Preprint: To be fooled or not to be fooled: Approach and avoidance facets of
Machiavellianism

Date stamp: August 17, 2021

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Psychological Assessment, in press

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Abstract

The antagonistic personality trait Machiavellianism (Mach) should be characterized by duplicity, proclivity to manipulation, cynical disregard of others, long-term planning, and low aggression. Opposed to theoretical descriptions, recent studies revealed links between Mach and neuroticism, impulsivity, and aggression. The advantages of a multidimensional assessment of Mach are well known but were seldom implemented. Hence, differential effects within Mach have often been neglected. Based on previous research on basic motivational orientations, we derived two facets—Machiavellian approach and Machiavellian avoidance. These facets account for exploitative, strategic striving for resources and for misanthropic, distrustful loss-prevention, respectively. In two studies (total $N = 1,000$, 21% men), we found support for the two-factor structure, for measurement invariance across sexes, and the nomological network of the 8-item Machiavellian Approach and Avoidance Questionnaire (MaaQ). As expected, Machiavellian approach was primarily associated with hope for power, whereas Machiavellian avoidance was linked to affective criteria and aggression. Both approach and avoidance shared links with disagreeableness, dishonesty, and cynicism. Furthermore, they correlated with other Mach scales. The findings explain counterintuitive links with other constructs found in earlier studies and thereby further the understanding of Mach.

Keywords: Machiavellianism, aggression, impulsivity, avoidance, approach

Public Significance Statement

The personality trait Machiavellianism (Mach) is of particular importance in political and managerial contexts. Previous Mach scales faced major problems so far because they revealed links with constructs with which Mach should have nothing to do. To delineate specific content and explain previous findings, we endorsed a new conceptualization of Mach that is more consistent with the underlying theory.

To be Fooled or not to be Fooled: Approach and Avoidance Facets of Machiavellianism

Machiavellianism (Mach) entails amorality, duplicity, cynicism, long-term orientation, callous interpersonal orientation, and a preference for egotistic manipulation of others. Due to the trait's strategic, interpersonal consequences, Mach is of particular interest in political, occupational, scholastic, and other interpersonal domains (e.g., Andreou, 2004; Christie & Geis, 1970; Dahling et al., 2009; Fehr et al., 1992; Jones & Paulhus, 2009; Sutton & Keogh, 2001). It is relevant to note that Mach is a continuous rather than a categorical trait (Beller & Bosse, 2017). Along with narcissism, psychopathy, and sadism, Mach constitutes the *Dark Tetrad* (Paulhus et al., 2021). Those are overlapping, but still distinct traits. For instance, from a theoretical point of view, Mach should be characterized by the avoidance of violence and high impulse control, whereas psychopathy is positively related to aggression and impulsivity (Paulhus et al., 2018; Paulhus & Williams, 2002). However, recent research has found considerable and consistent relations between Mach and both aggression and impulsivity (Vize et al., 2018). Some scholars concluded that psychopathy and Mach are inseparable or even identical (e.g., McHoskey et al., 1998; J. D. Miller et al., 2017; Vize et al., 2018), or treated Mach as a mild form of psychopathy (Andrew et al., 2008). Seemingly, the observed similarities between Mach and psychopathy depend on the used measurement instruments. For instance, the *Mach IV* (Christie & Geis, 1970), the standard measure of Mach, is said to assess features that refer to psychopathy rather than to Mach so that meta-analytically observed correlations of about .50 to .60 are unsurprising (Dahling et al., 2009; Kufner et al., 2014; J. D. Miller et al., 2017; Vize et al., 2018). Recent research has sought to reduce the overlap between Mach and psychopathy by focusing on the most characteristic contents of both constructs and by eliminating ambiguous item content that might indicate both Mach and psychopathy (e.g., Paulhus et al., 2021). Thus, new Mach scales should correlate only with attributes that psychopathy and Mach theoretically have in common, such as egotism and

disagreeableness (Paulhus & Williams, 2002; Rauthmann & Will, 2011). Nevertheless, recent research could barely eliminate or explain the unintended overlap between Mach and psychopathy.

Besides overlaps of Mach with psychopathy, Mach's relations with affect-related traits remain unclear. Unlike some scholars who mentioned emotional stability and low emotional involvement as being part of Mach (Christie & Geis, 1970; Collison et al., 2018; Fehr et al., 1992), Dahling et al. (2009) pointed out emotional lability as a relevant aspect of Mach and attributed this to high skepticism and distrust of others. In the same vein, other scholars reported links with anxiety, vulnerability, neuroticism, and depression (Belschak et al., 2018; Bianchi & Mirkovic, 2020; Monaghan et al., 2018, 2020).

The present research aims to solve structural and validity-related problems of Mach by emphasizing different motivational backgrounds and to present a measure that rests on this new conceptualization. In two studies (total $N = 1,000$), we tested a two-dimensional, motivational model of Mach and examined the correlational profiles of its facets as well as the psychometric properties of the new measure.

Unresolved Structure of Machiavellianism

Many researchers have been interested in the structure of Mach and derived multiple dimensions: Christie and Geis (1970) derived the original structure of the Mach IV (tactics, views, morality) from ex post facto analyses but this structure could seldom be replicated (cf. Monaghan et al., 2018). Rauthmann (2013) classified the items of the Mach IV into *Manipulation Tactics*, *Cynicism*, *Suspiciousness*, *Misanthropy*, *Pragmatism*, *Rule-Bending*, *Immorality*, *Agency-Striving*, and *Duplicity/Dishonesty*. Andrew et al.'s (2008) exploratory factor analyses (EFA) of the Mach IV yielded the factors *Cynical View of Human Nature*, *Positive View of Human Nature*, *Positive Interpersonal Tactics*, and *Negative Interpersonal Tactics* ("positive" dimensions contained only reverse-scored items). EFAs of the children

version of the Mach IV yielded the factors *Lack of Faith in Human Nature*, *Dishonesty*, *Distrust*, and *Manipulation* (Andreou, 2004; Sutton & Keogh, 2001). B. K. Miller et al. (2019) reviewed the multitude of factor solutions found for the Mach IV—underlining the instrument’s unclear structure (see also Dahling et al., 2009; Paulhus & Jones, 2015).

Probably because of the unclear structure of the Mach IV, multiple studies relied on overall Mach scores instead of considering relevant subscales. However, for accurate predictions, a multidimensional assessment of Mach is strongly recommended and more appropriate than a unidimensional perspective (e.g., Monaghan et al., 2018, 2020). For example, Dahling et al.’s (2009) *Machiavellian Personality Scale* (MPS) entails *Distrust of Others*, *Desire for Status*, *Desire for Control*, and *Amoral Manipulation*. These dimensions revealed differential relations with variables relevant in occupational contexts.

To provide a classification system of Mach, Rauthmann and Will (2011) presented a cluster of *Emotion*, *Behavior*, *Cognition*, and *Desire*, each subdivided into further facets. To integrate theory and empirical research and to explain counterintuitive findings, we introduce a motivationally founded model of Mach. Following Rauthmann and Will (2011), we seek to elaborate on how desires translate into emotions, behaviors, and cognitions.

Approach and Avoidance as Basal Human Motives

Approach and *Avoidance* are the highest-order levels of motivation (Elliot & Thrash, 2010). Approach motivation deals with the induction of desired, but currently absent states and the maintenance of desired, currently present states. Avoidance motivation comprises the prevention of undesired, currently absent states, and escaping present, undesired ones.

Approach is thus associated with positive valence (extraversion, satisfaction, reward, goal achievement), whereas avoidance is linked to negative valence (concerns of security, neuroticism, negative attitudes; Elliot & Thrash, 2010; Gable, 2006). In general, approach and avoidance have distinct instead of opposing functions (Gable, 2006). Włodarska et al. (2019)

meta-analytically investigated how Mach as a global construct relates to avoidance and approach motives. They concluded that Mach comprises approach but not avoidance behaviors. Since the analysis involved only five records and most of those applied a unidimensional concept of Mach, the study could not test the authors' consideration of whether a multidimensional measure accounts for distinct effects within the construct.

Combining the roles of motives in cognitive, behavioral, and affective domains (Elliot & Thrash, 2010; Elliott & Dweck, 1988) with Mach's both goal-oriented and harm-avoiding tendencies (Belschak et al., 2018; Dahling et al., 2009), a motivational foundation of Mach appears promising. Thus, we propose that the contents and facets of Mach introduced in previous research can ultimately be subsumed under two broad motivational orientations. Thereby, our two-dimensional conceptualization should harmonize recent conceptualizations of Mach and explain counterintuitive overlaps with other constructs such as psychopathy, aggression, impulsivity, and neuroticism. Consistent with this, and to support the convergent validity, we expected our new scales to correlate positively with other Mach scales (H1).

Differential Manifestations of Machiavellian Approach and Avoidance Facets

Search for Power

Because approach motivation is characterized by the facilitation and maintenance of individually positively valued states, we suggest that the inherent drives of approach motives correspond to Machiavellian egotistic goal achievement and aspects promoting the attainment of goals. Hence, *Machiavellian Approach* encompasses the preference toward manipulation, interpersonal tactics, a long-term or control perspective, and the will to gain resources at any cost. Machiavellian approach should thus account for those strategic, deliberate, and reasoned aspects that previous research aimed to find (e.g., egotism, manipulation, self-control, avoidance of violence). Accordingly, we expected a positive correlation between Machiavellian approach and hope for power (H2). To support our separation and to draw

upon the distinct goals of approach and avoidance motives, hope for power should correlate more strongly with Machiavellian approach than *Machiavellian Avoidance* (H3).

Hypervigilance to Threat

To account for the prevention of undesired states, the negative valence that is associated with avoidance motives (Elliot & Thrash, 2010), and the skeptical nature of Mach (Spain et al., 2016), we suggest that the inherent drives of avoidance motives correspond to the protection of one's (in-)tangible goods by negative views of others' intentions. In line with Dahling et al.'s (2009) considerations on the role of distrust for low emotional stability in Mach (see also Bianchi & Mirkovic, 2020), we further suggest low emotional resilience in Machiavellian avoidance. We conceptualized Machiavellian avoidance by distrust, self-protection, and negative views on human nature. Hence, we expected previously observed links with different phenomena of individual vulnerability (e.g., anxiety, depression, or neuroticism) to be due to Machiavellian avoidance and hypothesized Machiavellian avoidance to yield positive correlations with neuroticism, mistrust, and fear of loss (H4-H6). Likewise, avoidance should yield stronger links with these constructs than approach (H7-H9).

Impulsivity and Aggression

In line with an inverse relationship between emotional stability and self-control (Al-Dajani et al., 2015; Maltais et al., 2019), we argue that previously observed positive correlations between Mach and impulsivity are due to Machiavellian avoidance. We propose that Machiavellian avoidance triggers emotionally laden short-term reactions to prevent a loss of control or resources. As deliberate planning (i.e., Machiavellian approach) contradicts non-reflected short-term behavior, Machiavellian avoidance should yield a stronger relation with impulsivity than approach (H10). Following Mach's strategic goal-orientation (Paulhus et al., 2018), which we expected to be due to Machiavellian approach, individuals high in approach should further be less prone to aggression than those high in avoidance. We expected that

avoidance correlates more strongly with physical aggression than does approach (H11).

Distinct Relations with Psychopathy

To explain the relationships of Machiavellian approach and avoidance with psychopathy, we refer to the separation of psychopathy into *Factor 1* and *Factor 2* (F1P and F2P, respectively). F1P accounts for charming, deceptive, and self-promotional behavior (Skeem et al., 2011). Due to F1P's rather goal-oriented, but parasitic nature, we expected that F1P reveals a positive link with Machiavellian approach (H12) and that F1P correlates more strongly with Machiavellian approach than with Machiavellian avoidance (H13). F2P accounts for aggression, short-term orientation, affective lability, and low impulsive control (Skeem et al., 2011), and thus corresponds to our expectations on Machiavellian avoidance. Accordingly, we expected a positive correlation between Machiavellian avoidance and F2P (H14) and that F2P correlates more strongly with Machiavellian avoidance as compared to Machiavellian approach (H15).

Combining Elements of Machiavellian Approach and Avoidance Motives

Cynical worldviews, cheating, and low agreeableness are central characteristics of Mach (Christie & Geis, 1970; Jones & Paulhus, 2009). Both cynicism and disagreeableness refer to pragmatic, exploitative, pessimistic views of human nature, and an attitude that “the end justifies the means” (Paulhus & Williams, 2002; Stavrova & Ehlebracht, 2019). As these constructs reveal parallels with both Machiavellian approach and avoidance, we expected that both Machiavellian approach and avoidance correlate negatively with agreeableness (H16) and positively with cynicism (H17). Since dishonesty facilitates both the attainment of goals and the prevention of loss (i.e., “fool them before they fool you”), we expected inverse relations between *Honesty-Humility* (HH) and both approach and avoidance (H18).

Research Overview

To test the separation of Mach into approach and avoidance facets, we conducted two

online studies. In Study 1, we tested a new measure in which we arranged avoiding and approaching components. In Study 2, we sought to confirm the factor structure found in Study 1 and to examine the correlational profiles of Machiavellian approach and avoidance. This study received approval from the institutional review board of the TU Dortmund University. This research was preregistered. The OSF directory of this study provides R codes and data for both studies (<https://osf.io/bryz3>).

Study 1: Item Acquisition, Structure, and Reliability

Method

Participants

Our rationale for the recruitment of participants was based on the requirements of our statistical procedures. To address the expected violation of the normal distribution, for the confirmatory factor analyses (CFAs), we used the maximum likelihood estimation with robust standard errors (MLR) from the R package *lavaan* (version 0.6-7; Rosseel, 2012). Following Li's (2016) recommendations concerning sample sizes for latent models with MLR, we aimed to recruit 500 participants. Given $N = 500$, sensitivity analyses ($\alpha = .05$, $1 - \beta = .80$) revealed smallest detectable r s of $\pm .12$ (two-tailed; Champely et al., 2020). Because we expected an undetermined number of cases with early termination and failed integrity checks (e.g., "Please choose 'neither agree nor disagree'"; "Did you respond to the study consciously and honestly?"), we collected data from 684 participants. For example, 101 participants quit the study before the first attention check (participants should have processed about ten items when they arrived at this question). We had complete data for 563 participants and excluded those who were younger than 18 years ($n = 2$) or who failed at least one of the attention checks ($n = 61$). From the final sample, 396 participants were female (79%), 102 were male (20%), and two were diverse ($< 1\%$). The mean age was 26.74 years ($SD_{\text{age}} = 9.01$). Recruitment took place on SurveyCircle, social media groups, and universities. Thus, the

majority of the participants were university students.

Measures

To create the item pool for the Machiavellian approach and avoidance facets, we screened existing Mach scales. Those were German translations of the Mach IV (as used in Grosz et al., 2020), the Mach scale from the German *Short Dark Tetrad Scale* (SD4; Blötnner et al., 2021), and the Mach scale from the German *Dirty Dozen Scale* (Küfner et al., 2014). Further, we screened and translated Collison et al.'s (2018) *Five-Factor Machiavellianism Inventory* (FFMI) and Dahling et al.'s (2009) MPS. Recent research pointed out that reversed-keyed Mach items constitute an artifactual “anti-Mach factor” rather than loading onto the intended Mach factor (Andrew et al., 2008; Fehr et al., 1992). As we were interested in the Mach pole of the continuum (rather than the non-Mach pole), to provide an easy-to-use scale that does not require latent modeling (i.e., residual covariances or bifactor models), and to simplify the assessment when calculating manifest models, we considered only positive-keyed Mach items. Two persons independently assigned the items to either *approach*, *avoidance*, *ambiguous*, or *not applicable*. Interrater agreements of the first classifications were Cohen's $\kappa = .56$ (agreement on all four categories) and Cohen's $\kappa = .66$ (agreement on approach and avoidance). The raters discussed differences and reached a consensus. As a result, we had 31 approach items and nine avoidance items. We further developed 11 additional avoidance items. All items were answered on a five-point Likert scale (1 = *strongly disagree*, 2 = *disagree*, 3 = *neither agree nor disagree*, 4 = *agree*, 5 = *strongly agree*).

Analytical Procedure

Item Selection and Confirmatory Factor Analyses

We aimed to have a maximum of ten items in each of the final scales. To reduce the item pool, in the first step, we excluded three avoidance and 15 approach items with range and variance restrictions as well as unfavorable distribution properties (i.e., $M << 2.00$ or $>>$

4.00, $SD << 1.00$, skewness or kurtosis $>> |1.00|$; Schmider et al., 2010). In a subsequent EFA with two factors and promax rotation, we excluded six approach and five avoidance items as they revealed double loadings or only small loadings onto their target factors ($\lambda_s < .30$). We carried out the analyses with the R package *psych* (version 2.0.12; Revelle, 2020). To select the final, most appropriate items for each dimension, we conducted isolated CFAs for the Machiavellian approach and avoidance facets (MLR estimator) and excluded redundant items and those items with misleading wording (removal of seven avoidance items and four approach items). Finally, we combined the remaining approach and avoidance items and tested the two-factor model of the resulting *Machiavellian Approach and Avoidance Questionnaire* (MaaQ).

To ensure the superiority of our two-factor model over the commonly applied computation of an overall Mach score, we tested if our two-factor model revealed a more favorable fit than a single Mach factor. In line with Hu and Bentler (1999), we concluded good fit properties for *CFIs* around .95 or higher, *RMSEAs* smaller than .06, and *SRMRs* smaller than .08. To address the oversensitivity of the χ^2 -test and its tendency to reject models quite liberally (e.g., Chen, 2007), we did not consider it for model evaluations. To evaluate the superiority of the two-factor model over a single-factor model, we evaluated the stated fit measures and compared the *Akaike's* and *Bayesian Information Criteria* (*AICs* and *BICs*, respectively) among the models.

Measurement Invariance

We used the R package *semTools* (MLR estimator, version 0.5-4; Jorgensen et al., 2021) to test for measurement invariance across sexes. To apply the instrument in research and practice, certain levels of invariance should be ensured (e.g., Putnick & Bornstein, 2016). Configural invariance (i.e., invariance of the structure of free and fixed loadings) allows comparisons of the loading patterns. Metric invariance (i.e., invariance of factor loadings)

allows meaningful comparisons of relations between variables. Scalar invariance (i.e., invariance of indicator intercepts) allows comparisons of latent means. Configural, metric, and scalar invariance are therefore the required minimum invariance levels for most diagnostic purposes. Residual invariance would be a desirable add-on because it allows comparisons of manifest means, which might be of interest if latent modeling is not possible. Therefore, we tested for configural, metric, and scalar invariance, and explored residual invariance. To evaluate whether each level of invariance held, we used the cutoffs proposed by Chen (2007; $\Delta CFI \leq .010$, $\Delta RMSEA \geq .015$, $\Delta SRMR \geq .030$ for metric invariance, and $\Delta SRMR \geq .010$ for scalar and residual invariance). The $\Delta\chi^2$ test is overly sensitive to negligible deviations from an adequate fit (Chen, 2007), but—for the sake of completeness—we reported $\Delta\chi^2$ - and p -values (corrected according to Satorra & Bentler, 2001).

Results

After the exclusion of redundant or inappropriate items (see above), four items each measured avoidance and approach (see Table 1), both Cronbach's α s = .78, $r = .32$, $p < .001$. Both latent models revealed very good fit, χ^2 s(2) ≤ 4.01 , $ps \geq .14$, $CFIs = 1.00$, $RMSEAs \leq .05$, $SRMRs = .01$. The composite two-factor model yielded very good fit, too. Furthermore, it represented the data more adequately than the single-factor Mach model did, $\chi^2 = 33.76$ vs. 551.14, $df = 19$ vs. 20, both $ps \leq .02$, $CFI = .99$ vs. .66, $RMSEA = .04$ vs. .20, $SRMR = .04$ vs. .12, $AIC = 10,717$ vs. 11,083, $BIC = 10,822$ vs. 11,185.

Measurement Invariance across Sexes

Table 2 presents the results of the tests of measurement invariance. The changes of the $RMSEA$ and the $SRMR$ underpinned the assumption of residual invariance of the MaaQ, whereas the change of the CFI ($\Delta CFI = -.012$) was marginally higher than the proposed value (cutoff = -.01), indicating residual non-invariance.

Discussion Study 1

The first study focused on the conceptualization of a motivational model of the personality trait Machiavellianism. On the background of apparently conflicting findings, we distinguished between resource-approaching and loss-avoiding Mach facets and arranged previously existing items to the domains Machiavellian approach and avoidance. Sutton and Keogh (2001) recommended a separation of Mach into manipulative and anxious styles. Those styles are similar to what we call Machiavellian approach and avoidance, respectively and our first study supports this separation. The MaaQ has good structural and psychometric properties while being parsimonious concerning the scales' lengths. Multiple studies assumed one-dimensionality in Mach and thus neglected the construct's manifold, partly opposing consequences. However, the superiority of a differentiated assessment of Mach over a single-factor model is well known but seldom applied (e.g., Dahling et al., 2009; Monaghan et al., 2018, 2020). To account for the multitude of outcomes, and following Rauthmann and Will's (2011) synthesis of affective, behavioral, cognitive, and desire-related aspects of Mach, our model is meant to explain the translation of desires (approach and avoidance) into emotional (affect), interpersonal (behavior), and mental processes (cognition). We addressed the concrete translation in more detail in Study 2 when we tested the nomological network.

Besides its theoretical strengths, the present study had some limitations. For instance, our sample predominantly contained women. This may have also affected the tests of measurement invariance: Chen's cutoffs for fit measures should be used with caution especially in case of unequal group ratios, as the utility of the cutoffs' utility might be limited for strongly imbalanced group partitioning (Chen, 2007). However, our findings speak in favor of scalar invariance, enabling the comparison of latent means between the sexes (Putnick & Bornstein, 2016). Accordingly, we regarded our findings as preliminary support for the scalar invariance of the MaaQ across sexes. Another methodological limitation refers

to factor analyses' proneness to both overfitting and sample dependence. Therefore, the findings require replication in a new sample. Additionally, the construct validation is still pending. To address these points, we conducted Study 2 in which we replicated the factor structure and tested the nomological network.

Study 2: Construct Validation and Correlation Differences

Besides the replication of the findings from Study 1, Study 2 provided the construct validation. Table 3 summarizes our hypotheses.

Method

Participants

We aimed to recruit 500 participants because this threshold is beneficial for both the MLR estimator (Li, 2016) and construct validation (Schönbrodt & Perugini, 2013). Again, the smallest detectable effect size, given the actual power, was $r = \pm .12$ (Champely et al., 2020). We collected data from 663 participants and excluded those who quit the study early as well as those who did not pass the integrity checks (see Study 1). Participants from Study 1 were not eligible for Study 2. After excluding those who did not finish the study, we had 552 participants with complete data, of which 52 failed one or more of the attention checks. The final sample comprised 393 women (79 %) and 107 men. The mean age was 27.60 years ($SD = 8.40$). We used the same recruitment strategies as we did in Study 1.

Measures

Machiavellianism

We measured Mach with the MaaQ (see Study 1), our German translation of the *Two-Dimensional Machiavellianism Scale* (TDMS; Monaghan et al., 2020), and the seven-item Mach scale from the German SD4 (Blötner et al., 2021). The TDMS assesses *Machiavellian Views* and *Machiavellian Tactics* with six items each. The SD4 Mach scale has no subscales. All scales used a five-point Likert scale (1 = *strongly disagree*, 2 = *disagree*, 3 = *neither*

agree nor disagree, 4 = agree, 5 = strongly agree).

Psychopathy

We assessed psychopathy with a German translation of the *Self Report Psychopathy Scale-III-Short Form* (SRP) as used in Blötner et al. (2021; original Gordts et al., 2015). It assesses *Interpersonal Manipulation and Callous Affect* (F1P), *Erratic Lifestyle*, and *Criminal Tendencies* (F2P) with seven items each (1 = *disagree strongly* to 5 = *agree strongly*).

Broad Personality Traits

Neuroticism and agreeableness were measured with the respective 12-item subscales from Danner et al.'s (2016) German *Big Five Inventory-2* (1 = *disagree at all*, 2 = *rather disagree*, 3 = *in part*, 4 = *rather agree*, 5 = *fully agree*). To measure HH, we used the 10-item *Honesty-Humility* subscale from Moshagen et al.'s (2014) German version of the *HEXACO-60* (1 = *completely disagree* to 5 = *completely agree*).

Impulsivity

For the assessment of impulsivity, we used Kovaleva et al.'s (2014) German *Impulsive Behavior-8*. Two items each assess *Intention* (i.e., thinking before acting), *Perseverance* (i.e., patience in the completion of tasks; both reverse-keyed), *Urgency* (i.e., low foresight), and *Risk Appetite* (i.e., searching for danger; 1 = *does not apply at all* to 5 = *applies perfectly*). We considered the total score of all scales as well as the individual subscales' scores.

Physical Aggression and Mistrust

To measure physical aggression and mistrust, we used the respective three-item subscales from Werner and von Collani's (2014) *German Aggression Scale* (1 = *not applicable* to 4 = *fully applicable*).

Fear of Loss and Hope for Power

We used the respective three-item subscales from the German *Unified Motives Scale* (Schönbrodt & Gerstenberg, 2012) to assess fear of loss and hope for power. The items refer

to agreement on statements or the importance of particular goals (0 = *strongly disagree / not important to me*, 1 = *disagree / of little importance to me*, 2 = *rather disagree / of some importance to me*, 3 = *rather agree / important to me*, 4 = *agree / very important to me*, 5 = *strongly agree / extremely important to me*).

Cynicism

We measured cynicism with a self-translated version of Leung and Bond's (2004) 18-item *Social Cynicism Scale* (1 = *strongly believe*, 2 = *believe*, 3 = *no opinion*, 4 = *disbelieve*, 5 = *strongly disbelieve*). The items were keyed positively but we reversed the anchors.

Analytical Procedure

Confirmatory Factor Analysis and Measurement Invariance across Sexes

We replicated the CFAs and the measurement invariance tests across sexes from Study 1, using the new sample. Hence, all model specifications and procedures were identical.

Construct Validation

To provide the construct validation, we computed product-moment correlations between the mean scores of approach and avoidance and the mean scores of the criteria. To test the hypothesized differential effects of Machiavellian approach and avoidance, we carried out one-tailed correlation difference tests for dependent correlations, using Blötner's (2021) R package *diffcor* (version 0.6.4). To compare the correlations of Machiavellian approach and avoidance with cynicism, agreeableness, HH, and other Mach scales, we computed two-tailed difference tests because we did not make hypotheses on differential associations for those.

Profile Similarities between Machiavellianism and Psychopathy Scales

As an exploratory, non-preregistered analysis, we quantified the agreements of the empirically observed nomological networks among the utilized Mach and psychopathy scales (*profile similarities*). Therefore, we computed double-entry intraclass correlations (ICC_{DE}) between the observed correlations of the Mach and psychopathy scales and the traits of the

nomological networks (excluding the intercorrelations between the respectively compared scales). To this end, we used the R package *iccd* (version 0.3.2; Blötner & Grosz, 2021).

Incremental Validity Over and Above Other Mach Scales

In another non-preregistered analysis, we explored whether approach and avoidance augment other Mach scales in their predictions of theoretically relevant constructs (i.e., agreeableness, cynicism, HH; see hypotheses H16-H18). Therefore, we computed hierarchical regression analyses. First, we regressed the criteria on SD4-Mach and the TDMS (Step 1). Then, we added approach and avoidance (Step 2) and tested whether these accounted for an additional proportion of variance.

Results

Confirmatory Factor Analysis

The isolated latent models for Machiavellian avoidance and approach yielded very good fit, $\chi^2(2) \leq 2.72$, $ps \geq .26$, $CFIs = 1.00$, $RMSEAs \leq .03$, $SRMRs = .01$. The common two-factor model also revealed good fit and fit the data better than the single-factor model, $\chi^2 = 44.12$ vs. 311.20 , $df = 19$ vs. 20 , $ps < .001$, $CFI = .97$ vs. $.69$, $RMSEA = .06$ vs. $.17$, $SRMR = .05$ vs. $.11$, $AIC = 10,609$ vs. $10,870$, $BIC = 10,715$ vs. $10,972$.

Measurement Invariance across Sexes

Table 2 presents the results of the tests of measurement invariance. The changes of the $RMSEAs$ and $SRMRs$ indicated residual invariance across sexes, whereas the observed change of the CFI indicated residual non-invariance, $\Delta CFI = .021$.

Construct Validation and Profile Similarities

Table 4 provides the correlation matrix, estimations of reliability, and profile similarities among facets of Mach and psychopathy. As opposed to Machiavellian approach ($rs \leq .07$, $ps \geq .12$), Machiavellian avoidance revealed positive correlations with neuroticism, mistrust, and fear of loss, $rs \geq .27$. All these correlation differences were significant, $zs \leq -$

5.34. On the other hand, Machiavellian approach ($r = .68$) yielded a larger correlation with hope for power than did Machiavellian avoidance ($r = .13$, $p = .003$), $z = 12.72$. Both Machiavellian approach and avoidance revealed positive correlations with cynicism ($rs = .35$ and $.57$), as well as negative ones with both agreeableness and HH, $rs \leq -.30$. The correlations of Machiavellian approach and avoidance with overall impulsivity did not differ ($r = .12$, $p = .01$, and $r = .06$, $p = .20$, $z = 1.27$, $p = .10$). Lack of perseverance ($r = .02$, $p = .61$, and $r = .11$, $p = .01$, respectively, $z = -1.75$, $p = .04$) and risk appetite ($r = .12$, $p = .01$, and $r = -.09$, $p = .06$, $z = 3.93$) yielded distinct correlations with approach and avoidance, respectively. Both Machiavellian approach and avoidance yielded positive correlations with F1P and F2P, all $rs \geq .27$. However, the correlations did not differ for F1P ($z = -0.41$, $p = .34$), whereas approach was stronger related to F2P than was avoidance, $z = 2.97$, $p = .001$. Both approach ($r = .13$, $p = .003$) and avoidance ($r = .25$) were positively related to physical aggression, whereas avoidance yielded a larger correlation, $z = -2.23$, $p = .01$. Both Machiavellian approach and avoidance showed positive relations with other Mach scales ($rs \geq .30$), but approach was stronger related to TDMS-tactics ($z = 2.96$, $p = .003$) and avoidance was stronger related to TDMS-views, $z = -10.82$, all $ps < .001$, if not stated otherwise. As can be seen in Table 4, the agreements of the nomological networks of the Mach scales (ICC_{DES}) were high to very high.

Incremental Validity

Table 5 provides the results from the hierarchical regression analyses. In the first step, 38 to 42% of the variances of agreeableness, cynicism, and HH were attributable to tactics, views, and SD4-Mach. Machiavellian approach and avoidance augmented those by 3, 3, and 2%, respectively (Step 2). Both approach and avoidance uniquely predicted decreased agreeableness ($\beta s \leq -.12$) and avoidance uniquely predicted increased cynicism ($\beta s = .22$). Approach predicted less HH ($\beta = -.15$, all $ps < .001$, if not stated otherwise), whereas avoidance was unrelated to it ($\beta = -.03$, $p = .57$).

Discussion Study 2 and General Discussion

Our second study aimed to replicate the latent properties found in Study 1 and to provide the construct validation. We expected cynicism, agreeableness, and HH to be the connecting elements of Machiavellian approach and avoidance. At the same time, we hypothesized distinctive correlations with neuroticism, mistrust, fear of loss, impulsivity, F2P, physical aggression (larger correlations with Machiavellian avoidance), hope for power, and F1P (larger correlations with Machiavellian approach). To ensure convergent validity, we inspected the correlations between our dimensions and other Mach scales. Table 3 provides an overview of the hypotheses and whether they were confirmed or rejected.

Our first goal was to rule out that the findings from Study 1 were only due to overfitting of the statistical methods to the specific sample. Our second study confirmed the two-factor structure, its superiority over a single-factor model, and at least scalar measurement invariance across sexes. Whereas the intended latent models (isolated models of both approach and avoidance; combined model of approach and avoidance) uniformly revealed very good fit properties, the single-factor Mach structure was unacceptable. Given the opposing conclusions implied by the changes of the *RMSEA* and the *SRMR* on one hand (militating for residual invariance) and the *CFI* on the other (militating against residual invariance), we could at least ensure the scalar measurement invariance of the MaaQ. Hence, it is appropriate to compare latent means between the sexes (Putnick & Bornstein, 2016).

As expected, approach and avoidance yielded negative correlations with agreeableness and HH as well as positive correlations with cynicism. These findings underline associations with central characteristics of Mach (Christie & Geis, 1970; Paulhus & Williams, 2002). The stated criteria facilitate both antagonistic goal achievement and misanthropic harm avoidance and thus corroborate our considerations on distinct, but not necessarily opposing effects of Mach. Negative correlations of approach and avoidance with agreeableness and HH are

further in line with recent positions mentioning these constructs as higher-order traits of all antagonistic traits (Book et al., 2016; Paulhus & Williams, 2002). Supporting the convergent validity, both approach and avoidance showed positive correlations with other Mach scales. The TDMS (Monaghan et al., 2020) and the MaaQ appear to be quite similar but are still distinguishable: From a theoretical perspective, TDMS-tactics and MaaQ-approach, as well as TDMS-views and MaaQ-avoidance, seem to correspond, respectively. As can be seen in Table 4, the nomological networks of views and avoidance are virtually identical, but there were differences between tactics and approach. The tactics facet embodies moral flexibility and favoring exploitation or deception, whereas approach reflects manipulateness and the search for power and control (see also Table 1 for the items). We assume that the emphasis on control in approach accounts for a smaller correlation of a lack of perseverance (i.e., low self-control) with approach as compared to tactics. In general, the conceptual differences between tactics and approach account for a relatively small intercorrelation and slight differences in their nomological networks (profile similarity, see Table 4): Besides self-control, approach correlates more strongly with hope for power and less strongly with neuroticism and mistrust. However, Mach scales originating from the Mach IV (e.g., TDMS) reveal higher correlations among each other as compared to Mach scales that were developed independently, which applies to the MaaQ (Kavish et al., 2019). Consistent with this, Hart et al. (2020) detected predominantly small correlations between the facets of the FFMI (Collison et al., 2018) and those of the TDMS (Monaghan et al., 2020), indicating a general anisomorphy among Mach scales (see also Monteiro et al., 2020). As opposed to both the MaaQ and the TDMS, the SD4-Mach scale does not provide a multidimensional structure. It assesses acquisitive and protective contents in a single factor and thus yields only modest correlations with other Mach scales and subscales. Correspondingly, approach and avoidance augmented the prediction of selected criteria beyond the TDMS and the SD4-Mach scale (see Table 5). Given that all

employed Mach scales measure the same construct, relatively small increments are not surprising. As we used only a small number of Mach scales out of a multitude of candidates, future research could test the incremental validity of the MaaQ beyond a battery of both unidimensional (e.g., DD, SD4) and multidimensional Mach scales (e.g., MPS, FFMI, TDMS), and thereby test a larger range of criteria.

As expected, Machiavellian avoidance yielded higher correlations with neuroticism, mistrust, and fear of loss than Machiavellian approach did. Besides, approach was unrelated to all of these domains. Meta-analyses did not consider the multidimensionality of Mach and found certain heterogeneity of the links between Mach and neuroticism and related constructs. This heterogeneity was unaccounted for by selected moderators (e.g., Vize et al., 2018). The current study's findings thus underpin differential relations of emotionally laden criteria within Mach (e.g., Bianchi & Mirkovic, 2020; Monaghan et al., 2018, 2020) and converge with Monaghan et al.'s (2020) conceptualization of Machiavellian views as well as Dahling et al.'s (2009) distrust facet. However, they contradict the concept of *Invulnerability* from Collison et al.'s (2018) FFMI. On the other hand, Machiavellian approach revealed a stronger relation with hope for power than avoidance did. This is consistent with the goal- or resource-orientation of Mach in general (Christie & Geis, 1970) and with findings on other acquisitive Mach scales in particular, such as Dahling et al.'s facets desire for status and desire for control, as well as Collison et al.'s facets *Achievement*, *Assertiveness*, and *Self-Confidence*, for example. In line with Włodarska et al.'s (2019) reasoning, our findings thus demonstrate that assessing Mach as a multidimensional trait yields both approaching *and* avoiding facets.

We found mixed support for our hypotheses regarding impulsivity. Approach and avoidance did not differ in their strengths of associations with overall impulsivity, urgency, and lack of intention. Lack of perseverance was stronger related to avoidance, whereas risk appetite was stronger related to approach. From a theoretical point, the major difference

between Mach and psychopathy among the facets of impulsivity should be differential self-control and planning abilities (Kiire et al., 2020). Hence, the differential correlations of Machiavellian approach and avoidance with lack of perseverance supported our expectations and the difference became even more salient when we corrected for low reliability (see R script on OSF). On the other hand, Machiavellian approach and avoidance yielded comparable correlations with urgency. Urgency reflects low foresight and thus, speaks against our reasoning on distinct relations of approach and avoidance. However, F2P (i.e., high impulsivity and low self-control) revealed a much stronger relation to urgency than did approach and avoidance—relativizing the unexpected findings on urgency. Last, the correlations of Machiavellian avoidance with urgency and lack of perseverance supported our expectations and are in line with Frick (1998) who linked anxiety to disinhibition. Note that except for the correlations with urgency, all effect sizes were only of small height (Gignac & Szodorai, 2016). In favor of our new scales, the correlations between the MaaQ dimensions and impulsivity were furthermore smaller than previously observed correlations for the Mach IV or other Mach scales (e.g., Muris et al., 2017; Vize et al., 2018). Monaghan et al. (2020) detected similar relations between their TDMS scales and overall impulsivity, whereas, in the present study, approach and avoidance warranted a slightly clearer differentiation concerning impulsivity than tactics and views did. As stated above, there are certain differences between the conceptualizations of approach and tactics, which may have caused different links with impulsivity. However, referring to the impulsivity scales applied in our study, the item content may have been relatively scarce (only two items per dimension). J. D. Miller et al. (2017) have noted that the self-report assessment of high impulsivity/low conscientiousness is strongly confounded with disagreeableness, pointing out the limited validity of scores of questionnaire impulsivity scales. To elaborate on the relations between Mach and impulsivity, behavioral data should be more informative as behavioral and self-report data on impulsivity

do not necessarily converge (e.g., Kowalski et al., 2019; Malesza & Ostaszewski, 2016).

As expected, Machiavellian avoidance yielded a higher correlation with physical aggression than Machiavellian approach did. In line with this, Muris et al. (2013) established a proclivity of emotional lability for aggression and delinquency—emphasizing the role of vulnerability for “Mach-untypical” behavior. However, individuals with high scores in Mach do not appear to have a disposition toward violence per se. If necessary to achieve certain goals, obvious or subtle forms of aggression might occur—as long as the aggressive behavior does not impair the attainment of other goals (Paulhus et al., 2018). Hence, Jones (2017) posited Mach as a survival strategy involving the gain of (non-)tangible resources and the will to protect these. Consistent with this idea and with our findings on physical aggression, Collison et al. (2018) detected small to moderate correlations between the facets of the FFMI on one hand and violent/aggressive behaviors on the other.

Contradicting our hypotheses, our findings suggested no difference for F1P, and that approach was stronger related to F2P than was avoidance. However, the SRP is as confounded with Mach just as the Mach IV is confounded with psychopathy (Küfner et al., 2014; J. D. Miller et al., 2017). Therefore, and given that both Mach and psychopathy tap antagonistic tendencies using self-report, high correlations between the MaaQ and the SRP are unsurprising. As there are other conceptualizations of psychopathy, subsequent research could test whether the MaaQ yields smaller overlaps with psychopathy scales different from Factors 1 and 2. Monaghan et al. (2020) detected correlations between their TDMS facets and different psychopathy scales, of which some links were comparable to our findings and some links were even stronger. Addressing a potential common method bias, Kavish et al. (2019) reported only small to moderate correlations between the facets of different self-report Mach scales and interviewer-rated scores on the *Psychopathy Checklist*. Hence, the current findings also refer to the ongoing debate on the equality vs. separability of Mach and psychopathy

(e.g., Vize et al., 2018), but—given the recently disregarded multidimensionality—provided an opportunity to present them as separate traits. As compared to F1P, F2P (Table 4), and earlier Mach scales (Muris et al., 2017), our approach and avoidance facets yielded much smaller correlations with aggression and impulsivity. Likewise, the nomological networks of F1P and F2P yielded more similarities with other Mach scales than with our approach and avoidance scales (see lower panel in Table 4). Consistent with this, Machiavellian approach and avoidance differed from psychopathy concerning their empirical links with those criteria that are meant to separate them. Nevertheless, future research should further confirm the nuances of Mach and psychopathy using other psychopathy scales and behavioral measures of aggression and impulsivity.

Conclusion, Limitations, and Future Directions

In two studies, we provided evidence for a new model of Mach that integrates recent evidence on different facets of Mach and facilitates a better understanding of the construct. The model structure was stable across samples and revealed scalar invariance across sexes. Our findings suggest that the MaaQ captures and explains differential relations of Mach with constructs that accounted for multiple contradictions in previous research (i.e., neuroticism, physical aggression, self-control). The model further explains Mach's associations with the social motivations toward group affiliation (negative), independence, and status (both positive; Jonason & Zeigler-Hill, 2018). Given small relations with impulsivity and distinct associations with physical aggression, the MaaQ is capable of reducing and even explaining the overlap between Mach and psychopathy. Paulhus et al. (2021) sought to reduce the overlaps of Mach and psychopathy when they developed the SD4 (e.g., smaller relations of Mach with aggression and impulsivity). At the same time, they aimed for an economical measurement instrument. In Blötner et al. (2021), the SD4 Mach revealed similar associations with the problematic criteria as the MaaQ did in our present study. Thus, we conclude that the

MaaQ contributed to a better differentiation, provided theoretically sound explanations, warrants reasonable reliabilities for the respective scores (Cronbach's α s from .73 to .78 for both studies), and is just as economical as other Mach scales or even more economical (MaaQ: eight items, combined; SD4 Mach: Seven items; TDMS: 12 items; MPS: 16 items). As the majority of our hypotheses received empirical support and given high to very high agreements with the nomological networks of other Mach scales, our findings suggest that the scores of the MaaQ can be validly interpreted in favor of the underlying construct.

The current research was not without limitations. The first limitation was the exclusive reliance on self-report measures. For instance, to confirm the relations with physical aggression, future studies could test how Machiavellian approach and avoidance relate to the use of mild forms of behavioral aggression (e.g., white-noise paradigms; Buckels et al., 2013). Paulhus et al. (2018) stated that the use of aggression in Mach depends on situational stimuli, but current aggression scales neglect even those situational specifics that lead to particular acts of aggression. Thus, in the examination of the MaaQ in studies on aggression, one should manipulate the situational surroundings so that violent behavior becomes more or less advantageous. Another limitation refers to the imbalanced sex ratios in both studies. On average, men score higher on Mach scales than do women (e.g., Jones, 2017). Therefore, we encourage future research to examine the MaaQ in more balanced samples. As our sample comprised only participants from Germany, Austria, and Switzerland (from which the majority were university students), cross-cultural validation and replication in non-student samples could be worthwhile.

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Table 1*Item Content of the MaaQ with Descriptive Statistics and Loadings*

Item	Item Content	<i>M (SD)</i>	λ
App1 ^{DD}	Ich neige dazu, andere zu manipulieren, um meinen Willen durchzusetzen. I tend to manipulate others to get my way.	2.23 / 1.85 (1.09 / 0.94)	.57 / .58
App2 ^{FFMI}	Ich habe einen starken Drang nach Macht. I have a strong drive for power.	2.13 / 1.99 (0.99 / 0.94)	.72 / .70
App3 ^{MPS}	Ich mag es, in zwischenmenschlichen Situationen den Ton anzugeben. I like to give the orders in interpersonal situations.	2.72 / 2.84 (1.04 / 1.01)	.68 / .59
App4 ^{MPS}	Ich genieße es, die Kontrolle über andere Menschen zu haben. I enjoy having control over other people.	2.19 / 2.22 (1.03 / 1.02)	.80 / .80
Av1 ^{Mach IV}	Wer jemand anderem völlig vertraut, wird damit schlechte Erfahrungen machen. Anyone who completely trusts anyone else is asking for trouble.	2.62 / 2.37 (1.11 / 1.07)	.77 / .69
Av2 ^{MPS}	Wenn ich Schwächen zeige, werden Andere ihren Vorteil daraus ziehen. If I show any weakness, other people will take advantage of it.	2.81 / 2.71 (1.09 / 1.07)	.65 / .73
Av3 ^{new}	Menschen sind nur aufgrund von Hintergedanken freundlich zueinander. People are friendly to each other only because of ulterior motives.	2.05 / 2.03 (1.00 / 0.97)	.63 / .59
Av4 ^{new}	In jedem Menschen steckt etwas Böses. Man muss nur danach suchen. There is something malicious in every human being. You just have to look for it.	2.63 / 2.55 (1.17 / 1.12)	.69 / .53

Note. App = Machiavellian approach. Av = Machiavellian avoidance. ^{DD} = From "The dirty dozen: A concise measure of the Dark Triad", by P. K. Jonason and G. D.

Webster, 2010, *Psychological Assessment*, 22(2), p. 423 (<https://doi.org/10.1037/a0019265>). Copyright 2010 by American Psychological Association. Reprinted with permission and from "Das Dreckige Dutzend und die Niederträchtigen Neun. Kurzskalen zur Erfassung von Narzissmus, Machiavellismus und Psychopathie", by A. C. P. Küfner, M. Dufner, and M. D. Back, 2014, *Diagnostica*, 61(2), p. 5 (<https://doi.org/10.1026/0012-1924/a000124>). Copyright 2014 by Hogrefe. Reprinted with permission.

^{FFMI} = From "Development and preliminary validation of a five factor model measure of Machiavellianism", by K. L. Collison, C. E. Vize, J. D. Miller, and D. R. Lynam,

2018, *Psychological Assessment*, 30(10), Supplement (<http://dx.doi.org/10.1037/pas0000637.supp>). Copyright 2018 by American Psychological Association. Reprinted with permission.. ^{Mach IV} = From *Studies in Machiavellianism* (p. 11), by R. Christie and F. L. Geis, 1970, Elsevier (<https://doi.org/10.1016/C2013-0-10497-7>). Copyright 1970 by Elsevier. Reprinted with permission and “Reducing the overlap between Machiavellianism and subclinical psychopathy: The M7 and P7 Scales”, by M. P. Grosz, P. D. Harms, M. Dufner, L. Kraft, and E. Wetzel, 2020, *Collabra: Psychology*, 6(1), 17799 (<https://doi.org/10.1525/collabra.17799>). CC BY 4.0. Reprinted with permission. ^{MPS} = From “The development and validation of a new Machiavellianism scale”, by J. J. Dahling, B. G. Whitaker, and P. E. Levy, 2009, *Journal of Management*, 35(2), p. 237 (<https://doi.org/10.1177/0149206308318618>). Copyright 2009 by SAGE. Reprinted with permission. ^{new} = New item, developed by the authors. Means (*M*), standard deviations (*SD*), and loadings (λ) are presented for Study 1 / Study 2.

Table 2*Tests of Measurement Invariance of the MaaQ (Studies 1 and 2)*

Model	$\chi^2(df)$	CFI	RMSEA	SRMR	$\Delta\chi^2 (\Delta df)$	ΔCFI	$\Delta RMSEA$	$\Delta SRMR$
Configural								
Study 1	55.37 (38) *	.98	.05	.05	—	—	—	—
Study 2	65.64 (38) **	.97	.06	.05	—	—	—	—
Metric								
Study 1	59.76 (44)	.98	.04	.05	3.17 (6)	.002	-.006	.003
Study 2	76.99 (44) **	.96	.06	.06	11.51 (6)	-.006	.000	.005
Scalar								
Study 1	63.52 (50)	.99	.04	.05	3.40 (6)	.002	-.005	.000
Study 2	88.02 (50) **	.96	.06	.06	11.06 (6)	-.006	.000	.002
Residual								
Study 1	84.20 (58) *	.97	.04	.05	22.53 (8) **	-.012	.010	.005
Study 2	115.34 (58)	.93	.07	.07	29.51 (8) ***	-.021	.007	.008

Note. Configural = Equal form. Metric = Equal loadings. Scalar = Equal intercepts. Residual = Equal residuals.

$\Delta\chi^2$ tests corrected according to Satorra and Bentler (2001).

*** $p < .001$. ** $p < .01$. * $p < .05$.

Table 3*Evaluation of the Hypotheses (Study 2)*

Hypothesis	<i>rs</i>	<i>zs</i>	EoH
<i>Other Mach Scales</i>			
Approach and avoidance correlate positively with Mach scales.	.30–.73	—	c
<i>Agentic Nature of Machiavellian Approach</i>			
Approach correlates positively with hope for power.	.68	—	c
Approach correlates more strongly with hope for power than avoidance does.	.68 vs. .13	12.72***	c
<i>Emotionally Labile Nature of Machiavellian Avoidance</i>			
Avoidance correlates positively with neuroticism.	.31	—	c
Avoidance correlates positively with mistrust.	.44	—	c
Avoidance correlates positively with fear of loss.	.27	—	c
Avoidance correlates more strongly with neuroticism than approach does.	.31 vs. -.01	6.27***	c
Avoidance correlates more strongly with mistrust than approach does.	.44 vs. .07	7.46***	c
Avoidance correlates more strongly with fear of loss than approach does.	.27 vs. -.01	5.34***	c
<i>Impulsive and Aggressive Tendencies in Avoidance</i>			
Avoidance correlates more strongly with impulsivity than approach does.	-.09–.16 vs. -.02–.18	-1.75*– 3.93***	p
Avoidance correlates more strongly with physical aggression than approach does.	.25 vs. .13	2.23*	c
<i>Differential Correlations with Psychopathy</i>			
F1P correlates positively with approach.	.52	—	c
F1P correlates more strongly with approach than with avoidance.	.52 vs. .54	-0.41	r
F2P correlates positively with avoidance.	.27	—	c
F2P correlates more strongly with avoidance than with approach.	.27 vs. .41	2.97**	r
<i>Combining Elements of Approach and Avoidance</i>			
Both approach and avoidance correlate negatively with agreeableness.	-.35 vs. -.53	—	c
Both approach and avoidance correlate positively with cynicism.	.35 vs. .57	—	c
Both approach and avoidance correlate negatively with HH.	-.44 vs. -.30	—	c

Note. EoH = Evaluation of hypothesis (c = confirmed, r = rejected, p = partly supported).

*** $p < .001$. ** $p < .01$. * $p < .05$.

Table 4*Correlation Matrix Involving all Constructs as well as Profile Similarities (Study 2)*

	app	av	tac	view	SD4M	F1P	F2P	agr	neu	HH	cyn	pow	loss	imp	urg	int	pers	risk	Agg	mis
app	.76																			
av	.32	.73																		
tac	.44	.30	.76																	
view	.31	.73	.35	.81																
SD4M	.43	.47	.44	.42	.72															
F1P	.52	.54	.45	.52	.53	.81														
F2P	.41	.27	.27	.23	.26	.57	.73													
agr	-.35	-.53	-.38	-.59	-.31	-.52	-.32	.82												
neu	-.01	.31	.10	.32	.14	.09	.04	-.31	.90											
HH	-.44	-.30	-.58	-.28	-.49	-.45	-.26	.26	-.12	.68										
cyn	.35	.57	.33	.57	.51	.53	.29	-.41	.33	-.42	.82									
pow	.68	.13	.25	.15	.26	.30	.25	-.17	-.12	-.34	.23	.85								
loss	-.01	.27	.03	.24	.16	.09	-.04	-.14	.63	-.09	.31	-.05	.72							
imp	.12	.06	.10	.04	.08	.19	.49	-.08	.13	-.12	.15	.06	.01	.72						
urg	.18	.16	.12	.13	.18	.23	.42	-.14	.25	-.17	.24	.13	.20	.75	.75					
int	-.02	-.05	.03	-.05	-.09	.00	.26	-.01	.08	.00	-.02	-.09	-.07	.69	.30	.77				
pers	.02	.11	.10	.12	.06	.13	.25	-.16	.32	-.07	.19	-.06	.17	.61	.29	.39	.57			
risk	.12	-.09	-.01	-.11	.04	.10	.34	.11	-.30	-.05	-.04	.16	-.28	.57	.31	.20	-.05	.87		
Agg	.13	.25	.18	.23	.12	.31	.31	-.29	.22	-.13	.26	.01	.04	.16	.15	.10	.13	.05	.65	
mis	.07	.44	.13	.40	.25	.28	.20	-.31	.58	-.18	.43	-.02	.51	.10	.22	-.01	.17	-.14	.33	.69

Profile Similarities among Mach Scales (ICC_{DES})

av	.62	—					
tac	.85	.76	—				
view	.63	.99	.74	—			
SD4M	.83	.84	.93	.86	—		
F1P	.81	.85	.86	.85	.90	—	
F2P	.65	.49	.70	.51	.65	.68	—

Note. app = Machiavellian approach. av = Machiavellian avoidance. tac = TDMS-tactics. view = TDMS-views. SD4M = Mach scale from the Short Dark Tetrad scale. F1P and F2P = Factor 1 and 2 of psychopathy, respectively. agr = Agreeableness. neu = Neuroticism. HH = Honesty-humility. cyn = Cynicism. pow = Hope for power. loss = Fear of loss. imp = Impulsivity overall score. urg = Urgency. int = Lack of intention. pers = Lack of perseverance. risk = Risk appetite. Agg = Physical aggression. mis = Mistrust. Italicized parameters indicate Cronbach’s α s. Correlations were significant at $ps = .05, .01$, and $.001$ when exceeding $rs = |.12|, |.15|$, and $|.18|$, respectively.

Table 5*Incremental Validity of Approach and Avoidance Beyond Other Mach Scales*

	Dependent Variables		
	Agreeableness	Cynicism	Honesty-Humility
Step 1			
Tactics	-.19 ***	.05	-.45 ***
Views	-.51 ***	.42 ***	-.004
SD4-Mach	-.01	.32 ***	-.29 ***
$R^2_{\text{Step 1}}$	.38 ***	.42 ***	.41 ***
Step 2			
Tactics	-.16 ***	.03	-.41 ***
Views	-.37 ***	.27 ***	.03
SD4-Mach	.06	.25 ***	-.24 ***
Approach	-.12 **	.07	-.15 ***
Avoidance	-.21 ***	.22 ***	-.03
$R^2_{\text{Step 2}}$	.41 ***	.44 ***	.42 ***
$\Delta R^2_{\text{Step 2-Step 1}}$	.031 ***	.025 ***	.018 ***

Note. $N = 500$. All parameters were standardized.

*** $p < .001$. ** $p < .01$.