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Creativity and the Need for Cognitive Closure in the Case of Young, Working Machiavellists

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Abstract:

Purpose: *Studies show a relationship between creativity, the need for cognitive closure, and the level of Machiavellianism in young working people.*
Design/Methodology/Approach: *Creativity was measured using the KANH III (Bernaca et al. 2016) questionnaire , while cognitive closure was measured using the Need for Cognitive Closure Scale (Kossowska et al. 2012) A total of 102 working people were examined (average age M=22.4 years).*
Findings:*The results indicate that working Machiavellians are characterized by conformist behavior, heuristic behavior, and a low need for cognitive closure. However, there is a relationship between Machiavellianism, internal motivation, creative skills, and cognitive independence. This article shows that the level of Machiavellianism is related to, among others, originality, verbal creativity, as well as creative imagination and cognitive activity.*
Practical Implications: *The results obtained may help in the selection of employees and personnel economy.*
Originality/Value: *Machiavellians are commonly considered to be people who do not bring measurable profits to the economy of companies. This article shows that Machiavellians can be valuable employees who not only cope well in difficult situations, but also are a valuable asset to the company's economy.*

Keywords: *Creativity, need for cognitive closure, work, Machiavellianism.*

JEL Codes: *M5, J01, Z1.*

Paper type: *Research article.*

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1. Introduction

In case of Greeks, the notion of creativity was reserved for poets. They were the ones who, according to Tatarkiewicz (2011, p. 295), could "create new things and a new world". For Plato, creativity was born out of divine inspiration and madness, which is shown by him in Fajdros (Plato, 1999).

The most valuable poetry is the one created out of abstraction and not out of reason, the one which cannot be acquired as a result of education. This is what is proper only to human. It is a talent given by gods and completely independent of humans. Aristotle looked at creativity from a different point of view. Aristotle shows in Poetics (Aristotle, 1983), that for him, it is not a gift but a skill which can be developed. At the same time, he wants to make it well visible that human mind is not imitative (compare Aristotle, 2008).

It is able to create something what has not existed before. What influences this ability is called reason, art and skills. It can also be called ability, artistry and thought. The thinker who denied Aristotle and at the same time, had similar views to Plato was Kant. For him, the process of creativity has the source in the 'mystery of fertileness'.

In his "Critique of Judgement" (Kant 2004, p. 185), Kant writes: "the creator who owes the creation to his activity, does not know where his ideas for this creation come from." According to him, the product of genius is a unique thing which is impossible to imitate. It is even more valuable because it is inborn and extremely rare.

This attitude is developed by Schopenchauer. He stated that (Schopenchauer 1995, p.541): "a genius looks at a different world than others, although only by filtering in the world more deeply, the world surrounding him is shown more objectively and at the same time, more clearly in his head". For him, a creative person is the one who is set to get to know the complexity, not to ordinary willingness. A different attitude to fertileness was expressed by Nietzche.

He looked for its source in connecting contradictions: subjective and objective features. A creative person is at the same time a poet, an actor and a spectator (Nietzche, 2011). Fertileness is irrationality for Plato and power of reason over observation of regulations for Aristotle. Its source was seen in an unrestrained game of imagination by Kant, in loss by Schopenhauer, in contradiction by Nietzche.

A presentation of attitudes to creativity of these classics of philosophy shows how complex this issue it. Psychology, which comes from philosophy, works out the same problems. At the beginning, it is necessary to differentiate two terms which appear in psychology namely 'creativity' and 'fertileness'. Nęcka (2005) writes that 'creativity' refers to the creator, to somebody who produces new and valuable

products. The term ‘fertileness’ has symptoms of features of the creation itself. It is a set of creations of a creative person, the one who is fertile (in the meaning of a process), in a way that leaves ‘fertileness’ in the form of e.g., books, paintings or inventions.

It is worth mentioning here a division introduced by Boden (2004). She introduces notions of historic and personal creativity. The first one says that the creator, thanks to his creativity, creates something, which is important for the whole humanity, which causes civilizational changes (H-creativity). Examples are people such as Da Vinci, Copernicus, or Machiavelli.

The second type is a process, in which a creator thinks of a new creation, which does not cause civilizational changes (P-creativity). Some researchers look for sources of creativity in an episodic way of thinking, which according to Guilford (1959, p. 381) “runs in different directions”.

Therefore, being creative is often connected with being intelligent. It is possible to say that there are three attitudes to the connection of creativity and intelligence. The first one claims that a strong connection between them does not exist (compare Nęcka 2005; Kim *et al.,* 2006). The second one, on the other hand, claims that these two constructs are strongly connected (Sternberg, 2001; Kaufman and Plucker 2011). The third attitude suggests that it is not a linear connection (Jauk *et al.,* 2013; Preckel *et al.,* 2006).

However, this connection appears having gone beyond a certain level of intelligence, in particular IQ 120 (Lubart, 2007). Moreover, some personality features are also connected with creativity that is openness (compare Batey and Furnham 2006; Feist 2010; King *et al.* 1996), or neuroticism (Feist, 1998; Gotz and Gotz, 1979). According to Bernacka (2013), the authoress of the questionnaire measuring creativity, fertileness is connected to nonconformism.

Creative people are also more prone to overuse psychoactive substances, commit suicide or have disorders (Cropley *et al.,* 2010). Some research (Kyaga *et al.,* 2013) suggests a connection between creativity and a mild form of schizophrenia as well as with psychopathy (Galang, 2010; Galang *et al.,* 2016). It is interesting because psychopathy is often connected with Machiavellianism, in particular in the meaning of the so-called “dark triad” (compare Pilch, 2013; 2015).

It is confirmed by a measurement of some personality features such as diligence or agreeableness (Paulhus and Williams, 2002; Jakobwitz and Egan, 2006), as well as empathy and emotional intelligence (compare Jones and Paulhus 2009; Visser *et al.,* 2010). Whereby, differences between Machiavellianism and psychopathy appear for example in case of anxiety (Jones and Paulhus, 2009), or impulsiveness (Fowles and Dindo, 2006).

However, what is Machiavellianism? On 3rd May 1469, Niccolo di Bernardo dei Machiavelli was born in Florence and he went down to history known as Niccolo Machiavelli. He started his career in the Republic of Florence, which finally collapsed in 1512.

This ambitious man was rid of what he desired the most – the power. When Medici started to rule in Florence, he did everything in order to regain the lost political position. Ideals were not important, only power which he could regain counted for him. In order to regain power, he wrote a book entitles "Prince" in 1513.

According to Bacon (2009), he showed in this book how people act and not how they should act. His effort did not bring any desirable results and at last, Machiavelli died, completely forgotten, in Florence on 21st June 1527. It seemed that Machiavelli finally lost even the battle with history.

The 20th century brought the return to Machiavelli's works of art, however in experimental view. In the 1950s, Christle with co-workers started analysing behavioural strategies of leaders in criminal organizations (see: Pilch, 2008). As a result of these analyses, four factors which favour controlling a group appeared:

Paying no attention to moral standards and acceptance of lying.

- Little or even no ideological engagement, which is connected with a pragmatic attitude to the surrounding world.
- Rational way of looking at behaviours of other people, with no mental disorders at the same time.
- No empathy.

As a result of many years of research, Chriestie and Geis (1970), not only created a questionnaire measuring the level of Machiavellianism (MACH), but also they showed that Machiavellists treat others as weak and selfish people. A lot of research on the connection of Machiavellianism and other constructs such as e.g., social life, leadership or personality features has been conducted since that time.

Machiavellists are characterised with a tendency to risk in the situation when a big chance of succeeding occurs (Street and Street, 2009). They risk when they know that they will win. It is possible to speculate that they have a low need for cognitive closure. At the end of the 20th century, Webster and Kruglański (1994) tried to explain individual differences in the way of looking for knowledge reducing the sense of uncertainty, they created a phenomenon of the need for closure.

A high need for closure characterizes people who use superficial analysis of data in such a way to adjust solutions to the knowledge which they already have. A picture which is created in this way is simplified but it ensures stability in viewing the world and it is also resistant to changes. A low need for closure occurs in case of people

who are aware that the world around them is complex. It does not mean that they are not able to function efficiently but it only means that they analyse information reaching them more often and more deeply.

They are also more often open to this information. When there is a new situation, it takes them more time to take a decision, but when they see an opportunity, they risk, even when they are not 100 percent sure. The research shows that the need for closure is connected among others with information processing (compare Kruglanski et al. 2009), personality features (Kossowska, 2003), or worldview, as well as passing a judgment (Kossowska and Van Hiel, 2003).

To sum up, I will try to answer the following research questions:

1. Does Machiavellianism connect with creativity?
2. Does the need for closure connect with Machiavellianism?

I suppose that:

H1: The level of Machiavellianism will differentiate creativity.
H2: Machiavellists will be characterised by a low need for cognitive closure.

The research, in which it was shown that Machiavellist-like people calculate the risk correctly and try to be creative in using available resources in order to succeed, is in favour of formulating such hypotheses (Spitzer *et al.*, 2007). There is a connection between Machiavellianism and narcissism (Paulhus and Williams 2002; Lee and Furnham, *et al.*, 2013), which positively correlates with creativity (Goncalo *et al.*, 2010).

Machiavellists achieve better results in the scale of psychoticism in the questionnaire EPQ-R Eysencka, which proves not only that they have antisocial abilities but also that they are creative people (compare Pospiszyl, 2000). In addition, a low need for closure is connected with a slow process of creative thinking which uses more complex cognitive structures (Van Hiel and Mervielde, 2003).

2. Materials and Methods

There were 102 working people took part in the research (age average M=22.4 years, SD=2.5). There were 52 women (51 %) and 50 men (49 %) among them. The people who took part in the research were randomly chosen working students from different kinds of academic institutions in Opole (Opole University, University of Technology, Higher School of Management and Technology).

They agreed verbally and voluntarily to take part in the research. The research was based on filling in three questionnaires: MACH, KANH III and the Need for Cognitive Closure Scale. After the questionnaire was filled in, responses to students'

questions were provided. The variables explained in the research (and accepted by the Institute Ethics Committee of Opole University) are as follows: creativity and the need for cognitive closure and the explanatory one is the level of Machiavellianism.

Creativity was measured by means of a questionnaire KANH III, the authors of which are Ryszarda Bernacka, Stanisław Popek and Marcin Gierczyk. This test has good psychometric features (reliability at the level from α=.65 to α=.69, depending on the scale. In this research from α=.72 to α=.74) and they were described in Bernacka, Popek and Gierczyk (2016).

The questionnaire is composed of 26 statements, to which the examined person takes an attitude on a 5-grade scale, where "No" means 0 points, whereas "Yes" means 4 points. The questionnaire is composed of two scales of conformism – nonconformism, which belong to the personality realm and the scale of heuristic behaviours – algorithmic behaviours, which belong to the cognitive realm. Each scale makes a diagnosis of 13 features of creativity and creativity factors.

The level of Machiavellianism was measured by means of a questionnaire MACH IV made by Christi and Geis. This test has a satisfactory (α=.79) reliability rate (Pilch, 2008). The reliability was equal to α=.81 in the research. The described questionnaire was composed of 20 statements. Each respondent went through each question using a 7-degree scale, where '1' means 'I completely disagree' '7' means 'I completely agree'. Thanks to this questionnaire, people of a low (below 60 points) and high (over 90 points) Machiavellianism level were found.

The need for cognitive closure was measured by means of a questionnaire of the shortened version of the Need for Cognitive Closure Scale, the authors of which are Małgorzata Kossowska, Krzysztof Hanusz and Mariusz Trejtowicz.

The test has satisfactory psychometric features (reliability is at the level of α=.73. In the research it is from α=.75) and were described in Kossowska *et al.* (2012). The questionnaire is composed of 15 statements, to which each respondent provides answers using a 6-degree scale, where '1' means 'I completely disagree', whereas '6' means 'I completely agree'.

3. Results

In order to verify the hypotheses and conduct a more detailed analysis of obtained data, three groups of statistical analyses were conducted. The first two of them took into account people of a low and high Machiavellianism level and were conducted by means of a t-student test and concerned verification of H1 and H2.

The third one was conducted in order to interpret the obtained data in more detail and it used an analysis of R-Spearman correlation between Machiavellianism and

personality, cognitive and creativity scales as well as factors and features of creativity.

The first analysis showed that examined groups are statistically different (t=4.245; p<.05). The second one also showed that analysed groups are statistically different (t= 5.443;p<.05). Differences in averages were shown in Table 1.

Table 1. *Average values (M) for variables: creativity and need for cognitive closure.*

Machiavellianism	**Creativity M**	**Need for cognitive closure M**
Low	45	62
High	73	42

Source: *Author's calculations.*

The third analysis showed that there is a correlation between Machiavellianism, conformism (R= .36; p<.05) and heuristic behaviour (R= .24; p<.05). What is more, the correlation between Machiavellianism and creativity factors as well as creativity features were analysed. The results were shown in Tables 2 and 3.

Table 2. *Statistically significant correlation coefficients between Machiavellianism and creativity factors.*

Features of creativity of	**R-Spearman**
Intrinsic motivation	,34*
Creative skills	,27*
Cognitive independence	,31*

*p<.05

Source: *Author's calculations.*

Table 3. *Statistically significant correlation coefficients between Machiavellianism and creativity features.*

Features of creativity of	**R-Spearman**
Originality	,28*
High self-esteem	,43*
Verbal creativity	,28*
Large thoughtfulness	,31*
Creative imagination	,26*
Cognitive activity	,34*

*p<.05

Source: *Author's calculations.*

4. Discussion

Research confirmed formulated hypotheses H1 and H2. Machiavellianism is connected with creativity as well as with cognitive openness. Creativity favours

finding a more effective solution to the problem, that is succeeding, which is the aim of Machaivellists (Fehr *et al.*, 1992) not only in life, but also in work. Some research shows that Machiavellist-like people are more tolerant towards ambiguity of the surrounding world and are characterised with cognitive openness (Van Kenhove *et al.*, 2000), what was also confirmed by the research. What is more, Machiavellism is connected with conformism and heuristic behaviour.

Working Machaivellists are able to adjust to conditions of functioning but at the same time, they repeat behavioural schemes which turned out to be effective in the past. It is in accordance with earlier research results (Pilch, 2008).

The results showed that Machiavellianism is connected with intrinsic motivation, creative skills, as well as cognitive independence.

Although some research shows that Machiavellists are of external locus of control (Fehr *et al.*, 1992), they are extremely motivated to succeed (Pilch, 2008). In order to do it, they use cognitive skills, creative skills as well as cognitive independence.

It is interesting because there is also a connection with creativity features such as originality, high self-esteem, verbal creativity, large thoughtfulness, creative imagination and cognitive activity present in the research.

It shows that Machiavellists have high self-assessments and are creative people (McHoskey *et al.*, 1998). It seems that creativity in case of Machiavellists is task-oriented. It is a skill, which is a means to succeed professional, but not only. They can therefore be effective employees, which translates into the labor economy.

All in all, the conducted research shows that working young Machiavellists are creative people. Creativity makes it possible to better adjust to variable environmental conditions and cognitive openness also favours it.

These are features which make it possible to succeed which is the most important for Machiavellists. Machiavellists are people who have skills but also motivation to apply these skills. Machiavellians can be valuable employees who not only cope well in difficult situations, but also are a valuable asset to the company's economy.

Finally, it is worth mentioning that the research was conducted by means of a questionnaire method. In order to conduct a more detailed analysis of discovered dependencies it would be necessary to conduct applied research and thus, it will be another stage of the research.

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