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Towards multifaceted Machiavellianism: Content, factorial, and construct validity of a German Machiavellianism Scale

John F. Rauthmann

Department of Psychology, Leopold-Franzens University Innsbruck, Innrain 52, 6020 Innsbruck, Austria

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ABSTRACT

Machiavellianism comprises several distinct aspects (Rauthmann & Will, 2011), but it is unclear what Machiavellianism scales measure. The current study exemplarily investigates for a German Machiavellianism Scale (Henning & Six, 2008) (a) item content, (b) factorial structure, and (c) factor correlations with other scales (Big Five, narcissism, psychopathy, emotional manipulation, socio-emotional skills, self-esteem, self-monitoring) in a large sample ($n = 438$ women, $n = 138$ men). Findings yielded that (a) cynical/misanthropic views, agentic orientations, and deceitful behavior are (over-)represented in content; (b) different Machiavellianism factors emerge for men and women; and (c) there are differential associations of these factors with other scales. Findings are relevant for conceptualization and measurement of Machiavellianism.

1. Introduction

Despite the growing body of popular and scientific literature on Machiavellianism, its relevance for applied contexts (e.g., management), and increasing interest from social, personality, and applied psychologists, the construct remains ill-conceptualized and is usually measured unidimensionally (Rauthmann & Will, 2011). There is little theorization and empirical evidence on Machiavellianism structures: current models and scales neglect or even miss important aspects. In this article, a German Machiavellianism Scale is exemplarily screened concerning (a) which Machiavellian aspects its items capture, (b) which item structures emerge, and (c) how it relates to a variety of trait scales.

1.1. Problems in Machiavellianism research

The study of Machiavellianism has two related problems: conceptualization and measurement. First, Machiavellianism has become fuzzy. There are recurring themes (cynicism, manipulation, immorality), but authors focus on different themes or lump Machiavellianism together with other "dark" traits (sub-clinical narcissism and psychopathy) due to similarities in phenotypical behaviors (e.g., exploitative manipulation; Jones & Paulhus, 2010). Hierarchical structures and underlying processes are neglected. Second, there is still no Machiavellianism scale that could be deemed psychometrically sound. There are shortcomings in reliability, content and construct validity, and factorial structure

(Rauthmann & Will, 2011). Research using such scales might thus not add to the elucidation of Machiavellianism, but to its obscuration.

In conclusion, 40 years after Christie and Geis' (1970) seminal work on Machiavellianism, it is not clear (a) what it is, which (cognitive, affective, motivational, behavioral) structures, processes, and dynamics it comprises; (b) what current items and scales *exactly* measure; and thus (c) if it can be seen as a personality dimension worthy of its own systematical research, distinguishable from other traits (e.g., narcissism, psychopathy).

1.2. Conceptualizing Machiavellianism

Machiavellianism, derived by Christie and Geis (1970) from Niccolò Machiavelli's characterization of an effective ruler, deals with (a) cold, misanthropic, cynical, pragmatic, and immoral beliefs, (b) lack of affect and empathy, (c) strategic long-term planning, (d) agentic motives (e.g., power, money, etc.) and self-beneficial goal pursuit, and (e) manipulation, exploitation, duplicity, and anti-social tendencies (Fehr, Samsom, & Paulhus, 1992; Jones & Paulhus, 2009, 2010; Rauthmann & Will, 2011). Although Machiavellianism is often conceptualized and measured unidimensionally (Fehr et al., 1992), there is evidence that it comprises different facets (e.g., Jones & Paulhus, 2009). Recently, Rauthmann and Will (2011) have circumscribed the semantic space of Machiavellianism based on a thorough literature review and proposed a multidimensional, hierarchical account of Machiavellianism content (Fig. 1). Machiavellian ABCDs (affect, behavior, cognition, and desire) can provide a more differentiated picture on structures and processes.
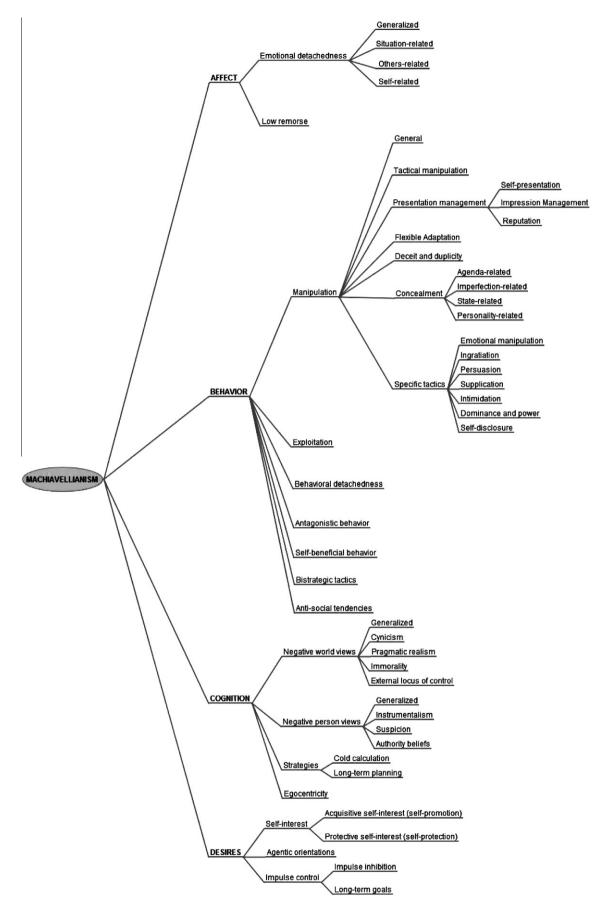
E-mail address: jfrauthmann@gmail.com

Fig. 1. Machiavellian ABCDs from Rauthmann and Will (2011).

However, it remains unclear which and how many of these aspects current scales capture.

1.3. Measuring Machiavellianism

Christie and Geis (1970) developed the MACH scales with 20 items, which have not been extensively revised so far. Their text-driven research regarding a psychological construct of *political personality orientation* yielded core themes in varied literature: human kind is manipulable, cowardly, and fallible, and a rationally thinking person would take advantage of the weak. Thus, utilitarianism, instrumentalism, lack of compassion, and low concern for moral, ethical, and conventional issues are focused. Ultimately, three aspects emerged for the MACH scales with Machiavelli's "Il Principe" as the core source: *Interpersonal Tactics*, *Cynical View of Human Nature*, and *Disregard for Conventional Morality*.

Generally, the MACH IV/V is deemed a reliable and valid scale (e.g., Jones & Paulhus, 2009; Ramanaiah, Byravan, & Detwiler, 1994) despite shortcomings such as (a) response styles like social desirability (King & Miles, 1995); (b) varying (rather low) reliabilities (Gable & Topol, 1987; Hunt & Chonko, 1984; Zook & Sipps, 1986); (c) varying factorial structures (Ahmed & Stewart, 1981; Corral & Calvete, 2000; Hunter, Boster, & Gerbing, 1982; Hunter, Gerbing, & Boster, 1982; Panitz, 1989); and (d) insufficient content and construct validity (Rauthmann & Will, 2011). Indeed, different factorial solutions have been reported (one: Christie & Lehman, 1970; Kuo & Marsella, 1977; two: Fehr et al., 1992; three: Christie, 1970; four: Corral & Calvete, 2000; Hunter & Boster, 1982; Hunter and Gerbing, 1982b; five: Ahmed & Stewart, 1981), and, unfortunately, the number of retained factors, their items, and labels differ in literature (Corzine, 1997; Fehr et al., 1992). This is both psychometrically and conceptually threatening to the Machiavellianism construct. Indeed, it has become unclear what the MACH actually measures and thus what Machiavellianism represents.

There are also other scales besides the "traditional" MACH, although much less used (e.g., Machiavellian Behavior Scale: Aziz, May, & Crotts, 2002; Machiavellian Personality Scale: Dahling, Whitaker, & Levy, 2009). In German, Machiavellian Attitudes (Ulbrich-Herrmann, 2008), Machiavellianism/Conservatism (Cloetta, 2008), and the German Machiavellianism Scale (GMS; Henning & Six, 2008), which is also based on the MACH and extensively validated, have been proposed.

2. The current study

The current study addresses three questions with the GMS (Henning & Six, 2008) to shed further light on conceptualization and measurement of Machiavellianism: content, factorial, and convergent/discriminant validity. Specifically, it is asked (1) which Machiavellianism content is captured?; (2) which factorial structures emerge for women and men; and (3) how Machiavellianism factors are correlated with other scales (Big Five, Dark Triad, social-emotional variables) for women and men.

First, it was hypothesized that the GMS would primarily tap Immorality, Manipulation, and Cynicism content as these are most commonly found themes in literature (Rauthmann & Will, 2011) and also core content of the MACH (Christie & Geis, 1970) upon which the GMS is based.

Second, it was hypothesized to find different Machiavellianism factors despite items likely converging to one factor which has been found for the GMS (Henning & Six, 2008) and MACH scales (Fehr et al., 1992). However, one undifferentiated factor is not very informative: possible multifactorial solutions should also be investigated to examine different aspects of Machiavellianism. Factors should roughly resemble Immorality, Manipulation, and Cynicism in content.

Third, it was hypothesized that the Machiavellianism factors extracted show considerable overlap with antagonistic traits such as narcissism and psychopathy, together forming the "Dark Triad" due to conceptual similarities and positive intercorrelations among their scales (Paulhus & Williams, 2002).

3. Methods

3.1. Participants and procedure

Sample 1 ($N = 408$; 315 women, 93 men; age: $M = 22.81$ years, $SD = 4.91$, range = 18–65) was administered as an online-version of all scales, and Sample 2 ($N = 186$; 123 women, 45 men, 18 did not indicate their sex; age: $M = 22.49$ years, $SD = 2.79$, range = 19–34) paper–pencil versions. Participants were German native speakers from Austria and Germany, all Caucasian, in their first or second student years (major in psychology, but selected from different courses), and obtained credit-points for participating. As both samples did not differ on any relevant variables and produced highly similar results, they were pooled into one sample ($N = 594$; 438 women, 138 men and 18 who did not indicate their sex; age: $M = 22.71$, $SD = 4.36$).

3.2. Measures

To conserve space, an overview of all scales is given in Table 1.

3.3. Analyses

3.3.1. Item content
GMS and MACH items were screened according to which of Rauthmann and Will's (2011) Machiavellianism aspects (Fig. 1) they most likely represented.

3.3.2. Factor structures
Several exploratory factor analyses (EFAs) with different extraction (principal components vs. principal axis) and rotation methods (varimax vs. oblimin vs. promax) were computed, but results remained very similar. Factor structures were, ultimately, computed for men and women separately with principal axis factoring (direct-oblimin rotation with Kaiser-normalization, $\delta = 0$) and different criteria to assess the number of factors to be retained (eigenvalue >1.0, scree-plot inspection, Horn's parallel analysis PA, Velicer's MAP criterion, Very Simple Structure VSS Complexity 1 and 2). Factors (a) supported by extraction criteria, (b) with primary loadings >.30 of four or more items onto one factor, (c) with acceptable internal consistencies, (d) theoretically most sensible, and (e) easily interpretable were retained. Empirical "tests" of how many factors to retain tend to disagree on the exact number, so plausibility of factors and correlations with criterion variables (see Section 3.3.3.) should be used to determine the "optimal" number of factors. Thus, also smaller, possibly meaningful factors (with underrepresented item content) can be retained that may harbor heuristic value.

3.3.3. Scale associations
First, convergent/discriminant validity of Machiavellianism factors were assessed for men and women separately by correlating regression factor scores with a variety of other scales (Table 1) using bivariate zero-order Pearson correlations. Second, differences in correlations between men and women were investigated with z-tests. Third, a vector correlation between men's and women's correlations of global Machiavellianism with all scales was also computed to check how similar their profiles were (Rauthmann, in press).

Table 1
Synopsis of measures used.

Domain	Inventory	Response	Item number	Computation	Sample(s)	References
Big Five	BFI-S	1–7	15	Means	1	Schupp and Gerlitz (2008)
Big Five	IASR-B5	1–8	124	Means	2	Trapnell and Wiggins (1990)
Socio-emotional skills	SSI	1–5	90	Sums	1, 2	Riggio (1989)
Narcissism	NPI-17	0–4	17	Sums	1, 2	von Collani (2008)
Machiavellianism	GMS	0–5	18	Sums	1, 2	Henning and Six (2008)
Psychopathy	SRP-III	0–4	30	Means	1, 2	Williams, Nathanson, and Paulhus (2003)
Emotional manipulation	EMS	0–4	25	Means	1, 2	Austin, Farrelly, Black, and Moore (2007)
Self-monitoring	SMS	0–4	24	Means	1	Laux & Renner (2002)
Self-esteem	RSES	0–3	10	Means	1, 2	Rosenberg (1965)

4. Results

4.1. Descriptive statistics

Due to space reasons, descriptive statistics (means standard deviations, Cronbach's alphas) of items and scales are not reported, but can be obtained upon email request. Almost all scales showed reliabilities >.70. There were significant sex differences in Machiavellianism ($t(561) = -3.75$, $p < .001$; men: $M = 35.67$, $SD = 14.80$; women: $M = 30.48$, $SD = 13.65$), and all further analyses are conducted separately for men and women.

4.2. Item content

GMS and MACH items reflected attitudes, beliefs, and opinions: the item format referred to (quasi-)factual statements or recommendations what to do. As can be seen in Table 2, GMS items mostly referred to (a) negative person views (12/18); (b) negative world views (5/18); (c) agentic orientations (6/18); and (d)

manipulation (6/18). This roughly reflects the MACH's original item categories Views and Tactics. MACH items also mostly referred to (a) negative person views (11/20); (b) negative world views (5/20); and (c) manipulation (5/20). In both scales, negative person views can be distinguished from negative world views, and immorality may pertain to both. Further, both scales emphasized self-beneficial striving at the expense of or without regard for others' welfare.

4.3. Factor structures

For *men*, the number of factors to be retained ranged from 1–3 (eigenvalues: 3; scree-plot: 1; PA: 1; MAP: 1; VSS 1: 1; VSS 2: 2). Upon inspecting factor loadings and plausibility of factors (as well as correlations with external criteria; see Section 4.4.), a three-factor solution fitted best (Table 3). Factor I was labeled "Self-beneficiality" ($\alpha = .85$), Factor II "Misanthropy" ($\alpha = .75$), and Factor III "Immorality" ($\alpha = .75$) according to the content they primarily captured.

Table 2
Item content analysis.

Items	Format	Content
In dealing with people, it is best to tell them what they want to hear	Quasi-fact	Manipulation: Deceit and duplicity Specific tactics: Ingratiation
It is not that important how one wins, but that one wins	Quasi-fact	Self-beneficial behavior Agentic orientations
Modesty is not just useless, but also harmful	Quasi-fact	Manipulation: Deceit and duplicity
Every man for himself!	Quasi-fact	Ego-centricity
One should hold onto the good (way of doing things) as long as possible, but not back away from the bad (way of doing things) in case of need	Recommendation	Negative world view: Immorality
To push through a good idea, it is unimportant which means one uses (to do that)	Quasi-fact	Self-beneficial behavior Agentic orientations
A confident manner is more worth than receptiveness to feelings	Quasi-fact	Manipulation: Presentation management
One should only then show the real reason of one's agenda if that is of use	Recommendation	Manipulation: (Agenda) Concealment
Who is exploited for the purposes of others without knowing does not deserve any pity	Quasi-fact	Negative person view: Instrumentalism
One can only achieve an ambitious goal if one sometimes goes beyond the pale	Quasi-fact	Negative world view: Immorality
In company, it is more convenient to adapt to the option of the host	Quasi-fact	Manipulation: Deceit and duplicity Specific tactics: Ingratiation
For one's own advancement, family has sometimes got to make sacrifices.	Quasi-fact	Agentic orientations
One may break a promise if that is beneficial to oneself.	Quasi-fact	Self-beneficial behaviors
One should select one's acquaintances according to whether they can be of use	Recommendation	Negative person view: Instrumentalism
Most often it is more beneficial to keep one's real intentions to oneself	Quasi-fact	Manipulation: (Agenda) Concealment
The most important thing in life is to keep pace	Quasi-fact	Agentic orientations
Who helps others ascend ruins her-/himself.	Quasi-fact	Agentic orientations
One has to judge people's deeds by their success	Recommendation	Agentic orientations

Note: Items were translated (literally) into English.

Table 3
Factor structures for men.

Items	Factors		
	I	II	III
Self-beneficiality			
One should only then show the real reason of one's agenda if that is of use	**.74**		
A confident manner is more worth than receptiveness to feelings	**.71**		
One has to judge people's deeds by their success	**.60**		
Most often it is more beneficial to keep one's real intentions to oneself	**.59**		
Every man for himself!	**.56**		
Who helps others ascend ruins her-/himself	**.37**		
One may break a promise if that is beneficial to oneself	**.28**		
Misanthropy			
One should select one's acquaintances according to whether they can be of use	.43	**.60**	
In company, it is more convenient to adapt to the option of the host		**.60**	.35
For one's own advancement, family has sometimes got to make sacrifices		**.40**	.31
In dealing with people, it is best to tell them what they want to hear		**.34**	
Immorality			
It is not that important how one wins, but that one wins			**.60**
One can only achieve an ambitious goal if one sometimes goes beyond the pale			**.50**
The most important thing in life is to keep pace			**.49**
One should hold onto the good as long as possible, but not back away from the bad in case of need.			**.45**
Who is exploited for the purposes of others without knowing does not deserve any pity.	.33		**.44**
To push through a good idea, it is unimportant which means one uses	.37		**.41**
Modesty is not just useless, but also harmful	.37		**.39**
% of variance explained	36.08	3.94	3.42
Factor intercorrelations			
Factor I	–		
Factor II	.41	–	
Factor III	.62	.37	–

Note: N = 137.
Factor loadings <.30 are suppressed. Primary loadings are indicated bold.
Total variance explained: 43.44%.
Kaiser–Meyer–Olkin measure of sampling adequacy: .89.
Bartlett's sphericity test: approx. $\chi^2(153) = 928.42$ ($p < .001$).

Table 4
Factor structures for women.

Items	Factors	
	I	II
Pragmaticity/coldness		
One should select one's acquaintances according to whether they can be of use	.72	
One should only then show the real reason of one's agenda if that is of use	.71	
One has to judge people's deeds by their success	.69	
Who helps others ascend ruins her-/himself	.68	
In dealing with people, it is best to tell them what they want to hear	.67	
One may break a promise if that is beneficial to oneself	.66	
Most often it is more beneficial to keep one's real intentions to oneself	.56	
A confident manner is more worth than receptiveness to feelings	.54	
It is not that important how one wins, but that one wins	.53	
Every man for himself!	.50	
To push through a good idea, it is unimportant which means one uses	.48	
In company, it is more convenient to adapt to the option of the host	.47	
Modesty is not just useless, but also harmful	.36	
Who is exploited for the purposes of others without knowing does not deserve any pity.	.35	
Agenticity		
One can only achieve an ambitious goal if one sometimes goes beyond the pale		.76
One should hold onto the good as long as possible, but not back away from the bad in case of need.		.51
For one's own advancement, family has sometimes got to make sacrifices		.49
The most important thing in life is to keep pace		.28
% of variance explained	36.29	3.14
Factor intercorrelations		
Factor I	–	
Factor II	.65	–

Note: N = 439.
Factor loadings <.30 are suppressed.
Total variance explained: 39.43%.
Kaiser–Meyer–Olkin measure of sampling adequacy: .94.
Bartlett's sphericity test: approx. $\chi^2(153) = 2843.33$ ($p < .001$).

For *women*, the optimal number of factors to be retained ranged from 1–3 (eigenvalues: 3; scree-plot: 1; PA: 1; MAP: 1; VSS 1: 1; VSS 2: 2). Upon inspecting factor loadings and plausibility of factors (as well as correlations with external criteria; see Section 4.4.), a two-factor solution fitted best (Table 4). Factor I was labeled "Pragmaticity/Coldness" ($\alpha = .89$) and Factor II "Agenticity" ($\alpha = .70$) according to the content they primarily captured.

4.4. Scale associations

For *men*, Self-beneficiality, Misanthropy, and Immorality produced different correlational patterns with other trait scales (Table 5). Misanthropy was correlated with Neuroticism (while the others were not) and low self-esteem, but neither with Disagreeableness traits nor socio-emotional skills. It was more strongly associated with protective self-monitoring than the other factors. Self-beneficiality correlated particularly with Introversion and Disagreeableness traits, less emotional sensitivity, low self-esteem, and low Openness. Immorality manifested the strongest correlations with

all dark traits (including emotional manipulation). It also correlated particularly with antagonistic interpersonal traits.

For *women*, Pragmaticity and Agenticity also manifested somewhat different correlational profiles (Table 5) although both were equally associated with dark traits. Pragmaticity correlated particularly with Emotional Stability, Introversion, less self-esteem, and less impression management. It also had higher correlations with protective self-monitoring. Agenticity correlated negatively only with emotional sensitivity, whereas Pragmaticity manifested more and stronger negative correlations with socio-emotional skills.

Comparing men and women, global Machiavellianism was negatively correlated with Emotional Stability and Extraversion traits only for men and more strongly so, $zs = 2.03–2.95$ ($ps < .05$). Further, correlations with cold-heartedness or less warmth were significantly higher for men than women, $zs = 2.64, -2.89$ ($ps < .05$). Also, there was a trend for higher correlations with antagonistic interpersonal traits (e.g., arrogance) in men. However, negative correlations between global Machiavellianism and socio-emotional skills were more pronounced for women. Further, there was a trend for less self-esteem in male Machiavellians. Correlations with narcissism, psychopathy, emotional manipulation, and self-monitoring were quite similar. Male and female Machiavellian correlates seem to differ a bit regarding Neuroticism, Extraversion, and Agreeableness, but overall correlational patterns were quite similar, $r = .90$ ($p < .001$).

Table 5
Correlations of Machiavellianism factors with other scales for men and women.

Scales	Men				Women		
	Global	Self-beneficiality	Misanthropy	Immorality	Global	Pragmaticity	Agenticity
BFI-S Big Five[a]							
Emotional Stability	−**.22**[*]		−.34[**]		**.13**[*]	.13[*]	
Extraversion			−.27[**]			−.15[**]	
Openness	−**.23**[*]	−.26[*]					
Agreeableness	−**.37**[***]	−.38[***]		−.37[***]	−**.25**[***]	−.21[***]	−.33[***]
Conscientiousness							
IASR−B5 traits[b]							
Assured-dominant							
Unassured-submissive							
Gregarious-extraverted	−**.43**[**]	−.52[**]					
Aloof-introverted	**.48**[**]	.61[***]					
Unassuming-ingenuous	−**.46**[**]	−.33[*]	−.32[*]	−.48[**]			−.19[*]
Arrogant-calculating	**.57**[***]	.41[**]	.41[**]	.59[***]	**.35**[***]	.33[***]	.31[**]
Warm-agreeable	−**.54**[***]	−.69[***]		−.38[*]			
Cold-hearted	**.63**[***]	.67[***]		.48[**]	**.24**[**]	.24[*]	.25[**]
Neuroticism			.29[**]				
Opennness		−.31[*]		−.24[*]	−**.27**[**]	−.23[*]	−.26[**]
Conscientiousness							
Socio-emotional skills[c]							
Emotional Expressivity					−**.15**[**]	−.19[***]	
Emotional Sensitivity	−**.30**[**]	−.35[***]		−.24[**]	−**.23**[***]	−.26[***]	−.18[***]
Emotional Control					**.13**[**]	.14[**]	
Social Expressivity		−.18[*]			−**.16**[**]	−.20[***]	
Social Sensitivity							
Social.Control					−**.14**[**]	−.16[**]	
Dark Triad[c]							
Psychopathy	**.62**[***]	.53[***]	.37[***]	.62[***]	**.55**[***]	.55[***]	.52[***]
Impulsive Thrill-seeking	**.41**[**•]	.31[***]	.24[**]	.43[***]	**.35**[**•]	.33[***]	.39[***]
Interpersonal Manipulation	**.58**[***]	.51[***]	.39[***]	.55[***]	**.54**[***]	.55[***]	.47[***]
Cold Affect	**.59+**[**]	.54[***]	.31[***]	.60[**•]	**.55**[***]	.55[***]	.50[***]
Narcissism	**.54**[***]	.44[***]	.40[***]	.55[***]	**.57**[***]	.55[***]	.52[***]
Authority	**.39**[***]	.33[***]	.32[***]	.37[***]	**.43**[***]	.41[***]	.39[***]
Vanity	**.34**[***]	.25[**]	.27[**]	.36[***]	**.40**[***]	.38[***]	.38[**•]
Superiority	**.36**[**•]	.28[**]	.28[**]	.36[***]	**.38**[***]	.36[***]	.36[***]
Exhibitionism	**.60**[***]	.49[**•]	.34[**•]	.66[***]	**.55**[***]	.54[***]	.52[***]
Exploitation	**.42**[***]	.36[***]	.20[*]	.42[***]	**.46**[***]	.46[***]	.42[***]
Entitlement	**.57**[***]	.46[***]	.46[***]	.55[**]	**.57**[***]	.55[***]	.50[***]
Emotional manipulation[c]							
Tactics	**.54**[***]	.43[***]	.39[***]	.54[***]	**.53**[***]	.52[***]	.49[***]
Emotional Skills	−**.30**[***]	−.29[**]	−.25[**]	−.26[**]	−**.32**[***]	−.32[***]	−.27[***]
Concealment	**.31**[***]	.30[***]	.28[**]	.25[**]	**.38**[***]	.40[***]	.27[***]
Self-esteem[a]	−**.22**[*]	−.24[*]	−.26[*]			−.12[*]	
Self-monitoring[a]							
Perceptiveness							
Impression Management	−**.30**[**]	−.26[*]	−.21[*]	−.31[**]	−**.12**[*]	−.16[**]	
Protective Variability	**.37**[***]	.31[**]	.45[***]		**.28**[***]	.30[***]	.19[**]
Protective Social Referencing	**.41**[***]	.28[**]	.55[**•]	.31[**]	**.34**[***]	.34[***]	.21[***]

Correlations with α >.05 are omitted. Global Machiavellianism correlations are indicated bold.
[a] Men: *n* = 92. Women: *n* = 316.
[b] Men: *n* = 41. Women: *n* = 114.
[c] Men: *n* = 132–133. Women: *n* = 427–430.

5. Discussion

5.1. Item content

MACH and GMS items refer to quasi-factual statements or recommendations which assess attitudes, opinions, and beliefs (Kraut & Price, 1976). However, one can harbor Machiavellian attitudes (e.g., through hardships in life) without actually displaying Machiavellian behaviors. Machiavellianism items should be revised to capture more self-referential content (e.g., not "One should strive for money and status", but "I strive for money and status") although this might introduce more socially desirable responding.

Both scales (a) miss possibly important aspects of Machiavellianism and (b) overrepresent themes of negative person and world views, agency, and manipulation. For example, impulse control,

emotional detachedness, and strategic long-term planning, which may be core elements of Machiavellianism and distinguish it from narcissism and particularly (impulsive) psychopathy (Jones & Paulhus, 2009, 2010, 2011), are not represented at all. Haphazardly phrased items and restricted item content are not only detrimental to measurement, but also to theoretical conceptualization (Rauthmann & Denissen, 2011). Hence, future scales should employ more of the content identified by Rauthmann and Will (2011) and formulate a comprehensive theoretical model that can incorporate the various findings in extant literature (Jones & Paulhus, 2009). Conceptualization should focus on underlying processes as, for example, there might be two motivational systems, acquisitive self-interest (e.g., Jones & Paulhus, 2010) and protective self-interest (e.g., Rauthmann, 2011), driving differential patterns of Machiavellianism.

5.2. Factor structures and scale associations

Throughout literature, Machiavellianism produces almost arbitrary correlations with other constructs and real-life criteria (e.g., intelligence, locus of control, helplessness, extraversion, etc.) with only a few robust exceptions (e.g., disagreeableness: Paulhus & Williams, 2002). This might be due to (a) different criteria and scales used that Machiavellianism was correlated with; (b) no inclusion of sex differences; (c) different samples (e.g., students vs. managers); and (d) no regard for factorial structures. Considering different Machiavellianism facets could help unravel this problem as global scores obscure possible meaningful patterns. As findings indicate, some facets of Machiavellianism drive certain correlations, and these can differ for men and women. For example, male Machiavellians may be more neurotic, introverted, and cold-hearted than female Machiavellians. However, there is evidence that different facets of Machiavellianism drive this in men: for example, associations with Neuroticism may be driven by Misanthropy, whereas associations with Introversion by Self-beneficiality. Thus, a multi-faceted conceptualization could enhance our understanding of Machiavellianism.

5.3. Limitations and prospects

There are some limitations that should be taken into account in prospective research. First, data was solely gathered from a student sample which may restrict generalizability. Thus, findings should be replicated, corroborated, and extended in more diverse community samples. Second, future research should also examine other Machiavellianism scales besides the GMS and comparatively investigate the factorial structure of the MACH. Third, criterion validity could not be established for the GMS as no external, real-life criteria were sampled. Fourth, common method variance can be avoided by using self- *and* peer-ratings in the future. Ultimately, new Machiavellianism scales should be constructed that (a) are psychometrically sound with maximum content, construct, and criterion validity and (b) take into account recent research by (c) conceptualizing Machiavellianism multidimensionally and hierarchically (Rauthmann & Will, 2011).

6. Conclusion

Narcissism and psychopathy have received much attention and been multidimensionally conceptualized, but structures, processes, and dynamics of Machiavellianism remain relatively unexplored as of yet. The current study provided evidence that different Machiavellianism facets could be distinguished for men and women in the GMS (Henning & Six, 2008). Findings can promote a *multifaceted* conceptualization and measurement of Machiavellianism.

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