



EXAMINING THE PSYCHOMETRIC PROPERTIES OF THE MACHIAVELLIAN MANAGERIAL PRACTICES SCALE

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ABSTRACT

This research aims to adapt and examine the validity and accuracy of the 6-item Machiavellian Managerial Practice Scale in Turkish, which is a sub-dimension of the Organizational Machiavellianism Scale developed by Kessler et al., (2010). In this context, construct validity (only in terms of convergent validity), factor structure (confirmatory factor analysis) and reliability (internal consistency) of the Machiavellian Managerial Practices Scale were tested. In order to test construct validity, narcissism, Machiavellism, psychopathy, and counterproductive work behavior scale were used. According to the results of the research, Machiavellian Managerial Practice Scale was positively identified with narcissism, Machiavellianism, psychopathy, and counterproductive work behavior. These findings supported the convergent accuracy of the Machiavellian Managerial Practice Scale. Dependent factor analysis showed that the fit index supported the factor structure of the scale. Finally, the internal consistency of the scale was calculated at an acceptable level. As a result, the psychometric properties of the Turkish version of the Machiavellian Managerial Practice Scale were found to be at an acceptable level.

Keywords: Machiavellianism, Machiavellian Managerial Practices, Validity, Reliability

INTRODUCTION

Christie and Geis (1970) introduced the Machiavellian concept in psychology literature which was increasingly considered in 1990s (Fehr et al., 1992). Today, this concept is the subject of many sub-branches of psychology (Jones and Paulhus, 2009; Kiazad et al., 2010; Lee and Ashton, 2005). However, one of the basic limitations of Machiavellianism studies in psychology is the measurement of Machiavellian personality (Kessler et al., 2010; Rauthmann, & Will, 2011). The most prevalent measurement tool is Mach-IV scale. Although more alternatives have recently proposed for Machiavellianism measurement with the development of Dark Triad (sub-clinic narcissism, Machiavellianism, and sub-clinic psychopathy) scales, the adequate problem of number of scales with good psychometric properties for the measurement of the structure still exists (Rauthmann, 2012). Therefore, validated scales are required for carrying out empirical studies on Machiavellianism particularly in organizational psychology field (Kessler et al, 2010). To overcome the problem, Kessler et al. (2010) developed Organizational Machiavellianism Scale (OMS) by compiling messages and

discourses in Niccolo Machiavelli's (1469-1527) book "The Prince". The scale has three dimensions; maintaining power, manipulateness and managerial practices¹. Scale adaptation into Turkish, testing its reliability and validity will increase the Machiavellianism research number in organizational context and setting in Turkey case. Therefore, the aim of this research is to adapt Machiavellian Managerial Practices Scale to Turkish and test its psychometric features.

Construct validity (within the convergent validity), factor structure (i.e., confirmatory factor analysis) and reliability (within the internal consistency) of Machiavellian Managerial Scale were tested to analyze psychometric features of the scale. Construct validity of the scale was only tested within the convergent validity and its relation with narcissism, Machiavellianism, psychopathy and counter-productive work behavior was theoretically and empirically analyzed in this context. We only resorted to confirmatory factor analysis to test the factor structure of the scale because exploratory/principal components factor analysis has an exploratory nature and is rather used for progressing a new scale. According to the context, utilizing confirmatory factor analysis is methodologically more appropriate than analyzing the previously tested factor structure of a scale in another language. (e.g., Dinića, Petrović & Jonason, 2018; Özsoy et al., 2017). Cronbach Alpha internal consistency test was utilized to examine internal consistency of the scale. The study begins with a brief description of Machiavellianism concept and then presents a group of expectations compiled with theoretical and empirical knowledge to test study problem and convergent reliability. This was followed by details of the process in translation of the scale, relevant analysis and discussion of findings that were obtained.

Machiavellianism

Machiavellianism is based on Italian politician and writer Niccolo Machiavelli. In 1970s, Christie and Geis (1970) examined Machiavelli's book "The Prince" and concluded a set of implications and tactics emphasized in the book that behavior patterns of Machiavelli's philosophy fundamentally reflected internationally valid individual differences. They defined the perspective emphasized by the author as Machiavellianism² and they called people who predominantly reflect this view on their social lives "Machiavellian" or "Machiavellian personality". Prominent features of people who have Machiavellian personality traits or are likely to display Machiavellian behavior are listed below (Dahling et al., 2009; Fehr et al., 1992; Jones and Paulhus, 2009; Rauthmann and Will, 2011):

Manipulativeness: Machiavellians are easily able to manipulate circumstances, people and network of relations in favor of their personal interests and often abuse people and circumstances to achieve their goals.

Cynical views towards human nature: Machiavellians think that full confidence in people is quite risky and limited information must be shared with others. The reason is their belief that sharing information which will risk their personal interest in the future might have a

¹ This was adapted as Machiavellian Managerial Practices in this study.

² Here, Machiavellianism emphasizes a philosophy that was introduced with Machiavelli's book "The Prince". Machiavellian is a personality trait that largely adopts and practices this point of view. In this context, neither Machiavellianism nor Machiavellian personality has direct connection with Nicolla Machiavelli. In other words, it is not possible to use it as a proof to claim that Machiavelli was Machiavellian.



disadvantage for them. Therefore, they tend to behave cautiously, thinking that people could be unreliable in some cases.

Focus on self-goal and self-interest: Machiavellians are mainly inclined to prioritize their personal interests while building their social relations, actions and plans in work life or social life.

Maintaining power: A review of “The Prince” indicates that it actually presents a set of implications on how to “*maintain and increase power*”. This is also the basic central point of both work and social life for people who have Machiavellian personality traits. These people wish to have power and increase it constantly and systematically in their own settings (workplace, friendships or family relationships).

To summarize, people with Machiavellian personality traits display behavioral patterns in which they wish to maintain power, easily resort to manipulation to achieve personal goals, violate ethics and often resort to flattery and political acts when necessary, have a cynical view of human nature, build human relations on certain tactics and controlled political processes.

Research Problem and Background of Validity Analysis

- **Research Problem**

The most prevalent scale used internationally for assessment of Machiavellianism as a personality trait is Mach-IV. Mach-IV is a 20-item Machiavellianism scale progressed by Christie and Geis (1970) by examining Machiavelli’s book “The Prince”. Researchers developed a set of alternative scales from Mach-I to Mach-V. Mach-IV is commonly used. However, psych-metric features of Mach-IV have recently been questioned, resulting in alternative scale suggestions and alternative approaches to the scale (Rauthmann, 2012). Mach-IV scale has several problems such as low internal consistency (Gable & Topol, 1987), differentiated factor structures (Corral & Calvete, 2000), low content and structure validity (Rauthmann & Will, 2011; Rauthmann, 2012).

In addition to Mach-IV, 12-item Dirty Dozen Dark Triad (DTTD) developed by Jonason and Webster (2010) for assessment of Machiavellianism (only 4 items of the scale measurements of Machiavellianism) has recently been used as an important alternative in personality psychology, social psychology (Jonason et al., 2011; Lee et al., 2013; Jonason et al. 2013). The scale has been adapted to many languages including Turkish (Özsoy et al., 2017), Polish (Czarna et al., 2016) German (Küfner et al., 2015), Japanese (Tamura et al., 2015), Serbian (Dinića et al., 2018), Spanish (Pineda et al., 2018). The scale measures each of Narcissism, Machiavellianism and psychopathy structures with four items. Although it is widely recognized, the scale is being criticized for being too short and not fully matching dimensions of variables (Jones & Paulhus, 2014; Miller et al., 2012). Another alternative scale used for the measurement of Machiavellianism is the Short Dark Triad Scale developed by Jones and Paulhus (2014) to measure each of Narcissism, Machiavellianism, and psychopathy structures with nine items. Short Dark Triad (SD3) is the original name of the scale which has also been utilized in many international studies (Egan et al., 2014; Book et al., 2015) and adapted to several languages including Turkish (Özsoy et al., 2017), Persian (Atari and Chegeni, 2016), Serbian (Dinića, Petrović, & Jonason, 2018), Spanish (Pineda et al., 2018). On the other hand, there are some other alternative scales used for the measurement of Machiavellianism such as Machiavellian Behavior Scale (Aziz et al., 2002) which was developed Mach IV, is relatively less used and not adapted into Turkish.



As mentioned; despite the increase in the number of alternatives for the measurement of Machiavellianism, a) psychometric features of scales are being questioned and b) available scales are rather used in personality and social psychology fields. For the measurement of Machiavellian personality traits or Machiavellian practices in organizational context, only Kessler et al (2010) studied “The Prince” and developed Organizational Machiavellianism Scale with three dimensions and 16 items. The scale was progressed to overcome the restriction that Machiavellianism could not be analyzed comprehensively in organizational context. Organizational Machiavellianism Scale was adapted to Turkish by Yalçın, Ceylan and Nelson (2014) and presented in National Psychology Congress. The scale has maintaining power, manipulateness and managerial practices dimensions and adaptation of the scale which revealed that only manipulateness dimension is valid. However, it is considered that psychometric features of Machiavellian Managerial Practices Scale resorted to in organizations under “managerial practices” must particularly be re-tested (with a different sample and construct validity variables). Due to the Machiavellianism is measured mainly with Mach-IV, DTDD-Machiavellianism and SD3-Machiavellianism scales in Turkey. However, no scale was detected for measurement and assessment of Machiavellian practices in organizational context particularly in organizational behavior studies.

- **Background of Validity Test**

For testing construct validity of Machiavellian Managerial Practices Scale, its reliability and validity were tested and it was expected to be positively related to narcissism, Machiavellianism, psychopathy and counterproductive work behavior. If Machiavellian Managerial Practices Scale is positively related to these variables, its convergent validity will be supported. Below the theoretical and empirical foundation of the positive relationship expected between variables is presented.

Literature review indicates that positive correlation among narcissism, Machiavellianism and Psychopathy is an empirical finding obtained in both national (e.g., Ardiç and Özsoy 2016; Özsoy and Ardiç, 2017; Özsoy et al., 2017) and international studies (e.g., Jonason and Webster, 2010; Jones and Paulhus, 2014; Paulhus and Willimas, 2002). Therefore, positive relation of Machiavellian Managerial Practices Scale with narcissism, Machiavellianism and Psychopathy supports convergent validity of the scale. However, Machiavellianism, narcissism, and psychopathy structures overlap with selfishness and goal-orientedness, calculating attitude toward people when it is dealt technically (Paulhus and Willimas, 2002). Therefore, a positive relation must be obtained between these variables in both theoretical and empirical background. On the other hand, Machiavellians are likely to do whatever is necessary to achieve their aims and display unethical behavior for their interests (Christe and Geis, 1970). Such people are more likely to display counterproductive work behavior (Baloch et al., 2017). Thus, empirical findings have been obtained (O’Boyle et al., 2012) which indicate positive relation between counterproductive work behavior and Machiavellianism. Therefore, convergent validity of the scale will be supported if Machiavellianism is related to counterproductive work behavior in this study.

In order to test and verify factor structure of Machiavellian Managerial Practices Scale, one-dimension structure and acceptable fit index must be obtained at the end of the confirmatory factor analysis. Finally, internal consistency of the scale must also be at expected level. Meeting group of expectations to a reasonable extent will indicate that Machiavellian Managerial



Practices Scale is valid and reliable. Therefore, expectations were tested within the scope of the study.

METHOD

Translation Process

First, we made an e-mail contact with Dr. Kessler, one of the authors who progressed the scale and got her permission to adapt the scale. The scale was translated into Turkish by three different researchers, then relevant items were discussed by a group of researchers by a “thinking-aloud-method” (van Someron et al., 1994) and three separate translations were united in a single format. Later, it was translated into English by another researcher who had advanced English language skills. No remarkable distinctions were recognized between two translations and Turkish version took its final form. Finally, data were collected via the Dark Triad Scale (narcissism, Machiavellianism, and psychopathy) and counterproductive work behavior scales and from employee sample to test the scale validity.

Data Collection

The data were collected with the participation of employees from various private and government organizations operating in Sakarya Province, Turkey. Study data were collected through online survey. Approximately 11 % of surveys were excluded for being incomplete or imprecise and 256 surveys forms were involved in analysis.

Scales

Machiavellian Managerial Practices Scale³: Machiavellian Managerial Practices Scale is basically the name of Turkish-adapted “managerial practices”, which is one of the three dimensions (maintaining power, manipulateness, and managerial practices) of Organizational Machiavellianism Scale (OMS) developed by Kessler et al (2010). Each sub-dimension of OMS comprises 6 items. Therefore, 6-item of the managerial Machiavellian practices dimension was used in this study for adaptation to Turkish. The scale is used in 5-Likert format (*1-Strongly Agree, 5-Strongly Disagree*). Every item is reverse coded in the original scale. Therefore, the same path was followed and all items were reversely coded to obtain Managerial Machiavellian Practices score.

Dark Triad Scale: In order to measure Machiavellianism, Narcissism, and psychopathy, 12-item was used Dark Triad Scale developed by Jonason and Webster (2010). The original name of the scale is “*Dark Triad Dirty Dozen*”. The scale has 4 items for each of Dark Triad components (i.e., sub clinic narcissism, sub clinic psychopathy and Machiavellianism). The scale was used in 5-Likert format (*1-Strongly Agree, 5-Strongly Disagree*) in this study. The scale was adapted into Turkish by Özsoy et al (2017).

Counterproductive Work Behaviors: We used the 33-item counterproductive work behavior scale developed by Spector et al (2006), which was adapted into Turkish and tested in terms of reliability and validity by Öcel (2010). Öcel (2010) removed one item while adapting the scale and concluded that the scale has a 4-dimensioned structure (i.e. abuse, theft, withdrawing, and sabotage). In this research, dimensions were not evaluated as a spate constructs, instead a total counterproductive work behavior score (CWBs global) was used which is the sum of 33



³ Turkish translation of the scale can be found in Appendix-1.

items to test construct validity (in terms of convergent validity. The scale was applied in 5-Likert format (1- Strongly Disagree, 5- Strongly Agree).

Participants: 52.3 % of participants were women, 55.9 % private sector employees, and 58.2 % white-collared employees. 34.7 % were graduates of high school or lower level schools, 9.8 % have associate degree, 42.2 % bachelor's degree, and 13.3 postgraduate degree. Participants' age (M=31.56; SD= 8.21), and monthly income (M=3104 Turkish Liras; SD: 2214.03), and tenure (M=10 years; SD: 9.27).

Table 1: Descriptive Statistics and Internal Consistency Findings

Variables	Mean	Standard Deviation	α
Machiavellian Managerial Practices	2.14	0.83	.85
Narcissism	2.67	1.00	.79
Machiavellianism	2.28	0.97	.81
Psychopathy	2.14	0.93	.78
Counterproductive Work Behavior	1.45	0.58	.97

As seen on Table 1, the minimum internal consistency coefficient was calculated as ($\alpha=0.79$). These findings indicate that all used scales including the Machiavellian Managerial Practices scale had acceptable level of reliability.

Validity Analysis

Validity was tested with two separate methods. The first is construct validity. The other is factor structure test by means of confirmatory factor analysis (CFAs).

Construct Validity

Construct validity is normally tested with correlation analysis and a) discriminant validity, b) convergent validity tests. However, construct validity was tested with only convergent validity test. For construct validity test, the relation between valid and reliable scales of narcissism, psychopathy, Machiavellianism, and counterproductive work behavior was analyzed which were previously adapted into Turkish and related to Machiavellian Managerial Practices theoretically and empirically. As mentioned earlier, positive correlation between Machiavellian Managerial Practices Scale with these variables supports convergent validity of the scale.

Table 2: Correlation Analysis and Construct Validity (Convergent Validity) Test

Construct validity variables	Machiavellian Managerial Practices
Narcissism	.18**
Machiavellianism	.48***
Psychopathy	.50***
Counterproductive work behavior	.25***
Manipulativeness	.28***

As seen on Table 2, Machiavellian Managerial Practices were related moderately with Machiavellianism, and psychopathy, insignificantly and positively associated with narcissism and counterproductive work behaviors. These findings support convergent validity of Machiavellian Managerial Practices scale. Machiavellian Managerial Practices scale must be positively related to narcissism, psychopathy, Machiavellianism, and counterproductive work behavior based on previous empirical findings and due to theoretical overlap. Otherwise, convergent validity of Machiavellian Managerial Practices scale cannot be supported. Thus,

these findings support the expected associations between these variables (in terms of theoretical and empirical background) and also verify the convergent validity of Machiavellian Managerial Practices scale.

Confirmatory Factor Analysis

Confirmatory factor analysis was used in order to test factor structure of Machiavellian Managerial Practices scale. In this paper, fit indexes were found at acceptable level after testing one-dimension structure ($\chi^2 = 17.99 p < .02$; $\chi^2/df = 2.25$; TLI (Tucker–Lewis index) = .97; CFI (comparative fit index) = .98; RMSEA (root mean square error of approximation) = .07). Factor loadings of items ranged between 0.47 and 0.87. These findings indicate that factor structure of the scale has expected psycho-metric features.

DISCUSSION AND CONCLUSION

Summary of findings: In this study; convergent validity of Machiavellian Managerial Practices scale was verified (within the construct validity), factor structure was tested and internal consistency was found at an acceptable level.

Interpretation of findings: Literature review reveals that narcissism, Machiavellianism, and psychopathy structures are regarded as sub-dimensions of Dark Triad, which is recognized as dark personality traits. Thus, it is emphasized that these are separate structures which are related to each other (Paulhus & Williams, 2002). Machiavellian Managerial Practices scale was positively related with each relevant variable and convergent validity of the scale was tested. These findings overlap with findings obtained in international empirical studies on this subject (Jonason & Webster, 2010; Jones & Paulhus, 2014). Similarly, positive relation between counterproductive work behavior and Machiavellian Managerial Practices scale overlaps with findings of previous empirical studies (O, Boyle et al., 2012). Confirmatory factor analysis of the scale and internal consistency verify its psychometric features, against overlapping the methodological construct of typical international adaptation studies (e.g. Dinića, Petrović, & Jonason, 2018).

Limitations: Basic limitation of the research is its sample size. Although the research was involving a sample group of employees, adapted with a greater sample yield more generalizable results. Moreover, discriminant validity was not tested in this study. Testing discriminant validity of a variable unrelated or negatively related with Machiavellianism with nomological network approach would provide additional findings in testing psychometric features of the scale. Finally, test-retest reliability was not conducted.

Implications for future studies: Future studies might test construct validity of the sample (both discriminant validity and convergent) with a greater sample and apply test-retest reliability analysis.

Consequently, Machiavellian Managerial Practices scale was adapted to Turkish, its reliability and validity were tested and its psychometric features were found at an acceptable level. In this research, the scale can be used in studies on Machiavellianism in organizational context in Turkey. Thus, our study is expected to contribute the studies of Machiavellianism in organizational context in Turkey.



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Appendix 1: Machiavellian Managerial Practices Scale

	1	2	3	4	5
1. Totally Disagree					
2. Disagree					
3. Neutral					
4. Agree					
5. Totally Disagree					
1. Başarısız insanların hatalarından bir şeyler öğrenmenin önemi yoktur.	1	2	3	4	5
2. Önemli insanlardan bir şeyler öğrenme ve onları takip etmenin önemi yoktur.	1	2	3	4	5
3. İşyerindeki çalışanlarla ile uğraşırken girişken ve zeki olmanın önemi yoktur.	1	2	3	4	5
4. Örgütte astların yeteneklerini ortaya çıkarmak için onları cesaretlendirmenin önemi yoktur.	1	2	3	4	5
5. Çalışanların tatminini sağlamak önemli değildir.	1	2	3	4	5
6. Yeni kurallar ileri sürmek ve bu kuralları uygulamak kolaydır.	1	2	3	4	5

Note: All items in the scale are reverse coded. Therefore, in order to be able to calculate the Managerial Machiavellian Practices score, all the questions must be recoded after the data is collected