

illuminating the ‘dark core’: Mapping global versus specific sources of variance across multiple measures of the dark triad

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Abstract

It remains unresolved whether a dark core “D” underlies the dark triad that exceeds the unique meaning of its individual sub-dimensions (Machiavellianism, psychopathy, narcissism). Based on life history theory, we argue in favor of the existence of “D”. According to life history theory, individuals high in “D” pursue a *fast* life history strategy which tends to provide them with short-term reproductive benefits. In a German sample ($N = 395$), we use a multitrait-multimethod approach integrating standard measures of the dark triad (Mach IV, SRP-III, NPI) with the Short Dark Triad scale and the Dirty Dozen. We compare a three-dimensional measurement model to a bifactor model and find that accounting for “D” significantly improves model fit. Moreover, we extend the dark triad’s nomological network onto core self-evaluations and also include self-esteem and life satisfaction. Results show that “D” relates negatively to life satisfaction and core self-evaluations (even after accounting for the dark triad’s sub-dimensions) but not to self-esteem. Our findings are consistent with life history theory, considering that distal outcomes such as life satisfaction suffer most from fast life history strategies. We conclude that the dark triad has a dark core.

Highlights

- Model comparisons suggest that the dark triad has a dark core “D”
- Standard measures, Short Dark Triad, and Dirty Dozen all load on “D” ($\lambda_s > 0.39$)
- “D” relates negatively to life satisfaction and core self-evaluations
- Our models test dark triad’s internal structure at the construct level

Keywords: dark triad; dark core; malevolency; B-ESEM; MTMM; core self-evaluations; self-esteem; life satisfaction

1. Introduction

In recent years, research interest in the dark triad has grown exponentially (Muris, Merckelbach, Otgaar, & Meijer, 2017) and its role for important outcomes such as work behavior has become clearer (O’Boyle, Forsyth, Banks, & McDaniel, 2012). At the same time, the dark triad has been criticized for several reasons. One criticism is that the covariance among its sub-dimensions has been suggested to have little meaning beyond being an inversion of the personality factor honesty/humility (Hodson et al., 2018). On the other hand, proponents of the dark triad argue that the dark triad represents a dark core (henceforth referred to as “D”, see Moshagen, Hilbig, & Zettler, 2018) that exceeds the unique meaning of its individual components so that the simultaneous study of Machiavellianism, psychopathy, and narcissism is undoubtedly warranted (Furnham, Richards, Rangel, & Jones, 2014; Koehn, Okan, & Jonason, 2018). However, this “D” appears to be hard to capture (Furnham et al., 2014) which calls for the application of

newer classes of psychometric models (Jonason & Luévano, 2013; McLarnon & Tarraf, 2017).

In the current study, we aim to contribute new information to this ongoing debate. We will first examine whether “D” can be captured when integrating multiple measures of the dark triad. Thereby we can rule out the possibility that “D” is merely an artifact of one particular questionnaire. We follow recommendations (Furnham et al., 2014; McLarnon & Tarraf, 2017; Moshagen et al., 2018) and choose bifactor exploratory structural equation modeling (B-ESEM) as our analytical approach. Second, we link “D” to criterion variables of an extended nomological network of the dark triad. We consider three indicators of personal adjustment—self-esteem, core self-evaluations, and life satisfaction—of which at least one (life satisfaction) should be negatively related to “D” according to the framework of life history theory (Jonason, Webster, Schmitt, Li, & Crysel, 2012).

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2. Existence and meaning of dark triad's dark core

Researchers have brought up several arguments against previous conceptualizations of “D”. For instance, conceptualizing “D” should not be done by combining unique traits that have different nomological networks (Vize, Lynam, Collison, & Miller, 2018) and different real-life consequences (O’Boyle et al., 2012). In light of this meta-analytic evidence, “lumping” the dark triad together would pose the risk of a simplistic distinction between good and bad (Furnham, Richards, & Paulhus, 2013). Another criticism suggests that the covariation between the dark triad’s three sub-dimensions might represent nothing other than low honesty/humility (Hodson et al., 2018).

However, a point can also be made in favor of the existence of “D”. On a theoretical level, “D” can be understood as an adaptation within the framework of life history theory. According to life history theory, individuals choose between different life history strategies depending on the perceived availability of resources in their social and physical environments. If few resources are available, organisms prefer short-term reproductive benefits over long-term growth which is reflected in a *fast* life-history strategy. If abundant resources are available, individuals tend to invest into their future, build long-term relationships, and avoid unnecessary risks – representing a *slow* life-history strategy. Through Darwinian selection, the existence of “D” might simply be a consequence of some individuals’ success with *fast* life history strategies (Vernon, Villani, Vickers, & Harris, 2008).

Recent findings from bifactor models are in line with the assumption that “D” exists and reflects a fast life history strategy. Individuals high on “D” are found to have lower self-control (McLarnon & Tarraf, 2017), higher impulsivity, and a proclivity towards sensation-seeking (Maneiro, López-Romero, Gómez-Fraguela, Cutrín, & Romero, 2018). Furthermore, low levels of honesty/humility as well as high aggression, callousness, and manipulateness were hallmarks of “D” (Maneiro et al., 2018). Such interpersonal antagonism without regard for long-term consequences appears to be prototypical for a fast life history strategy. In all of these cases, the explanatory power of “D” exceeded what had already been accounted for by the dark triad’s unique sub-dimensions, suggesting that “D” exists and represents meaningful variance.

Key to this surge in all of our understanding of “D” was the application of newer classes of psychometric models that had been called for (Furnham et al., 2014). When modeling the dark triad, researchers started to use bifactor models (Jonason & Luévano, 2013; Maneiro et al., 2018; Moshagen et al., 2018) and sometimes combined them with exploratory structural equation modeling (Gamache, Savard, & Maheux-Caron, 2018; McLarnon & Tarraf, 2017). A bifactor model of the dark triad includes a global factor that accounts for the variance in all indicators (e.g., the individual items of a scale) beyond what is accounted for by the dark triad’s three unique sub-dimensions (Machiavellianism, psychopathy, and narcissism). The underlying idea is that individual indicators do not only capture variance that reflects their respective construct (e.g., high levels of Machiavellianism), but also are saturated to different degrees with variance of a global factor (e.g., high levels of malevolency or “D”) that cannot be fully separated from each single indicator of a particular construct.

Whereas previous research has specified bifactor models on the level of the *individual items* of one particular questionnaire, we use a different approach in this study. We assess each sub-dimension of the dark triad with three separate measurement instruments and specify the bifactor model on the level of *scale means* (rather than individual items)¹. This has the benefit that the estimated parameters depend less on a particular measurement instrument, rendering

structural models more robust, and making findings more generalizable to the level of constructs (rather than tying them to a specific questionnaire). This procedure is based on the rationale of the multitrait-multimethod approach (Campbell & Fiske, 1959) which suggests that different measures of the same dimension should converge whereas different dimensions within the same measurement instrument ought to be distinguishable. As measurement instruments, we first include the standard measures of the dark triad which are in use for a long time. The Mach IV measures Machiavellianism (Christie & Geis, 1970), the Self-Report Psychopathy Scale (SRP-III; Hare, 1985) measures psychopathy, and the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979) measures narcissism. Second and third, we include the Short Dark Triad (SD3; Jones & Paulhus, 2014) and the Dirty Dozen (DD; Jonason & Webster, 2010) which both assess all three sub-dimensions of the dark triad. Taken together, these instruments comprise a total of 130 items. Using scale means as indicators condenses this information into only nine scales (cf. Fig. 1).

Bifactor models allow to extract the dark aspects which are present in each scale to different degrees. For instance, consider the Machiavellianism subscale of the DD. It includes items such as “I tend to exploit others towards my own end” which measure a form of manipulation that is clearly malicious. Therefore, we would expect this scale to have a *high* saturation on “D”. The other two Machiavellianism scales seem to measure a broader and potentially brighter Machiavellianism construct, e.g., “it’s not wise to tell your secrets” (SD3) or “it is wise to flatter important people” (Mach IV) so that these scales should have a *lower* saturation on “D”. As another example, consider the narcissism subscale of the SD3. It includes items such as “I feel embarrassed if someone compliments me” capturing low narcissism. Not feeling embarrassed by compliments is not necessarily a specific sign of interpersonal antagonism. Items like this appear to be bright indicators of both narcissism in particular (in contrast to DD’s items such as “I tend to expect special favors from others”) and of the dark triad in general. Scales like these should have a *low* saturation on “D”. Based on these dark aspects, bifactor models estimate a global dark factor “D”. Bifactor models differ from models with higher-order factors. While higher-order factors reflect *commonalities* between unique sub-dimensions, bifactor models emphasize *differences* between unique sub-dimensions and the global factor.

In research on the dark triad, it has proven useful to combine bifactor models with exploratory structural equation modeling (B-ESEM) which has several benefits compared to bifactor confirmatory factor analysis (McLarnon & Tarraf, 2017). First, B-ESEM accounts for the saturation that indicators for one sub-dimension have on another sub-dimension. Such cross-loadings cannot be fully avoided during construction of questionnaires because each indicator reflects aspects of life in which different sub-dimensions naturally tend to co-occur to differing degrees (Morin, Arens, & Marsh, 2016). This logic also applies if the indicators are scales (instead of items) as in the present study. For example, many items of the Mach IV measure immorality (Rauthmann, 2013) which is also a hallmark of psychopathy. We would therefore expect a cross-loading of the Mach IV scale on psychopathy. Through B-ESEM, these kinds of relationships can be acknowledged by estimating cross-loadings and rotating factors to minimize them, resulting in latent variables that are relatively clean and specific estimates of their respective constructs (Asparouhov & Muthén, 2009; Morin, Arens, & Marsh, 2016).

In a final step, measurement models can be compared statistically to determine whether a certain specification – such as the existence of a global factor capturing “D” that is supposed to underlie all scales – is either required to substantially improve

¹ We thank an anonymous reviewer for this suggestion.

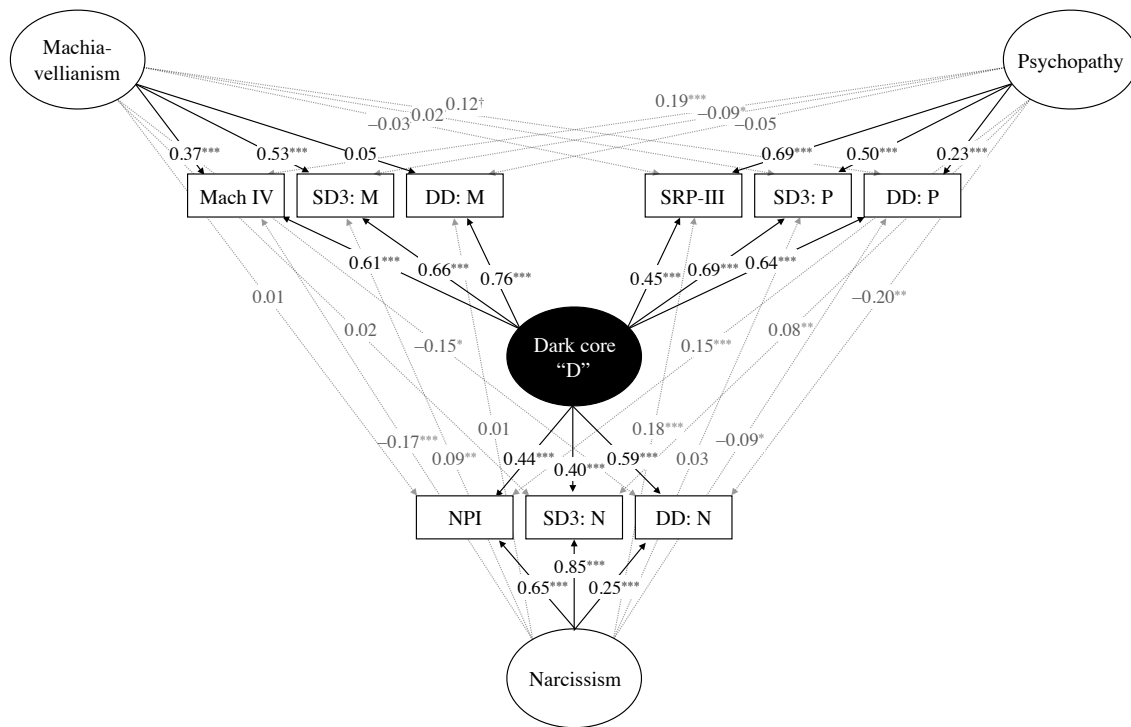


Figure 1. Bifactor exploratory structural equation model across multiple measures of the dark triad ($N = 395$). M = Machiavellianism, P = psychopathy, N = narcissism, SRP-III = Self-Report Psychopathy scale, NPI = Narcissistic Personality Inventory, SD3 = Short Dark Triad scale, DD = Dirty Dozen. Cross-loadings (targeted to approach zero) are displayed in grey. † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

model fit or can be left out without losing valuable information. In light of the theoretical and empirical evidence for the role of “D” within the framework of life history theory, we assume that model comparisons will indicate that a B-ESEM fits the data substantially better than a model without “D”.

Hypothesis 1: Across multiple measures of the dark triad, a dark core “D” can be captured.

3. Extending dark triad’s nomological network onto personal adjustment

As outlined above, we expect “D” to reflect a proclivity towards a fast life history strategy. To extend the nomological network of “D”, we ask how “D” relates to three different indicators of personal adjustment.

The first indicator is self-esteem which might decrease if individuals pursue a fast life history strategy given that people should perform more impulsive acts which they are not proud about. On the other hand, it is characteristic of a fast life history strategy to appear as being a confident person in order to gain status in the eyes of others and reproductive benefits associated with status. This would let us expect a positive relationship between “D” and self-esteem.

As another indicator of personal adjustment, we consider core self-evaluations (CSEs) which are defined as “fundamental conclusions individuals reach about themselves, other people, and the world” (Judge, Locke, Durham, & Kluger, 1998, p. 18). Besides self-esteem, CSEs comprise self-efficacy, locus of control, and neuroticism. On the one hand, CSEs might suffer when individuals choose a fast life history strategy given that people’s short-term orientation should prevent them from having certain experiences that increase beliefs in being effective or in control of their lives such as the attainment of long-term goals. On the other hand, CSEs might help people to gain short-term advantages (e.g., over adversaries) through intimidating their competition by at least appearing capable and effective. The latter idea would lead us to

believe that CSEs might be somewhat compatible with a fast life history strategy so that CSEs might correlate positively with “D”.

Finally, the third indicator of personal adjustment is life satisfaction. People who are high in “D” (and thus pursue fast life history strategies) should be less satisfied with their lives given that an excessive short-term orientation might distract them from working towards long-term goals and building lasting relationships. Through sensation-seeking and taking high risk, it is also more likely that they inflict damage on themselves at some point in their lives. Such damage could manifest in the form of accidents, bankruptcies, substance abuse, or serious conflicts with partners, employers, or customers. Consequently, “D” might be negatively related with life satisfaction. Given that we do not have clear-cut hypotheses for all three outcomes (which are substantially interrelated, see Dufner, Gebauer, Sedikides, & Denissen, 2018), we pose an open question:

Research Question: How will “D” relate to personal adjustment?

In all of our analyses, “D” reflects the portion of variance in the SD3 that is not already accounted for by its unique sub-dimensions (Machiavellianism, psychopathy, and narcissism).

4. Materials and Methods

4.1. Participants

We collected data from 395 German participants (73.4% female) via snowball procedure (77% students and 23% employees). On average, participants were 25.15 years old ($SD = 8.03$).

4.2. Measures

We used German versions of all measures.

Standard measures. We measured Machiavellianism with the 20-item Mach IV (Shajek, 2007), psychopathy with the 31-item SRP-III (Küfner, Dufner, & Back, 2015), and narcissism with the 40-item NPI (using dyadic items; Schütz, Marcus, & Sellin, 2004).

Table 1
Means, standard deviations, correlations, and internal consistency estimates

Variable	<i>M</i>	<i>SD</i>	Machiavellianism			Psychopathy			Narcissism			Personal adjustment		
			1	2	3	4	5	6	7	8	9	10	11	12
Machiavellianism														
1 Mach IV	3.43	0.60	(.74)											
2 Short Dark Triad	2.71	0.62	.57***	(.76)										
3 Dirty Dozen	3.00	1.49	.46***	.54***	(.75)									
Psychopathy														
4 SRP-III	2.17	0.45	.36***	.24***	.32***	(.86)								
5 Short Dark Triad	1.95	0.52	.52***	.43***	.49***	.66***	(.72)							
6 Dirty Dozen	2.80	1.44	.50***	.45***	.50***	.42***	.57***	(.64)						
Narcissism														
7 NPI	12.71	6.39	.20***	.33***	.34***	.42***	.38***	.25***	(.84)					
8 Short Dark Triad	2.77	0.54	.12*	.34***	.31***	.38***	.34***	.20***	.73***	(.66)				
9 Dirty Dozen	4.16	1.69	.22***	.35***	.45***	.17**	.32***	.27***	.39***	.43***	(.79)			
Personal adjustment														
10 Self-esteem	3.16	0.60	-.25***	-.06	-.02	.06	-.10	-.12*	.41***	.44***	-.06	(.92)		
11 Core self-evaluations	3.57	0.59	-.29***	-.04	-.08	.04	-.15**	-.11*	.37***	.38***	-.12*	.82***	(.87)	
12 Life satisfaction	5.16	1.02	-.38***	-.20***	-.09	-.06	-.20***	-.17**	.22***	.24***	-.12*	.66***	.65***	(.85)

Note. *N* = 395. SRP-III = Self-Report Psychopathy scale, NPI = Narcissistic Personality Inventory. Alpha coefficients are given in parentheses along the diagonal. * *p* < .05, ** *p* < .01, *** *p* < .001.

SD3. We translated and back translated Jones and Paulhus's (2014) scale into German by language experts (Appendix A). The scale measures each sub-dimension of the dark triad with nine items.

DD. The DD measures each sub-dimension of the dark triad with four items (Küfner et al., 2015).

Personal adjustment. We measured self-esteem with the 10-item Rosenberg Self-Esteem Scale (von Collani & Herzberg, 2003), CSEs with the 12-item Core Self-Evaluations Scale (Stumpp, Muck, Hülshager, Judge, & Maier, 2010), and life satisfaction with the 5-item Satisfaction with Life Scale (Janke & Glöckner-Rist, 2014).

4.3. Analytical procedure

We performed the analyses using *Mplus* 7.3. We estimated both models with orthogonal target rotation. With target rotation, cross-loadings are targeted to approach zero in order to simplify the loadings structure so that the factors have a clear interpretation (Asparouhov & Muthén, 2009). Orthogonal rotation sets factors to be uncorrelated and thus improves interpretability of the solution in line with the assumption that “D” reflects variance that goes beyond the three sub-dimensions of the dark triad. In (B-)ESEM, this choice does not affect model fit (Morin, Arens, & Marsh, 2016). Model fit was evaluated with the comparative fit index (CFI), the Tucker-Lewis index (TLI), and the root mean square error of approximation (RMSEA). Values > 0.90 and 0.95 for CFI and TLI, and lower than 0.08 and 0.06 for RMSEA, respectively, can be seen as an indicator of good and excellent fit.

5. Results

Descriptives, correlations, and reliabilities are displayed in Table 1.

5.1. Construct validity of dark triad's “D”

Model fit indices are shown in Table 2. Results indicate that including “D” significantly improved model fit over a model without “D” ($\Delta\chi^2 = 30.35$, $\Delta df = 6$, $p < .001$). Specifically, the B-ESEM resulted in a CFI of 1, a TLI of 1, and a RMSEA of 0. The ESEM without “D” had a CFI of 0.98, a TLI of 0.95, and a RMSEA of 0.07. Thus, Hypothesis 1 was supported.

Table 2

Comparison of competing exploratory structural equation models

Model	χ^2	<i>df</i>	<i>p</i>	# <i>fp</i>	CFI	TLI	RMSEA
Three-dimensional	35.36	12	< 0.001	42	0.98	0.95	0.07
Bifactor	5.01	6	0.54	48	1.00	1.00	0.00

Note. *df* = degrees of freedom, #*fp* = number of free parameters.

All of the factor loadings of the B-ESEM were statistically significant except for DD's Machiavellianism scale which did not load on the latent Machiavellianism factor (instead, it loaded most strongly on “D”). The targeted factor loadings ranged from 0.40 to 0.76 for “D” (*M* = 0.58), from 0.05 to 0.53 for Machiavellianism (*M* = 0.32), from 0.23 to 0.69 for psychopathy (*M* = 0.47), and from 0.25 to 0.85 for narcissism (*M* = 0.58).

5.2. Criterion-related validity (personal adjustment)

To assess criterion-related validity, we regressed composite scores for self-esteem, CSEs, and life satisfaction on “D” and dark triad's sub-dimensions simultaneously. When predicting self-esteem, DD's standardized loading on narcissism was 1.61. Therefore, we allowed a residual path between DD's narcissism and self-esteem ($\phi = -0.42$, $p < 0.001$). When predicting CSEs, DD's standardized loading on narcissism was -0.47 so we specified a residual path between DD's narcissism and CSEs ($\phi = -0.36$, $p < 0.001$). Then, Mach IV's standardized loading on Machiavellianism was 1.84 so we allowed a residual path between Mach IV and CSEs ($\phi = -0.25$, $p = 0.045$). When predicting life satisfaction, factor loadings were similar to Fig. 1.

As displayed in Table 3, we found “D” to be unrelated to self-esteem ($\gamma = -0.05$, $p = 0.46$) whereas it was negatively related to CSEs ($\gamma = -0.17$, $p = 0.023$) and life satisfaction ($\gamma = -0.22$, $p < 0.001$). After accounting for “D”, narcissism showed positive (γ s = 0.41 to 0.62, $ps < 0.001$) relationships to all indicators of personal adjustment. Machiavellianism was negatively related to self-esteem ($\gamma = -0.21$, $p = 0.008$) and life satisfaction ($\gamma = -0.24$, $p = 0.003$). The links from psychopathy to personal adjustment were less substantial (γ s = -0.01 to -0.09, $ps > 0.15$).

Table 3

Criterion-related validity of latent dark triad variables

Latent variable	Personal adjustment		
	Self-esteem	Core self-evaluations	Life satisfaction
Dark core “D”	-0.05 (0.07)	-0.17* (0.08)	-0.22*** (0.06)
Machiavellianism	-0.21** (0.08)	-0.09 (0.14)	-0.24** (0.08)
Psychopathy	-0.09 (0.06)	-0.01 (0.08)	-0.04 (0.06)
Narcissism	0.62*** (0.04)	0.61*** (0.05)	0.41*** (0.05)

Note. Standard regression coefficients presented. Numbers in parentheses are standard errors. * *p* < .05, ** *p* < .01, *** *p* < .001.

6. Discussion

Given the high interest in the dark triad, we attempted to contribute to a more fine-grained understanding of the internal structure of the dark triad with particular emphasis on its dark core "D". A comparison of two competing measurement models revealed that accounting for "D" represented a significant improvement in fit over a model without "D". The measurement models were based on several of the most common measurement instruments of the dark triad which all had substantial loadings on "D". Our findings support the idea that a common core exists which underlies all three sub-dimensions of the dark triad and is also independent of one particular measure of the dark triad.

With respect to criterion validity, we extended the nomological network of the dark triad by considering CSEs next to self-esteem and life satisfaction as indicators of personal adjustment. CSEs are people's core-evaluations of themselves, others, and the world (Judge et al., 1998) and might be considered as being at the intermediate level of generality between self-esteem (which is also a sub-dimension of the CSEs) and life satisfaction. We found "D" to be related to lower levels of life satisfaction and CSEs, but not to self-esteem. This pattern is consistent with life history theory and the assumption that "D" reflects a *fast* life history strategy. Individuals who pursue a fast life history strategy should engage in self-enhancement which increases their chances for mating success and could compensate for otherwise lower levels of self-esteem. On the other hand, an excessive short-term orientation should detract resources from long-term goals or even directly impede them regarding relationships with significant others. Failure to pursue long-term goals may prevent individuals high in "D" from having mastery experiences, developing self-efficacy beliefs, and leaves them with less control over their lives. Consequently, there is a negative association of "D" with CSEs and life satisfaction. One might propose that the malevolent side of human nature that is reflected by "D" accumulates over time and comes into play especially when considering distal outcomes, such as life satisfaction.

7. Limitations

First, our study was limited to a German sample and to only a limited range of occupations. Therefore, future studies should replicate findings including an extended variety of occupations and cultures. Second, findings reported here rely on self-report data. Future studies should compare findings from self-report data with data collected from different sources (e.g., close friends, colleagues, supervisors).

Third, using bifactor models carries various risks. It is not clear whether response biases have inflated estimations of systematic variance in "D" (Reise, Kim, Mansolf, & Widaman, 2016). For example, it may be the case that some participants have the tendency to agree to all kinds of statements (i.e., acquiescence bias) which (in the absence of a high proportion of inverted items) would create artificial correlations between all scales, hence inflating their saturation on "D". Even though this criticism sounds plausible, it cannot explain why the NPI has a loading on "D" that is comparable to the other scales. In contrast to the other scales, the NPI uses forced-choice dyadic items (with interchanged polarity), making it less prone to many response biases.

Fourth, it is challenging to interpret the relationships between dark triad's sub-dimensions and personal adjustment after "D" has been accounted for (i.e., when restricting factors as being independent through orthogonal factor rotation; also see Vize, Collison, Miller, & Lynam, 2018). What is the nature of Machiavellianism after "D" and psychopathy have been accounted for? The answer to this question will likely also depend on the respective measurement instruments being used, further reducing the chances to obtain robust results.

Finally, neither the model comparisons nor the prediction of personal adjustment criteria constitute a *conclusive* test of the existence of "D" and its proposed evolutionary origin. Our design cannot determine whether the bifactor model may have overfitted the data (Bonifay & Cai, 2017) or if omitted third variables (e.g., internalization of a sociocultural norm of self-interest; Miller, 1999) may be responsible for the relationships among "D" and personal adjustment. Future research should rule out alternative explanations.

8. Conclusion

Our findings emphasize the value of B-ESEM in investigating the dark triad as it allows separating global and specific sources of variance across multiple measurement instruments of the dark triad. These analytical procedures contribute towards illuminating the otherwise dark nature of "D". More specifically, they allow researchers to test hypotheses that relate to dark triad's malevolent core so that its nature can be better understood. As an objection to a previous criticism (Hodson et al., 2018), "D" appears to be more than a mere inversion of honesty/humility, given that (a) its relationship with honesty/humility is substantially lower than 1 (Maneiro et al., 2018), and (b) we find it to be related with low life satisfaction which does not necessarily apply to an inversion of honesty/humility (Aghababaei & Błachnio, 2015). Future research should explore "D" in greater detail to help us recognize how malevolency affects our lives.

References

- Aghababaei, N., & Błachnio, A. (2015). Well-being and the Dark Triad. *Personality and Individual Differences*, *86*, 365-368. doi:10.1016/j.paid.2015.06.043
- Asparouhov, T., & Muthén, B. (2009). Exploratory structural equation modeling. *Structural Equation Modeling: A Multidisciplinary Journal*, *16*(3), 397-438. doi:10.1080/10705510903008204
- Bonifay, W., & Cai, L. (2017). On the complexity of item response theory models. *Multivariate Behavioral Research*, *52*(4), 465-484. doi:10.1080/00273171.2017.1309262
- Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, *56*(2), 81-105. doi:10.1037/h0046016
- Christie, R., & Geis, F. (1970). *Studies in Machiavellianism*. New York: Academic Press.
- Dufner, M., Gebauer, J. E., Sedikides, C., & Denissen, J. J. A. (2018). Self-enhancement and psychological adjustment: A meta-analytic review. *Personality and Social Psychology Review*, 1088868318756467. doi:10.1177/1088868318756467
- Furnham, A., Richards, S., Rangel, L., & Jones, D. N. (2014). Measuring malevolence: Quantitative issues surrounding the Dark Triad of personality. *Personality and Individual Differences*, *67*, 114-121. doi:10.1016/j.paid.2014.02.001
- Furnham, A., Richards, S. C., & Paulhus, D. L. (2013). The dark triad of personality: A 10 year review. *Social and Personality Psychology Compass*, *7*(3), 199-216. doi:10.1111/spc3.12018
- Gamache, D., Savard, C., & Maheux-Caron, V. (2018). French adaptation of the Short Dark Triad: Psychometric properties and a head-to-head comparison with the Dirty Dozen. *Personality and Individual Differences*, *122*, 164-170. doi:10.1016/j.paid.2017.10.027

- Hare, R. D. (1985). Comparison of procedures for the assessment of psychopathy. *Journal of Consulting and Clinical Psychology, 53*(1), 7-16. doi:10.1037/0022-006X.53.1.7
- 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. doi:10.1016/j.jrp.2017.11.012
- Janke, S., & Glöckner-Rist, A. (2014). *Deutsche Version der Satisfaction with Life Scale (SWLS)*. Paper presented at the Zusammenstellung sozialwissenschaftlicher Items und Skalen.
- Jonason, P. K., & Luévano, V. X. (2013). Walking the thin line between efficiency and accuracy: Validity and structural properties of the Dirty Dozen. *Personality and Individual Differences, 55*(1), 76-81. doi:10.1016/j.paid.2013.02.010
- Jonason, P. K., & Webster, G. D. (2010). The Dirty Dozen: A concise measure of the dark triad. *Psychological Assessment, 22*(2), 420-432. doi:10.1037/a0019265
- Jonason, P. K., Webster, G. D., Schmitt, D. P., Li, N. P., & Crysel, L. (2012). The antihero in popular culture: Life history theory and the dark triad personality traits. *Review of General Psychology, 16*(2), 192-199. doi:10.1037/a0027914
- Jones, D. N., & Paulhus, D. L. (2014). Introducing the Short Dark Triad (SD3): A brief measure of dark personality traits. *Assessment, 21*(1), 28-41. doi:10.1177/1073191113514105
- Judge, T. A., Locke, E. A., Durham, C. C., & Kluger, A. N. (1998). Dispositional effects on job and life satisfaction: The role of core evaluations. *Journal of Applied Psychology, 83*(1), 17-34. doi:10.1037/0021-9010.83.1.17
- Koehn, M. A., Okan, C., & Jonason, P. K. (2018). A primer on the Dark Triad traits. *Australian Journal of Psychology*. doi:10.1111/ajpy.12198
- Küfner, A. C., Dufner, M., & Back, M. D. (2015). Das Dreikige Dutzend und die Niederträchtigen Neun: Kurzskalen zur Erfassung von Narzissmus, Machiavellismus und Psychopathie. *Diagnostica, 61*(2), 76-91. doi:10.1026/0012-1924/a000124
- Maneiro, L., López-Romero, L., Gómez-Fraguela, J. A., Cutrín, O., & Romero, E. (2018). Pursuing the Dark Triad. *Journal of Individual Differences, 1*-9. doi:10.1027/1614-0001/a000274
- McLarnon, M. J. W., & Tarraf, R. C. (2017). The Dark Triad: Specific or general sources of variance? A bifactor exploratory structural equation modeling approach. *Personality and Individual Differences, 112*, 67-73. doi:10.1016/j.paid.2017.02.049
- Miller, D. T. (1999). The norm of self-interest. *American Psychologist, 54*(12), 1053-1060. doi:10.1037/0003-006X.54.12.1053
- Morin, A. J. S., Arens, A. K., & Marsh, H. W. (2016). A bifactor exploratory structural equation modeling framework for the identification of distinct sources of construct-relevant psychometric multidimensionality. *Structural Equation Modeling: A Multidisciplinary Journal, 23*(1), 116-139. doi:10.1080/10705511.2014.961800
- Moshagen, M., Hilbig, B. E., & Zettler, I. (2018). The dark core of personality. *Psychological Review, 125*(5), 656-688. doi: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*(2), 183-204. doi:10.1177/1745691616666070
- O'Boyle, E. H., Jr., Forsyth, D. R., Banks, G. C., & McDaniel, M. A. (2012). A meta-analysis of the Dark Triad and work behavior: A social exchange perspective. *Journal of Applied Psychology, 97*(3), 557-579. doi:10.1037/a0025679
- Raskin, R., & Hall, C. S. (1979). A Narcissistic Personality Inventory. *Psychological Reports, 45*(2), 590-590. doi:10.2466/pr0.1979.45.2.590
- Rauthmann, J. F. (2013). Investigating the MACH-IV with item response theory and proposing the trimmed MACH. *Journal of Personality Assessment, 95*(4), 388-397. doi:10.1080/00223891.2012.742905
- Reise, S. P., Kim, D. S., Mansolf, M., & Widaman, K. F. (2016). Is the bifactor model a better model or is it just better at modeling implausible responses? Application of iteratively reweighted least squares to the Rosenberg Self-Esteem Scale. *Multivariate Behavioral Research, 51*(6), 818-838. doi:10.1080/00273171.2016.1243461
- Schütz, A., Marcus, B., & Sellin, I. (2004). Die Messung von Narzissmus als Persönlichkeitskonstrukt: Psychometrische Eigenschaften einer Lang- und einer Kurzform des Deutschen NPI (Narcissistic Personality Inventory). *Diagnostica, 50*(4), 202-218. doi:10.1026/0012-1924.50.4.202
- Shajek, A. (2007). *Entwicklung zweier Kurzskalen zur Messung von Machiavellismus und Egoismus. Dokumentation eines Instrumententests auf Basis des SOEP-Pretests 2006*. Berlin: DIW Berlin.
- Stumpp, T., Muck, P. M., Hülshager, U. R., Judge, T. A., & Maier, G. W. (2010). Core self-evaluations in Germany: Validation of a German measure and its relationships with career success. *Applied Psychology: An International Review, 59*(4), 674-700. doi:10.1111/j.1464-0597.2010.00422.x
- Vernon, P. A., Villani, V. C., Vickers, L. C., & Harris, J. A. (2008). A behavioral genetic investigation of the Dark Triad and the Big 5. *Personality and Individual Differences, 44*(2), 445-452. doi:10.1016/j.paid.2007.09.007
- Vize, C. E., Collison, K. L., Miller, J. D., & Lynam, D. R. (2018). Examining the effects of controlling for shared variance among the dark triad using meta-analytic structural equation modeling. *European Journal of Personality, 32*, 46-61. doi:10.1002/per.2137
- 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*(2), 101-111. doi:10.1037/per0000222
- von Collani, G., & Herzberg, P. Y. (2003). Eine revidierte Fassung der deutschsprachigen Skala zum Selbstwertgefühl von Rosenberg. *Zeitschrift für Differentielle und Diagnostische Psychologie, 24*(1), 3-7. doi:10.1024//0170-1789.24.1.3

Appendix A

Online Supplement – Table A1

German translation of the Short Dark Triad scale

Items

Machiavellianism

1. Es ist nicht ratsam, seine Geheimnisse zu verraten.
2. Ich manipuliere gerne geschickt, um mich durchzusetzen.
3. Man sollte die wichtigen Leute um jeden Preis auf seine Seite ziehen.
4. Vermeide direkten Konflikt mit anderen, denn sie könnten in Zukunft nützlich sein.
5. Es ist ratsam, sich Informationen zu merken, die man später gegen andere verwenden kann.
6. Man sollte den richtigen Zeitpunkt abwarten, um es anderen heimzuzahlen.
7. Es gibt Dinge, die man vor anderen geheim halten sollte, um seinen guten Ruf zu erhalten.
8. Achte darauf, dass deine Pläne dir selbst nutzen und nicht anderen.
9. Die meisten Leute können manipuliert werden.

Narcissism

10. Andere Personen sehen mich als die geborene Führungskraft.
11. Ich hasse es, im Zentrum der Aufmerksamkeit zu stehen. (i)
12. Die meisten Gruppenaktivitäten sind eher langweilig, wenn ich nicht dabei bin.
13. Ich weiß, dass ich etwas Besonderes bin, weil jeder es mir ständig sagt.
14. Ich komme gerne mit wichtigen Leuten in Kontakt.
15. Es ist mir peinlich Komplimente zu bekommen. (i)
16. Ich wurde schon mit berühmten Leuten verglichen.
17. Ich bin ein durchschnittlicher Mensch. (i)
18. Ich bestehe darauf, den Respekt zu bekommen, den ich verdiene.

Psychopathy

19. Ich räche mich gerne an Autoritäten.
 20. Ich vermeide gefährliche Situationen. (i)
 21. Rache muss schnell und gemein sein.
 22. Andere Personen sagen oft, dass ich außer Kontrolle bin.
 23. Es stimmt, dass ich gemein zu anderen sein kann.
 24. Leute, die sich mit mir anlegen, bereuen es später immer.
 25. Ich hatte noch nie Ärger mit dem Gesetz. (i)
 26. Ich habe gerne Sex mit Leuten, die ich kaum kenne.
 27. Ich würde alles sagen, um zu bekommen, was ich will.
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Note. i = to be inverted.