



Review

Considering sadism in the shadow of the Dark Triad traits: A meta-analytic review of the Dark Tetrad

Bruno Bonfá-Araujo^{a,*}, Ariela Raissa Lima-Costa^a, Nelson Hauck-Filho^a,
Peter Karl Jonason^{b,c,2}

^a Graduate School of Psychology, Universidade São Francisco, Brazil

^b University of Padua, Italy

^c University of Cardinal Stefan Wyszyński, Poland

ARTICLE INFO

Keywords:

Dark triad
Dark tetrad
Psychopathy
Narcissism
Machiavellianism
Sadism
Meta-analyses

ABSTRACT

With this meta-analytic review, we aimed to estimate the relationship that sadistic personality has with the Dark Triad traits and, secondarily, describe the research on the Dark Tetrad traits. We searched for articles in the following databases, PsycARTICLES, PsycINFO, PubMed, ScienceDirect, SCOPUS, and Web of Science, where we found 128 articles to qualitatively evaluate and 103 articles to quantitatively analyze. Sadism correlated with narcissism ($\bar{r} = 0.26$), Machiavellianism ($\bar{r} = 0.43$), and psychopathy ($\bar{r} = 0.58$). The most common themes across the studies were: (a) structural aspects of the Dark Tetrad; (b) online behavior; (c) aggressiveness; (d) moral beliefs and behavior; (e) video games; (f) sexual behavior, and (g) emotional functioning. The Dark Tetrad traits correlated with several dysfunctional behaviors and socially maladaptive outcomes. Finally, sadism is potentially more similar to psychopathy and Machiavellianism, than narcissism.

1. Introduction

The Dark Triad is (i.e., psychopathy, Machiavellianism, and narcissism) composed of subclinical traits, which means that, despite being undesirable for most concerned, people with higher levels of these traits do not reach disorders clinically. However, the behaviors these traits create may still have harmful consequences for themselves or others. Since its origins (Paulhus & Williams, 2002), the Dark Triad traits has garnered substantial interest from personality researchers, and it has recently been expanded to include sadism, leading to what is now called the Dark Tetrad (Chabrol et al., 2009; Paulhus, 2014). Sadism, or in its subclinical manifestation, *everyday sadism*, can be seen when people enjoy watching violent movies or even playing violent games as a social escape to manifest their sadistic traits (Buckels et al., 2013). With the addition of sadism, researchers have turned to understanding how much, where, and even whether sadism should be included as part of a more extensive program of research (Dinić & Jevremov, 2019; Jonason & Zeigler-Hill, 2018). Thus, this study aimed to meta-analytic review the relationship between sadism and the Dark Triad traits to further

understand the association of aversive traits and synthesize prior evidence.

Historically, sadism is usually associated with sexual fetishes and criminality; as part of a personality model, the Dark Tetrad, sadism is investigated in its subclinical manifestation—everyday sadism—together with subclinical narcissism, Machiavellianism, and psychopathy (Paulhus, 2014). Individuals with higher scores in narcissism are characterized by grandiosity, exhibitionism, and arrogance (Glover et al., 2012). For higher scores in Machiavellianism primary traits are manipulation, flattery, cynicism, and other behaviors that help promote their interests (Collison et al., 2018). Higher scores in psychopathy are associated with non-empathetic and impulsive conduct, and prone to behave antisocially (Patrick, 2018). In turn, higher scores in everyday sadism are associated with injuring others verbally, physically, and/or psychologically, inspired by a hedonic value of being cruel (Buckels et al., 2013). These four traits share a pervasive pattern of callous exploitation and lack of empathy, presenting moderate-to-high correlations internally, leading to its proposed inclusion into the Dark Triad model (Buckels et al., 2013; Paulhus, 2014). The Dark Tetrad traits

* Corresponding author.

E-mail address: brunobonffa@outlook.com (B. Bonfá-Araujo).

¹ This study was financed in part by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior - Brasil (CAPES) - Finance Code 001.

² The author was partially funded by a grant from the National Science Center of Poland (2019/35/B/HS6/00682).

tend to correlate negatively with morality and relational domains, such as counterproductive work behavior, cheating in academic settings, unfaithful behavior in romantic relationships, and antisocial behaviors and attitudes in several social contexts (Furnham et al., 2013; Paulhus, 2014).

Despite the inclusion of everyday sadism, the Dark Triad traits remain a topic explored independently of sadism. A previous meta-analytic study considering the Dark Triad traits indicated that the extent to which the traits overlap might vary (Vize et al., 2016). The intercorrelation coefficients obtained so far suggests that psychopathy is more correlated with Machiavellianism ($\bar{r} = 0.52$) than with narcissism ($\bar{r} = 0.38$), and Machiavellianism and narcissism have a weaker relationship ($\bar{r} = 0.35$; Vize et al., 2016). Some factor analytical results found that items measuring psychopathy and Machiavellianism will cluster into a single factor, with both possibly being indistinguishable (e.g., Bonfá-Araujo et al., 2021; Persson et al., 2017; Vize et al., 2016).

Although the relationship between the Dark Triad traits is relatively well established, only one study (we know of) has provided meta-analytical results concerning sadism and the Dark Triad traits (Kowalski et al., 2020) which found an association (Hedges' g) of 0.27 between sadism and narcissism, 0.46 between sadism and Machiavellianism, and 0.58 between sadism and psychopathy. However, their focus was to test the psychometric proprieties of the Assessment of Sadistic Personality (ASP) scale; their meta-analysis was used only to provide theoretical support and understanding of the association between sadism and personality traits. Thus, through a meta-analytic review, we investigated the quantitative and qualitative associations between sadism and the Dark Triad in the present study. To do so, we assessed the average correlation that sadism displays with the remaining Dark Tetrad factors—psychopathy, Machiavellianism, and narcissism—and summarized the main results in the Dark Tetrad studies conducted so far. We hypothesized that sadism would correlate more strongly with the most adverse trait, psychopathy, and less with the least aversive of them, narcissism, with Machiavellianism falling in between.

2. Method

2.1. Search strategy and study selection

From August 2019 to May 2022, we performed the database search using the descriptors “Dark Tetrad” and “Dark Triad AND sadism.” The bases included in this research were PsycARTICLES, PsycINFO, PubMed, ScienceDirect, SCOPUS, and Web of Science, using the descriptors in the title, abstract, and keywords fields when available. All articles found in these databases were selected to be more closely inspected as to if they met the inclusion and exclusion criteria. We included English materials published online from 2014 to December 2021, a period based on the inclusion of sadism in the Dark Triad model (Paulhus, 2014). It must be noted that the term “Dark Tetrad” was first used by Chabrol et al. (2009); however, their article focused mainly on the youth delinquent behavior associated with the Dark Triad and sadistic traits.

2.2. Eligibility criteria and data extraction

Inclusion criteria were (a) articles that used instruments to assess the four dimensions of the Dark Tetrad traits (i.e., Machiavellianism, psychopathy, narcissism, and sadism). Exclusion criteria were (a) theoretical materials, (b) materials that did not provide any statistical analyses involving the traits, (c) materials published only in events as posters or presentations, and (d) materials in languages other than English.

After the searches, we transferred all articles to the extraction software (Zotero 5.0.56 macOS version). Duplicate materials were initially excluded, and then the inclusion and exclusion criteria for the remaining files were applied. Subsequently, the following information was extracted for the articles included in the research: authors, year of publication, journal title, sample quantity, and instruments used to

measure the Dark Tetrad traits. If incongruent criteria were applied, discrepancies about inclusion and exclusion were resolved by consensus among the authors of this article. Qualitative data extracted were divided into groups by objective similarity, and quantitative data underwent meta-analytic procedures.

2.3. Meta-analytic procedure

For the studies that comprised the quantitative analysis, they were selected to be part of a meta-analytic procedure, where we calculated effect sizes, outliers, and publication bias. Each of the studies was analyzed individually to extract the correlations between sadism-narcissism, sadism-Machiavellianism, and sadism-psychopathy available in each paper. Moreover, studies that only reported correlations between components of a same Dark Tetrad factor (e.g., grandiose narcissism and vulnerable narcissism) were excluded from the meta-analysis. When papers presented correlational findings in more than one sample, the data were treated as independent studies.

We followed the analytical strategy described by Harrer et al. (2019), using the software RStudio. More specifically, we performed a random-effects meta-analysis of the published correlations with the Sidik-Jonkman estimator, which is preferable for heterogeneous studies with small sample sizes (Sidik & Jonkman, 2007). We calculated the effect sizes using the r coefficient and the standard Hedges' g (with 95% confidence intervals) given the continuous nature of the data and to adjust for sample size differences.

We also carried out an outlier analysis to capture extreme effect sizes and estimate their influence on the overall effect. We opted for using the Higgin and Thompson I^2 and the between-study heterogeneity variance τ^2 statistic. While the first one measures the amount of variability on effect sizes that do not occur because of sampling error and is less sensitive to the number of studies in the analysis. The second one is the estimate of standard deviation of distribution of true effect sizes across studies. The I^2 estimator can be interpreted as 25% low heterogeneity, 50% moderate heterogeneity, and 75% substantial heterogeneity (Higgins et al., 2003). To possibly identify overestimated effect sizes, we performed two analyses of publication bias, the Egger's test of the intercept, and the Duval and Tweedie's trim-and-fill analysis, when necessary (Duval & Tweedie, 2000; Egger et al., 1997). A lack of bias is indicated when the intercept is not significant in the first test and when a symmetrical distribution of the effect sizes (funnel-plot) is yielded by the second.

3. Results

3.1. Study selection

From the established search parameters, 958 articles were obtained. A total of 571 articles were excluded for being duplicates, leaving us with 387 studies. From the complete text analysis, 13 were excluded: six had solely theoretical content, three were excluded because they were posters presented in a congress, two did not measure all four traits, one was in another language, and one was excluded because it was a publication prior to the established period—the study by Buckels et al. (2013)—was a prelude to the proposed Dark Tetrad, in which the authors sought empirical evidence for the relationship between the Dark Triad traits and sadism. The complete flow diagram can be seen in Fig. 1.

In the end, we analyzed 128 articles. The number of articles has increased according to the years since the Dark Tetrad was proposed, and the 2021 year had the highest number of publications so far (33 articles). *Personality and Individual Differences* has the highest number of publications (i.e., 58 articles). The aggregated sample across all published studies included 105,112 participants. The Short Dark Triad ($n = 76$) and Dirty Dozen ($n = 23$) were the most used to measure the Dark Triad traits, while the Short Sadistic Impulse Scale ($n = 49$; O'Meara et al., 2011) and the Comprehensive Assessment of Sadistic Tendencies

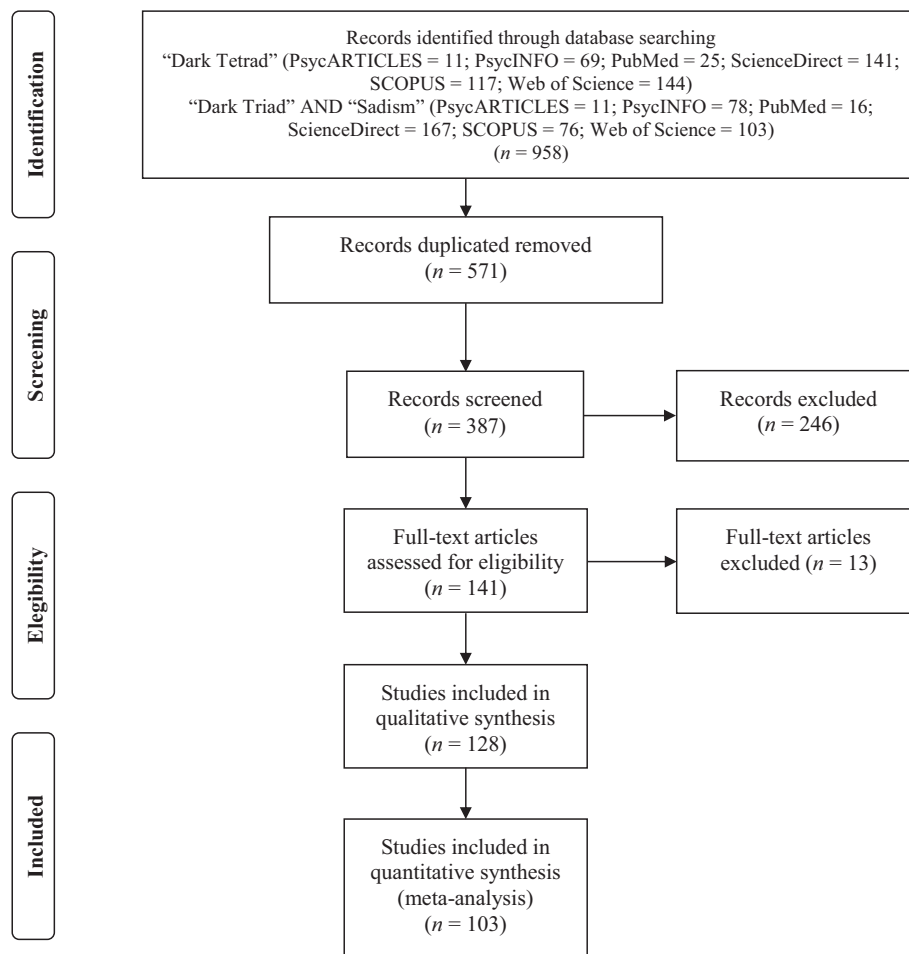


Fig. 1. Flow diagram based on PRISMA (Moher et al., 2009).

($n = 29$; Buckels & Paulhus, 2014) were the most popular to measure sadism. We made available an appendix listing all the articles included in this meta-analytic review (Table 1a).

3.2. Study characteristics

Of the 128 papers selected in the review, all were part of the qualitative review, while 103 comprised the quantitative aspect of this review (consisting of articles that presented a correlation analysis). It should be kept in mind that although 103 papers made up the quantitative analysis, 141 correlational studies were reported in those articles and were, therefore, analyzed. In most studies, sadism correlated to a greater extent with psychopathy and, to a lesser extent, narcissism. With respect to the qualitative specificities of the studies and their relationship with the Dark Tetrad, these were characterized by seven major topics for the sake of simplicity (see Table 1). These topics were about (a) structural aspects of the Dark Tetrad; (b) online behavior (i.e., cyberbullying, cybertrouling, cyberstalking); (c) aggressiveness and related constructs; (d) moral beliefs and behavior; (e) video games; (f) sexual behavior, and (g) emotional functioning.

3.3. Meta-analysis of sadism and the Dark Triad factors

3.3.1. Main findings

We report the results of our meta-analysis in Table 2. As expected, we found that sadism correlated positively with narcissism, Machiavellianism, and psychopathy with and without the control of outliers. Heterogeneity was greater than 85% (Higgins et al., 2003), and when

outliers were controlled, this value was reduced to between 40.1% and 66%. Figs. 3 and 4 contain the forest plots without and with outlier control.

3.3.2. Outlier analysis

Excluding outliers, studies yielded almost the same results. For the correlations between sadism-narcissism ($k = 141$, pooled correlation $r = 0.277$), 44 studies were detected as outliers, and the pooled correlation resulted $r = 0.266$. For sadism-Machiavellianism ($k = 141$, pooled correlation $r = 0.427$), 48 studies were detected as outliers, and the pooled correlation was $r = 0.435$. Lastly, for sadism-psychopathy ($k = 141$, pooled correlation $r = 0.585$), 78 studies were detected as outliers, and the pooled correlation was $r = 0.583$. From the analyses carried out, it can be observed that the results decreased only trivially when the outliers were not considered, indicating that conclusions would be basically the same.

3.3.3. Publication bias analyses

We found no evidence of publication bias for the relationships between sadism-narcissism and sadism-Machiavellianism (Egger's test = 0.68, $p = .33$ [Fig. 2a]; Egger's test = 0.23, $p = .76$ [Fig. 2b]). However, a significant effect was detected for sadism-psychopathy (Egger's test = 4.34, $p = .001$), which indicated the existence of asymmetry and possible publication bias. Initially, g was 0.67 but changed to 0.51 with trim-and-fill analysis, as seen in Fig. 2c. Fig. 2d depicts the plot obtained when using Duval and Tweedie's trim-and-fill analysis.

Table 1
Qualitative description of studies.

Topics	Focus of investigation	Main results	Studies
Structural aspects of the Dark Tetrad	Model testing (cluster analysis, factor analysis, and predictive models)	Dark personality traits could be better explained from a bifactor or a dark core when compared to a four-dimensional model; articles also indicated that sadism represents a parsimonious inclusion in the triad model	Bertl et al., 2017; Book et al., 2016; Chabrol et al., 2015; Chabrol et al., 2017; Chabrol et al., 2019; Dinić, Allred, et al., 2020; Dinić, Wertag, et al., 2020; Fernández-del-Río et al., 2020; Furnham and Horne (2021); Gebben et al. (2021); Johnson et al., 2019; Kowalski et al., 2020; Mededović & Petrović, 2016; Meere & Egan, 2017; Meng et al., 2022; Paulhus, Buckels et al., 2021; Pineda, Piqueras, et al., 2021; Plouffe et al., 2016; Plouffe et al., 2018; Ramos-Villagrana et al., 2020; Southard et al., 2015; Thibault & Kelloway, 2020; Tran et al., 2018
Online behavior	Virtual relationships: cyberbullying, cybertrouling, cyberstalking, social media addiction, problematic internet use, and media violence	All dark traits, but mostly sadism, correlate, predict and explain aggressive, cruel, and online stalking behaviors. Sadistic tendencies tend to motivate cybertrouling behavior to a greater extent so that these individuals get pleasure from engaging in such intimidation	Allen et al., 2021; Balta et al., 2019; Brown et al., 2019; Buckels et al., 2014; Buckels et al., 2018; Chung et al., 2019; Chung and Sheridan (2021); Craker & March, 2016; Duncan & March, 2019; Gylfason et al., 2021; Hand et al., 2021; Kircaburun & Griffiths, 2018; Kircaburun et al., 2018a; Kircaburun et al., 2019; March et al., 2017; March et al., 2020; Masui, 2019; Mayshak et al., 2020; Pina et al., 2021; Pineda, Galán, et al., 2021; Seigfried-Spellar & Lankford, 2018; Sest & March, 2017; Smoker & March, 2017; van Geel et al., 2016
Aggressiveness	Prejudice, cruelty, radicalization, and antisocial behavior	All dark traits, but narcissism, positively predict aggressive behaviors, such as punishment. The associations were higher for sadism and psychopathy	Chester et al., 2018; Chung et al., 2022; Fernández-del-Río et al., 2021; Greitemeyer & Sagioglou, 2016, 2020; Highhouse et al., 2018; Mededović & Kovačević, 2020; Min et al., 2019; Morgades-Bamba et al., 2018; Moor et al., 2019; Paulhus, Gupta et al., 2021; Pfattheicher et al., 2017; Pfattheicher, Keller, & Knezevic, 2018; Pfattheicher, Schindler, & Nockur, 2018; Plouffe et al., 2020a, 2020b; Ritchie et al., 2019; Sagioglou & Greitemeyer, 2016; Schriber et al., 2017; Tetreault et al., 2018; Tetreault & Hoff, 2019; Tortoriello et al., 2019; Tucaković & Marković, 2021
Moral beliefs and behavior	Relationship between the Dark Tetrad and moral foundations, core values, teamwork, and political ideology	Dark traits are related to more sinning and lying. Are negatively associated with moral foundations. Dark Tetrad traits are associated with right-wing political orientation and counter-productive work. Social and economic-political ideology did not interact with sadism	Balakrishnan et al., 2017; Bardeen & Michel, 2019; Dierdorff and Fisher (2021); Dinić et al., 2021; Duspara & Greitemeyer, 2017; Forsyth et al. (2021); Furnham and Horne (2022); Hardin et al., 2021; Hart et al., 2020, 2021; Hughes & Adhikari, 2021; Jonason et al., 2017; Jonason & Zeigler-Hill, 2018; Kapoor & Kaufman, 2021; Karandikar et al., 2018; Kay, 2021, 2022; Kircaburun, Süral, et al., 2021; Martin et al., 2022; Mededović & Petrović, 2015; Nott & Walker, 2021; Schofield et al., 2021; Schreyer et al., 2021; Stanwix & Walker, 2021; Tetreault & Sarma, 2021; Trémolière & Djeriouat, 2016; Zeigler-Hill et al., 2020; Zeigler-Hill and Besser, 2021
Video games	Attitudes such as aggression, violence, and problematic use of online games	Sadism is associated with the amount of exposure and attraction to violent and aggressive games, the tendency to play violent games, the fascination with weapons presented in such games, and the problematic use of online games	Delhove & Greitemeyer, 2018; Gonzalez & Greitemeyer, 2018; Greitemeyer, 2015; Greitemeyer, 2020; Greitemeyer & Sagioglou, 2017; Greitemeyer et al., 2018; Kircaburun et al., 2018b
Sexual behavior	The desire for individuals to engage in casual sex, sexual motivation, mating, relationship interference and sending nudes	Psychopathy trait is most related to the sexual and sociosexual aspects of individuals, especially to sexual practice for stress reduction and as a predictor for short-term mating. Positive prediction of Machiavellianism for sexual coaxing, coercion, and sending nudes, as these individuals are more motivated to sexual practices to improve motivation and self-image	Collisson et al., 2021; del Río et al., 2019; Hughes & Samuels, 2021; Hughes et al., 2021; Koscielska et al., 2020; Lyons et al., 2020; March & Wagstaff, 2017; Smith et al., 2019; Tsoukas & March, 2018
Emotional functioning	Relationship between the Dark Tetrad and the grieving process, empathy, impression formation, authenticity, attachment styles, and well-being	All dark traits were negatively associated with positive emotions and empathy, positively related to negative emotions, and difficulties in emotional regulation. High Dark Tetrad scores were associated with forming negative opinions and being less accurate about others, as well as when low levels of authenticity are present, welfare is higher	Erickson & Sagarin, 2021; Fido et al., 2020; Jovanović et al., 2021; Lee, 2019; Nickisch et al., 2020; Pajević et al., 2018; Pfattheicher et al., 2021; Rogers et al., 2018; Seto & Davis, 2021; Torres-Marín et al., 2022; Womick et al., 2019; Ziegler-Hill & Vonk, 2015

3.4. Qualitative review

3.4.1. Structural aspects of the Dark Tetrad

Consistent with the convergent, positive inter-correlations we found, investigations seem to support a hierarchical structure and a network of connected nodes for the Dark Tetrad traits. Some evidence suggests that a dark core could provide a better fit against a hierarchical model, with callousness and manipulation best representing the dark nucleus (Bertl et al., 2017). In network analyses, primary psychopathic characteristics appear to be the core features that connect the other traits (Dinić, Wertag, et al., 2020).

Our results suggest a strong link between each of the Dark Tetrad traits, although they individually contribute and carry sufficient unique variance (Paulhus, Buckels et al., 2021). Also, all sadism and Dark Tetrad (e.g., Short Dark Tetrad and Dark Tetrad at Work Scale) scales presented good internal consistency (Dinić, Allred, et al., 2020; Furnham & Horne, 2021; Kowalski et al., 2020; Meng et al., 2022; Pineda, Piqueras, et al., 2021; Plouffe et al., 2016; Plouffe et al., 2018; Thibault & Kelloway, 2020). Results from the retrieved papers suggest positive correlations of the Dark Tetrad traits with antisocial behaviors, and negative correlations with agreeableness and conscientiousness from the Five-Factor Model, as well as with honesty-humility from the HEXACO, and with the Light Triad (Book et al., 2016; Chabrol et al., 2017; Dinić, Allred, et al., 2020; Fernández-del-Río et al., 2020; Johnson et al., 2019; Lukić & Živanović, 2021; Mededović & Petrović, 2016; Meere & Egan, 2017; Ramos-Villagrasa et al., 2020). Other correlates include an interpersonal style marked by arrogant, manipulative, cold, and hostile attitudes (Southard et al., 2015).

Lastly, some studies focused on the clustering of individuals based on their scoring patterns on the Dark Tetrad traits. In cluster analysis studies, three and four-class solutions were reported. Among workers, clusters were low trait, moderate trait, and high sadism, whereas in young women, clusters were narcissists, moderate Machiavellians, sadistic-psychopathic-Machiavellians, and low scorers on all traits, while among high-school students, they were sadistic-Machiavellian, psychopathic-narcissistic, high scorers on all traits, and low scorers on all traits (Chabrol et al., 2015; Chabrol et al., 2019; Gebben et al., 2021; Tran et al., 2018).

3.4.2. Online behavior

The virtual world represents a “safe” place where people can reproduce—and even amplify—their usual face-to-face interpersonal problems. Broadly speaking, individuals with higher scores in darker traits are more likely to stalk their partners (Chung & Sheridan, 2021; Smoker & March, 2017), have problematic smartphone use and internet use (Balta et al., 2019; Kircaburun & Griffiths, 2018), trolling behaviors online (Gylfason et al., 2021), find media violence funny (Allen et al., 2021), antisocial use of dating apps (Duncan & March, 2019; Mayshak et al., 2020), and being proactive in distributing intimate images without permission of the person (Pina et al., 2021). Sadism, when compared with the other Dark Triad traits, predicts better adverse online behaviors such as cyber trolling, cyberstalking, cyber violence and cyberbullying (Buckels et al., 2014; Buckels et al., 2018; Craker & March, 2016; Hand et al., 2021; Kircaburun et al., 2018a; Kircaburun et al., 2019; March et al., 2017; March et al., 2020; Masui, 2019; Pineda, Galán, et al., 2021; Sest & March, 2017; van Geel et al., 2016). Psychopathy, albeit in fewer studies, was associated with trolling behavior in dating apps (Craker & March, 2016), cyberstalking, and cyber trolling (Brown et al., 2019; Hand et al., 2021; March et al., 2020; Seigfried-Spellar & Lankford, 2018; Sest & March, 2017), and problematic use of social media (Chung et al., 2019). Grandiose narcissists tend to use their smartphones for self-promotion, while vulnerable narcissists are more prone to perpetrate intimate partner cyberstalking (Balta et al., 2019; March et al., 2020). At the same time, Machiavellians may use derogatory language in the virtual space (Brown et al., 2019).

3.4.3. Aggressiveness

People with higher scores in the Dark Tetrad might use aggressiveness to deal with difficult situations and attain their goals. Indeed, the Dark Tetrad traits have consistently positive associations with aggressive behaviors. It is worth mentioning that psychopathy and sadism stand out for their closer links with various types of aggression, including physical, verbal, between partners, prejudice, bullying, extremism, radicalization, contempt, workplace mistreatment, child corporal punishment, mild and moderate self-harm, and cheating (Chester et al., 2018; Chung et al., 2022; Fernández-del-Río et al., 2021; Greitemeyer & Sagioglou, 2016, 2020; Sagioglou & Greitemeyer, 2020; Min et al., 2019; Moor et al., 2019; Morgades-Bamba et al., 2018; Paulhus, Gupta et al., 2021; Pfattheicher et al., 2017; Pfattheicher, Schindler, & Nockur, 2018; Plouffe et al., 2020a; Ritchie et al., 2019; Schriber et al., 2017; Tetreault et al., 2018; Tetreault & Hoff, 2019). Narcissism was unrelated to violent behavior in most studies but was still connected to lighter forms of aggression, as the use of brinteaser questions in personal selection (Highhouse et al., 2018) and with preference for painting with violent motives (Tucaković & Marković, 2021). Also, all traits are partially predicted by childhood exposure to intimate partner violence (Plouffe et al., 2020b). Moreover, evidence suggests that, even when inspired by good intentions, people can exhibit “evil” attitudes and behaviors, such as relying on irony and overt criticism when trying to help a friend (Tortoriello et al., 2019).

3.4.4. Moral beliefs and behaviors

The Dark Tetrad traits are linked to self-preservation and benefit seeking. People with higher scores in the traits are often motivated to seek power and control, and to display success to receive social approval and esteem. They might, for instance, view social and romantic relationships as instrumental means of achieving social status (Balakrishnan et al., 2017; Jonason & Zeigler-Hill, 2018; Kay, 2022). Dark traits correlate with self-direction thoughts (i.e., a reduced openness to change), as well as a right-wing political ideology, conservativeness, conspiracist ideation and a competitive view of the world (Balakrishnan et al., 2017; Bardeen & Michel, 2019; Duspara & Greitemeyer, 2017; Furnham & Horne, 2022; Hart et al., 2020; Kay, 2021; Ziegler-Hill et al., 2020), selective extremism behavior (Tetreault & Sarma, 2021). Moreover, all traits were associated with study addiction, psychopathy negatively predicting this behavior and Machiavellianism and sadism positively predicting it (Kircaburun, Jonason, et al., 2021), and procrastination (Hughes & Adhikari, 2021).

When facing moral dilemmas, the Dark Tetrad traits predict utilitarian decisions (Dinić et al., 2021; Karandikar et al., 2018), and sadism predicts minimizing causal responsibility for harm (Trémolière & Djeriouat, 2016). In real life dilemma, like COVID-19 pandemic, individuals high in narcissism and psychopathy had lower probability to engage in cleaning behavior (Hardin et al., 2021). Also, psychopathy and Machiavellianism were positively linked to ingroup loyalty (Mededović & Kovačević, 2020), and sadism was connected to group punishment of cooperative individuals (Pfattheicher, Keller, & Knezevic, 2018).

Machiavellianism and sadism were associated with difficulties in teamwork (Dierdorff & Fisher, 2021). Psychopathy and sadism were associated with low task performance, and the Dark Tetrad, except narcissism, were associated with high counter-productive work (Zeigler-Hill & Besser, 2021). Likewise, Dark Tetrad, except sadism, were predictors of pseudo-transformational leadership (Schreyer et al., 2021).

The Dark Tetrad traits were also associated with higher levels of advantageous and disadvantageous risk taking, malevolent creativity, lying and sinning, especially pride, greed, and lust, giving less importance to fairness attitudes and purity values (Forsyth et al., 2021; Hart et al., 2021; Jonason et al., 2017; Kapoor & Kaufman, 2021; Martin et al., 2022; Mededović & Petrović, 2015; Nott & Walker, 2021; Stanwix & Walker, 2021), while not having a tendency not to rely on supernatural beliefs (Schofield et al., 2021).

Table 2
Meta-analysis results for Sadism and the Dark Triad.

	<i>k</i>	\bar{r}^{*a}	95% CI		<i>z</i>	τ^2	95% CI		<i>I</i> ²	95% CI		
Without outlier control												
Sadism-Narcissism	141	0.27	0.255	0.298	24.36*	0.016	0.012	0.021	87.8%	86%	89.3%	
Sadism-Machiavellianism	141	0.43	0.407	0.447	36.29*	0.019	0.015	0.025	90.4%	89.1%	91.5%	
Sadism-Psychopathy	141	0.58	0.560	0.609	35.41*	0.047	0.037	0.062	96.3%	96%	96.6%	
With outlier control												
Sadism-Narcissism	97	0.26	0.253	0.279	38.10*	0.002	0.001	0.003	45.6%	30.8%	57.2%	
Sadism-Machiavellianism	93	0.43	0.423	0.446	66.18*	0.002	0.001	0.002	40.1%	23%	53.4%	
Sadism-Psychopathy	63	0.58	0.569	0.598	59.44*	0.005	0.002	0.008	66%	55.8%	73.9%	

Note. *k* = Number of independent samples; * *p* < .001; ^a = Correlation of random-effects model; τ^2 = Between-study heterogeneity variance; *I*² = Statistical heterogeneity.

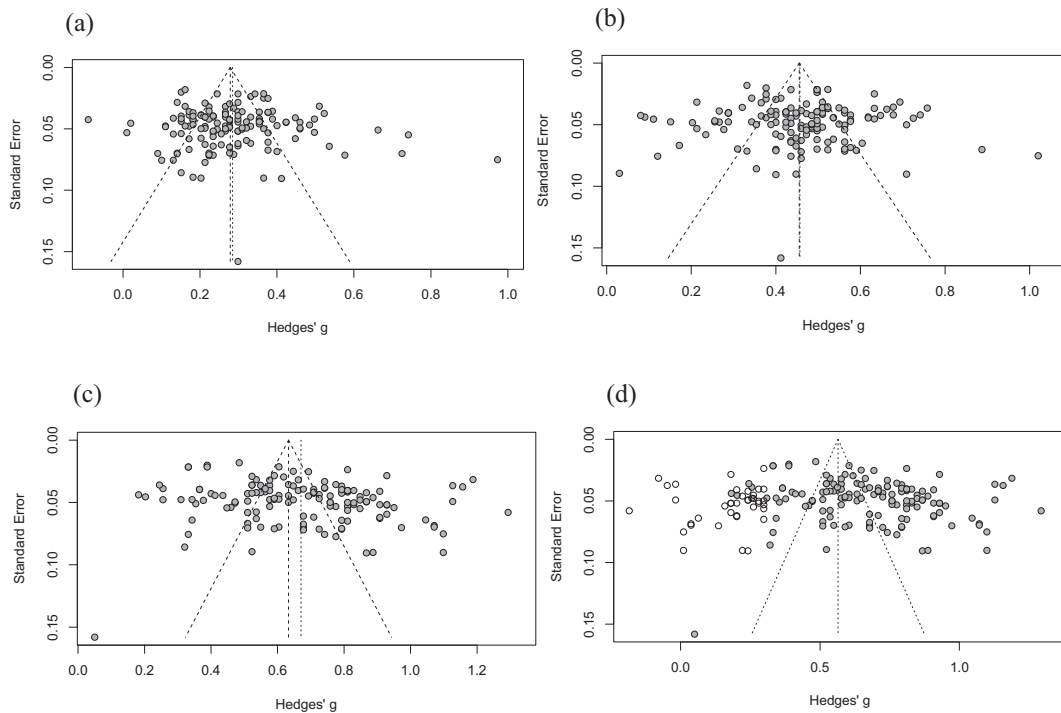


Fig. 2. Funnel plot of (a) sadism-narcissism, (b) sadism-Machiavellianism, (c) sadism-psychopathy without trim-and-fill analysis, and (d) sadism-psychopathy based on trim-and-fill analysis.

3.4.5. Video games

Violent games can be a source of virtual satisfaction for individuals motivated by cruelty needs. In these scenarios, sadistic individuals might find a way to express and strengthen their sadistic needs, causing virtual harm to others, and being aggressive (Greitemeyer, 2015; Greitemeyer, 2020; Greitemeyer & Sagioglou, 2017). Sadistic individuals are drawn to violent more than nonviolent or neutral games (Greitemeyer et al., 2018), and more aggressive/offensive type-hero in-game (Delhove & Greitemeyer, 2018), being more fascinated with weapons than others (Gonzalez & Greitemeyer, 2018). Lastly, playing such games can be a way in which sadists improve their mood, as they might encounter, in virtual environments, gratification for fantasies that would be punishable in the real world (Greitemeyer et al., 2018; Kircaburun et al., 2018b). Besides sadism, the only other trait associated with problematic online gaming was narcissism, even though the motives involved in this case are different, rather involving escape and fantasy (Kircaburun et al., 2018b).

3.4.6. Sexual behavior

Our results indicate that darker individuals rely on a more aggressive and manipulative strategy when mating, as this might increase the

chance of spreading such traits (Furnham et al., 2013). The two most frequent correlates of sexual behavior indicators were psychopathy and Machiavellianism, albeit sadism was also associated with short-term mating and tactics to obtain sex (Koscielska et al., 2020; Tsoukas & March, 2018). Overall dark personalities can predict relationship interference and control over partners (Collisson et al., 2021; Hughes & Samuels, 2021), and individuals with higher scores in psychopathy are more hypersexual and motivated by sexual gratification, which entails they have a short-term mating orientation (del Río et al., 2019; Lyons et al., 2020; Tsoukas & March, 2018), moreover psychopathy and sadism predicted preferences for outdoor female sex workers (Hughes et al., 2021). By contrast, Machiavellians are more scheming, coaxing, and sexually manipulative (Koscielska et al., 2020; March & Wagstaff, 2017; Smith et al., 2019).

3.4.7. Emotional functioning

Overall, the studies confirmed callousness as a common core of the Dark Tetrad traits. The Dark Tetrad traits were inversely connected to measures of low empathy (Erickson & Sagarin, 2021; Lee, 2019), emotional regulation strategies (especially Machiavellianism and psychopathy; Ziegler-Hill & Vonk, 2015), inadequate humor or even

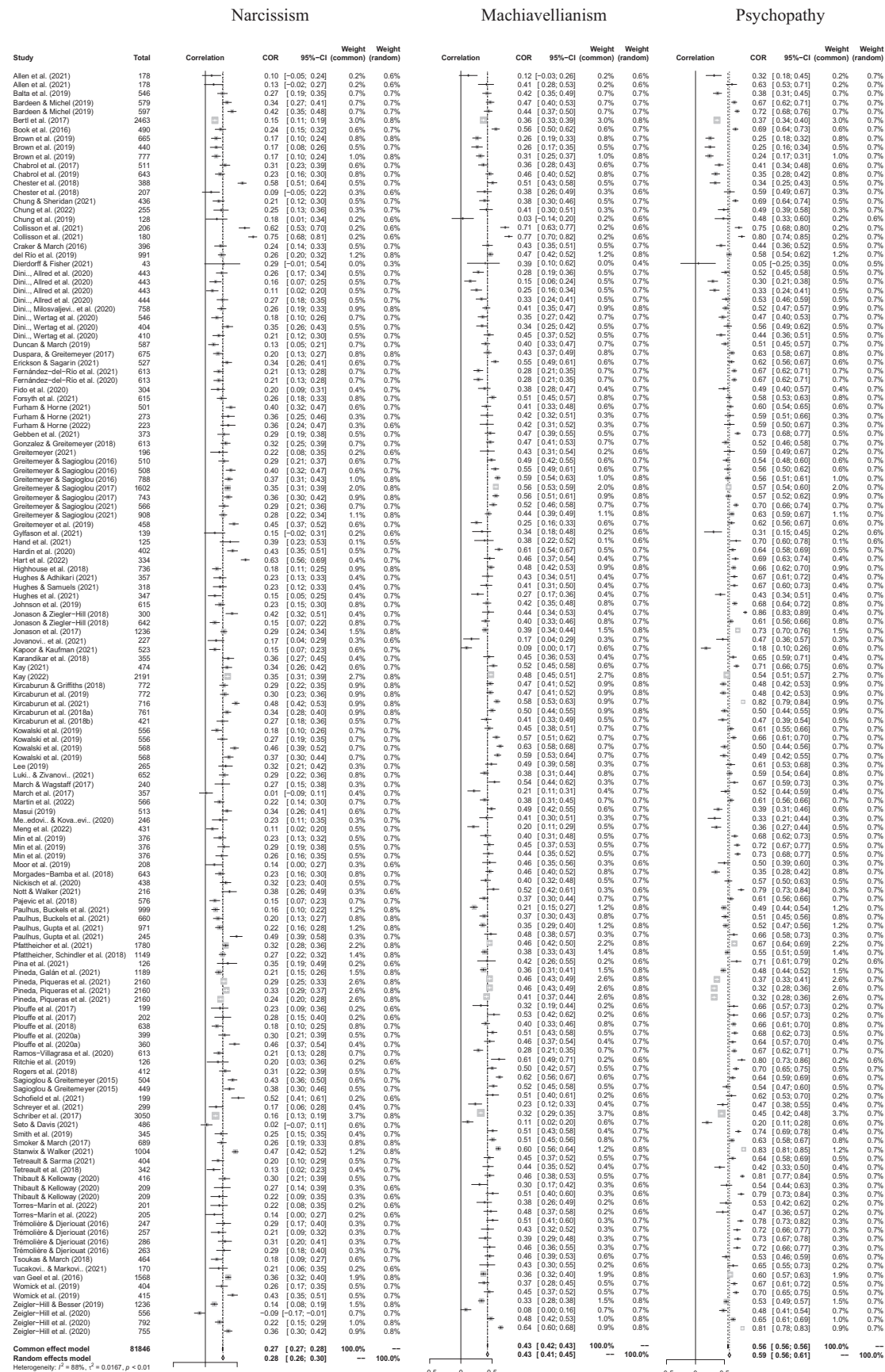
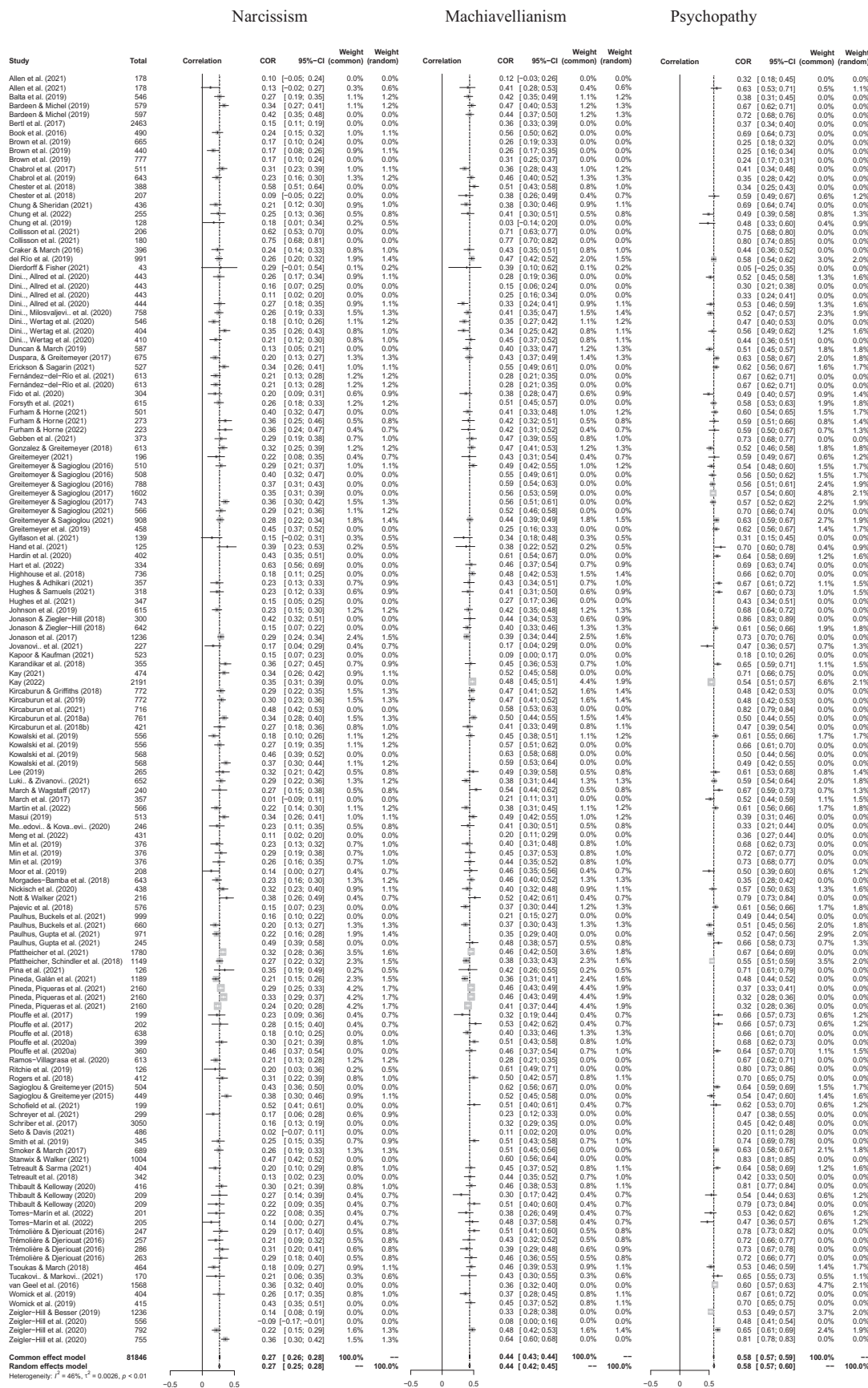


Fig. 3. Forest plots of (a) sadism-narcissism, (b) sadism-Machiavellianism, (c) sadism-psychopathy without outlier control.



schadenfreude toward people who are in difficult situations (e.g., mourners) in real settings studies (Pajević et al., 2018). Moreover, these traits might involve (at least partially) impaired cognitive empathy; they might lead individuals to receive an inaccurate and negative first impression from others, to be perceived as less sympathetic, and to be unconcerned about others' perceptions (Nickisch et al., 2020; Rogers et al., 2018; Womick et al., 2019), and engage in dark tourism (Jovanović et al., 2021). Narcissism is an exception, as it was associated with positive cognitive empathy; this suggests narcissists can more effectively recognize how others are feeling, which makes them better at manipulating and controlling others when compared to higher scorers on the remaining dark traits (Pajević et al., 2018; Rogers et al., 2018), showing "lighter" forms of humor, as they might use it as a tool to receive attention (Torres-Marín et al., 2022), and with nature connectedness (Fido et al., 2020). Sadism and psychopathy had a negative influence on the relationship between authenticity and interpersonal well-being outcomes (Seto & Davis, 2021). Boredness was positively correlated with the Dark Tetrad, except for narcissism, with a sadistic disposition being increased when the person is bored (Pfattheicher et al., 2021).

4. Discussion

We aimed to understand how sadism relates to the Dark Triad traits. To do so, we performed a meta-analytic review. We hypothesized that sadism would more strongly correlate with psychopathy, followed by Machiavellianism and narcissism. Our findings confirm these results. This ordering mirrors the relationships that the Dark Triad components exhibit relative to other variables that involve deficient emotional functioning, such as, for instance, agreeableness (O'Boyle et al., 2015; Vize et al., 2018).

Moreover, the greatest correlations of sadism with psychopathy and Machiavellianism (in comparison to narcissism) are also aligned, with these two traits being more correlated with affective dissonance (Vachon & Lynam, 2016), schadenfreude, and aggressive humor style (Yee & Lee, 2022). As evidenced elsewhere, psychopathy and Machiavellianism share a similar nomological network of negative outcomes, including low emotional intelligence (Miao et al., 2019) and many other pathological features (Vize et al., 2018). Therefore, the current meta-analytic investigation directly indicates sadism as more connected to the constructs of psychopathy and Machiavellianism than to narcissism. Our results were virtually the same when studies with outlier-type findings were excluded from the meta-analysis.

Our study also indicates, albeit indirectly, that the nomological network of sadism is potentially more similar to psychopathy and Machiavellianism. Sadism displayed many negative correlates in the vast domains of online behavior, aggressiveness, moral beliefs and behavior, video games, sexual behavior, and emotional functioning. Therefore, sadism, psychopathy, and Machiavellianism represent the most extreme features among the Dark Tetrad traits. Of course, the pathological network of external correlates does not exclude these traits, sadism included, as potentially representing competitive advantages in specific scenarios. The inclusion of the sadism dimension likely yields incremental validity to the previous Dark Triad proposal, although the discriminant validity of sadism relative to the remaining Dark Tetrad factors still deserves a closer investigation.

Some limitations and considerations for future studies should be addressed. First, although some more influential databases have been considered, there is a possibility that studies may be available in other formats (i.e., theses, dissertations, and manuscripts published in databases not accessed). Second, the Dark Tetrad was considered with sadism as the fourth trait; however, there is another proposal in which spitefulness replaces the sadism dimension, and this trait was disregarded for this research. A previous article found that in a fundamental social motive context, sadism and spitefulness were responsible for limited variance beyond the Dark Triad (Jonason & Zeigler-Hill,

2018); nonetheless, we recommend that future reviews assess spitefulness in diverse contexts (Marcus & Zeigler-Hill, 2015).

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.paid.2022.111767>.

References

- Allen, J. J., Ash, S. M., & Anderson, C. A. (2021). Who finds media violence funny? Testing the effects of media violence exposure and dark personality traits. *Psychology of Popular Media*. <https://doi.org/10.1037/ppm0000296>
- Balakrishnan, A., Plouffe, R. A., & Saklofske, D. H. (2017). What do sadists value? Is honesty-humility an intermediary? Replicating and extending findings on the link between values and "dark" personalities. *Personality and Individual Differences*, 109, 142–147. <https://doi.org/10.1016/j.paid.2016.12.055>
- Balta, S., Jonason, P. K., Denes, A., Emirtekin, E., Tosuntaş, Ş. B., Kircaburun, K., & Griffiths, M. D. (2019). Dark personality traits and problematic smartphone use: The mediating role of fearful attachment. *Personality and Individual Differences*, 149, 214–219. <https://doi.org/10.1016/j.paid.2019.06.005>
- Bardeen, J. R., & Michel, J. S. (2019). Associations among dimensions of political ideology and Dark Tetrad personality features. *Journal of Social and Political Psychology*, 7, 290–309. <https://doi.org/10.5964/jpspp.v7i1.1071>
- Bertl, B., Pietschnig, J., Tran, U. S., Stieger, S., & Voracek, M. (2017). More or less than the sum of its parts? Mapping the Dark Triad of personality onto a single dark core. *Personality and Individual Differences*, 114, 140–144. <https://doi.org/10.1016/j.paid.2017.04.002>
- Bonfá-Araujo, B., Simões, N. C., Zuchetto, S. R., & Hauck-Filho, N. (2021). The unidimensionality of evil: A rating scale analysis of the short dark triad. *Personality and Individual Differences*, 168. <https://doi.org/10.1016/j.paid.2020.110376>
- Book, A., Visser, B. A., Blais, J., Hosker-Field, A., Methot-Jones, T., Gauthier, N. Y., & D'Agata, M. T. (2016). Unpacking more "evil": What is at the core of the dark triad? *Personality and Individual Differences*, 90, 269–272. <https://doi.org/10.1016/j.paid.2015.11.009>
- Brown, W. M., Hazraty, S., & Palasinski, M. (2019). Examining the Dark Tetrad and its links to cyberbullying. *Cyberpsychology, Behavior and Social Networking*, 22, 552–557. <https://doi.org/10.1089/cyber.2019.0172>
- Buckels, E. E., Jones, D. N., & Paulhus, D. L. (2013). Behavioral confirmation of everyday sadism. *Psychological Science*, 24, 2201–2209. <https://doi.org/10.1177/0956797613490749>
- Buckels, E. E., & Paulhus, D. L. (2014). *Comprehensive assessment of sadistic tendencies (CAST)*. Unpublished instrument. Vancouver, Canada: University of British Columbia.
- Buckels, E. E., Trapnell, P. D., Andjelovic, T., & Paulhus, D. L. (2018). Internet trolling and everyday sadism: Parallel effects on pain perception and moral judgment. *Journal of Personality*, 87, 328–340. <https://doi.org/10.1111/jopy.12393>
- Buckels, E. E., Trapnell, P. D., & Paulhus, D. L. (2014). Trolls just want to have fun. *Personality and Individual Differences*, 67, 97–102. <https://doi.org/10.1016/j.paid.2014.01.016>
- Chabrol, H., Bouvet, R., & Goutaudier, N. (2017). The Dark Tetrad and antisocial behavior in a community sample of college students. *Journal of Forensic Psychology Research and Practice*, 17, 295–304. <https://doi.org/10.1080/24732850.2017.1361310>
- Chabrol, H., Bronchain, J., Morgades-Bamba, C. I., & Raynal, P. (2019). The Dark Tetrad and radicalization: Personality profiles in young women. *Behavioral Sciences of Terrorism and Political Aggression*, 2, 157–168. <https://doi.org/10.1080/19434472.2019.1646301>
- Chabrol, H., Melioli, T., Van Leeuwen, N., Rodgers, R., & Goutaudier, N. (2015). The Dark Tetrad: Identifying personality profiles in high-school students. *Personality and Individual Differences*, 83, 97–101. <https://doi.org/10.1016/j.paid.2015.03.051>
- Chabrol, H., Van Leeuwen, N., Rodgers, R., & Séjourné, N. (2009). Contributions of psychopathic, narcissistic, Machiavellian, and sadistic personality traits to juvenile delinquency. *Personality and Individual Differences*, 47, 734–739. <https://doi.org/10.1016/j.paid.2009.06.020>
- Chester, D. S., DeWall, C. N., & Enjaian, B. (2018). Sadism and aggressive behavior: Inflicting pain to feel pleasure. *Personality and Social Psychology Bulletin*, 8, 1252–1268. <https://doi.org/10.1177/0146167218816327>
- Chung, K. L., Morshidi, I., Yoong, L. C., & Thian, K. N. (2019). The role of the Dark Tetrad and impulsivity in social media addiction: Findings from Malaysia. *Personality and Individual Differences*, 143, 62–67. <https://doi.org/10.1016/j.paid.2019.02.016>
- Chung, K. L., & Sheridan, L. (2021). Perceptions of stalking in Malaysia and England: The influence of perpetrator-target prior relationship and personality. *Personality and Individual Differences*, 182. <https://doi.org/10.1016/j.paid.2021.111064>
- Chung, K. L., Tay, C. E., Gan, A. Z. Q., & Tan, C. S. N. (2022). Attitudes toward corporal punishment of children: The role of past experience, Dark Tetrad traits, and anger rumination. *Journal of Individual Differences*, 43, 105–113. <https://doi.org/10.1027/1614-0001/a000364>
- Collison, K. L., Vize, C. E., Miller, J. D., & Lynam, D. R. (2018). Development and preliminary validation of a five-factor model measure of Machiavellianism. *Psychological Assessment*, 30, 1401–1407. <https://doi.org/10.1037/pas0000637>
- Collison, B., Howell, J. L., & Monleon, J. (2021). Meddling friends and family: Dark Tetrad traits predict interference in disliked couples' romantic relationships. *Journal*

- of *Social and Personal Relationships*, 38, 2008–2028. <https://doi.org/10.1177/02654075211001127>
- Craker, N., & March, E. (2016). The dark side of Facebook®: The Dark Tetrad, negative social potency, and trolling behaviours. *Personality and Individual Differences*, 102, 79–84. <https://doi.org/10.1016/j.paid.2016.06.043>
- del Río, E. F., Ramos-Villagrasa, P. J., Castro, Á., & Barrada, J. R. (2019). Sociosexuality and bright and dark personality: The prediction of behavior, attitude, and desire to engage in casual sex. *International Journal of Environmental Research and Public Health*, 16, 2731–2742. <https://doi.org/10.3390/ijerph16152731>
- Delhove, M., & Greitemeyer, T. (2018). The relationship between video game character preferences and aggressive and prosocial personality traits. *Psychology of Popular Media Culture*, 9, 96–104. <https://doi.org/10.1037/ppm0000211>
- Dierdorff, E. C., & Fisher, D. M. (2021). Problematic personalities in teams: Implications for performance trajectories and resilience to unexpected change. *Personnel Psychology*, 1–29. <https://doi.org/10.1111/peps.12481>
- Dinić, B. M., Allred, T. B., Petrović, B., & Wertag, A. (2020). A test of three sadism measures: Short Sadistic Impulse Scale, varieties of sadistic tendencies, and assessment of sadistic personality. *Journal of Individual Differences*, 41, 219–227. <https://doi.org/10.1027/1614-0001/a000319>
- Dinić, B. M., & Jevremov, T. (2019). Trends in research related to the Dark Triad: A bibliometric analysis. *Current Psychology*, 40, 3206–3215. <https://doi.org/10.1007/s12144-019-00250-9>
- Dinić, B. M., Milosavljević, M., & Mandarić, J. (2021). Effects of Dark Tetrad traits on utilitarian moral judgement: The role of personal involvement and familiarity with the victim. *Asian Journal of Social Psychology*, 24, 48–58. <https://doi.org/10.1111/ajsp.12422>
- Dinić, B. M., Wertag, A., Tomašević, A., & Sokolovska, V. (2020). Centrality and redundancy of the Dark Tetrad traits. *Personality and Individual Differences*, 155. <https://doi.org/10.1016/j.paid.2019.109621>
- Duncan, Z., & March, E. (2019). Using Tinder® to start a fire: Predicting antisocial use of Tinder® with gender and the Dark Tetrad. *Personality and Individual Differences*, 145, 9–14. <https://doi.org/10.1016/j.paid.2019.03.014>
- Duspara, B., & Greitemeyer, T. (2017). The impact of dark tetrad traits on political orientation and extremism: An analysis in the course of a presidential election. *Heliyon*, 3. <https://doi.org/10.1016/j.heliyon.2017.e00425>
- Duval, S., & Tweedie, R. (2000). Trim and fill: A simple funnel-plot-based method of testing and adjusting for publication bias in meta-analysis. *Biometrics*, 56, 455–463. <https://doi.org/10.1111/j.0006-341x.2000.00455.x>
- Egger, M., Smith, G. D., Schneider, M., & Minder, C. (1997). Bias in meta-analysis detected by a simple, graphical test. *BMJ*, 315, 629–634. <https://doi.org/10.1136/bmj.315.7109.629>
- Erickson, J. M., & Sagarin, B. J. (2021). The prosocial sadist? A comparison of BDSM sadism and everyday sadism. *Personality and Individual Differences*, 176. <https://doi.org/10.1016/j.paid.2021.110723>
- Fernández-del-Río, E., Ramos-Villagrasa, P. J., & Barrada, J. R. (2020). Bad guys perform better? The incremental predictive validity of the Dark Tetrad over Big Five and Honesty-Humility. *Personality and Individual Differences*, 154. <https://doi.org/10.1016/j.paid.2019.109700>
- Fernández-del-Río, E., Ramos-Villagrasa, P. J., & Escartín, J. (2021). The incremental effect of Dark personality over the Big Five in workplace bullying: Evidence from perpetrators and targets. *Personality and Individual Differences*, 168. <https://doi.org/10.1016/j.paid.2020.110291>
- Fido, D., Rees, A., Clarke, P., Petronzi, D., & Richardson, M. (2020). Examining the connection between nature connectedness and dark personality. *Journal of Environmental Psychology*, 72. <https://doi.org/10.1016/j.jenvp.2020.101499>
- Forsyth, L., Anglim, J., March, E., & Bilobrk, B. (2021). Dark Tetrad personality traits and the propensity to lie across multiple contexts. *Personality and Individual Differences*, 177. <https://doi.org/10.1016/j.paid.2021.110792>
- Furnham, A., & Horne, G. (2021). The Tetradic Heart of Darkness: Comparing three dark-side instruments. *Personality and Individual Differences*, 179. <https://doi.org/10.1016/j.paid.2021.110918>
- Furnham, A., & Horne, G. (2022). Personality and demographic correlates of political ideology. *Personality and Individual Differences*, 186. <https://doi.org/10.1016/j.paid.2021.111320>
- Furnham, A., Richards, S. C., & Paulhus, D. L. (2013). The Dark Triad of personality: A 10-year review. *Social and Personality Psychology Compass*, 7, 199–216. <https://doi.org/10.1111/spc3.12018>
- Gebben, A. N., Rivera, M., Baz, G., Ciarlante, K., & Min, H. (2021). Identifying dark personality profiles in working adults. *Personality and Individual Differences*, 173. <https://doi.org/10.1016/j.paid.2021.110630>
- Glover, N., Miller, J. D., Lynam, D. R., Crego, C., & Widiger, T. A. (2012). The Five-Factor Narcissism Inventory: A five-factor measure of narcissistic personality traits. *Journal of Personality Assessment*, 94, 500–512. <https://doi.org/10.1080/00223891.2012.670680>
- Gonzalez, J. M., & Greitemeyer, T. (2018). The relationship between everyday sadism, violent video game play, and fascination with weapons. *Personality and Individual Differences*, 124, 51–53. <https://doi.org/10.1016/j.paid.2017.11.045>
- Greitemeyer, T. (2015). Everyday sadism predicts violent video game preferences. *Personality and Individual Differences*, 75, 19–23. <https://doi.org/10.1016/j.paid.2014.10.049>
- Greitemeyer, T. (2020). The police officer's dilemma: The relationship between violent video game play and responses in a first-person shooter task. *Journal of Media Psychology: Theories, Methods, and Applications*, 32, 82–88. <https://doi.org/10.1027/1864-1105/a000260>
- Greitemeyer, T., & Sagioglou, C. (2016). Subjective socioeconomic status causes aggression: A test of the theory of social deprivation. *Journal of Personality and Social Psychology*, 111, 178–194. <https://doi.org/10.1037/psp0000058>
- Greitemeyer, T., & Sagioglou, C. (2017). The longitudinal relationship between everyday sadism and the amount of violent video game play. *Personality and Individual Differences*, 104, 238–242. <https://doi.org/10.1016/j.paid.2016.08.021>
- Greitemeyer, T., & Sagioglou, C. (2020). Predictors of nonsuicidal self-injury: The independent contribution of benign masochism and antisocial personality. *Personality and Individual Differences*, 168. <https://doi.org/10.1016/j.paid.2020.110380>
- Greitemeyer, T., Weiß, N., & Heuberger, T. (2018). Are everyday sadists specifically attracted to violent video games and do they emotionally benefit from playing those games? *Aggressive Behavior*, 45, 1–8. <https://doi.org/10.1002/ab.21810>
- Gylfason, H. F., Sveinsdóttir, A. H., Vésteinsdóttir, V., & Sigurvinsdóttir, R. (2021). Haters gonna hate, trolls gonna troll: The personality profile of a Facebook troll. *International Journal of Environmental Research and Public Health*, 18, 5722–5732. <https://doi.org/10.3390/ijerph18115722>
- Hand, C. J., Scott, G. G., Brodie, Z. P., Ye, X., & Sereno, S. C. (2021). Tweet valence, volume of abuse, and observers' dark tetrad personality factors influence victim-blaming and the perceived severity of twitter cyberabuse. *Computers in Human Behavior Reports*, 3. <https://doi.org/10.1016/j.chbr.2021.100056>
- Hardin, B. S., Smith, C. V., & Jordan, L. N. (2021). Is the COVID-19 pandemic even darker for some? Examining dark personality and affective, cognitive, and behavioral responses to the COVID-19 pandemic. *Personality and Individual Differences*, 171. <https://doi.org/10.1016/j.paid.2020.110504>
- Harrer, M., Cuijpers, P., Furukawa, T. A., & Ebert, D. D. (2019). Doing meta-analysis in R: A hands-on guide. doi: 10.5281/zenodo.2551803.
- Hart, W., Breeden, C. J., & Richardson, K. (2020). Please stop helping me!: Well-intentioned “dark” actors present others as less socially desirable to audiences. *Personality and Individual Differences*, 166. <https://doi.org/10.1016/j.paid.2020.110204>
- Hart, W., Richardson, K., Kinrade, C., Breeden, C. J., & Tortoriello, G. K. (2021). We are who we thought we were: Confirming one's own antagonism levels. *Personality Disorders, Theory, Research, and Treatment*, 13, 133–143. <https://doi.org/10.1037/per0000483>
- Higgins, J. P., Thompson, S. G., Deeks, J. J., & Altman, D. G. (2003). Measuring inconsistency in meta-analysis. *BMJ*, 327, 557–560. <https://doi.org/10.1136/bmj.327.7414.557>
- Highhouse, S., Nye, C. D., & Zhang, D. C. (2018). Dark motives and elective use of brainteaser interview questions. *Applied Psychology*, 68, 311–340. <https://doi.org/10.1111/apps.12163>
- Hughes, S., & Adhikari, J. (2021). Time wasters? The dark tetrad and active procrastination. *Journal of Individual Differences*, 43, 89–94. <https://doi.org/10.1027/1614-0001/a000357>
- Hughes, S., Adhikari, J., & Goulding, K. (2021). Darker deals? Male dark tetrad preferences for female sex worker services. *Heliyon*, 7. <https://doi.org/10.1016/j.heliyon.2021.e07389>
- Hughes, S., & Samuels, H. (2021). Dark desires: The Dark Tetrad and relationship control. *Personality and Individual Differences*, 171. <https://doi.org/10.1016/j.paid.2020.110548>
- Johnson, L., Plouffe, R. A., & Saklofske, D. (2019). Subclinical sadism and the Dark Triad: Should there be a Dark Tetrad? *Journal of Individual Differences*, 40, 127–133. <https://doi.org/10.1027/1614-0001/a000284>
- Jonason, P. K., & Zeigler-Hill, V. (2018). The fundamental social motives that characterize dark personality traits. *Personality and Individual Differences*, 132, 98–107. <https://doi.org/10.1016/j.paid.2018.05.031>
- Jonason, P. K., Zeigler-Hill, V., & Okan, C. (2017). Good v. evil: Predicting sinning with dark personality traits and moral foundations. *Personality and Individual Differences*, 104, 180–185. <https://doi.org/10.1016/j.paid.2016.08.002>
- Jovanović, T., Mijatov, M., & Šuligoj, M. (2021). Does a visitor of dark tourism sites have a dark personality? A study of potential visitors of dark tourism sites in Serbia. *Primenjena Psihologija*, 14, 407–442. <https://doi.org/10.19090/pp.2021.4.407-442>
- Kapoor, H., & Kaufman, J. C. (2021). Unbound: The relationship among creativity, moral foundations, and dark personality. *The Journal of Creative Behavior*. <https://doi.org/10.1002/jocb.523>
- Karandikar, S., Kapoor, H., Fernandes, S., & Jonason, P. K. (2018). Predicting moral decision-making with dark personalities and moral values. *Personality and Individual Differences*, 140, 70–75. <https://doi.org/10.1016/j.paid.2018.03.048>
- Kay, C. S. (2021). Actors of the most fiendish character: Explaining the associations between the Dark Tetrad and conspiracist ideation. *Personality and Individual Differences*, 171. <https://doi.org/10.1016/j.paid.2020.110543>
- Kay, C. S. (2022). Animal house: The Dark Tetrad traits and membership in sororities and fraternities. *Acta Psychologica*, 222. <https://doi.org/10.1016/j.actpsy.2021.103473>
- Kircaburun, K., & Griffiths, M. D. (2018). The dark side of internet: Preliminary evidence for the associations of dark personality traits with specific online activities and problematic internet use. *Journal of Behavioral Addictions*, 7, 993–1003. <https://doi.org/10.1556/2006.7.2018.109>
- Kircaburun, K., Jonason, P., Griffiths, M. D., Aslanargun, E., Emirtekin, E., Tosuntaş, Ş. B., & Billieux, J. (2019). Childhood emotional abuse and cyberbullying perpetration: The role of dark personality traits. *Journal of Interpersonal Violence*. <https://doi.org/10.1177/0886260519889930>
- Kircaburun, K., Jonason, P., Griffiths, M. D., Aslanargun, E., Emirtekin, E., Tosuntaş, Ş. B., & Billieux, J. (2021). Childhood emotional abuse and cyberbullying perpetration: The role of dark personality traits. *Journal of Interpersonal Violence*, 36. <https://doi.org/10.1177/0886260519889930>

- Kircaburun, K., Jonason, P. K., & Griffiths, M. D. (2018a). The Dark Tetrad traits and problematic social media use: The mediating role of cyberbullying and cyberstalking. *Personality and Individual Differences*, 135, 264–269. <https://doi.org/10.1016/j.paid.2018.07.034>
- Kircaburun, K., Jonason, P. K., & Griffiths, M. D. (2018b). The Dark Tetrad traits and problematic online gaming: The mediating role of online gaming motives and moderating role of game types. *Personality and Individual Differences*, 135, 298–303. <https://doi.org/10.1016/j.paid.2018.07.038>
- Kircaburun, K., Süral, İ., March, E., Balta, S., Emirtekin, E., & Griffiths, M. D. (2021). Study addiction and 'dark' personality traits: A cross-sectional survey study among emerging adults. *Journal of Addictive Diseases*, 39, 307–315. <https://doi.org/10.1080/10550887.2021.1872469>
- Koscielnska, R. W., Flowe, H. D., & Egan, V. (2020). The Dark Tetrad and mating effort's influence on sexual coaxing and coercion across relationship types. *Journal of Sexual Aggression*, 26, 394–404. <https://doi.org/10.1080/13552600.2019.1676925>
- Kowalski, C. M., Di Pierro, R., Plouffe, R. A., Rogoza, R., & Saklofske, D. H. (2020). Enthusiastic acts of evil: The Assessment of Sadistic Personality in Polish and Italian populations. *Journal of Personality Assessment*, 102, 770–780. <https://doi.org/10.1080/00223891.2019.1673760>
- Lee, S. A. (2019). The Dark Tetrad and callous reactions to mourner grief: Patterns of annoyance, boredom, entitlement, schadenfreude, and humor. *Personality and Individual Differences*, 137, 97–100. <https://doi.org/10.1016/j.paid.2018.08.019>
- Lukić, P., & Živanović, M. (2021). Shedding light on the Light Triad: Further evidence on structural, construct, and predictive validity of the Light Triad. *Personality and Individual Differences*, 178. <https://doi.org/10.1016/j.paid.2021.110876>
- Lyons, M., Messenger, A., Perry, R., & Brewer, G. (2020). The Dark Tetrad in Tinder®: Hook-up app for high psychopathy individuals, and a diverse utilitarian tool for Machiavellians? *Current Psychology*, 41, 659–666. <https://doi.org/10.1007/s12144-019-00589-z>
- March, E., Grieve, R., Marrington, J., & Jonason, P. K. (2017). Trolling on Tinder® (and other dating apps): Examining the role of the Dark Tetrad and impulsivity. *Personality and Individual Differences*, 110, 139–143. <https://doi.org/10.1016/j.paid.2017.01.025>
- March, E., Litten, V., Sullivan, D. H., & Ward, L. (2020). Somebody that I (used to) know: Gender and dimensions of dark personality traits as predictors of intimate partner cyberstalking. *Personality and Individual Differences*, 163. <https://doi.org/10.1016/j.paid.2020.110084>
- March, E., & Wagstaff, D. L. (2017). Sending nudes: Sex, self-rated mate value, and trait Machiavellianism predict sending unsolicited explicit images. *Frontiers in Psychology*, 8. <https://doi.org/10.3389/fpsyg.2017.02210>
- Marcus, D. K., & Zeigler-Hill, V. (2015). A big tent of dark personality traits. *Social and Personality Psychology Compass*, 9, 434–446. <https://doi.org/10.1111/spc3.12185>
- Martin, B. A., Chrysochou, P., Strong, C., Wang, D., & Yao, J. (2022). Dark personalities and Bitcoin®: The influence of the Dark Tetrad on cryptocurrency attitude and buying intention. *Personality and Individual Differences*, 188. <https://doi.org/10.1016/j.paid.2021.111453>
- Masui, K. (2019). Loneliness moderates the relationship between Dark Tetrad personality traits and internet trolling. *Personality and Individual Differences*, 150. <https://doi.org/10.1016/j.paid.2019.06.018>
- Mayshak, R., King, R. M., Chandler, B., & Hannah, M. (2020). To swipe or not to swipe: The Dark Tetrad and risks associated with mobile dating app use. *Personality and Individual Differences*, 163. <https://doi.org/10.1016/j.paid.2020.110099>
- Mededović, J., & Kovacević, U. (2020). Sadism as a key dark trait in the link between football fandom and criminal attitudes. *Journal of Individual Differences*, 42, 9–18. <https://doi.org/10.1027/1614-0001/a000325>
- Mededović, J., & Petrović, B. (2015). The Dark Tetrad: Structural properties and location in the personality space. *Journal of Individual Differences*, 36, 228–236. <https://doi.org/10.1027/1614-0001/a000179>
- Mededović, J., & Petrović, B. (2016). Can there be an immoral morality? Dark personality traits as predictors of moral foundations. *Psihologija*, 49, 185–197. <https://doi.org/10.2298/PSI1602185M>
- Meere, M., & Egan, V. (2017). Everyday sadism, the Dark Triad, personality, and disgust sensitivity. *Personality and Individual Differences*, 112, 157–161. <https://doi.org/10.1016/j.paid.2017.02.056>
- Meng, X., Li, C., Liu, D., & Xu, Y. (2022). The super-short Dark Tetrad: Development and validation within the Chinese context. *Personality and Individual Differences*, 188. <https://doi.org/10.1016/j.paid.2021.111459>
- Miao, C., Humphrey, R. H., Qian, S., & Pollack, J. M. (2019). The relationship between emotional intelligence and the dark triad personality traits: A meta-analytic review. *Journal of Research in Personality*, 78, 189–197. <https://doi.org/10.1016/j.jrp.2018.12.004>
- Min, H., Pavisic, I., Howald, N., Highhouse, S., & Zickar, M. J. (2019). A systematic comparison of three sadism measures and their ability to explain workplace mistreatment over and above the Dark Triad. *Journal of Research in Personality*, 82. <https://doi.org/10.1016/j.jrp.2019.103862>
- Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *Annals of Internal Medicine*, 151, 264–269. <https://doi.org/10.1371/journal.pmed.1000097>
- Moor, L., Kapelles, T., Koc, Y., & Anderson, J. (2019). Predicting explicit and implicit attitudes towards gay men using the dual process model of prejudice and the Dark Tetrad. *Personality and Individual Differences*, 151. <https://doi.org/10.1016/j.paid.2019.06.029>
- Morgades-Bamba, C. I., Raynal, P., & Chabrol, H. (2018). Exploring the radicalization process in young women. *Terrorism and Political Violence*, 32, 1439–1457. <https://doi.org/10.1080/09546553.2018.1481051>
- Nickisch, A., Palazova, M., & Ziegler, M. (2020). Dark personalities–dark relationships? An investigation of the relation between the Dark Tetrad and attachment styles. *Personality and Individual Differences*, 167. <https://doi.org/10.1016/j.paid.2020.110227>
- Nott, D., & Walker, B. R. (2021). The dark tetrad in the prediction of self-reported and behavioural risk-taking. *Australian Journal of Psychology*, 73, 569–577. <https://doi.org/10.1080/00049530.2021.1955224>
- O'Boyle, E. H., Forsyth, D. R., Banks, G. C., Story, P. A., & White, C. D. (2015). A meta-analytic test of redundancy and relative importance of the dark triad and five-factor model of personality. *Journal of Personality*, 83, 644–664. <https://doi.org/10.1111/jopy.12126>
- O'Meara, A., Davies, J., & Hammond, S. (2011). The psychometric properties and utility of the Short Sadistic Impulse Scale (SSIS). *Psychological Assessment*, 23, 523–531. <https://doi.org/10.1037/a0022400>
- Pajević, M., Vukosavljević-Gvozden, T., Stevanović, N., & Neumann, C. S. (2018). The relationship between the Dark Tetrad and a two-dimensional view of empathy. *Personality and Individual Differences*, 123, 125–130. <https://doi.org/10.1016/j.paid.2017.11.009>
- Patrick, C. J. (2018). *Handbook of psychopathy*. Guilford Publications.
- Paulhus, D. L. (2014). Toward a taxonomy of dark personalities. *Current Directions in Psychological Science*, 23, 421–426. <https://doi.org/10.1177/0963721414547737>
- Paulhus, D. L., Buckels, E. E., Trapnell, P. D., & Jones, D. N. (2021). Screening for dark personalities. *European Journal of Psychological Assessment*, 37, 208–222. <https://doi.org/10.1027/1015-5759/a000602>
- Paulhus, D. L., Gupta, R., & Jones, D. N. (2021). Dark or disturbed?: Predicting aggression from the Dark Tetrad and schizotypy. *Aggressive Behavior*, 47, 635–645. <https://doi.org/10.1002/ab.21990>
- Paulhus, D. L., & Williams, K. M. (2002). The Dark Triad of personality: Narcissism, Machiavellianism, and psychopathy. *Journal of Research in Personality*, 36, 556–563. [https://doi.org/10.1016/s0092-6566\(02\)00505-6](https://doi.org/10.1016/s0092-6566(02)00505-6)
- Persson, B. N., Kajonius, P. J., & García, D. (2017). Revisiting the structure of the Short Dark Triad. *Assessment*, 26, 3–16. <https://doi.org/10.1177/1073191117701192>
- Pfattheicher, S., Keller, J., & Knezevic, G. (2017). Sadism, the intuitive system, and antisocial punishment in the public goods game. *Personality and Social Psychology Bulletin*, 43, 337–346. <https://doi.org/10.1177/0146167216684134>
- Pfattheicher, S., Keller, J., & Knezevic, G. (2018). Destroying things for pleasure: On the relation of sadism and vandalism. *Personality and Individual Differences*, 140, 52–56. <https://doi.org/10.1016/j.paid.2018.03.049>
- Pfattheicher, S., Lazarević, L. B., Westgate, E. C., & Schindler, S. (2021). On the relation of boredom and sadistic aggression. *Journal of Personality and Social Psychology*, 121, 573–600. <https://doi.org/10.1037/psp0000335>
- Pfattheicher, S., Schindler, S., & Nockur, L. (2018). On the impact of Honesty-Humility and a cue of being watched on cheating behavior. *Journal of Economic Psychology*, 71, 159–174. <https://doi.org/10.1016/j.joep.2018.06.004>
- Pina, A., Bell, A., Griffin, K., & Vasquez, E. (2021). Image based sexual abuse proclivity and victim blaming: The role of dark personality traits and moral disengagement. *Onati Social-Legal Series*, 11, 1179–1197. <https://doi.org/10.35295/OSLS.IJSL/0000-0000-0000-1213>
- Pineda, D., Galán, M., Martínez-Martínez, A., Campagne, D. M., & Piqueras, J. A. (2021). Same personality, new ways to abuse: How dark tetrad personalities are connected with cyber intimate partner violence. *Journal of Interpersonal Violence*. <https://doi.org/10.1177/0886260521991307>
- Pineda, D., Piqueras, J. A., Galán, M., & Martínez-Martínez, A. (2021). Everyday sadism: Psychometric properties of three Spanish versions for assessing the construct. *Current Psychology*, 1–9. <https://doi.org/10.1007/s12144-021-01434-y>
- Plouffe, R. A., Saklofske, D. H., & Smith, M. M. (2016). The development and validation of a "Dark Tetrad" measure of personality. *Personality and Individual Differences*, 101. <https://doi.org/10.1016/j.paid.2016.05.257>
- Plouffe, R. A., Smith, M. M., & Saklofske, D. H. (2018). A psychometric investigation of the Assessment of Sadistic Personality. *Personality and Individual Differences*, 140, 57–60. <https://doi.org/10.1016/j.paid.2018.01.002>
- Plouffe, R. A., Wilson, C. A., & Saklofske, D. H. (2020a). The role of dark personality traits in intimate partner violence: A multi-study investigation. *Current Psychology*, 1–20. <https://doi.org/10.1007/s12144-020-00871-5>
- Plouffe, R. A., Wilson, C. A., & Saklofske, D. H. (2020b). Examining the relationships between childhood exposure to intimate partner violence, the Dark Tetrad of personality, and violence perpetration in adulthood. *Journal of Interpersonal Violence*, 37. <https://doi.org/10.1177/0886260520948517>
- Ramos-Villagrasa, P. J., Fernández-del-Río, E., & Barrada, J. R. (2020). Does evil prevail? The "Bright" and "Dark" sides of personality as predictors of adaptive performance. *Sustainability*, 12, 474. <https://doi.org/10.3390/su12020474>
- Ritchie, M. B., Blais, J., & Forth, A. E. (2019). "Evil" intentions: Examining the relationship between the Dark Tetrad and victim selection based on nonverbal gait cues. *Personality and Individual Differences*, 138, 126–132. <https://doi.org/10.1016/j.paid.2018.09.013>
- Rogers, K. H., Le, M. T., Buckels, E. E., Kim, M., & Biesanz, J. C. (2018). Dispositional malevolence and impression formation: Dark Tetrad associations with accuracy and positivity in first impressions. *Journal of Personality*, 86, 1050–1064. <https://doi.org/10.1111/jopy.12374>
- Sagioglou, C., & Greitemeyer, T. (2016). Individual differences in bitter taste preferences are associated with antisocial personality traits. *Appetite*, 96, 299–308. <https://doi.org/10.1016/j.appet.2015.09.031>
- Sagioglou, C., & Greitemeyer, T. (2020). Common, nonsexual masochistic preferences are positively associated with antisocial personality traits. *Journal of Personality*, 88, 780–793. <https://doi.org/10.1111/jopy.12526>

- Schofield, M. B., Roberts, B. L., Harvey, C. A., Baker, I. S., & Crouch, G. (2021). Tales from the dark side: The Dark Tetrad of personality, supernatural, and scientific belief. *Journal of Humanistic Psychology*. <https://doi.org/10.1177/00221678211000621>
- Schreyer, H., Plouffe, R. A., Wilson, C. A., & Saklofske, D. H. (2021). What makes a leader? Trait emotional intelligence and Dark Tetrad traits predict transformational leadership beyond HEXACO personality factors. *Current Psychology*. <https://doi.org/10.1007/s12144-021-01571-4>
- Schriber, R. A., Chung, J. M., Sorensen, K. S., & Robins, R. W. (2017). Dispositional contempt: A first look at the contemptuous person. *Journal of Personality and Social Psychology*, 113, 280–309. <https://doi.org/10.1037/pspp0000101>
- Seigfried-Spellar, K. C., & Lankford, C. M. (2018). Personality and online environment factors differ for posters, trolls, lurkers, and confessors on Yik Yak. *Personality and Individual Differences*, 124, 54–56. <https://doi.org/10.1016/j.paid.2017.11.047>
- Sest, N., & March, E. (2017). Constructing the cyber-troll: Psychopathy, sadism, and empathy. *Personality and Individual Differences*, 119, 69–72. <https://doi.org/10.1016/j.paid.2017.06.038>
- Seto, E., & Davis, W. E. (2021). Authenticity predicts positive interpersonal relationship quality at low, but not high, levels of psychopathy. *Personality and Individual Differences*, 182. <https://doi.org/10.1016/j.paid.2021.11.072>
- Sidik, K., & Jonkman, J. N. (2007). A comparison of heterogeneity variance estimators in combining results of studies. *Statistics in Medicine*, 26, 1964–1981. <https://doi.org/10.1002/sim.2688>
- Smith, C. V., Øverup, C. S., & Webster, G. D. (2019). Sexy deeds done dark? Examining the relationship between dark personality traits and sexual motivation. *Personality and Individual Differences*, 146, 105–110. <https://doi.org/10.1016/j.paid.2019.04.003>
- Smoker, M., & March, E. (2017). Predicting perpetration of intimate partner cyberstalking: Gender and the Dark Tetrad. *Computers in Human Behavior*, 72, 390–396. <https://doi.org/10.1016/j.chb.2017.03.012>
- Southard, A. C., Noser, A. E., Pollock, N. C., Mercer, S. H., & Zeigler-Hill, V. (2015). The interpersonal nature of dark personality features. *Journal of Social and Clinical Psychology*, 34, 555–586. <https://doi.org/10.1521/jscp.2015.34.7.555>
- Stanwix, S., & Walker, B. R. (2021). The Dark Tetrad and advantageous and disadvantageous risk-taking. *Personality and Individual Differences*, 168. <https://doi.org/10.1016/j.paid.2020.110338>
- Tetreault, C., Bates, E. A., & Bolam, L. T. (2018). How dark personalities perpetrate partner and general aggression in Sweden and the United Kingdom. *Journal of Interpersonal Violence*, 36. <https://doi.org/10.1177/0886260518793992>
- Tetreault, C., & Hoff, E. (2019). Influence of everyday stress: Mechanisms that elicit excitation transfer and dark behavior. *Journal of Aggression, Conflict and Peace Research*, 11, 169–179. <https://doi.org/10.1108/JACPR-11-2018-0390>
- Tetreault, C., & Sarma, K. M. (2021). Dark personalities and their sympathies towards state-sponsored extremism. *Behavioral Sciences of Terrorism and Political Aggression*. <https://doi.org/10.1080/19434472.2021.2004197>
- Thibault, T., & Kelloway, E. K. (2020). The dark tetrad at work. *Human Performance*, 33, 406–424. <https://doi.org/10.1080/08959285.2020.1802728>
- Torres-Marín, J., Navarro-Carrillo, G., & Carretero-Dios, H. (2022). Differentiating the traits of the Dark Tetrad in their linkages with humor styles, dispositions toward ridicule and laughter, and comic styles. *Personality and Individual Differences*, 185. <https://doi.org/10.1016/j.paid.2021.11.1281>
- Tortoriello, G. K., Hart, W., & Richardson, K. (2019). Predicting perceived harmful intent from the Dark Tetrad: A novel cognitive account of interpersonal harm. *Personality and Individual Differences*, 147, 43–52. <https://doi.org/10.1016/j.paid.2019.04.020>
- Tran, U. S., Bertl, B., Kossmeyer, M., Pietschnig, J., Stieger, S., & Voracek, M. (2018). “I’ll teach you differences”: Taxometric analysis of the Dark Triad, trait sadism, and the dark core of personality. *Personality and Individual Differences*, 126, 19–24. <https://doi.org/10.1016/j.paid.2018.01.015>
- Trémolière, B., & Djeriouat, H. (2016). The sadistic trait predicts minimization of intention and causal responsibility in moral judgment. *Cognition*, 146, 158–171. <https://doi.org/10.1016/j.cognition.2015.09.014>
- Tsoukas, A., & March, E. (2018). Predicting short-and long-term mating orientations: The role of sex and the Dark Tetrad. *The Journal of Sex Research*, 1–13. <https://doi.org/10.1080/00224499.2017.1420750>
- Tucaković, L., & Marković, S. (2021). The Dark Tetrad and aesthetic preferences: The role of the dark side of personality in the aesthetic preference for paintings. *Primenjena Psihologija*, 14, 443–463. <https://doi.org/10.19090/pp.2021.4.443-463>
- Vachon, D. D., & Lynam, D. R. (2016). Fixing the problem with empathy: Development and validation of the affective and cognitive measure of empathy. *Assessment*, 23, 135–149. <https://doi.org/10.1177/1073191114567941>
- van Geel, M., Goemans, A., Toprak, F., & Vedder, P. (2016). Which personality traits are related to traditional bullying and cyberbullying? A study with the Big Five, Dark Triad and sadism. *Personality and Individual Differences*, 106, 231–235. <https://doi.org/10.1016/j.paid.2016.10.063>
- Vize, C. E., Lynam, D. R., Collison, K. L., & Miller, J. D. (2016). Differences among dark triad components: A meta-analytic investigation. *Personality Disorders, Theory, Research, and Treatment*, 9, 101–111. <https://doi.org/10.1037/per0000222>
- Vize, C. E., Lynam, D. R., Collison, K. L., & Miller, J. D. (2018). Differences among dark triad components: A meta-analytic investigation. *Personality Disorders, Theory, Research, and Treatment*, 9, 101–111. <https://doi.org/10.1037/per0000222>
- Womick, J., Foltz, R. M., & King, L. A. (2019). “Releasing the beast within”? Authenticity, well-being, and the Dark Tetrad. *Personality and Individual Differences*, 137, 115–125. <https://doi.org/10.1016/j.paid.2018.08.022>
- Yee, J. W., & Lee, S. L. (2022). The Dark Triad traits, humor styles, and schadenfreude: Others’ misery as the devil’s laughing stocks. *Japanese Psychological Research*. <https://doi.org/10.1111/jpr.12403>
- Zeigler-Hill, V., & Besser, A. (2021). Dark personality features and workplace outcomes: The mediating role of difficulties in personality functioning. *Current Psychology*, 40, 5430–5444. <https://doi.org/10.1007/s12144-019-00527-z>
- Zeigler-Hill, V., Martinez, J. L., Vrabel, J. K., Ezenwa, M. O., Oraetue, H., Nweze, T., ... Kenny, B. (2020). The darker angels of our nature: Do social worldviews mediate the associations that dark personality features have with ideological attitudes? *Personality and Individual Differences*, 160. <https://doi.org/10.1016/j.paid.2020.109920>
- Ziegler-Hill, V., & Vonk, J. (2015). Dark personality features and emotion dysregulation. *Journal of Social and Clinical Psychology*, 34, 692–704. <https://doi.org/10.1521/jscp.2015.34.8.69>