The Malevolent Side of Human Nature: A Meta-Analysis and Critical Review of the Literature on the Dark Triad (Narcissism, Machiavellianism, and Psychopathy)

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Abstract

The term *dark triad* refers to the constellation of narcissism, Machiavellianism, and psychopathy. Over the past few years, the concept has gained momentum, with many researchers assuming that the dark triad is a prominent antecedent of transgressive and norm-violating behavior. Our purpose in this meta-analytic review was to evaluate (a) interrelations among narcissism, Machiavellianism, and psychopathy; (b) gender differences in these traits; (c) how these traits are linked to normal personality factors; and (d) the psychosocial correlates of the dark triad. Our findings show that dark triad traits are substantially intercorrelated, somewhat more prevalent among men than women, predominantly related to the Big Five personality factor of agreeableness and the HEXACO factor of honesty-humility, and generally associated with various types of negative psychosocial outcomes. We question whether dark triad traits are sufficiently distinct and argue that the way they are currently measured is too simple to capture the malevolent sides of personality. Because most research in this domain is cross-sectional and based on self-reports, we recommend using a cross-informant approach and prospective, longitudinal research designs for studying the predictive value of dark triad features.

Keywords

Dark triad, narcissism, Machiavellianism, psychopathy, review, meta-analysis

Dictators such as Adolf Hitler, Joseph Stalin, and Pol Pot and serial killers such as Ted Bundy, Richard Ramirez, and Jeffrey Dahmer are notorious examples of the malevolent potential of humans. The extreme cruelty of these individuals fortunately is quite exceptional. Still, in daily life, a substantial proportion of people violate social norms and moral values by engaging in transgressive behaviors such as lying, deceiving, cheating, stealing, and bullying (e.g., Ariely, 2013). As to the origins of this behavior, researchers have pointed at environmental influences, arguing that some individuals have not learned to live according to the basic norms and values or are living in circumstances under which they no longer (wish to) observe such rules (e.g., Simons & Burt, 2011). On the other hand, evidence is mounting that anti-social behavior has genetic roots, although these sometimes only become apparent in an adverse environment (Moffitt, 2005). Especially in adults, the genetic factors

underlying transgressive behavior appear to be well expressed in malign personality features (Lyons et al., 1995).

Since the beginning of this century, a steadily increasing number of studies have explored three specific personality traits associated with transgressive and norm-violating behavior: narcissism, Machiavellianism, and psychopathy. Because these features are thought to play a key role in many norm-violating acts, Paulhus and Williams (2002) coined the term *dark triad* of personality (see Furnham, Richards, & Paulhus, 2013).

The concepts of narcissism, Machiavellianism, and psychopathy have their own historical roots and definitions

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Table 1. Dark Triad Personality Traits: Characteristic Features and a Brief Overview of the Most Commonly Employed Scales for Assessing These Constructs

Dark triad trait	Key feature(s)	Most important scale	Alternative scales
Narcissism	The pursuit of gratification from vanity or egotistic admiration of one's own attributes	Narcissistic Personality Inventory (NPI): 40-item scale representing seven dimensions: authority, self-sufficiency, superiority, exhibitionism, exploitativeness, vanity, and entitlement	Dirty Dozen (DD): Four items relating to exhibitionism (2), superiority (1), and entitlement (1) — Short Dark Triad (SD3): Nine items representing superiority (4), exhibitionism (2), entitlement (2), and authority (1)
Machiavellianism	A duplicitous interpersonal style, a cynical disregard for morality, and a focus on self-interest and personal gain	MACH–IV: 20-item inventory tapping three categories: manipulative tactics, cynical view of human nature, and disregard for conventional morality	DD: Four items that have to do with interpersonal tactics (3) and disregard for conventional morality (1) — SD3: Nine items concerned with interpersonal tactics (7) and disregard for conventional morality (2)
Psychopathy	A personality trait characterized by enduring antisocial behavior, diminished empathy and remorse, and disinhibited or bold behavior	Self-Report Psychopathy Scale (SRP–III): 64-item questionnaire consisting of four factors: interpersonal manipulation, callous affect, erratic lifestyle, and criminal tendencies	DD: Four items tapping callous affect (4) — SD3: Nine items representing interpersonal manipulation (1), callous affect (2), erratic lifestyle (3), and criminal tendencies (3)

(Table 1). Narcissism originates from the Greek mythological figure of Narcissus, a young male hunter who was so consumed by his own beauty and greatness that he arrogantly despised the attention and love of others. This myth covers the core features of narcissism as the concept is used today, namely, a blend of vanity and egocentric admiration of one's own qualities that negatively impacts relationships with other people (Campbell, Miller, & Buffardi, 2010).

Machiavellianism is named after the Italian Renaissance diplomat and political theorist Niccoló Machiavelli, who in 1532 wrote a book entitled *Il Principe* (*The Prince*). In this book, Machiavelli advises kings and lords to secure their power through carefully planned and, if necessary, cruel and immoral deeds, such as the execution of political rivals.[1] Ever since Christie and Geis developed their MACH test in the 1960s to measure an utilitarian attitude (see Christie & Geis, 1970), psychologists have referred to Machiavellianism as a duplicitous interpersonal style, characterized by a cynical disregard for morality and a focus on self-interest and personal gain.

The concept of psychopathy has its roots in psychiatry, where clinicians such as Cleckley (1950) conducted systematic observations to characterize a group of patients who displayed enduring antisocial behavior, diminished empathy and remorse, and disinhibited and bold behavior, sometimes covered by a veil of superficial charm.

Given their different trajectories, it is not surprising that these traits are measured with dedicated instruments. Thus, the scale that dominates the literature on narcissism is the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988). This 40-item measure taps into various aspects of this personality trait, notably authority (e.g., "I see myself as a good leader"), self-sufficiency (e.g., "I always know what I am doing"), superiority (e.g., "I think I am a special person"), exhibitionism (e.g., "I am apt to show off if I get the chance"), exploitativeness (e.g., "I find it easy to manipulate people"), vanity (e.g., "I like to look at myself in the mirror"), and entitlement (e.g., "I will never be satisfied until I get what I deserve"). Machiavellianism typically is assessed with the fourth version of the MACH (MACH-IV; Christie & Geis, 1970), a scale consisting of 20 statements that represent three categories: manipulative tactics (e.g., "It is wise to flatter important people"), a cynical view of human nature (e.g., "Anyone who completely trusts anyone is asking for trouble"), and disregard for conventional morality (e.g., "Sometimes one should take action even when one knows that it is not morally right").

For the measurement of psychopathy, several tools are available, including the Psychopathy CheckList (PCL; Hare, 1980, 2003) that is widely used in forensic settings (Salekin, Rogers, & Sewell, 1996) and the Psychopathic Personality Inventory (PPI; Lilienfeld & Andrews, 1996) that can be employed in clinical as well as nonclinical samples (e.g., Malterer, Lilienfeld, Neumann, & Newman,

2009). Another frequently employed scale is the Self-Report of Psychopathy (SRP; Hare, 1980), of which the third revision (SRP–III; Paulhus, Neumann, & Hare, 2009) is most current and can be used in forensic and nonforensic settings. This questionnaire contains 64 items that can be allocated to four domains that purportedly measure psychopathy, namely, interpersonal manipulation (e.g., "It's fun to see how far you can push people before they get angry"), callous affect (e.g., "I am often rude to people"), erratic life style (e.g., "I enjoy taking risks"), and criminal tendencies (e.g., "I avoid paying for things, such as movies, bus, or train").

Since narcissism, Machiavellianism, and psychopathy have been brought under the umbrella of the dark triad, two scales have been developed that specifically incorporate items covering these three traits: the Dirty Dozen (DD; Jonason & Webster, 2010) that contains only 12 items and the Short Dark Triad (SD3; Jones & Paulhus, 2014) that is composed of 27 items. Both scales have been shown to possess some validity in that they correlate statistically with the primary scales (i.e., NPI, MACH–IV, and SRP–III), although the DD (being the shortest scale) performs less well in this regard than the SD3 (Maples, Lamkin, & Miller, 2014). For both scales, however, one could conclude that their limited set of items implies that some of the original constituting features of each dark triad trait are no longer (fully) represented (see Table 1).

In this article, we provide a critical meta-analytic review of the extant literature on the dark triad traits. First, we describe how we conducted the review. Next, we present meta-analytic results with regard to the interrelations among narcissism, Machiavellianism, and psychopathy; gender differences in these traits; their relations to normal personality factors; and the psychosocial correlates of the dark triad. For each aspect, we first provide a brief introduction, followed by a meta-analysis of the relevant dark triad studies. Then, we discuss the main findings in the light of the extant literature. In the final section, we summarize our key results, link them to other research on the assessment of malign personality traits, and critically discuss the value of the Dark Triad.

Our review is timely. Over the years, there have been many studies on this topic, and so the empirical database on the trinity of narcissism, Machiavellianism, and psychopathy has expanded considerably. Figure 1 shows that almost two thirds of the publications on the dark triad of personality appeared in 2014 and 2015. Thus, previous reviews such as Furnham, Richards, and Paulhus (2013)—including studies that were published between 2002 (the year that Paulhus & Williams coined the term *dark triad*) and 2012—are necessarily incomplete. Moreover, because of the limited number of publications at that time, Furnham, Richards, and Paulhus
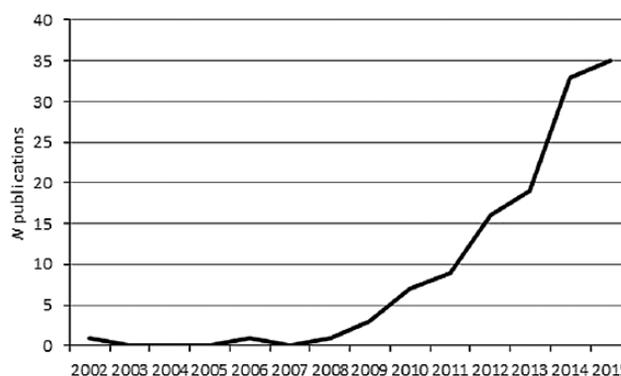

Fig. 1. Number of publications on the dark triad personality traits per year since its introduction by Paulhus and Williams (2002). Based on a literature search in Web-of-Science.

(2013) included research that focused on at least two of the dark triad traits. For the current review, we adopted a more stringent criterion and only incorporated studies in which all three dark triad traits were measured, which allowed us to make direct and fair comparisons of the three dark traits. Similarly, Furnham, Richards, Rangle, and Jones (2014) did not cover most of the recent studies and therefore were not in the position to conduct a meta-analysis on, for example, the psychosocial correlates of the dark triad, an analysis that is incorporated in our review. This topic is particularly important as some researchers have argued that dark triad features are not inherently maladaptive and may even enhance the successful pursuit of societal careers. Some authors have placed the fictitious character of James Bond in the forefront as an emblematic example of a dark triad person who is nevertheless effective in getting what he wants (Jonason, Li, & Teicher, 2010; Jonason, Webster, Schmitt, Li, & Crysel, 2012).

Finally, because researchers in more recent years increasingly have employed the new scales for measuring the dark triad traits (i.e., DD and SD3), it is now possible to quantitatively compare research in which investigators relied on the original scales (NPI, MACH-IV, and SRP-III) with studies in which investigators made use of the new-generation questionnaires.

Meta-Analytic Method

In the first week of 2016, we conducted a literature investigation in the Web-of-Science database using [DARK TRIAD in title] or [NARCISSISM and MACHIAVELLIANISM and PSYCHOPATHY in title] as search terms. We found a total of 143 potentially relevant research articles. Each article was inspected to identify the sample size; the scales used to measure the dark triad traits (e.g., original scales: NPI, MACH-IV, and SRP-III, or new questionnaires:

DD or SD3); and relevance for one of the key topics of our review, namely, interrelations, gender differences, relations to normal personality factors, and psychosocial correlates.[2] Furthermore, we carefully checked the references of all articles to detect other relevant articles that had not emerged in our initial literature search.

To examine differential relations between the three dark triad traits and psychosocial consequences, we created various categories of outcomes, namely, aggression–delinquency (e.g., aggression, bullying, sadism, and violence), erratic lifestyle (e.g., impulsivity, risk taking, and substance use), sex-related issues (e.g., bizarre sexual fantasies, infidelity, and sexual harassment),[3] socioemotional deficits (e.g., lack of empathy, low emotional intelligence, and poor theory of mind), poor well-being (e.g., depression, loneliness, and stress), interpersonal problems (e.g., dominance, sense of entitlement, and self-expansion), morality problems (e.g., lack of moral values, moral disengagement, and "deadly sins"), and antisocial tactics (e.g., cheating, lying, and negative humor styles).

We used Wilson's (2010) online meta-analysis effect size calculator to conduct the quantitative analyses (see also Lipsey & Wilson, 2001). We opted for the correlation coefficient (r) as an effect-size indicator, because three of our key topics pertained to the strength of associations (i.e., interrelations among the dark triad traits, links between these traits and normal personality factors, and psychosocial outcomes). Imputing the correlation and the sample size, the program calculates the Fisher's z-transformed correlation as well as the accompanying 95% confidence interval (CI). Researchers in most studies explored gender differences in dark triad traits with t tests, which were also transformed to Fisher's z correlations and 95% CIs. In this way, for each dark triad trait, statistical results for each of the four aspects (i.e., interrelations, gender differences, relations to normal personality factors, and psychosocial correlates), if available, were expressed in terms of r. We pooled effect sizes across various studies to obtain overall effect sizes and CIs for narcissism, Machiavellianism, and psychopathy. In case the CI did not include 0, the effect was defined as statistically significant. We also compared effect sizes among the three dark triad traits: effect sizes were considered statistically different in cases in which the average effect size for one trait did not fall within the CI of another trait. We followed a similar procedure to explore differences in the strength of effects across studies using different dark triad questionnaires (i.e., original scales vs. DD vs. SD3). These analyses were appropriate because heterogeneity statistics indicated that the effect sizes as documented for each of the dark traits were quite variable. For example, using the statistical software StatDirect (www.statsdirect.com), we conducted chi-square tests of heterogeneity (Cochran's Q), which were all highly statistically significant (all ps < .01), with Qs

varying between 58.70 and 4,394.28 for effect sizes involving narcissism, 23.53 and 2,116.66 for effect sizes involving Machiavellianism, and 82.60 and 2,279.67 for effect sizes involving psychopathy.

Because narcissism, Machiavellianism, and psychopathy were expected—and were shown—to correlate statistically with each other, we also examined gender differences, relations to normal personality factors, and psychosocial outcomes, while controlling for the shared variance among the dark triad traits. These additional analyses were conducted using an online second-order partial correlations calculator (http://vassarstats.net/par2 .html). This tool yielded partial correlations between each dark triad trait and other variables, while controlling for the two other traits. These correlations subsequently were transformed by means of Wilson's (2010) calculator into corrected effect sizes, which provided an estimate of the unique contributions of each dark triad trait.

To check whether this research field suffers from publication bias, we conducted p-curve analyses (Simonsohn, Nelson, & Simmons, 2014a, 2014b) on the most extended data set of the current meta-analysis (i.e., psychosocial correlates of the dark triad traits), using an on-line application (www.p-curve.com). As can be seen in Figure 2, for each of the dark triad traits, we found an extremely right-skewed p-curve, with statistical tests indicating that the studies included in our meta-analysis, indeed, contained evidential value (all ps < .001) and did not point in the direction of inadequate evidential value (all ps nonsignificant). Thus, it is unlikely that the dark triad literature is affected by publication bias.

Interrelations Among Dark Triad Traits

There is considerable overlap among the dark triad traits, which was already noted in the first study by Paulhus and Williams (2002), who documented quite robust intercorrelations among narcissism, Machiavellianism, and psychopathy. This shared variance in part may be due to item overlap across instruments. For example, as can be seen in Table 1, the questionnaires used to assess the dark triad share various items (e.g., items related to similar aspects of malevolent behavior). A case in point is a manipulative interpersonal style, an element that is clearly present in all scales (e.g., NPI: exploitativeness, MACH–IV: manipulative tactics, SRP–III: interpersonal manipulation). Also, and more interesting from a theoretical point of view, some authors have argued that the positive manifold of dark traits defines a common conceptual space that may have psychological significance in its own right (Paulhus, 2014). In statistical terms, this implies that narcissism, Machiavellianism, and psychopathy should be viewed as lower-order traits that load onto
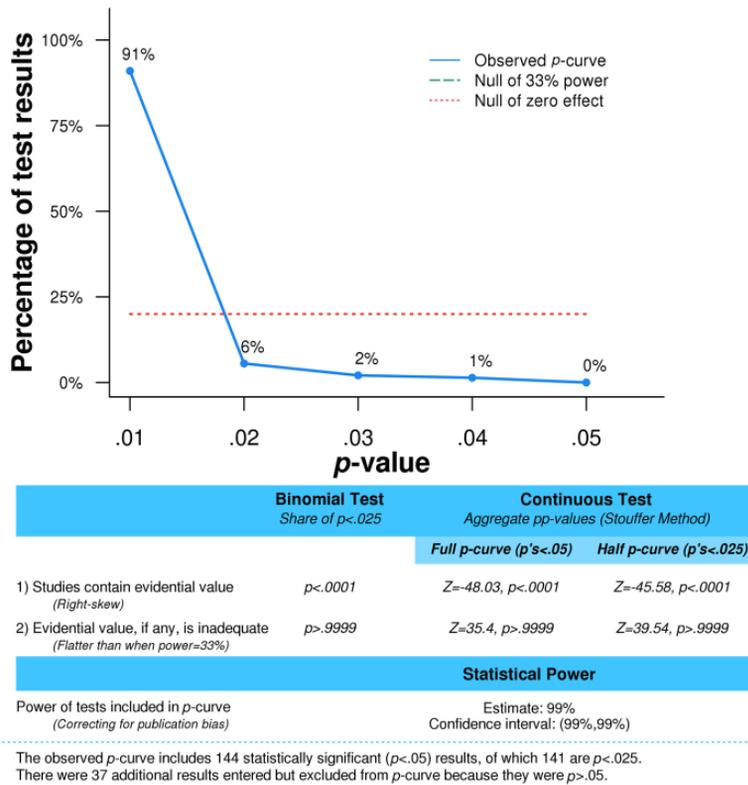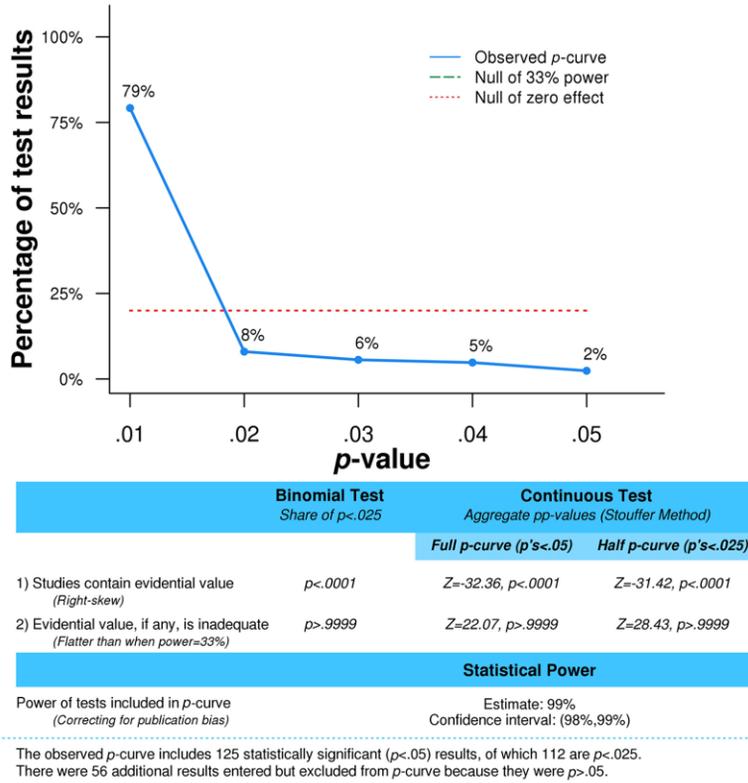
The observed *p*-curve includes 125 statistically significant (*p*<.05) results, of which 112 are *p*<.025.
There were 56 additional results entered but excluded from *p*-curve because they were *p*>.05.

The observed *p*-curve includes 144 statistically significant (*p*<.05) results, of which 141 are *p*<.025.
There were 37 additional results entered but excluded from *p*-curve because they were *p*>.05.

Fig. 2. (continued)

The observed *p*-curve includes 160 statistically significant (*p*<.05) results, of which 158 are *p*<.025.
There were 21 additional results entered but excluded from *p*-curve because they were *p*>.05.
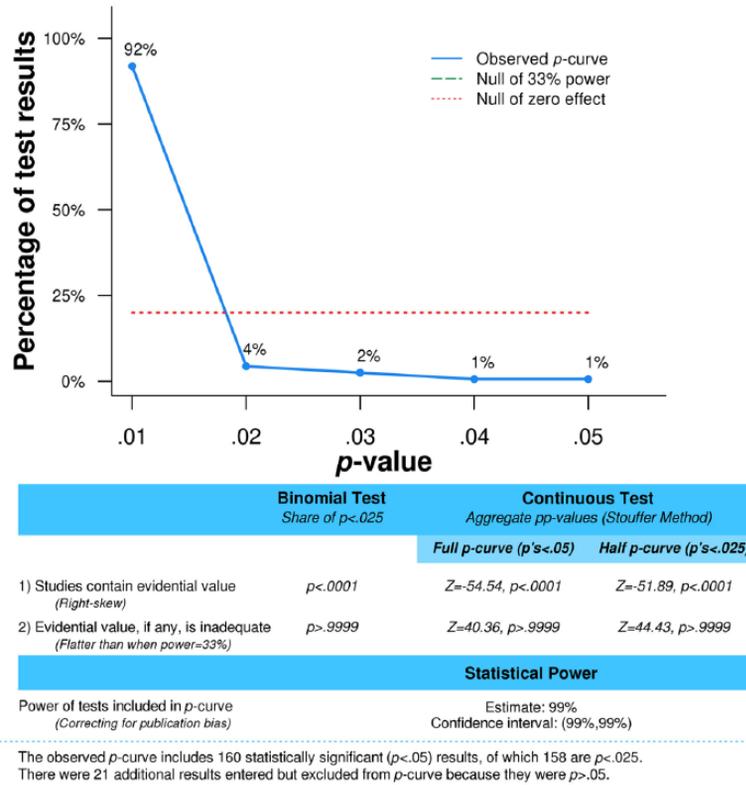
Fig. 2. Results of the *p*-curve analyses (conducted via www.p-curve.com) testing the robustness of the present meta-analysis against publication bias.

one latent supertrait of malevolence. Meanwhile, it also is possible that the three dark triad traits are not equally important. For instance, some scholars have conceded that psychopathy has a superordinate position and argued that the malign elements of narcissism and Machiavellianism are essentially subordinate features of psychopathy (for a discussion, see Lilienfeld & Andrews, 1996).

Our literature search identified 91 research papers describing 118 different populations containing a total of 42,359 participants for whom the intercorrelations among narcissism, Machiavellianism, and psychopathy were reported. The results of the meta-analysis conducted on these data are shown in Figure 3. As can be seen, the correlation pattern suggests that narcissism is a more unique trait than Machiavellianism and psychopathy. That is, the average effect size for the relation between Machiavellianism and psychopathy ($r = .58$) was much higher than the average effect sizes for the links between narcissism and psychopathy ($r = .38$) and narcissism and Machiavellianism ($r = .34$). The close relation between Machiavellianism and psychopathy is not surprising given that both traits are indicative of malicious interpersonal behavior and thus may be expected to gauge similar

underlying tendencies (Lilienfeld & Andrews, 1996). In contrast, narcissism does not merely reflect viciousness: Apart from malevolent characteristics, which justify its position within the dark triad, this trait also has a vulnerable side that is primarily reflected in defensive and fragile grandiosity serving as a mask for feelings of inadequacy and insecurity (Miller et al., 2010). As we describe later, this "special" status of narcissism is supported by the pattern of relations with normal personality traits and psychosocial correlates.

A comparison of the average effect sizes indicates that the sizes of the interrelations among dark triad traits largely were independent of the type of instrument that was used (Fig. 3). There was one exception: studies employing the original dark triad scales or the SD3 obtained an average effect size of .26 for the relation between narcissism and Machiavellianism. However, studies in which the DD was used showed a much higher average effect size of .57 for this relation. Thus, the DD generates a closer link between narcissism and Machiavellianism than the other instruments. This might be due to the fact that the DD contains 12 items, with only four items per trait, which reduces the potential to grasp the uniqueness of each dark triad personality trait. Further,
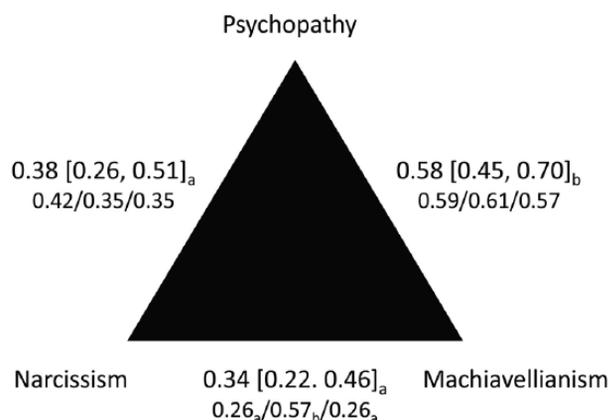
Fig. 3. Average effect sizes (*r*) and 95% confidence intervals for the intercorrelations among the dark triad personality traits of narcissism, Machiavellianism, and psychopathy (upper values) and average effect sizes calculated on the basis of the three most commonly used assessment instruments: original dark triad scales (ODTS; i.e., Narcissistic Personality Inventory, MACH–IV, Self-Report Psychopathy Scale–III), Dirty Dozen (DD), and short Dark Triad (SD3) (lower values). Total *N* = 42,359. *N*s were 12,250; 10,131; and 9,023 for effect sizes involving ODTS, DD, and SD3, respectively. All effect sizes were statistically significant. Effect sizes not sharing similar subscripts are statistically different.

when one examines the item content of this measure (Jonason & Webster, 2010), it appears that all narcissism and Machiavellianism items are "other-oriented." That is, they mainly are concerned with a person's attempts to impact other people (e.g., narcissism: "I tend to want *others* to admire me"; Machiavellianism: "I tend to manipulate *others* to get my way"), as opposed to psychopathy items that are all "self-oriented" and predominantly describing personal characteristics (e.g., "I tend to lack remorse"). This unintended commonality in narcissism and Machiavellianism items may have inflated the intercorrelation between both traits as measured by the DD.

In conclusion, the intercorrelations among dark triad traits are substantial, and this supports Paulhus and Williams's (2002) stance that narcissism, Machiavellianism, and psychopathy, although originally developed as distinct traits, can be considered as "evil allies of personality" and that it makes sense to study them simultaneously within the context of transgressive behavior. Some authors have pointed out that in spite of the conceptual overlap among dark traits, each possesses unique features (Glenn & Sellbom, 2015; Jones & Figueredo, 2013). However, the pattern of intercorrelations among narcissism, Machiavellianism, and psychopathy does not rule out the possibility that there is a hierarchical structure within the dark triad. For example, and as noted earlier, psychopathy may be the dominant trait that also accounts for the malicious features of narcissism and Machiavellianism (e.g., Lilienfeld & Andrews, 1996).

Gender Differences in Dark Triad Traits

Transgressive behaviors are more prevalent among men than among women. This is illustrated by research findings on externalizing psychopathology. At a young age, boys more often exhibit conduct problems, delinquency, and violence than girls (Moffitt, Caspi, Rutter, & Silva, 2001), and this gender difference continues into adulthood, when men are more often diagnosed with antisocial personality disorder (Cale & Lilienfeld, 2002) and more frequently engage in crime (Rowe, Vazsonyi, & Flannery, 1995) than women do.

So far, gender differences have been investigated for each of the dark triad traits separately. For narcissism, this research was summarized by Grijalva et al. (2015), who conducted a meta-analysis of 355 studies, in which most had employed the NPI. Their results showed that men were more narcissistic than women, although the effect size of this gender difference was in the small to medium range. As for various facets of narcissism, the gender difference was found to be carried mainly by the more socially aversive features of this trait, such as exploitativeness, entitlement, and self-sufficiency.

A quantitative analysis of gender differences in psychopathy is lacking in the extant literature. However, several descriptive reviews have been published, all of which found evidence that in both forensic populations and community samples, the prototypical features of this trait are more strongly present in men than in women (e.g., Cale & Lilienfeld, 2002; Nicholls, Ogloff, Brink, & Spidel, 2005). Finally, empirical investigations specifically focusing on gender differences in Machiavellianism are sparse, but available studies suggest that this dark triad trait also is more common among men than among women (e.g., Krampen, Effertz, Jostock, & Müller, 1990). In sum, then, research so far has indicated that all three dark triad traits are more prominent in men than in women.

In our literature search, we identified 50 studies that included a total of 65 samples containing 25,930 participants in which gender differences for the three dark triad traits were investigated. As can be seen in Table 2, for all three traits positive and statistically significant effect sizes (*r*) were found, confirming the idea that men in general display higher levels of narcissism, Machiavellianism, and psychopathy relative to women. The effect size for the gender difference in psychopathy was in the medium range (*r* = .29) and statistically larger than the effect sizes obtained for gender difference in narcissism (*r* = .15) and Machiavellianism (*r* = .16), which should be interpreted as small. Gender differences were not dependent on the scale that was used to assess the dark triad traits: For the original scales, DD, and SD3, highly comparable effect

Table 2. Main Results of Meta-Analysis of the Relations Between Dark Triad and Gender

Variable	N	Narcissism	Machiavellianism	Psychopathy
Uncorrected effect size r [95% CI]				
Gender: All scales	25,930	**.15 [0.03, 0.26]**$_a$	**.16 [0.05, 0.28]**$_a$	**.29 [0.18, 0.41]**$_b$
ODTS/DD/SD3	9,098, 6,373, 6,162	.16/.16/.15	.15/.16/.17	.32/.24/.28
Corrected effect size r [95% CI]				
Gender: All scales	21,960	.04 [−0.07, 0.16]$_a$	.01 [−0.10, 0.13]$_a$	**.24 [0.13, 0.36]**$_b$

Note: Top panel displays uncontrolled effect sizes; bottom panel shows effect sizes that were controlled for the shared variance among the three traits. Gender was defined as 0 = women and 1 = men. Statistically significant effect sizes are printed in bold. N for corrected effect size is smaller because this analysis could only be performed with studies that also reported on the intercorrelations among the dark triad traits. Within-row effect sizes that do not share similar subscripts are significantly different. CI = confidence interval; ODTS = original dark triad scales (i.e., Narcissistic Personality Inventory, MACH–IV, and Self-Report Psychopathy Scale–III); DD = Dirty Dozen; SD3 = Short Dark Triad.

sizes for gender differences were obtained (see upper panel of Table 2).

When we controlled for the shared variance among the dark Triad traits (see lower panel of Table 2), only psychopathy remained statistically significantly associated with gender (r = .24), whereas relations between narcissism–Machiavellianism and gender were reduced to a nonsignificant level. Thus, although our results are in keeping with what has been generally reported in the literature indicating that each of the dark triad traits is somewhat more pronounced in men than in women, psychopathy appears to be the strongest male-linked trait. This finding might have to do with the loading of psychopathy on overt antisocial behaviors. There is evidence showing that such behaviors are more prevalent in men than in women, probably due to biological (e.g., testosterone; e.g., Dabbs & Morris, 1990) and social (e.g., gender role; Weisbuch, Beal, & O'Neal, 1999) factors.

Relations to Normal Personality Traits

Here, researchers predominantly have focused on the Big Five. For the content of the dark triad traits and the Big Five, a number of plausible associations can be postulated. First and foremost, one would anticipate a negative link between agreeableness and all dark triad traits. After all, agreeableness involves characteristics such as trustworthiness, straightforwardness, altruism, compliance, modesty, and tender mindedness (Costa, McCrae, & Dye, 1991), which form the glue for a positive interpersonal contact. The precise opposites of these attributes are typical for the traits of narcissism, Machiavellianism, and psychopathy, which likely underlie many difficulties that dark triad people have in their relationships with other people (Stead, Fekken, Kay, & McDermott, 2012). Links between the dark triad and other normal personality traits may be more specific. For instance, given that narcissism also includes features of authority, superiority,

and exhibitionism, one might expect a positive relationship between this particular dark triad trait and extraversion. Furthermore, characteristics such as impulsivity and failure to follow rules or keep appointments define the erratic lifestyle component of psychopathy and are difficult to reconcile with the personality trait of conscientiousness.

Using a lexical analysis of personality, Ashton, Lee, and Son (2000) introduced the HEXACO model, which implies that, besides the Big Five, there exists an additional personality factor that has to do with the way people handle issues regarding morality and social values. This sixth factor has been labeled as honesty-humility and consists of the facets of sincerity, fairness, greed avoidance, and modesty (Lee & Ashton, 2004), all features that are pertinently lacking in the dark triad. Thus, obviously, negative associations are to be expected between narcissism, Machiavellianism, and psychopathy, on the one hand, and honesty-humility and each of its facets on the other.

We found 22 studies that included 30 samples containing a total number of 8,500 participants in which Big Five correlates of all three dark triad traits were examined. In seven studies (eight samples), the honesty-humility factor was also considered, and in four of these investigations (four samples), the facets of sincerity, fairness, greed avoidance, and modesty were linked to narcissism, Machiavellianism, and psychopathy. As can be seen in the upper panel of Table 3, our meta-analysis in general revealed the predicted pattern of associations between Big Five factors and the dark triad (see also Furnham et al., 2014; O'Boyle, Forsyth, Banks, Story, & White, 2015; Veselka, Schermer, & Vernon, 2012). To begin with, for all three dark traits, a statistically significant negative effect size with agreeableness was found, although this relation was stronger for Machiavellianism and psychopathy (rs being −0.43 and −0.46, respectively) than for narcissism (r = −.21). This finding is in line with those of

Table 3. Main Results of Meta-Analysis of the Relations Between Dark Triad and Normal Personality Traits

Big Five/HEXACO personality (sub)trait	N	Narcissism	Machiavellianism	Psychopathy
Uncorrected effect size r [95% CI]				
Neuroticism	8,500	−.04 [−0.17, 0.08]	.07 [−0.05, 0.20]	−.07 [−0.20, 0.06]
Extraversion	8,500	**.31 [0.18, 0.44]**$_a$	−.08 [−0.21, 0.05]$_b$	.01 [−0.12, 0.14]$_b$
Agreeableness	8,500	**−.21 [−0.34, −0.08]**$_a$	**−.43 [−0.55, −0.30]**$_b$	**−.46 [−0.59, −0.33]**$_b$
Conscientiousness	8,500	−.01 [−0.14, 0.12]$_a$	**−.25 [−0.37, −0.12]**$_b$	**−.27 [−0.40, −0.14]**$_b$
Openness	8,500	**.15 [0.02, 0.28]**$_a$	−.05 [−0.18, 0.08]$_b$	−.03 [−0.16, 0.10]$_b$
Honesty-humility	2,227	**−.41 [−0.54, −0.28]**$_a$	**−.61 [−0.74, −0.47]**$_b$	**−.54 [−0.67, −0.41]**$_b$
Sincerity	1,151	−.09 [−0.21, 0.04]$_a$	**−.46 [−0.58, −0.34]**$_b$	**−.44 [−0.56, −0.31]**$_b$
Fairness	1,151	**−.19 [−0.32, −0.07]**$_a$	**−.56 [−0.68, −0.43]**$_b$	**−.52 [−0.65, −0.40]**$_b$
Greed avoidance	1,151	**−.35 [−0.48, −0.23]**	**−.25 [−0.37, −0.12]**	**−.24 [−0.37, −0.12]**
Modesty	1,151	**−.52 [−0.64, −0.39]**$_a$	**−.36 [−0.49, −0.23]**$_b$	**−.37 [−0.49, −0.24]**$_b$
Corrected effect size r [95% CI]				
Neuroticism	6,827	−.05 [−0.18, 0.09]$_a$	.13 [−0.00, 0.26]$_b$	−.10 [−0.23, 0.03]$_a$
Extraversion	6,827	**.37 [0.24, 0.51]**$_a$	**−.16 [−0.30, −0.03]**$_b$	−.05 [−0.18, 0.09]$_b$
Agreeableness	6,827	−.03 [−0.17, 0.09]$_a$	**−.25 [−0.38, −0.12]**$_b$	**−.28 [−0.41, −0.15]**$_b$
Conscientiousness	6,827	**.16 [0.03, 0.30]**$_a$	−.13 [−0.26, 0.00]$_b$	**−.23 [−0.38, −0.10]**$_b$
Openness	6,827	**.19 [0.06, 0.33]**$_a$	−.05 [−0.18, 0.08]$_b$	−.08 [−0.21, 0.06]$_b$
Honesty-humility	1,683	**−.26 [−0.40, −0.12]**	**−.40 [−0.54, −0.26]**	**−.28 [−0.42, −0.14]**
Sincerity	607	**−.20 [−0.06, −0.34]**$_a$	**−.29 [−0.43, −0.15]**$_{ab}$	**−.37 [−0.51, −0.23]**$_b$
Fairness	607	.06 [−0.07, 0.20]$_a$	**−.34 [−0.48, −0.20]**$_b$	**−.34 [−0.49, −0.21]**$_b$
Greed avoidance	607	**−.27 [−0.40, −0.13]**$_a$	−.09 [−0.23, 0.05]$_b$	−.11 [−0.25, 0.03]$_b$
Modesty	607	**−.49 [−0.63, −0.34]**$_a$	**−.23 [−0.36, −0.08]**$_b$	−.12 [−0.26, 0.01]$_b$

Note: Top panel displays uncontrolled effect sizes, whereas the bottom panel shows effect sizes that were controlled for the shared variance among the three traits. Statistically significant effect sizes are printed in bold. Within-row effect sizes not sharing similar subscripts are significantly different. *N*s for corrected effect size section are smaller because this analysis could only be performed with studies that also reported on the intercorrelations among the dark triad traits. CI = confidence interval.

studies showing that despite socially aversive features, narcissism is also associated with a greater capability of engaging in warm, friendly, and tactful interpersonal relations than Machiavellianism and psychopathy (e.g., Rauthmann & Denissen, 2014). Further, narcissism was positively associated with extraversion ($r = .31$), which is in line with the expectations because individuals scoring high on this trait are typically sociable and charming and oftentimes show little concern for the opinion of others. Finally, psychopathy was, indeed, negatively linked to conscientiousness ($r = −.27$), which, as mentioned earlier, makes sense as this dark triad member is associated with uncontrolled, undisciplined, and impulsive actions that make up the erratic lifestyle component of this trait.

Two less obvious findings with regard to the relations between dark triad and Big Five traits emerged. First, there was a small but statistically significant positive relation between narcissism and openness ($r = .15$) that may be explained by the feature of creativity. Note that persons high on openness exhibit a greater creative capacity, a quality that is also elevated among narcissistic individuals (e.g., Furnham, Hughes, & Marshall, 2013).

Second, we found a moderate statistically significant negative association between Machiavellianism and conscientiousness ($r = −.25$), which seems difficult to explain as this dark triad personality is characterized by self-discipline, goal-directedness, and deliberate action. Yet, it may well be that this link was caused by the lack of adherence to moral rules and values that is also associated with this trait.

As anticipated, the relations between honesty-humility and the dark triad traits were all negative and of a moderate to large effect size. Thus, in general, narcissism, Machiavellianism, and psychopathy are associated with low levels of positive attributes such as truthfulness, honesty, fairness, sincerity, and faithfulness, which is not surprising as each dark trait can be described in terms of the precise opposites of these characteristics (Ashton et al., 2000). As can be seen in Table 3, the negative link with honesty-humility was significantly stronger for Machiavellianism and psychopathy than for narcissism (*r*s being −.61 and −.54 versus −.41, respectively). This was especially true for the facets of sincerity and fairness, which were more strongly negatively linked to Machiavellianism

and psychopathy, but not for the facet of modesty, which was more substantially negatively associated with narcissism. Thus, Machiavellianism and psychopathy are primarily related to dishonesty and falsehood, whereas narcissism is predominantly linked to arrogance and haughtiness (e.g., Aghababaei, Mohammadtabar, & Saffarinia, 2014; Jonason & McCain, 2012).

When controlling for the shared variance among the dark triad traits, we found a similar picture (see lower panel of Table 3). That is, narcissism was positively associated with extraversion and openness, Machiavellianism was negatively related to agreeableness, and psychopathy was negatively linked to agreeableness and conscientiousness. All dark traits remained statistically negatively associated with honesty-humility (with narcissism being more clearly connected to lack of greed avoidance and modesty, and Machiavellianism and psychopathy being more convincingly associated with lack of sincerity and fairness). Yet, controlling for shared variance resulted in attenuated effect sizes (i.e., uncorrected rs between $-.41$ and $-.61$ vs. corrected rs between $-.26$ and $-.40$). Two new relations attained statistical significance once we controlled for the shared variance among dark triad traits: Machiavellianism was negatively associated with extraversion ($r = -.16$), while narcissism was positively related to conscientiousness ($r = .16$). We can only speculate about the meaning of these relations. Thus, the lower levels of extraversion in Machiavellianism fit with the often covert manipulations that are thought to be typical for this trait. The relatively higher levels of conscientiousness that accompany narcissism may serve the effective pursuit of admiration from others.

Table 4 displays the average effect sizes for the relations between normal personality traits and the dark triad assessed separately with the three most commonly employed assessment instruments. In general, the pattern of findings was comparable for the original and new generation scales of the dark triad. However, the strength of the associations varied considerably across measures. For instance, in the relation between Machiavellianism and agreeableness, the mean effect size was clearly higher when the original dark triad scales were used ($r = -.51$) than when the DD or SD3 was employed (rs being $-.34$ and $-.30$, respectively). As another example, the average effect size for the relation between psychopathy as assessed with the original scales and honesty–humility was considerably higher ($r = -.91$) than when the DD and the SD3 were employed (rs being $-.39$ and $-.56$, respectively). Although there is evidence for the convergent validity of the DD and SD3 (Jonason & Webster, 2012; Jones & Paulhus, 2014), these findings underline that these measures are not capable of assessing all aspects of the dark triad traits as

well as the extended original questionnaires (see for a discussion, Maples et al., 2014; Miller, Few, Seibert, & Lynam, 2012).

Finally, there is one additional finding in Table 4 that deserves comment. Whereas in general no statistically significant relations between neuroticism and dark triad traits were found (Table 3), small but statistically significant negative links between this Big Five trait and narcissism, Machiavellinism, and psychopathy (rs being $-.13$, $-.15$, and $-.30$, respectively) emerged in studies in which the SD3 was used. Apparently, high levels of dark triad traits as measured by this scale are accompanied by lower levels of proneness to experience of negative emotions, which makes sense as individuals scoring high on dark traits are generally more seen as "warriors" than as "worriers." Note, however, that Machiavellianism when assessed with the original MACH-IV scale was positively linked to neuroticism ($r = .14$), suggesting increased susceptibility to negative emotions. These conflicting findings are difficult to explain but again underscore that the employment of different instruments to assess dark triad traits produces slightly different correlates with normal personality traits.

Psychosocial Correlates

An important dimension of personality traits pertains to their predictive power (Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007). In the case of dark triad traits, researchers have explored various psychosocial correlates. Although it has been noted that dark triad traits can confer benefits for the individual (e.g., Jonason et al., 2012), the general view is that narcissism, Machiavellianism, and psychopathy represent the malevolent side of human nature and thus are inherently maladaptive. If true, one would predict that all dark triad traits are accompanied by negative psychosocial consequences.

In our literature review, we identified 102 studies that included 122 samples containing a total number of 46,234 participants in which 180 psychosocial correlates of the dark triad traits were examined. As can be seen in the upper panel of Table 5, the three dark traits were generally associated with higher levels of adverse psychosocial correlates, with average effect sizes being in the small to medium range and statistically significantly stronger for psychopathy ($r = .29$) than for narcissism ($r = .13$), whereas that for Machiavellianism fell in between ($r = .24$). When looking at various categories of correlates, one can draw a number of conclusions. First, for Machiavellianism and psychopathy, statistically significant average effect sizes were evident for all types of correlates, with the largest effect size being found for aggression–delinquency in relation to psychopathy ($r = .39$) and the

Table 4. Average Effect Sizes (*r*) and 95% Confidence Intervals for Relations With Normal Personality Traits Calculated Separately for the Three Most Commonly Used Dark Triad Assessment Instruments

Big Five/HEXACO personality trait	Narcissism			Machiavellianism			Psychopathy		
	ODTS	DD	SD3	ODTS	DD	SD3	ODTS	DD	SD3
Neuroticism	$-.06_{ab}$ [−0.18, 0.07]	0.00_a [−0.11, 0.11]	**$-.13_b$** [**−0.25, −0.00**]	**$.14_a$** [**0.02, 0.26**]	$-.03_{ab}$ [−0.14, 0.09]	**$-.15_b$** [**−0.27, −0.02**]	$-.08_a$ [−0.21, 0.04]	**$-.13_a$** [**−0.25, −0.02**]	**$-.30_b$** [**−0.42, −0.18**]
Extraversion	**$.33_a$** [**0.20, 0.45**]	$.08_b$ [−0.04, 0.19]	**$.56_c$** [**0.43, 0.69**]	−.10 [−0.23, 0.02]	−.01 [−0.12, 0.10]	−.12 [−0.24, 0.01]	.07 [−0.05, 0.20]	−.09 [−0.21, 0.02]	−.00 [−0.13, 0.12]
Agreeableness	**$-.29_a$** [**−0.41, −0.17**]	**$-.16_b$** [**−0.28, −0.05**]	$-.09_b$ [−0.22, 0.03]	**$-.51_a$** [**−0.63, −0.38**]	**$-.34_b$** [**−0.45, −0.22**]	**$-.30_b$** [**−0.43, −0.18**]	**−.49** [**−0.61, −0.37**]	**−.42** [**−0.53, −0.31**]	**−.39** [**−0.51, −0.26**]
Conscientious-ness	.01 [−0.11, 0.12]	−.10 [−0.22, 0.01]	0.00 [−0.12, 0.13]	**$-.27_a$** [**−0.40, −0.15**]	**$-.28_a$** [**−0.39, −0.16**]	$-.11_b$ [−0.24, 0.01]	**−.27** [**−0.40, −0.15**]	**−.23** [**−0.34, −0.11**]	**−.26** [**−0.39, −0.13**]
Openness	**.17** [**0.05, 0.30**]	.05 [−0.06, 0.17]	.10 [−0.03, 0.22]	−.00 [−0.13, 0.12]	−.05 [−0.16, 0.07]	−.11 [−0.23, 0.02]	.05 [−0.07, 0.18]	−.05 [−0.17, 0.06]	−.05 [−0.18, 0.08]
Honesty-humility	**$-.59_a$** [**−0.74, −0.44**]	**$-.45_b$** [**−0.57, −0.33**]	**$-.35_b$** [**−0.48, −0.21**]	**−.65** [**−0.80, −0.49**]	**−.61** [**−0.73, −0.49**]	**−.60** [**−0.74, −0.46**]	**$-.91_a$** [**−1.06, −0.75**]	**$-.39_b$** [**−0.51, −0.27**]	**$-.56_c$** [**−0.69, −0.42**]

Note: In case of Big Five personality traits, *N*s were 3,133, 2,399, and 1,296 for effect sizes involving original dark triad scales (ODTS; i.e., Self-Report Psychopathy Scale-III); Dirty Dozen (DD); and Short Dark Triad (SD3), respectively. For HEXACO honesty-humility, these *N*s were 164, 967, and 1,096, respectively. Significant effect sizes are printed in bold. For each dark triad trait, within-row effect sizes not sharing similar subscripts are significantly different.

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Table 5. Main Results of the Meta-Analysis (Average Effect Size *r* and 95% Confidence Interval) Exploring the Psychosocial Correlates of the Dark Triad

Psychosocial correlates	*N*	Narcissism	Machiavellianism	Psychopathy
Uncontrolled effect size *r* [95% CI]				
All correlates	46,234	**.13 [0.01, 0.25]**ₐ	**.24 [0.12, 0.36]**ₐᵦ	**.29 [0.17, 0.41]**ᵦ
Categories of correlates				
Aggression/delinquency	7,060	**.20 [0.07, 0.34]**ₐ	**.32 [0.19, 0.45]**ₐᵦ	**.39 [0.25, 0.52]**ᵦ
Erratic behavior	6,826	.12 [−0.01, 0.25]ₐ	**.19 [0.06, 0.33]**ₐᵦ	**.27 [0.14, 0.40]**ᵦ
Sex-related issues	7,982	**.19 [0.07, 0.31]**ₐ	**.19 [0.07, 0.31]**ₐ	**.32 [0.20, 0.44]**ᵦ
Socioemotional deficits	5,452	.04 [−0.08, 0.15]ₐ	**.25 [0.13, 0.36]**ᵦ	**.31 [0.19, 0.42]**ᵦ
Poor well-being	7,592	−.03 [−0.13, 0.07]ₐ	**.22 [0.11, 0.32]**ᵦ	**.17 [0.07, 0.28]**ᵦ
Interpersonal difficulties	6,635	**.26 [0.14, 0.38]**	**.32 [0.20, 0.44]**	**.34 [0.22, 0.46]**
Morality problems	2,458	.10 [−0.01, 0.19]ₐ	**.22 [0.12, 0.32]**ₐᵦ	**.29 [0.19. 0.39]**ᵦ
Antisocial tactics	5,877	**.20 [0.07, 0.33]**	**.30 [0.17, 0.43]**	**.32 [0.19, 0.45]**
ODTS	11,272	**.13 [0.01, 0.26]**ₐ	**.19 [0.07, 0.32]**ₐᵦ	**.27 [0.15, 0.40]**ᵦ
DD	15,993	**.15 [0.04, 0.27]**	**.20 [0.09, 0.32]**	**.22 [0.10, 0.33]**
SD3	8,831	**.15 [0.03, 0.27]**ₐ	**.28 [0.16, 0.40]**ᵦ	**.37 [0.25, 0.49]**ᵦ
Controlled effect size *r* [95% CI]				
All correlates	39,946	.03 [−0.09, 0.15]ₐ	.10 [−0.02, 0.22]ₐᵦ	**.21 [0.09, 0.33]**ᵦ
Categories of correlates				
Aggression/delinquency	5,789	.04 [−0.10, 0.17]ₐ	.12 [−0.02, 0.26]ₐ	**.28 [0.15, 0.42]**ᵦ
Erratic behavior	5,693	.03 [−0.10, 0.15]ₐ	.06 [−0.07, 0.19]ₐ	**.19 [0.08, 0.32]**ᵦ
Sex-related issues	5,382	.11 [−0.01, 0.23]ₐ	.10 [−0.03, 0.22]ₐ	**.24 [0.12, 0.36]**ᵦ
Socioemotional deficits	5,222	−.05 [−0.17, 0.06]ₐ	.10 [−0.01, 0.22]ᵦ	**.25 [0.14, 0.37]**ᵨ
Poor well-being	5,001	−.00 [−0.11, 0.11]ₐ	.09 [−0.02, 0.20]ₐᵦ	**.14 [0.02, 0.25]**ᵦ
Interpersonal difficulties	5,359	**.14 [0.02, 0.26]**	**.16 [0.04, 0.28]**	**.19 [0.07, 0.31]**
Morality problems	2,458	−.02 [−0.12, 0.08]ₐ	.08 [−0.02, 0.18]ₐ	**.22 [0.12. 0.32]**ᵦ
Antisocial tactics	5,877	.04 [−0.09, 0.18]ₐ	**.14 [0.01, 0.28]**ₐᵦ	**.20 [0.07, 0.34]**ᵦ

Note: Top panel displays uncontrolled effect sizes, whereas the bottom panel shows effect sizes that were controlled for the shared variance among the three traits. Significant effect sizes are printed in bold. Within-row effect sizes not sharing similar subscripts are significantly different. *Ns* for controlled effect sizes are smaller because this analysis could only be performed with studies that also reported on the intercorrelations among the dark triad traits. ODTS = original dark triad scales (i.e., Narcissistic Personality Inventory, MACH–IV, and Self-Report Psychopathy Scale–III); DD = Dirty Dozen; SD3 = Short Dark Triad.

smallest effect size being found for poor well-being also in relation to psychopathy (*r* = .17). In general, most psychosocial correlates were more convincingly associated with psychopathy than with Machiavellianism, although the only statistically significant difference emerged for sex-related issues (*r*s being .32 vs. .19). Thus, psychopathy was more clearly associated with a higher number of sex partners, more infidelity, and greater engagement in sexual harassment than Machiavellianism.

Second, in the case of narcissism, only the effect sizes for aggression–delinquency (*r* = .20), sex-related issues (*r* = .19), interpersonal problems (*r* = .26), and antisocial tactics (*r* = .20) were statistically significant. For the links with interpersonal problems and antisocial tactics, the average effect sizes for narcissism did not statistically deviate from those obtained for Machiavellianism and

psychopathy, suggesting that these negative outcomes were equally prominent in the three dark triad traits.

When we controlled for the shared variance among the dark triad traits, a more clear-cut pattern emerged. As is evident in the lower panel of Table 5, the best summary seems to be that "psychopathy runs the show." More precisely, psychopathy remained statistically positively associated with all psychosocial outcomes (*r*s between .14 and .28) when we controlled for the other two traits. The unique contributions of narcissism and Machiavellianism were considerably smaller and often nonsignificant. Narcissism remained statistically related only to interpersonal difficulties (*r* = .14), while Machiavellianism merely remained statistically linked to interpersonal difficulties and antisocial tactics (*r*s being .16 and .14, respectively).

To recapitulate, the three dark triad traits are associated with negative psychosocial outcomes. Yet, Machiavellianism and especially psychopathy are more convincingly associated with adverse psychosocial consequences than narcissism, which is in line with the notion that both Machiavellianism and psychopathy are more extreme in terms of viciousness and thus have more social and personal costs than narcissism (e.g., Rauthmann & Kolar, 2012, 2013). Controlling for shared variance among the dark triad traits revealed that psychopathy is the dominant malevolent trait, accounting for unique variance in all psychosocial outcomes. In contrast, narcissism and Machiavellianism rarely made independent contributions once the influence of the other dark traits was partialed out. We found no support for the idea that dark triad traits may also be linked to better, more positive outcomes (see Jonason et al., 2012). An exception was a study by Spurk, Keller, and Hirschi (2016), who examined in a large sample of industry employees incremental effects of dark triad traits on objective (i.e., salary and leadership position) and subjective (i.e., career satisfaction) career success. After controlling for confounding variables (e.g., gender, education, working hours), these researchers found narcissism to be positively related to salary and Machiavellianism to be positively related to leadership position and career satisfaction, whereas psychopathy was negatively related to all outcomes. These findings confirm the darkness of psychopathy but at the same time demonstrate that narcissism and Machiavellianism may have some adaptive value. However, the results of our meta-analysis suggest that such positive effects are clearly overshadowed by negative outcomes, confirming the overall negative reputation of the dark triad traits.

General Discussion

Our meta-analyses confirm a number of key findings in the dark triad literature, notably that narcissism, Machiavellianism, and psychopathy are (a) substantially intercorrelated, (b) more common among men than women, (c) predominantly related to the Big Five personality factor of agreeableness and the HEXACO factor of honesty-humility, and (d) often associated with various types of negative psychosocial outcomes. By only including studies in which all three dark traits were assessed, we were able to control for the shared variance among these traits, and we found that the gender difference remained statistically significant only for psychopathy, with men scoring higher on this trait than women, and the personality profile associated with the three traits became more nuanced. Thus, Machiavellianism and psychopathy, but not narcissism, remained statistically negatively linked with agreeableness. Although all three traits were still inversely

related to honesty–humility, at a subtrait level, Machiavellianism and psychopathy were more associated with lack of sincerity and fairness, while narcissism was more associated with deficits in greed avoidance and modesty. In addition, it was primarily psychopathy that was positively associated with adverse psychosocial outcomes.

In what follows, we do not want to reiterate these findings but rather provide a critical examination of the dark triad concept, thereby highlighting possible avenues for future studies. Our starting point was the principle that "everything should be made as simple as possible, but not simpler"—which is often attributed to Albert Einstein. Is the dark triad as simple as possible, but not too simple? We have our doubts.

First, Paulhus and Williams (2002) seemed to assume that only the constellation of narcissism, Machiavellianism, and psychopathy is able to fully capture the malevolent side of human nature. However, our meta-analysis did not yield a compelling reason to include all three traits when studying their role in transgressive human behavior. Correlations among the dark triad members were quite substantial, suggesting conceptual redundancy. Even more, additional analyses, in which we controlled for shared variance, indicated that psychopathy is the dominant trait when one is explaining various types of malevolent behavior. Our conclusion is backed up by several studies that showed the presence of psychopathy to uniquely predict transgressions, such as financial misbehavior (Jones, 2014), deviant sexual fantasies (Baughman, Jonason, Veselka, & Vernon, 2014), cyberbullying (Goodboy & Martin, 2015), cheating (Nathanson, Paulhus, & Williams, 2006), racism (Jonason, 2015), and schadenfreude (James, Kavanagh, Jonason, Chonody, & Scrutton, 2014). Some of these studies were based on self-reports of transgressive behaviors (e.g., Baughman et al., 2014), whereas others were based on behavioral indices (e.g., cheating; Nathanson et al., 2006). Still, what they have in common is that once we controlled for psychopathy, neither narcissism nor Machiavellianism made a significant contribution to the prediction of transgressive tendencies. Obviously, specifically focusing on psychopathy as the core antecedent of transgressive behavior is more parsimonious than taking the full spectrum of dark triad traits into account (Lilienfeld & Andrews, 1996; Yildirim & Derksen, 2015). As things stand, we conclude that the concept of dark triad is not "as simple as possible," although we are well aware of the limitations of the studies in this domain (discussed later).

Second, given the pivotal role of psychopathy, brief measures such as the DD and SD3 are perhaps "too simple" as they poorly reflect the richness of psychopathy. The DD is most problematic because its items only assess callous affect, thereby neglecting the other components of psychopathy (i.e., interpersonal manipulation, erratic

lifestyle, and antisocial behavior). Not surprisingly, Miller and colleagues (2012) concluded that the convergent validity of the Psychopathy subscale of the DD is alarmingly low: This subscale only shared 23% of variance with alternative measures of psychopathy, compared with the 66% shared variance documented for other, more extended scales (e.g., SRP-III). The SD3 is better in this regard, because its items at least reflect the multiple facets of psychopathy (see Maples et al., 2014). However, within the SD3, components are not represented by a similar number of items, which means that some (i.e., erratic lifestyle and antisocial behavior: each three items) carry more weight than others (i.e., interpersonal manipulation and callous affect, with respectively one and two items). All this implies that the conciseness of some dark triad scales comes at the cost of a suboptimal indexing of the trait that has the strongest explanatory power (i.e., psychopathy). In our opinion, there is certainly a need for a brief measure of psychopathy, but in terms of content such an instrument should be a balanced representation of all aspects of this multidimensional construct rather than including items related to narcissism and Machiavellianism.

Third (in elaboration of the "not too simple" argument), the dark triad literature has been preoccupied with the combination of three malevolent traits and thus largely ignored the fact that the separate dark triad traits are multidimensional and each is composed of heterogeneous sets of characteristics. This is true for narcissism (e.g., Dickinson & Pincus, 2003; Wink, 1991) and Machiavellianism (e.g., Corral & Calvete, 2000; Dahling, Whitaker, & Levy, 2009; Monaghan, Bizumic, & Sellbom, 2016) but certainly also applies to psychopathy (e.g., Hare, 2006; Hare & Neumann, 2008). As for the latter trait, a common distinction has been made between primary and secondary psychopathy (Levenson, Kiehl, & Fitzpatrick, 1995). Primary psychopathy is more genetically based and mainly characterized by deficient affective reactivity, whereas secondary psychopathy is acquired via adverse environmental influences (e.g., poor parenting, traumatic experiences, or socioeconomic disadvantage) and predominantly typified by an impulsive and irresponsible behavioral style. This distinction is important, as the two types of psychopathy differ in terms of psychosocial correlates (such as patterns of violence and delinquency) and responsivity to treatment (Skeem, Poythress, Edens, Lilienfeld, & Cale, 2003). The extant dark triad literature has failed to take this distinction into account.

A more general issue is whether the dark triad provides the most optimal approach to understanding the malevolent side of human nature. Some scholars strongly believe in the explanatory power of these three traits operating in concert (e.g., Paulhus, 2014). There is even the suggestion of expanding the dark triad to the "dark tetrad" by adding a fourth trait of sadism. This element would involve the enjoyment of cruelty and is speculated to be even more predictive of malevolent behavior (Buckels, Jones, & Paulhus, 2013; Buckels, Trapnell, & Paulhus, 2014). Other researchers are skeptical about the incremental validity of the dark triad construct. For example, O'Boyle et al. (2015) conducted a meta-analytic study of the relationships between narcissism, Machiavellianism, and psychopathy, and the five-factor model of personality. Their results revealed a pattern of associations between the dark triad and the Big Five factors that is highly similar to the one obtained in the current study.[4] Most important, these authors also found that large proportions of the variance in the dark personality traits were already explained by the Big Five factors and their underlying facets. A similar conclusion was reached by Book, Visser, and Volk (2015), who explored the "core of evil" by comparing various models by means of a canonical correlation analysis performed on dark triad, Big Five, and HEXACO data. These researchers concluded that the HEXACO model—in particular, the honesty–humility factor—accounted for most of the variance in the dark triad traits. Accordingly, they concluded that this factor provides the most parsimonious model for antisocial personality features. This is further underlined by Lee et al. (2013), who examined dark triad and HEXACO as concurrent predictors of adverse outcome variables related to money (e.g., conspicuous consumption and materialism), power (e.g., desire for power), and sex (e.g., shortterm mating strategy and instrumental sexual behaviors). Although the dark triad traits were certainly linked to these negative outcomes, it was again the honesty–humility factor of the HEXACO model that had most predictive value. These results suggest that the dark triad concept largely is redundant and has little to add to traditional personality models, although it is clear that more research is needed on forensic populations, experimental situations, and behavioral outcomes for investigators to draw a more definitive conclusion.

Overall, our meta-analytic review confirms that the dark triad traits are associated with various types of negative psychosocial outcomes. Of course, this result hardly is surprising because the dark traits themselves are defined partly by malevolent and antisocial behaviors. Thus, looking at correlations between dark traits and transgressive behavior is a somewhat circular exercise. This is most obviously true for psychopathy, for which criminal tendency is one of the defining features. Therefore, the correlations between psychopathy and externalizing outcomes such as aggression and delinquency are almost self-evident (e.g., Skeem & Cooke, 2010), and it may well be that this type of criterion contamination gives psychopathy the advantage of being the most robust correlate of malevolent behavior. However, even

for the other two dark triad members, there seems to be some overlap between trait and psychosocial outcome. For instance, it is obvious that due to its associated features of grandiose self-promotion and continuous attention craving, high narcissism correlates with social difficulties. In a similar vein, it is almost self-evident that high Machiavellianism, through its inherent feature of tactical manipulation, correlates with guile and deceit.

Despite the circularity issue, it should be noted that the effect sizes for the relations between the dark triad traits and adverse psychosocial variables are remarkably modest (i.e., in the small to medium range). The fact that research in this area has been conducted solely in nonclinical populations may have contributed to this state of affairs. The point here is that the base rate of malevolent and antisocial behaviors in nonforensic samples can be assumed to be rather low. Indeed, it is remarkable that so far, the dark triad has not been examined in forensic populations, which obviously have demonstrated the malevolent side of human behavior. Another point to consider is that people tend to underreport negative traits and behaviors (Paulhus & John, 1998), and this tendency seems especially true for individuals high on dark traits (Book et al., 2015). Underreporting (i.e., "fake good") may also attenuate criterion-related validity, at least to some extent (Watts et al., 2016). Thus, overreliance on nonforensic samples as well as fake good tendencies may have prevented the finding of more robust correlations between dark triad traits and norm-violating behavior.

Turning to the designs on which dark triad research relies, a number of critical remarks are in order. First, so far, researchers in studies on the dark triad have exclusively employed cross-sectional approaches to explore associations between narcissism, Machiavellianism, and psychopathy, and psychosocial outcomes. Some investigators merely have based their conclusions on correlations, while others have adopted regression analysis to learn more about the unique correlates of dark personality traits. Although, as previously noted, the latter approach is clearly superior to the former, the fact remains that in neither case can conclusions be drawn with regard to cause–effect relations. To some extent, the causality issue is obscured by regression techniques in which dark triad traits serve as predictors and other variables (e.g., problematic behavior) as criterion. One could as well reverse the input to regression models, arguing that antisocial behavior fosters dark triad features. There is not a single study in this domain that contradicts this type of causality. Thus, it will be important in the future for researchers to move away from the cross-sectional approach by conducting prospective, longitudinal studies to test whether dark triad features are, indeed, causal antecedents of transgressive behaviors.

Second, researchers have been preoccupied with how dark triad traits affect outcome variables. It is interesting that some have begun to examine interactive effects. Some workers in the field have come up with highly specific predictions in this regard. For example, on the basis of the finding that individuals high on dark triad traits are characterized by a night-time chronotype (Jonason, Jones, & Lyons, 2013), Roeser et al. (2016) recently tested the idea that individuals scoring high on dark traits would be particularly prone to display unethical behavior under coverage of the darkness of the night. A large sample of participants completed a dark triad measure as well as a cheating task, with one half being tested in the morning, and the other half being tested in the evening. Although the researchers found some evidence for the idea that participants high on Machiavellianism and psychopathy displayed higher levels of unethical actions, no support emerged for the notion that the time of the day had influence on this effect. Although this type of research may seem exotic, we think that it is important precisely because—in case of positive findings—it may help to identify under what conditions people characterized by dark traits manifest transgressive behaviors. Still, it also would be important to examine more obvious moderating variables. Intelligence is a case in point: Although research findings already have indicated that there is no direct link between general mental ability and the dark triad traits (O'Boyle, Forsyth, Banks, & Story, 2013), it is conceivable that intelligence moderates the relations between dark traits and adverse outcome variables. Arguably, for this type of study, a good representation of the general population is needed, which means that researchers should no longer rely on highly educated Internet and student samples, which at present is common practice in dark triad research.

Third, this line of research was developed to learn more about dark traits in "the normal and everyday range" (Paulhus, 2014, p. 421), but personality traits are dimensional in nature. This dimensionality implies a continuum between nonclinical expressions of narcissism, Machiavellianism, and psychopathy, on the one hand, and deviating, abnormal manifestations of these traits, on the other. Of course, researchers in several studies have examined each of the dark traits separately in clinically referred or detained samples (e.g., Hildebrand, De Ruiter, & Nijman, 2004; Latorre & McLeoad, 1978; Miller et al., 2013), but, as noted earlier, at present no research can be found in which the combination of narcissism, Machiavellianism, and psychopathy was examined in mental health or forensic settings. Research involving clinical or forensic samples might elucidate whether persons scoring high on all dark triad traits exhibit specific careers that cannot be readily understood when only separate traits are taken into account.

Fourth, so far most researchers have relied exclusively on the self-report assessment of dark triad traits. Some have examined narcissism and psychopathy by also including other informants (e.g., Carlson, Vazire, & Oltmanns, 2011; Lukowitsky & Pincus, 2013; Miller, Jones, & Lynam, 2011; Miller, Rauscher, Hyatt, Maples, & Zeichner, 2014), but within the dark triad literature, the only study in which this approach was adopted was that by Jones and Paulhus (2014). These researchers recruited 65 participants through the Internet and asked them to complete the SD3. In addition, friends, family members, and romantic partners were invited to fill in this dark triad questionnaire about the participants, thereby providing important collateral information. The results were encouraging in that they revealed cross-informant correlations of .34 for narcissism, .42 for Machiavellianism, and .57 for psychopathy, indicating that the self-report ratings of these traits were, to some extent, corroborated by peers. The inclusion of other-informant reports is strongly recommended for future studies on the dark triad (see Vazire & Carlson, 2011), not only because it would be one strategy to circumvent fake-good reporting biases but also because we know from the clinical child and adolescent literature that self-reports assume accurate self-assessments, which are less evident with externalizing traits and symptoms (De Los Reyes et al., 2015).

Fifth and finally, our meta-analysis revealed that there is a small (narcissism, Machiavellianism) to medium (psychopathy) effect of gender on the dark triad traits, with men generally displaying somewhat higher scores than women. It is surprising that many recent studies have failed to take this variable into account, although there are not only empirical but also theoretical reasons (Dabbs & Morris, 1990; Weisbuch et al., 1999) to assume that the dark traits and their psychosocial correlates manifest themselves differently in both genders.

In conclusion, in terms of quantity, research on the dark triad is in pretty good shape. Each year, an increasing number of articles are published on this topic and there is no reason to believe that this trend is going to change in the near future. With regard to the quality of the studies on the triangle of narcissism, Machiavellianism, and psychopathy, we have made a number of critical comments about the conceptual underpinning of the dark triad (e.g., the causality issue). Most studies (about 75%) were cross-sectional investigations that appeared in journals such as *Personality and Individual Differences*, and were not concerned with conceptual issues. It is time for this field to move away from conducting such studies and to shift attention to prospective designs. After all, psychology is about predicting behavior: by looking at a person's typical set of features and characteristics, psychologists hope to learn more about his or her cognitions, emotions, motivations, and actions in various situations (e.g., Roberts et al., 2007). Bearing Mischel's (1969) seminal work in mind, we know that it is already quite a challenge to find traces of personality traits in normal human behavior. The question is how best to study the personality traits that define the malevolent side of human nature, so that psychologists can make reliable and valid predictions of transgressive behaviors. We believe that asking individuals to complete a self-report questionnaire containing a brief set of negative items describing some antisocial and malevolent features is not the way to go. We have to remind ourselves that the word *personality* originates from the Latin *persona*, which means "mask." This etymological information is highly relevant for individuals scoring high on dark triad traits: narcissists, Machiavellians, and psychopaths often present themselves in a disguised way to other people and tend to wear a mask to hide the darker features of their personality. The road to take is "multitrait, multimethod," which implies the need to rely on multiple assessments of the dark personality traits administered in multiple informants in order for researchers to learn more about the malevolent side of human nature.

Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

Notes

1. As an aside, we mention that Machiavelli was considerably more balanced in his treatise on the morals of power than the term *Machiavellianism* nowadays suggests (Berlin, 2013).
2. The Excel (Microsoft Corp., Redmond, WA) files with the data that were used for the meta-analyses can be obtained from the authors.
3. Sociosexuality, which can be defined as the tendency to have casual, uncommitted sexual relationships, was also included in this category. Although essentially not an adverse psychosocial outcome (from an evolutionary perspective, sociosexuality can even be regarded as positive; e.g., Jonason, Koenig, & Tost, 2010), sociosexuality is associated with a broad range of negative consequences, including romantic loneliness, love dissatisfaction, and negative affect (Neto, 2015).
4. O'Boyle et al. (2015) adopted a less stringent inclusion criterion and incorporated research in their meta-analysis on the relation between at least one Dark Triad trait and one Big Five personality factor. In contrast, in the present study we only incorporated research in which all three dark triad traits and all five Big Five factors were measured. Nevertheless, we essentially replicated the statistically significant relations reported by O'Boyle et al. (2015). Thus, O'Boyle et al. (2015) found a negative effect size with agreeableness for all three dark triad traits (*r*s ranging between −.29 and −.42), a negative effect size with conscientiousness for both Machiavellianism and psychopathy (*r*s being −.21 and −.31, respectively) and a positive effect size with extraversion and openness for narcissism (*r*s being .40 and .20, respectively), findings that also emerged in our analysis.

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References marked with an asterisk indicate studies included in the meta-analysis. Subscripts indicate in which meta-analysis or meta-analyses the pertinent study was included: 1 = intercorrelations among dark triad measures, 2 = gender differences in dark triad traits, 3 = correlations with normal personality traits, and 4 = psychosocial correlates.

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