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Saklofske, Donald H. (2019) A psychometric investigation of the  
Assessment of Sadistic Personality. *Personality and Individual  
Differences*, 140. pp. 57-60.

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A Psychometric Investigation of the Assessment of Sadistic Personality

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### Abstract

This study reports on a new measure of subclinical sadism: The Assessment of Sadistic Personality (ASP). We investigated dimensionality, invariance, and convergent validity of the ASP using a sample of 638 Canadian university students. Confirmatory factor analysis supported the factor structure of the ASP. Metric invariance was supported, and consistent with past findings, evidence for scalar invariance was not found, with men scoring higher than women on the ASP and Short Dark Triad. The ASP correlated in expected directions with the Dark Triad, the HEXACO traits, and the Personality Inventory for the DSM-5 variables. Validation of the ASP is important to assess how sadism relates to both general and pathological models of personality, and to inform clinicians and researchers of socially malevolent behaviours that can be predicted using the ASP. Findings suggest the ASP is a concise, unidimensional measure of subclinical sadism appropriate for use in research settings.

*Keywords:* sadism; Dark Tetrad; personality; psychometrics; factor analysis

## 1. Introduction

Substantial attention has recently focused on the Dark Triad of personality, which includes three malevolent traits: psychopathy, narcissism, and Machiavellianism (Paulhus & Williams, 2002). Subclinical psychopathy refers to the dispositional tendency to be deceptive, impulsive, and show a consistent lack empathy for others (Paulhus & Williams, 2002). Subclinical narcissism is the tendency to possess a grandiose sense of entitlement, self-involvement, and exploitative dominance (Emmons, 1987). Machiavellianism is characterized by deceit, strategic manipulation, and a lack of concern for conventional morals (Christie & Geis, 1970).

Recent research supports the inclusion of subclinical sadism to form a 'Dark Tetrad' of personality (e.g., Buckels, Jones, & Paulhus, 2013). Subclinical sadism is the dispositional tendency to engage in cruel or antagonistic behaviours for pleasure or subjugation (O'Meara, Davies, & Hammond, 2011). Conceptual similarities exist between sadism and the Dark Triad; both are related to the negative pole of honesty-humility (Book et al., 2016) and each demonstrates a proneness toward aggression (Buckels et al., 2013), providing support for sadism's addition to the constellation of malevolent traits. Sadism, however, predicts important outcomes beyond the Dark Triad, such as cyberstalking (Smoker & March, 2017). Moreover, unlike individuals high in the Dark Triad, those exhibiting high sadism engage in intrinsically-motivated aggression for enjoyment rather than for instrumental gain or as a defense mechanism (Buckels et al., 2013).

Sadism is positively associated with the five facets of the Personality Inventory for the DSM-5 Brief Form (PID-5-BF; Krueger, Derringer, Markon, Watson, & Skodol, 2013): Psychoticism, Antagonism, Negative Affect, Disinhibition, and Detachment (Southard, Noser,

Pollock, Mercer, & Zeigler-Hill, 2015). These relationships are in keeping with common descriptions of sadism, including impulsivity, recklessness (O'Meara et al., 2011), unprovoked hostility (Buckels et al., 2013), and emotional detachment (Međedović & Petrović, 2015). Negative relationships also emerge between sadism and the six traits of the HEXACO Personality Inventory (Ashton & Lee, 2009), including emotionality, agreeableness, conscientiousness, honesty-humility, and extraversion (Book et al., 2016; Međedović & Petrović, 2015). These relationships are unsurprising, as individuals high in sadism tend to be uncooperative, low in empathy (e.g., Book et al., 2016), withdrawn (Međedović & Petrović, 2015), and engage in antagonistic behaviours for pleasure (e.g., O'Meara et al., 2011).

Past measures of subclinical sadism, though useful, reflect narrow item content and repetitive wording, which limits correlations with external variables (Plouffe, Saklofske, & Smith, 2017). Subsequently, the self-report Assessment of Sadistic Personality (ASP; Plouffe et al., 2017) was designed to concisely assess subclinical sadism and augment the Short Dark Triad (Jones & Paulhus, 2014). Support for the reliability and convergent validity of the 9-item ASP has been reported (Plouffe et al., 2017). However, confirmatory evidence for the ASP's utility has yet to be empirically demonstrated.

Validation of the ASP is imperative to assess how subclinical sadism relates to both general and pathological models of personality, and the credibility of sadism's inclusion with the Dark Triad. Building on Plouffe et al. (2017), we hypothesized that items from the ASP and each SD3 facet would define four latent factors representing sadism, psychopathy, narcissism, and Machiavellianism. We hypothesized the model would demonstrate metric invariance with similar ASP and SD3 factor loadings for men and women, but not scalar invariance, such that men score higher than women on ASP indicators (e.g., Jonason, Koenig, & Tost, 2010). Following Book et

al. (2016), we also expected sadism would correlate negatively with honesty-humility, emotionality, extraversion, agreeableness, and conscientiousness. However, because findings suggest sadism is unrelated to features such as aesthetic appreciation (Međedović & Petrović, 2015), we expected no relationship between sadism and openness. Lastly, in line with Southard et al. (2015), we anticipated sadism would correlate positively with psychoticism, antagonism, negative affect, disinhibition, and detachment.

## **2. Method**

### *2.1. Participants and Procedure*

A sample of 638 undergraduate students (181 men, 456 women, 1 missing) from a Canadian university completed a series of questionnaires online. Students' ages ranged from 17 to 43 years ( $M = 18.5$ ,  $SD = 2.1$ ).

### *2.2. Measures*

#### *2.2.1. Subclinical sadism*

Participants responded to the Assessment of Sadistic Personality (ASP; Plouffe et al., 2017) items on a 5-point scale (1=*strongly disagree*, 5=*strongly agree*). Support for the reliability and convergent validity of the ASP has been reported (Plouffe et al., 2017).

#### *2.2.2. Sadistic tendencies*

The 18-item Comprehensive Assessment of Sadistic Tendencies (CAST; Buckels & Paulhus, 2014) is a reliable and valid measure consisting of three subscales: verbal, physical, and vicarious sadism. Items are responded to on a 5-point scale (1=*completely disagree*, 5=*completely agree*).

#### *2.2.3. Dark Triad*

Psychopathy, narcissism, and Machiavellianism were measured using the 27-item Short Dark Triad (SD3; Jones & Paulhus, 2014). Participants responded on a 5-point scale (1=*completely disagree*, 5=*completely agree*). Research supports the reliability and validity of the SD3 (Jones & Paulhus, 2014).

#### 2.2.4. *HEXACO-60*

Participants responded to the 60-item HEXACO Personality Inventory-Revised (HEXACO-60; Ashton & Lee, 2009) on a 5-point scale (1=*strongly disagree*, 5=*strongly agree*). The reliability and validity of the HEXACO has been supported in previous studies (Lee & Ashton, 2004).

#### 2.2.5. *Personality Inventory for the DSM-5 (PID-5-BF)*

The PID-5 Brief Form (Krueger et al., 2013) assesses pathological traits described in the DSM-5: psychoticism, antagonism, negative affect, disinhibition, and detachment. Items are responded to on a 4-point scale (0=*very false or often false*, 3=*very true or often true*). Past research supports the reliability and validity of the PID-5-BF (Southard et al., 2015).

### **3. Results**

#### 3.1. *Descriptive Statistics*

Means, standard deviations, and coefficient alphas are shown in Tables 1 and 2, and are comparable to those reported in previous studies (e.g., Buckels & Paulhus, 2014; Jones & Paulhus, 2014; Lee & Ashton, 2004; Plouffe et al., 2017; Southard et al., 2015).

#### 3.2 *Confirmatory Factor Analysis of ASP and SD3 Items*

First, a one-factor measurement model evaluating the unidimensionality of the ASP was tested using confirmatory factor analytic (CFA) procedures in Mplus Version 7.4 (Muthén & Muthén, 1998-2012). We used the weighted least squares estimation method, specifying factor

indicators as ordered categorical variables. Overall model fit was acceptable:  $WLSMV\chi^2(27) = 147.41$ ,  $RMSEA = .084$  (90% confidence interval[CI] = .071-.097),  $CFI = .990$ ,  $TLI = .987$ .

Factor loadings were strong (.64-.91), except for reverse-coded Item 9 (.26). Next, a four-factor model examining the dimensionality of the ASP and SD3 was tested using CFA (see Figure 1).

Model fit was adequate:  $WLSMV\chi^2(588) = 1956.10$ ,  $RMSEA = .061$  (90% confidence interval[CI] = .058-.064),  $CFI = .928$ ,  $TLI = .923$ .

### *3.3. Gender Invariance for ASP and SD3*

A series of nested models were tested to determine whether the ASP and SD3 showed gender invariance using maximum likelihood estimation. The metric model with constrained factor loadings across men and women was not significantly different than the unconstrained model,  $\Delta\chi^2_{(32)} = 40.74$ ,  $p > .05$ ,  $\Delta CFI = .002$  (see Table 3). As predicted, the scalar invariance model fit significantly worse than the metric invariance model,  $\Delta\chi^2_{(32)} = 124.50$ ,  $p < .01$ ,  $\Delta CFI = .013$ .

### *3.4. Bivariate Correlations Between Study Variables*

Bivariate correlations are shown in Tables 1 and 2. Congruent with Book et al. (2016), ASP sadism showed small-to-large negative correlations with honesty-humility, agreeableness, extraversion, emotionality, and conscientiousness. ASP sadism was strongly and positively correlated with antagonism, disinhibition, psychoticism, and detachment.

## **4. Discussion**

Validation of the Assessment of Sadistic Personality (ASP) as a new measure of subclinical sadism is important not only to assess how sadism relates to both general and pathological models of personality, but to inform clinicians and researchers of socially malevolent or even harmful behaviours that can be predicted using the ASP. We anticipated that



sadism would load onto one factor in a CFA model, and we found that model fit was acceptable. However, the item “I would not purposely hurt anybody, even if I didn’t like them” loaded weakly onto sadism. Although negatively-worded items are used to decrease acquiescence, research indicates that such items can produce confounded factor structures in which content-irrelevant factors emerge (Coleman, 2013). Overall, however, support was provided for the unidimensionality of the ASP. Next, we expected the tetrad traits would load onto four factors in a CFA. Model fit was adequate, and generally, items loaded strongly onto their latent factors, providing credibility for sadism’s position within the Dark Tetrad. Two negatively-worded items on the narcissism and psychopathy subscales had weaker loadings, which may again reflect that negatively-worded items can be ambiguous. The two Machiavellianism items with loadings less than .30 represent cynicism, whereas higher-loading items reflect manipulative and strategic dispositional tendencies.

Some SD3 Psychopathy items reflect elements of subclinical sadism. For example, “It’s true that I can be mean to others” is less representative of the impulsive and deceptive nature of psychopathy, and more representative of the cruel and demeaning nature of sadism. Moreover, “I enjoy having sex with people I hardly know” reflects pleasure derived from sexual deviance experienced by individuals high in sadism. For those high in sadism, the goal of harming another person is to achieve pleasure, whereas for those high in psychopathy, engaging in aggressive behaviours may provide them with a means to achieve a goal, or a reaction to provocation (Buckels et al., 2013). It is possible that SD3 Psychopathy items should be revisited for use in conjunction with the ASP.

In developing a new measure, it is important to consider its underlying structure across men and women to ensure that meaningful comparisons can be made. As expected, factor

loadings for the ASP and SD3 for men and women supported metric invariance. However, while the ASP factor structure is generalizable across men and women as anticipated, the intercepts of the ASP and SD3 varied with men typically scoring higher than women on Dark Tetrad item content. It should be noted that the CFI and TLI fit indices were particularly low for the invariance assessments, likely due to the weak loadings for negatively-worded narcissism and psychopathy items, especially in men.

Positive correlations emerged between the ASP, SD3, and CAST facets, providing evidence for convergent validity. These relationships are consistent with research demonstrating the Dark Tetrad shares an underlying core of callous-manipulation (Jones & Figueredo, 2013) and low honesty-humility (Book et al., 2016). Furthermore, ASP sadism showed small-to-large negative correlations with honesty-humility, agreeableness, extraversion, emotionality, and conscientiousness (Book et al., 2016; Međedović & Petrović, 2015). Research has demonstrated that those high on the Dark Tetrad traits tend to be low in cooperative, empathic, and moral behaviours reflecting agreeableness and honesty-humility (Book et al., 2016), demonstrate callousness and low anxiety (Furnham, Richards, & Paulhus, 2013), and are impulsive, reflecting low conscientiousness (Furnham et al., 2013). The negative association between ASP scores and extraversion can be explained by their withdrawn nature and lack of positive interpersonal relationships (Međedović & Petrović, 2015). Consistent with findings that sadism is unrelated to features such as inquisitiveness and aesthetic appreciation (Book et al., 2016; Međedović & Petrović, 2015), no significant relationship emerged between ASP sadism and openness. Unlike the other Dark Tetrad traits, narcissism was positively related to extraversion and conscientiousness, perhaps due to their tendency to seek stimulation (Bresin & Gordon, 2011) and perfectionist tendencies (Smith et al., 2016).

Previous research suggests that sadism is positively correlated with and falls into the same interpersonal circumplex quadrant as the PID-5-BF variables (Southard et al., 2015). We anticipated that sadism would be positively correlated with psychoticism, antagonism, negative affect, disinhibition, and detachment. Consistent with prediction, psychopathy, Machiavellianism, and sadism showed medium-to-large positive correlations with antagonism, disinhibition, psychoticism, and detachment, demonstrating that each of these traits possesses an underlying emotionally callous, erratic, and emotionally detached character. Narcissism, however, did not correlate significantly with disinhibition or psychoticism, indicating that narcissism may be considered less socially aversive than the other tetrad traits (Southard et al., 2015). None of the tetrad traits correlated significantly with negative affect, consistent with the view that individuals exhibiting dark personality characteristics tend not to experience negative emotions following engagement in antagonistic behaviours (Buckels et al., 2013).

Overall, our results support the scale's psychometric qualities and the position of sadism within the Dark Tetrad. As it is possible that our university student sample may not be representative of the general population, future research should expand the sampling domain beyond a predominantly female sample of university students to determine whether the results generalize. Test-retest reliability and incremental validity are required to confirm the trait structure of the questionnaire and to observe its explanatory power in the prediction of relevant behaviours.

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# ASSESSMENT OF SADISTIC PERSONALITY

Table 1

*Bivariate correlations and descriptive statistics for all major study variables*

Scale	<i>M</i>	<i>SD</i>	$\alpha$	1	2	3	4	5	6	7	8	9	10	11	12	13
1 ASP	17.0	6.5	.87	1	.85***	.83***	.71***	.82***	.23***	.50***	-.51***	-.39***	-.08	-.13**	-.39***	-.46***
2 Verbal sadism	13.4	5.0	.82	.72***	1	.70***	.59***	.76***	.29***	.55***	-.53***	-.34***	-.10*	-.05	-.32***	-.41***
3 Physical sadism	8.3	3.5	.82	.70***	.58***	1	.70***	.82***	.23***	.41***	-.42***	-.32***	-.16***	-.11*	-.34***	-.48***
4 Vicarious sadism	14.2	5.1	.83	.60***	.49***	.58***	1	.63***	.16***	.33***	-.22***	-.06	-.03	-.06	-.55***	-.33***
5 SD3 psychopathy	20.7	5.5	.75	.66***	.60***	.64***	.50***	1	.35***	.70***	-.59***	-.50***	-.14***	-.05	-.42***	-.59***
6 SD3 narcissism	26.7	4.9	.69	.18***	.22***	.17***	.12**	.25***	1	.39***	-.47***	-.18***	.11*	.74***	-.16***	.18***
7 SD3 Machiavellianism	27.8	5.3	.74	.40***	.43***	.35***	.26***	.52***	.28***	1	-.65***	-.37***	-.08*	-.09*	-.29***	-.28***
8 Honesty-humility	31.1	5.8	.70	-.40***	-.40***	-.32***	-.17***	-.43***	-.33***	-.47***	1	.53***	.18***	-.05	.14***	.27***
9 Agreeableness	31.4	5.5	.73	-.31***	-.27***	-.25***	-.05	-.37***	-.13**	-.27***	.38***	1	.10*	.10*	-.05	.11*
10 Openness	32.8	6.1	.73	-.07	-.08*	-.12**	-.02	-.10**	.08*	-.06	.13***	.07	1	.12*	-.01	.13**
11 Extraversion	32.9	6.3	.82	-.11**	-.04	-.09*	-.05	-.04	.56***	-.07	-.04	.08*	.09*	1	-.08	.31***
12 Emotionality	34.4	6.3	.77	-.32***	-.26***	-.27***	-.44***	-.32***	-.12**	-.22***	.10*	-.04	-.01	-.07	1	.31***
13 Conscientiousness	34.9	5.9	.78	-.38***	-.33***	-.38***	-.27***	-.45***	.13**	-.21***	.20***	.08	.10**	.25***	.24***	1

*Note.* ASP=Assessment of Sadistic Personality; physical, verbal, and vicarious sadism=CAST subscales. SD3=Short Dark Triad.

Bivariate correlations corrected for unreliability above diagonal. Uncorrected correlations below diagonal.

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

Table 2

*Assessment of Sadistic Personality and Short Dark Triad (SD3) correlations with PID-5-Brief subscales*

Scale	Antagonism	Negative Affect	Disinhibition	Psychoticism	Detachment
ASP	.58* (.71*)	.04 (.05)	.36* (.42*)	.33* (.41*)	.33* (.42*)
SD3 Psychopathy	.56* (.74*)	.07 (.10)	.55* (.70*)	.38* (.51*)	.32* (.44*)
SD3 Narcissism	.31* (.43*)	-.06 (-.09)	.02 (.03)	-.04 (-.05)	-.22* (-.31*)
SD3 Machiavellianism	.46* (.61*)	.08 (.11)	.27* (.34*)	.26* (.35*)	.26* (.36*)
<i>M</i>	8.94	12.56	9.70	10.94	9.36
<i>SD</i>	2.88	3.10	3.35	3.19	2.93
$\alpha$	.76	.70	.83	.75	.71

*Note.* Bivariate correlations corrected for unreliability in brackets.

\*  $p < .001$ .



Table 3

*Gender invariance fit indices*

Model	$\chi^2$ (df)	CFI	TLI	RMSEA	RMSEA 90% C.I.	SRMR
1. No constraints	2451.38* (1176)	.821	.808	.058	[.055, .062]	.072
2. Metric invariance	2492.12* (1208)	.819	.812	.058	[.055, .061]	.074
3. Scalar invariance	2619.62* (1240)	.806	.803	.059	[.056, .062]	.076

*Note.* CFI = comparative fit index; TLI = Tucker–Lewis index; RMSEA = root mean square error approximation; CI = confidence interval; SRMR = standardized root mean square residual.

\*  $p < .001$

# ASSESSMENT OF SADISTIC PERSONALITY

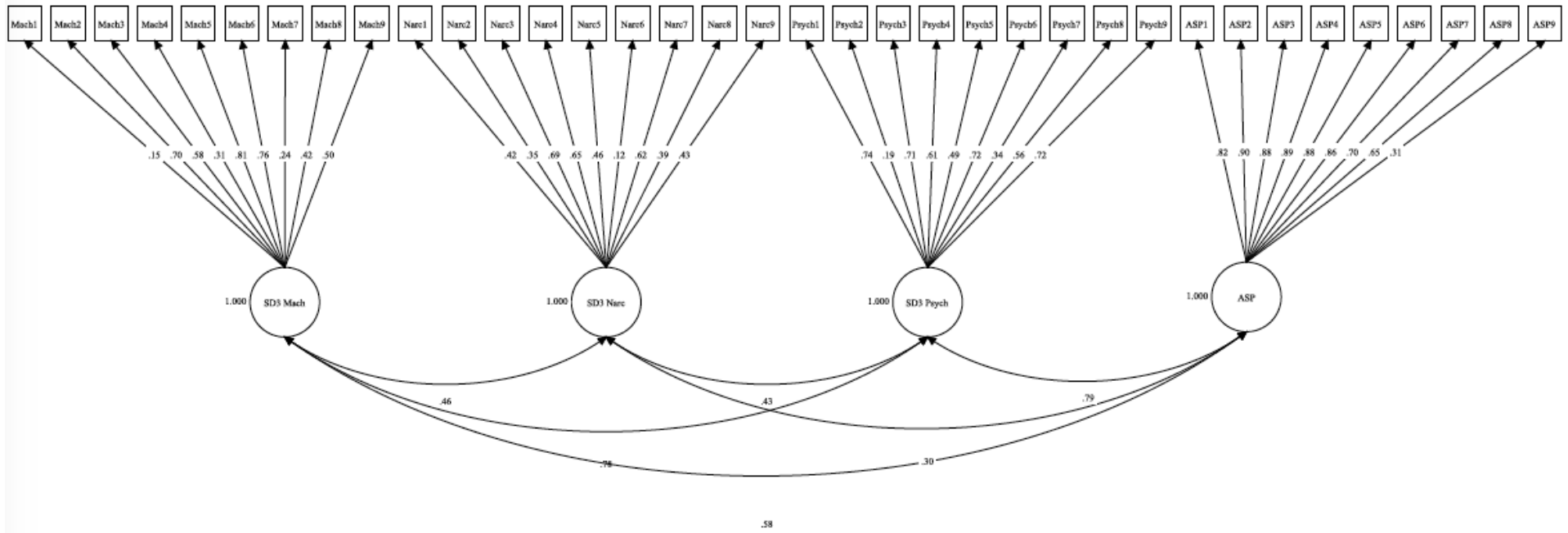


Figure 1. Confirmatory factor analysis loadings for Short Dark Triad and Assessment of Sadistic Personality.