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## Machiavellianism, Biological Sex, and Communication Orientations

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Abstract

This study explored how responsiveness, assertiveness, cognitive flexibility, and nonverbal immediacy might be related to Machiavellianism and a possible interaction of these relationships with biological sex. Participants (N = 234) completed the Assertiveness-Responsiveness Measure (ARM), the Nonverbal Immediacy Scale (the self-report version; NIS-S), the Cognitive Flexibility scale, and a recently developed Machiavellianism scale. The results indicated that for both males and females assertiveness was a positive predictor, and responsiveness was a negative predictor, of Machiavellianism. Cognitive flexibility was a negative predictor for males but not for females. Immediacy was not a significant predictor of Machiavellianism for either males or females.

"Machiavellian" is a term which refers to "a person who manipulates others for his (sic) own purpose" (Moore, Ward, & Katz, 1998). Machiavellianism (the behavior associated with Machiavellians) has long been considered to be synonymous with deception, self-interest, and opportunism (Mudrack & Mason, 1995). Machiavellianism is a personality trait that is used to categorize individuals based on their use of manipulative behaviors (Christie & Geis, 1970; Gable & Dangelo, 1994; Martin, Anderson, & Thweatt, 1998; Moore et al., 1998; Mudrack & Mason, 1995; Vleeming, 1979). While this trait often is considered to be negative, in that appears not to include a positive morality component, it also appears to be associated with effective communication behaviors leading to successful efforts at social influence.

Those individuals high in Machiavellianism (high Machs) have a tendency to manipulate more, persuade more, and are more willing to compromise truthfulness and ethics than low Machiavellians (low Machs) in order to achieve their goals while communicating with others. They tend to have a "cool detachment" (Vleeming, 1979) or a lack of feelings or affect for others (Christie & Geis, 1970) to a point where they view others as instrumental objects (Mudrack & Mason, 1995). High Machs seem to have an ability to manipulate others to perform some type of action in a manner that these others believe that the idea of the action originated from them (Falbo, 1977). Low Machs seem to be more highly involved with people (Vleeming, 1979), more easily persuaded, and consider ethics more while communicating with others.

Some studies have found biological sex differences in Machiavellianism (Barber, 1994; Gable & Topol, 1987; Vleeming, 1979). In general, males have been found to be significantly more Machiavellian than females (Barber, 1994; Vleeming, 1979). This finding appears to be relatively consistent regardless of the Machiavellian instrument employed by the researcher (Vleeming, 1979). However, the results of at least one study contradict the previous findings with regard to biological sex and Machiavellianism. Gable and Topol (1987) found female department store executives to be more Machiavellian than male department store executives. Although the direction of the relationship may not always be consistent, if females and males do indeed differ in their Machiavellian orientation, then their communication with others may also differ as a function of their Machiavellian orientation.

Overall, high Mach communicators appear to communicate in different ways than do low Mach communicators. If so, observation of communication behaviors might reveal if one is indeed engaged in an interaction with a high Mach versus a low Mach. However, these revealing communication behaviors of Machiavellians may differ based on the sex of the individual. The purpose of this study was to explore if (and how) Machiavellian orientations are related to some communication orientations, which have been demonstrated to have important associations with a variety of communication outcomes (responsiveness, assertiveness, cognitive flexibility, nonverbal immediacy), and to what extent biological sex may mediate these relationships.

### Socio-Communicative Orientation and Style

The constructs of socio-communicative orientation and socio-communicative style suggest three trait communication orientations associated related with communication behaviors which form distinct styles of communication behavior. These traits are referred to as responsiveness, assertiveness, and versatility/flexibility. These have been described as the core components of communication competence (McCroskey & Richmond, 1996).

*Responsiveness.* A responsive communicator is one that tends to be other-oriented (Richmond & Martin, 1998). Responsiveness is the first of the three components believed to be critical in socio-communicative orientation (the way an individual perceives her/himself as communicating, their “orientation”) and socio-communicative style (the way others perceived the individual as communicating, their behavior). According to McCroskey and Richmond (1996), being responsive involves considering other’s needs and feelings and being a good listener. A responsive individual is usually described as being helpful, gentle, and friendly. Responsive individuals tend to communicate with others in a manner that displays concern for the relationship of the individuals involved. Anderson and Martin (1995) found responsive communicators to communicate more for needs of affection, inclusion, and pleasure.

Within the general U.S. culture, such relational needs are thought to be stereotypically feminine. Many of the descriptors of responsiveness found in the academic literature appear on the femininity dimension of Bem’s Sex-Role Inventory (Bem, 1974). One should be cautioned that this inventory attempts to measure one’s gender, or “psychological sex” (which is believed to be heavily influenced by culture), and not one’s biological sex. However, at least one study has explored biological sex differences in responsiveness and found significant results. Martin and Anderson (1996) found females to be significantly more responsive than males. Although there appear to be some biological differences in the need to be responsive, some researchers argue that these differences might more likely be due to cultural socialization than biology (Canary & Hause, 1993). However, research reported by McCroskey, Heisel, and Richmond (2001) found very substantial relationships of both responsiveness and assertiveness with two of Eysenck’s (1990) BIG THREE temperament variables, extraversion and neuroticism. These temperament variables have been established as genetic in origin, and are used by psychobiologists as “marker variables.” Correlations of other variables with these temperament variables suggest they also are most likely to have a genetic origin as well.

Be it biology or socialization (or both), there appears to be variation in the need to be responsive to others. Since Machiavellians appear more self-centered than other-centered, we posed our first hypothesis:

H1: Responsiveness and Machiavellianism are negatively correlated.

*Assertiveness.* Assertiveness refers to standing up for one’s own rights without infringing on the rights of others (Richmond & Martin, 1998). This is the second component of McCroskey and Richmond’s (1996) socio-communicative orientation and style constructs. Based on their interpersonal goals, assertive individuals have the ability to initiate, maintain, or terminate communication with others (McCroskey & Richmond, 1996). Assertive individuals are described as being more confident, dominant, and independent. The assertive communicator is very task or goal oriented in her/his interactions with others. However, the assertive communicator is not one who hinders others’ chances at being successful as well. The communicator who employs communication designed to hinder others is considered to be an aggressive person (Richmond & Martin, 1998). Such behavior is referred to as “verbal aggression.”

While sex differences in assertive communication have been documented (Martin & Anderson, 1996), those differences have been found to be small. However, Martin and Anderson (1996) did find males to be significantly more assertive than females. These differences may coincide with some of the sex differences that have been found in Machiavellianism, since for the most part, males have been found to be both more Machiavellian and assertive than females. Consequently, the following hypothesis was forwarded:

H2: Assertiveness and Machiavellianism are positively correlated.

*Cognitive Flexibility.* In any given human interaction, one has choices about how to behave and communicate with others. Cognitive flexibility (originally referenced as “versatility” by McCroskey & Richmond, 1996) has been conceptualized as an individual’s awareness, willingness, and self-efficacy in being flexible and adapting to a situation (Martin et al., 1998; Martin & Rubin, 1995; Valencic & Martin, 2002). An individual who is highly cognitively flexible is likely to be aware of multiple communicative responses while engaged in a given interaction. A cognitively flexible individual has a better chance at adapting to others in order to successfully transmit her/his message. Previously, cognitive flexibility has been found to be positively correlated with communication adaptability (Martin & Rubin, 1994).

If a cognitively flexible person is more adaptive to others leading to a greater possibility of successful communication, then a cognitively flexible person is probably more successful at accomplishing her/his goals. Successful high Machs are probably aware of multiple responses in many communicative episodes. Therefore, the following hypothesis was forwarded:

H3: Cognitive flexibility and Machiavellianism are positively correlated.

#### Nonverbal Immediacy

Immediacy is the degree of perceived physical or psychological closeness between people. Perceptions of nonverbal Immediacy can be evoked numerous ways, such as smiling, moving toward a person, using more positive gestures, increasing eye contact, touching another, standing or sitting near another and/or by variety of other nonverbal behaviors.

Some sex differences have been found to exist in immediacy. Females have been found to self-report being more immediate than males, but males providing observer-report data do not see them as behaving in more immediate ways (Richmond, McCroskey, & Johnson, 2003). However females have been found to view immediacy behaviors as being more important than males (Frymier & Houser, 2000). Perhaps this is because females desire more of the positive social outcomes that immediacy may produce.

Immediacy tends to be positively related to liking (Richmond & McCroskey, 2004; Richmond, et al., 2003). That is, the more immediate of a communicator one is, the more he/she may evoke liking from others, and perhaps gain favors from others. Individuals might be immediate for a number of reasons: to show concern for other’s needs, to initiate communication with others, or even to take control of a situation in order to achieve a goal. Responsiveness and assertiveness have both been found to be positively related to immediacy (Myers, & Avtgis, 1997; Thomas, Richmond, & McCroskey, 1994). Immediacy also tends to evoke more communication from others (Richmond & McCroskey, 2004). Perhaps, communicators who engage in immediate nonverbal behaviors have potentially more influence over others, an influence that may aid these communicators in accomplishing their goals. Accordingly, high Machs may incorporate some of these nonverbal behaviors to increase immediacy in order to get what they want. Therefore, the following hypothesis was forwarded:

H4: Nonverbal immediacy and Machiavellianism are positively correlated.

Previous research has indicated biological sex differences (male/female) in Machiavellianism (Barber, 1994; Gable & Topol, 1987; Vleeming, 1979), nonverbal immediacy (Richmond et al., 2003), assertiveness (Martin & Anderson, 1996), and responsiveness (Martin & Anderson, 1996). These sex differences may lead to different Machiavellian communication patterns. Therefore, the following research question was posited:

RQ1: Do the correlations predicted in hypotheses one through four vary based on the biological sex of the individual?

### Method

#### Participants

The participants for this study were drawn 234 students enrolled in introductory communication courses at a Mid-Atlantic University. The sample consisted of 128 (54.7%) males and 85 (36.3%) females with 21 (9.0%) individuals not reporting their sex. The average age of this sample was 20.0 ( $SD = 2.12$ ) with a range of 18-37. Additionally, this sample consisted of 89 freshman, 61 sophomores, 46 juniors, 21 seniors, and 17 individuals not reporting their class standing. No other demographic data were collected.

#### Procedure

During a normal class period, students were asked to complete a questionnaire consisting of Richmond and McCroskey's (1990) assertiveness-responsiveness measure, Martin and Rubin's (1995) cognitive flexibility scale, the Richmond et al. (2003) nonverbal immediacy scale, Mudrack and Mason's (1995) Machiavellianism scale, and some demographic questions (sex, age, class standing). The students were asked to complete the questionnaires as they pertained to themselves. The students were requested to omit their names or any other identity revealing information from the questionnaire in order to guarantee anonymity. Participation was voluntary and could be one way in which the students could receive extra credit.

#### Instruments

The *Assertiveness-Responsiveness Measure* is a 20-item instrument in which ten items measure assertiveness and ten items measure responsiveness. This measure is a five-point, Likert-type scale. The responses to this instrument range from Always True (5) to Never True (1). In this study, assertiveness obtained a coefficient alpha of .80 and responsiveness obtained a coefficient alpha of .85. These reliability estimates are consistent with those reported in previous research.

The *Cognitive Flexibility Scale* is a 12-item instrument. The responses to this instrument range from Strongly Agree (6) to Strongly Disagree (1). Martin, Cayanus, McCutcheon, and Maltby (2003) reported a coefficient alpha of .80 for this instrument. In this study, a coefficient alpha of .82 was obtained.

The *Nonverbal Immediacy Scale* is a 26-item instrument. The responses to this instrument range from Very Often (5) to Never (1). Richmond et al. (2003) reported reliabilities ranging from .90 to .93 for this instrument. The current study yielded a coefficient alpha of .87.

The *Machiavellianism Scale* is a 10-item, Likert-type instrument. The responses to this instrument range from Always True (5) to Never True (1). Valencic and Martin (2002) reported a coefficient alpha of .89 for this instrument. In this study, a coefficient alpha of .84 was obtained.

#### Data Analyses

Pearson correlations were computed to test the hypotheses and answer the research question advanced above. Simple *t*-tests also were conducted to determine whether differences between female and male mean scores on the various measures were significantly different. Due

to the number of relationships tested, an alpha level of  $p < .01$  was set for statistical significance.

Results

Means and standard deviations for all measures employed in this study are reported for the full sample as well as females and males separately in Table 1. This table also includes reports of *t*-tests for differences between male and female means.

Pearson correlations for each pair of variables included in the study are reported in Table 2. These bivariate correlations revealed that three of the four communication trait variables were significantly related to Machiavellianism: responsiveness, assertiveness, and cognitive flexibility. Nonverbal immediacy was not significantly related to Machiavellianism, even though it was found to be significantly positively related to the other predictors. Hypotheses 1 and 2 were confirmed, hypotheses 3 and 4 were not.

Pearson correlations for males and females are reported in Table 3. The correlations for males revealed three predictor variables that were significantly related to Machiavellianism: responsiveness, assertiveness, and cognitive flexibility. The relationship between Machiavellianism and nonverbal immediacy was not significant. The correlations for females revealed two predictor variables that were significantly related to Machiavellianism: responsiveness and assertiveness. All of these correlations were significant at  $p < .01$ , but not all were in the predicted direction.

Table 1  
Means and Standard Deviations of Measures

Measure	Combined		Females		Males		t	p<	VAF
	M	SD	M	SD	M	SD			
Responsiveness	36.8	5.5	38.8	5.2	35.8	5.1	4.1	.0001	.07
Assertiveness	35.5	5.5	35.1	5.6	36.1	5.4	1.2	NSD	
Flexibility	51.5	8.2	53.9	7.3	50.2	8.3	3.3	.001	.05
Immediacy	92.1	11.7	96.3	11.1	89.7	11.2	4.2	.0001	.08
Machiavellianism	24.7	7.1	21.3	7.1	27.1	6.4	6.1	.0001	.15

Table 2  
Correlations Among Variables: Total Sample

Variables	Responsiveness	Assertiveness	Flexibility	Immediacy
Machiavellians	-.40	.27	-.21	-.09*
Immediacy	.27	.22	.44	
Flexibility	.17*	.16*		
Assertiveness	.03*			

\* NSD ( $p > .01$ ).

Table 3  
Correlations Between Machiavellianism and Predictors by Sex

	Responsiveness	Assertiveness	Flexibility	Immediacy
Males		-.28	.24	-.25
Females		-.43	.29	.04*

\*NSD ( $p > .01$ ).

#### Discussion

The purpose of this study was to explore if and how some communication variables (responsiveness, assertiveness, cognitive flexibility, nonverbal immediacy) might relate to Machiavellianism and whether biological sex would mediate any observed relationship. For the entire sample, three of these communication variables significantly predicted Machiavellianism. However, when the sexes were divided, not all of these variables were found to be significant predictors. For females, neither cognitive flexibility nor nonverbal immediacy were found to be significant predictors of Machiavellianism. For males, nonverbal immediacy was not a significant predictor.

The results provided conformation for our hypotheses (1 and 2) that Machiavellianism would be negatively associated with responsiveness and positively associated with assertiveness. This prediction held true for the total sample as well and the females and males considered independently.

We received no support for our third hypothesis--that higher Machiavellianism is positively related to flexibility. In contrast, it would appear that higher Machiavellianism may be negatively related to flexibility, for males, but not for females. It appears that, at least for males, highly Machiavellian communicators may be less able to adapt their communication style to interact with others.

The small correlations between nonverbal immediacy and Machiavellianism were not significant for either the female or the male samples. Thus, our fourth hypothesis that nonverbal immediacy would be positively related to Machiavellianism clearly was not supported. It appears that Machiavellianism may even have a very small negative, not positive, relationship with nonverbal immediacy. Of course, in this study no meaningful relationship was found at all.

Our research question asked whether the correlations posed in our hypotheses were mediated by biological sex. To some extent, the answer to this question is yes. For males, Machiavellianism appears to be associated negatively with cognitive flexibility. There is little or no evidence that such mediation occurred on the other variables measured in the present data.

The overall picture we draw from the current results is that the communication of high Machiavellians is marked by higher assertiveness and lower responsiveness, while less Machiavellian communicators exhibit a more responsive, less assertive style. This picture may help us understand why high Machiavellians are noted as more successful persuaders. One tends to get their way more often when they stand up for themselves and their own ideas and are not overly concerned about others. Since stereotypically males in the general U.S. culture are more assertive and less responsive, this may explain why they report a more Machiavellian orientation. It also suggests the females who follow this male pattern of low responsiveness and high

assertiveness also report themselves as higher in Machiavellianism.

The view that high Machiavellians, whether female or male, simply are more competent communicators may be correct, at least if we do not factor in an ethical standard. In any event, a post hoc multiple correlation analysis of the total data indicated that the four communication traits collectively are highly predictive of Machiavellianism ( $R = .52$ ). While this relationship is mediated to an extent by sex, it is clear that high Machiavellians vary substantially from low Machiavellians in their trait communication orientations. Future research needs to include a measure of social desirability. It may well be that females and/or males may be responding to some (or all) of the measures on the basis of what they think should be their orientations, since the differences observed are consistent with stereotypical sex variations. Corrections for social desirability may have a meaningful impact on the sex differences observed in the current research.

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