Aberrant Self-Promotion versus Machiavellianism:
A Discriminant Validity Study

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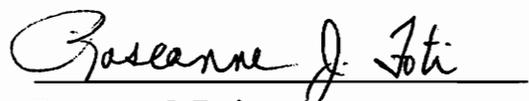in partial fulfillment of the requirements for the degree of

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ABERRANT SELF-PROMOTION VERSUS MACHIAVELLIANISM:

A DISCRIMINANT VALIDITY STUDY

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(Abstract)

The purpose of the present study was to provide evidence of discriminant validity for the aberrant self-promotion construct proposed by Gustafson and Ritzer (1994a). The study attempted to differentiate the aberrant self-promotion construct from the Machiavellianism construct proposed by Christie (1970a). The aberrant self-promoter (ASP) has been conceptualized as exhibiting high self-esteem, low social desirability, and a high degree of antisocial behavior. In contrast, the Machiavellian has been conceptualized as an individual who is coldly rational in determining his or her actions and who is adept at engaging in manipulation to achieve a desired end. It was proposed in the present study that although both the ASP and the Machiavellian may be characterized by high narcissism, high self-esteem, and low social desirability, the Machiavellian does not exhibit the antisocial behavior that is a key component of the ASP pattern. The proposed differentiation, based on 28 undergraduate ASPs and 19 undergraduate Machiavellians, involved a structured interview and a prisoner's dilemma game. The results from the interview showed that the ASPs scored significantly higher

on the total score, as well as on the subscore for a narcissism-related factor and on the subscore for an antisocial behavior factor. The prisoner's dilemma results, however, revealed no significant differences between the ASPs and Machs. Discussion focused on the insufficient salience of the prisoner's dilemma experimental situation and on the research and organizational implications of the ASP/Machiavellian differentiation supported by the interview.

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Cronbach and Meehl (1955) explicated the importance of construct validity when no single criterion is adequate to investigate the meaning of the construct in question. When investigating construct validity, according to Cronbach and Meehl (1955), investigators first make predictions based on their beliefs about the relationships between the construct and other variables and then test those predictions. As long as the prediction and the results are consistent, researchers may continue in their beliefs that the construct is valid. Campbell and Fiske (1959) elaborated on this strategy, emphasizing the importance of collecting evidence of both convergent and discriminant validity when attempting to establish construct validity. In other words, the construct must be shown to be related to other constructs which tap a similar characteristic but must also be shown to possess a component that is not subsumed by the other constructs. The purpose of the present study was to provide evidence of discriminant validity for the aberrant self-promotion construct proposed by Gustafson and Ritzer (1994a). Specifically, the purpose was to distinguish aberrant self-promotion from the construct of Machiavellianism proposed by Christie (1970a). Before attempting to enumerate the similarities and differences between these constructs, however, it is necessary to review the background of each construct individually.

Aberrant Self-Promotion

The construct of aberrant self-promotion was proposed by Gustafson and Ritzer (1994a) to fill a perceived void in personality research. Gustafson and Ritzer (1994a)

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posited that previous research had failed to recognize the existence of individuals who were similar in nature to psychopaths, but whose characteristics were less extreme than those of psychopaths. These individuals, termed aberrant-self-promoters, were described as coming into contact with the criminal justice system less frequently because their antisocial behavior might or might not be technically illegal. Nonetheless, Gustafson and Ritzer (1994a) argued that consideration of aberrant self- promoters (ASPs) was important because they regularly violate accepted social norms in order to serve their own interests. Gustafson and Ritzer (1994a) provided multiple examples of the types of behavior in which ASPs may engage, including: cheating; attempting to charm others into granting them their wishes and then becoming belligerent if the attempt fails; selfishness; taking advantage of others' weaknesses; lying; taking credit for others' ideas and accomplishments; failing to consider long-term consequences of their actions; failing to comply with ethical standards. These types of behavior were posited by Gustafson and Ritzer (1994a) to be pervasive throughout all aspects of the ASP's life, including educational and employment settings.

Because aberrant self-promotion was conceptualized as being qualitatively similar to psychopathy, Gustafson and Ritzer (1994a) linked aberrant self-promotion to the two-factor conceptualization of psychopathy proposed by Hare, Harpur, and their colleagues. According to Harpur, Hare, and Hakstian (1989), factor 1 is characterized by a "selfish, callous, and remorseless use of others" (p. 7), while factor 2 is characterized by

a "chronically unstable and antisocial life-style" (p. 7). Gustafson and Ritzer (1994a) argued that the ASP possesses characteristics from each of these factors, but to a lesser degree than the psychopath. Hence, the distinction drawn between aberrant self-promotion and psychopathy was quantitative, not qualitative, in nature.

Moreover, Gustafson and Ritzer (1994a) argued that one of the key personality constructs underlying the aberrant self-promotion personality style was narcissism. The basis for this argument is clear upon consideration of Raskin and Terry's (1988) definition of narcissism: "self-admiration that is characterized by tendencies toward grandiose ideas, exhibitionism, and defensiveness in response to criticism; interpersonal relationships are characterized by feelings of entitlement, exploitativeness, and a lack of empathy" (p. 896). This definition contains elements of Hare, Harpur, and colleagues' Factor 1 and is entirely consistent with the types of behaviors that ASPs were proposed to exhibit.

Expanding a concern with narcissism per se, the aberrant self-promotion construct embodied the type of "narcissistic configuration" that Raskin, Novacek, and Hogan (1991a) have advised researchers to investigate. Based on Raskin, Novacek, and Hogan's (1991b) suggestion that narcissism may function defensively to regulate self-esteem, Gustafson and Ritzer (1994a) proposed that, in the ASP, narcissism is combined with high scores on traditional measures of self-esteem. Additionally, based on Raskin in, Novacek, and Hogan's (1991b) findings that narcissism is related to low levels of social

desirability, Gustafson and Ritzer (1994a) also conceptualized the ASP as demonstrating low levels of social desirability. Hence, the ASP was presumed to possess high levels of narcissism, high levels of self-esteem, and low levels of social desirability. In addition to these narcissism-related characteristics, the ASP was conceptualized as engaging in a high level of antisocial behavior. Thus, aberrant self-promotion was proposed as a pattern of personality and behavior.

In order to determine if such a pattern existed, Gustafson and Ritzer (1994a) administered five scales to their subjects and then attempted to find a group of individuals whose scores fit the pattern of the proposed ASP. Gustafson and Ritzer (1994a) utilized three analytically distinct methods to identify individuals who possessed this pattern of scores--cluster analysis, item factor analysis, and factor analysis of persons. The results demonstrated a 92 percent and a 94 percent convergence rate in identifying the same individuals as ASPs, across these three measures in two separate samples of subjects, thus supporting the existence of the ASP configuration.

Gustafson and Ritzer (1994b) have also gathered evidence of convergent validity for the construct, including the utilization of Hare's (1991) Psychopathy Checklist-Revised (PCL-R) in an attempt to differentiate ASPs from non-ASPs. The PCL-R is the most widely accepted diagnostic measure of psychopathy. As expected, the ASPs scored significantly higher than the non-ASPs on both factors of the PCL-R; furthermore, there was very little overlap between the two groups' scores, indicating that the ASPs and the

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non-ASPs were quite discriminable according to their scores on this measure (Gustafson & Ritzer, 1994b). Additionally, Gustafson and Ritzer (1994b) found that, in comparison to the non-ASPs, the ASPs "had received significantly more judicial reprimands from the university, had been issued a significantly higher number of parking tickets", and "had had more encounters with the university police and Honors Court, despite the low base rate of both events" (p. 30).

In summary, aberrant self-promotion has been conceptualized as a construct qualitatively parallel to psychopathy, though quantitatively less extreme. The aberrant self-promotion pattern is believed to have its basis in narcissism and is conceptualized as embodying high levels of narcissism, high levels of self-esteem, and low levels of social desirability, in combination with high levels of self-reported psychopathy and low levels of socialization. Evidence has been gathered for the existence of the construct through the use of analytical procedures to identify individuals who exhibit the ASP pattern as well as through the collection of evidence that those identified as ASPs consistently differ on relevant external antisocial criteria from those who exhibit high self-esteem, but not the negative aspects of the ASP pattern.

Machiavellianism

Motivated by an interest in learning more about interpersonal influence and power, Christie (1970a) explored the writings of power theorists, including Niccolò Machiavelli. Impressed by Machiavelli's clarity in specifying his underlying assumptions about human

nature, Christie (1970a) developed a questionnaire based on statements and views expressed by Machiavelli in The Prince and The Discourses. The essence of Machiavelli's message to political leaders was that they must do whatever was necessary to maintain and/or expand their power. In Machiavelli's words, from The Prince (1985), "it is necessary to a prince, if he wants to maintain himself, to learn to be able not to be good, and to use this and not use it according to necessity" (p. 61). The purpose of the scale developed by Christie, then, was to identify individuals who agreed with Machiavelli's point of view and who were, therefore, presumed to be capable of manipulating others without remorse in order to attain a political advantage.

Following a period of scale development and revision, Christie and his colleagues embarked upon a series of studies to investigate further the characteristics of those who agreed and disagreed with Machiavelli (Geis and Christie, 1970). In correlational studies, level of Machiavellianism, as measured by the Mach IV, was found to be unrelated to measures of intellectual ability, authoritarianism, political preference, need for achievement, anxiety, and psychopathology (Christie, 1970b). Machiavellianism was, however, found to be negatively related to measures of the degree to which respondents view human nature as honest, unselfish, nonconforming, and self-controlled (Christie, 1970b). Moreover, Machiavellianism was found to be positively related to measures of hostility, although Christie (1970b) notes that it is unclear whether those high in Machiavellianism (high Machs) are more hostile or are simply more willing to admit

hostility than individuals low in Machiavellianism (low Machs). Additionally, in the area of ethical belief systems, Machiavellianism has been shown to be positively related to the relativism scale of the Ethical Position Questionnaire and negatively related to the idealism scale (Leary, Knight, & Barnes, 1986). These correlations reflect the high Machs' belief that there are no absolute moral standards and that there is not always an ideal moral solution which will have no negative consequences.

In a laboratory study, Exline, Thibaut, Hickey and Gumpert (1970) investigated the behavior of high and low Mach males--those scoring above and below the median on the Mach IV, respectively-- after they were party to cheating on an experimental task. Each subject was instructed that he and his partner (who was in fact a confederate) had to agree on both the number of dots present on a card shown to them and on the figure represented by the dots. The team with the best performance on the task would receive a $10 prize. After six trials, the experimenter was called out of the room, and, while he was gone, the confederate looked at the answers for the remaining trials. The confederate attempted to get the subject to write down part of the answers while he wrote down the others, but if this attempt was not successful, the confederate wrote down all of the answers. Upon the experimenter's return, the session continued, with the confederate advocating the correct answer on each trial. After all of the trials were completed, the experimenter began to interview the subject and his partner, initially showing interest in

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their strategy and eventually accusing them of cheating. The experimenter interrogated the pair for an additional two minutes before the study was explained to the subject.

One of Exline et al.'s dependent variables was change in the proportion of time the subject spent looking the experimenter in the eye from before the task began to the interview period after the cheating occurred. They found that high Machs showed significantly less reduction in eye contact after being implicated in cheating than did low Machs. Moreover, the high Machs continued to lie, after they were accused of cheating, significantly more often than did the lows. Other results were less obviously consistent with Machiavellianism at first glance. For example, high Machs tried to discourage the confederate from cheating significantly more often than lows did and were significantly more successful in resisting the confederate's pressure to use the exact answer which he had gotten by cheating. Exline et al. suggested, however, that these results be interpreted as reflecting the high Machs' resistance to being manipulated by others, which seems to cast them in a light consistent with the conceptualization of Machiavellianism. Hence, overall, Exline et al.'s results seemed to indicate that the high Machs were better able to maintain their composure and carry on a normal interpersonal interaction in a stressful situation.

In a similar study, Geis and Moon (1981) investigated the relationship between Machiavellianism and the ability to lie without being detected.[1] Subjects in this study were implicated in a theft and were videotaped denying any knowledge of the theft. A

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control group of subjects truthfully denied knowledge of the theft. Results of this study indicated that high Machs who were lying were believed significantly more often than low Machs who were lying. Moreover, the high Machs were more difficult to judge; high Machs who lied were believed as often as high Machs who told the truth, while low Machs who lied were believed less often than low Machs who told the truth. These results further illustrate high Machs' skill in interpersonal manipulation and in maintaining composure in stressful situations.

The preceding two experimental situations investigated interpersonal manipulation in a defensive setting, in which the subject was accused of cheating. Geis, Christie, and Nelson (1970), on the other hand, were interested in investigating manipulation that was "offensive" in nature; they wanted to investigate subjects' behavior when manipulation was legitimate. They created an experimental situation in which the male subjects acted as experimenters and were encouraged to use their power in any way they wished, to confuse and/or to distract the subject taking the test. Possible modes of distraction included: giving false evaluations of performance, telling the subject he was doing poorly, conversing with the subject about irrelevant issues, and providing false instructions. The results revealed that the high Machs engaged in significantly more manipulative acts, on average, than did the low Machs (mean = 15.43 v. 7.08). Moreover, the high Machs utilized a significantly greater variety of manipulative tactics than did the low Machs (mean = 6.43 vs. 3.08). When compared to the low Machs, the

high Machs also introduced a significantly greater number and variety of original

manipulative distractions which were not suggested in the experimental induction.

Finally, the high Machs reported significantly greater enjoyment of the manipulation than

did the low Machs. These results again suggested that those who agreed with

Machiavelli's views, as measured by the Machiavellianism scales, tended to act in a more

manipulative manner than those who did not; furthermore, this distinction occurred in

initiating as well as reactive situations.

In yet another laboratory study (Geis, 1970), high, low, and medium scorers on the

Mach scale participated in a game in which three players competed for 100 points which

were awarded for being first to reach the finish square on a game board.[2] The game was

structured such that any two players could form a coalition which would give them a

speed advantage over the third player. Additionally, the potential power position (i.e.,

overall winning advantage) of the players was varied by varying the players' individual

abilities to speed up movement around the board. The power positions of all players

were known in the unambiguous condition, whereas in the ambiguous condition the

players knew only their own power positions.

Overall, high Machs won significantly more points than did middle Machs, who, in

turn, scored significantly more points than did low Machs. Moreover, high Machs won

significantly more points than either the low or the middle Machs in both the ambiguous

and unambiguous conditions. Finally, the high Machs won significantly more overall in

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the ambiguous condition than in the unambiguous condition. In contrast, the low Machs won less, though not significantly less ($p<.10$), in the ambiguous condition than they did in the unambiguous condition, whereas the middle Machs' winnings did not change as a result of ambiguity. Finally, total score on the Machiavellianism scale was correlated .71 with the total number of points won in the game. These results appear to reflect the high Machs' superiority in utilizing strategy and interpersonal influence in order to win a game. Thus, these results support the Machiavellianism scale as a measure of the use of and skill in manipulative tactics. Furthermore, these findings indicate that high Machs gain their advantage at the expense of low Machs in ambiguous situations.

Based on subjective observations in the game situation just described, Geis, Weinheimer, and Berger (1970) proposed that whereas high Machs concentrate solely on winning in such situations, low Machs become affectively involved and are distracted from the goal of winning by this emotional involvement. In order to test this hypothesis, Geis et al. utilized a legislature game. In one condition the players were required to lobby for or against trivial issues which were not personally important to them, whereas in the comparison condition the players lobbied for or against issues on which they had strong personal feelings. As predicted, the high and low Machs did not differ in lobbying success on the trivial issues, but the high Machs were significantly more successful in the emotional condition. Hence, these results supported Geis et al.'s hypothesis that part of the high Machs' advantage results from their ability to remain detached.

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A further test of high and low Machs' levels of rationality versus emotionality was provided by Bogart, Geis, Levy, and Zimbardo (1970), in the form of a dissonance study. In a situation similar to that in Exline et al. (1970), subjects were encouraged to cheat by a confederate. In the attractive partner condition, the confederate was portrayed as a graduate law student who had done well on a personality test, was interested in photography, and who had graduated with honors. In the unattractive partner condition the confederate was portrayed as an industrial arts major who had done poorly on the personality test and had no interests or honors listed. Following the cheating opportunity, the subjects completed the Machiavellianism scale again as a measure of the degree to which their beliefs were influenced by their behavior.

The results indicated that the high Machs were less likely to cheat in the high dissonance/low justification (unattractive partner) condition (5 of 18 cheated) than in the low dissonance/high justification (attractive partner) condition (11 of 14) cheated. The low Machs, on the other hand, cheated on about half of the trials, regardless of condition. Regarding attitude change as a result of dissonance, high Machs showed no change, whereas low Machs changed according to dissonance theory predictions: Those who cheated in the high dissonance condition showed a significant increase in scores on the Machiavellianism scale, whereas those who cheated in the low dissonance condition showed no change in Machiavellianism scores. Based on these results, Bogart et al. (1970) proposed that high Machs are able to cope with dissonance--without changing

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their attitudes--by refusing to comply with an unjustified request or by choosing to comply with the request but separating compliance with the request from endorsement of the behavior involved. Once again, these results supported the view of the high Machs as highly rational and unemotional, largely unaffected by the confederate's attempts to persuade them to cheat, whereas the low Machs appeared to be more easily affected by interpersonal influence and distracted from rationality by their emotional desire to please others.

In summary, laboratory studies have illustrated substantial differences in the behavior of high and low Machs. In comparison to low Machs, high Machs have been shown: to behave normally and to maintain significantly more eye contact in a stressful interpersonal situation in which they have been implicated in wrongdoing (Exline et al., 1970); to be more resistant to manipulation by others (Exline et al., 1970; Bogart et al., 1970); to lie more credibly (Geis & Moon, 1970); to use a greater number and variety of manipulative tactics and report a greater enjoyment of manipulation (Geis, Christie, & Nelson, 1970); to be more successful in games involving strategy and interpersonal influence, especially under ambiguous conditions (Geis, 1970); to maintain a detached rationality while lows are distracted by their emotional involvement (Geis, Weinheimer, & Berger, 1970); and to cope with dissonance without attitudinal change. Hence, the picture that has emerged of the high Mach is of an individual who is coldly rational in determining what actions will best serve him or her. The low Mach, in contrast, has

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come to be viewed as one who is often distracted from the rational course of action by an emotionally laden inclination to behave otherwise.

Differentiating high Machs from ASPs

Obviously, from the preceding discussion, high Machs and ASPs are quite similar in many ways. It is the purpose of the current study, however, to show that the two do, in fact, differ. It is proposed that while the ASP is high in Machiavellianism, she or he also consistently possesses other characteristics which the Machiavellian may not. Specifically, it is proposed that while the ASP is characterized by both factors of psychopathy described by Hare, Harpur, and colleagues, the Machiavellian is characterized by Factor 1, the "selfish, callous, and remorseless use of others" (Harpur, Hare, & Hakstian, 1989, p. 7), but not by Factor 2, a "chronically unstable and antisocial life-style" (Harpur, Hare, & Hakstian, 1989, p. 7). This proposition has been supported by Hart and Hare's (1989) findings that Machiavellianism is moderately positively correlated with Factor 1, but is not correlated with Factor 2. Indicators of Factor 1 and Factor 2, as measured by the Psychopathy Checklist-Revised (PCL-R) are displayed in Table 1.

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Insert Table 1 about here

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Many of the Factor 1 indicators are consistent with the description of high Machs presented earlier--charming, conning/manipulative, lacking in remorse or guilt, displaying shallow affect. Consideration of Factor 2, however, reveals little overlap with Machiavellianism as it has been described. In fact, there is evidence that at least one of these characteristics, impulsiveness, is negatively related to Machiavellianism (Gupta, 1991). For these reasons, the current study utilizes the Psychopathy Checklist-Revised (PCL-R) (Hare, 1991) in an attempt to differentiate ASPs from Machiavellians. It is hypothesized that, primarily because of their low scores on Factor 2, the Machiavellians' total PCL-R score will be significantly lower than the ASPs' on average.

In addition, because of the proposed difference between ASPs and Machiavellians in general antisocial behavior, including but not limited to impulsiveness, it is predicted that the two will perform differently in a prisoner's dilemma game. Christie, Gergen, and Marlowe (1970) utilized such a game in their investigation of Machiavellianism and found that, when playing for money, high Machs behaved exploitatively significantly less often than did low Machs. The authors noted that these findings seemed to indicate that the high Machs were not necessarily more exploitative than the low Machs regardless of the consequences. It was argued instead that the high Machs were more rational in their game-playing strategies. Specifically, Christie, Gergen, and Marlowe (1970) proposed that the high Machs perceived the possibility that their opponents would retaliate if the Machs behaved exploitatively and deduced that the most profitable strategy for all

involved was mutual cooperation. The present study hypothesizes that the ASPs will be less likely to perceive this possibility of retaliation due to their purported impulsivity and failure to consider the results of their actions. Therefore, compared to the Machs, the ASPs are predicted to engage in more exploitative behavior in the prisoner's dilemma game than the high Machs.

Furthermore, in the present study, the other player's responses in the prisoner's dilemma game are, for part of the game, structured in a manner intended to arouse the ASPs' propensity to anger and frustration. For the last ten trials of the game, the subject's opponent will behave in a predominantly exploitative fashion. It is hypothesized that the difference between the ASPs and Machs in the number of exploitative responses will be more pronounced in these last ten trials due to the ASPs' frustration with the exploitativeness of their opponents and their desire to get even. Additionally, at the end of this series of trials, the subjects will be offered an opportunity to send a message, via computer, to their opponents. This message will not, in fact, be transmitted, but its content will be analyzed on the following dimensions: rational suggestion--the degree to which the message constituted a rational suggestion for further play; frustration/anger--the degree to which the message contained evidence of frustration with or anger toward the other player or the game; and tactfulness/courtesy--the degree to which the message was courteous to the other player. In addition, a composite score will be computed, representing the degree to which the message comprised a strategic attempt

to structure further play. The hypothesis is that, in comparison to the Machiavellians, the ASPs will exhibit higher scores on frustration and lower scores on the rational suggestion and tactfulness/ courtesy dimensions as well as lower scores on the composite representing strategy.

In summary, the purpose of the current study is to collect evidence of construct validity for aberrant self-promotion by differentiating aberrant self-promotion from Machiavellianism. First, individuals who have been identified as ASPs and individuals who score above the mean on Machiavellianism but do not fit the ASP configuration will be interviewed and evaluated in accordance with the PCL-R. Second, the same two groups of individuals will participate in a prisoner's dilemma game similar to that employed by Christie, Gergen, and Marlowe (1970).

Experimental Hypotheses

The present study tests the following formal hypotheses:

1. The ASPs' mean PCL-R score will significantly exceed that of the Machiavellians.

2a. In the prisoner's dilemma game, the ASPs will make significantly more exploitative responses overall than will the Machiavellians.

2b. The difference between ASPs and Machs in the number of exploitative responses will be more pronounced following exploitative behavior by the opponent (i.e. in the last ten trials of the game), which will be reflected by a significant group by trials interaction.

3a. Following exploitative behavior by the opponent in the prisoner's dilemma game, the ASPs will exhibit, in a message sent to that opponent, significantly more frustration and significantly less rational suggestions and tactfulness/courtesy than will the Machiavellians.

3b. The ASPs will score significantly lower on a composite score representing the quality of the strategy employed in the message.

Exploratory Investigations

In addition to the formal hypotheses, the current study investigates sex differences for both Machiavellians and ASPs on both the PCL-R and the prisoner's dilemma game. Gustafson and Ritzer (1994b) found no sex differences in PCL-R scores for ASPs but did find sex differences for normal subjects; therefore, the current study extends this investigation to include Machiavellians.

Method

Subjects

An initial sample of 534 introductory psychology students completed the same 179 item instrument--measuring self-esteem, narcissism, social desirability, socialization, and self-reported psychopathy--used by Gustafson and Ritzer (1994a). In addition, the 20-item Mach IV was administered to these subjects. The Mach IV was used instead of the Mach V to measure Machiavellianism because, as noted by Zook (1985), the Mach V has lower reliability. Based on their scores on the self-esteem, narcissism, social

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desirability, socialization, and self-reported psychopathy scales, 32 subjects (23 males and 9 females) who matched the ASP pattern were identified via the cluster analysis procedure utilized by Gustafson and Ritzer (1994a). (The specifics of this analysis are reported at the beginning of the results section.) All subjects were contacted via telephone and asked to participate in the study. The protocol which was followed when contacting the subjects is presented in Appendix A. Twenty-eight of the 32 ASP subjects agreed to participate in the study.

Additionally, 31 comparison subjects (18 males and 13 females) were selected from a group of 74 subjects who scored at least one standard deviation above the mean on Machiavellianism but did not fit the aberrant self-promotion pattern. Two criteria were considered in selecting these subjects: their scores on the Mach IV and the proximity of their patterns of scores to the ASP pattern on the five selection instruments. The subjects were selected in a top-down fashion based on their scores on the Mach IV, except that some subjects were excluded because they nearly matched the ASP pattern, for example, differing from the ASP pattern slightly on one dimension. Of these 31, 19 individuals (11 males and 8 females) agreed to take part in the study. Because the Machiavellian group scored significantly higher on the Mach IV ($\underline{M}$ = 69.74) than the ASP group ($\underline{M}$ = 64.75), $\underline{t}$ (38.6) = -2.23, $\underline{p}$<.05, results that confirmed any of the hypotheses would not be attributable to the ASPs higher scores on Machiavellianism.

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Procedure

Two subjects and two confederates, all of the same sex, participated in each session, which was conducted by a female experimenter. The experimenter and confederates were blind to the group membership of the subjects. The confederates posed as subjects for the first portion of the study (the prisoner's dilemma game). Upon arrival at the experimental site, the subjects (and confederates, for authenticity) were asked to sign an informed consent form. Each subject was then placed in a cubicle containing a computer and given the instructions for the game (printed in Appendix B) in both written and verbal form. During a single experimental session, the subjects first completed the prisoner's dilemma game and then the PCL-R interview. After the prisoner's dilemma game was completed, the subjects were informed that they had actually played the game against the computer, and the confederates were introduced as part of the research team. These confederates then conducted the interviews.

Prisoner's dilemma game. In the instructions for the prisoner's dilemma game (Appendix B), the payoff matrix located in Appendix C was explained to the subjects. The subjects were seated at a computer terminal and prompted on-screen to choose either red (exploitative response) or green (cooperative response). The subjects were told that the computer at which they were seated was connected to another subject's computer in order to process both players' responses. In fact, the computer responded to the subject's choices according to a preprogrammed pattern. During the first five trials, the "other

player's" pattern of responses was the same as that used by Christie, Gergen, and Marlowe (1970); the "other player" chose green on all trials except trial 3, on which the choice was red. At the end of each trial, the subject was told, on-screen, what his or her opponent's choice was and how much money he or she won. The payoffs for each of the first five trials were determined according to the payoff matrix in Appendix C.

At the end of the fifth trial, the subject received on-screen instructions to wait for further instructions from the experimenter. At this time, the experimenter entered each cubicle and gave the subjects a copy of the payoff matrix in Appendix D. The subjects were told that this payoff matrix would be in effect for the next series of trials. Play proceeded as before for ten additional trials, except that the computer chose red on all except the third and eighth trials in this series. The ratio of payoffs used in both matrices had been determined by Christie et al. (1970) to elicit approximately equal frequencies of green and red responses in a random sample of college students. At the end of the second series of trials, the subjects received notice on-screen that they could now send a message to the other player, if they wished, before beginning the next series of game trials. The subjects typed the message on the computer, and, upon pressing enter "to send the message", they received an on-screen message saying that the game was over and reporting their total winnings. At this point subjects were asked to fill out a questionnaire asking them first, to describe their opponent, and second, to describe the

strategy they used in the game. Upon completion of this questionnaire, the subjects were

debriefed and given a check for the amount of money they had won.

Debriefing. At the end of the prisoner's dilemma game, the subjects were told that the

"other player" had actually been the computer, and the confederates were identified as

such. At this time, the subjects were also asked to read and sign a consent form

acknowledging their awareness of the deception and granting their permission for the use

of their data.

Interview. The protocol for the interview is contained in Appendix E. Due to the

sensitive nature of some of the questions, the interviewers were of the same sex as the

subject. Following the interview, the subjects were assigned a score on a 3-point scale

for each of the characteristics in Table 1, except for the last two items, revocation of

conditional release and criminal versatility, which were omitted due to the noncriminal

nature of the sample. In this three point scoring system, "0 indicates that the item

definitely does not apply to the individual; 1, that the item applies somewhat or only in a

limited sense; and 2, that the item definitely applies" (Hart & Hare, 1992). Each

interview was scored by two trained raters--the interviewer and a second rater who

watched the interview on videotape. In the cases in which the total scores assigned by

these two raters differed by more than three points, the interview was watched and scored

by a third rater. In all cases these third ratings were within three points of one of the

previous ratings, and the rating of the most discrepant rater was dropped. The ratings of

the remaining two raters were then averaged for each dimension. The scores for each of these dimensions were summed to determine the overall PCL-R score. Likewise, the scores for the dimensions comprising Factor 1 and Factor 2 were summed to determine factor scores.

Data Analysis

Hypothesis tests. The data from the PCL-R were analyzed with a t-test on the mean total scores of Machiavellians and ASPs, as well as with t-tests on the means of the Factor 1 and Factor 2 scores of the two groups. The data from the prisoner's dilemma game were analyzed with a 2 x 2, group (ASP, Mach) by trials (one through five, six through fifteen), repeated measures analysis of variance to determine whether there were differences between the groups in proportion of red responses in the prisoner's dilemma game. Group membership (ASP or Mach) was the between subjects factor, and trials was the repeated (within subjects) factor in this design.

Exploratory analyses. The subjects were asked to write a short narrative describing the strategy they had used in the game. This information was explored in terms of its implication for further research. In addition, 2 x 2, group (Mach, ASP) by sex (male, female) analyses of variance were performed to investigate the possibility of sex differences on the PCL-R. A 2 x 2 x 2, group (ASP, Mach) by sex (male, female) by trials (one through five, six through fifteen) repeated measures analysis of variance was

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performed on the prisoner's dilemma game data to assess sex differences in the

proportion of red responses.

Results

Cluster Analysis/Subject Identification

As mentioned previously, cluster analysis was used to identify the subjects who met

the ASP pattern which was explicated by Gustafson and Ritzer (1994a). Specifically, a

Ward (1963) hierarchical clustering of individuals' patterns across standardized scores on

the five instruments utilized by Gustafson and Ritzer (1994) was performed using

CLUSTAN (Wishart, 1982). Two criteria were employed to determine the number of

clusters to retain. First, the magnitude of the increase in the error sums of squares

associated with retaining one less cluster than in the previous iteration was considered.

Looking for a "break" in the error sum of squares to decide how many clusters to retain is

analogous to looking for a "break" in a scree plot in factor analysis when trying to decide

the number of factors to retain. Ultimately, a compromise must be reached between

retaining a parsimonious number of clusters and minimizing error (Gustafson &

Magnusson, 1991). The second criterion was the percentage reduction in error variance

(PR) associated with retaining a particular number of clusters, compared to the sample's

total variance, a statistic which is analogous to the percent of variance explained statistic

in factor analysis.

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Based on these two criteria, a ten cluster solution was selected for the present sample

($\underline{N} = 532$). This solution resulted in a 60% reduction in error variance over considering

the sample as a whole. In addition, 127 subjects (23.9% of the sample) were removed to

a residual because their squared Euclidian distance from all of the cluster centroids

(patterns of means) was greater than .50, reflecting that they differed substantially from

the cluster means in either the pattern or the magnitude of their scores, or both.

Removing such individuals to a residual increases the homogeneity of the clusters, which

is desirable when looking for a specific pattern. Of the ten clusters, Cluster 9 ($\underline{n} = 45$)

emerged with a profile of mean scores which closely matched the ASP pattern, with the

exception of self-esteem, which did not differ significantly from the grand mean. The

individuals in Cluster 9 were, therefore, targeted for further investigation. The profile of

each subject in Cluster 9 was examined in order to select only those individuals who

exhibited the ASP pattern. Because it was possible that individuals who met the ASP

pattern had been removed to the residual due to extreme scores on one or more variables,

the profile of each subject in the residual was also examined in order to identify any

individuals who matched the ASP pattern, a procedure which had been utilized by

Gustafson and Ritzer (1994a). As a result of these investigations, 14 subjects were

selected from Cluster 9, and 18 subjects were selected from the residual for a total of 32

subjects. Hence approximately 6% of the individuals from the original sample of 532

were identified as matching the ASP pattern. This proportion was comparable to the

Gustafson and Ritzer (1994a) results which found that 11% of the individuals in one sample and 6% in another sample matched the ASP pattern.

Exploratory Analyses: Sex Differences

For the prisoner's dilemma game, a 2 x 2 x 2, group (ASP, Mach) by sex (male, female) by trials (one through five, six through fifteen) repeated measures analysis of variance was performed to investigate the possibility of sex differences in the proportion of red responses in the first five trials or in the last ten trials. There were no significant main effects or interactions involving sex. Hence, males and females did not differ in the proportion of red responses in the prisoner's dilemma game.

In addition, 2 x 2, group (ASP, Mach) by sex (male, female), analyses of variance were performed to investigate the possibility of sex differences on the PCL-R scores. There was a significant main effect of group on all three dependent variables (PCL-R total score, Factor 1 score, and Factor 2 score), as would be expected based on the $\underline{t}$-test results reported below. Neither the main effect of gender nor the group by gender interaction was significant for any of these PCL-R variables. Thus, high Mach and ASP males and females did not, on average, differ in their scores on the PCL-R.

Psychopathy Checklist-Revised

The mean scores for the ASP and Mach groups on the PCL-R are presented in Table 2, as are the mean scores on Factor 1 and Factor 2. The hypotheses for this portion of the experiment were supported. As shown, the ASP group ($\underline{n}$=28) scored significantly higher

than the Mach group ($\underline{n}$=19) on the PCL-R total ($\underline{M}$ = 13.55 vs. $\underline{M}$ = 9.39), $\underline{t}$(45) = 2.53, $\underline{p}$=.01, which represents the ASPs' higher levels of characteristics diagnostic of psychopathy. In addition, the ASP group scored significantly higher than the Mach group on both Factor 1 ($\underline{M}$ = 7.14 vs. $\underline{M}$ = 4.63), $\underline{t}$(45) = 2.29, $\underline{p}$<.05, and Factor 2 ($\underline{M}$ = 6.41 vs. $\underline{M}$ = 4.76), $\underline{t}$(45) = 2.08, $\underline{p}$<.05, reflecting the ASPs' higher levels of callousness and antisocial behavior, respectively.

Insert Table 2 about here

Prisoner's Dilemma Game

Exploitative responses. Data from two subjects in the Mach group were eliminated from consideration for the prisoner's dilemma game analyses because, following the game, the subjects expressed suspicions concerning the existence of a human opponent. Thus, there were 28 subjects in the ASP group and 17 subjects in the Mach group for these analyses. (Of course, the subjects whose data were eliminated from the prisoner's dilemma game analyses were nonetheless included in the PCL-R analyses.) For these subjects, the proportion of red responses was computed for trials one through five and for trials six through fifteen. The mean proportions of red responses for ASPs and Machs are presented in Table 3.

Insert Table 3 about here

As stated previously, a 2 x 2, group by trials, repeated measures analysis of variance was conducted on these data. As shown in Table 4, the only significant effect was the main effect for trials, $F(1, 43) = 15.39$, $p<.001$, reflecting the increased proportion of red responses for both groups during trials six through fifteen. Thus, the hypotheses for this portion of the study were not supported.

Insert Table 4 about here

Message sent to opponent. The data of the two Mach subjects who expressed suspicions in the game were again eliminated. In addition, eight subjects--four in the ASP group and four in the Mach group--did not send a message to their opponent. For the 18 subjects in the ASP group and the 13 subjects in the Mach group who sent messages, two raters read each message and assigned it a score from 0 to 2, on each of the three dimensions defined previously--rational suggestion, frustration, and tactfulness/ courtesy. The scores of 0, 1, and 2 corresponded with "not at all", "somewhat", and "definitely", respectively. For example, the message "Both of us will receive more money if we both choose green every time" received scores of 2, 0, and 2 on the rational

suggestion, frustration, and tactfulness/courtesy dimensions, respectively. In contrast, the message "You are really beginning to get on my nerves" was given scores of 0, 2, and 0 for rational suggestion, frustration, and tactfulness/courtesy, respectively. The message, "both choose green?????", on the other hand, received scores of 1 on all three dimensions.

A criterion was set such that the two raters were allowed to differ by a total of no more than 2 points across all three dimensions for each message. This criterion was not violated on any message. The dimension scores given by the two raters were averaged to determine the dimension scores for each message. These dimension scores were then summed to form the composite representing strategy. The frustration dimension was reverse-scored for this composite.

The mean scores on each dimension for the two groups are presented in Table 5. Again, none of the differences between groups approached significance, and the hypotheses for this portion of the study were not supported.

Insert Table 5 about here

Post-Hoc Investigations

While selecting the subjects for the Mach group, the experimenter observed that the

Mach subjects seemed to vary widely in their patterns of scores on the five variables used

to identify the ASPs--self-esteem, social desirability, narcissism, socialization, and

self-reported psychopathy. Because of this observation, it was decided to cluster analyze

the Mach group on those five variables, to investigate whether homogeneous subgroups

emerged which represented different "types" of Machiavellians, and to investigate the

performance of those "types" in comparison to the remaining subjects.

As in identifying the ASP subjects, CLUSTAN (Wishart, 1982) was used to perform a

Ward (1963) hierarchical clustering of individuals' patterns across standardized scores on

the five instruments utilized by Gustafson and Ritzer (1994a). The increase in the error

sum of squares and percentage reduction in variance were again used as criteria to

determine the number of clusters to retain. A seven-cluster solution emerged from this

analysis which resulted in a 74.4% reduction in variance. No residual was taken in this

analysis because the investigation was exploratory in nature and because there were only

19 cases; all of the subjects were included in the clusters in order to investigate the

overall structure of the Mach variations on the five variables of interest.

Table 6 shows the profiles of each of these clusters, as well as the ASP profile.

—————————————————————

Insert Table 6 about here

—————————————————————

As can be seen from this table, one cluster, Cluster 4, had a pattern that was analogous to

the ASP pattern, with the exception of self-esteem; those in Cluster 4 ($\underline{n}$=5) had lower

than average self-esteem, while the ASP pattern calls for high self-esteem. However,

because of their similarity to the ASP pattern on the other variables, it was hypothesized

that the subjects in this cluster might behave very similarly to the ASP group, and

differently from the remaining Machiavellians. Therefore, Cluster 4 was compared to the

ASP and Mach groups on each of the dependent variables; the means for Cluster 4 on

each of these variables are listed in Table 7.

—————————————————————

Insert Table 7 about here

—————————————————————

Turning first to the PCL-R data, Cluster 4 did not differ significantly from the ASP

group on the total score, the Factor 1 score, or the Factor 2 score. Moreover, like the

ASPs, the subjects in Cluster 4 $\underline{did}$ receive significantly higher scores than the remaining

Machiavellians on both the total ($\underline{M}$ = 13.90 vs. $\underline{M}$ = 7.79), $\underline{t}(17)$ = -2.37, $\underline{p}$<.05, and on

Factor 1 ($\underline{M}$ = 8.20 vs. $\underline{M}$ = 3.36), $\underline{t}(17)$ = -3.61, $\underline{p}$<.01. Cluster 4 did not differ

significantly from the remaining Machiavellians on Factor 2. Additionally, when those in

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Cluster 4 were removed from the Machiavellian group, the differences between the ASP group and the Machiavellian group were significant at a higher level of alpha for the total PCL-R score ($\underline{M}$ = 13.55 vs. $\underline{M}$ = 7.79), $\underline{t}(40)$ = 3.35, $\underline{p}$=.001, as well as for Factor 1 ($\underline{M}$ = 7.14 vs. $\underline{M}$ =3.36), $\underline{t}(40)$ = 3.27, $\underline{p}$<.01, and Factor 2 ($\underline{M}$ = 6.41 vs. $\underline{M}$ = 4.43), $\underline{t}(40)$ = 2.39, $\underline{p}$<.03. Hence, these results tend to support the hypothesis that those in Cluster 4 were like the ASPs and different from the remaining Machs.

Turning to the prisoner's dilemma game data, one member of Cluster 4 was eliminated due to suspicions, leaving four subjects in this group. Due to the extremely small sample size ($\underline{n}$=4) in Cluster 4 for this portion of the study, statistical tests were not performed to compare Cluster 4 to the other groups. Examination of the mean proportions, however revealed that those in Cluster 4 behaved less exploitatively than those in the ASP group or those in the remaining Mach group. However, a 2 x 2, group by trials, repeated measures ANOVA was performed using the ASP group and the Machiavellian group with Cluster 4 excluded. The results of this analysis are presented in Table 8. As shown, this analysis again revealed a significant main effect for trials, $\underline{F}(1, 39)$ = 9.00, $\underline{p}$<.01, reflecting the increase in the proportion of red responses in trials six through fifteen. In addition, there was a significant trials by group interaction, $F(1, 39)$ = 5.46, $\underline{p}$<.05. Simple main effects tests were performed at each level of trials to investigate this interaction (Winer, 1971). These tests revealed that the ASP group had a significantly lower proportion of red responses ($\underline{M}$ = .38) than the Mach group (M=.52) in the first five

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trials, $\underline{F}$ (1, 63) = 4.51, $\underline{p}$<.05. In the last ten trials, however, the proportions for the ASPs ($\underline{M}$ = .56) and Machs ($\underline{M}$ = .55) were not significantly different, $\underline{F}$ (1,63) = 0.07. Hence, although a significant interaction was found, as was hypothesized for the ASP and Mach groups, the nature of this interaction was not as predicted because it resulted from the ASPs' being significantly less exploitative than the Machs in the first five trials.

Insert Table 8 about here

Turning to the data from the messages sent during the prisoner's dilemma game, statistical tests were, again, not performed comparing Cluster 4 with the ASP and Mach groups because of the extremely low sample size in Cluster 4, since only three of these subjects sent messages. Examination of the means for Cluster 4, in comparison to the other two groups reveals no substantial differences in scores on the message differences. Statistical tests were performed, however, to compare the ASP group to the Machiavellian group when Cluster 4 was excluded, but no significant differences were found.

Discussion

This study generated evidence for the distinctiveness of the ASP construct from the Machiavellianism construct proposed by Christie (1970a). The findings from the PCL-R were strongly supportive, indicating that the ASPs exhibited more psychopathic

characteristics than did the Machiavellians, across both the factor reflecting antisocial

lifestyle and the factor reflecting callousness and lack of remorse. In order to investigate

further the level of these characteristics exhibited by the Machiavellians, the scores of the

Machiavellian group on the PCL-R were compared to the PCL-R scores of the normal

controls used in Gustafson and Ritzer (1994b). (These controls had high self-esteem, but

did not match the remainder of the ASP pattern.) The Machiavellians scored

significantly higher than the normal controls on the PCL-R total (M = 9.39 vs. M = 3.75),

$t(47)$ = 4.03, p<.01, as well as on Factor 1 (M = 4.63 vs. M = 1.67), $t(47)$ = 3.59, p<.001,

and on Factor 2 (M = 4.76 vs. M = 1.78), $t(47)$ = 4.36, p<.001. Thus, the Machiavellians

do seem to be similar to the ASPs in some respects, especially when the ASP-like

subjects of Cluster 4 are included in the Mach group.

It is interesting to note that the ASPs and Machs also differed in their willingness to

participate in the study. Twenty-eight of 32 ASPs agreed to take part in the study,

whereas only 19 of 31 Machs agreed. A 2 x 2, group by participation frequency table

was constructed based on these data. A chi-square test of independence was performed

to determine whether willingness to paricipate in the study was independent of group

membership. The chi-square was significant (p<.05), indicating that willingness to

participate was not independent of group membership. The ASPs' greater willingness to

participate difference could perhaps be attributed to their narcissism, which would make

the opportunity to participate in an interview about their lives and experiences very

attractive. In fact, the protocol used to describe the study to prospective subjects (Appendix A) emphasized the interview portion of the study as opposed to the game portion, thus making the interview more salient to potential subjects.

Moreover, at an anecdotal level, several ASPs expressed looking forward to the interview and commented afterward that they had enjoyed the experience. In contrast, the Machs seemed to be more difficult to persuade to participate. The ASPs seemed willing to find time for the study even if they were busy and had scheduling difficulties, whereas the Machs were more likely to say that they were too busy to participate, despite the fact that the prisoner's dilemma game offered them the opportunity to win money.

The results generated using the prisoner's dilemma game, on the other hand, did not reveal the hypothesized distinctions between the Machiavellians and the ASPs. There are a number of possible explanations for this lack of differences. First, it is possible that ASPs and Machs do not differ in their behavior. This explanation seems to lose credibility in light of the PCL-R data, however, since the ASPs and Machs did differ substantially on an instrument that utilizes subjects' descriptions of their behavior throughout their lifetimes in order to assess the 17 dimensions listed in Table 1. In addition, it should be noted that the proportion of exploitative responses by the Mach group during the first five trials did not differ substantially from that of the high Mach group in the Christie, Gergen, and Marlowe (1970) study. Hence, the lack of significant

differences in the proportion of red responses could not be attributed to excessive exploitativeness by the Machs.

A more plausible explanation is that the game manipulation was not strong enough to elicit the desired responses from the ASPs. Perhaps the task could be assessed too quickly for the ASPs' purported impulsivity to come into play. Because the situation was not complex, the ASPs could have been able to assess it at a glance and deduce that the most profitable response would be to choose green the majority of the time. Furthermore, a lack of salience of the game manipulation could be responsible for both the failure to elicit the ASPs' expected punitive behavior in the last ten trials of the game and the failure to elicit the expected frustration, anger, and irrationality in the ASPs' messages to their opponents. Perhaps the stakes were not high enough and the exploitation did not last long enough to elicit the desired responses from the ASPs.

Thus, the conclusion that the ASP and the Machiavellian are indeed different is based solely on the PCL-R interview data. While the Machiavellian engages in more antisocial behavior and is more callous than the average person [represented by Gustafson and Ritzer's (1994b) control group], she or he is less antisocial and less callous than the ASP. Hence, it is possible that, as suggested by Christie and Geis (1970), in certain organizational settings, an individual high in Machiavellianism might be superior to an individual who is low in Machiavellianism. One could argue that the high Mach individual would be willing to engage in socially marginal behavior when necessary to

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advance his or her position, but <u>without</u> the severity of the ASPs' repertoire and without

the impulsivity and the lack of concern for consequences that characterize the ASP.

Thus, whereas the high Mach might be willing to violate social norms to accomplish a

necessary goal, violating social norms as a definitive aspect of one's lifestyle appears

more characteristic of the ASP (cf. Gustafson & Ritzer, 1994b), thereby making the ASP

a dangerous element in the organizational setting.

This view of the Machiavellian is markedly similar to Smith's (1985)

conceptualization of the "social psychopath", who shares the characteristics of the

psychopath, but to a lesser extent. According to Smith (1985, p. 220), the social

psychopath is characterized as "beguiling", "guiltless", "manipulating", "cynical",

"egocentric", "unempathic", "unperturbed", "restless", and "oriented in the present".

Smith holds, however, that the social psychopath is not destructive or harmful, but in fact

has "positive worth". It is my contention that Smith's conceptualization is closer to that

of the Machiavellian than to that of the psychopath, especially since the antisocial

behavior which is an integral component of the psychopath's lifestyle is missing from the

conceptualization of the "social psychopath".

An additional interesting implication of this study comes from the findings concerning

the high Machs who differed from the ASP pattern only in their possession of low

self-esteem. Investigations in the current study revealed that those who met this pattern

(low self-esteem, high narcissism, low social desirability, low socialization, and high

self-reported psychopathy) did not differ substantially from the ASPs on any of the variables investigated. Additionally, these subjects did differ from the remaining Machiavellians on several important dimensions, including the PCL-R total and Factor 1 scores, on which these subjects scored significantly higher than the remaining Machiavellians. Hence, these subjects appear to be extremely similar to the ASPs and different from the other Machs. Therefore, the role of traditionally measured self-esteem in aberrant self-promotion is at present unclear. Based on these findings, further research is currently being conducted in an attempt to determine whether high self-esteem is an integral part of aberrant self-promotion among individuals whose Machiavellianism scores do not exceed those of the ASPs in the present study.

One anomalous result emerged from the investigations spurred by the identification of Cluster 4. When these subjects were excluded from the Machiavellian group, a significant interaction was found in the groups by trials repeated measures ANOVA for the prisoner's dilemma game. Simple main effects tests revealed that this interaction was driven by ASPs' significantly lower mean proportion of red responses in the first five trials although they did not differ from the Machs in the last ten trials. This finding for the first five trials is the opposite of the hypothesized results. However, because of the post-hoc, exploratory nature of these findings, I believe that they should not be given too much weight. First, it is unclear whether this was a stable pattern in the ASPs' responding because the results are based on only five trials which lasted approximately two minutes.

Second, the data from the PCL-R, which is a validated diagnostic instrument that assesses behavior and attitudes over a lifetime, unequivocally supported the hypothesized differences between ASPs and Machs, with and without the Cluster 4 Machs.

In conclusion, the present study revealed substantive differences between the aberrant self-promoter and the Machiavellian, supporting the hypothesis that the ASP engaged in more antisocial behavior and was more callous than the Machiavellian. Based on these results, it appears that lying, conning/manipulation, callousness, and antisocial behavior are pervasive aspects of the ASPs lifestyle, whereas the Machiavellian is characterized by selective and opportunistic use of such tactics. Future research might provide laboratory support for the distinction between Machiavellianism and aberrant self-promotion by utilizing an experimental situation which was more salient to the subjects, one which would elicit the ASPs' tendencies toward antisocial behavior. Perhaps a prisoner's dilemma game played for higher stakes and for a longer period of time would suffice to elicit a display of the underlying differences between the ASPs and Machs, or perhaps a new situation could be devised which would illustrate the ASP's pervasive lack of behavioral control, as compared to the Machiavellian's selective use of socially marginal behavior.

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Appendix A:

Telephone Protocol for Recruiting Subjects

Hello, this is _____. I'm calling with reference to a psychology research project that you participated in last fall. You filled out a 200-item personality questionnaire as part of a personality study. The person who administered the test told you that a subset of subjects from the first phase would be invited to participate in phase two of the research.

The ultimate goal of the research is to develop a selection instrument to be used in organizations. It will be an instrument to assess aspects of personality that are relevant to working life. But ours will be different from what is available now--we want it to be less direct and more subtle than the measures you completed before. To help us develop this instrument, we have selected a number of people that we would like to interview.

You are one of the people who has been selected. I can't tell you why *you*, specifically, were chosen because a variety of individuals was selected. The selections were made in a separate stage of the study, and I only have a list of names and numbers to call.

We would greatly appreciate your giving us about an hour and a half of your time for a videotaped interview and to participate in a game with another subject. You will have the opportunity to win well over ten dollars playing the game.

In the interview the interviewer will be asking you about your life and your experiences. Instead of filling out a questionnaire, you will be able to talk in your own words. Only the interviewer and you will be in the room during the interview. The

interview will be videotaped to ensure that our interviewing procedures are correct and consistent for all subjects. Your responses will remain entirely confidential.

The game will be explained to you at the session. I will tell you now, however, that it requires no special skill and that, again, you will have the opportunity to win well over ten dollars.

I'd like to set up a time with you now, if you will agree to participate.

Appendix B: Subject Instructions

Introduction and Instructions

Today's session will consist of two parts. The first portion of the study involves a game which you will play with another subject via computer. These computers are connected so that they can process the responses made by both players. In this game, you will win money based on the decisions that you and the other player make. On each trial, the computer will ask each of you to choose either red or green. The computer will process both of your responses and award you money according to a payoff matrix. You will be rewarded according to the matrix on the next page (page 2). For example, think of yourself as player one and the other player as player two. If you both choose green, you will each receive $1.50 for that trial. If you choose green and the other player chooses red, you will receive $.50 and the other player will receive $2.00. On the other hand, if you choose red and the other player chooses green, you will receive $2.00 while the other player will receive $.50. Finally, if you both choose red, you will both receive no money. You will continue to play until you receive further instructions on the computer screen. At the end of the game you will be paid the money that you won. After the game portion has been completed, you will go to another room to complete the second portion of the study. The second portion of the study involves an interview which each of you will complete individually. Do you have any questions? Please wait for the experimenter's signal to begin playing the game on the computer.

Appendix C:

Prisoner's Dilemma Payoff Matrix for Trials 1-5

Player 1

Player 2	Green	Red
Green	$1.50 \\ $1.50	$2.00 \\ $.50
Red	$.50 \\ $2.00	$0 \\ $0

Appendix D:

Prisoner's Dilemma Payoff Matrix for Trials 6-15

Player 1

	Green	Red
Player 2 Green	$3.00 / $3.00	$4.00 / $1.00
Red	$1.00 / $4.00	$0 / $0

Appendix E: PCL-R Interview Protocol

INTERVIEW PROTOCOL

I. General Information

    1. Age, date of birth

    2. Sex

    3. Race

    4. Academic level

II. Past Education

    1. How many elementary schools did you attend? Why change?

    2. How many high schools did you attend? Why change?

    3. How was your attendance in elementary school? High school? How often skipped?

    4. How were your grades in elementary school? High school?

    5. Ever held back a grade? Why?

    6. How did you like school?

Boring?

Trouble paying attention? (e.g., daydreaming, hyperactivity)

How would your teachers have described you?

7. How did you get along with other kids at school?

8. Did you have close friends? How many?

9. How was your behavior at school?

Disturbing class (e.g., talking in class, cutting up, etc.)?

Drunk or stoned?

Cheating?

Stealing or vandalizing?

Late for class?

Smoking cigarettes?

Physical fights -- how often/when for each of the following:

In class or on school grounds?

Outside of school?

Who started the fights?

Did you ever hurt someone badly?

10. Were you ever suspended or expelled? Why? How often? When?

III. Work history

1. Did you go directly from high school to full-time college enrollment the following fall? (If person worked, get details of what he/she did--if did not work, find out what he/she did for support.)

2. What type(s) of work have you done in the past and/or currently?

3. Do you work in the summers? How many hours per week do you work during the summer?

4. Do you work or have you worked while enrolled in school? How many hours per week do you or have you worked while enrolled in school?

5. How many different jobs do you think you've had?

6. Tell me about your most recent job.

        What did you do?

        Did you enjoy it?

        How long did you work in that position?

        Was the job interesting? Boring?

        How did you get along with your co-workers?

How was the money?

Why did you leave that job?

7. Are you a reliable employee?

8. Are you a hard worker?

9. How would your boss(es) describe you?

10. Did you ever get in trouble at work? (How often, why, when?)

For being late or absent?

Drinking or using drugs at work?

11. Have you ever been fired? How often? Why? When?

12. Did you ever quit without giving your boss advance notice? Why, when, how often?

13. Did you ever leave a job with no other job lined up? Why, when, how often?

IV. Career Goals

1. Is there any trade or occupation you'd like to have?

How long have you wanted to do it?

Have you prepared for it in any way?

What training do you require?

2. What are your plans after graduation?

Where will you live?

How will you support yourself?

Would it bother you to be supported by a partner?

3. Do you have any long-term goals?

Where do you see yourself in 5 years?

Where do you see yourself in 10 years?

4. What problems might you have in achieving your goals?

V. Finances

1. Who supports you while you're in school? (Tuition, living expenses?)

2. Have you ever collected unemployment insurance or welfare? When, how often?

3. Have you ever had a bank loan (including school loan) or personal loan?

How many, when?

Did you pay them back (or how do you intend to pay them back)?

4. Do you have credit cards? Do you carry debt from month to month?

5. Do you know what your credit rating is?

6. Have you ever fallen behind on paying bills or personal debts?

7. How often do you borrow money from friends? From your parents or other relatives?

How long does it take you to pay it back?

Are you comfortable borrowing money from friends and/or family?

8. How often have you bounced a check? What has your response been?

9. Have you ever written a check when you knew you didn't have enough money to cover it?

VI. Physical Health

1. Do you have or have you had any serious medical problems?

2. How is your health generally?

VII. Mental Health

1. Have you ever been diagnosed as hyperactive? When, by whom? Any treatment prescribed?

2. Would you consider going to a psychiatrist or psychologist? Why (under what conditions) or why not?

3. How would you describe your mental health generally?

VIII. Family Life

1. Were you raised by your natural parents?

2. Did you ever live with anyone else? Why? What age(s)?

3. What was your home life like?

How did you get along with your parents?

Describe your parents.

Were they affectionate to you?

Did they get along well together?

Were there arguments and/or physical fights?

Did they ever separate? (If so, how did it affect you?)

Was your home strict?

Were there a lot of rules?

How often did you break the rules (lie, run away, steal)?

What happened when you disobeyed the rules?

Did you have brothers and sisters? How did you get along with

them?

4. Did you leave home before you came to college? What age? Why?

5. What is your relationship with your family now?

        How often do you have contact with them *other* than times you're

        contacting them for assistance? (Letters, calls?)

        What are they doing now?

        How are they?

IX. Sex/Relationships

1. How old were you when you started dating?

2. How often do you date?

3. Do you or would you like to date more than one person at the same time? If you date more than one at a time, do your partners know you aren't with them exclusively?

4. How many relationships have you had that you consider serious?

5. Have you ever had a live-in relationship or close to a live-in relationship -- like spending most nights together even when you maintain separate apartments or houses? When? How many?

6. Tell me about your longest, most recent, or current serious relationships. (Repeat these questions for three different relationships, if possible.)

> How long?
>
> How old when it started?
>
> Describe your partner?
>
> What did you like best about your partner?
>
> What did you like least?
>
> Were you in love or was it just physical attraction?

Was the relationship stable?

Did you ever get bored?

Who would you say was generally in control in the relationship?

Did/do you argue much?

Did/do you ever have physical fights?

Why did the relationship end?

Who ended it?

How long did it take you to get over it?

4. What circumstances would cause you to lie to your partner?

5. Have you ever been unfaithful in one of your serious relationships?

Did your partner find out?

What was your partner's reaction?

How did you feel about your partner's reaction?

6. Have you ever been deeply in love?

7. Do you have any children?

ARE YOU WILLING TO ANSWER SOME QUESTIONS ABOUT YOUR SEXUAL EXPERIENCE? If no, go on to **X. Sensation-Seeking**.

8. Have you ever had sex?

How old were you the first time?

Was it with a stable partner or a casual acquaintance?

9. If your partner says no to sex, what do you do?

10. How many different sexual partners have you had?

11. Do you practice safe sex?

12. Have you had any one-night stands? How many?

13. Have you ever had sex after you've been drinking? How often?

X. Sensation-Seeking

1. Do you use alcohol?

Socially or to get drunk?

How often?

Since what age?

2. Do you use drugs?

What drugs?

How often?

Since what age?

3. Why do you use alcohol/drugs?

4. Has drug or alcohol use ever seriously interfered with your life?

5. Did you ever do anything dangerous or get into trouble when you were drunk or stoned?

Drive while impaired?

Get into fights?

Steal things?

Get arrested?

Create public disturbance?

Vandalize property?

Take dares?

6. Do you do crazy or dangerous things for fun generally? What types of things?

Steal?

Drag race?

Vandalize property?

Take dares?

7. Would you ever consider getting a tattoo?

8. Do you ever get into physical fights?

How often?

Who starts the fights?

What's the worst injury you ever caused someone?

XI. Childhood/Adolescent Antisocial Behavior

1. Under the age of 12, did you do anything rowdy outside of school? What? How often? What ages?

Vandalize property?

Set fires?

Steal?

2. Did you get caught? What happened?

3. Did you ever get in trouble with the police at age 12 or below? Why? When?

4. Were you ever arrested as a juvenile (i.e., age 17 and below)? Why? When? Were you convicted? Sentence (ever done community service? probation? suspended sentence)?

5. Did you ever break the law and not get caught before the age of 17? What did you do? What age(s)?

XII. Adult Antisocial Behavior

1. Have you ever been arrested as an adult (i.e., over the age of 17)? If so (repeat for each offense):

Were you the only person involved or were you with others?

What did you do?

What did the police say you did?

Were you convicted? What was the outcome, in terms of sentencing?

Did you commit the offense spontaneously or was it planned?

Were you drunk or stoned?

Did you know the victim?

What effect did your crime have on the victim(s)?

How do you feel about that effect?

Who or what is to blame for your offense?

Do you regret committing the offense? Why or why not?

2. Have you ever gotten into trouble with the University?

Been put on probation? How many times? Why?

Received J. R.'s (judicial reprimands)? How often? Why?

3. Have you ever broken the law and not gotten caught after the age of 17? What have you done? What age(s)?

XIII. General Questions

1. How do others feel about you (e.g., are others intimidated by you; do others respect you)?

2. If you know a friend is weak in a certain area, do you ever try to take advantage of it? How? How often?

3. Do you feel like you get in trouble a lot for things that other people do?

4. Do people tell you you have a bad temper?

What makes you angry?

What do you do when you're angry?

5. Have you ever done anything that made you feel guilty or that you were sorry you had done? What? Why?

6. If the price were right and it could be guaranteed that you wouldn't be caught, is there anything you wouldn't do? Sell exams? Take an exam for someone else? Sell drugs? Engage in prostitution? Fence stolen goods? Commit an assault? Commit murder?

7. What are your views on premarital sex?

8. How many times have you switched colleges? Why?

9. How many times have you switched majors? Why?

10. How many times have you dropped classes? Why?

11. How often do you skip classes?

12. How often have you tried to get a teacher to change a grade? How did you do it? Were you successful?

13. Have you ever planned to do things with friends and then decided at the last minute to do something else, without telling your friends? How often?

14. Have you ever made an appointment with a professor and then not shown up, without notifying the professor? How often?

15. Do you ever just "hit the road," without any plans and without telling anyone? How often?

16. How often do you ask friends for favors/homework/notes?

17. How often do your friends ask *you* for favors/homework/notes?

How do you feel when your friends ask things of you?

What do you do?

18. Have you ever cheated on an exam? How often? How do you feel about it?

19. How do you feel when a friend gets a lower grade than you?

20. Is it easy for you to get your way with people?

21. Do you think people are generally pretty easy to con and manipulate?

22. When you work at something for a long time, do you get bored easily?

23. Can people tell when you're lying?

24. Is it easy for you to lie? Under what conditions would you be likely to lie?

25. Are you a spontaneous type of person or do you generally plan things ahead of time? Do you keep a date-book, calendar, etc.

26. How many close friends do you have?

How long have you known them?

Do you keep in touch? How often?

27. Do you hope to settle down with one person someday, or would you like to "play the field?"

28. What's the most depressed you've ever been?

29. What's the happiest you've ever been?

30. Has anyone close to you died?

> How did it affect you?

> How did you handle it?

> Did you go to the funeral?

31. How do you feel about yourself? On a scale of 1 to 10, how would you rate your self-esteem?

32. Are you satisfied with your life so far? Is there anything missing? What?

Table 1

PCL-R Indicators of Psychopathy

Factor 1 Indicators	Factor 2 Indicators
Glibness/superficial charm	Need for stimulation/proneness to boredo
Grandiose sense of self worth	Parasitic lifestyle
Pathological lying	Poor behavioral controls
Conning/manipulative	Promiscuous sexual behavior
Lack of remorse or guilt	Early behavior problems
Shallow affect	Lack of realistic, long-term goals
Callous/lack of empathy	Impulsivity
Failure to accept responsibility for actions	Irresponsibility
	Many short term marital relationships
	Juvenile delinquency
	Revocation of conditional release
	Criminal versatility

Table 2

Mean PCL-R Scores, by group

| | Group | | |
| | ASP | Mach | t |
Scores	(n=28)	(n=19)	(df=45)
PCL-R total	13.55	9.39	2.53**
	(5.51)	(5.55)	
Factor 1	7.14	4.63	2.29*
	(3.90)	(3.32)	
Factor 2	6.41	4.76	2.08*
	(2.46)	(2.95)	

*p<.05. **p=.01

Table 3

Mean Proportions of Red Responses in the Prisoner's Dilemma Game, by Group

	Trials	
Group	Trials 1-5	Trials 6-15
ASP	.378	.564
($\underline{n}$=28)	(.251)	(.154)
Mach	.447	.512
($\underline{n}$=17)	(.218)	(.223)

Note. Unless otherwise indicated, numbers in parentheses indicate standard deviations.

Table 4

Group by Trials Analysis of Variance for Proportion of Red Responses

Source	F	df
Group	0.02	1, 43
Trials	15.39*	1, 43
Group x Trials	3.59	1, 43

*$p<.001$

Table 5

Mean Message Dimension Scores, by Group

	Group		
	ASP	Mach	t
Dimension	(n=22)	(n=13)	(df=33)
Rational Suggestion	1.11	1.08	0.12
	(0.83)	(0.86)	
Frustration	0.55	0.31	1.12
	(0.62)	(0.60)	
Tactfulness/	1.34	1.50	-0.64
Courtesy	(0.73)	(0.68)	
Strategy	3.91	4.27	-0.59
	(1.72)	(1.81)	

Note. Unless otherwise indicated, numbers in parentheses indicate standard deviations.

Table 6

<u>Comparison of ASP Pattern to Patterns of Mach Clusters</u>

		Cluster						
	ASP	1	2	3	4	5	6	7
Pattern Indicator		($\underline{n}$=1)	($\underline{n}$=3)	($\underline{n}$=3)	($\underline{n}$=5)	($\underline{n}$=1)	($\underline{n}$=5)	($\underline{n}$=1)
Self-Esteem	+	-	-	-	-	+	+	-
Self-Reported Psychopathy	+	-	+	-	+	+	+	-
Socialization	-	-	-	+	-	-	+	-
Social Desirability	-	+	+	...	...	-	-	+
Narcissism	+	-	-	-	+	-	+	-

<u>Note</u>. "+ " reflects that the group in question scored higher than the average of the initial sample of 532 subjects on that dimension. "-" indicates that the group in question scored lower than the average of the initial sample on that dimension.

Table 7

Means on Dependent Variables for Cluster 4

Variable	Cluster 4 Mean	Standard deviation
Red in trials 1-5	0.20	0.16
Red in trials 6-15	0.40	0.28
Rational Suggestion	1.33	0.58
Frustration	0.33	0.29
Tactfulness/Courtesy	1.33	0.58
Strategy	4.33	0.29
PCL-R total	13.90*	5.81
Factor 1	8.20*	2.33
Factor 2	5.70	3.82

*Significantly higher than the remaining Machs.

Table 8

Group by Trials Analysis of Variance for Proportion of Red Responses, Excluding

Cluster 4 from the Machiavellian Group

Source	F	df
Group	1.17	1, 39
Trials	9.00**	1, 39
Group x Trials	5.46*	1, 39

*p<.05

**p<.005

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[1] From this point on, unless noted otherwise, Machiavellianism is measured by the Mach IV and the Mach V, with high Machs scoring above the median on both scales and lows scoring below the median on both scales.

[2] High Machs scored in the fourth quartile on both the Mach IV and V or in the third quartile on one scale and the fourth quartile on the other; medium Machs scored in the second or third quartiles on both Mach IV and Mach V; low Machs scored in the first quartile on both Mach scales or in the first quartile on one and the second quartile on the other.

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EDUCATION

Master of Science Degree in Psychology, Expected May 1995
Concentration: Industrial/Organizational Psychology
Virginia Polytechnic Institute and State University (Virginia Tech)
Blacksburg, Virginia

Thesis: Aberrant Self-Promotion versus Machiavellianism: A Discriminant
Validity Study

Bachelor of Arts Degree in Psychology; Minor: Spanish, May 1992
Bridgewater College, Bridgewater, Virginia
Graduated Summa Cum Laude with a 3.90 average on a 4.0 scale

HONORS/AFFILIATIONS

Student Affiliate of the American Psychological Association
Student Affiliate of the Society for Industrial/Organizational Psychology
Phi Kappa Phi National Honor Society (Spring 1993)
Who's Who Among Students in American Universities and Colleges
(Spring 1992)
Alpha Chi National Honor Society (Fall 1990)
Lambda Honor Society (Fall 1989)
President's Merit Scholarship (four years)
Dean's List (four years)
Robert Byrd Honors Scholarship (Fall 1988 - Spring 1989)

RESEARCH EXPERIENCE

Thesis Research - Sigrid B. Gustafson, Ph.D (Chair), Virginia Tech
Designed and implemented a study to differentiate the aberrant self-promotion
construct from Machiavellianism, using a structured interview and a laboratory
situation.

Honors Project - Donald Witters, Ph.D (Advisor), Bridgewater College
Investigated the relationships between facets of self-esteem and career indecision
in College Freshmen.

RELEVANT WORK EXPERIENCE

Graduate Teaching Assistant, Virginia Tech, Blacksburg, Virginia
   Laboratory instructor for Psychometrics Laboratory--expanded upon material
   presented in the lecture portion of the course, instructed students in the use of
   SAS for Windows to analyze data, prepared in-class assignments for students
   to provide practical, first-hand, experience with psychometric concepts. (Fall
   1994).

   Assistant to professor for Industrial-Organizational Psychology course--held
   office hours to answer questions for students, proctored examinations, graded
   students' critiques of journal articles. (August 1993 - May 1994)

   Laboratory instructor for Introduction to Psychology course--led class
   discussions, constructed and graded quizzes, graded essays. (August 1992 -
   May 1993).

Research Project: Principle Investigator, Virginia Tech, Blacksburg, Virginia
Planned and conducted research project--ran subjects, analyzed data. (May -
August, 1994).

Computer Laboratory Tutor, Bridgewater College, Bridgewater, Virginia
Assisted students in BASIC programming and use of computer software.

Student Representative, Admissions Office , Bridgewater College, Bridgewater,
Virginia
Corresponded with prospective students via mail and telephone, provided tours of
campus, met with students to answer questions and provide information about the
College. (May 1989 - May 1992).

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<u>Group Leader, Academic Assistance Program</u>, Bridgewater College, Bridgewater, Virginia
Supervised students in study hall environment, provided information concerning study skills and time management, aided in goal-setting.

RELEVANT COURSEWORK

Industrial Psychology I and II
Organizational Psychology I and II
Advanced Psychometric Theory
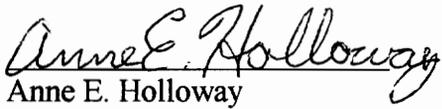Quantitative Topics in Applied Psychology
Research Methods
Statistics for Social Science Research I and II
Advanced Statistics for Education (Regression)
Psychological Measurement
Cognitive Psychology

Anne E. Holloway