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Feelings and motives underlying Machiavellian behavioural strategies; narrative reports in a social dilemma situation

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This study explored the reasons and motives underlying the decisions of individuals with strong Machiavellian attitudes (High Machs). One hundred and fifty undergraduate students completed the Mach-IV test, and their contributions to, financial success in and narrative reports of a public goods game were analysed. High Machs contributed less to the public good and gained more benefit than Low Machs. Analysis of the narrative reports showed that High Machs used significantly fewer verbs referring to emotional involvement and first person plural verb forms, than did Low Machs. This study confirmed previous findings that High Machs have a cool and rational character and a proself orientation and showed that their lack of group orientation may account for their low cooperation in social dilemmas. The results of narrative content analysis provide a new perspective on the motives and values behind High Machs' decisions and success in different fields of social life.

Keywords: Public goods game; High Machs; Low Machs; Narrative content analysis; Machiavellianism.

Machiavellians are—by definition—people who use other people as a tool to achieve their own goals. Individuals with strong Machiavellian attitudes (High Machs) obtain lower scores for agreeableness and conscientiousness than individuals with low Machiavellian orientation (Low Machs) (Austin, Farrelly, Black, & Moore, 2007). Machiavellians show low levels of empathy and emotional intelligence (Ali, Amorim, & Chamorro-Premuzic, 2010). They are poor mind readers (Ali et al., 2010; Paal & Bereczkei, 2007), and probably worse at understanding emotions than Low Machs (Austin et al., 2007; McIlwain, 2003). They typically make cool-headed decisions and can keep a distance from the emotional effects of situations (McIlwain, 2003; Wilson, Near, & Miller, 1996). Several authors have suggested that Machiavellians' manipulative abilities derive from their superior impulse regulation (Jones & Paulhus, 2009).

Behavioural studies have revealed that High Mach individuals outperform Low Machs in most short-term interactions, both in real-life situations and social dilemma tasks (Bereczkei, Birkas, & Kerekes, 2007; Christie & Geis 1970; Gunnthorsdottir, McCabe, & Smith, 2002; Hawley, 2006; Wilson, Near, & Miller, 1996, 1998). One study showed that as second players in the trust game High Machs reciprocated less than others in the group, and made more profit than Low Machs (Gunnthorsdottir et al., 2002). In another study, using public goods game with punishing and non-punishing periods, High Machs made the largest profit, because they paid little money in the non-punishable phase and made good profit, whereas in the punishable phase they make an effort to avoid punishment by raising their contribution (Spitzer, Fischbacher, Herrnberger, Grön, & Fehr, 2007).

In the present experiment, we also used the public goods game but did not allow participants to punish other participants. We predicted that High Mach players would transfer a smaller amount of money in each round and gain a higher amount at the end of the five-round game, than Low Machs (Prediction 1).

In this study, we wished to shed some light on somewhat neglected aspect of Machiavellian behaviour. Previous studies which have investigated the factors that influence decision-making in social dilemma situations have often failed to pay attention to subjective feelings, motivations and reasons that are directly responsible for a particular decision. In order to explore principles that governed Machiavellians' decisions, how they explained their moves, and what mechanisms underpinned their manipulative behaviour, at the end of the experiment we asked participants to recall their impressions, experiences and feelings during the

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game. The reports received were submitted to content analysis.

Previous research suggested that Machiavellians are emotionally detached from situations and motivated more by strategic consequences. They make cool-headed decisions and are not distracted by affect (Jones & Paulhus, 2009; McIlwain, 2003; Wilson et al., 1996). Accordingly, we predicted that High Mach individuals refer to rational, cognitive considerations more often and mention their emotional attitude less frequently in their narratives than Low Mach individuals. More specifically, we hypothesised that when compared with Low Machs, High Machs would refer to their cognitive considerations much more frequently than to their emotional states in their narratives (Prediction 2)

Previous research has revealed that, compared with Low Machs, High Mach individuals are less likely to be concerned about other people beyond their own self-interest. They are considered to be goal-oriented rather than person-oriented and characterised by excessive self-focus (Christie & Geis, 1970; Hawley, 2006; Jakobwitz & Egan, 2006). We therefore predicted that the High Machs' reports would show a higher level of self-centeredness and a lower level of group awareness. More specifically, we hypothesised that High Mach individuals use first person singular verbs more frequently and first person plural verbs less frequently than Low Machs (Prediction 3).

To test our predictions, we classified individuals with high scores on the Mach-IV test completed by the entire sample as Machiavellians. Our classification method followed Christie and Geis' pioneering work (1970), in which they defined as "high Machs" those subjects whose scores fell in the upper part of the distribution (at least one standard deviation above the median or in the fourth quartile) and as "low Machs" those were placed in the lower part of the distribution (at least one standard deviation below the median or in the first quartile). Subsequent studies have frequently used categories defined in term of the Mach scale for the purpose of comparing Machiavellian and non-Machiavellian samples (e.g. Burks, Carpenter, & Verhoogen, 2003; Gunnthorsdottir et al., 2002).

METHOD

Participants

One hundred and fifty student volunteers (69 males and 81 females, $M_{age} = 22.2$ years, $SD = 2.61$) were participated in the study. They were recruited from different faculties of the University of Pecs, Hungary, and received as financial reward the money they won in the experimental games. (The mean reward was 1570.8 HUF, $SD = 351.56$).

As we were interested in the behaviour and motives of High Mach and Low Mach individuals, we divided the distribution of the total scores into ranges along the standard deviation above and below the mean. This way we narrowed our sample to 52 individuals on the basis of their extreme scores on the Mach-IV test. The High Mach group ($N = 26$, $M_{age} = 22.23$ years, $SD = 2.61$) consisted of 9 women and 17 men whereas the Low Mach group ($N = 26$, $M_{age} = 22.15$ years, $SD = 2.87$) consisted of 18 women and 8 men. The same extreme group samples were used for the narrative analysis.

MATERIALS

At the beginning of the experiment, we asked the participants to complete some personality tests, including the 20-item Mach-IV test. The Mach-IV test measures the capacity to manipulate other people. Respondents rate different statements on 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). The statements include the following: "The best way to handle people is to tell them what they want to hear" and "It is hard to get ahead without cutting corners here and there."

In this study, the mean score on Mach-IV ($\alpha = 0.765$) was 102.56, the standard deviation was 16.3. Individuals scoring below 86 were assigned to the Low Mach category and those scoring above 119 were classified as High Mach individuals. In this way, we categorised 26 individuals as Low Machs and 26 individuals as High Machs.

Procedure

In the experiment, participants faced a social dilemma situation. Five individuals seated facing each other in the same room participated in each game. Folding screens were used to ensure that players could not see each other's contribution and participants were assigned a code which ensured that contributions could not be attributed to a particular individual. In each of five rounds, participants had to decide how much of the stake provided by the experimenter they would transfer to their own account and how much they would put into the group's public account. At the end of each round, the experimenter doubled the amount that had been allocated to the public account and redistributed it among the players in equal proportions, irrespective of their actual contributions. The redistributed amount was transferred to their private account. Participants indicated their decisions in writing. At the end of each round, the experimenter listed contributions—identified by code—to the public account on a board, to enable participants to monitor the contributions and profit made by other group members. At the end of the fifth round, the experimenter added up the amounts accumulated in the private accounts. After the experiment, we paid these amounts to the participants individually on the basis of their codes.

TABLE 1
Examples from participants' narrative reports at the end of the public goods game

Narrative reports	*Mach score*
High Machs	
… I[3] tried to mislead[1] others, with some success. They didn't really pay as I[3] planned.…	120
… I[3] realised[1], that there were players, who were ready to pay more and more. I[3] increased my[3] contribution step by step, to avoid the others reducing theirs. I[3] tried to profit from their generous behaviour.…	128
… Firstly I[3] paid a small amount, to find out[1] how much others will pay. Afterwards I[3] paid always a little less than the others. This way I[3] could earn the most for myself.	123
Low Machs	
… The more money transferred to the public cash box, the more would be divided among us[4]. If everybody contributed all of their stake, we[4] could double our gains. Anyway, it is better to be honest than having 200 more forints.…	85
… I[3] didn't hesitate to put in the maximum. But when I[3] saw that others paid less, I[3] became embittered[2]. But in the end, I[3] still paid the same amount, because I[3] hoped that everybody would realise[1] that this was best for all of us[4].…	74
… At the beginning of the game I[3] kept some money, but when I[3] saw that there were people who offered all of their money, I[3] felt ashamed[2], and I[3] decided to contribute all my stake, fairly.…	80

Note: Superscript indicates the type of narrative feature: 1, cognition; 2, emotion; 3, first person singular; 4, first person plural.

Narrative explanation of game strategies

Our study also explored Machiavellian features in narrative reports. After the last round of the social dilemma situation, we asked participants to explain their decisions in writing. We wanted to determine whether Machiavellian features were represented in their accounts. We predicted that the self-monitoring which is characteristic of High Mach individuals would result in frequent use of first person singular pronouns (see also Ickes, Reidhead, & Patterson, 1986). We also predicted that cool-headedness characteristic of High Mach individuals would be reflected in their narratives in preferential use of verbs referring to cognitive considerations (thoughts and beliefs which had produce their overt behaviour) rather than verbs referring to their emotional state in relation to the decision situation. Verbal data were gathered from every participant, but we only analysed data from High Mach and Low Mach individuals.

Analysis of the data

We related the Mach scores of the participants to their behavioural strategies, the special features of their decisions and the financial reward they received.

Narrative accounts were analysed using the Narrative Categorical Content Analysis method (NarrCat) (Laszlo et al., 2013). NarrCat uses psychologically relevant markers of narrative categories and narrative composition to explore basic and more complex principles of narrative composition. NarrCat and other psychological content analysis software such as Linguistic Inquiry and Word Count (LIWC) (Pennebaker, Booth, & Francis, 2007) or Regressive Imagery Dictionary (RID) (Martindale, 1990) share some methodological characteristics: they all use dictionaries and basic grammatical forms (i.e., to identify personal pronouns or first singular verbs); however, NarrCat is able to explore more complex principle of narrative composition (i.e. narrative psychological perspective).

In this study, we compared the reports of individuals with Low Mach and High Mach scores in terms of the use of verbs denoting cognition and emotional states. Cognition was defined as an epistemic act denoted by cognitive verbs, phrases or idioms (i.e., "a thought crossed his mind"), whereas emotion was inferred from the use of emotional state verbs. We also examined whether these two groups differed from each other in their use of first person singular pronouns and first person plural pronouns. In order to assess whether the Low Mach and the High Mach individuals showed differences in group orientation; group orientation was indexed by use of first person plural pronouns and self-centeredness by use of first person singular pronouns. Table 1 shows some typical examples of these narrative features.

RESULTS

Decisions made in social dilemma situations

The average player contribution to the public account declined over the rounds of the game, $F(1, 149) = 20.13$, $p < .001$. This decline was significant for Low Mach people, $F(1, 24) = 4.30$, $p < .05$, and marginally significant for High Machs, $F(1, 25) = 3.99$, $p = .057$.

We examined whether there were any differences between the public contributions of Low Mach and High Mach individuals in the various rounds of the experimental game. In line with Prediction 1 High Machs paid significantly less in each round than their less Machiavellian co-players, so their total public contribution was also much less than that of Low Machs, $F(1, 57) = 9.63$, $p < .005$, see Figure 1.

We then examined whether differences in public contribution resulted in any difference in the amounts won by the two categories. Using a dichotomous variable

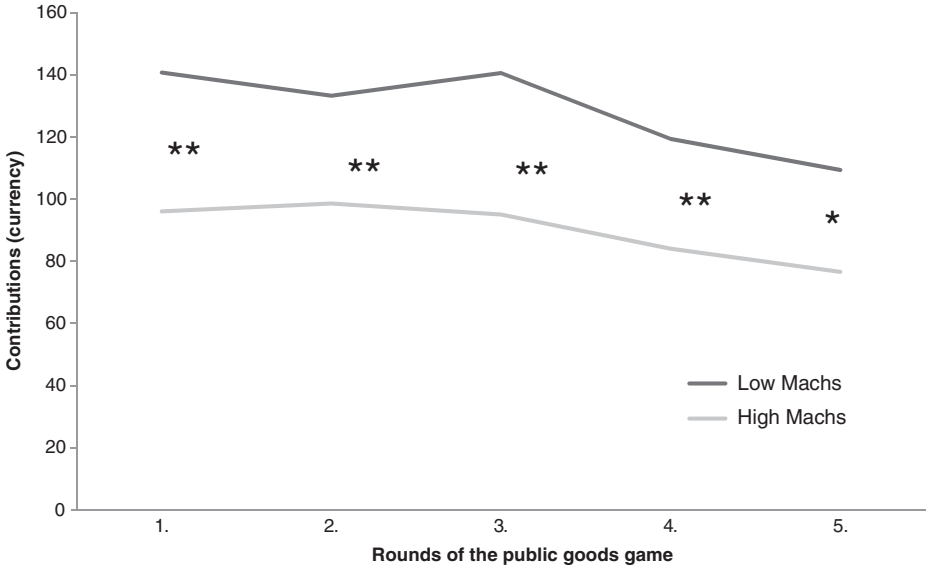

Figure 1. Contribution of High Machs and Low Machs in each round of the experimental game (**$p < .01$).

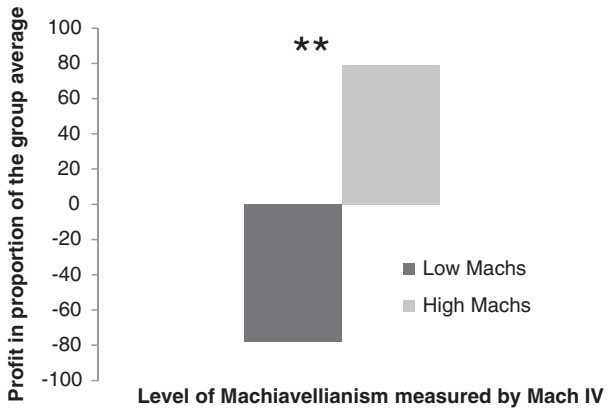

Figure 2. Profit gained by individuals in proportion to the group average in the experimental game (**$p < .01$).

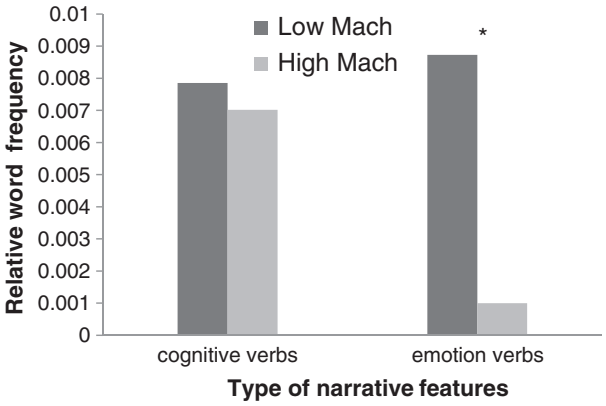

Figure 3. Usage of cognitive and emotion verbs by High Mach and Low Mach individuals (*$p < .05$).

for Machiavellian status, the financial rewards won by High Machs significantly exceeded that of Low Machs, $F(1, 57) = 4.81$, $p < .05$, see Figure 2.

The gender composition of the High Mach and Low Mach groups showed notable imbalances. Reanalysing our data controlling for gender showed that the results remained unchanged.

Narrative features of Machiavellianism

Following the procedure described by Moore and McCabe (1993) we used a *Z*-test to compare relative word frequency data collected in the computerised content analysis. There was a difference in the use of emotion verbs ($Z = 2.18$, $p < .05$): in line with our hypothesis (Prediction 2) we found more such narrative features in the reports of Low Mach individuals. We did not find a significant difference in the use of verbs referring to cognitive activity ($Z = -0.01$, $p > .05$) (see Figure 3).

There was no difference between Low and High Machs in the frequency of use of first person singular verbs ($Z = 1.31$, $p > .05$). However, there was some support for Prediction 3; Low Machs used first person plural verb forms much more frequently than High Machs ($Z = 2.18$, $p < .05$) (see Figure 4). Controlling for gender did not change these results.

DISCUSSION

Decisions and profit in the public goods game

As shown in Figure 1, cooperation in general decreased over the game, but the contribution of Machiavellians was significantly smaller than that of other participants. In

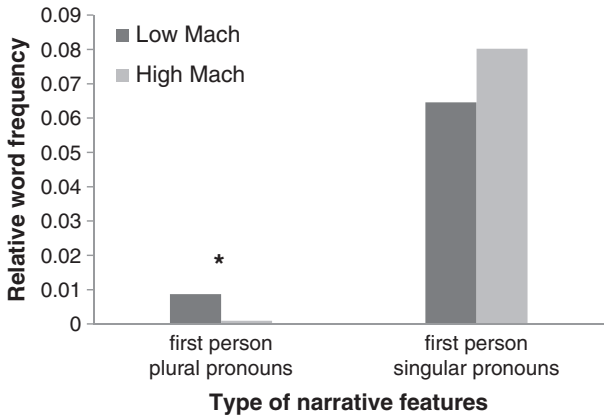

Figure 4. Usage of first person singular and first person plural pronouns (*$p < .05$).

consequence, they had gained more money by the end of the game.

These findings are consistent with the results of earlier studies showing that High Machs were more successful in gaining material benefit in a social dilemma situation than Low Machs (Gunnthorsdottir et al., 2002; Spitzer et al., 2007). However, these studies did not examine the emotional motives and subjective feelings that were involved in participants' decisions and influenced their behavioural strategies and outputs.

Differences in narrative features in reports of High Mach and Low Mach individuals

We ran a narrative content analysis of participants' post-game explanatory accounts of their behaviour. We found that in describing their strategies and behaviour in the social dilemma game, Low Machs used more first person plural verb forms and more narrative features related to emotions than High Machs.

We conclude from these results that group orientation and a sense of belonging are crucial for Low Machs but not for High Machs. This finding is consistent with previous research showing a strong negative relationship between Machiavellianism and cooperation, that is, individuals with high Mach scores showed low levels of prosocial commitment (McIlwain, 2003; Paal & Bereczkei, 2007). It is suggested that Machiavellians do not find the cooperation norm compelling; they give priority to making profit rather than conforming moral norms. Our narrative analysis supported this conclusion and also suggested that the social dilemma situation reveals a difference in group-self orientation between High and Low Machs. We found that Machiavellians were less likely to use emotion verbs than Low Machs, confirming the results of the previous studies which found that Machiavellians were cold, impersonal, and rational individuals who remained detached from the emotional effects of a situation (Christie & Geis, 1970; McIlwain, 2003; Wilson et al., 1996). Our experiment suggests that these personality attitudes are expressed not only in paper-and-pencil tests but also in experimental games. The strategic decisions of Machiavellians showed them to be less attached to emotional inclusion and experience than the other players.

Future directions and limitations of the current study

In this study, we attempted to investigate aspects of Machiavellianism that have previously been neglected. We have obtained new data on group-self-orientation and emotional involvement that extend earlier findings on personality traits and behavioural output. The narrative features measured in this study should be impervious to the attempts of High Mach individuals to manipulate their self-presentation. We suggest that our results are a small step towards a deeper understanding of Machiavellian decision-making.

This study worked with a relative small sample and operationalised Machiavellianism as a dichotomous rather than a continuous variable. A larger sample, longer texts for content analysis, and the inclusion of a wider range of narrative features could produce more detailed and specified data on this topic.

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