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# The manipulative skill: Cognitive devices and their neural correlates underlying Machiavellian's decision making



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#### ABSTRACT

Until now, Machiavellianism has mainly been studied in personality and social psychological framework, and little attention has been paid to the underlying cognitive and neural equipment. In light of recent findings, Machiavellian social skills are not limited to emotion regulation and "cold-mindedness" as many authors have recently stated, but linked to specific cognitive abilities. Although Machiavellians appear to have a relatively poor mindreading ability and emotional intelligence, they can efficiently exploit others which is likely to come from their flexible problem solving processes in changing environmental circumstances. The author proposed that Machiavellians have specialized cognitive domains of decision making, such as monitoring others' behavior, task orientation, reward seeking, inhibition of cooperative feelings, and choosing victims. He related the relevant aspects of cognitive functions to their neurological substrates, and argued why they make Machiavellians so successful in interpersonal relationships.

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#### 0. Introduction

Machiavellianism is a strategy of social conduct that involves manipulating others for personal gain (Wilson, Near, & Miller, 1996). Machiavellians behave in a self-interested way, in that they are more willing and better able to exploit others (Paulhus & Williams, 2002). The level of Machiavellianism is frequently assessed by using the Mach-IV scale (Christie & Geis, 1970), but other scales are also used (Dahling, Whitaker, & Levy, 2009). Individuals with high Mach scores (that is "Machiavellians" or "high Machs") have a tendency to be callous, selfish and malevolent in their interpersonal dealings. Three core components underlie their behavior: endorsement of deception in interpersonal interactions, a cynical view of human nature (seeing others as weak and untrustworthy) and a disregard for conventional morality (Fehr, Samsom, & Paulhus, 1992; Hawley, 2006). They can easily separate themselves from moral percepts, especially in situations that offer material reward for breaking norms. Emotional detachment combined with lack of adhering to moral rules might imply a willingness to exploit others (Geis, 1970).

#### 1. Emotional coolness

The Machiavellian orientation toward others is frequently described as cognitive as opposed to emotional. High Machs are

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assumed to have a detached, impersonal orientation toward others (Geis & Christie, 1970). This leaves them free to analyze the situation dispassionately and proceed according to strategy. A recent analysis of narrative reports showed that high Machs use significantly fewer verbs when referring to emotional involvement, highlighting the importance of their cool and rational character (Czibor, Vincze, & Bereczkei, 2014).

Whereas almost all the authors emphasized the Machiavellians' emotional coolness, no clear analyses have been done so far, and no convincing data have been found that would provide details about the cognitive content of this attitude. Very little is still known as to what emotional coolness and detachment exactly means, what components it constitutes, and which emotional abilities, or the lack of which emotional abilities, can contribute to the cool attitude of Machiavellians.

The prevailing assumption is that Machiavellians are not influenced by the partner's intentions and emotions (Wai & Tiliopoulos, 2012). They are unmoved by the system of social relations, and do not experience intense emotions in situations in which others become angry, disappointed or happy. However, recent data seem to contradict these statements. A study, using Big Five Inventory, found a significant positive relationship between Machiavellianism and the variables of Neuroticism (Szijjarto & Bereczkei, 2015). This means that Machiavellian persons are characterized by high emotional instability that is likely to be linked to the experience of more negative emotions and greater difficulty to bear distress. It is possible, then, that

emotionally stressful situations wear them out more than others that may contradict the widespread notion about their cold-minded thinking.

An fMRI study may reinforce this assumption. Using the Trust Game, elevated activities were found in high Machs', as first players, anterior cingulate cortex (ACC) (Bereczkei, Deak, Papp, Perlaki, & Orsi, 2013). This region of the brain is known to monitor cognitive conflicts and particularly to eliminate conflicts between brain modules (Rilling et al., 2002). According to the conflict monitoring theory, ACC as a kind of conflict detector monitor for response conflicts in the ongoing processing stream and signals the need for reducing response interference (Carter & van Veen, 2007; Dreisbach & Fischer, 2012). Moral judgments were also associated with activation in ACC, suggesting that such judgments may involve emotional conflict (Kahane et al., 2012). ACC is typically engaged when individuals make decisions in which there is conflict between social norms and personal interests (Sanfey, Rilling, Aronson, Nystrom, & Cohen, 2003).

As a possible interpretation, it could be argued that because Machiavellian people do not trust others, they are likely to transfer a low amount of money as the first and the second player. At the same time, however, they must be aware that if they break the norm of cooperation that may elicit negative feelings in them. Therefore they may feel an intense conflict between the general expectation to obey the social norms and wish to desert the partner, which may be the reason why their ACC has higher activity at the moment of their decision. Furthermore, a positive correlation was found between high Mach persons' reaction times and ACC activity which could indicate that high Machs have a longer reaction time pertaining to greater conflict than low Machs (Bereczkei et al., 2013).

Whereas Machiavellianism may involve intense emotional responses in certain conditions, several studies revealed that it is inversely linked with emotional expressivity and the ability to send emotional display (McHoskey, Worzel, & Szyarto, 1998; McIllwain, 2003). Furthermore, Machiavellians are not capable of identifying and distinguishing feeling states (Wastell & Booth, 2003). A more recent study found a negative correlation between Machiavellianism and Emotional Expression (EE), in the Schutte Self-Report Emotional Intelligence Scale (SSREI) (Szijjarto & Bereczkei, 2015). Persons with higher Mach scores admittedly cannot express their emotions in a subtle and precise way in verbal and non-verbal communication, compared to those with lower scores. Although a poor ability to express emotions may be a kind of deficit, it can be advantageous for deceiving and manipulating others. The emotional coolness deriving from such a "primary" deficit in emotional control creates favorable conditions for the exploitation of others. If Machiavellians do not get involved in the situation emotionally and can make a rational decision, they have more opportunity for influencing their partner, and for controlling the situation more effectively. In sum, the inability to express and share emotions with others may help Machiavellian persons conceal their feelings, and thus successfully manipulate others.

#### 2. Mindreading

The pioneers of Machiavellian studies were convinced that since high Machs have a cognitive, impersonal orientation toward others, they are more accurate in evaluating others' personality character and thinking mode than low Machs (Christie & Geis, 1970). Later, when the conceptions of mentalization prevailed in cognitive psychology, the majority of authors assumed that theory of mind is necessary for skilled deceptive manipulation (McIllwain, 2003; Paal & Bereczkei, 2007). It seems very obvious; those who have an above average ability to understand others' intentions,

beliefs and knowledge can mislead them more easily than those with lower mindreading ability. Furthermore, the Machiavellian Intelligence hypothesis postulated that origins of human intelligence stem from advantages related to the ability to manipulate and deceive conspecifics, therefore manipulative tendencies have co-evolved with mind-reading ability (Byrne & Whiten, 1988). It is not a surprise, then, that the authors predicted that people who can be characterized as Machiavellian – those with high scores on the Mach IV test – make fewer mistakes in theory of mind tests than those who are characterized as less Machiavellian.

However, this is not the case. The studies in the last decade did not find significant relationships or even found negative associations between Machiavellianism and mindreading abilities, regardless of the kind of methods used. Machiavellianism was negatively correlated with the ability to infer others' mental states either from stories, or from pictures of eyes, or from voices (Ali & Chamorro-Premuzic, 2010; Lyons, Caldwell, & Schultz, 2010; Paal & Bereczkei, 2007). Additionally, Machiavellianism was found to be negatively correlated with self-report and performance on Emotional Intelligence, and with empathy (Austin, Farrelly, Black, & Moore, 2007; Paal & Bereczkei, 2007; Wastell & Booth, 2003). It is not surprising, then, that in fMRI studies, using social dilemma tasks, high Mach persons did not show elevated activation in brain areas thought to be linked to mentalization processes, such as medial prefrontal cortex, temporo-parietal junction, and putamen (Bereczkei et al., 2013; Spitzer, Fischbacher, Herrnberger, Gron, & Fehr, 2007). Another recent study that used specific methods for measuring mentalization (stories, visual stimuli) found a negative association between Machiavellianism and the activation of these brain areas (Bagozzi et al., 2013).

These results demonstrated that instead of Machiavellians having high cognitive abilities, they possess deficits in understanding other people's intentions, feelings, and thoughts. The results concerning their relative poor social cognitive skills have been interpreted in several ways. Some authors criticized the tests used in former studies, saying that they could not measure all aspects of the complex mindreading ability (Paal & Bereczkei, 2007). Others stated that the lack of understanding others might even be beneficial for the successful manipulation because Machiavellians do not have to face other people's needs and suffering (Lyons et al., 2010).

Several authors argued that the Machiavellians' superiority may not necessarily result from their high cognitive abilities, but rather from their emotional coolness (Sullivan & Allen, 1999). As a result, a Machiavellian person is able to concentrate on a goal, and not be distracted by the presence of a partner or by his/her own emotions. According to this view, all the manipulative strategies derive from superior impulse regulation rather than any special cognitive ability like mindreading (Jones & Paulhus, 2009). Since low Mach persons are more focused on personal relations and its ethical aspects, and show less vigilance and determinism in attaining their own aspirations, Machiavellians will have an advantage in spite of their poorer cognitive capacities (Pilch, 2008).

However, this explanation does not seem to be satisfactory given Machiavellians' sophisticated skills in various social circumstances. Even the early studies in the middle of the last century revealed that Machiavellians not only showed a tendency to manipulate or exploit partners but also that they were more effective in influencing others in various bargaining games, job performance, and alliance formation (Exline, Thiabaut, Hickey, & Gumpart, 1970; Geis, 1970). Furthermore, as seen below, recent studies revealed that high Machs can outperforms low Machs under changing environmental circumstances. Their successful exploitation in the long run can hardly be explained alone by their emotional coolness or impulse regulation.

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