



Contents lists available at ScienceDirect

# Personality and Individual Differences

journal homepage: [www.elsevier.com/locate/paid](http://www.elsevier.com/locate/paid)

Review

## Systematizing dark personality traits within broader models of personality

Radosław Rogoza<sup>a,\*</sup>, Christopher Marcin Kowalski<sup>b</sup>, Donald H. Saklofske<sup>b</sup>,  
Julie Aitken Schermer<sup>c</sup>

<sup>a</sup> Cardinal Stefan Wyszyński University in Warsaw, Poland<sup>b</sup> Department of Psychology, The University of Western Ontario, Canada<sup>c</sup> Department of Management and Organizational Studies, The University of Western Ontario, Canada

## ARTICLE INFO

## Keywords:

Dark Triad  
Personality  
Metraits  
Circumplex

## ABSTRACT

Previous research has attempted to derive arguments for the categorization of traits as 'dark' without theoretical justification or rationalizations. We begin with a description of current conceptualizations of the darkness of traits followed by a new perspective on the catalogue of dark personality traits and the theoretical boundaries of different shades of darkness within the broader personality structure. Finally, we address the redundancy problem observed within the field on dark personality traits. Our analyses are offered as a guide to future research towards a more parsimonious and useful set of criteria (a "compass" of sorts) for inclusion within the "dark" cluster.

Despite the interest and active research focused on the Dark Triad (Paulhus & Williams, 2002), a number of crucial questions remain unanswered. In particular, what does 'dark' mean in the context of personality traits. How do we know what traits belong in this 'dark' category? How can we make consistent and objective decisions on which trait to include in this category? This article seeks to address these questions using the Circumplex Model of Personality Metraits (CPM; Strus et al., 2014) as a framework for dark traits. In this paper, we will integrate current theoretical and empirical findings in the dark personality and CPM literatures to propose a possible resolution to another salient controversy: the issue of redundancy of the Dark Triad traits.

### 1. What defines a dark trait?

To date, researchers have developed criteria to determine which traits belong in the dark cluster of personality (e.g., Mededović & Petrović, 2015). One major problem is that many researchers suggest inclusion or exclusion of traits into the dark cluster without any a priori theoretical criteria for inclusion. Paulhus and Williams (2002) stated that, "the personalities composing this 'Dark Triad' share a number of features. To varying degrees, all three entail a socially malevolent character with behavior tendencies toward self-promotion, emotional

coldness, duplicity, and aggressiveness" (p. 557). Arguably, this statement should be interpreted as descriptive rather than an empirically proposed criterion for inclusion, though the statement is precisely what one would expect from a category of traits purported to represent socially malevolent dispositions. Some researchers have suggested more specific criteria, stating that callousness (i.e., lack of empathy) should be a necessary prerequisite for incorporation into the dark cluster (Furnham et al., 2013; Paulhus, 2014). Although this may seem like an intuitive suggestion, other authors contend that high empathy may cause harm because of the emotional and biased nature of the construct (Bloom, 2016),<sup>1</sup> and moreover, there is evidence demonstrating that the negative relationship between empathy and aggression is weak (Vachon et al., 2014). Therefore, empathy (or a lack of empathy) is not straightforward as a sole criterion for inclusion within a dark cluster of personality.

Jones and Figueredo (2013) reported that callousness alone is an insufficient criterion, as only in conjunction with interpersonal manipulation does it fully account for the relationships between facet scores of narcissism, Machiavellianism, and psychopathy. Indeed, Marcus et al. (2018) reported that both interpersonal manipulation and callousness were central to the network of dark traits, including psychopathy, Machiavellianism, narcissism, spitefulness, and aggressiveness. They

\* Corresponding author at: Institute of Psychology, Cardinal Stefan Wyszyński University, Wóycickiego 1/3, 01-938 Warsaw, Poland.

E-mail address: [r.rogoza@uksw.edu.pl](mailto:r.rogoza@uksw.edu.pl) (R. Rogoza).

<sup>1</sup> Specifically, Bloom (2016) claims, "empathy is biased and parochial; it focuses you on certain people at the expense of others; and it is innumerate, so it distorts our moral and policy decisions in ways that cause suffering instead of relieving it" (p. 36). Bloom (2016) states that empathy can often be a poor guide for moral decision-making as it is based on emotion, often at the cost of reason, and instead Bloom advocates for rational compassion.

<https://doi.org/10.1016/j.paid.2021.111343>

Received 18 June 2021; Received in revised form 13 September 2021; Accepted 11 October 2021

Available online 19 October 2021

0191-8869/© 2021 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

suggested that removing interpersonal manipulation and callousness from the networks would result in less densely-connected nodes representing the dark traits and that these traits, therefore, “hold” the Dark Triad together. Finally, Moshagen et al. (2018, p. 657) argued that the core of the dark personality, and therefore the dark trait per se, could be defined as, “the general tendency to maximize one’s utility – disregarding, accepting, or malevolently provoking disutility for others –, accompanied by beliefs that serve as justifications”.

## 2. What is the catalogue of dark personality traits?

Given these criteria, it is a question of great importance to ask what comprises the full catalogue of dark traits? Undoubtedly, the most widely studied grouping of dark personality traits is the Dark Triad of personality composed of the subclinical traits of psychopathy, narcissism, and Machiavellianism (Paulhus & Williams, 2002). Despite the extensive research, there is no consensus regarding the structure of the Dark Triad itself. On the one hand, narcissism is separated from the other Dark Triad traits because it is associated with more positive outcomes and dimensions than both Machiavellianism and psychopathy (e.g., Kowalski et al., 2016; Pailing et al., 2014). Alternatively, sadism is advocated to be included in the dark cluster (i.e., the Dark Tetrad) because, in some cases, sadism incrementally predicts external outcomes over the Dark Triad traits and emerges as a separate factor in factor analyses (e.g., Chabrol et al., 2009; Johnson et al., 2019; Plouffe et al., 2017; Plouffe et al., 2019). Obviously, these two, three, or even four traits, are not a complete representation of the catalogue of dark personality traits, as there are numerous traits that describe different shades of darkness (e.g., deadly sins, spitefulness, social dominance orientation; status-driven risk taking; Jones & Figueredo, 2013; Marcus et al., 2014; Visser et al., 2014; Vrabel et al., 2019).

Some proponents of a broader (i.e., more inclusive) catalogue of dark personality traits are Marcus and Zeigler-Hill et al. (2015), who put forward the description of the ‘Dark Tent’. They suggest that traits should fit into this category based on likely consequences associated with endorsement of these traits, such that, “traits qualify as dark if they are regularly associated with problematic outcomes across a variety of situations even when they are only present at modest levels” (Marcus & Zeigler-Hill, 2015, p. 435). This definition, however, seems to be overly broad as almost any personality trait can be categorized as such, as outcomes that are generally seen as problematic may not be antisocial in nature. Therefore, traits such as neuroticism or even agreeableness may qualify as dark given their potential associations with negative outcomes across a variety of contexts, even if these outcomes are relevant to the self and not to other individuals. For instance, neuroticism is associated with negative outcomes such as depressive symptoms and depressive vulnerability, among a multitude of other negative outcomes (e.g., Saklofske et al., 1995), while agreeableness can have negative outcomes such as lower salary and career success (Judge et al., 2012; Rode et al., 2008; Spurk & Abele, 2011). Within the literature, one might find either too narrow (e.g., Dark Triad) or too broad (e.g., Dark Tent) models of dark personality traits. As a result, specifying a catalogue of dark personality traits appears to be a challenging task requiring further theoretical explanation. In order to better understand the role of a dark trait, scrutinizing their relations with the broader models of personality should provide more theoretical insight.

## 3. Personality underpinnings of the dark traits

With respect to the Five Factor Model of personality (FFM; McCrae & Costa, 1997), Jakobwitz and Egan (2006) and Stead and Fekken (2014) argued that low agreeableness could be considered as a common denominator of the Dark Triad traits. Existing meta-analyses mostly support these findings, as they suggest that narcissism is significantly positively correlated with high extraversion and to lesser extent with low agreeableness and high openness, while both Machiavellianism and

psychopathy, are correlated with low agreeableness and low conscientiousness (Muris et al., 2017; O’Boyle et al., 2015; Vize et al., 2018). As a counter-proposition, Lee and Ashton (2005; Lee et al., 2013) argued that honesty-humility from their HEXACO model saturates the Dark Triad traits. Book et al. (2015) found that honesty-humility best accounts for the empirical overlap between the Dark Triad traits, outperforming agreeableness from the FFM. Finally, Hodson et al. (2018) found an almost perfect negative correlation (-0.95) between the latent core of the Dark Triad and latent honesty-humility scores. However, Jones and Figueredo (2013) argued that low honesty-humility alone is not sufficient to label a trait as dark, as it is missing callousness, which according to them, is a necessary component of intentional malevolence. Taken together, all these findings undoubtedly lead to the conclusion that in order for a trait to be considered dark, it must be deliberately malevolent. However, while congruent with the theoretical definition of a dark trait and capturing a large portion of the Dark Triad variance (Hodson et al., 2018; Jones & Figueredo, 2013), it seems that the insight from the FFM and HEXACO models alone might be too narrow to determine the possible spectrum of dark personality traits.

A model capable of integrating different psychological constructs (e.g., values, well-being; Strus & Cieciuch, 2017) and even testing whole models (e.g., of identity; Topolewska & Cieciuch, 2017) is the Circumplex of Personality Metatraits (CPM; Strus et al., 2014). The CPM is composed of eight personality metatraits, which are the broadest dimensions of personality structure (Cieciuch & Strus, 2017). The two main axes correspond to the Alpha (Stability/Social Self-Regulation) and Beta (Plasticity/Dynamism; Ashton et al., 2015; Digman, 1997; DeYoung et al., 2002; Saucier et al., 2014). Additionally, the CPM includes two other metatraits: Gamma/Integration and Delta/Self-Restraint. The CPM Gamma is a reinterpretation of the General Factor of Personality (Musek, 2007). However, instead of being hypothesized at the top of the personality structure (Rushton & Irving, 2011), it is expected to be one of two possible combinations of Alpha and Beta metatraits (both high vs. both low). Following the logic of the circumplex model, the Delta metatrait represents different combinations of Alpha and Beta (high Alpha/low Beta vs. low Alpha/high Beta). The negative poles of Gamma and Delta also correspond to the metatraits of personality pathology (i.e., Internalizing and Externalizing pathology; Wright et al., 2012; Zawadzki, 2017). The graphical representation of the model is given in Fig. 1 and the theoretical description of each trait is given in Table 1.

The CPM provides several advantages for addressing the basis and inclusion of traits as dark. First, it is more parsimonious relative to the FFM and HEXACO models as the five-/six-dimensional space is transformed into a two-dimensional one. Paulhus and Klaiber (2020) argue that the HEXACO model helps to integrate dark personalities into personality space as they provide definitions for the lower-level traits of Honesty/Humility. The CPM, however, makes this integration more comprehensive and overcomes the limitation of the HEXACO, in which narcissism could not be as easily located as Machiavellianism and psychopathy given its agentic content (Back et al., 2013; Trahair et al., 2020). Second, the main axes of Alpha and Beta correspond to the metatraits identified not only in the FFM, but also in the HEXACO model (DeYoung et al., 2002; Saucier et al., 2014; Strus & Cieciuch, 2021). Therefore, there is no necessity to choose a personality model, as the CPM is able to integrate findings from both of them. Third, all of the metatraits within the model have precisely defined psychological content and angular locations, which enable the possibility to hypothesize about relations at different personality levels and to empirically test hypotheses regarding precisely formulated angles and coordinates. As a result, one is able to delineate the theoretical space where a given trait would be expected.

## 4. Delineating the catalogue of dark personality traits

Given these advantages, the CPM offers measurable benefits to a

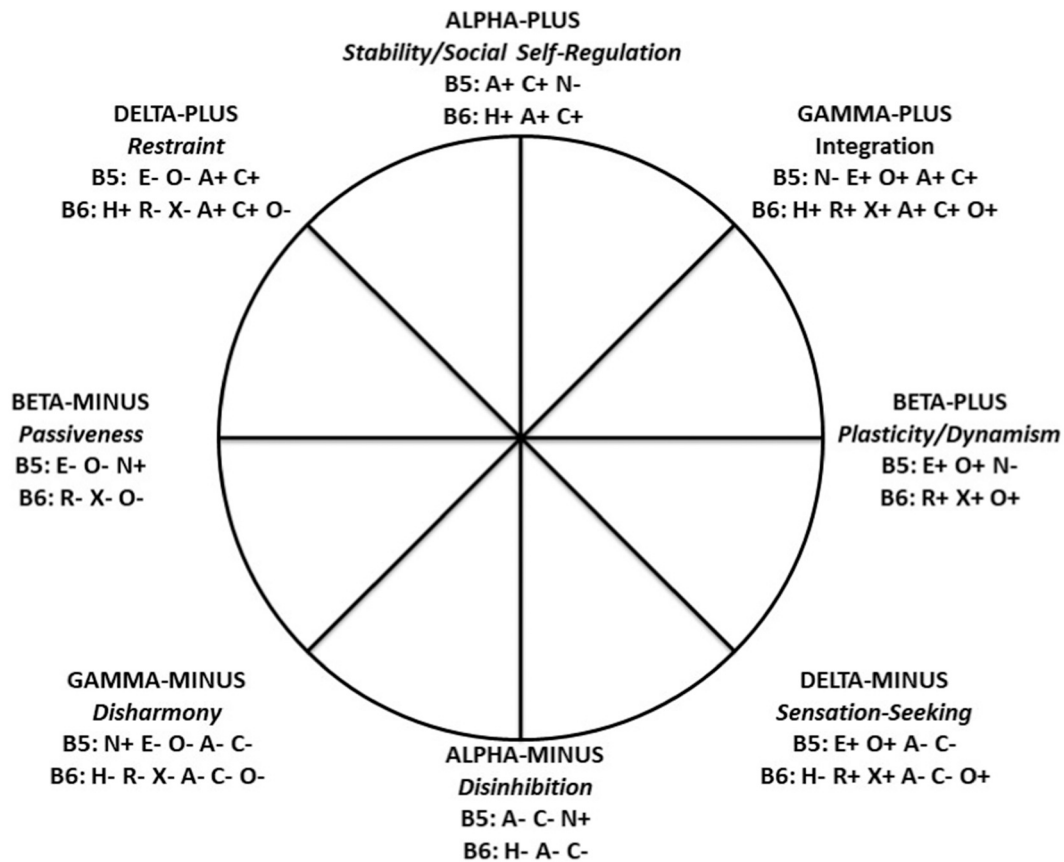


Fig. 1. Graphical representation of the Circumplex of Personality Metraits.

Note. N = Neuroticism/Emotional Stability; E = Extraversion; O = Openness to experience/Intellect; A = Agreeableness; C = Conscientiousness. B6 = Big Six traits: H = Honesty-Humility/Propriety; R = Resiliency/Emotionality; X = Extraversion; A = Agreeableness; C = Conscientiousness; O = Originality/Openness to experience. + positive pole of the trait; - negative pole of the trait.

Adapted from [Strus & Cieciuch, 2021](#).

description and classification of dark personality traits. First, existing knowledge on the relations to the FFM and HEXACO traits could be used as clues regarding the location of dark personality traits within the CPM structure. Second, the CPM allows to comprehensively grasp the personality underpinnings of a construct and to capture and clarify the relationships between dark personality traits, and thus provides a tool to systematically and methodically investigate the similarities and differences of these traits. Third, the CPM offers dark personality research a more broad theoretical perspective than the FFM and HEXACO model as Alpha-Minus includes the aspects of deliberate malevolence which is only captured by the FFM and HEXACO models to a limited extent ([Jones & Figueredo, 2013](#); [Strus & Cieciuch, 2021](#)). In other words, the CPM permits the delineation of the dark traits based on their theoretically predicted locations, as we illustrate in [Fig. 2](#).

Given the definition of a dark personality trait and empirical findings, one could therefore locate the dark personalities are anchored in the Alpha-Minus, which represents a blend of socially malevolent characteristics as described in [Table 1](#). Such anchor location is further strengthened by arguments that antagonism is the core feature of the Dark Triad traits ([Lynam & Miller, 2019](#)) as Alpha-Minus represents the low pole of both, the FFM agreeableness and HEXACO honesty-humility. Indeed, existing research on the Dark Triad located psychopathy, Machiavellianism, and antagonistic expressions of narcissism precisely in this place (Rogoza, Kowalski, & Schermer, 2019). However, does it imply that the Alpha-Minus (i.e., antagonism) alone is enough to cover all the existing dark traits under its umbrella ([Vize et al., 2020](#))? [Brud et al. \(2020\)](#) provided evidence that more robust dark traits (i.e., deadly sins) are located between Gamma-Minus, which represents distrust in

interpersonal relations and internalizing difficulties such as depressiveness, and Delta-Minus, which represents expansiveness in interpersonal relations and externalizing difficulties such as impulsiveness ([Strus & Cieciuch, 2017](#); [Zawadzki, 2017](#)). Because dark traits are organized around the core of Alpha-Minus, this delineates the expected theoretical space for the dark traits within approximately 90 degrees within the circumplex (i.e., at the angle of 45° from Alpha-Minus). As an additional example, narcissistic personality is composed of neurotic and agentic facets, which are both concentrated in approximation to the facet of antagonism ([Krizan & Herlache, 2018](#); [Wright & Edershile, 2018](#)). As result, narcissism, which is considered as dark trait ([Rauthmann & Kolar, 2012](#)), cannot be reduced to antagonism as it builds its multidimensional structure upon it ([Miller et al., 2019](#)). In fact, this hypothetical multidimensional structure of the narcissistic personality was already established within the CPM, where the antagonistic facet was located in Alpha-Minus, while neurotic and agentic facets were located at Gamma-Minus and Delta-Minus, respectively ([Rogoza, Cieciuch, et al., 2019b](#)).

### 5. Defining dark traits

The theoretical arguments presented above are sufficient to define what the dark trait is. First, in order for a trait to be considered dark, it would have to be characterized by deliberate malevolence, reflecting antagonism ([Jones & Figueredo, 2013](#); [Lynam & Miller, 2019](#); [Paulhus, 2014](#); [Vize et al., 2020](#)) and thus - located at or in approximation to Alpha-Minus ([Hodson et al., 2018](#); [Jakobwitz & Egan, 2006](#)). Depending on the exact location of the dark trait, these could be either antisocial per

**Table 1**  
Meaning of eight metatraits in the Circumplex of Personality Metatraits.

Metatrait	Big Five/ HEXACO configuration	Meaning
Delta-Plus (Self-Restraint)	N–, E–, O–, A+, C+ H+ R– X– A+ C+ O–	Low emotionality (both negative and positive), high behavior control, a tendency to adjust oneself (cf. Becker, 1999), conformism (cf. DeYoung et al., 2002), and conventionality.
Alpha-Plus (Stability/Social Self-Regulation)	A+, C+, N– H+, A+, C+	Stability in the area of emotional, motivational, and social functioning (DeYoung et al., 2002), expressed as a general social adaptation tendency (Digman, 1997; Simsek, 2014), an ethical attitude towards the world, the ability to delay gratification and motivate oneself, and perseverance (cf. Becker, 1999).
Gamma-Plus (Integration)	N–, E+, O+, A+, C+ H+, R+, X+, A+, C+, O+	Well-being, a warm and prosocial attitude towards people, both intra- and interpersonal harmony, openness to the world in all its richness, and effectiveness in attaining important goals (cf. Becker, 1999; Musek, 2007; Rushton & Irving, 2011).
Beta-Plus (Plasticity/Dynamism)	E+, O+, N– R+, X+, O+	Cognitive and behavioral openness to change and engagement in new experiences, a tendency to explore (DeYoung et al., 2002), initiative and invention in social relations, as well as an orientation towards personal growth (Digman, 1997; cf. Becker, 1999; Simsek, 2014).
Delta-Minus (Sensation-Seeking)	E+, O+, A–, C– H–, R+, X+, A–, C–, O+	Broadly defined impulsiveness, high emotional lability, stimulation-seeking, provocativeness and expansiveness in interpersonal relations (cf. Becker, 1999; DeYoung, 2010; DeYoung et al., 2008; Zuckerman, 1979).
Alpha-Minus (Disinhibition)	A–, C–, N+ H–, A–, C–	High level of antisocial tendencies underpinned by unrestraint and low frustration tolerance, as well as aggression and antagonism towards people, social norms, and obligations (cf. Becker, 1999; Settles et al., 2012).
Gamma-Minus (Disharmony)	N+, E–, O–, A–, C– H–, R–, X–, A–, C–, O–	Inaccessibility (distrust, coldness, distance) in interpersonal relationships, depressiveness, pessimism, and proneness to suffer from psychological problems (cf. Becker, 1999; Musek, 2007; Rushton & Irving, 2011).
Beta-Minus (Passiveness)	E–, O–, N+ R–, X–, O–	Apathy, submissiveness in interpersonal relations, cognitive and behavioral passivity, as well as some type of inhibition and stagnation (cf. Becker, 1999).

Note. N = Neuroticism/Emotional Stability; E = Extraversion; O = Openness to experience/Intellect; A = Agreeableness; C = Conscientiousness. B6 = Big Six traits: H = Honesty-Humility/Propriety; R = Resiliency/Emotionality; X = Extraversion; A = Agreeableness; C = Conscientiousness; O = Originality/Openness to experience. + positive pole of the trait; – negative pole of the trait. (Adapted from Strus and Cieciuch (2017) and Strus & Cieciuch, 2021.)

se (i.e., located at Alpha-Minus) such as sadism; more internalizing in nature (i.e., located closer to Gamma-Minus) such as schadenfreude; or more externalizing (i.e., located closer to Delta-Minus) such as status driven risk-taking. Obviously, the CPM does not provide a quick and explicit answer regarding the entire possible catalogue of dark personality traits. It does, however, offer clear criteria when considering a trait as dark. Specifically, being located within the circumplex structure

between Gamma-Minus and Delta-Minus implies the dark character of a given trait.

This approach allows not only to define what a dark trait is, but also it has the possibility to define what shouldn't be considered as such. There are some traits, which when exposed to specific environmental factors might meet all the criteria outlined above. One of such examples is obedience (Milgram, 1965). By usual, obedience is related to high conscientiousness and agreeableness, which are both desired traits improving functioning of the society (Bègue et al., 2014; DeYoung, 2015; Digman, 1997). However, obedience could be also used to cause harm (e.g., soldiers executing orders during the Holocaust) as well documented in the Milgram paradigm (Doliński et al., 2017; Milgram, 1965). But does causing harm necessarily imply a trait to be considered as dark? At the dispositional level, all of the Dark Triad traits have been found to be negatively related to obedience (Jonason et al., 2019), which suggest that on the general, obedience does not include elements of deliberate malevolence. Given the relations of obedience to conscientiousness and agreeableness (Bègue et al., 2014), as well as the phenotypical features of Delta-Plus metatrait (e.g., conformism, conventionality, tendency to adjust; Strus et al., 2014) its location within the circumplex would be expected to be located the space of darkness.

An example in contrast to obedience is spitefulness, which regards self-harming for the sake of a higher good (i.e., harming others; Marcus et al., 2014). While being spiteful occurs during specific situations similarly as obedience, the former has dispositional nature treating situation as a trigger, while the latter treats situation as a moderating variable influencing the outcome (Doliński et al., 2017; Marcus et al., 2014; Marcus & Zeigler-Hill, 2015). Furthermore, spitefulness demonstrates stable relations to other Dark Triad traits (Jonason et al., 2017; Marcus et al., 2018) as well as to low agreeableness and low honesty-humility (Marcus et al., 2014). Thus, with a high dose of certainty, one might expect that spitefulness should be located in approximation to Alpha-Minus. Summing up, some traits might be seen as dark when exposed to certain environmental factors, due they might represent malevolent behaviors, however, they do not necessarily need to be interpreted as dark in general, solely due to this reason.

## 6. How to locate traits within the Circumplex of Personality Metatraits

Locating various traits within a circumplex model is conveniently possible through the means of the Structural Summary Method (SSM; Gurtman, 1994; Zimmerman & Wright, 2017). In order to do so, a researcher interested in whether a trait falls within the dark category should include a measurement of the circumplex variables (i.e., the Circumplex of Personality Metatraits Questionnaire; Strus & Cieciuch, 2017), in addition to the assessments of the variable of interest. Once data are collected, prior to the location of variables on the circumplex space, it is recommended to assess whether the circumplex itself follows the circumplex structure (Step 1). That is, a researcher needs to test whether the circumplex variables are equally distributed around the circle (i.e., whether they are equally spaced) and whether they are having equal distance from the middle of the circle (i.e., whether they have equal communality). This is done through the means of the circular stochastic process model with a Fourier series correlation function (Browne, 1992). Once the circumplex structure is verified, one can proceed to the SSM (Step 2). The SSM conveniently produces a circumplex graph, allowing for a quick eyeballing assessment whether a trait of interest is located in the desired space or not. In addition to the assessment of the variable location (i.e., vector angle), information on the degree of articulation of the profile (i.e., vector length) is provided. Unfortunately, the SSM does not provide a strict test informing whether the location hypothesis can be confirmed or not. This is achieved through the means of the Procrustes rotation (Step 3; Schönemann, 1966). A pedagogical tutorial of this three-step procedure with the example of narcissistic personality is described in detail in Rogoza,



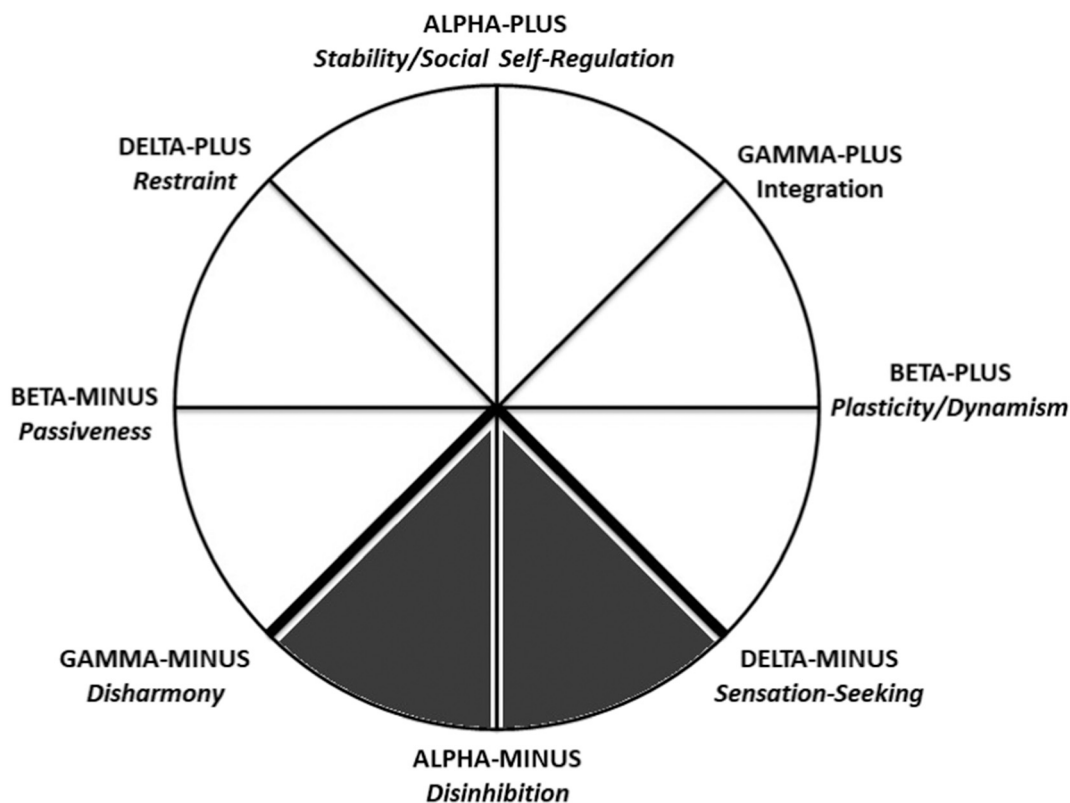


Fig. 2. Theoretical allocation of dark personality traits within the Circumplex of Personality Metraits.

Cieciuch, & Strus, 2021.

## 7. Solving the redundancy problem

### 7.1. Self-report perspective

The most pervasive criticism regarding the Dark Triad is that Machiavellianism and subclinical psychopathy are redundant. This criticism was introduced prior to Paulhus and Williams's (2002) introduction of the Dark Triad (e.g., Skinner, 1988; Smith, 1978; Smith & Griffith, 1978). The most impactful iteration of this criticism was described by McHoskey et al. (1998), who stated that psychopathy and Machiavellianism were redundant and that social, personality, and clinical psychologists have been independently investigating the same construct using different labels. For instance, based on meta-analytic evidence of similarity in Five-Factor model profiles and substantial overlap, O'Boyle et al. (2015) suggested that concerns regarding the redundancy of Machiavellianism and psychopathy are warranted, and that psychopathy largely subsumes Machiavellianism. In the same vein, using meta-analytic methodology, Vize et al. (2018) found that the empirical profiles of Machiavellianism and psychopathy are highly similar and virtually indistinguishable from each other as they are currently measured. These authors concluded that Machiavellianism research might be better understood as a literature on alternative measures of psychopathy. Consistent with these results, evidence, based on self-report methods, suggest that Machiavellianism and psychopathy are redundant, including theoretically driven attempts at separating the two constructs (e.g., self-control, erratic behavior, and impulsiveness; Crysel et al., 2013; Muris et al., 2017; Petrides et al., 2011).

### 7.2. Behavioral perspective

Navigating this literature associated with behavioral evidence not only differentiates Machiavellianism and psychopathy, but also suggests

that contemporary Machiavellianism measures are properly representative of the theoretical intricacies of Machiavellianism. One such example is presented by Jones (2014), who demonstrated that individuals high in psychopathy, but not Machiavellianism, persisted in gambling with other people's money at risk of retribution, suggesting that individuals who score highly on psychopathy are less flexible in their behavior than Machiavellian individuals. Furthermore, Jones and Weiser (2014) found that although both of these constructs predicted relationship infidelity, only psychopathic infidelity led to relationship termination. These findings are consistent with theoretical descriptions of Machiavellian strategic manipulation. In a study of impulsivity (Malesza & Kalinowski, 2019), psychopathy predicted delay discounting and social discounting, while Machiavellianism only predicted social discounting, indicating that high-Machiavellianism individuals are unwilling to share, but show no preference for immediate rewards. Furthermore, Jones and Paulhus (2017) indicated that both Machiavellianism and psychopathy predicted cheating on a coin-flipping task, but only individuals who scored high on psychopathy and ego-depleted individuals scoring high on Machiavellianism cheated under high-risk conditions.

### 7.3. A way forward

The psychopathy-Machiavellianism redundancy debate has a vast literature spanning many methodologies, statistical treatments, and conclusions, but is far from being resolved. There is a constant debate with some researchers suggesting nearly complete redundancy, while others argue for their divergent validity. Our proposition is to frame dark personality traits within the defined terms of angular locations of the circumplex model boundaries. Research suggests that both psychopathy and Machiavellianism variables are located at the core of the dark personality (i.e., having the same vector angle), but they differ in articulation of their profiles (i.e., having different vector length). In other words, they have the same predominant theme (i.e., antagonistic

tendencies due to location at Alpha-Minus; Lynam & Miller, 2019), but psychopathy has a clearer directional trend, while the variability of Machiavellianism seems to be more limited (Brud et al., 2020; Pincus & Gurtman, 2003; Rogoza, Kowalski, & Schermer, 2019; Wiggins et al., 1989). Therefore, both these traits present phenotypically similar expressions of personality (e.g., callousness and interpersonal manipulation; Jones & Figueredo, 2013; Vize et al., 2020) and predicts similar outcomes such as aggression or religiosity (Dinić & Wertag, 2018; Lowicki & Ciecuch, 2017). However, it seems they do so on different levels as Machiavellianism predicts antisocial outcomes in only in specific environmental context (e.g., when costs outweigh the benefits) and is not associated to positive perceptions of situations across contexts (Jonason & Sherman, 2020; Jones & Mueller, 2021). Thus, given the fact that they both assess similar aspects of darkness (given the same vector angle), it should be not surprising that they frequently emerge as a common factor in factor analyses (e.g., Persson et al., 2019; Rogoza & Ciecuch, 2019a). Given that they diverge in their variability (given the different vector length), it should be also not surprising that under certain environmental circumstances Machiavellianism might be characterized by superior ability to regulate own impulses while psychopathy would not (Jones & Mueller, 2021; Jones & Paulhus, 2011; Kowalski et al., 2018).

Is Machiavellianism and psychopathy the same constructs or they are just falling within the same category of dark personality (Vize et al., 2020)? Behavioral evidence as well as person x environment interactions supports their distinctiveness, which is also supported by network psychometrics (Dinić et al., 2020; Trahair et al., 2020; Truhan et al., 2020). It seems that the redundancy conflict stemmed from the fact that both Machiavellianism and psychopathy fulfil the very same definitions of a dark personality trait and moreover they have similar personality underpinnings. Negation of Machiavellianism's existence, in the light of this evidence seems to be premature. Of course, further work on the structure of Machiavellian personality (e.g., Collison et al., 2018; Jones & Mueller, 2021) could move the field forward, however we argue that the gathered evidence is sufficient to explain why the redundancy debate was aroused in the first place.

## 8. Conclusions

The current state of the psychological literature regarding dark personality traits is vast, but largely atheoretical. The extant literature is rife with researchers proposing new additions to existing models of dark personality traits based on non-existent or limited criteria. Such additions run the risk of introducing potential jangle fallacies as well as the risk of expanding the dark personality cluster into a category without boundaries or direction. In the present review, we have provided an overview of what defines dark personality traits per se and described the theoretical boundaries of the dark personality traits through the location of dark personalities within the circumplex model of personality meta-traits. Our findings provide both a distinction of dark vs. non-dark personality traits, but also a possible solution to the redundancy issues, frequently associated with the dark traits. We hope that our ideas will catalyze new research and move the field of dark personalities forward.

## Acknowledgement

The work of Radosław Rogoza was supported by National Science Centre, Poland (2020/39/B/HS6/00052) and the Foundation for Polish Science (FNP).

## References

Ashton, M. C., Lee, K., & Boies, K. (2015). One- through six-component solutions from ratings on familiar English personality-descriptive adjectives. *Journal of Individual Differences*, 36, 183–189. <https://doi.org/10.1027/1614-0001/a000176>

- Back, M. D., Küfner, A. C., Dufner, M., Gerlach, T. M., Rauthmann, J. F., & Denissen, J. J. A. (2013). Narcissistic admiration and rivalry: Disentangling the bright and dark sides of narcissism. *Journal of Personality and Social Psychology*, 105, 1013–1037. <https://doi.org/10.1037/a0034431>
- Becker, P. (1999). Beyond the Big Five. *Personality and Individual Differences*, 26, 511–530. [https://doi.org/10.1016/S0191-8869\(98\)00168-8](https://doi.org/10.1016/S0191-8869(98)00168-8)
- Bègue, L., Beauvois, J. L., Courbet, D., Oberlé, D., Lepage, J., & Duke, A. A. (2014). Personality predicts obedience in a Milgram paradigm. *Journal of Personality*, 83, 299–306. <https://doi.org/10.1111/jopy.12104>
- Bloom, P. (2016). *Against empathy: The case for rational compassion*. New York: Harper Collins Publishers.
- Book, A. S., Visser, B., & Volk, A. (2015). Unpacking evil: Claiming the core of the dark triad. *Personality and Individual Differences*, 73, 29–38. <https://doi.org/10.1016/j.paid.2014.09.016>
- Browne, M. W. (1992). Circumplex models for correlation matrices. *Psychometrika*, 57, 469–497. <https://doi.org/10.1007/BF02294416>
- Brud, P. P., Rogoza, R., & Ciecuch, J. (2020). Personality underpinnings of dark personalities: An example of Dark Triad and deadly sins. *Personality and Individual Differences*, 163, Article 110085. <https://doi.org/10.1016/j.paid.2020.110085>
- 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>
- Ciecuch, J., & Strus, W. (2017). Two-factor model of personality. In V. Zeigler-Hill, & T. Shackelford (Eds.), *Encyclopedia of personality and individual differences*. Springer International Publishing AG. <https://doi.org/10.1007/978-3-319-28099-8>
- 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>
- Crysel, L. C., Crosier, B. S., & Webster, G. D. (2013). The Dark Triad and risk behavior. *Personality and Individual Differences*, 54, 35–40. <https://doi.org/10.1016/j.paid.2012.07.029>
- DeYoung, C. G. (2015). Cybernetic Big Five theory. *Journal of Research in Personality*, 56, 33–58. <https://doi.org/10.1016/j.jrp.2014.07.004>
- DeYoung, C. G. (2010). Impulsivity as a personality trait. In K. D. Vohs, & R. F. Baumeister (Eds.), *Handbook of self-regulation: Research, theory, and applications* (2nd ed., pp. 485–502). New York: Guilford Press.
- DeYoung, C. G., Peterson, J. B., & Higgins, D. M. (2002). Higher-order factors of the Big Five predict conformity: Are there neuroses of health? *Personality and Individual Differences*, 33, 533–552. [https://doi.org/10.1016/S0191-8869\(01\)00171-4](https://doi.org/10.1016/S0191-8869(01)00171-4)
- DeYoung, C. G., Peterson, J. B., Seguin, J. R., & Tremblay, R. E. (2008). Externalizing behavior and the higher-order factors of the Big Five. *Journal of Abnormal Psychology*, 117, 947–953. <https://doi.org/10.1037/a0013742>
- Digman, J. M. (1997). Higher-order factors of the Big Five. *Journal of Personality and Social Psychology*, 73, 1246–1256. <https://doi.org/10.1037/0022-3514.73.6.1246>
- Dinić, B. M., & Wertag, A. (2018). Effects of Dark Triad and HEXACO traits on reactive/proactive aggression: Exploring the gender differences. *Personality and Individual Differences*, 123, 44–49. <https://doi.org/10.1016/j.paid.2017.11.003>
- Dinić, B. M., Wertag, A., Tomašević, A., & Sokolovska, V. (2020). Centrality and redundancy of the Dark Tetrad traits. *Personality and Individual Differences*, 155, Article 109621. <https://doi.org/10.1016/j.paid.2019.109621>
- Doliński, D., Grzyb, T., Folwarczny, M., Grzybała, P., Krzyszycha, K., Martynowska, K., & Trojanowski, J. (2017). Would you deliver an electric shock in 2015? Obedience in the experimental paradigm developed by Stanley Milgram in the 50 years following the original studies. *Social Psychological and Personality Science*, 8, 927–933. <https://doi.org/10.1177/1948550617693060>
- 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>
- Gurtman, M. B. (1994). The circumplex as a tool for studying normal abnormal personality: A methodological primer. In S. Strack, & M. Lorr (Eds.), *Differentiating normal and abnormal personality* (pp. 243–263). New York: Springer.
- Hodson, G., Book, A., Visser, B. A., Volk, A. A., Ashton, M. C., & Lee, K. (2018). Is the Dark Triad common factor distinct from low honesty-humility? *Journal of Research in Personality*, 73, 123–129. <https://doi.org/10.1016/j.jrp.2017.11.012>
- Jakobwitz, S., & Egan, V. (2006). The Dark Triad and normal personality traits. *Personality and Individual Differences*, 40, 331–339. <https://doi.org/10.1016/j.paid.2005.07.006>
- Johnson, L. K., Plouffe, R. A., & Saklofske, D. H. (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., & Sherman, R. A. (2020). Personality and the perception of situations: The Big Five and Dark Triad traits. *Personality and Individual Differences*, 163, Article 110081. <https://doi.org/10.1016/j.paid.2020.110081>
- Jonason, P. K., Koehn, M. A., Bulyk, R. A., & Davis, M. D. (2019). Standing out and not fitting in: The Dark Triad traits and social values. *The Journal of Social Psychology*, 160, 164–169. <https://doi.org/10.1080/00224545.2019.1623162>
- 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>
- Jones, D. N., & Figueredo, A. J. (2013). The core of darkness: Uncovering the heart of the dark triad. *European Journal of Personality*, 27, 521–531. <https://doi.org/10.1002/per.1893>
- Jones, D. N. (2014). Risk in the face of retribution: Psychopathic individuals persist in financial misbehavior among the Dark Triad. *Personality and Individual Differences*, 67, 109–113. <https://doi.org/10.1016/j.paid.2014.01.030>

- Jones, D. N., & Mueller, S. M. (2021). Is Machiavellianism dead or dormant? The perils of researching a secretive construct. *Journal of Business Ethics*. <https://doi.org/10.1007/s10551-020-04708-w>
- Jones, D. N., & Paulhus, D. L. (2011). The role of impulsivity in the Dark Triad of personality. *Personality and Individual Differences*, 51, 679–682. <https://doi.org/10.1016/j.paid.2011.04.011>
- Jones, D. N., & Paulhus, D. L. (2017). Duplicity among the Dark Triad: Three faces of deceit. *Journal of Personality and Social Psychology*, 113, 329–342. <https://doi.org/10.1037/pspp0000139>
- Jones, D. N., & Weiser, D. A. (2014). Differential infidelity patterns among the Dark Triad. *Personality and Individual Differences*, 57, 20–24. <https://doi.org/10.1016/j.paid.2013.09.007>
- Judge, T. A., Livingston, B. A., & Hurst, C. (2012). Do nice guys—and gals—really finish last? The joint effects of sex and agreeableness on income. *Journal of Personality and Social Psychology*, 102, 390–407. <https://doi.org/10.1037/a0026021>
- Kowalski, C. M., Kwiatkowska, K., Kwiatkowska, M. M., Ponikiewska, K., Rogoza, R., & Schermer, J. A. (2018). The Dark Triad traits and intelligence: Machiavellians are bright, and narcissists and psychopaths are ordinary. *Personality and Individual Differences*, 135, 1–6. <https://doi.org/10.1016/j.paid.2018.06.049>
- Kowalski, C. M., Vernon, P. A., & Schermer, J. A. (2016). The general factor of personality: The relationship between the big one and the dark triad. *Personality and Individual Differences*, 88, 256–260. <https://doi.org/10.1016/j.paid.2015.09.028>
- Krizan, K., & Herlache, A. D. (2018). The narcissism spectrum model: A synthetic view of narcissistic personality. *Personality and Social Psychology Review*, 22, 3–31. <https://doi.org/10.1177/1088868316685018>
- Lee, K., & Ashton, M. C. (2005). Psychopathy, Machiavellianism, and narcissism in the Five-Factor Model and the HEXACO model of personality structure. *Personality and Individual Differences*, 38, 1571–1582. <https://doi.org/10.1016/j.paid.2004.09.016>
- Lee, K., Ashton, M. C., Willshire, J., Bourdage, J. S., Visser, B. A., & Gallucci, A. (2013). Sex, power, and money: Prediction from the Dark Triad and honesty–humility. *European Journal of Personality*, 27, 169–184. <https://doi.org/10.1002/per.1860>
- Łowicki, P., & Zajenkowski, M. (2017). No empathy for people nor for God: The relationship between the Dark Triad, religiosity and empathy. *Personality and Individual Differences*, 115, 169–173. <https://doi.org/10.1016/j.paid.2016.02.012>
- Lynam, D. R., & Miller, J. D. (2019). The basic trait of antagonism: An unfortunately underappreciated construct. *Journal of Research in Personality*, 81, 118–126. <https://doi.org/10.1016/j.jrp.2019.05.012>
- Malesza, M., & Kalinowski, K. (2021). Willingness to share, impulsivity and the dark triad traits. *Current Psychology*, 40, 3888–3896. <https://doi.org/10.1007/s12144-019-00351-5>
- 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>
- Marcus, D. K., Preszler, J., & Zeigler-Hill, V. (2018). A network of dark personality traits: What lies at the heart of darkness? *Journal of Research in Personality*, 73, 56–62. <https://doi.org/10.1016/j.jrp.2017.11.003>
- Marcus, D. K., Zeigler-Hill, V., Mercer, S. H., & Norris, A. L. (2014). The psychology of spite and measurement of spitefulness. *Psychological Assessment*, 26, 563–574. <https://doi.org/10.1037/a0036039>
- McCrae, R. R., & Costa, P. T. (1997). Personality trait structure as a human universal. *American Psychologist*, 52, 509–516. <https://doi.org/10.1037/0003-066X.52.5.509>
- McHoskey, J. W., Worzel, W., & Szyarto, C. (1998). Machiavellianism and psychopathy. *Journal of Personality and Social Psychology*, 74, 192–210. <https://doi.org/10.1037/0022-3514.74.1.192>
- 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>
- Milgram, S. (1965). Some conditions of obedience and disobedience to authority. *Human Relations*, 18, 57–76. <https://doi.org/10.1177/001872676501800105>
- Miller, J. D., Vize, C., Crowe, M. L., & Lynam, D. R. (2019). A critical appraisal of the Dark Triad literature and suggestions for moving forward. *Current Directions in Psychological Science*, 28, 353–360. <https://doi.org/10.1177/0963721419838233>
- Moshagen, M., Hilbig, B. E., & Zettler, I. (2018). The dark core of personality. *Psychological Review*, 125, 656–688. <https://doi.org/10.1037/rev0000111>
- Muris, P., Merckelbach, H., Otgaar, H., & Meijer, E. (2017). The malevolent side of human nature: A meta-analysis and critical review of the literature on the dark triad (narcissism, Machiavellianism, and psychopathy). *Perspectives on Psychological Science*, 12, 183–204. <https://doi.org/10.1177/1745691616666070>
- Musek, J. (2007). A general factor of personality: Evidence of the big one in the five-factor model. *Journal of Research in Personality*, 41, 1213–1233. <https://doi.org/10.1016/j.jrp.2007.02.003>
- 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>
- Pailing, A., Boon, J., & Egan, V. (2014). Personality, the Dark Triad and violence. *Personality and Individual Differences*, 67, 81–86. <https://doi.org/10.1016/j.paid.2013.11.018>
- 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., & Klaiber, P. (2020). HEXACO, dark personalities, and Brunswick symmetry. *European Journal of Personality*, 34, 541–542. <https://doi.org/10.1002/per.2284>
- 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., & Garcia, D. (2019). Revisiting the structure of the Short Dark Triad. *Assessment*, 26, 3–16. <https://doi.org/10.1177/1073191117701192>
- Petrides, K. V., Vernon, P. A., Schermer, J. A., & Veselka, L. (2011). Trait emotional intelligence and the Dark Triad of personality. *Twin Research and Human Genetics*, 14, 35–41. <https://doi.org/10.1375/twin.14.1.35>
- Pincus, A. L., & Gurtman, M. B. (2003). Interpersonal assessment. In J. S. Wiggins (Ed.), *Paradigms of personality assessment* (pp. 246–261). New York, N: Guilford.
- Plouffe, R. A., Saklofske, D. H., & Smith, M. M. (2017). The assessment of sadistic personality: Preliminary psychometric evidence for a new measure. *Personality and Individual Differences*, 104, 166–171. <https://doi.org/10.1016/j.paid.2016.07.043>
- Plouffe, R. A., Smith, M. M., & Saklofske, D. H. (2019). 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>
- Rauthmann, J. F., & Kolar, G. P. (2012). How “dark” are the Dark Triad traits? Examining the perceived darkness of narcissism, Machiavellianism, and psychopathy. *Personality and Individual Differences*, 53, 884–889. <https://doi.org/10.1016/j.paid.2012.06.020>
- Rode, J. C., Arthaud-Day, M. L., Mooney, C. H., Near, J. P., & Baldwin, T. T. (2008). Ability and personality predictors of salary, perceived job success, and perceived career success in the initial career stage. *International Journal of Selection and Assessment*, 16, 292–299. <https://doi.org/10.1111/j.1468-2389.2008.00435.x>
- Rogoza, R., & Cieciuch, J. (2019a). Structural investigation of the Short Dark Triad Questionnaire in Polish population. *Current Psychology*, 38, 756–763. <https://doi.org/10.1007/s12144-017-9653-1>
- Rogoza, R., Cieciuch, J., Strus, W., & Baran, T. (2019b). Seeking a common framework for research on narcissism: an attempt to integrate the different faces of narcissism within the circumplex of personality metraits. *European Journal of Personality*, 33, 437–455. <https://doi.org/10.1002/per.2206>
- Rogoza, R., Cieciuch, J., & Strus, W. (2021). A three-step procedure for analysis of circumplex models: An example of narcissism located within the circumplex of personality metraits. *Personality and Individual Differences*, 169, Article 109775. <https://doi.org/10.1016/j.paid.2019.109775>
- Rushton, J. P., & Irving, P. (2011). The general factor of personality: Normal and abnormal. In T. Chamorro-Premuzic, S. von Stumm, & A. Furnham (Eds.), *The Wiley-Blackwell handbook of individual differences* (pp. 134–163). London: Blackwell Publishing Ltd.
- Saklofske, D. H., Kelly, I. W., & Janzen, B. L. (1995). Neuroticism, depression, and depression proneness. *Personality and Individual Differences*, 18, 27–31. [https://doi.org/10.1016/0191-8869\(94\)00128-F](https://doi.org/10.1016/0191-8869(94)00128-F)
- Saucier, G., Thalmayer, A. G., Payne, D. L., Carlson, R., Sanogo, L., Ole-Kotikash, L., Church, A. T., Katigbak, M. S., Somer, O., Szarota, P., Szirmak, Z., & Zhou, H. (2014). A basic bivariate structure of personality attributes evident across nine languages. *Journal of Personality*, 82, 1–14. <https://doi.org/10.1111/jopy.12028>
- Schönemann, P. H. (1966). A generalized solution of the orthogonal procrustes problem. *Psychometrika*, 31, 1–10. <https://doi.org/10.1007/BF02289451>
- Settles, R. E., Fischer, S., Cyders, M. A., Combs, J. L., Gunn, R. L., & Smith, G. T. (2012). Negative urgency: A personality predictor of externalizing behavior characterized by neuroticism, low conscientiousness, and disagreeableness. *Journal of Abnormal Psychology*, 121, 160–172. <https://doi.org/10.1037/a0024948>
- Simsek, Ö. F. (2014). Higher order structure of personality and mental health: Does general affectivity matter? *Journal of Personality Assessment*, 96, 226–236. <https://doi.org/10.1080/00223891.2013.836527>
- Skinner, N. F. (1988). Personality correlates of Machiavellianism: VI Machiavellianism and the psychopath. *Social Behavior and Personality*, 16, 33–37. <https://doi.org/10.2224/sbp.1988.16.1.33>
- Smith, R. J. (1978). *The psychopath in society*. New York: Academic Press.
- Smith, R. J., & Griffith, J. E. (1978). Psychopathy, the Machiavellian, and anomie. *Psychological Reports*, 42, 258. <https://doi.org/10.2466/pr0.1978.42.1.258>
- Spurk, D., & Abele, A. E. (2011). Who earns more and why? A multiple mediation model from personality to salary. *Journal of Business and Psychology*, 26, 87–103. <https://doi.org/10.1007/s10869-010-9184-3>
- Stead, R., & Fekken, C. G. (2014). Agreeableness at the core of the dark triad of personality. *Individual Differences Research*, 12, 131–141.
- Strus, W., & Cieciuch, J. (2017). Towards a synthesis of personality, temperament, motivation, emotion and mental health models within the circumplex of personality metraits. *Journal of Research in Personality*, 66, 70–95. <https://doi.org/10.1016/j.jrp.2016.12.002>
- Strus, W., & Cieciuch, J. (2021). The circumplex of personality metraits and the HEXACO model: Towards refinement and integration. *Journal of Personality*, 89, 803–818. <https://doi.org/10.1111/jopy.12616>
- Strus, W., Cieciuch, J., & Rowiński, T. (2014). The circumplex of personality metraits: A synthesizing model of personality based on the Big Five. *Review of General Psychology*, 18, 273–286. <https://doi.org/10.1037/gpr0000017>
- Topolewska, E., & Cieciuch, J. (2017). Empirical verification of the circumplex of identity formation modes and its potential to integrate different models of identity development in the Erikson–Marcia tradition. *Self & Identity*, 16, 123–142. <https://doi.org/10.1080/15298868.2016.1229690>
- Trahair, C., Baran, T., Flakus, M., Kowalski, C. M., & Rogoza, R. (2020). The structure of the Dark Triad traits: A network analysis. *Personality and Individual Differences*, 167, Article 110265. <https://doi.org/10.1016/j.paid.2020.110265>
- Truhan, T. E., Wilson, P., Möttus, R., & Papageorgiou, K. A. (2020). *The many faces of dark personalities: An examination of the dark triad structure using psychometric network analysis*. <https://doi.org/10.1016/j.paid.2020.110502>. Advance online publication.
- Vachon, D. D., Lynam, D. R., & Johnson, J. A. (2014). The (non)relation between empathy and aggression: Surprising results from a meta-analysis. *Psychological Bulletin*, 140, 751–773. <https://doi.org/10.1037/a0035236>

- Visser, B. A., Pozzebon, J. A., & Reina-Tamayo, A. M. (2014). Status-driven risk taking: Another “dark” personality? *Canadian Journal of Behavioural Science/Revue Canadienne des sciences du comportement*, *46*, 485–496. <https://doi.org/10.1037/a0034163>
- Vize, C. E., Collison, K. L., Miller, J. D., & Lynam, D. R. (2020). The “core” of the Dark Triad: A test of competing hypotheses. *Personality Disorders: Theory, Research, and Treatment*, *11*, 91–99. <https://doi.org/10.1037/per0000386>
- Vize, C. E., Lynam, D. R., Miller, J. D., & Collison, K. L. (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>
- Vrabel, J. K., Zeigler-Hill, V., McCabe, G. A., & Baker, A. D. (2019). Pathological personality traits and immoral tendencies. *Personality and Individual Differences*, *140*, 82–89. <https://doi.org/10.1016/j.paid.2018.02.043>
- Wiggins, J. S., Phillips, N., & Trapnell, P. (1989). Circular reasoning about interpersonal behavior: Evidence concerning some untested assumptions underlying diagnostic classification. *Journal of Personality and Social Psychology*, *56*, 296–305. <https://doi.org/10.1037/0022-3514.56.2.296>
- Wright, A. G. C., & Edershile, E. (2018). Issues resolved and unresolved in pathological narcissism. *Current Opinion in Psychology*, *21*, 74–79. <https://doi.org/10.1016/j.copsyc.2017.10.001>
- Wright, A. G. C., Thomas, K. M., Hopwood, C. J., Markon, K. E., Pincus, A. L., & Krueger, R. F. (2012). The hierarchical structure of DSM-5 pathological personality traits. *Journal of Abnormal Psychology*, *121*, 951–957. <https://doi.org/10.1037/a0027669>
- Zawadzki, B. (2017). The location of personality disorders in the circumplex of personality metatraits. *Annals of Psychology*, *20*, 493–512. <https://doi.org/10.18290/rpsych.2017.20.2.7en>
- Zeigler-Hill, V., Noser, A. E., Roof, C., Vonk, J., & Marcus, D. K. (2015). Spitefulness and moral values. *Personality and Individual Differences*, *77*, 86–90. <https://doi.org/10.1016/j.paid.2014.12.050>
- Zimmerman, J., & Wright, A. G. C. (2017). Beyond description in interpersonal construct validation: Methodological advances in the circumplex structural summary approach. *Assessment*, *24*, 3–23. <https://doi.org/10.1177/1073191115621795>
- Zuckerman, M. (1979). *Sensation seeking: Beyond the optimal level of arousal*. Hillsdale, NJ: Erlbaum.