclusion (Bochner, DiSalvo, & Jonas, 1975).

However, some of the most recent research indicates that Low Machs may be good leaders in situations where Low Mach skills are required. Specifically, Low Machs might function most effectively in stable environments, where the leader needs to be more personally and empathically involved with the staff, and where an aggressive leadership style is not required of the leader (Andrea & Conway, 1982).

In research measuring the relationship between the Machiavellian personality and ethical behavior it was found that the Machiavellian personality was positively correlated with unethical behavior. This conclusion resulted from an experiment in which 165 graduate business students played a marketing decision-making game which involved the opportunity to make kickback payments to purchasing agents. Unethical decision behavior was measured by the propensity for a subject to offer these kickback payments under varying conditions (Hegarty & Sims, 1979). Other research has agreed with these results (Hegarty & Sims, 1978; McLaughlin, 1970).

The results of research on gender and Machiavellianism is mixed. Some researchers report that male subjects are more Machiavellian than female subjects (Steininger & Eisenberg, 1976a; Wrightsman & Deaux, 1981), while other researchers have found no significant difference between male and female Machiavellianism (Wertheim, Widom, & Wortzel, 1978). Several researchers have questioned whether the current measures of Machiavellianism are able to measure the range of manipulations used by women. These researchers suggest that the true
Machiavellian scores of women may actually be higher than those of men (Brown & Guy, 1983; Rosenthal, 1978; Steininger & Eisenberg, 1976a).

Data on the origin of Machiavellianism is contradictory. Braginsky (1970b) found an inverse relation between parent and child Machiavellianism. This relationship was significant only for the mother-child comparison, however the father-child comparison was in the inverse direction also. Kraut and Price (1976) also conducted research into the developmental origin of the Machiavellian personality. They discovered that parents who held Machiavellian beliefs raised children who more effectively manipulated others in a bluffing game. There was also a significant positive relationship between the Machiavellian beliefs of fathers and their children. Touhey (1973) learned that the origin of Machiavellianism was not within the family. Rather Machiavellianism developed from sources external to the family such as peers, teachers, and the mass media. This external identification occurred as a result of the High Mach's failure to identify with his/her parents.

Researchers have correlated Machiavellianism with Rotter's Locus of Control Scale (Rotter, 1966). Results reveal a significant positive correlation between the Machiavellian personality and an external locus of control for all subjects (Galli & Nigro, 1983; Moraldo et al., 1976; Solar & Bruehl, 1971). Prociuk and Breen (1976) uncovered a significant Machiavellian-external locus of control correlation for male subjects only, while Deysack, Keller, Ross, and Hiers (1975) found similar results for female subjects only. These authors
hypothesized that the High Mach's motivation for manipulation may arise from a sense of personal powerlessness.

In further exploring the above hypothesis, researchers have correlated Machiavellianism with Levenson's Internal, Powerful Others, and Chance scales (Levenson, 1974). Levenson and Mahler (1975) uncovered a significant negative correlation between Machiavellianism and Levenson's Internal scale for female subjects, and a significant positive correlation between Machiavellianism and Levenson's Chance scale for male subjects. The authors concluded that Machiavellian women manipulate because of lower self-esteem, while Machiavellian men manipulate because of a need for control in a world governed by chance. This same correlation was conducted by Prociuk and Breen (1976). They uncovered significant correlations between Levenson's powerful others scale and the Machiavellian personality for males. The authors concluded that Machiavellianism resulted from a need for control in a world ruled by powerful others.

Research into the relationship between Machiavellianism and counseling/psychotherapy has focused on the Machiavellianism of the therapist and its influence on the client. Abramson (1973) discovered that graduate students in counseling were more Machiavellian than were graduate students in general experimental and educational psychology. Klein (1969) learned that psychiatric residents were more Machiavellian than were residents in internal medicine. Zabell (1979) and Hall (1982) found that therapist Machiavellianism did not affect the outcome of counseling/psychotherapy. Loesch, Crane, and Rucker (1978) learned that there is no relationship between
Machiavellianism and counselor trainee effectiveness during practicum or internship, as measured by the Counselor Evaluation Rating Scale (Myrick & Kelly, 1971).

Finally, Ray (1982) explored the relationship between the Machiavellian personality and religious belief. This study was conducted in Australia, and the results revealed a negative correlation between the Machiavellian personality and religious belief. That is, High Machs tend to be "unbelievers" (i.e., agnostics or atheists).

To summarize, the Machiavellian personality was found to be: a convincing liar and effective cheater, minimally suggestible, innovative in the use of manipulations, positively reinforced by the process of manipulating in order to win in various bargaining games, creative in utilizing ambiguity to more effectively employ manipulative tactics, leadership oriented when aggressive leadership was needed, poorly motivated for interpersonal reciprocity, unmoved by personal emotional considerations when involved in manipulative bargaining, able to accurately assess Machiavellianism in others, not affected by cognitive dissonance, psychopathological on some studies but not in others, unrelated to measures of intellectual ability, suspicious, unethical, more characteristic of men in some studies but not in others, varied in its developmental origin, associated with an external locus of control, more common in graduate students in counseling and residents in psychiatry, of little measurable influence on counseling/psychotherapy, and agnostic or atheistic in religious belief.
Intrinsic-Extrinsic Religious Orientation

Allport and Ross (1967) offered their definition of intrinsic and extrinsic religious orientations by saying that persons with an intrinsic orientation "find their master motive in religion. Other needs, strong as they may be, are regarded as of less ultimate significance, and they are, so far as possible, brought into harmony with the religious beliefs and prescriptions. Having embraced a creed the individual endeavors to internalize it and follow it fully. It is in this sense that he lives his religion" (p. 434). Conversely, extrinsically oriented persons "are disposed to use religion for their own ends. The term is borrowed from axiology, to designate an interest that is held because it serves other, more ultimate interests. Extrinsic values are always instrumental and utilitarian. Persons with this orientation may find religion useful in a variety of ways—to provide security and solace, sociability and distraction, status and self-justification. The embraced creed is lightly held or else selectively shaped to fit more primary needs" (p. 434).

Allport and Ross (1967) summarize the two religious orientations by saying "the extrinsically motivated person uses his religion, whereas the intrinsically motivated person lives his religion" (p. 434). The authors state that they are describing an orientation to or motivation for religion. The two orientations, intrinsic and extrinsic, are described as if they were poles of a continuum.

The authors also described two additional orientations toward religion, and they chose to call them the indiscriminately proreligious and indiscriminately antireligious or nonreligious orientations.
(Allport & Ross, 1967). The indiscriminately proreligious individual essentially holds an attitude that says "religion is ok" (p. 441). On the Religious Orientation Scale, the indiscriminately proreligious individual tends to agree with items on both the intrinsic and extrinsic subscales. Hence their responses are indiscriminately proreligious. The indiscriminately antireligious individual is exactly the opposite. He/she tends to disagree with items on both the intrinsic and extrinsic subscales.

Researchers have made use of Allport's Intrinsic-Extrinsic Religious Orientation Scale in a variety of empirical studies. In one study, the Religious Orientation Scale was correlated with an instrument that measured religious experience. This instrument was called the Religious Experience Episodes Measure (REEM) (Hood, 1970). The REEM was composed of 15 descriptions of religious experiences. These experiences were based upon accounts of religious experience portrayed in the writings of James (1902). The results of this correlation revealed that those subjects with an intrinsic religious orientation were significantly more likely to have had a religious experience, than were those subjects with an extrinsic religious orientation (Hood, 1970). This conclusion was corroborated in other research (Hood, 1971).

In another study subjects were asked to give a detailed description of their "single, most personal experience." The interviewer, in each case, gave every subject a moment to introspect before describing this experience. The interviewer then asked each subject to describe his/her experience in any way he/she chose. The resulting
data clearly supported the hypothesis that persons with an intrinsic religious orientation reported a greater number of transcendent experiences, than did persons with an extrinsic religious orientation. The "transcendent experience" studied was composed of five categories (1) ego quality: perceived sense of self; (2) noetic quality: perceived knowledge of reality; (3) communicable quality: perceived ability to express an experience in words; (4) affective quality: perceived emotional quality of an experience; (5) religious quality: perceived sacredness of an experience. Each category was reported more often in the most personal experience of persons with an intrinsic orientation toward religion, than in the most personal experience of persons with an extrinsic orientation toward religion (Hood, 1973).

Other researchers have explored the relationship between intrinsic, extrinsic, and indiscriminately proreligious orientations toward religion—and the admission of racial and ethnic prejudice. In this study, subjects took the Intrinsic-Extrinsic Religious Orientation Scale, and some abbreviated measures of prejudice. The results revealed that persons with an extrinsic orientation toward religion were significantly more prejudiced than were persons with an intrinsic orientation toward religion. However, persons with an indiscriminately proreligious orientation toward religion were found to be the most prejudiced (Allport & Ross, 1967). More recent research has confirmed Allport's original conclusions on the relation between intrinsic/extrinsic religious orientations and prejudice (Batson, Naifeh, & Pate, 1978; Hoge & Carroll, 1973; Kahoe, 1977).
Researchers have correlated religious orientation with other psychological constructs (Wiebe & Fleck, 1980). Examples of this research are as follows:


Research correlating "religious variables" (e.g. religious experience) with Allport's four religious orientations (intrinsic, extrinsic, indiscriminately proreligious, and nonreligious) has generally found that those with intrinsic and indiscriminately proreligious orientations scored higher on the religious variable, than did the extrinsic and nonreligious subjects. The relationship between nonreligious variables (e.g. dogmatism) and the four religious orientations revealed that intrinsic and nonreligious subjects typically scored lower on the nonreligious variables than did extrinsic and indiscriminately proreligious subjects (Donahue, 1985).

The results of research into the relationship between gender and religious orientation have been mixed. Alker and Gawin (1978), and Paloutzian, Jackson, and Crandall (1978) did not find a sex difference on Allport's intrinsic and extrinsic subscales. Baither and
Saltzberg (1978), and Thompson (1974) found that women obtained higher intrinsic scores, although there were no differences in their scores on the extrinsic subscale when compared to the scores of men.

The Myers-Briggs Type Indicator

The Myers-Briggs Type Indicator (MBTI) is a self-report inventory which measures the variables in Jung's (1971) personality typology. The MBTI consists of four scales: (1) Extraversion-Introversion, (2) Sensation-Intuition, (3) Thinking-Feeling, and (4) Judgment-Perception. These scales are based on Jung's theory that behind the surface variations in human behavior exist patterns which are quite orderly and consistent. Myers (1980) hypothesized that every human being has a natural preference for one of the poles on each of the four scales described above. That it, people have a preference for either: extraversion or introversion, thinking or feeling, sensation or intuition, and judgment or perception. Jung also believed that these preferences manifest themselves in human behavior (Myers & McCaulley, 1985).

The extraversion-introversion polarity can be described in the following way:

Extraverts like variety and action. They are often good at social interaction and are good at greeting people. The extravert likes to be around other people. Extraverts usually act quite quickly and directly, and they easily focus attention on people and things in their environment. The extravert likes to share ideas with others, and is often actively involved in external happenings.
Extraverts often think their ideas through while they are actually in the process of telling others about them, and as a result of their eagerness to communicate their ideas, they sometimes interrupt others (Keirsey & Bates, 1978; Mamchur, 1984; Myers, 1980; Myers & McCaulley, 1985).

Introverts like to have quiet time in order to effectively concentrate on a task or to introspect within themselves. They do not usually mind working on one project for a long time without interruption. Introverts prefer to introspect before they act, and sometimes never get around to acting on their introspections. They also have the ability to work alone, and in fact are quite content to work alone. Introverts do have some difficulty in communicating freely. They prefer to focus inwardly, and they carefully consider ideas before openly discussing them with others. Finally, introverts like to quietly observe and reflect on what is happening around them (Keirsey & Bates, 1978; Mamchur, 1984; Myers, 1980; Myers & McCaulley, 1985).

The sensing-intuition polarity can be described in the following way:

Sensing types perceive their environment in terms of their five senses. They are very observant of their actual surroundings, but are typically not very imaginative. Also, sensing types do not usually get inspired. Rather the sensing type focuses his or her attention on concrete matters of fact. He or she usually has an accurate memory for factual information and a consistent ability to notice factual details. Sensing types are primarily focused upon
what is happening in the present moment. They are realistic and practical, and prefer to solve problems in a step by step manner (Keirsey & Bates, 1978; Mamchur, 1984; Myers, 1980; Myers & McCaulley, 1985).

Intuitive types are imaginative and inventive. They enjoy solving new problems. The intuitive type reaches conclusions quickly and is often bored with routine details. However, intuitive types do tend to be patient with complicated problems. The intuitive type is often inspired, and tends to trust and follow his or her inspirations. Intuitive types seek innovative, imaginative, and creative approaches to the solving of problems (Keirsey & Bates, 1978; Mamchur, 1984; Myers, 1980; Myers & McCaulley, 1985).

The thinking and feeling polarity can be defined in the following way:

Thinking types are not very emotional, nor are they very interested in other people's feelings. They value logic, and prefer to analyze and arrange life in a logical manner. The thinking type tends to make decisions based upon an objective impersonal, and logical analysis of a situation. Thinking types usually do not allow their emotions to affect their decision making process. As a result, at times they may seem to be cold and not very compassionate (Keirsey & Bates, 1978; Lawrence, 1979; Mamchur, 1984; Myers, 1980).

Feeling types are aware of their own feelings, as well as the feelings of other people. They typically allow their decisions to be influenced by either their own subjective values, or the values of others. The feeling type gives a higher priority to personal values
then to objective logic. Feeling types often are emotionally em-
pathic and quite sympathetic. They tend to value harmonious inter-
personal relationships (Keirsey & Bates, 1978; Lawrence, 1979;
Mamchur, 1984; Myers, 1980).

The judging-perception polarity can be defined in the following
way:

Judging types most prefer to be able to plan their day's activi-
ties, and then follow their plan. They like their day's activities
to be clearly and carefully organized. And they organize their
activities according to short-term schedules and long-term plans. In
their attempt to have and follow a plan, judging types tend to make
decisions too quickly. They are usually quite content when they have
reached a judgment on a situation. Hence they are often described as
being more decisive and closed than curious and open. Judging types
have a fundamental need to have matters settled, resolved, planned
out, and operating (Keirsey & Bates, 1978; Lawrence, 1979; Mamchur,
1984; Myers, 1980).

Perceiving types tend to be quite skillful at adapting to
changes in their environment. They are comfortable leaving matters
open for future changes based on new information. However, at times
the perceiving type may have difficulty in making decisions or com-
pleting projects. This type tends to be curious about new situations
or persons. The perceiving type prefers to have an open investiga-
tive attitude toward life. Finally, perceiving types seem to have a
flexible and adaptable approach to life, and have a high tolerance
for ambiguity (Keirsey & Bates, 1978; Lawrence, 1979; Mamchur, 1984;
Researchers have conducted a wide variety of research with the MBTI. The following represents a sampling of this research:

Myers and McCaulley (1985) cited a study by Stricker and Ross (1962) correlating the MBTI with the Minnesota Multiphasic Personality Inventory (Dahlstrom & Welsh, 1972). They found a significant correlation between the MMPI Psychopathic Deviate scale and the MBTI Perception Scale. A significant correlation between the MMPI Depression scale and the MBTI Introversion scale was also discovered.

Myers and McCaulley (1985) reported research by Mehrotra (1969) correlating the FIRO-B (Schutz, 1978) with the MBTI. Significant correlations were described between: the FIRO-B Expressed Inclusion scale and the MBTI Extraversion scale, the FIRO-B Wanted Inclusion scale and the MBTI Extraversion and Feeling scales, the FIRO-B Expressed Affection scale and the MBTI Extraversion scale, the FIRO-B Wanted Affection scale and the MBTI Feeling scale, the FIRO-B Expressed Control scale and the MBTI Extraversion, Thinking, and Judgment scales, and between the FIRO-B Wanted Control scale and the MBTI Introversion and Sensing scales.

Myers (1962) examined a correlation of the MBTI with Allport's Study of Values scale (Allport, Vernon, & Lindzey, 1960). Her results revealed significant correlations between: Allport's Theoretical scale and MBTI Introversion, Intuition, Thinking, and Judgment scales. Allport's Economic scale and the MBTI Extraversion, Sensing, Thinking, and Judgment scales, Allport's Aesthetic scale and the MBTI Introversion, Intuition, and Perception scales, Allport's Social...
scale and the MBTI Sensing and Feeling scales, Allport's Political scale and the MBTI Extraversion, Sensing, and Thinking scales, and between Allport's Religious scale and the MBTI Intuition and Feeling scales.

Myers and McCaulley (1985) explored the data of Lacy (1984) correlating the Strong-Campbell Interest Inventory (Campbell & Hansen, 1981) with the MBTI and uncovered significant correlations between: the Strong-Campbell Interest Inventory (SCII) Artistic theme and the MBTI Intuition scale, the SCII Social theme and the MBTI Feeling scale, the SCII Enterprising theme and the MBTI Extraversion scale, and the SCII Conventional theme and the MBTI Sensing and Judgment scales. On the SCII Basic Interest scales significant correlations were found between: Music, Art, and Writing and the MBTI Intuition scale, Athletics and the MBTI Extraversion scale, Public Speaking and the MBTI Extraversion scale, Mathematician and the MBTI Introversion, Intuition, and Thinking scales, College Professor and the MBTI Intuition and Thinking scales, and between Psychologist and the MBTI Intuition scale.

Kolb (1976) correlating the MBTI with the Kolb Learning Style Inventory unearthed significant correlations between: Kolb's Concrete Experience scale and the MBTI Sensing and Feeling scales, Kolb's Reflective Observation scale and the MBTI Introversion scale, Kolb's Abstract Conceptualization scale and the MBTI Intuition and Thinking scales, and between Kolb's Active Experimentation scale and the MBTI Extraversion and Sensing scales.
The Sentence Completion Test

The Sentence Completion Test (SCT) is a scale which allows one to assess a subject's level of ego development, as defined by Loevinger (Loevinger & Wessler, 1970). Loevinger's model of ego development consists of 10 stages. These stages of ego development progress along a continuum from simplistic ego structures to complex ego structures. The stages progress in an irreversible and hierarchical sequence. Individuals do not skip any of the stages as they progress along the continuum of stages. Each stage builds upon the previous stage and prepares the way for movement into the following one. The upward movement along Loevinger's sequence of stages is represented by qualitative differences in the way the ego interacts with its environment. As the individual progresses up this development continuum, his or her ego develops more complex ways of interacting with its environment (Loevinger, 1976).

The 10 stages comprising Loevinger's model of ego development are described as follows (Knefelcamp, Parker, & Widick, 1978; Loevinger, 1976; Loevinger & Wessler, 1970; Lorr & Manning, 1978).

The first stage is the presocial stage. This stage essentially describes the young infant before he or she has learned to conceptualize himself/herself as being separate from the environment. The infant is not considered to have an ego until he or she can successfully differentiate himself/herself, or construct an ego which is different from the outer world.

The second stage is the symbiotic stage. It involves a symbiotic relationship between the infant and the mother (or whoever...
plays the part of the mothering one). At this stage, the child still does not view himself/herself as being distinct from the mothering one.

The third stage is the impulsive stage. In this stage the child begins to establish his/her identity as being separate from the environment. Loevinger (1970) cites the child's capacity to say "no" as being evidence of this initial identity formation. The child's impulses are curbed by immediate rewards and punishments, and others in the environment are dichotomized as good or bad depending on how they behave toward the child. The child is focused on the present, as opposed to the past or the future. Finally, at this stage the child is still quite self-centered, and is dependent on others in the environment.

The fourth stage is the self-protective stage. Here the child learns to control himself/herself by understanding the relationship between behavior and the immediate reward or punishment which follows it. Though the child is able to perceive this relationship, he or she is still unable to accept responsibility for his/her behavior. That is, the child tends to blame other people, so that he/she might protect himself/herself from external criticism. Finally, while in this stage the child begins to recognize that society has rules differentiating right from wrong, but continues to believe that his/her behavior is wrong only if he/she gets caught. Loevinger states that human beings who are fixated at this level, can be described as subscribing to a philosophy of "simple hedonism" (Loevinger & Wessler, 1970, pp. 59-60).
The fifth stage is the conformist stage. Here the individual begins to identify with a group. This group can be composed of family, friends, and/or peers. During this stage the person is afraid of being rejected by the group, and so conforms as much as possible to the group's values, in order to gain this much needed approval. The individual's focus is so heavily concentrated on the group's norms, that individual differences are usually not noticed. And if individual differences are noticed, they are not accepted.

The sixth stage is the self-aware level. It is the modal stage for adults in the United States. One characteristic of this stage is that the individual has an increased level of self-awareness, and an improved ability to empathize with the perspectives of others. At this stage the individual becomes more aware that he or she does not really live up to the idealized norms of the group. As a result of this new insight, the person begins to move out from under the group's control. Finally, along with this increased self-awareness comes a greater awareness of others, and a beginning understanding of alternative perspectives and individual differences.

The seventh stage is the conscientious stage. At the conscientious stage the person now possesses what Loevinger (1970) calls an adult conscience. By this she means that the person has developed: long-term goals and ideals, the ability to be self-critical, and a sense of responsibility. The individual has synthesized his/her own values, and sees himself/herself as being able to evaluate and choose the inner rules which he/she is to live by. The person clearly sees himself/herself as being responsible for his/her own fate because
he/she is an active creator of his/her own destiny. Another component of the conscientious stage is the ability to appreciate a wide variety of thoughts, feelings, and motivations. This leads to the ability to be accurately empathic, which is another characteristic of the conscientious stage. As a result of this ability to be empathic, the conscientious person develops more mutuality in his/her interpersonal relationships.

The eighth stage is the individualistic level. The person at this stage has developed an increased awareness of his/her own individuality. In addition the individual understands the conflicts associated with being emotionally dependent on others. There is a new awareness that one can be emotionally dependent on others, without being financially or physically dependent. Another major characteristic of the individualistic stage is that the individual is more tolerant and understanding of both self and others. He/she is able to more fully recognize and accept individual differences in their true complexity. Finally, the individual has an improved ability to tolerate paradox, a greater awareness of inner conflict, a more complex comprehension of the concept of psychological causality, and an improved understanding of the distinctions between process and outcome.

The ninth stage is the autonomous stage. The person at this stage has a well developed ability to recognize and cope with inner conflict. The autonomous person is able to more completely appreciate the complexities of modern reality, and is able to synthesize ideas that appear incongruous to those at lower stages. He or she
has an increased tolerance for ambiguity. The autonomous person recognizes the importance of autonomy and interdependence, and is aware of his or her need to develop and move toward self actualization. Finally, the autonomous person believes in and supports the highest social values—such as justice, equality, opposition to prejudice, genuineness, and interpersonal spontaneity.

The tenth and final stage is the integrated stage. According to Loevinger, the vast majority of individuals do not function at this level of development. On the Sentence Completion Test, an integrated person combines responses which would be rated singularly at the autonomous stage. This is cited as evidence that he or she has developed a more integrated sense of personal identity. Maslow's description of the self actualizing person (Maslow, 1963) is considered the best description of this stage.

Researchers have explored Loevinger's Sentence Completion Test in an attempt to better understand the SCT itself, and to determine how the SCT correlated with various psychological measures. A sampling of these studies are as follows:

Erickson (1977) correlated the SCT with the Spence-Helmreich (1973) Attitude Toward Women Scale. Results revealed that subjects who scored in the postconformist categories (i.e., conscientious stage and individualistic stage) supported equal rights for women and men. They also had a more complex view of the roles of women in our society, when compared to subjects who scored in the lower stages of ego development.

Vincent and Vincent (1979) correlated Loevinger's measure of ego
development with a measure of intelligence (Wechsler Adult Intelligence Scale). The correlation between intelligence and stage of ego development was positively significant. This conclusion is in agreement with previous research findings (Loevinger, 1976).

Haan, Stroud, and Holstein (1973) studied a group of "hippies," most of whom scored at Loevinger's self-aware ego level. Sixty-two percent of the subjects scored at this stage or lower. The researchers learned that defense mechanisms (as assessed in clinical interview) were prevalent in this sample. Of the defense mechanisms examined, intellectualization and projection were significantly correlated with increases in stage of ego development. The authors hypothesized that ego defense mechanisms are more common at lower stages of ego development (i.e., self-aware level and below).

Frank and Quinlan (1976) studied the relationship between ego level and adolescent delinquency. The authors clearly demonstrated that legally labeled delinquents scored significantly more frequently in the lower stages of ego development (first four stages) than did adolescents who were not defined as delinquent. These delinquent subjects were significantly more involved in street fighting, homosexuality, and running away than were subjects from higher stages of development.

Vincent and Castillo (1984) investigated the relationship between ego level and DSM-III (Diagnostics and Statistics Manual, Third Edition) Axis II personality disorder diagnoses. The majority of subjects who scored below Loevinger's conformity level were categorized (via the MMPI) in the following personality disorders:
histrionic, narcissistic, antisocial, and borderline. The researchers discovered that patients with personality disorders did not score in the higher stages of ego development. Other researchers have agreed with this conclusion (Vincent & Vincent, 1979; Waugh & McCaulley, 1981). Finally, the majority of clients diagnosed as psychotic, were at or above Loevinger's conformity level of ego development.

Browning (1983) correlated Loevinger's SCT with a measure of authoritarian attitudes (Yankelovich, 1974). The author found that Loevinger's conformist stage was a transition point for those with authoritarian attitudes. Above this stage subjects were consistently less authoritarian than were subjects scoring at and below this stage. Authoritarianism appeared to reach a peak at the conformist stage of ego development.

Whitely (1982) conducted research in an experimental residence hall (The Sierra Hall) at the University of California, Irvine. All subjects were in their freshman year and were required to enroll in a core curriculum consisting of modules on empathy and social perspective-taking, community building, assertiveness training, community service, career decision making, lifestyle, sex-role choice, conflict resolution, and race roles. Loevinger's SCT (along with several other scales) was administered both before the fall term began and after the spring term ended. Whitely found a pattern of developmental growth between the pretest and posttest that was significant. Subjects typically moved from the conformist stage to the self-aware stage of ego development.
The Current Research Study

Relationship Between the Machiavellian Personality and Religious Orientation

The only previous research which sheds light on the relationship between Machiavellian personality and religious orientation, is in the areas of religious belief and ethical behavior. Research in these areas revealed that the "unbelievers" (i.e., agnostics or atheists) scored higher on a measure of Machiavellianism than did those who expressed religious belief (Ray, 1982). The Machiavellian personality also correlated positively with unethical behavior (Hegarty & Sims, 1979). This correlation between the Machiavellian personality and the unbeliever and between the Machiavellian personality and unethical behavior, leads to the hypothesis that the High Mach could have an extrinsic orientation (as measured by Allport's Religious Orientation Scale) to religion. That is, even though the Machiavellian personality may correlate with agnostic or atheistic religious belief and unethical behavior, they may still have some involvement with religion that is extrinsically motivated. This appears reasonable because, as stated previously, the extrinsically oriented individual uses religion to provide security, status, and social connections; and the extrinsically oriented individual's religious belief is not very important to them. This description of the extrinsically oriented individual is very similar to that of the Machiavellian personality, in that the latter would probably use religion for their own gain (i.e., for security, status, and social
connections) in the same fashion that they use (i.e., exploit or manipulate) other types of settings for their own personal gain.

Relationship Between the Machiavellian Personality and the Myers-Briggs Type Indicator

In reviewing the literature on the Machiavellian personality, no researchers have attempted to correlate this personality type with the Myers-Briggs Type Indicator. Only one study explicitly correlated the Machiavellian personality with a measure of extraversion. The results revealed that the Machiavellian personality tends to be extraverted (Skinner, 1983). Since the Myers-Briggs Type Indicator provides a measure of the introversion-extraversion dimension, a correlation study between the Machiavellian personality and the MBTI would provide a way of testing Skinner's (1983) results.

The relationship between the Machiavellian personality and the Sensing-Intuition scale of the MBTI has not previously been tested in any of the reported research on the Machiavellian personality. However, the description of the intuitive type is compatible with that of the Machiavellian personality. Research has shown that the High Mach has a propensity to assume leadership roles in experimental settings (Bochner et al., 1975; Geis, Krupat & Berger, 1965). Other research has shown that when offered the opportunity to exploit or manipulate subjects, the Machiavellian is quite innovative and inventive in the creation of manipulations (Geis, Christie, & Nelson, 1970). Another study has demonstrated that the Machiavellian is successful at being enterprising in experimental situations where there was competition for some arbitrary goal. It was found that the Machiavellian
personality could bargain and manipulate his/her way to that goal more often than those who were not of this personality type (Jones & White, 1983). The tendencies to take a leadership role, to be innovative, and to be enterprising and achieving, all reflect an intuitive type orientation on the part of the Machiavellian personality (Keirsey & Bates, 1978; Myers, 1980).

A correlation between the Machiavellian personality and the thinking-feeling scale of the MBTI also has not been previously tested. The MBTI thinking type appears to coincide with the Machiavellian personality. In an experimental bargaining game that included emotion-laden issues, the Machiavellian won most often. However, the Machiavellian personality did not win more often in blandly neutral issue games. The experimenters concluded that the Machiavellian personality wins more frequently in emotion-laden games, because they are not distracted by their feelings. Rather they concentrate on the logic necessary to be successful in these games (Geis, Weinheimer, & Berger, 1970). Other research has found that elementary school principals who had a Machiavellian personality, functioned most effectively in schools where they could make impersonal and objective judgments, and where a personal or intimate involvement with the staff was not necessary (Andrea & Conway, 1982). Also, a dissertation studying the effect of political campaign styles on the Machiavellian personality found that this personality group was more impersonal and objective in their voting choice, and more aware of the reasons behind their choice of a candidate (Mulligan, 1983). The tendencies to be logical, impersonal, objective, and reason-oriented...
are all characteristic of the Machiavellian personality's thinking-type orientation (Keirsey & Bates, 1978; Myers & McCaulley, 1985).

No comparison between the Judging-Perception scale of the MBTI and Machiavellian personality has been tested in any of the reported research on the Machiavellian personality. The description of the MBTI perception type is similar to that of the Machiavellian personality. Several of the initial studies on Machiavellianism found that the High Mach excels in unplanned and unexpected situations (Geis & Christie, 1970). That is, the Machiavellian tends to skillfully manage situations where subjects need to adapt themselves to a totally new and challenging setting, and to think quickly and speak glibly on their feet. They achieve this adaptation by adjusting their manipulations to the specific requirements of the experimental situation. In this way they win more often than their competitors (Geis & Christie, 1970; Jones & White, 1983; Martinez, 1981). The tendency to successfully manage unplanned and unexpected competitive and challenging situations, by being adaptable, is characteristic of a perception-type orientation on the part of the Machiavellian personality (Myers, 1980; Myers & McCaulley, 1985).

Relationship Between the Machiavellian Personality and Ego Development

Previous research on the Machiavellian personality has rarely attempted to correlate this personality style with stage of ego development. Redmore and Waldman (1975) attempted to correlate the Machiavellian with Loevinger's third stage of ego development (the self-protective stage). The self-protective stage of ego development
is one of her lower stages. The researchers hypothesized that the Machiavellian personality would score at the self-protective stage on Loevinger's Sentence Completion Test. This relationship was found not to be true.

Other research illuminating the relationship between the Machiavellian personality and ego development is as follows: Nedd and Marsh (1980) discovered that the Machiavellian personality tends to score high on a measure of tolerance of ambiguity. The researchers also found that this personality type obtains high scores on a measure of field independence. Blumstein (1973) discovered that the Machiavellian personality demonstrated greater interdependence, and "primariness" (interpersonal intimacy). DiMarco and Wilhelm (1973) found significant correlations between the Machiavellian personality and traits of the self actualizer.

According to Loevinger, these traits (tolerance of ambiguity, field independence, interdependence, primariness, and self-actualization) are all characteristics of the four highest stages of ego development (Loevinger, 1976; Loevinger & Wessler, 1970).

**Null Hypotheses**

1. There will be no difference between the High Mach and Low Mach as scored on the extrinsic subscale of Allport's Religious Orientation Scale.

2A. There will be no difference between the High Mach and Low Mach as scored on the extravert subscale of the Extravert-Introvert scale of the MBTI.
2B. There will be no difference between the High Mach and Low Mach as scored on the intuitive subscale of the Sensing Intuition scale of the MBTI.

2C. There will be no difference between the High Mach and Low Mach as scored on the thinking subscale of the Thinking-Feeling scale of the MBTI.

2D. There will be no difference between the High Mach and Low Mach as scored on the perception subscale of the Judgment-Perception scale of the MBTI.

3. There will be no difference between the High Mach and Low Mach as scored on the four highest stages of Loevinger's system of ego development.
CHAPTER III

DESIGN AND METHODOLOGY

Population

The population to be tested in this study will consist of freshmen students at a college in Pennsylvania. The total number of students will be approximately 100. Each student is approximately 18 years of age. Most of the students are majoring in a business related subject, and all are enrolled in a one credit course for freshmen students. The goal/purpose of this course is for students to gain self knowledge regarding their personalities, and to learn how to improve their study skills. These students will be administered tests on the Machiavellian personality (Mach V), religious orientation (Intrinsic-Extrinsic Religious Orientation Scale), personality "type" (Myers-Briggs Type Indicator), and ego development (Sentence Completion Test).

Operational Definitions

Scores on the Mach V which are in the top fourth of the population will be called "High Machs" (and are referred to as displaying the so called Machiavellian personality), while scores in the bottom fourth will be called "Low Machs."

Scores on the Religious Orientation Scale which are above the median on both the extrinsic and intrinsic subscales will be defined
as having an extrinsic religious orientation, while scores which are below the median on both the extrinsic and intrinsic subscales will be defined as having an intrinsic religious orientation. Those who score at least 12 points less on the intrinsic subscale than on the extrinsic subscale are classified as indiscriminately proreligious (Allport & Ross, 1967).

The Myers-Briggs Type Indicator will be scored using the standard MBTI scoring stencils (Myers & McCaulley, 1985) such that an assessment of either introversion or extraversion, intuition or sensing, thinking or feeling, and judgment or perception will be made for every subject.

The Sentence Completion Test will be scored according to the automatic ogive rules. These rules are based on "the cumulative frequency distribution of item ratings for any given protocol . . . . the automatic rules, requires no judgment from a rater other than that required to rate the individual responses. Given an ogive of 36-item ratings, these rules yield only one possible total protocol rating" (Loevinger & Wessler, 1970, pp. 128, 130). Based on the total protocol rating, each subject will be placed in one of Loevinger's 10 stages of ego development.

Method to be Used to Collect Data

Regarding procedure, the plan is to administer the four scales to the fall 1987 fresher classes. Appendix A contains the general directions for all four questionnaires and the specific directions for each individual questionnaire. During the first session
the Myers-Briggs Type Indicator (Appendix B) will be administered. On the second session the Loevinger Sentence Completion Test (Appendix C for female subjects or Appendix D for male subjects) will be given, while on the third session the Mach V (Appendix E) will be administered, and on the fourth session the Intrinsic/Extrinsic Religious Orientation Scale (Appendix F) will be given.

Even though the sequence of scale administration was the same for all subjects, order effect (Luchins, 1957) is not relevant to our discussion. The only research in this area revealed no significant influence of order effect on the Machiavellian personality (Steininger & Eisenberg, 1976b). No additional research specifically discussed the relevance of order effect to the administration of the three other scales used in this study. A small number of researchers did include order effect in their research design (Hood, 1971; Redmore & Waldman, 1975), however most did not. Furthermore, McDaid, Director of Research at the Center For Application of Psychological Type, stated that in research involving the MBTI, only one study considered order effect. By and large, researchers have not seen order effect as being a concern (J. McDaid, 1988, personal communication, September, 1988).

Subjects will be informed (Appendix A) that their participation will be voluntary, that they are not to write their real names on the questionnaires, that they are free to stop a questionnaire whenever they choose without fear of any negative consequence of any sort, and that they can put a code name on the questionnaires for later feedback from myself if they so choose to have their questionnaires...
interpreted. Also, no verbal consent will be obtained from students, as their filling out of the questionnaires indicates implied consent. Finally, the method used to collect data will be clearly by a human subjects review board (Appendix L).

Method to be Used to Tabulate and Analyze Data

Regarding data organization, the research approach will consist of tables listing: (a) values, frequencies, and percentages of the total of Mach V scores; (b) frequencies and percentages of the total for extrinsic, intrinsic, and indiscriminately proreligious orientations; (c) number of cases, means, standard deviations, standard errors, t values, degrees of freedom, and 2-tail probabilities for the MBTI; (d) the MBTI results of a normative sample of 11th and 12th grade male and female high school students; (e) the MBTI results of a normative sample of male and female traditional age college students; (f) the MBTI results of a sample of Pennsylvania college male and female freshpersons; (g) the chi-square results of the high school normative sample with the Pennsylvania college sample; (h) the chi-square results of the college normative sample with the Pennsylvania college sample; (i) frequencies and percentages of the total for stages of ego development; and (j) frequencies and percentage of the total for male and female subjects. There will also be a figure describing a graph of MBTI means juxtaposed on MBTI continuous scores. Chi squares will be calculated for hypothesis 1 and hypothesis 2, as well as for the investigation into gender and Machi-avellianism. T tests will be calculated for hypothesis 2A, 2B, 2C,
and 2D.

Instruments Used to Collect Data

The origin of the Mach V was in the year 1954-1955 (Christie, 1970d). During that year Christie was one of several psychologists who participated as fellows at the Center for Advanced Studies in the Behavioral Sciences. These psychologists explored Machiavelli's The Prince and the Discourses (1940) in search of his approach to interpersonal manipulation. They found several statements which seemed to be logically consistent. These statements were typed on 3 x 5 cards, and several fellows at the center were asked to answer each item on a 1 - 7 scale—ranging from disagree strongly, disagree somewhat, disagree slightly, no opinion, agree slightly, agree somewhat, to agree strongly. This resulted in the discovery of 71 items which seemed to accurately reflect Machiavelli's statements in The Prince and the Discourses (1940).

As research continued with different populations it was determined that 50 of the original 71 items differentiated between high (above median) and low (below median) scorers on the total scale. The researchers then made the decision to use only 20 items of these 50 items, because they believed that these items would discriminate between high and low scorers without requiring an excessive amount of time to complete the scale. This 20-item Likert scale was called the Mach IV (Christie, 1970a).

With further research, investigators became concerned about the effects of social desirability (Edwards, 1957) upon responses to the
Mach IV. It was found that there was a high correlation between Edwards' measure of social desirability and the Mach IV, especially for women (Budner, 1962). A new forced-choice scale was created in order to eliminate the effect of social desirability. Each of the 20 items on the Mach IV was paired with two other statements. One of these two other statements was matched in social desirability with the Mach statement, but was unrelated to the subject of Machiavellianism. (These items were selected from scales known to be unrelated to Machiavellianism and to have a broad range of known social desirability ratings). The third item was high in social desirability if the other two items were low, or was low in social desirability if the other two items were high (Christie, 1970a).

This revised scale was named the Mach V. In most populations the reliability of the Mach V is in the 60s (Christie, 1970a). Split half reliabilities range from 0.60 to 0.80 (Bogart, 1971). The construct validity of the Mach V was examined in one experiment where researchers found a positive correlation (.71) between scores on the Mach V and manipulative behavior in the laboratory (Geis, 1970b). Several research studies have supported the validity of the Mach V (Bochner et al., 1975; Christie & Geis, 1970b; Loesch et al., 1978).

The origin of the intrinsic-extrinsic orientation to religion occurred in the early writing of Allport (1950). In The Nature of Prejudice (Allport, 1954) he discussed two types of religious orientation, which he terms "interiorized" and "institutionalized." Though he did not specifically reference them as intrinsic and extrinsic, the terms interiorized and institutionalized referred to
intrinsic and extrinsic respectively (Hunt & King, 1971). Allport specifically introduced and defined the intrinsic and extrinsic religious orientations in his later writings (Allport, 1959, 1966; Allport & Ross, 1967).

In his early research, Allport emphasized the extrinsic orientation toward religion, and mainly focused on its association with ethnic prejudice (Allport, 1954, 1959). However, in his later research Allport gave equal attention to both the intrinsic and extrinsic orientations toward religion. In these writings the intrinsic and extrinsic religious orientations were described as being at opposite ends of a bipolar continuum. Also, in this phase of his research, Allport began to refer to one's religious orientation as being essentially equivalent to one's motivation for religious behavior. That is, some persons were intrinsically motivated while others were extrinsically motivated with regards to their orientation toward religion (Allport, 1966; Allport & Ross, 1967).

The origin of Allport's Religious Orientation Scale began with Wilson's Extrinsic Religious Values Scale (Wilson, 1960). With Allport's assistance, Wilson created a scale that measured the extrinsic orientation toward religion. The next step occurred in a seminar at Harvard University, which was lead by Allport. Out of this seminar Allport's Intrinsic-Extrinsic Religious Orientation Scale was created (Robinson & Shaver, 1969). This scale consisted of two subscales, one measuring an intrinsic religious orientation, the other measuring an extrinsic religious orientation.

Today the Religious Orientation Scale is a well known measure of
intrinsic and extrinsic religious orientation (Hunt & King, 1971). The item to subscale (i.e., Intrinsic and Extrinsic scale) reliability ranges from .18 to .58 (Robinson & Shaver, 1969). The construct validity of the Religious Orientation Scale was probed in one experiment, where a significant positive correlation (.51) was found between a measure of religious experience and an intrinsic religious orientation, and a negligible correlation (.06) was found between a measure of religious experience and an extrinsic religious orientation (Hood, 1970). In other research the Religious Orientation Scale has consistently demonstrated its construct validity (Allport & Ross, 1967; Donahue, 1985).

However, support for the validity of the Religious Orientation Scale is not unanimous. Some question exists as to the validity of the subscale measuring an intrinsic religious orientation (Hunt & King, 1971). It has been recommended that researchers forgo use of the intrinsic-extrinsic subscales, and focus on their measurable components (King, 1971). In spite of this concern, most researchers continue to believe that the Religious Orientation Scale is a useful measure of religious motivation (Dittes, 1971; Donahue, 1985).

The origin of the Myers-Briggs Type Indicator goes back to the original effort of Briggs, who began to develop a personality typology in the early 20th century (Myers, 1980). She based this typology on her study of biography. In the process of creating her theory of personality she discovered the work of Jung, whereupon she dropped her own effort and began to explore and elaborate upon Jung's personality typology. Her work was continued by her daughter, Isabel
Myers, around the time of World War II. The human suffering in this war motivated Isabel Myers to work towards helping people better understand each other, so that they might avoid unnecessary and destructive interpersonal conflicts. As a result, she began work on a "type indicator" which would make Jung's theory accessible and available for practical use (Myers, 1980).

The first type indicator was tested on a very small group of relatives and friends. The purpose of using this group was to examine the author's ability to create questions which would accurately measure psychological type. To make this assessment they tested subjects whose type preferences seemed to be rather obvious, due to many years of personal acquaintance (Myers & McCaulley, 1985).

As a result of the above process, certain items were considered valid reflections of a particular type, and these items were made into a scale known as Form A. A later reorganizing of these items was called Form B. Form C resulted from an attempt to eliminate items having a high validity for more than one index, and to differentially weigh items which were either more popular or typically omitted. Form D was created in anticipation of the 1962 publication of the MBTI by the Education Testing Service. New items were administered to subjects of known type; items that were still of interest were then administered to subjects who had taken Form C. Items which were still of interest after item analysis were added to Form C and became known as Form D. Next the MBTI was tested on high school, college, male, female, overachiever, and underachiever populations. The remaining items were named Form F. Form F was identical to Form
E, except that it also included experimental items. Item weights which had been used in Form C were made more accurate in Form F. Form F was then restandardized. The result of this restandardization of Form F was the creation of Form G. Form G was created as a result of eliminating 38 research items from Form F, adding one newly created item and eliminating two old items, changing other items to reduce ambiguity, and placing the most predictive items toward the beginning so that type could be predicted if a subject completed only the first 50 questions (Myers & McCaulley, 1985).

The reliability and validity of the MBTI has been carefully investigated over the last 20 years. One study found that the test-retest reliability of the various type categories was .84 for the Extraversion-Introversion scale, .88 on the Sensing-Intuition scale, .79 on the Thinking-Feeling scale, and .75 on the Judgment-Perception scale (Myers, 1973). Another study explored the construct validity of the MBTI by correlating the MBTI with the Jungian Type Survey (another instrument which identifies Jungian types). Correlations were based upon the sum of MBTI points and the Jungian Type Survey scores. The correlation between the two instruments were: extraversion .68 (p < .01), introversion .66 (p < .01), sensing .54 (p < .01), intuition .47 (p < .01), thinking .33 (p < .01), and feeling .23 (p < .05) (Rich, 1972). Several other studies have corroborated the reliability and construct validity of the MBTI (Carlyn, 1977; Myers & McCaulley, 1985).

The origin of Loevinger's system of ego development stems from her belief that each person has a core level of ego functioning.
This assumption was based on the work of Sullivan, Grant, and Grant (1957). She began with a 4-point scale which was derived from the second to fifth levels of Sullivan et al. (1957). These stages were entitled impulsive, conformist, conscientious, and autonomous. The next step in the SCT's development was the discovery of a stage between impulsive and conformist called the self-protective stage. Then a transitional stage was uncovered between the conformist and conscientious stages, and was called awareness. Loevinger and Wessler (1970) state that this stage was discovered early on because of the large number of cases found in the area between the conformist and conscientious levels of development. Subsequent to this discovery, the transition between conscientious and autonomy levels was found and labeled as the individualistic level. The highest stage of development was later hypothesized as the integrated stage, and the lowest stages of development were hypothesized and termed the pre-social and symbiotic stages. The number of cases in each of these extreme stages is reported to be quite small (Loevinger & Wessler, 1970).

In summary, Loevinger's system of ego development originally began as a four stage scale. It gradually was expanded until it became a scale composed of 10 stages. Loevinger (1976) further states it is possible that future research will produce a still more refined and discriminating system of stages.

The history of Loevinger's scoring manual for the Sentence Completion Test took place in three phases. The first attempt to construct a scoring manual involved the categorizing of several sample
responses for each of the sentence completion stems, according to the four levels of ego development first used. The second effort consisted of several sample responses grouped into various categories. Each category represented a common theme of response. The different categories were grouped under the different levels of ego development. The third manual attempted to clarify and explain the various categories in terms of Loevinger's developmental theory (Loevinger & Wessler, 1970).

The Sentence Completion Test was developed by administering tests of different lengths to a large sample of girls and women. More recently, Loevinger has conducted research with samples of boys and men to eliminate the possibility of a built in sex bias in her test. Loevinger and her associates created a sentence completion test composed of 36 items. Their reasoning was that a 36-item scale was long enough to provide a reasonable assessment of the subject's stage of ego development, without causing the subject to become impatient with the test-taking process (Loevinger, 1976).

Several studies have explored the reliability and validity of the Sentence Completion Test. The SCT has a test-retest reliability of .79 (Redmore & Waldman, 1975) and an inter-rater correlation of .86 (Loevinger & Wessler, 1970). The construct validity of the Sentence Completion Test was explored in an experiment where interviewer assessment of ego development was correlated with results of the Sentence Completion Test. The resulting correlation ranged from .58 to .61 (Lucas, 1971). Other research has corroborated the reliability and validity of the Sentence Completion Test (Blasi, 1972;
CHAPTER IV

RESULTS

Hypotheses

The results are introduced in this chapter. They are originated around the three null hypotheses. All three null hypotheses involve correlations with the Machiavellian personality. Appendix G contains Mach V values, frequencies, and percentages of total.

Null Hypothesis 1

Null hypothesis 1 states that there is no difference between High and Low Mach as scored on the extrinsic subscale of Allport's Religious Orientation Scale. Table 1 contains the frequency and percentages of the total for the intrinsic, extrinsic, and indiscriminately proreligious orientations as they pertain to Low and High Machiavellianism.

A chi square calculation reveals a value of 3.93017 and significance of 0.1401. This chi square is not significant at the 0.05 level, and the null hypothesis fails to be rejected.
Table 1

Frequencies and Percentages of the Total of Extrinsic, Intrinsic, and Indiscriminately Proreligious Orientations for Low and High Machiavellians

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low Mach</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extrinsic</td>
<td>6</td>
<td>17</td>
</tr>
<tr>
<td>Indiscriminately Proreligious</td>
<td>3</td>
<td>8.6</td>
</tr>
<tr>
<td>Intrinsic</td>
<td>7</td>
<td>20.0</td>
</tr>
<tr>
<td><strong>High Mach</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extrinsic</td>
<td>8</td>
<td>22.9</td>
</tr>
<tr>
<td>Indiscriminately Proreligious</td>
<td>8</td>
<td>22.9</td>
</tr>
<tr>
<td>Intrinsic</td>
<td>3</td>
<td>8.6</td>
</tr>
</tbody>
</table>

Null Hypothesis 2A

Null hypothesis 2A states that there is no difference between the High Mach and Low Mach as scored on the extravert subscale of the Extravert-Introvert scale of the MBTI. Table 2 contains the number of cases, means, standard deviations, standard errors, t values, degrees of freedom, and 2-tail probabilities of the MBTI as they pertain to Low and High Machiavellianism. Figure 1 is a graphical representation of MBTI means of Low and High Machiavellians juxtaposed on the range of MBTI continuous scores.

A t-test calculation reveals a t value of -0.90, with 47 degrees of freedom, and a probability of 0.370. This t test is not reproducible with permission of the copyright owner. Further reproduction prohibited without permission.
Table 2

Number of Cases, Means, Standard Deviations, Standard Errors, T-Values, Degrees of Freedom, and 2-Tail Probabilities of the MBTI for Low (Group 1) and High (Group 2) Machiavellians

<table>
<thead>
<tr>
<th></th>
<th># of Cases</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Standard Error</th>
<th>T Value</th>
<th>Degrees of Freedom</th>
<th>2-Tail Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introvert-Extravert</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 1</td>
<td>21</td>
<td>88.8095</td>
<td>24.429</td>
<td>5.331</td>
<td>-0.90</td>
<td>47</td>
<td>0.370</td>
</tr>
<tr>
<td>Group 2</td>
<td>28</td>
<td>95.9286</td>
<td>29.179</td>
<td>5.514</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensing-Intuition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 1</td>
<td>21</td>
<td>93.3810</td>
<td>22.277</td>
<td>4.861</td>
<td>0.20</td>
<td>47</td>
<td>0.846</td>
</tr>
<tr>
<td>Group 2</td>
<td>28</td>
<td>91.9286</td>
<td>28.024</td>
<td>5.296</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thinking-Feeling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 1</td>
<td>17</td>
<td>110.5294</td>
<td>22.277</td>
<td>5.403</td>
<td>2.22</td>
<td>41</td>
<td>0.32</td>
</tr>
<tr>
<td>Group 2</td>
<td>26</td>
<td>95.5385</td>
<td>21.223</td>
<td>4.162</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Judgment-Perception</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 1</td>
<td>21</td>
<td>100.1429</td>
<td>27.170</td>
<td>5.929</td>
<td>-0.74</td>
<td>47</td>
<td>0.461</td>
</tr>
<tr>
<td>Group 2</td>
<td>28</td>
<td>106.1071</td>
<td>28.207</td>
<td>5.331</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Note: By definition (Myers, I., & McCaulley, M., 1985) scores over 100 are either extravert, sensing, thinking, or judgment, while scores under 100 are either introvert, intuition, feeling, or perception.

Figure 1: Graph of MBTI Means and Range of Scores for Low and High Mach Values

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significant at the 0.05 level of significance, and the null hypothesis fails to be rejected.

Null Hypothesis 2B

Null hypothesis 2B states that there is no difference between the High and Low Mach as scored on the intuitive subscale of the Sensing-Intuition scale of the MBTI. Table 2 contains the number of cases, means, standard deviations, standard errors, t values, degrees of freedom, and 2-tail probabilities as they pertain to Low and High Machiavellianism. Figure 1 is a graphical representation of MBTI means juxtaposed on the range of MBTI continuous scores.

A t-test calculation reveals a t value of 0.20, with 47 degrees of freedom, and a probability of 0.846. This t test is not significant at the 0.05 level of significance, and the null hypothesis fails to be rejected.

Null Hypothesis 2C

Null hypothesis 2C states that there is no difference between the High and Low Mach as scored on the thinking subscale of the Thinking-Feeling scale of the MBTI. Table 2 contains the number of cases, means, standard deviations, standard errors, t values, degrees of freedom, and 2-tail probabilities as they pertain to Low and High Machiavellianism. Figure 1 is a graphical representation of MBTI means juxtaposed on the range of MBTI continuous scores.

A t-test calculation reveals a t value of 2.22, with 41 degrees of freedom, and a probability of 0.032. This t test is significant
at the 0.05 level of significance, and the null hypothesis is rejected.

**Null Hypothesis 2D**

Null hypothesis 2D states that there is no difference between the High Mach and Low Mach as scored on the perception subscale of the Judgment-Perception scale of the MBTI. Table 2 contains the number of cases, means, standard deviations, standard errors, t values, degrees of freedom, and 2-tail probabilities as they pertain to Low and High Machiavellianism. Figure 1 is a graphical representation of MBTI means juxtaposed on the range of MBTI continuous scores.

A t-test calculation reveals a t value of -0.74, with 47 degrees of freedom, and a probability of 0.461. This t test is not significant at the 0.05 level of significance and the null hypothesis fails to be rejected.

Table 3 represents the MBTI results of a normative sample of 11th and 12th grade male and female high school students (Bisbee, Mullaly, & Osmond, 1982). Table 4 represents the MBTI results of a normative sample of male and female college students of traditional age (Myers & McCaulley, 1985). Table 5 represents the MBTI results of High and Low Machiavellians in a sample of freshpersons from a college in Pennsylvania.
Table 3
The MBTI Results of a Normative Sample of 11th and 12th Grade Male and Female High School Students

<table>
<thead>
<tr>
<th>Type</th>
<th>ISTJ</th>
<th>ISFJ</th>
<th>INFJ</th>
<th>INTJ</th>
</tr>
</thead>
<tbody>
<tr>
<td>11th</td>
<td>6.9%</td>
<td>6.8%</td>
<td>1.7%</td>
<td>2.6%</td>
</tr>
<tr>
<td>12th</td>
<td>4.1%</td>
<td>5.3%</td>
<td>3.8%</td>
<td>3.5%</td>
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<table>
<thead>
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<th>ISFP</th>
<th>INFP</th>
<th>INTP</th>
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</thead>
<tbody>
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<td>11th</td>
<td>4.1%</td>
<td>5.3%</td>
<td>3.8%</td>
<td>3.5%</td>
</tr>
<tr>
<td>12th</td>
<td>6.5%</td>
<td>9.3%</td>
<td>7.5%</td>
<td>4.9%</td>
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Table 4
The MBTI Results of a Normative Sample of Male and Female Traditional Age College Students

<table>
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<th>Type</th>
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<th>INFJ</th>
<th>INTJ</th>
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</thead>
<tbody>
<tr>
<td>Male</td>
<td>7.8%</td>
<td>9.9%</td>
<td>3.4%</td>
<td>2.8%</td>
</tr>
<tr>
<td>Female</td>
<td>3.9%</td>
<td>5.7%</td>
<td>5.8%</td>
<td>3.4%</td>
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</table>

<table>
<thead>
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<th>ESFP</th>
<th>ENFP</th>
<th>ENTP</th>
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</thead>
<tbody>
<tr>
<td>Male</td>
<td>4.0%</td>
<td>7.3%</td>
<td>10.4%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Female</td>
<td>8.9%</td>
<td>12.4%</td>
<td>5.6%</td>
<td>3.8%</td>
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</table>
Table 5

The MBTI Results of High and Low Machiavellians in a Sample of Freshpersons From a Pennsylvania College

<table>
<thead>
<tr>
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<th>INTJ</th>
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<td>15.0%</td>
<td>5.0%</td>
<td>5.0%</td>
<td>0.0%</td>
<td></td>
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<tr>
<td>ISTP</td>
<td>ISFP</td>
<td>INFJ</td>
<td>INTP</td>
<td></td>
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<tr>
<td>0.0%</td>
<td>5.0%</td>
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<td>7.5%</td>
<td></td>
</tr>
<tr>
<td>ESTP</td>
<td>ESFP</td>
<td>ENFP</td>
<td>ENTP</td>
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</tr>
<tr>
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<td>10.0%</td>
<td>10.0%</td>
<td>10.0%</td>
<td></td>
</tr>
<tr>
<td>ESTJ</td>
<td>ESFJ</td>
<td>ENFJ</td>
<td>ENTJ</td>
<td></td>
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<tr>
<td>7.5%</td>
<td>12.5%</td>
<td>2.5%</td>
<td>2.5%</td>
<td></td>
</tr>
</tbody>
</table>

Table 6 represents the chi-square calculations of the Pennsylvania college sample of freshpersons with the high school normative sample. Chi squares significant at the 0.05 level of significance are ISTJ, INFJ, ISTP, INTP, ESTP, and ENTP. Table 7 represents the chi-square calculations of the Pennsylvania college sample of freshpersons with the college normative sample. The chi square significant at the 0.05 level of significance are ISTJ, ISTP, INTP, ESTP, and ENTP.
Table 6

Chi Square of the High School Normative Sample
With the Pennsylvania College Sample

<table>
<thead>
<tr>
<th></th>
<th>ISTJ</th>
<th>ISFP</th>
<th>INFJ</th>
<th>INTJ</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.508</td>
<td>0.476</td>
<td>6.405</td>
<td>2.616</td>
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<tr>
<td>4.161</td>
<td>0.016</td>
<td>3.602</td>
<td>4.571</td>
<td></td>
</tr>
<tr>
<td>6.522</td>
<td>0.052</td>
<td>0.833</td>
<td>5.308</td>
<td></td>
</tr>
<tr>
<td>3.675</td>
<td>0.141</td>
<td>0.336</td>
<td>0.502</td>
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</tbody>
</table>

Table 7

Chi Square of the College Normative Sample
With the Pennsylvania College Sample

<table>
<thead>
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<th>ISFP</th>
<th>INFJ</th>
<th>INTJ</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.646</td>
<td>2.425</td>
<td>0.752</td>
<td>2.842</td>
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</tr>
<tr>
<td>3.992</td>
<td>0.085</td>
<td>0.498</td>
<td>4.944</td>
<td></td>
</tr>
<tr>
<td>4.086</td>
<td>0.998</td>
<td>0.015</td>
<td>8.009</td>
<td></td>
</tr>
<tr>
<td>0.220</td>
<td>0.001</td>
<td>1.716</td>
<td>0.444</td>
<td></td>
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</table>

Null Hypothesis 3

Null hypothesis 3 states that there is no difference between the
High Mach and Low Mach as scored on the four highest stages of Loevinger's system of ego development. Table 8 contains the frequencies and percentages of the total for each stage of ego development.

Table 8

Frequencies and Percentages of the Total of Loevinger's Stages of Ego Development for Low and High Machiavellians

<table>
<thead>
<tr>
<th>Stage</th>
<th>Frequency</th>
<th>% of Total</th>
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<td></td>
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<td>7.5</td>
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<tr>
<td>Delta</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>Conformist</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>Self-Aware</td>
<td>9</td>
<td>17.0</td>
</tr>
<tr>
<td>Conscientious</td>
<td>8</td>
<td>15.1</td>
</tr>
<tr>
<td>Individualistic</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td><strong>High Mach</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>2</td>
<td>3.8</td>
</tr>
<tr>
<td>Delta</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Conformist</td>
<td>2</td>
<td>3.8</td>
</tr>
<tr>
<td>Self-Aware</td>
<td>18</td>
<td>34.0</td>
</tr>
<tr>
<td>Conscientious</td>
<td>3</td>
<td>5.7</td>
</tr>
<tr>
<td>Individualistic</td>
<td>4</td>
<td>7.5</td>
</tr>
</tbody>
</table>

A chi-square calculation reveals a value of 8.67826 and significance of 0.1226. This chi square is not significant at the 0.05 level, and the null hypothesis fails to be rejected.
CHAPTER V

DISCUSSION

Discussion of the Results

As discussed in Chapter IV, the first hypothesis was not supported by the results of this research. The High Mach was not significantly more extrinsic on Allport's Religious Orientation Sale, when compared to the Low Mach. However these results were in the direction uncovered by Donahue (1985) in his research on the relationship between religious orientation and nonreligious variables (e.g. Machiavellianism). Donahue (1985) noted that intrinsic types usually score lower on the nonreligious variable while extrinsic and indiscriminately proreligious persons tend to score higher on the nonreligious variable.

Hypothesis 2A also was not supported by the data of this study. The High Mach was not significantly more extraverted on the MBTI, when compared to the Low Mach. Skinner (1983) did demonstrate a correlation between the High Mach and extraversion. This result was significantly stronger for business students than for nonbusiness students. Extraversion was measured by the Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975). In the present study a majority of the population consisted of business students, however some students majoring in secretarial and liberal arts programs were mixed into the population. Business and nonbusiness students were
not separated into two groups. The two groups were combined and correlated with the MBTI Introversion-Extraversion scale. Perhaps these facts explain why these two studies produced different results.

The Chapter IV results also failed to demonstrate the validity of hypothesis 2B. The High Mach was not significantly more intuitive on the MBTI, when compared to the Low Mach. As stated in Chapter II, no previous research had explored the correlation between the Machiavellian personality and the Intuition-Sensing scale of the MBTI. One explanation for these results might be that the Machiavellian's adaptability (Geis & Christie, 1970) allows them to be intuitive or sensing depending upon the unique requirements of the situation.

Hypothesis 2C was supported by the research results. The High Mach was significantly more thinking-type orientated on the MBTI, when compared to the Low Mach. Previous research by Geis, Weinheimer, and Berger (1970), Andrea and Conway (1982), and Mulligan (1983) were cited in Chapter II as support for this conclusion. Clearly, in order to be triumphant in competitive situations, an objective and rational approach is required. The High Mach cannot be influenced by distracting emotional considerations when manipulating his/her way toward a victory.

The results of Chapter IV did not support hypothesis 2D. The High Mach was not significantly more perception oriented on the MBTI, when compared to the Low Mach. As noted in Chapter II, this correlation had not been explored in any other research study. The Machiavellian's propensity for adaptation (Geis & Christie, 1970) might again explain their ability to be either judgment-oriented or
perception-oriented, depending on the specific requirements of the experimental setting.

The Chapter IV results also did not support hypothesis 3. There was not a significant correlation between the High Mach and Loevinger's four highest stages of ego development, when compared to the Low Mach. The modal stage of ego development for the High Mach was Loevinger's sixth stage (self-aware) of ego development. The self-aware stage is Loevinger's fifth highest stage. This result may indicate that the High Mach possesses a high level of ego development but simply chooses to ignore certain facets of it (e.g. ethics) when involved in competitive goal-oriented situations.

In addition to the statistical treatment of the data for the preceding hypotheses, a chi square was calculated between Machiavellianism and gender (Appendix H). No significant correlation was uncovered between Machiavellianism and either male or female subjects. This conclusion is in agreement with the findings of Wertheim et al., (1978). However it contradicts the findings of Steininger and Eisenberg (1976a) and Wrightsman and Deaux (1981), who determined the male subjects are more Machiavellian than female subjects.

A second additional area of interest centered on a commonly studied factor of the Machiavellian personality, called Machiavellian Tactics (Abramson, 1973; Christie & Lehmann, 1970). Chi squares were calculated between Machiavellian Tactics and the Religious Orientation Scale (Appendix I), the Myers-Briggs Type Indicator (Appendix J), and the Sentence Completion Test (Appendix K). There were no significant correlations.
The implications of these results are as follows. Since the Machiavellian uses a thinking-type judgment function, a thinking type of rapport building style is most effective when working with the High Machiavellian (Birckhead, 1984). Psychologists and educators could focus their rapport building statements on their Machiavellian clients' and students' thinking processes. Specific statements beginning with "You thought that. . . ." or "You understood that. . . .," or specific questions starting with "What did you think when. . . . ?" or "What went through your mind when. . . . ?" are recommended for establishing rapport with the thinking-type of student or client. This thinking-type rapport building style is contrasted with a feeling-type rapport building style. The feeling-type style is composed of questions and statements beginning with "How did you feel when. . . . ?" and "It sounds like you're feeling. . . . " (Birckhead, 1984, pp. 32-33).

From the perspective of counseling and psychotherapy, psychologists might consider employing therapies which engage their High Mach clients' thinking-type function. Research has demonstrated that thinking-type subjects like cognitive or behavioral models of therapy whereas feeling-type subjects enjoy affective and humanistic therapies (Birckhead, 1984). However, other research has determined that thinking-type clients can benefit from a therapeutic approach focusing on affect, so long as the therapist is aware that he/she is working with the clients weaker function (Provost, 1984).

Educators might utilize the learning characteristics of thinking-types when working with the High Machiavellian. Schroeder (1985)
states that "thinking learners like cause and effect analysis, endure, [and are] task oriented." Conversely "feeling learners need approval and support, examine human values and motives, need to feel helpful, are motivated by others, like harmony, [and are] relationship oriented" (p. 35).

From a developmental perspective, since the Machiavellian typically scored in Loevinger's higher stages of ego development, psychologists might use this knowledge when selecting a therapeutic modality (Ivey, 1986). The Machiavellian would be most appropriately treated with Ivey's therapies for the formal operational client and dialectic client, as the High Mach typically scores in Loevinger's higher ego stages (Ivey, 1986; Loevinger, 1976).

Limitations of the Study

The subjects selected for this study consisted of a population of freshmen. Most majored in a business related subject (e.g. marketing, management, finance, or accounting), however some subjects were either two-year secretarial or liberal arts majors. Hence the results may only be generalizable to a population of students who are approximately 18 years of age, most of whom are business majors.

The directions for the various scales included a clause informing students that their participation was voluntary, and that they were not required to complete any of the psychological scales. These directives were specifically requested by a representative of the Human Subjects Institutional Review Board of Western Michigan University. Though subjects were generally cooperative, this directive may
have skewed the results.

This study explored only one of the factors of the Machiavellian personality—namely Machiavellian Tactics. However the Machiavellian personality is composed of other factors as well (Christie, 1970d; Christie & Lehmann, 1970; Martinez, 1981). These additional factors were not correlated with the Religious Orientation Scale, the Myers-Briggs Type Indicator, and the Sentence Completion Test.

There is debate among researchers regarding the Mach V. Some researchers view a high score on the Mach V as reflective of a stable and consistent personality trait (Christie & Geis, 1970b), while others perceive a high Mach V score as being a specific response to a particular situation (Martinez, 1981; Wardle & Gloss, 1982). In this study the Mach V was administered in a classroom setting. The results of this study may only be generalizable to a classroom setting, if one considers the situational perspective of Martinez (1981) and Wardle and Glass (1982).

Future Research

Future researchers could administer these scales to different populations. Some suggested populations would be sophomore, junior, and senior university students, students who major in a wider variety of nonbusiness majors, and citizens from the population at large. This would allow us to determine how these correlations generalize to other populations.

Several writers believe that Machiavellianism is a key element of the management philosophy governing today's "modern industrial
corporation" (Siegel, 1973, p. 404). As a result, many members of these corporations are probably Machiavellian. Future researchers might also repeat the current study with this unique population.

Skinner (1983) discovered a significantly higher correlation between the Mach V and Eysenck's measure of extraversion (Eysenck & Eysenck, 1975) for High Machs majoring in business than for High Machs majoring in nonbusiness subjects. Future researchers could repeat the present study's correlation of the MBTI with the Mach V, with one major change--business majors could be separated from non-business majors. Researchers would then be able to more accurately repeat Skinner's (1983) research. They could also determine if the other MBTI polarities (sensing-intuition, thinking-feeling, judgment-perception) are significantly different for students majoring in business or nonbusiness majors.

This research study correlated the Mach V with Loevinger's measure of ego development. Several other researchers have constructed theories of human development (Loevinger, 1976). For the sake of completeness, future researchers might compare some of these developmental perspectives with the Mach V.

The Mach V was also correlated with the extrinsic, indiscriminately proreligious, and intrinsic religious orientations. These three orientations were chosen because originally Allport and Ross (1967) utilized them in their research. However subsequent to this original research several researchers have included a fourth religious orientation, indiscriminately antireligious, in their research studies (Donahue, 1985). Future researchers could correlate the Mach
V with all four religious orientations (intrinsic, extrinsic, indiscriminately proreligious, indiscriminately antireligious).

The Machiavellian personality has been factor analyzed into several different factors (Christie, 1970b; Christie & Lehmann, 1970; Martinez, 1981) including Machiavellian Tactics, Machiavellian Views, Machiavellian Cynicism and Traditional Moralism. Future researchers could correlate these and other factors with the Religious Orientation Scale, the MBTI, and the Sentence Completion Test. This research would produce a more thorough understanding of the relationship between Machiavellianism and the three psychological scales mentioned above.

A final area for future research could involve a replication of this research study to verify: frequencies and percentage of the total for the Religious Orientation Scale, the MBTI results on the thinking-feeling subscale, and the direction of results on the Sentence Completion Test and Religious Orientation Scale. In addition, researchers could explore applications of this study's MBTI results to counseling/psychotherapy and the classroom when working with Machiavellian clients or students.

Summary

This study focused on the Machiavellian personality. Researchers have discovered that the number of High Machiavellians is increasing from generation to generation (Christie, 1970c; Murray & Okanes, 1980). Additionally many graduate students in counseling (Abramson, 1970), residents in psychiatry (Klein, 1969), and
undergraduate and graduate business students (Siegel, 1973; Skinner, 1981) have Machiavellian personality characteristics. The Machiavellian personality is often measured by a scale known as the Mach V.

Previous researchers have concluded that the Machiavellian personality is innovative in the use of interpersonal manipulation, willing to manipulate in order to win in experimental bargaining games, creative in the utilization of ambiguity when manipulating, minimally suggestible, leadership oriented, objective, perceptive and accurate when assessing Machiavellianism in others, unaffected by cognitive dissonance, suspicious, unethical, psychopathological in some research studies but not in others, unrelated to several measures of intellectual ability, more representative of men in certain research studies but not in others, produced by a variety of developmental patterns, and of minimal measurable influence on counseling/psychotherapy.

In this study the Machiavellian personality was correlated with three other scales—the Religious Orientation Scale, the Myers-Briggs Type Indicator, and the Sentence Completion Test.

The Religious Orientation Scale measures three types of religious orientation (Allport & Ross, 1967). These three orientations are called intrinsic, extrinsic, and indiscriminately proreligious. The Machiavellian personality was correlated with the Religious Orientation Scale to help illuminate the Machiavellian's orientation toward religion. Previous research had demonstrated that the High Mach was typically an "unbeliever," that is agnostic or atheistic (Ray, 1982). Additionally Hegarty and Sims (1979) learned that the
Machiavellian personality correlated positively with a measure of unethical behavior. As a result, this study hypothesized a significant correlation between the Machiavellian personality and the extrinsic religious orientation.

The chi-square inferential statistic was utilized to determine if the High Mach has an extrinsic religious orientation. The result of the chi-square calculation was a value of 3.93017 and a significance of 0.1401. The chi square was not significant, however the results were in the expected direction.

The Myers-Briggs Type Indicator is a measure of: extraversion-introversion, thinking-feeling, sensing-intuition, and judgment-perception (Myers, 1980). Previous research had demonstrated a positive correlation between Machiavellianism and extraversion (Skinner, 1983). No research had specifically focused on the relationship between the three other polarities and Machiavellianism. However researchers had learned that the Machiavellian was leadership oriented (Bochner et al., 1975), enterprising (Jones & White, 1983), innovative (Geis, Christie, & Nelson, 1970), logical (Geis, Weinheimer, & Berger, 1970), objective (Andrea & Conway, 1982), and adaptable (Geis & Christie, 1970; Jones & White, 1983; Martinez, 1981). As a result of this research, this study hypothesized a significant correlation between the Machiavellian personality and the MBTI Extraversion, Intuition, Thinking, and Perception scales.

T-test calculations revealed values of -0.90, 0.20, 2.22, -0.74, with 47, 47, 42, and 47 degrees of freedom, and probabilities of 0.370, 0.846, 0.032, and 0.461 respectively for the
extraversion-introversion, sensing-intuition, thinking-feeling, and judgment-perception subscales of the MBTI. Significance was uncovered on the thinking-feeling subscale. The three other subscales did not produce significant results.

The Sentence Completion Test is a measure of a person's stage of ego development (Loevinger & Wessler, 1970). There are 10 stages in total. Redmore and Waldman (1975) correlated the Machiavellian personality with the Sentence Completion Test's third stage of ego development. Significant results were not discovered. Other research has revealed that the Machiavellian personality is tolerant of ambiguity (Need & Marsh, 1980), interdependent (Blumstein, 1973), self-accepting and capable of interpersonal intimacy (DiMarco & Wilhelm, 1973). These studies lead to the final hypothesis forecasting a significant correlation between the Machiavellian personality and the four highest stages of the Sentence Completion Test.

A chi-square analysis was conducted to learn whether the High Mach would actually score in the four highest stages. The chi-square results revealed a value of 8.67826 and a significance of 0.1226. This chi square was not significant. However the results were clearly in the direction predicted by this hypothesis.
Appendix A

Directions for the Questionnaires
General Directions for All Four Questionnaires:

Your participation is voluntary. Please do not write your real name on this questionnaire. You are free to stop whenever you choose without fear of any negative consequence of any sort. Finally, you may put a code name on the questionnaire for later feedback from myself if you choose to have your questionnaire interpreted.
Directions for the Myers-Briggs Type Indicator:

There are no "right" or "wrong" answers to these questions. Your answers will help show how you like to look at things and how you like to go about deciding things. Knowing your own preferences and learning about other people's can help you understand where your special strengths are, what kinds of work you might enjoy and be successful doing, and how people with different preferences can relate to each other and be valuable to society.

Read each question carefully and mark your answer on the separate answer sheet. Make no marks on the question booklet. Do not think too long about any question. If you cannot decide on a question, skip it but be careful that the next space you mark on the answer sheet has the same number as the question you are then answering.

Read the directions on your answer sheet and, unless you are told to stop at some point, work through until you have answered all the questions you can.
Directions for the Sentence Completion Test

Now I would like you to fill out this sentence completion form. You see that these are incomplete sentences. Please finish the sentences in any way you wish. There are no right or wrong answers.
Directions for the Mach V

Under each of the following numbers are three statements. Please indicate the statement which is most like your belief and the statement which is least like your belief by writing "most like" and "least like" in the left hand column before each respective statement. One statement will be left blank. There are no right or wrong choices.
Directions for the Religious Orientation Scale

The following items deal with various types of religious ideas and social opinions. Please indicate the response you prefer, or most closely agree with, by writing the letter corresponding to your choice in the left margin and circling the letter. If none of the choices express exactly how you feel, then indicate the one which is closest to your views. There are no "right" or "wrong" choices.
Appendix B

The Myers-Briggs Type Indicator
PLEASE NOTE:

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These consist of pages:
37-92
94-96
98-100
102-104
106-108
Appendix C

The Sentence Completion Test for Women
Appendix D

The Sentence Completion Test For Men

97
Appendix E

The Mach V
Appendix F

The Religious Orientation Scale
Appendix G

Values, Frequencies, and Percentages for the Mach V
<table>
<thead>
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<th>Value</th>
<th>Frequencies</th>
<th>Percent</th>
</tr>
</thead>
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<td>1.2</td>
</tr>
</tbody>
</table>
Appendix H

Frequencies and Percentages of the Total of Male and Female Subjects for Low and High Machiavellians
Frequencies and Percentages of the Total of Male and Female Subjects for Low and High Machiavellians

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low Mach</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>8</td>
<td>17.0</td>
</tr>
<tr>
<td>Female</td>
<td>12</td>
<td>25.5</td>
</tr>
<tr>
<td><strong>High Mach</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>14</td>
<td>29.8</td>
</tr>
<tr>
<td>Female</td>
<td>13</td>
<td>27.7</td>
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</tbody>
</table>

A chi square calculation reveals values of 0.64819 (before Yates correction) and 0.25957 (after Yates correction) with respective significances of 0.4208 and 0.6104. This chi square is not significant at the 0.05 level.
Appendix I

Frequencies and Percentages of the Total of Extrinsic, Intrinsic, and Indiscriminately Proreligious Orientations for Low and High Machiavellian Tactics
Frequencies and Percentages of the Total of Extrinsic, Intrinsic, and Indiscriminately Proreligious Orientations for Low and High Machiavellian Tactics

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low Machiavellian Tactics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extrinsic</td>
<td>3</td>
<td>12.0</td>
</tr>
<tr>
<td>Indiscriminately Proreligious</td>
<td>3</td>
<td>12.0</td>
</tr>
<tr>
<td>Intrinsic</td>
<td>4</td>
<td>16.0</td>
</tr>
<tr>
<td><strong>High Machiavellian Tactics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extrinsic</td>
<td>6</td>
<td>24.0</td>
</tr>
<tr>
<td>Indiscriminately Proreligious</td>
<td>5</td>
<td>20.0</td>
</tr>
<tr>
<td>Intrinsic</td>
<td>4</td>
<td>16.0</td>
</tr>
</tbody>
</table>

Due to small cell sizes the data is presented descriptively, but not inferentially.
Appendix J

Number of Cases, Means, Standard Deviations, Standard Errors, T values, Degrees of Freedom and 2-Tail Probabilities of the MBTI for Low (Group 1) and High (Group 2) Machiavellian Tactics
Number of Cases, Means, Standard Deviations, Standard Errors, T-Values, Degrees of Freedom, and 2-Tail Probabilities of the MBTI for Low (Group 1) and High (Group 2) Machiavellian Tactics

<table>
<thead>
<tr>
<th>Number of Cases</th>
<th>Means</th>
<th>Standard Deviation</th>
<th>Standard Error</th>
<th>T-Value</th>
<th>Degrees of Freedom</th>
<th>2-Tail Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introvert-Extravert</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 1</td>
<td>16</td>
<td>88.7500</td>
<td>26.562</td>
<td>6.640</td>
<td>-0.44</td>
<td>35</td>
</tr>
<tr>
<td>Group 2</td>
<td>21</td>
<td>92.4286</td>
<td>24.225</td>
<td>5.286</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sensing-Intuition</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 1</td>
<td>16</td>
<td>90.6250</td>
<td>25.343</td>
<td>6.336</td>
<td>0.41</td>
<td>35</td>
</tr>
<tr>
<td>Group 2</td>
<td>21</td>
<td>87.0000</td>
<td>28.007</td>
<td>6.112</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Thinking-Feeling</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 1</td>
<td>13</td>
<td>103.6154</td>
<td>25.356</td>
<td>7.032</td>
<td>-0.29</td>
<td>31</td>
</tr>
<tr>
<td>Group 2</td>
<td>20</td>
<td>105.9000</td>
<td>19.210</td>
<td>4.296</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Judgment-Perception</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 1</td>
<td>16</td>
<td>92.5000</td>
<td>27.213</td>
<td>6.803</td>
<td>-1.19</td>
<td>35</td>
</tr>
<tr>
<td>Group 2</td>
<td>21</td>
<td>102.9048</td>
<td>25.718</td>
<td>5.612</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix K

Frequencies and Percentages of the Total of Loevinger's Stages of Ego Development for Low and High Machiavellian Tactics
Frequencies and Percentages of the Total of Loevinger's Stages of Ego Development for Low and High Machiavellian Tactics

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low Machiavellian Tactics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>3</td>
<td>7.3</td>
</tr>
<tr>
<td>Conformist</td>
<td>2</td>
<td>4.9</td>
</tr>
<tr>
<td>Self Aware</td>
<td>9</td>
<td>22.0</td>
</tr>
<tr>
<td>Conscientious</td>
<td>6</td>
<td>14.6</td>
</tr>
<tr>
<td>Individualistic</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>High Machiavellian Tactics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>0</td>
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<tr>
<td>Conformist</td>
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<td>0.0</td>
</tr>
<tr>
<td>Self Aware</td>
<td>15</td>
<td>36.6</td>
</tr>
<tr>
<td>Conscientious</td>
<td>3</td>
<td>7.3</td>
</tr>
<tr>
<td>Individualistic</td>
<td>3</td>
<td>7.3</td>
</tr>
</tbody>
</table>

Due to small cell sizes the data is presented descriptively, but not inferentially.
Appendix L

Human Subjects Institutional Review
Board Approval
TO: Jerome Elson
FROM: Ellen Page-Robin, Chair
RE: Research Protocol
DATE: September 23, 1987

This letter will serve as confirmation that your addendum has been received explaining the numbering system.

Your research protocol, "Insights Into the Machiavellian Personality," is now considered complete and has been signed off by the HSIRB.

If you have any further questions, please contact me at 383-4917.
TO: Jerome Elson
Robert Oswald

FROM: Ellen Page-Robin, Chair

RE: Research Protocol

DATE: July 8, 1987

This letter will serve as confirmation that your research protocol, "Insights Into the Machiavellain Personality" has been approved with the following provisions.

The Board is concerned about the researcher's ability to maintain individual test scores together, i.e. the numbering system. Enclosed is a copy of an article that may prove helpful in avoiding this confusion. The Board wishes to obtain information about the final numbering method to be used.

If you have any further questions, please contact me at 383-4917.

P.S. We are looking for the article, but the suggestion was that numbers be placed in sealed envelopes, subjects will draw an envelope and use the number found inside as research identification. We'll send the article when located.
BIBLIOGRAPHY


Budner, S. (1962). Intolerance of ambiguity as a personality


Christie, R. (1985, October) Personal communication. New York: Columbia University, Department of Psychology.


Dahlstrom, W., & Welsh, G. (1972). *An MMPI handbook*. Minneapolis,


Hegarty, W. H., & Sims, H. (1979). Organizational philosophy,
policies, and objectives related to unethical decision behavior: A laboratory experiment. Journal of Applied Psychology, 64, 331-338.


Lawrence, G. (1979). *People types and tiger stripes*. Gainesville, FL: Center for Applications of Psychological Type.


McCaulley, M. (1988, June). Personal communication. President, Center for Applications of Psychological Type, Gainesville, FL.

McDaid, J. (1988, September). Personal communication. Director of Research, Center for Applications of Psychological Type, Gainesville, Florida.


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Widgery, R., & Tubbs, (1972). *Machiavellianism and religiosity as determinants of cognitive dissonance in a counterattitudinal situation*. Flint, MI: General Motors Institute, Department of Communication and Organizational Behavior.


