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Searching for Machiavelli but Finding Psychopathy and Narcissism

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Machiavellianism is a psychological construct reflecting individual differences in manipulative and strategic thinking, pragmatic morality, and a cynical outlook on life. A recent stream of research has shown that Machiavellianism and psychopathy seem to be redundant constructs and that measures of Machiavellianism do not correspond well with theoretical expectations. In the present study, I juxtapose multiple measures of Machiavellianism against normal (i.e., the five-factor model and HEXACO) and abnormal (e.g., narcissism, psychopathy, impulsivity, and personality dysfunction) personality traits in an online sample (N = 591). Using Goldberg's (2006) Bass–Ackwards approach, I investigate whether typical Machiavellian traits can be found anywhere in the construct hierarchy by comparing the levels of the hierarchy with expert-rated five-factor model prototypes of Machiavellianism, narcissism, psychopathy, and external correlates. Our results indicate that measures of Machiavellianism mostly reflect psychopathy and narcissism. The implications of these results are discussed, including what the future may hold for Machiavellianism.

Keywords: Machiavellianism, narcissism, psychopathy, Dark Triad, hierarchical structure

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Niccolò Machiavelli (1469–1527) was a Florentine diplomat who famously described political principles aimed at accumulating and maintaining power, even at the cost of dishonesty and immorality. His name eventually came to be associated with the psychological construct Machiavellianism (Christie & Geis, 1970), which refers to individual variability in traits and behaviors such as interpersonal strategizing (Wilson, Near, & Miller, 1996), exploitation, a cynical life outlook, lying and cheating (Christie & Geis, 1970; Jones & Paulhus, 2009), self-enhancing values, and pragmatic morality (Kajonius, Persson, & Jonason, 2015). A large number of studies have been conducted on Machiavellianism, including investigations of its relation to deceitfulness (Jones & Paulhus, 2017), envy and morality (Lange, Paulhus, & Crusius, 2018), work behaviors (O'Boyle, Forsyth, Banks, & McDaniel, 2012), and a broad range of evolutionary phenomena (Jonason, Li, & Buss, 2010; Jonason, Li, Webster, & Schmitt, 2009).

In contemporary research, Machiavellianism is often studied as part of the Dark Triad (DT; i.e., Machiavellianism, narcissism, and psychopathy; Paulhus & Williams, 2002), which in addition to Machiavellianism reflects individual differences in entitlement, superiority, dominance (i.e., narcissism), callous social attitudes, impulsivity, and interpersonal antagonism (i.e., psychopathy). The similarities across these three constructs are many, but the differences are the focus of this article. One may simplify these differences accordingly: whereas the narcissist is entitled and self-centered (Krizan & Herlache, 2018), and the psychopath impulsive and callous (Verschuere et al., 2018), the Machiavellian is purported to have intact self-control and thus be a good strategist (Christie & Geis, 1970). A number of reviews have been published on both Machiavellianism (Fehr, Samsom, & Paulhus, 1992; Jones & Paulhus, 2009) and the DT (Furnham, Richards, & Paulhus, 2013; Furnham, Richards, Rangel, & Jones, 2014; Muris, Merckelbach, Otgaar, & Meijer, 2017; Paulhus, 2014).

The Dark Triad and Normal Personality

Two decades ago, McHoskey, Worzel, and Szyarto (1998) raised concerns that Machiavellianism and psychopathy were redundant constructs that developed along alternative trajectories caused by differences within psychological subdisciplines (i.e., clinical vs. social), ultimately yielding different histories for the same concept. This concern has since been revisited, culminating in a number of studies questioning the supposed distinctiveness among the DT constructs, especially between Machiavellianism and psychopathy (Miller, Hyatt, Maples-Keller, Carter, & Lynam, 2017; Persson, Kajonius, & Garcia, 2017, 2019; Vize, Collison, Miller, & Lynam, 2018). One study has shown a latent variable correlation between Machiavellianism and psychopathy of .90 (Persson et al., 2019), but meta-analytic intercorrelations have been more modest (r = .58; Muris et al., 2017). Such findings have led to some going so far as to suggest that existing data on Machiavellianism are best reinterpreted as informing the psychopathy literature (Miller, Hyatt, et al., 2017).

Another line of inquiry has been the use of expert-rated prototypes of personality disorders (Lynam & Widiger, 2001). With this

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method, one can compare prototypical five-factor model (FFM; i.e., extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience; Costa & McCrae, 1992) facet profiles for a given personality disorder, with data collected from either psychiatric patients or the normal population. Using this method, O'Boyle, Forsyth, Banks, Story, and White (2015) provided evidence of the utility of previously proposed FFM facet models. FFM facets relevant to narcissism explained 42% of the variance in narcissism, and FFM facets relevant to psychopathy explained almost all variance in psychopathy (corrected $R^2 = .88$). In a multistudy article, Miller, Hyatt, et al. (2017) compared expert-rated Machiavellianism and psychopathy prototypes and showed that the Machiavellianism prototype differs from the psychopathy prototype with more than 1 *SD* on 13 out of 30 FFM facets but nevertheless had an overall profile similarity of .54. The five facets with most pronounced differences (minus sign indicates higher scores for psychopathy) were immoderation ($d = -2.90$), excitement-seeking ($d = -2.45$), cautiousness ($d = 2.17$), orderliness ($d = 1.97$), and depression ($d = 1.97$).[1] Effects like these have, however, mostly been found in prototype comparisons and not in studies using extant measures of Machiavellianism (Miller, Hyatt, et al., 2017). Indeed, Muris et al. (2017) reported no significant differences in FFM domains between Machiavellianism and psychopathy (cf. O'Boyle et al., 2015; Vize, Lynam, Collison, & Miller, 2018) and no significant differences at the domain or facet level for honesty–humility (HH), which is part of the HEXACO model (Lee & Ashton, 2004). Accordingly, both Machiavellianism and psychopathy share strong negative correlations with agreeableness, conscientiousness, and HH. On the facet level, Machiavellianism has been shown to correlate negatively with facets such as cautiousness (i.e., conscientiousness) and positively with impulsivity (i.e., neuroticism; DeShong, Helle, Lengel, Meyer, & Mullins-Sweatt, 2017). These effects are smaller than for psychopathy, but they nevertheless suggest that the measurement of Machiavellianism has not corresponded well with theoretical description of the construct (Christie & Geis, 1970).

Keeping the earlier information in mind, interpretation of both psychopathy literature and narcissism literature is complicated by the fact that both constructs are multidimensional, thus leading to heterogeneity in FFM profiles. Multidimensionality within psychopathy tends to be parsed with reference to primary and secondary psychopathy (Yildirim & Derksen, 2015), and multidimensionality within narcissism with reference to vulnerable and grandiose narcissism (Miller, Lynam, et al., 2017). Primary psychopathy is highly negatively correlated with all facets of agreeableness and positively correlated with the facets excitement-seeking (i.e., extraversion) and anger (i.e., neuroticism). Secondary psychopathy is highly positively correlated with all facets of neuroticism and negatively correlated with cheerfulness (i.e., extraversion), conscientiousness, and four out of six facets of agreeableness (albeit to a lesser extent than primary psychopathy; Ross, Lutz, & Bailley, 2004). Such findings are believed to reflect that primary psychopathy is defined by intact self-control but deficient emotional processing, whereas secondary psychopaths are more unstable, with impaired self-control and emotional disturbances (Yildirim & Derksen, 2015).

Grandiose and vulnerable narcissism are negatively correlated but share disagreeable features (Miller, Lynam, et al., 2017). Grandiose narcissism correlates positively with emotional stability, high levels of extraversion, and achievement-striving (i.e., conscientiousness) and negatively with modesty, cooperation, and morality, which are all facets of agreeableness. On the other hand, vulnerable narcissism correlates negatively with emotional stability, extraversion (e.g., low friendliness and cheerfulness), adventurousness (i.e., openness to experience), self-efficacy (i.e., conscientiousness), and the agreeableness facets trust, morality, and altruism (Miller, Lynam, et al., 2017). In summary, this construct heterogeneity results in complex factor structures whereby greater overlap is found cross-construct than within-construct. Put differently, primary psychopathy and grandiose narcissism share relatively similar FFM profiles, which is also the case for secondary psychopathy and vulnerable narcissism. The consequences of this heterogeneity have been explored elsewhere (Miller et al., 2010).

The Present Study

In the present study, I attempt to clarify the structure of Machiavellianism by placing it in relation to the FFM, DT, and other relevant external measures. Specifically, I analyze data from a diverse set of Machiavellianism inventories using the Bass–Ackwards approach (Goldberg, 2006). This approach permits one to analyze data in a stepwise fashion for the purpose of investigating potential hierarchical structures in personality constructs. Previous studies have shown that measures of Machiavellianism correspond more closely to descriptions of psychopathy. Many of these studies have been limited by either focusing on a single Machiavellianism inventory or by using only domain-level information, thus neglecting item-level information. On that basis, analyzing the structure of multiple Machiavellianism measures using item-level information can aid in more detailed understanding of the construct hierarchy. Put differently, one can test whether prototypical Machiavellian characteristics exist on the facet level. Accordingly, the premise of this study is a search for Machiavellianism where it is most likely to be found—in measures of Machiavellianism.

In pursuing this goal, one begins by computing a first unrotated principal component (FUPC). One subsequently computes a two-component solution and iteratively adds an additional component until one reaches a point where there is a component on which no variable has its highest loading. For each step, one computes component scores that are then correlated with scores from the other levels. Goldberg (2006) didactically recommended that "it may be useful to think of them [the components] on a continuum of abstractness or generality, with the most abstract construct at the top level and the most specific constructs at the bottom level" (p. 350).

This approach is particularly useful for analyzing hierarchical structures in personality data and has been used in various domains of personality psychology, perhaps most notably for pathological personality traits (Wright et al., 2012). Other examples include the various factor structures produced for conscientiousness (Jackson

[1] Miller et al. (2017) used the Revised NEO Personality Inventory (NEO-PI-R; Costa & McCrae, 1992), which has different facet names than facets in the International Personality Item Pool (IPIP; Goldberg et al., 2006) representation of the NEO-PI-R (IPIP-NEO). Because data in the present study are collected using the IPIP-NEO, all facets have been translated into IPIP-NEO terminology. For facet translation, see https://ipip.ori.org/IPIP300-120ComparisonTable.htm

et al., 2010; Roberts, Chernyshenko, Stark, & Goldberg, 2005), and agreeableness was recently subjected to a similar procedure (Crowe, Lynam, & Miller, 2018). Accordingly, I use the Bass–Ackwards approach for the purpose of analyzing the hierarchical structure of Machiavellianism. In doing so, I compare each hierarchical level with expert-rated prototypes and further investigate how each level fits both within a framework of normal personality and in relation to other relevant external correlates. I do this in the hope of finding a facet that reflects prototypical descriptions of Machiavellianism. Of particular interest is the FFM facets immoderation, excitement-seeking, orderliness, cautiousness, and depression, as these facets show the greatest discrepancy in expert-rated prototypes of psychopathy and Machiavellianism (Miller, Hyatt, et al., 2017).

Method

Participants

The participant data ($N = 591$, $n_{men} = 241$, $n_{women} = 350$) were collected through Amazon's Mechanical Turk (MTurk; for reviews, see Buhrmester, Talaifar, & Gosling, 2018; Thomas & Clifford, 2017), which has been used successfully in the study of personality previously (Miller, Crowe, Weiss, Maples-Keller, & Lynam, 2017). The MTurk workers received $3.50 as compensation for participating, and only residents of the United States were allowed to accept participation. Four control questions were added to the survey as inattention checks (e.g., "I haven't used a computer in 2 years"). A total of 26 participants were excluded from the final analyses on the basis of these checks. The participants described themselves as being White (81%), Hispanic (4%), Black (8%), Native American (0.3%), Asian (5%), other (1%), and with one missing response. Participants' mean age was 39.57 years ($SD = 12.28$). Institutional review board approval was obtained for all aspects of the study.

Measures

In total, data from 15 different inventories were collected, which includes seven different Machiavellianism scales (for a total of 65 items tapping the domain of Machiavellianism). Measures not tapping the domain of Machiavellianism were used as measures for assessing external validity. All inventories are listed in the following text, beginning with measures tapping the Machiavellianism domain. If not otherwise specified, the participants responded on a 5-point Likert scale (1 = *strongly disagree* and 5 = *strongly agree*). Descriptive statistics and internal consistency estimates (Cronbach's α and coefficient ω, see McNeish, 2018) are presented as online supplemental material. Coefficients α and ω were computed using R packages *psych* Version 1.7.8 (Revelle, 2017) and *MBESS* Version 4.4.3 (Kelley, 2018), respectively. Open Science Framework (OSF) data, including item content for all 65 Machiavellianism items and the zero-order correlations between the items, are available on the Open Science Framework (https://osf.io/rjw73).

Mach-IV. The Mach-IV is the original and most commonly used measure of Machiavellianism and totals 20 items (Christie & Geis, 1970). Ten items indicate high levels of Machiavellianism and 10 indicate low levels. The items reflect ways of thinking and opinions about people and things. Items include "One should take action only when sure it is morally right" (reversed) and "It is wise to flatter important people."

Dirty Dozen. The Dirty Dozen (DD) totals 12 items assessing the DT (Jonason & Webster, 2010). Participants rated how much they agreed (1 = *strongly disagree* and 5 = *strongly agree*) with each item. The four items tapping Machiavellianism were used for entry in the Bass–Ackwards analysis, and the eight remaining items tapping narcissism and psychopathy were used as external measures. It should be noted that the DD is usually scored on a 7-point Likert scale, but I chose a 5-point scale to reduce confusion for participants.

Short Dark Triad. The Short Dark Triad (SD3) consists of 27 items, nine items for each DT domain (Jones & Paulhus, 2014). The items consist of statements such as "Most people can be manipulated." The final version of the SD3 contains nine items measuring Machiavellianism, but please note that I not only collected the final nine items but also the entire original set of Machiavellianism items (for a total of 12 items).[2] I use the naming convention "SD3 Machiavellianism" and "SD3 Machiavellianism Extra" to clearly specify which items belong to the final SD3 inventory and which come from the original item pool (Jones & Paulhus, 2014). As with the DD described earlier, the remaining 18 items tapping narcissism and psychopathy were used as external measures.

Mach-VI. The Mach-VI is a hitherto unvalidated measure with nine items available in the work by Paulhus and Jones (2014). One of the items, "It is not wise to tell your secrets," is included in the final version of the SD3 and is therefore excluded from this particular scale.

The Personality Inventory for *DSM–5*. The Personality Inventory for *DSM–5* (PID-5; Krueger, Derringer, Markon, Watson, & Skodol, 2012) is a 220-item personality trait assessment scale measuring maladaptive versions of the FFM (i.e., detachment [low extraversion], antagonism [low agreeableness], disinhibition [low conscientiousness], negative affect [neuroticism], and psychoticism [high levels of openness to experience]; Suzuki, Samuel, Pahlen, & Krueger, 2015). The PID-5 is further divisible into 25 facets. In this study, the facets deceitfulness and manipulativeness—both part of antagonism—were used in the Bass–Ackwards analysis. These facets contain a total of 15 items. In addition, the facet impulsivity, consisting of six items, was used as an external measure. The items were assessed on a 0–3-point Likert scale, with 0 indicating *very false or often false* and 3 indicating *very true or often true*.

The International Personality Item Pool representation of the Jackson Personality Inventory. Six items from the International Personality Item Pool (IPIP) representation of the Jackson Personality Inventory (Jackson, 1994) were collected, all assessing the facet social astuteness (Goldberg, n.d.). The items include statements such as "Can talk others into doing things" and "Lack the talent for influencing people" (reversed). The Social Astute-

[2] There are additional items in the Jones and Paulhus (2014) publication, but some of these items are redundant with items from the Mach-IV (Christie & Geis, 1970) and were thus not included. A list of all Machiavellianism items used herein is available from the author.

ness scale is also referred to as Machiavellianism on the IPIP website (see Goldberg, n.d.).

International Personality Item Pool-NEO-120 (IPIP-NEO-120). The IPIP-NEO-120 (Johnson, 2014) is a publicly available 120-item personality inventory measuring the domains of the FFM. Each domain is further divisible into six lower order facets per domain, for a total of 30 facets (i.e., four items per facet). Facet names are presented in Table 1.

International Personality Item Pool-HEXACO (IPIP-HEXACO). The IPIP-HEXACO (Ashton, Lee, & Goldberg, 2007) is a publicly available personality inventory for measuring the six personality domains from the HEXACO model (Lee & Ashton, 2004). It should be noted that the HEXACO and FFM models are not identical, despite having five factors in common (all but HH). For instance, HEXACO-agreeableness includes content pertaining to temperamentalness and irritability which are elements of neuroticism in the FFM. These differences are well documented elsewhere (Lee & Ashton, 2004). Ultimately, 80 items were collected, specifically the ones tapping the domains HH (which includes the facets sincerity, fairness, greed-

Table 1
Correlations Between Components, International Personality Item Pool-NEO-120, and Expert Prototypes

	Expert prototypes			Level 1	Level 2		Level 3			Level 4			
Trait/Component	Mach	Narc	Psych	FUPC	2.1	2.2	3.1	3.2	3.3	4.1	4.2	4.3	4.4
Agreeableness	1.55	1.40	1.30	**−.73**	**−.42**	**−.62**	**−.39**	**−.33**	**−.57**	−.29	**−.53**	**−.47**	−.11
Trust	1.42	1.42	1.73	**−.41**	.03	**−.63**	.05	**−.47**	**−.41**	.04	−.20	**−.47**	**−.43**
Morality	1.28	1.83	1.13	**−.71**	**−.58**	**−.42**	**−.55**	−.13	**−.51**	**−.42**	**−.56**	**−.34**	.14
Altruism	1.28	1.00	1.33	**−.46**	−.18	**−.48**	−.16	−.20	**−.51**	−.06	**−.41**	**−.40**	.00
Cooperation	2.08	1.58	1.33	**−.57**	**−.42**	**−.37**	**−.40**	−.15	**−.42**	**−.32**	**−.41**	**−.32**	.04
Modesty	1.89	1.08	1.00	**−.40**	**−.48**	−.06	**−.48**	−.09	−.03	**−.44**	−.22	.02	.00
Sympathy	1.36	1.50	1.27	**−.44**	−.17	**−.47**	−.14	−.23	**−.45**	−.05	**−.40**	**−.35**	−.05
Conscientiousness	3.54	2.81	2.42	**−.36**	−.12	**−.40**	−.10	−.11	**−.48**	−.03	**−.32**	**−.39**	.05
Self-efficacy	3.69	3.25	4.20	−.07	.14	−.27	.16	.04	**−.42**	.20	−.12	**−.38**	.11
Orderliness	3.97	2.92	2.60	−.21	−.07	−.23	−.06	−.08	−.26	−.03	−.17	−.22	.00
Dutifulness	2.53	2.42	1.20	**−.51**	**−.30**	**−.43**	−.28	−.08	**−.56**	−.21	**−.35**	**−.48**	.09
Achievement-striving	3.86	3.92	3.07	−.29	−.07	**−.35**	−.05	−.09	**−.42**	.03	**−.32**	**−.32**	.07
Self-discipline	3.42	2.08	1.87	−.23	.03	**−.38**	.05	−.16	**−.38**	.09	−.21	**−.34**	−.07
Cautiousness	3.78	2.25	1.60	**−.36**	−.28	−.23	−.26	−.10	−.25	−.18	**−.32**	−.15	.05
Extraversion	3.15	3.52	3.47	−.02	**.40**	**−.46**	**.42**	−.27	**−.37**	**.43**	−.12	**−.38**	−.22
Friendliness	2.06	1.42	1.73	−.23	.19	**−.55**	.22	**−.39**	**−.38**	.25	−.27	**−.36**	−.29
Gregariousness	3.39	3.83	3.67	−.03	**.32**	**−.40**	**.34**	−.29	−.25	**.34**	−.12	−.25	−.26
Assertiveness	4.14	4.67	4.47	.11	**.40**	−.28	**.42**	−.10	−.28	**.46**	−.12	−.23	−.02
Activity level	3.78	3.67	3.67	.02	.18	−.17	.19	−.05	−.18	.17	.02	−.21	−.06
Excitement-seeking	2.81	4.17	4.73	**.33**	**.45**	.00	**.45**	−.01	.05	**.40**	.19	−.01	−.10
Cheerfulness	2.72	3.33	2.53	−.22	.15	**−.49**	.17	−.21	**−.49**	.17	−.13	**−.50**	−.16
Neuroticism	2.42	2.74	2.30	**.30**	−.02	**.46**	−.04	.29	**.36**	−.11	**.32**	.29	.15
Anxiety	2.39	2.33	1.47	.23	−.02	**.36**	−.04	.28	.23	−.09	.27	.17	.16
Anger	3.28	4.08	3.87	**.37**	.13	**.40**	.12	.25	**.33**	.05	**.32**	.26	.11
Depression	2.94	2.42	1.40	.24	−.05	**.41**	−.07	.25	**.33**	−.10	.22	**.31**	.16
Self-consciousness	1.92	1.50	1.07	.09	−.23	**.39**	−.25	.29	.24	**−.31**	.25	.18	.17
Immoderation	2.08	3.17	4.53	.28	.14	.26	.13	.12	.26	.12	.15	.25	.07
Vulnerability	1.92	2.92	1.47	.18	−.07	**.34**	−.09	.18	**.31**	−.15	.27	.23	.05
Openness	2.85	3.10	2.98	−.07	.07	−.18	.08	−.11	−.14	.16	−.24	−.04	.02
Imagination	2.28	3.75	3.07	.21	.18	.11	.18	.17	−.01	.21	.03	.04	.20
Artistic interests	2.77	3.25	2.33	−.15	−.02	−.20	−.01	−.07	−.21	.05	−.20	−.15	.03
Emotionality	3.31	1.92	1.80	−.27	−.12	−.26	−.11	−.15	−.23	−.04	−.28	−.15	−.01
Adventurousness	2.94	4.08	4.27	−.09	.12	−.25	.12	−.26	−.09	.18	−.22	−.03	−.16
Intellect	2.78	2.92	3.53	−.07	.05	−.16	.06	−.09	−.14	.15	−.26	−.03	.06
Liberalism	3.03	2.67	2.87	.05	.03	.04	.03	−.05	.11	.03	−.01	.12	−.05
Profile similarities	Mach	Narc	Psych										
FUPC	.31	.60	.56										
2.1 Exploitation	.47	.73	.79										
2.2 Cynicism	.03	.22	.11										
3.1 Exploitation	.47	.72	.79										
3.2 Cynicism	.09	.22	.06										
3.3 Dishonesty	.01	.23	.18										
4.1 Exploitation	.49	.71	.80										
4.2 Selfishness	.14	.39	.30										
4.3 Dishonesty	.00	.21	.15										
4.4 Cynicism	.05	.05	−.13										

Note. FUPC = first unrotated principal component. Correlations larger than |.30| are typeset in bold. Correlations larger than |.14| are significant at $p < .001$. Mean values (range = 1–5) on each trait are reported for the expert prototypes. Columns with components contain Pearson correlations between components and IPIP-NEO-120 factors and facets. Profile similarities are Pearson correlations between expert prototypes and components. The expert-rated Machiavellianism prototype is taken from Miller, Hyatt, Maples-Keller, Carter, and Lynam (2017), the narcissism prototype from Lynam and Widiger (2001), and the psychopathy prototype from Miller, Lynam, Widiger, and Leukefeld (2001).

avoidance, and modesty) and agreeableness (which includes the facets forgiveness, gentleness, flexibility, and patience). Because both the IPIP-NEO-120 and HEXACO measure agreeableness, each is denoted explicitly in text (i.e., HEXACO-Agreeableness or IPIP-Agreeableness).

Narcissistic Admiration and Rivalry Questionnaire Short Scale. The Narcissistic Admiration and Rivalry Questionnaire Short Scale is a six-item measure of grandiose narcissism, or more specifically the dimensions admiration and rivalry (Leckelt et al., 2018). These two dimensions theoretically reflect agentic aspects driven by self-enhancement (i.e., admiration) and antagonistic aspects driven by self-defense (i.e., rivalry).

Narcissistic Personality Inventory-13. The Narcissistic Personality Inventory-13 is a 13-item short-version measure of grandiose narcissism derived from the popular 40-item Narcissistic Personality Inventory (Gentile et al., 2013). Items include "I like to show off my body" and "I have a strong will to power."

Psychological Entitlement Scale. The Psychological Entitlement Scale (Campbell, Bonacci, Shelton, Exline, & Bushman, 2004) is a nine-item scale measuring the construct entitlement. Psychological entitlement has been theorized to be the central feature of narcissism connecting grandiose and vulnerable features (Krizan & Herlache, 2018).

Hypersensitive Narcissism Scale. The Hypersensitive Narcissism Scale (Fossati et al., 2009) is a 10-item scale used for assessing the vulnerable aspects of narcissism; aspects that are well known to be connected to neuroticism (Miller, Lynam, et al., 2017). These aspects include characteristics such as being self-centered, being highly concerned with self-image, and yet being sensitive and vulnerable to criticism.

Satisfaction With Life Scale. The Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) is a five-item measure of subjective well-being or a global cognitive judgment of satisfaction with one's own life. The SWLS has been shown to be important in the prediction of both healthy and unhealthy behaviors (Pavot & Diener, 2008).

Triarchic Psychopathy Measure. The Triarchic Psychopathy Measure (Blagov, Patrick, Oost, Goodman, & Pugh, 2016; Patrick, 2010) is 58-item inventory measuring three central features of psychopathy: boldness, meanness, and disinhibition. Boldness refers to high dominance and low anxiousness and thus reflects so-called "successful" features of psychopathy (Patrick, Fowles, & Krueger, 2009). Meanness reflects callousness and cruelty, and disinhibition reflects impulsivity and failures in taking responsibility. Each item is scored on a 4-point Likert scale ranging from 0 = *false* to 3 = *true*.

Levels of Personality Functioning Scale—Self-Report. The Levels of Personality Functioning Scale (LPFS)—Self-Report (Morey, 2017; Sleep, Lynam, Widiger, Crowe, & Miller, in press) is a recently developed self-report questionnaire used for assessing severity of personality dysfunction. The 80 items are answered on a 4-point scale ranging from *totally false, not at all true* to *very true*. Each item is weighted based on a severity schema, with five levels of increasing severity (Level 0 indicates healthy personality and is thus negatively weighted). The items were weighted accordingly: Level 0 items are weighted –.5, Level 1 items ("some impairment") are weighted +.5, Level 2 items ("moderate impairment") are weighted +1.5, Level 3 items ("severe impairment") are weighted +2.5, and Level 4 items ("extreme impairment") are weighted +3.5. The LPFS—Self-Report allows for calculation of a total score and four facet scores, tapping the domains identity, self-direction, empathy, and intimacy (but for a critical view, see Sleep et al., in press). One item (Item 76, which belongs to the facet identity) had a negative item-total correlation.

Procedure and Statistical Treatment

I performed the Bass–Ackwards analysis (see details in Goldberg, 2006) by first extracting an unrotated component (i.e., FUPC) and subsequently extracting additional orthogonally (varimax) rotated components in iterative steps (Figure 1). Goldberg (2006) recommended that the process is terminated when no variable has its highest loading on the last extracted component. In this case, the fifth component did have two variables with its highest loadings. I nevertheless terminated the process here and instead followed Gorsuch's (1997) recommendation of extracting factors with three or more salient loadings (i.e., larger than |.40|). My reasons for doing so were that only two items had their highest loadings (.45 and .41) on the fifth component, and their communalities were merely .23 and .22, respectively. Further, the four components from the previous level correlated modestly with the fifth component (Figure 1). In principle, additional components could have been extracted if the highest loading rule was adopted strictly. However, as noted earlier, this process did not yield meaningful results seen as a whole but merely represented spurious loadings among single items on each subsequently added component.

As auxiliary analyses, I also computed common methods for determining the number of factors to extract. These analyses were not used for supporting the number of components to extract but are included for completeness. I first calculated the eigenvalues for the correlation matrix of the 65 items tapping Machiavellianism. The first 12 eigenvalues were greater than 1 (the first six were 19.47, 4.75, 3.23, 2.65, 2.47, and 1.62). A parallel analysis (Horn, 1965) suggested the extraction of nine factors (in a factor analytic framework) and six components (in a principal component framework). Velicer's minimum average partial (Zwick & Velicer, 1986) suggested the extraction of eight components. Finally, exploratory graph analysis (Golino & Epskamp, 2017) suggested five factors. The sum of the explained variance in all components on a given level was .30, .37, .42, and .46, for Levels 1–4, respectively.

Subsequently to extracting the components, I correlated the components with expert-rated prototypes of Machiavellianism (Miller, Hyatt, et al., 2017), narcissism (Lynam & Widiger, 2001), and psychopathy (Miller, Lynam, Widiger, & Leukefeld, 2001), to provide a clearer picture of how measures of Machiavellianism map onto prototypical FFM descriptions. These profile comparisons are calculated as Pearson correlations between a given expert prototype and the correlations between component scores and FFM facets (Table 1). I also ran correlational comparisons between the components and external measures (Table 2) to better understand the content of each component.

Results

The relations between the Bass–Ackwards components across levels are presented in Figure 1. Detailed results from each component solution are presented as OSF (https://osf.io/rjw73), but a

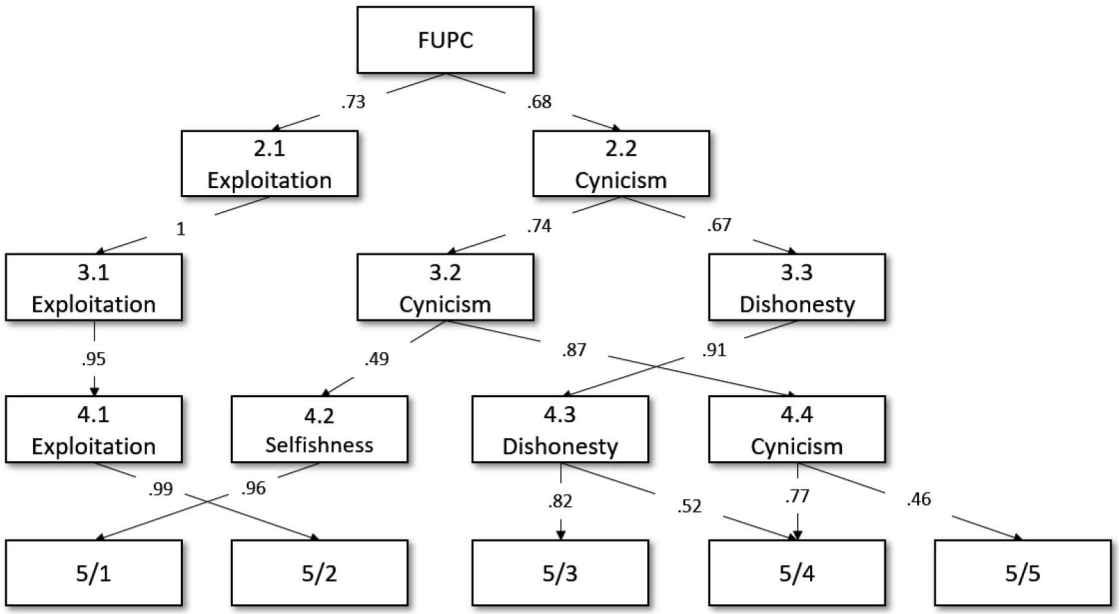

Figure 1. Hierarchical representation of the Bass–Ackwards structure extracted from Machiavellianism items. FUPC = first unrotated principal component. Coefficients smaller than .40 have been omitted for ease of presentation.

cursory presentation of the component loadings from the fourth level follows. Four items had loadings smaller than |.30| on all of the four components. All of these items came from the Mach-IV and Mach-VI measures. What is also evident from the pattern matrix is that many items have substantial cross-loadings. With that said, the DD and PID-5 deceitfulness items consistently loaded on the first two components. PID-5 manipulativeness and the Jackson Personality Inventory loaded mostly on the first component, and the final set of SD3 items loaded mostly on the second component. The SD3 Extra items, Mach-IV, and Mach-VI exhibited more diverse loading patterns but were mostly focused on the third and fourth components. This heterogeneity is not surprising, as especially the Mach-IV is well-known for having an unreliable factor structure (see Rauthmann, 2013, and references therein).

Bass–Ackwards Analysis

I validated the components against expert-rated prototypes of Machiavellianism (Miller, Hyatt, et al., 2017), narcissism (Lynam & Widiger, 2001), and psychopathy (Miller et al., 2001). These correlations are reported in Table 1. The prototype profile overlap was larger for psychopathy and narcissism than Machiavellianism across all four levels. On the first level of the hierarchy, the correlation between the FUPC and the Machiavellianism prototype was .31, for narcissism it was .60, and for psychopathy it was .56. On the fourth level, the first component, which naturally accounts for most variance, correlated .49 with the Machiavellianism prototype, .71 with narcissism, and .80 with psychopathy. When summing the R^2 values (i.e., squared correlations) across all four components, Machiavellianism, narcissism, and psychopathy had R^2 values of .26, .69, and .77, respectively. Thus, psychopathy and narcissism prototypes showed much greater overlap with the component correlations than did the Machiavellianism prototype. These results suggest that weighted composites (i.e., components) based on multiple measures of Machiavellianism are more accurately represented by prototypical profiles of psychopathy and narcissism than by Machiavellianism. This holds true throughout the construct hierarchy in these analyses.

I subsequently analyzed correlational patterns between all four Bass–Ackwards levels and the FFM (presented in Table 1) and also with external measures (presented in Table 2). The naming of components was chiefly based on item content, although external correlations were also informative. The highest loading item on the FUPC was "I can be sneaky if it means getting what I want." The FUPC correlated strongly with multiple domains of normal personality: IPIP-agreeableness ($r = -.73$), conscientiousness ($r = -.36$), neuroticism ($r = .30$), HH ($r = -.82$), and HEXACO-agreeableness ($r = -.55$). In addition, the FUPC yielded strong correlations with personality dysfunction ($r_{\text{LPFS Total}} = .57$) and all measures of narcissism and psychopathy except boldness ($r = .10$). On Level 2, I named the components "2.1 Exploitation" and "2.2 Cynicism." The highest loading item for Component 2.1 was "It is easy for me to take advantage of others" and for Component 2.2 it was "There's a sucker born every minute." The first component could arguably also be named after primary psychopathy or grandiose narcissism, as it correlated strongly with low trait agreeableness ($r = -.42$), correlated positively with extraversion ($r = .40$), was unrelated to neuroticism ($r = -.02$), and strongly negatively correlated with HH ($r = -.70$). Components 2.1 and 2.2 were differentiated insofar as the second component correlated negatively with all facets of agreeableness except modesty, negatively with extraversion ($r = -.46$), and positively with neuroticism ($r = .46$). In addition, although Component 2.1 correlated

Table 2
Correlations Between Fourth-Level Components and External Measures

	Level 1	Level 2		Level 3			Level 4			
External measures	FUPC	2.1	2.2	3.1	3.2	3.3	4.1	4.2	4.3	4.4
HEXACO-HH	**−.82**	**−.70**	**−.45**	**−.67**	−.24	**−.44**	**−.55**	**−.59**	−.29	.02
Sincerity	**−.71**	**−.59**	**−.41**	**−.57**	−.23	**−.38**	**−.43**	**−.59**	−.21	.04
Fairness	**−.65**	**−.46**	**−.46**	**−.43**	−.09	**−.61**	**−.35**	**−.41**	**−.51**	.10
Greed–avoidance	**−.61**	**−.55**	**−.31**	**−.54**	−.26	−.20	**−.42**	**−.49**	−.07	−.04
Modesty	**−.62**	**−.59**	−.27	**−.57**	−.17	−.25	**−.51**	**−.36**	−.18	−.03
HEXACO–agreeableness	**−.55**	−.17	**−.62**	−.14	**−.41**	**−.48**	−.08	**−.41**	**−.43**	−.25
Forgiveness	**-.52**	−.14	**−.62**	−.12	**−.39**	**−.49**	−.08	**−.34**	**−.47**	−.27
Gentleness	**−.52**	−.20	**−.55**	−.17	**−.35**	**−.45**	−.12	**−.37**	**−.40**	−.20
Flexibility	**−.46**	−.10	**−.57**	−.08	**−.45**	**−.35**	−.01	**−.40**	−.29	**−.30**
Patience	**−.39**	−.14	**−.43**	−.12	−.25	**−.37**	−.06	**−.31**	**−.31**	−.12
DD Narcissism	**.53**	**.54**	.20	**.53**	.20	.11	**.43**	**.43**	−.01	.01
DD Psychopathy	**.60**	**.34**	**.52**	**.32**	.29	**.47**	.23	**.45**	**.38**	.09
SD3 Narcissism	**.46**	**.61**	.01	**.61**	.05	−.01	**.58**	.21	−.05	−.03
SD3 Psychopathy	**.68**	**.52**	**.44**	**.50**	.23	**.44**	**.41**	**.46**	**.34**	.03
NARQ-S	**.67**	**.58**	**.35**	**.57**	.26	.26	**.45**	**.52**	.13	.03
NPI-13	**.60**	**.70**	.13	**.69**	.16	.06	**.61**	**.38**	−.03	.00
PES	**.56**	**.51**	.26	**.50**	.24	.16	**.39**	**.47**	.03	.03
HSNS	**.51**	.17	**.57**	.15	**.47**	**.34**	.03	**.54**	.21	.24
SWLS	−.23	.07	**−.41**	.09	−.26	**−.32**	.08	−.13	**−.34**	−.23
PID-5 Impulsivity	**.42**	**.35**	.24	**.33**	.09	.28	.25	**.35**	.17	−.08
TriPM Boldness	.10	**.45**	**-.35**	**.47**	−.16	**−.30**	**.53**	−.19	−.23	−.05
TriPM Meanness	**.67**	**.44**	**.51**	**.41**	.19	**.57**	**.31**	**.49**	**.45**	−.04
TriPM Disinhibition	**.56**	**.37**	**.42**	**.34**	.18	**.45**	.27	**.38**	**.36**	.01
TriPM Total	**.67**	**.65**	.27	**.64**	.10	**.34**	**.58**	**.34**	.28	−.04
LPFS Empathy	**.57**	.26	**.56**	.23	**.38**	**.43**	.09	**.60**	.26	.10
LPFS Identity	**.49**	.20	**.50**	.18	**.39**	**.33**	.07	**.49**	.21	.17
LPFS Intimacy	**.58**	.26	**.57**	.24	**.40**	**.42**	.11	**.57**	.28	.15
LPFS Self-Direction	**.45**	.19	**.46**	.16	.26	**.40**	.04	**.49**	.26	.02
LPFS Total	**.57**	.25	**.57**	.22	**.39**	**.43**	.09	**.59**	.27	.13

Note. $N = 584$. Correlations larger than |.30| are typeset in bold. Correlations larger than |.14| are significant at $p < .001$. FUPC = first unrotated principal component; HEXACO-HH = HEXACO-Honesty-humility; DD = Dirty Dozen; SD3 = Short Dark Triad; NARQ-S = Narcissistic Admiration and Rivalry Questionnaire Short Scale; NPI = Narcissistic Personality Inventory; PES = Psychological Entitlement Scale; HSNS = Hypersensitive Narcissism Scale; SWLS = Satisfaction with Life Scale; PID-5 = Personality Inventory for *DSM–5*; TriPM = Triarchic Psychopathy Measure; LPFS = Levels of Personality Functioning.

with grandiose features of narcissism, Component 2.2 showed more consistent patterns with psychopathy (e.g., $r_{\text{DD Psychopathy}} = .52$) and hypersensitive narcissism ($r_{\text{Hypersensitive Narcissism Scale}} = .57$). Perhaps the clearest pattern was the opposite relations with boldness ($r_{\text{Component 2.1}} = .45$, $r_{\text{Component 2.2}} = -.35$), which shows that Component 2.1 contains more adaptive content, whereas Component 2.2 contains more maladaptive content.

On Level 3, Component 3.1 showed nearly identical correlations as Component 2.1 and thus retained the name "Exploitation" (highest loading item: "Have a natural talent for influencing people"). Component 2.2 was also retained in "3.2 Cynicism" but also split into "3.3 Dishonesty." Component 3.2 mainly correlated with low levels of trust ($r = -.47$), friendliness ($r = -.39$), neuroticism ($r = .29$), and HEXACO-agreeableness ($r = -.41$). Its highest loading item was "There are things you should hide from other people because they don't need to know." In addition, Component 3.2 correlated positively with hypersensitive narcissism ($r = .47$) and personality dysfunction ($r_{\text{LPFS Total}} = .39$). The highest loading item for Component 3.3 was "Honesty is the best policy in all cases" (reversed). Component 3.3 correlated negatively with both versions of agreeableness ($r_{\text{IPIP-A}} = -.57$, $r_{\text{HEXACO-A}} = -.48$), conscientiousness ($r = -.48$), extraversion facets friendliness ($r = -.38$) and cheerfulness ($r = -.49$), neuroticism ($r = .36$), and HH ($r = -.44$).

At Level 4, Exploitation was again maintained as a first component (i.e., 4.1), whereas Component "3.2 Cynicism" split into "4.2 Selfishness" (highest loading item: "The best way to handle people is to tell them what they want to hear") and "4.4 Cynicism" (highest loading item: "There are things you should hide from other people because they don't need to know"). It is noteworthy that the correlation between Components 3.2 and 4.2 was a moderate .49. Finally, Component 3.3 was retained as "4.3 Dishonesty" (highest loading item: "Honesty is the best policy in all cases" [reversed]). Component 4.2 showed a mix of impulsivity, psychopathy, personality dysfunction, and uniquely, vulnerable narcissism. Component 4.3 was similar but showed more pronounced patterns of negativity (e.g., $r_{\text{Cheerfulness}} = -.50$, $r_{\text{Depression}} = .31$, $r_{\text{SWLS}} = -.34$). Finally, Component 4.4 manifested only two correlations larger than .30 ($r_{\text{Trust}} = -.43$ and $r_{\text{Flexibility}} = -.30$).

When comparing the components with the five facets with greatest profile discrepancy (i.e., immoderation, excitement-seeking, orderliness, cautiousness, and depression), the results expectedly did not conform to theoretical expectations. The facet cautiousness correlated negatively with all components on all levels with the exception of Component 4.4, which was positive but nonsignificant. Similar results were found for three other facets (orderliness, excitement-seeking, and immoderation), thus showing that effects that would indicate Machiavellianism actually

indicated psychopathy. One exception was the facet depression, which did indeed correlate in the theoretically expected (i.e., positive) direction, especially with Components 2.2, 3.3, and 4.3. With that said, these components correlated positively with all facets of neuroticism and not just depression. Had all theoretical expectations been met, these components should also have correlated negatively with anger and impulsiveness, which they did not. These findings ultimately reflect the fact that the relative profile similarity is higher for the expert-rated psychopathy prototype than the Machiavellianism prototype across all components (Table 1).

Discussion

The aim of this article was to investigate whether measures of Machiavellianism—when decomposed into hierarchically organized facets—contain information relevant to theoretical descriptions of Machiavellianism. In pursuing this goal, I used a Bass–Ackwards approach and settled on a four-component solution (Figure 1). This analysis made it clear that measures tapping Machiavellianism are heterogeneous, insofar as they relate to multiple FFM criteria, which may be a consequence of the complex and multidimensional theoretical description of Machiavellianism (Rauthmann & Will, 2011). I found that profile similarities across all hierarchical levels more closely converged with psychopathy and narcissism prototypes than with the Machiavellianism prototype. This echoes previous findings, as measures of Machiavellianism often show greater empirical overlap with psychopathy than with Machiavellianism. It also extends previous findings, as many previous studies have been limited in two ways: (a) Machiavellianism has mainly been analyzed at the domain level, which may neglect important information at the item level, and (b) studies have often been limited to single Machiavellianism inventories. In this study, these particular limitations were overcome by using a large pool of Machiavellianism items. Taken together, the emerging literature suggests that extant measures of Machiavellianism do not adequately overlap with theoretical descriptions of the construct.

Regarding the components, I found that the FUPC reflected a mixed bag of antagonistic, impulsive, insincere, and otherwise dysfunctional traits. In normal personality terminology, both agreeableness and HH were strongly negatively related to the FUPC. When broken down further into four different components, empirical profiles possibly reflecting the multidimensional natures of both psychopathy and narcissism emerged, although the fourth component did not generate particularly large effects. Perhaps the most interesting effect is the division between Components 4.1 and 4.2, where the former reflects extraversion and low HH and looks much like primary psychopathy or grandiose narcissism. Based on the presence of boldness and lack of personality dysfunction, one could argue that this component could also have been named successful psychopathy. Component 4.2 also reflected narcissistic content but without extraversion and with slightly higher levels of neuroticism. Accordingly, Component 4.1 looks more like primary psychopathy and grandiose narcissism, whereas Component 4.2 potentially reflects secondary psychopathy. The five facets (i.e., immoderation, excitement-seeking, orderliness, cautiousness, and depression) with highest profile disagreement between Machiavellianism and psychopathy did not conform to theoretical expectations. These correlations were also more indicative of psychopathy than Machiavellianism. This suggests that Machiavellianism is more closely aligned with psychopathy, both in terms of general profile similarity and in the specific facets with highest construct discrepancy.

At this point, there is substantial literature on Machiavellianism. Researchers have previously argued that this literature is better interpreted as informing psychopathy (Miller, Hyatt, et al., 2017). I echo this conclusion but also note that this conclusion is likely to be met with some skepticism, as considerable effort has been put into differentiating Machiavellianism from psychopathy through external correlates. Indeed, these efforts have sometimes produced results indicating that the two constructs manifest differently. Miller, Hyatt et al. (2017) preemptively raised counterarguments to such skepticism, including the fact that psychopathy measures in general do not perfectly correlate. Some divergence with regard to external correlates is therefore to be expected. In addition, Persson et al. (2017) analyzed the SD3 using item response theory and found that endorsement rates for Machiavellianism items were higher than for psychopathy items. This could indicate that psychopathy items are inherently more "severe" owing to harsher content. Another possibility is that psychopathy items are more affected by social desirability. Thus, although it is clear that Machiavellianism and psychopathy should be conceptualized along the same dimension (i.e., as one factor), it is possible that Machiavellianism is less extreme, which in turn could help explain why discrepant effects sometimes occur.

Limitations

There are a number of limitations worthy of discussion. In the Bass–Ackwards analysis, I named the components mainly based on the items with highest loadings. These labels are meant to be descriptively useful but should be interpreted with discretion. Other analytic decisions (e.g., factor rotation) can change the order of components, as well as the effect sizes between components and external measures. Importantly, profile similarities were quite robust across different factor rotation methods. These findings are reported as supplementary information on the OSF (https://osf.io/rjw73). One may also question the stopping procedure in the Bass–Ackwards analysis. Although extracting additional components is certainly a possibility, I do not believe that doing so would help in answering this particular research question. When extracting a fifth component, that component added 4% cumulative variance. If traits relevant to the Machiavellianism construct are to be found throughout the hierarchy, I do not believe they are to be found in the fifth or sixth component.

The external measures (i.e., those not used for measurement of Machiavellianism) sometimes include content related to manipulative personality characteristics. This potentially causes a degree of circularity. I believe that this is a minor concern, being that the number of items is large and single items are unlikely to skew the results significantly. Another concern is the use of an online sample, but this method has been used successfully for similar purposes previously (Miller, Crowe, et al., 2017).

Finally, in recent years, there has been a lot of debate regarding partialing (Sleep, Lynam, Hyatt, & Miller, 2017), which is the common practice of controlling for variance, which in DT research refers to the removal of variance from two of the DT constructs from the third, to analyze each construct's unique variance in

relation to some outcome. Partialing can generate variables that are difficult to interpret, especially when constructs are heterogeneous and highly correlated (i.e., multicollinear). For instance, what does variance in Machiavellianism reflect once narcissism and psychopathy have been removed? (Sleep et al., 2017). Such concerns are certainly important, but one may also question what an unpartialed construct reflects when additional variance is not controlled for (i.e., What does Machiavellianism plus narcissism plus psychopathy plus other unmodeled sources mean?). Perhaps these concerns are best alleviated by using normal personality trait models as reference points.

Conclusion

A number of studies have now shown that measures of Machiavellianism do not conform to theoretical description, but instead show greater overlap with psychopathy and in this case also narcissism. The extracted components from measures of Machiavellianism do reflect some Machiavellian content, but both profile similarities and external correlates indicate that psychopathy and narcissism are better representative constructs for the items being measured. This was the case throughout the construct hierarchy. Thus, I argue that measures of Machiavellianism should be used with caution, as there is little to suggest that such measures mainly reflect variance in the construct they are purported to measure. A recently created inventory may improve the measurement of Machiavellianism for the future (Collison, Vize, Miller, & Lynam, 2018), but previously developed inventories are better thought of as reflecting psychopathy, narcissism, or within the framework of a personality trait model.

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