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ABSTRACT

The purpose of this study was to create and validate a short workplace-specific measure of the Dark Tetrad (i.e., narcissism, Machiavellianism, psychopathy, and sadism) that could be used by researchers, practitioners, and organizations. In Study 1, a two-wave longitudinal design (T1: $N = 416$; T2: $N = 209$) was used to develop and evaluate a 22-item scale that assessed the four dimensions. Each scale trait was positively associated with, and predicted, workplace deviance. The factor structure of the scale was replicated in a second sample ($N = 289$). These results have implications for developing new research on the Dark Tetrad in the workplace.

The darker, socially aversive personality traits (DeShong, Grant, & Mullins-Sweatt, 2015) – narcissism, Machiavellianism and psychopathy – the so-called “Dark Triad” – have been studied both together and separately in industrial/organizational (I/O) psychology (e.g., Judge, LePine, & Rich, 2006; O’Boyle, Forsyth, Banks, & McDaniel, 2012). More recently the list of dark traits has expanded to include sadism, forming the Dark Tetrad (e.g., Buckels, Trapnell, & Paulhus, 2014; Johnson, Plouffe, & Saklofske, 2019).

Extant measures of these traits have not been developed with an organizational setting in mind and therefore may be inappropriate for use in an organizational context. As such, the purpose of the current study was to develop a scale that specifically measures the Dark Tetrad personality characteristics in a workplace setting. In doing so we also examined the scale’s ability to predict various organizational behaviors and constructs. Additionally, we used a longitudinal design to examine the scale’s predictive validity over time.

The Dark Tetrad

As typically defined, the Dark Triad comprises (sub-clinical) narcissism, Machiavellianism, and (sub-clinical) psychopathy. Each of these personality traits are linked through their general lack of empathy (Wai & Tiliopoulos, 2012). Individuals high in narcissism hold a grandiose sense of self-importance, a tendency to feel entitled, and are often arrogant and exploitative (DeShong et al., 2015). Narcissists are self-absorbed, crave attention, and tend to self-promote (O’Boyle et al., 2012). Subclinical narcissism has the same facets as the clinical variant (grandiosity, entitlement, dominance, and superiority) but does not hinder day-to-day functioning as narcissistic personality disorder would (Hogan &

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Practitioner Points

This article introduces a new scale for assessing the Dark Tetrad personality traits. The scale is specifically designed for use in organizations. The scale demonstrates acceptable psychometric properties including reliability, test-retest, construct, and criterion-related validity. The data that support the findings of this study are available from the corresponding author upon reasonable request.

Author Notes

Both authors Department of Psychology. This research was conducted as the first author’s M.Sc. thesis under the direction of the second author. We acknowledge the financial support of the Social Sciences and Research Council of Canada and the helpful comments of Dr. Meg Ternes, Dr. Mark Fleming and the reviewers on an earlier version of this manuscript. Correspondence may be addressed to kevin.kelloway@smu.ca.

Hogan, 2001). Those high in Machiavellianism have a tendency to use manipulative tactics to get their way, lie frequently, and take revenge against others (Dahling, Whitaker, & Levy, 2009; Paulhus, 2014). Machiavellianism is associated with competitiveness and a cynical view of the world (Jones & Paulhus, 2014). Those high in sub-clinical psychopathy lack social regulatory mechanisms, tend to be impulsive, and lack guilt or remorse (Williams & Paulhus, 2004). The impulsiveness of those high in everyday psychopathy is attributed to boredom or sensation seeking (Levenson, Kiehl, & Fitzpatrick, 1995). Psychopathy is associated with an inability to form close attachments (Lilienfeld & Andrews, 1996). In its subclinical form, psychopathy may not be associated with the unstable antisocial lifestyle characteristic of a clinically defined psychopath (Murphy & Vess, 2003).

Recently, everyday sadism has been added to the list of dark traits now referred to as the Dark Tetrad (Buckels, Jones, & Paulhus, 2013; Chabrol, Van Leeuwen, Rodgers, & Séjourné, 2009). Sadism is moderately positively associated with each Dark Triad trait but has been shown to have incremental predictive validity (Buckels et al., 2013). Those high in (everyday) sadism seek out opportunities to watch others' pain or hurt others in some way, either verbally or physically, for amusement (Paulhus, 2014).

Everyday sadism is a personality trait in the subclinical range (Buckels, 2012). Everyday sadism can be seen as commonplace manifestations of cruelty (Buckels et al., 2013). For instance, vicarious sadism is similar to *schadenfreude*, which is experiencing pleasure from others' misfortune (e.g., laughing at a coworker when your supervisor is yelling at him/her; Buckels, 2012). In short, everyday sadism such as enjoying hurting people in video games (i.e., vicarious sadism) or intentionally humiliating another person (i.e., direct sadism), differs from criminal or sexual sadism involving criminal acts such as murder or sexual torture. The exact distinction between everyday sadism and criminal (or clinical) sadism is more in degree than type (Buckels, 2012).

The Dark Tetrad in the workplace

Workplace deviance and aggression

Of all the workplace constructs related to the Dark Tetrad, workplace deviance has received the most attention (Thibault & Kelloway, *in press*). Workplace deviance, also known as counterproductive work behavior (CWB), is defined as voluntary behavior that harms (or is intended to harm) the organization (CWB-O, e.g., theft, absenteeism, sabotage) or its members (CWB-I, e.g., violence, incivility, gossip; Bennett & Robinson, 2000). Based on meta-analytic evidence, narcissism and Machiavellianism have been positively related to workplace deviance directed at individuals and at the organization while psychopathy has a weak positive association with CWB (O'Boyle et al., 2012). Overall, the Dark Triad explained 28% of the variance in CWB (O'Boyle et al., 2012). The relationship between CWB and sadism has yet to be determined.

Of the three Dark Triad traits, narcissism has the strongest relationship with workplace deviance (O'Boyle et al., 2012). In fact, a meta-analysis found that, alone, narcissism explained an extra 9.2% of the variance in CWB above and beyond the Big Five traits (Grijalva & Newman, 2015). Furthermore, facets of narcissism have been linked to workplace deviance (Grijalva & Newman, 2015). Specifically, the entitlement/exploitativeness (i.e., feelings of entitlement and manipulative behavior) dimension of narcissism was positively associated with overall CWB, CWB-I, and CWB-O, while the leadership/authority dimension of narcissism (i.e., wanting to have authority over others) was negatively associated with overall CWB and CWB-O (Grijalva & Newman, 2015).

The literature has looked the Dark Tetrad's relationship with workplace bullying (i.e., repeated behaviors directed toward a worker intended to humiliate and belittle the victim; Boddy, 2011). Machiavellianism is positively related to engaging in workplace bullying (Pilch & Turska, 2015). There is also evidence that a leader's observable narcissistic behavior is related to the presence of bullying in the organization, suggesting that narcissistic leaders may indirectly influence bullying behaviors (Regnaud, 2014). Similarly, having corporate psychopaths present in the workplace is

related to significantly higher levels of bullying compared to workplaces without psychopaths present (Boddy, 2011).

Sadism has been theoretically tied to bullying (e.g., Baumeister & Campbell, 1999; Bowie, 2002). In fact, when defining everyday sadism, Paulhus (2014) used the example of workplace bullies. Furthermore, sadistic personality disorder (a personality disorder in the DSM-III-R that is no longer in the current edition of the DSM) has been positively associated with trait measures of overt aggression (e.g., acts or threats of physical aggression) and relational aggression (e.g., gossiping or spreading rumors; Schmeelk, Sylvers, & Lilienfeld, 2008). Similarly, Reidy, Zeichner, and Seibert (2011) found that psychopathy (specifically the emotional detachment component) and implicit sadism (i.e., vicarious sadism; measured via implicit pleasure after viewing violent images) independently predicted unprovoked aggression in a laboratory aggression task in male undergraduates.

Similarly, some evidence exists linking the Dark Tetrad to uncivil behaviors (Buckels et al., 2014). Incivility refers to rude or discourteous behaviors with somewhat ambiguous intent (e.g., ignoring or excluding a coworker; Leiter, Spence Laschinger, Day, & Gilin Oore, 2011). Meier and Semmer (2013) found that narcissism positively predicted incivility toward supervisors. Narcissism also predicted incivility toward coworkers when there was a lack of reciprocity (Meier & Semmer, 2013). Narcissists' self-absorption may lead them to ignore or act rudely toward those in their organization. Similarly, their sense of entitlement may lead those high in narcissism to act in an uncivil manner toward their supervisors as they would feel that they should be in their supervisor's role. This sense of entitlement would also lead narcissists to be uncivil when there is a lack of reciprocity. Narcissists crave attention and may also expect special privilege. If narcissists do not receive said attention or privilege, they are likely to react negatively.

While most of the incivility research has focused on narcissism, there is some research linking the other dark traits as well. The presence of corporate psychopaths in the workplace is associated with elevated levels of experiencing rudeness at work compared to when psychopaths are not present (Boddy, 2011). Somewhat similarly, Goncalves and Campbell (2014) found that Machiavellianism was positively associated with rude behavior directed at a competitor for a romantic/sexual partner.

Citizenship behaviors and other positive organizational constructs

Studies have also examined the link between these dark traits and positive workplace constructs (e.g., Zagenczyk, Restubog, Kiewitz, Kiazad, & Tang, 2014). One such positive workplace construct is organizational citizenship behavior. Organizational citizenship behavior (OCB) is defined as individual behavior that is discretionary and that supports the organizational, social, and psychological environment in the workplace (Organ, 1988). Judge et al. (2006) found that narcissism negatively predicted OCB rated by others but no relationship existed using self-ratings. Similarly, Zagenczyk et al. (2014) found that Machiavellianism was negatively related to peer-rated and supervisor-rated OCB. However, individuals high in Machiavellianism may engage in OCB if they are being observed or are in public in order to look good (Bereczkei, Birkas, & Kerekes, 2010; Szabó, Czibor, Restás, & Bereckei, 2018).

Meta-analytic findings indicate that Machiavellianism and psychopathy were weakly negatively related to job performance while narcissism was not significantly related to job performance (O'Boyle et al., 2012). Machiavellianism is also related to sales performance (Aziz, 2005; Aziz, May, & Crotts, 2002). Zettler, Friedrich, and Hilbig (2011) found that Machiavellianism negatively predicted other-oriented, organizational, supervisor, and team affective commitment (i.e., the extent to which an individual desires to remain with the organization or group etc.; Meyer & Allen, 1991). However, in the same study, Machiavellianism predicted higher levels of career commitment (Zettler et al., 2011).

In a similar light, Machiavellianism is positively related to thoughts of quitting (Jonason, Wee, & Li, 2015). It is in the best interests of Machiavellians to remove themselves from groups they have exploited in order to avoid retaliation (Dahling et al., 2009). As such, turnover among Machiavellians may be relatively high if they manipulate and exploit their coworkers (as opposed to just their customers, for example).

The present study

As a first objective, a measure of the Dark Tetrad traits was developed for a work context. Contextualized measures of personality have been shown to have superior predictive validity over general/global measures of personality (e.g., Woo, Jin, & LeBreton, 2015). The more contextualized the personality scale, the higher the criterion validity (Holtrop, Born, de Vries, & de Vries, 2014; Woo et al., 2015). Holtrop et al. found that completely contextual measures of personality (i.e., designed for the specific context) showed better predictive validity than both modified tagged measures (i.e., generic measure with an added tag to designate context; e.g., “at school” or “at work”) and generic measures of personality. For example, Holtrop et al. found that completely contextual (academia-specific) measures of conscientiousness were better predictors of academic GPA and counterproductive academic behavior than pre-established generic measures of conscientiousness.

Aside from being context-specific, the Dark Tetrad at Work scale is the first scale designed to measure all four Dark Tetrad traits in a single measure. A single scale capable of assessing the full Dark Tetrad allows for fewer items than would be the case when combining multiple personality scales (e.g., the Short Dark Triad measure has 27 items and the Varieties of Sadistic Tendencies measure has 16 items, totaling 43 items to measure all four traits). A reduced number of items would reduce the completion time of surveys and participant fatigue, and increase the ability to add additional predictors and outcome measures to studies. Furthermore, shorter measures are more suited to larger multivariate studies characteristic of organizational research (Gilbert & Kelloway, 2014). The Dark Tetrad at Work scale provides psychologists a means to explore these personalities in tandem by providing them with a concise, contextually relevant, scale to measure multiple traits.

Scale development papers often use cross-sectional data. This is true of the Dark Tetrad literature as well (e.g., Jonason & Luévano, 2013; Jones & Paulhus, 2014; Plouffe, Smith, & Saklofske, 2019). For example, while Ames, Rose, and Anderson (2006) examined the test-retest reliability of their narcissism measure (i.e., the NPI-16), they did not examine the scale’s predictive ability longitudinally.

As a second objective, this study examined both the cross-sectional and longitudinal prediction of organizational outcomes from the Dark Tetrad. While research on the Dark Triad is growing, Dark Tetrad research is still in its infancy. The development of a Dark Tetrad scale would facilitate studies examining the full Dark Tetrad.

Method

A sample of working adults was recruited to complete an online self-report survey twice over a short (2 month) period in order to assess the construct-related and criterion-related validity as well as the reliability of the scale. Time 1 data were used for initial exploratory factor analyzes (EFA) while Time 2 data were used for confirmatory factor analyzes (CFA).

Participants

Four hundred and sixteen participants (72% female) were recruited on a volunteer basis through Qualtrics (an online survey system using the Qualtrics panel service) at Time 1. Participants were recruited by, and compensated by, Qualtrics. It was required that participants be 18 years of age or older, fluent in English, and currently employed. The age of the participants ranged between 18 and 77, with a mean of 42.05 years ($SD = 11.33$). Organizational tenure ranged between .08 (1 month) and 46 years, with a mean of 8.82 years ($SD = 7.97$), with 43.9% indicating they worked in a managerial position.

At Time 2, 212 participants (69% female) of the original 416 were resampled. The age of the participants ranged between 22 and 78, with a mean of 43.07 years ($SD = 11.80$). Organizational tenure ranged between .33 (4 months) and 43 years, with a mean of 10.12 years ($SD = 8.81$), with 24.3% indicating they worked in a managerial position.

Measures and procedure

At both time periods, participants completed a questionnaire comprising demographic items, the items that were developed for the new Dark Tetrad at Work scale, other personality measures, and various measures of organizational variables. Drawing from the Dark Triad/Tetrad literature, we drafted an initial set of 53 items designed to reflect each of the four traits in a workplace setting; narcissism (e.g., People always pay attention to me at work), Machiavellianism (e.g., I often manipulate my coworkers), psychopathy (e.g., I don't care if my work behavior hurts others), and sadism (e.g., I am purposely mean to coworkers). Participants were asked to rate how much each statement applied to them on a 5-point scale (1 = *strongly disagree* to 5 = *strongly agree*).

The Short Dark Triad (SD3) measure by Jones and Paulhus (2014) contains 27 items; nine items for each trait rated on a 5-point scale (1 = *strongly disagree* to 5 = *strongly agree*). The current study yielded Cronbach's alphas of .74 for narcissism (e.g., I insist on getting the respect I deserve), .83 for Machiavellianism (e.g., I like to use clever manipulation to get my way), and .81 for psychopathy (e.g., Payback needs to be quick and nasty).

The Varieties of Sadistic Tendencies (VAST) scale by Paulhus and Jones (2015) contains 16 items; eight items measuring direct sadism (e.g., I enjoy hurting people) and eight items measuring vicarious sadism (e.g., In video games, I like the realistic blood spurts) rated on a 5-point scale (1 = *strongly disagree* to 5 = *strongly agree*). The current study yielded Cronbach's alphas of .81 and .80 for each of the subscales, respectively.

Participants' counterproductive work behavior (CWB) was assessed using a scale developed by Bennett and Robinson (2000). This measure contains two subscales: counterproductive work behavior directed at individuals (CWB-I) and directed toward the organization (CWB-O). Example items include "Made fun of someone at work" for CWB-I, and "Taken property from work without permission" for CWB-O. Values ranged from 1 for *strongly disagree* through to 5 for *strongly agree*. The current study yielded Cronbach's alphas of .95 for CWB-I and .95 for CWB-O.

Workplace incivility was assessed using the 5-item instigated incivility subscale of the Straightforward Incivility Scale (SIS; Leiter & Day, 2013). Participants were asked how often they exhibited each behavior in the past month (e.g., "You behaved without consideration of someone" and "You spoke rudely to someone"). Values ranged from 0 for *never* through to 6 for *daily*. The current study yielded a Cronbach's alpha of .93.

Workplace bullying was assessed using 17 items adapted from the Negative Acts Questionnaire-Revised (NAQ-R; Einarsen, Hoel, & Notelaers, 2009). Participants were asked how often they engaged in each behavior in the last six months (e.g., "I humiliated or ridiculed someone in connection with his/her work" and "I have engaged in threats of violence or physical or actual abuse). Values ranged from 0 for *never* through to 6 for *daily*. The current study yielded a Cronbach's alpha of .97 for overall workplace bullying.

Participants' organizational citizenship behavior was assessed using a 14-item scale developed by Williams and Anderson (1991). This measure contains two subscales: organizational citizenship behavior directed at individuals (OCB-I) and directed toward the organization (OCB-O). Example items include "I help others who have been absent" for OCB-I, and "I give advance notice when I am unable to come to work" for OCB-O. Values ranged from 1 for *strongly disagree* through to 5 for *strongly agree*. The current study yielded Cronbach's alphas of .86 for OCB-I and .67 for OCB-O.

Participants' affective organizational commitment was assessed using the 6-item affective subscale of the Organizational Commitment scale (e.g., I would be very happy to spend the rest of my career with this organization; Meyer & Allen, 1991). Values ranged from 1 for *strongly disagree* through to 5 for *strongly agree*. The current study yielded a Cronbach's alpha of .87.

The Marlowe Crowne Social Desirability Scale Short Form (Reynolds, 1982) was also administered. This measure contains 13 true-false items that measure behaviors that are socially approved or acceptable but are highly unlikely given human nature. Of these items, five are considered socially desirable when true (e.g., I have never deliberately said something that hurt someone's feelings) and

eight are considered socially desirable when false (e.g., I am sometimes irritated by people who ask favors of me). The current study yielded a Cronbach's alpha of .73.

Results

Scale construction and factor structure

To identify the best items for each of the Dark Tetrad dimensions, initial correlations were conducted separately for each of the four sets of items (the items assigned to each domain) and the preexisting scale (SD3 and VAST) composite score for the trait of interest. The six items that were most strongly (and positively) correlated with the composite score were retained for each set of items.

This initial set of items was further reduced through a series of exploratory factor analyzes. Cross-loading or construct irrelevant loadings were deleted resulting in a final set of 22 items (see [Appendix A](#)). We then conducted a final set of exploratory factor analyzes in Mplus 8 (Muthén and Muthén (1998-2017)) contrasting a three-factor model (based on the Kaiser-Guttman, eigenvalue greater than 1 rule) and a four factor model based on the conceptual definitions of the scale. Although both the three factor ($\chi^2(N = 416, 168) = 360.82, p < .05$; CFI = .96; RMSEA = .05, $p > .05$) and four-factor ($\chi^2(N = 416, 149) = 234.28, p < .05$; CFI = .98; RMSEA = .04, $p > .05$) provided good fits to the data, we retained the four factor model (narcissism $\alpha = .78$; Machiavellianism $\alpha = .81$; psychopathy $\alpha = .88$; sadism $\alpha = .94$) as the better fitting of the two that conformed to our initial scale definitions. Standardized parameter estimates for the four factor model are presented in [Table 1](#).

Construct-related validity

Correlations between the new and existing Dark Tetrad measures and outcome variables for both Time 1 and Time 2 are presented in [Table 2](#). Based on correlations (both uncorrected and disattenuated), all four Dark Tetrad at Work traits are positively related to each other and each trait from previously established scales.

Table 1. Exploratory factor analysis (Promax Rotation) of the Dark Tetrad at work scale.

Items	Factor			
	1	2	3	4
1. My position at work is prestigious.	.66	-.14	-.06	.10
2. I am much more valuable than my coworkers.	.50	.10	.10	.06
4. I demand respect at work.	.55	.14	.01	-.11
5. People always pay attention to me at work.	.70	-.05	.00	-.09
10. Others admire me at work.	.74	-.05	-.10	-.03
13. I like being the center of attention at work.	.53	-.04	.17	.13
17. I do not trust others at work.	-.09	.62	.08	.07
20. At work, you always have to look out for number one.	.21	.52	.05	-.02
25. At work, people backstab each other to get ahead.	-.10	.86	.02	-.03
26. At work, people are only motivated by personal gain.	.01	.83	-.09	.07
27. I don't care if my work behavior hurts others.	.05	.13	.39	.33
29. I have been told I act rashly at work.	-.02	.01	.49	.32
32. When I'm at work, I don't tend to think about the consequences of my actions.	-.02	.09	.37	.39
33. I like to mooch off my coworkers.	-.01	-.05	.71	.22
34. I'm rather insensitive at work.	-.02	.03	.45	.29
39. I don't care if I accidentally hurt someone at work.	-.03	-.02	.59	.32
44. I love to watch my boss yelling at my coworkers.	.02	.03	.97	-.20
45. I can dominate others at work using fear.	.08	-.01	.86	-.04
47. It's funny to watch people make mistakes at work.	-.02	-.04	.84	.01
49. I never get tired of mocking my coworkers.	.01	.05	.84	-.09
50. I would laugh if I saw someone get fired.	-.02	-.04	.99	-.12
51. I have daydreams about hurting people I work with.	-.03	.03	.88	-.09

$N = 416$; Numbers in boldface indicate dominant factor loadings; ‡ indicates that the item will be included in a factor aside from its highest loading

Table 2. Time 1 and Time 2 descriptives and correlations of study variables.

	M	SD	Dark Tetrad at Work				SD3			VAST		Outcomes																									
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																			
1) Narcissism	3.11 3.17	.69.68	.70	.15	.26	.31	.65	.26	.29	.34	.30	.28	.24	.23	.29	.20	-.03	.26	2) Machiavellianism	2.73 2.85	.93.95	.70	.49	.44	.18	.56	.41	.26	.38	.37	.34	.34	.36	-.17	-.26	-.34	
3) Psychopathy	1.61 1.69	.70.78	.33	.50	.80	.82	.26	.52	.72	.49	.67	.60	.57	.55	.57	-.29	-.52	-.25																			
4) Sadism	1.44 1.47	.74.73	.30	.46	.81	.70	.30	.54	.76	.54	.73	.70	.64	.65	.67	-.20	-.47	-.19																			
5) Narcissism	2.74 2.74	.60.55	.53	.23	.25	.25	.77	.35	.38	.34	.29	.27	.22	.23	.26	.06	-.06	.10	6) Machiavellianism	2.83 2.85	.71.73	.21	.62	.52	.57	.35	.71	.60	.42	.50	.49	.47	.48	.46	-.20	-.37	-.26
7) Psychopathy	1.79 1.82	.65.65	.26	.43	.75	.71	.31	.56	.71	.61	.77	.65	.59	.59	.59	-.32	-.54	-.28																			
8) Vicarious Sadism	2.00 2.05	.76.80	.31	.22	.41	.42	.27	.30	.54	.80	.61	.52	.45	.41	.44	-.10	-.34	-.12																			
9) Direct Sadism	1.64 1.64	.59.59	.24	.40	.69	.75	.22	.51	.79	.49	.71	.72	.65	.63	.67	-.23	-.50	-.23	10) CWB-I	1.43 1.47	.89.80	.27	.33	.63	.63	.18	.38	.63	.41	.71	.92	.87	.92	-.02	-.36	-.18	
11) CWB-O	1.54 1.60	.86.85	.26	.31	.59	.61	.15	.39	.56	.38	.61	.82	.69	.86	.90	-.02	-.40	-.17																			
12) Instigated Incivility	1.57 1.54	.92.96	.232	.32	.64	.72	.22	.43	.61	.43	.65	.79	.80	.71	.91	-.05	-.29	-.15																			
13) Bullying Behavior	1.25 1.27	.54.59	.26	.32	.63	.67	.22	.37	.63	.44	.71	.82	.82	.89	.69	-.03	-.35	-.15	14) OCB-I	4.00 3.96	.61.67	.20	-.17	-.24	-.24	.01	-.28	-.30	-.05	-.31	-.12	-.15	-.07	-.10	.65	.42	.36
15) OCB-O	4.02 3.92	.57.64	-.07	-.38	-.59	-.47	-.07	-.36	-.58	-.30	-.48	-.40	-.45	-.37	-.36	.46	.62	.31																			
16) Affective Commitment	3.43 3.43	.92.90	.21	-.35	-.23	-.21	.06	-.23	-.26	-.08	-.22	-.14	-.21	-.13	-.12	.50	.39	.72																			

T1 (*N* = 416) above the diagonal; T2 (*N* = 209) below the diagonal; test-retest values on the diagonal;
T1: if $r > .10$ | $p < .05$; $r > .15$ | $p < .01$; $r > .22$ | $p < .001$; **T2**: if $r > .15$ | $p < .05$; $r > .18$ | $p < .01$; $r > .25$ | $p < .001$. All tests are two-tailed.

As expected, the DTW narcissism subscale was most strongly correlated with the SD3 narcissism subscale (disattenuated correlation = 1.00) and the DTW Machiavellianism subscale was most strongly correlated with the SD3 Machiavellianism subscale (disattenuated correlation = .83). Based on the disattenuated correlations the DTW psychopathy subscale was most strongly correlated with the SD3 psychopathy subscale (disattenuated correlation = 1.00). The DTW sadism subscale appeared to be more highly correlated with the SD3 psychopathy subscale (disattenuated correlation = 1.00) but was also highly correlated with the VAST scale (vicarious sadism, disattenuated correlation = .71; direct sadism, disattenuated correlation = .97). That said the SD3 psychopathy scale was also highly correlated with the VAST direct sadism subscale (disattenuated correlation = 1.00) indicating that the strong relationship between psychopathy and sadism exists in the established subscales as well.

Criterion-related validity

Overall, the Dark Tetrad at Work traits followed the same pattern of correlations with the workplace outcome variables as the established measures of the Dark Tetrad. A series of tests of dependent correlations using the calculator developed by Lee and Preacher (2013, September) suggested that the DTW scales of psychopathy and sadism correlated with criteria to the same extent as did the preexisting scales. The DTW scale of Machiavellianism correlated less strongly with every criteria except OCB-I than did the SD3 scale of Machiavellianism. The DTW Narcissism scale correlated with most criteria to the same extent as the SD3 scale with two exceptions; DTW narcissism was more strongly related to OCB-I and to affective commitment than was the SD3 scale of narcissism (see Table 2).

All the DTW subscales were positively related with each of the workplace deviance measures (i.e., CWB-I, CWB-O, instigated incivility, and bullying behavior). All of the DTW traits were positively related to OCB-I and, with the exception of narcissism which was unrelated, to OCB-O. Both narcissism measures were positively linked to affective commitment while all the other Dark Tetrad traits from the new and existing scales were negatively linked to affective commitment.

Incremental validity: hierarchical regressions

Hierarchical multiple regressions were conducted to determine if the DTW measures had incremental validity over the existing non-contextual Dark Triad and sadism scales. All regression analyzes also controlled for social desirability. Results of these analyzes are presented in Table 3. Together, the Dark

Table 3. Results of the hierarchical regression analyzes.

Final Standardized Betas							
Predictor	CWB-I	CWB-O	Incivility	Bullying	OCB-I	OCB-O	Affective commitment
Step 1							
Social Desirability	-.07	-.16***	-.07	-.09*	-.01	.14**	.11*
SD3-Narcissism	-.01	-.04	-.01	-.00	.01	.10	.00
SD3-Machiavellianism	.06	.09	.13*	.05	-.04	-.05	-.05
SD3-Psychopathy	.00	-.03	.05	-.04	-.37***	-.28***	-.19*
VAST-Vicarious Sadism	.08	.04	-.04	-.00	.07	-.02	-.03
VAST-Direct Sadism	.39***	.34***	.31***	.37***	-.02	-.18*	-.07
ΔR^2	.56***	.48***	.45***	.47***	.15***	.36***	.16***
Step 2							
DTW-Narcissism	.03	.03	.01	.06	.30***	.10	.38***
DTW-Machiavellianism	.02	-.02	-.02	.03	-.01	.06	-.25***
DTW-Psychopathy	-.06	.02	-.06	-.06	-.26**	-.28***	-.11
DTW-Sadism	.36***	.29***	.37***	.39***	.19*	.09	.17*
ΔR^2	.04***	.03***	.04***	.05***	.07***	.03**	.13***
Total R^2	.60***	.51***	.49***	.52***	.22***	.38***	.29***

$N = 416$; * <.05, ** <.01, *** <.001

Tetrad (both the established and new scales) explained between 49% and 60% of the variance in workplace deviance variables and between 10% and 38% of the variance in positive workplace behaviors and outcomes. In each case, the DTW measures accounted for criterion variance above and beyond existing measures.

Workplace deviance

DTW sadism uniquely predicted CWB-I ($\Delta R^2 = .04$, $F(4,405) = 10.25$, $p < .001$), CWB-O ($\Delta R^2 = .03$, $F(4,405) = 7.16$, $p < .001$), instigated incivility ($\Delta R^2 = .04$, $F(4,405) = 8.19$, $p < .001$) and bullying behavior ($\Delta R^2 = .05$, $F(4,405) = 11.58$, $p < .001$) above and beyond the established trait measures.

Positive workplace behaviors and outcomes

DTW narcissism ($\beta = .30$, $p < .001$, $sr^2 = .05$), DTW psychopathy ($\beta = -.26$, $p < .01$, $sr^2 = .02$) and DTW sadism ($\beta = .19$, $p < .05$, $sr^2 = .01$) uniquely predicted OCB-I ($\Delta R^2 = .07$, $F(4,405) = 9.08$, $p < .001$) above and beyond the established trait measures. DTW psychopathy uniquely predicted OCB-O ($\Delta R^2 = .03$, $F(4,405) = 4.69$, $p < .01$) above and beyond the established trait measures. DTW narcissism ($\beta = .38$, $p < .001$, $sr^2 = .08$), DTW Machiavellianism ($\beta = -.25$, $p < .05$, $sr^2 = .04$), and DTW sadism ($\beta = .17$, $p < .05$, $sr^2 = .01$) uniquely predicted affective commitment ($\Delta R^2 = .13$, $F(4,405) = 18.48$, $p < .001$) above and beyond the established trait measures.

Confirmatory factor analysis

We conducted a series of confirmatory factor analyses based on the Time 2 data ($N = 212$). All model tests were based on the covariance matrix and used ML estimation as implemented in MPlus 7.4. We estimated a one factor model (i.e., all 22 Dark Tetrad items on one factor), three factor model (i.e., narcissism, Machiavellianism, and psychopathy-sadism), and four factor model (i.e., narcissism, Machiavellianism, psychopathy, and sadism). The fit indices for the Dark Tetrad at Work suggest that the model with the best fit was the four factor model. The four factor model ($\chi^2(N = 203, 203) = 431.92$, $p < .01$; CFI = .90; RMSEA = .08) fit better than both the three factor model ($\chi^2(N = 203, 206) = 464.00$, $p < .01$; CFI = .89; RMSEA = .08; $\chi^2_{\text{difference}}(3) = 32.08$, $p < .001$) and one factor model ($\chi^2(N = 203, 209) = 797.55$, $p < .01$; CFI = .75; RMSEA = .12; $\chi^2_{\text{difference}}(6) = 365.63$, $p < .001$). However, while the four factor model provided the best fit, it did not quite reach adequate model fit. Standardized parameter estimates for the four-factor model are presented in [Figure 1](#).

Test-retest reliability

Correlations between the Dark Tetrad trait measures at Time 1 and Time 2 show that the DTW (as well as the SD3 and the VAST) possesses satisfactory levels of test-retest reliability. Test-retest coefficients ranged between .70 and .80 while disattenuated correlations ranged between .80 and 1.00 (see [Table 2](#)).

Lagged regressions

Lagged hierarchical regressions were conducted to assess the longitudinal prediction of organizational outcomes ([Table 4](#)). Each outcome (e.g., CWB, OCB) at Time 2 was regressed on the corresponding outcome at Time 1. In Step 2 of the regression, the new Dark Tetrad at Work subscales were entered as predictors to allow the determination of whether the Dark Tetrad traits predict the change in criteria.

Workplace deviance

Neither CWB-I nor CWB-O were longitudinally predicted by the Dark Tetrad traits. DTW psychopathy ($\beta = .30$, $p < .01$, $sr^2 = .03$) uniquely predicted both T2 instigated incivility ($\Delta R^2 = .04$, F

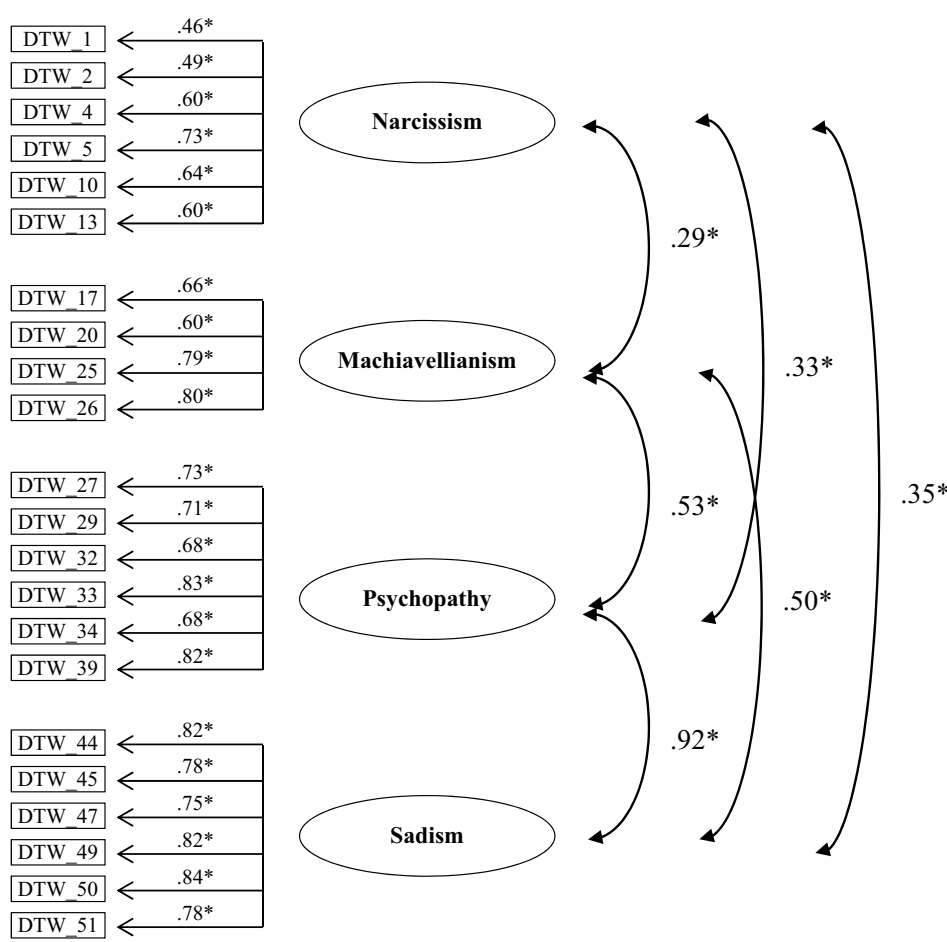


Figure 1. Study 1: Standardized loadings and intercorrelations; * $p < .05$.

Table 4. Results of the cross-lagged regression analyzes.

Predictor	Standardized Betas						Affective commitment
	CWB-I	CWB-O	Incivility	Bullying	OCB-I	OCB-O	
(1) Time 1 outcome	.57***	.49***	.55***	.47***	.59***	.48***	.64***
ΔR^2	.48***	.40***	.45***	.40***	.43***	.39***	.52***
(2) DTW-Narcissism	-.04	-.01	.00	.03	.11	-.01	.13*
(3) DTW-Machiavellianism	-.04	-.05	-.06	-.02	-.05	.03	-.06
(4) DTW-Machiavellianism	.18*	.20*	.30**	.27**	-.07	-.23*	-.14
(5) DTW-Sadism	.04	.03	-.06	-.03	-.07	-.05	.03
ΔR^2	.02	.02	.04**	.04*	.03	.05**	.03*
Total R^2	.50***	.42***	.49***	.43***	.45***	.44***	.54***

$N = 211$; * $< .05$, ** $< .01$, *** $< .001$

(4,207) = 3.75, $p < .01$) T2 bullying behavior ($\beta = .27$, $p < .01$, $sr^2 = .02$; $\Delta R^2 = .04$, $F(4,207) = 3.27$, $p < .05$) above and beyond the Time 1 outcome measure.

Positive workplace behaviors and outcomes

Although the T1 Dark Tetrad at Work traits did not contribute a significant amount of explained variance in T2 OCB-I, T1 psychopathy ($\beta = -.23$, $p < .05$, $sr^2 = .01$) uniquely predicted T2 OCB-O

($\Delta R^2 = .05$, $F(4,207) = 4.69$, $p < .01$) above and beyond the Time 1 outcome measure. Finally, T1 narcissism ($\beta = .13$, $p < .05$, $sr^2 = .01$) uniquely predicted T2 affective commitment ($\Delta R^2 = .03$, $F(4,205) = 2.83$, $p < .05$) above and beyond the Time 1 outcome measure.

Study 2

The results of Study 1 offered support for our new measure of the Dark Tetrad at Work. As hypothesized, the data supported a four factor structure corresponding to the dimensions of narcissism, psychopathy, Machiavellianism, and sadism. Moreover, our newly developed scales correlated strongly with established measures of these constructs.

However, our use of a longitudinal design in Study 1 resulted in both the exploratory and confirmatory analyzes being based on essentially the same samples, albeit at different time points. We recognize that this procedure may have resulted in our results being more robust than they otherwise might have been. Moreover, these initial data did not cleanly distinguish between psychopathy and everyday sadism. These two DTW scales were strongly correlated and not clearly distinguished in the factor analyzes.

Taken together, both of these measures suggest the need to examine the factor structure of the DTW scales using an independent data set. This was the intent of Study 2.

Method

Participants: All participants ($N = 286$) were working at the time they completed the study. The majority (81.5%) of the participants identified as female. Most participants (92%) were full-time students and ranged between first year undergraduates to sixth year undergraduates (mean year of study = 2.86; $SD = 1.24$). Participants worked between 3 and 50 hours per week at the time of the survey with an average of 19.13 hours per week ($SD = 9.16$).

Measures: As part of a larger study, participants completed the DTW measures developed in Study 1: Narcissism (6 items, $\alpha = .78$); Machiavellianism (4 items, $\alpha = .72$); Psychopathy (6 items, $\alpha = .80$) and Sadism (6 items, $\alpha = .83$).

Results

We conducted a series of confirmatory factor analyzes. All model tests were based on the covariance matrix and used ML estimation as implemented in MPlus 7.4. We estimated a one-factor model (i.e., all 22 Dark Tetrad items on one factor), a three-factor model (i.e., narcissism, Machiavellianism, and psychopathy-sadism), and a four-factor model (i.e., narcissism, Machiavellianism, psychopathy, and sadism). Both the three factor and one factor models are nested within the four-factor model.

The four factor model ($\chi^2(N = 286,203) = 545.42$, $p < .001$; CFI = .86; RMSEA = .08) fit better than did the three factor model ($\chi^2(N = 286,206) = 619.17$, $p < .001$; CFI = .83; RMSEA = .08; $\chi^2_{\text{difference}}(3) = 73.76$, $p < .05$) and substantially better than the one factor model ($\chi^2(N = 286,209) = 1296.73$, $p < .01$; CFI = .56; RMSEA = .14; $\chi^2_{\text{difference}}(6) = 751.31$, $p < .001$).

Standardized parameter estimates for the four-factor model are presented in [Figure 2](#). As shown, psychopathy and sadism were, again, strongly correlated – although not to the extent that one would consider these measures to be redundant.

General discussion

The purpose of this study was to create a workplace-specific measure of the Dark Tetrad. The results of Time 1 analysis produced a 22-item scale containing six items measuring narcissism, four items measuring Machiavellianism, six items measuring psychopathy, and six items measuring sadism. Exploratory factor analysis at Time 1 suggested that two of the hypothesized factors (psychopathy

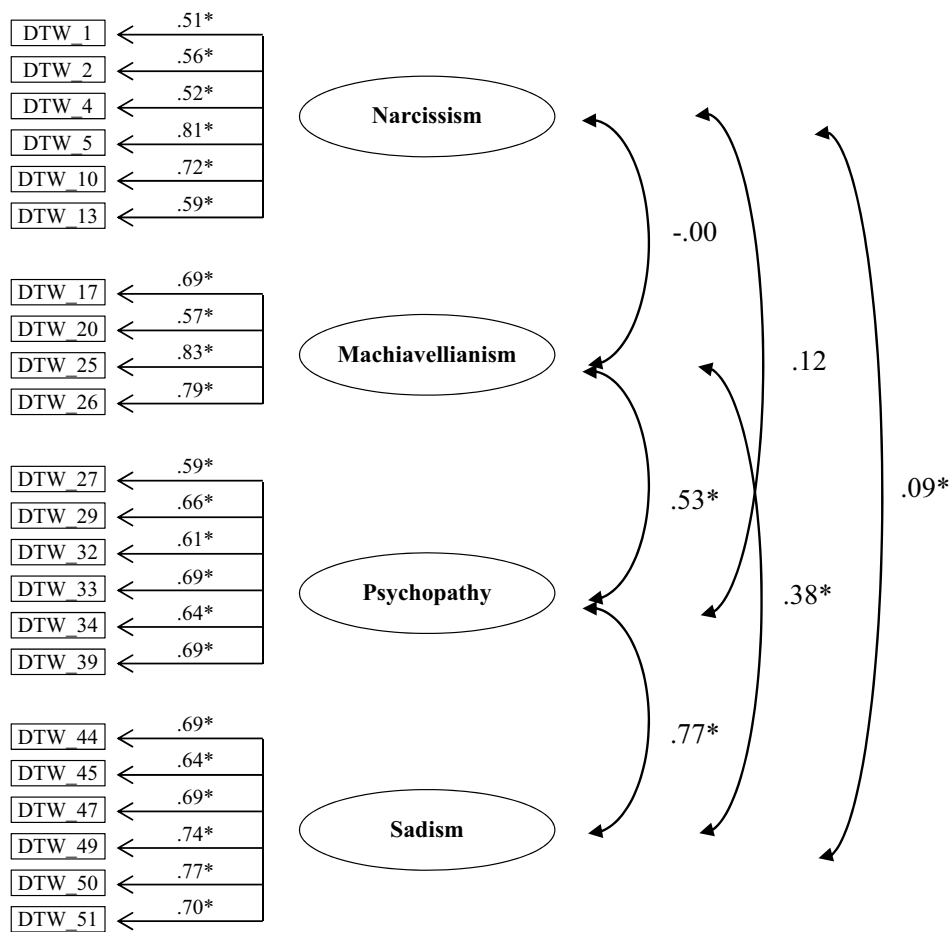


Figure 2. Study 2: Standardized loadings and factor intercorrelations.

and sadism) demonstrated substantial overlap. The results of the confirmatory analysis based on Time 2 data suggested that these factors were highly correlated but potentially empirically distinct. Overall, the hypothesized four factor structure of the Dark Tetrad at Work scale provided a better fit to the data than other hypothesized structures (i.e., 1 factor and 3 factor models). The four factor structure was replicated in Study 2 and, again, the four factor model provided a better fit to the data than competing 3-factor or unidimensional models. The four dimensions comprising the scale were internally consistent in both studies and demonstrated substantial test-retest reliability in Study 1 supporting the reliability of the dimensions. High test-retest reliability is, of course, to be expected given that the DTW is expected to measure traits rather than states.

In Study 1, the four scales were correlated with previous established measures of the Dark Triad (Jones & Paulhus, 2014) and sadism (Paulhus & Jones, 2015). As expected, all four Dark Tetrad at Work traits were correlated with each other. Each Dark Tetrad at Work (DTW) trait (except for sadism) was most highly correlated with its pre-established counterpart supporting the construct-related validity of the new scales. While the overly strong correlation between DTW sadism and SD3 psychopathy is somewhat concerning, the sadism-psychopathy link is equally as strong between SD3 psychopathy and VAST direct sadism suggesting that the overlap is not unique to the DTW measures.

These findings suggest that the overlap between the two traits is not merely an issue with the new scale. The strong psychopathy-sadism relationship may indicate that the subclinical/everyday measures are too similar, either in general or in the current sample, to be completely distinguishable. In fact, Johnson et al. (2019) found that psychopathy and each subscale of sadism (physical, verbal, and vicarious sadism in their study's case) were the most strongly correlated of the Dark Tetrad traits. However, these correlations were not high enough to suggest that sadism and psychopathy are the same construct (Johnson et al., 2019). This higher relationship between psychopathy and sadism continues to show up in studies on the Dark Tetrad (e.g., Lee, 2019; Plouffe et al., 2019; Rogers, Le, Buckels, Kim, & Biesanz, 2018). Johnson et al. noted that this high relationship or potential overlap may be due to the notion that if someone gets hurt during the pursuit of a goal, someone high in psychopathy would not care (while the goal is to hurt someone for those high in sadism). Past research (e.g., Reidy et al., 2011) has shown that psychopathy and sadism independently predicted outcomes such as unprovoked aggression, indicating that they are indeed separate constructs. Furthermore, results from Step One of the hierarchical regressions using the pre-established scales in the current study show that both psychopathy and (either vicarious or direct) sadism uniquely predicted CWB-I, instigated incivility, OCB-I, and OCB-O.

As expected, all measures of each Dark Tetrad trait were positively linked to all the types of workplace deviance measured in this study (i.e., CWB-I, CWB-O, instigated incivility, and bullying behavior). These relationships between the Dark Tetrad and higher levels of these deviant behaviors correspond with and add to past literature as well as aid in establishing the new scale's criterion-related validity (e.g., O'Boyle et al., 2012).

Interestingly, when examining the hierarchical regressions, only DTW sadism emerged as a unique predictor of CWB-I, CWB-O, incivility, and bullying behavior. This general pattern also emerged in the preexisting measures at Step 1 of the regression. Given these findings, the Dark Triad traits may not lead to deviant behaviors once the focus on hurting others (i.e., sadism) is removed. O'Boyle et al. (2012) found that when controlling for narcissism and Machiavellianism, psychopathy negatively predicted counterproductive work behavior. O'Boyle et al. postulated that psychopathy may not lead to counterproductive work behavior once the effects of the other two dark traits are removed. However, sadism had not been included in O'Boyle et al.'s study. Given the positive correlation between the Dark Tetrad traits, it is possible the portion of variance that was removed from psychopathy in O'Boyle et al.'s study was in fact its overlapping variance with sadism (through the overlapping variance with narcissism and Machiavellianism).

Narcissism (DTW only) was positively linked to OCB-I (but not OCB-O). As previously discussed, those high in narcissism often self-promote and it is possible that they reported engaging in citizenship behaviors directed at individuals more often than they really do. While the same may have been possible for OCB-O, this self-promotion aspect may have been canceled out due to narcissists' sense of entitlement where they may believe that they do not owe their organization and thus do not engage in behaviors that help their organization outside of their in-role job description. This relationship may also be explained by the differing sub-dimensions of narcissism: grandiose (i.e., a tendency to be interpersonally dominant and flamboyant) and vulnerable (i.e., a tendency to be emotionally fragile; Watts et al., 2013). Grandiose narcissism appears to be a double-edged sword in that it has been linked to both positive (e.g., leader persuasiveness) and negative outcomes (e.g., ethical indiscretions; Watts et al., 2013). Vulnerable narcissism, on the other hand, has not been associated with these negative outcomes (Watts et al., 2013). The lack of relationship between narcissism and OCB-O may be partially explained by the negative influences of the grandiose dimension of narcissism.

As expected, Machiavellianism, psychopathy, and sadism (DTW and past scales) were all negatively linked to both OCB-I and OCB-O. Machiavellianism has been previously tied to lower levels of citizenship behavior (Zagenczyk et al., 2014). Theory suggests a similar relationship involving psychopathy and sadism; however research had not previously examined the relationship between OCB and these dark traits.

When examining the unique effects of the Dark Tetrad, narcissism and psychopathy continued to predict citizenship behaviors (narcissism only for OCB-I). DTW sadism only uniquely predicted OCB-I while Machiavellianism failed to add any additional explained variance to either forms of citizenship behavior. When partialling out the other dark traits, narcissists engage in these behaviors (or at least report that they do) while those high in psychopathy avoid these behaviors.

Narcissism emerged as the strongest predictor of affective commitment above the other traits in the Dark Tetrad at Work. However, given a narcissist's propensity to self-promote, this relationship may be a fabrication. On the other hand, those high in narcissism often fool themselves into thinking that their job is prestigious and high in autonomy (Jonason et al., 2015). These misconceptions may lead narcissists to actually feel committed.

For the most part, the bivariate correlations between the Dark Tetrad at Work scale and criteria are the same as the correlations between existing scales and the same criteria. This suggests that using the Dark Tetrad at Work scale would not result in any substantial loss in the ability to predict organizational criteria. We note that the exception to this general observation is the Machiavellianism scale – our shorter measure was not as strongly correlated with criteria as was the preexisting measure. Smith, McCarthy, and Anderson (2000) note that failure to maintain the content coverage of longer measures is a frequent failing of shorter measures. It may be that our shorter measure does not capture the complexities of the Machiavellianism construct as well as existing measures. Although we believe that shorter scales are valuable and useful in organizational research, we recognize that there are many situations where researchers require more nuanced and sensitive measurement of complex traits such as those represented in the Dark Tetrad. When used as a set in the hierarchical regressions, the Dark Tetrad at Work scale added additional small amounts of explained variance in every outcome measure above and beyond the existing measures (in the hierarchical regressions), lending support to the use of a workplace-specific measure such as ours. Despite these positive findings, we recognize that more research is needed to evaluate our new measure.

In summary, the purpose of the current research was to create and assess the preliminary reliability and validity of a contextual measure of the Dark Tetrad designed for organizational research. The 22-item Dark Tetrad at Work scale demonstrated adequate reliability and correlated predictably with previously established measures of the Dark Tetrad traits (Jones & Paulhus, 2014; Paulhus & Jones, 2015) and workplace deviance behaviors (Bennett & Robinson, 2000; Einarsen et al., 2009; Leiter & Day, 2013). The new Dark Tetrad at Work measure predicted organizational behaviors and outcomes at least as well as did the existing measures of the Dark Tetrad traits. Additionally, the current study provides evidence of predictive validity of the Dark Tetrad traits on workplace outcomes.

Potential limitations

The current study relies on sole-source data, which raises the possibility of the study's findings being contaminated by common method variance. Common method variance can inflate relationships artificially. However, this concern is at least somewhat mitigated by our findings. Common method variance would enhance the likelihood of support for a unidimensional, rather than multidimensional, factor solution (Harman, 1976). The results of this study support a multifactor solution, suggesting that common method variance was not a major factor in these results.

Given the self-report nature of the data, there is also the potential for respondents to respond inaccurately, especially considering they were asked to report engaging in acts of organizational deviance and to possessing socially aversive traits. Accordingly, the hierarchical analyzes (in Time 1) controlled for social desirability. Given that social desirability did significantly (although weakly) predict several of the workplace outcomes at Step 1 (and only remained significant for half the outcomes at Step 2), there appears to be some tendencies on the part of the participants to respond in a socially desirable way. Partialling out the variance associated social desirability would, in the presence of common method variance, provide a more conservative test of the new Dark Tetrad at Work measure's predictive validity.

Aside from controlling for social desirability, there is reason to believe that those high in the Dark Tetrad traits would respond honestly (or at least in line with their perceptions) to the items in the current study (especially the personality items). For example, those high in psychopathy have no reason to respond in a socially desirable way to a (anonymous) survey. By definition, those high in psychopathy have a general lack of guilt, anxiety and empathy. Participants high in psychopathy would not bother responding in a socially desirable way as they simply would not care.

While the self-promotion aspect of narcissism may lead to those high in this trait to refrain from incriminating themselves, their entitlement and superiority may counteract this. Deviant workplace behaviors harm the organization and/or its members and as such is seen in a negative light. However, those individuals who engage in these behaviors, especially in CWB, often have a reason for engaging in such behavior (e.g., organizational justice; O'Neill, Lewis, & Carswell, 2011). Those high in narcissism are likely to feel like they deserve to engage in these behaviors and that they are above their coworkers or even their organization. This can be seen in the positive link between the entitlement/exploitativeness facet of narcissism and CWB (overall, CWB-I and CWB-O; Grijalva & Newman, 2015).

Future research

While the current research developed and assessed the reliability and validity of the Dark Tetrad at Work, further development of the scale is both encouraged and warranted. In particular, we note that, although the four factor model provided the best fit in two studies, the current DTW scale did not demonstrate an acceptable level of absolute fit to the data. This parallels the results using pre-established measures suggesting that further research should focus on clarifying the underlying latent structure of the Dark Tetrad at Work.

Future research should incorporate both longitudinal research designs and the use of non-self-report measures. It is important to note that longitudinal research in this case would require long time lags as our data shows little or no change in the workplace outcomes over a two month period. Other reports of organizational behaviors obtained from coworkers, supervisors, or organizational records may provide valuable criteria for further research into the Dark Tetrad personality traits and their role in the workplace.

The current study assessed the relationships between employees' own personality traits and their own workplace behavior and outcomes. Future research should examine the relationship between leaders' personality on subordinate outcomes. There is a vast amount of literature examining the influence of leadership on employee outcomes (Kelloway & Barling, 2010). However, substantially less research has examined the effects of leaders' personality, especially the Dark Tetrad, on their employees. It would be especially interesting to examine the link between employees' perceptions of their leader's personality and employee outcomes. Similarly, research should examine whether the Dark Tetrad at Work scale could be adapted to measure subordinate perceptions of their leader (and maintain its predictive validity above modified pre-established self-report scales).

Future research should also examine the interactions between the Dark Tetrad traits and their associations with workplace outcomes. The current study found that once sadism is partialled out, the other dark traits add little explained variance to deviant behaviors. Similarly, O'Boyle et al. (2012) found that psychopathy's positive relationship with CWB became negative when controlling for narcissism and Machiavellianism. The interactions between the Dark Tetrad traits would provide new explanations as to why employees engage in either positive or negative behavior. Complete trait profiles may also contribute to the personality literature.

Practical implications

Selection systems often include personality tests (e.g., the Big Five personality traits) or integrity tests (designed to predict dishonest behaviors at work), especially when the objective is to predict counter-productive work behaviors or general workplace deviance (Marcus, Lee, & Ashton, 2007). Some personality researchers have suggested measuring the Dark Tetrad/Triad in addition to the Big Five

to maximize predictive accuracy in selection (e.g., Grijalva & Newman, 2015). However, the use of Dark Tetrad screening tools should measure the subclinical/everyday personality traits and not the clinical versions (Guenole, 2014). This is especially important as, in their review, O'Boyle et al. (2012) found that in those instances where the Dark Triad was used as a screening tool, almost all of them relied on clinical psychopathy scales. As noted in Dilchert, Ones, and Krueger (2014), most individuals seeking employment score in the normal range of personality and we would thus want a measure that can distinguish large numbers of individuals from one another (i.e., differences in the *everyday* dark personality traits). Furthermore, using scales assessing the clinical variants of the Dark Tetrad may lead to ethical scrutiny as they could be considered medical examinations and capture diagnosable mental health disorders (Dilchert et al., 2014).

The new Dark Tetrad at Work scale would serve as an appropriate scale to use if one desired to measure the Dark Tetrad for selection purposes. The Dark Tetrad at Work consists of 22 items and measures each of the four Dark Tetrad traits. Using previously established scales (e.g., the SD3 coupled with the VAST) would increase the number of scale items participants would be required to complete as the Dark Tetrad at Work is the first scale to measure all four Dark Tetrad traits in a single measure. Additionally, by using this workplace-specific scale, organizations would not have to worry about the inappropriate and potentially jarring items relating to sexual preferences (e.g., psychopathy: I enjoy having sex with people I hardly know; Jones & Paulhus, 2014) that are often in other measures of the Dark Tetrad traits.

Summary and conclusion

In short, the current study developed a short, valid, and adequately reliable workplace-specific measure of the Dark Tetrad that can be used by both researchers and organizations. The four dark traits were correlated with, and predicted (both cross-sectionally and longitudinally), workplace deviance as well as other organizationally-relevant behaviors and outcomes. Furthermore, several personality-outcome relationships that lacked empirical evidence were examined. While there is a considerable amount of Dark Triad research in organizational psychology, the organizational literature on sadism remains sparse. With the development of a context-specific measure of all four Dark Tetrad traits, more research in this area should follow.

Disclosure statement

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References

- Ames, D. R., Rose, P., & Anderson, C. P. (2006). The NPI-16 as a short measure of narcissism. *Journal of Research in Personality*, 40(4), 440–450. doi:10.1016/j.jrp.2005.03.002
- Aziz, A. (2005). Relationship between Machiavellianism scores and performance of real estate salespersons. *Psychological Reports*, 96(1), 235–238. doi:10.2466/PRO.96.1.235-238
- Aziz, A., May, K., & Crotts, J. C. (2002). Relations of Machiavellian behavior with sales performance of stockbrokers. *Psychological Reports*, 90(2), 451–460. doi:10.2466/PRO.90.2.451-460
- Baumeister, R. F., & Campbell, W. K. (1999). The intrinsic appeal of evil: Sadism, sensational thrills, and threatened egotism. *Personality & Social Psychology Review (Lawrence Erlbaum Associates)*, 3(3), 210. doi:10.1207/s15327957pspr0303_4
- Bennett, R. J., & Robinson, S. L. (2000). Development of a measure of workplace deviance. *Journal of Applied Psychology*, 85(3), 349–360. doi:10.1037/0021-9010.85.3.349
- Bereczkei, T., Birkas, B., & Kerekes, Z. (2010). The presence of others, prosocial traits, Machiavellianism. *Social Psychology*, 41(4), 238–245. doi:10.1027/1864-9335/a000032

- Boddy, C. R. (2011). Corporate psychopaths, bullying and unfair supervision in the workplace. *Journal of Business Ethics*, 100(3), 367–379. doi:10.1007/s10551-010-0689-5
- Bowie, V. (2002, September). Workplace violence: A second look. Paper presented to the Crime Prevention Conference, Sydney. Retrieved from http://aic.gov.au/media_library/conferences/crimpre/bowie.pdf
- Buckels, E. E. (2012). *The pleasures of hurting others: Behavioral evidence for everyday sadism*. Unpublished manuscript, Department of Psychology, University of British Columbia, Vancouver, Canada.
- Buckels, E. E., Jones, D. N., & Paulhus, D. L. (2013). Behavioral confirmation of everyday sadism. *Psychological Science*, 24(11), 2201–2209. doi:10.1177/0956797613490749
- Buckels, E. E., Trapnell, P. D., & Paulhus, D. L. (2014). Trolls just want to have fun. *Personality and Individual Differences*, 67, 97–102. doi:10.1016/j.paid.2014.01.016
- 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(7), 734–739. doi:10.1016/j.paid.2009.06.020
- Dahling, J. J., Whitaker, B. G., & Levy, P. E. (2009). The development and validation of a new Machiavellian scale. *Journal of Management*, 35(2), 219–257. doi:10.1177/0149206308318618
- DeShong, H. L., Grant, D. M., & Mullins-Sweatt, S. N. (2015). Comparing models of counterproductive workplace behaviors: The Five-Factor Model and the Dark Triad. *Personality and Individual Differences*, 74, 55–60. doi:10.1016/j.paid.2014.10.001
- Dilchert, S., Ones, D. S., & Krueger, R. F. (2014). Maladaptive personality constructs, measures, and work behaviors. *Industrial and Organizational Psychology*, 7(1), 98–155. doi:10.1111/iops.12115
- Einarsen, S., Hoel, H., & Notelaers, G. (2009). Measuring exposure to bullying and harassment at work: Validity, factor structure and psychometric properties of the Negative Acts Questionnaire-Revised. *Work and Stress*, 23(1), 24–44. doi:10.1080/02678370902815673
- Gilbert, S., & Kelloway, E. K. (2014). Using single items to measure job stressors. *International Journal of Workplace Health Management*, 7(3), 186–199. doi:10.1108/IJWHM-03-2013-0011
- Goncalves, M. K., & Campbell, L. (2014). The Dark Triad and the derogation of mating competitors. *Personality and Individual Differences*, 67, 42–46. doi:10.1016/j.paid.2014.02.003
- Grijalva, E., & Newman, D. A. (2015). Narcissism and Counterproductive Work Behavior (CWB): Meta-analysis and consideration of collectivist culture, big five personality, and Narcissism's facet structure. *Applied Psychology: An International Review*, 64(1), 93–126. doi:10.1111/apps.12025
- Guenole, N. (2014). Maladaptive personality at work: Exploring the darkness. *Industrial and Organizational Psychology: Perspectives on Science and Practice*, 7(1), 85–97. doi:10.1111/iops.12114
- Harman, H. H. (1976). *Modern factor analysis* (3rd ed.). Chicago, IL: Univ. Chicago Press.
- Hogan, R., & Hogan, J. (2001). Assessing leadership: A view from the dark side. *International Journal of Selection and Assessment*, 9(1&2), 40–51. doi:10.1111/1468-2389.00162
- Holtrop, D., Born, M. P., de Vries, A., & de Vries, R. E. (2014). A matter of context: A comparison of two types of contextualized personality measures. *Personality and Individual Differences*, 68, 234–240. doi:10.1016/j.paid.2014.04.029
- Johnson, L. K., Plouffe, R. A., & Saklofske, D. H. (2019, February 7). Subclinical sadism and the Dark Triad: Should there be a Dark Tetrad? *Journal of Individual Differences*, 40(3), 127–133. doi:10.1027/1614-0001/a000284
- 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., Wee, S., & Li, N. P. (2015). Competition, autonomy, and prestige: Mechanisms through which the Dark Triad predict job satisfaction. *Personality and Individual Differences*, 72, 112–116. doi:10.1016/j.paid.2014.08.026
- 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., LePine, J. A., & Rich, B. L. (2006). Loving yourself abundantly: Relationship of the narcissistic personality to self- and other perceptions of workplace deviance, leadership, and task and contextual performance. *Journal of Applied Psychology*, 91(4), 762–776. doi:10.1037/0021-9010.91.4.762
- Kelloway, E. K., & Barling, J. (2010). Leadership development as an intervention in occupational health psychology. *Work & Stress*, 24(3), 260–279. doi:10.1080/02678373.2010.518441
- Lee, I. A., & Preacher, K. J. (2013, September). *Calculation for the test of the difference between two dependent correlations with one variable in common* [Computer software]. Retrieved from <http://quantpsy.org>
- Lee, S. A. (2019). The Dark Tetrad and callous reactions to mourner grief: Patterns of annoyance, boredom, entitlement, schadenfreude, and humor. *Personality and Individual Differences*, 137, 97–100. doi:10.1016/j.paid.2018.08.019
- Leiter, M. P., & Day, A. (2013). *Straightforward incivility scale*. Technical Document. Centre for Organizational Research & Development, Acadia University, Nova Scotia, Canada.
- Leiter, M. P., Spence Laschinger, H. K., Day, A., & Gilin Oore, D. (2011). The impact of civility interventions on employee social behavior, distress and attitudes. *Journal of Applied Psychology*, 96(6), 1258–1274. doi:10.1037/a0024442
- Levenson, M. R., Kiehl, K. A., & Fitzpatrick, C. M. (1995). Assessing psychopathic attributes in a noninstitutionalized population. *Journal of Personality and Social Psychology*, 68(1), 151–158. doi:10.1037/0022-3514.68.1.151

- Lilienfeld, S. O., & Andrews, B. P. (1996). Development and preliminary validation of a self-report measure of psychopathic personality traits in noncriminal populations. *Journal of Personality Assessment*, 66(3), 488–524. doi:10.1207/s15327752jpa6603_3
- Marcus, B., Lee, K., & Ashton, M. C. (2007). Personality dimensions explaining relationships between integrity tests and counterproductive behavior: Big Five, or one in addition? *Personnel Psychology*, 60(1), 1–34. doi:10.1111/j.1744-6570.2007.00063.x
- Meier, L. L., & Semmer, N. K. (2013). Lack of reciprocity, narcissism, anger, and instigated workplace incivility: A moderated mediation model. *European Journal of Work and Organizational Psychology*, 22(4), 461–475. doi:10.1080/1359432X.2012.654605
- Meyer, J. P., & Allen, N. J. (1991). A three-component conceptualization of organizational commitment. *Human Resource Management Review*, 1(1), 61–98. doi:10.1016/1053-4822(91)90011-Z
- Murphy, C., & Vess, J. (2003). Subtypes of psychopathy: Proposed differences between narcissistic, borderline, sadistic, and antisocial psychopaths. *Psychiatric Quarterly*, 74(1), 11–29. doi:10.1023/A:1021137521142
- Muthén, L. K., & Muthén, B. O. (1998–2017). *Mplus user's guide*. 8th Ed. Los Angeles, CA: Muthén & Muthén.
- O'Boyle, E. J., 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
- O'Neill, T. A., Lewis, R. J., & Carswell, J. J. (2011). Employee personality, justice perceptions, and the prediction of workplace deviance. *Personality and Individual Differences*, 51(5), 595–600. doi:10.1016/j.paid.2011.05.025
- Organ, D. W. (1988). *Organizational citizenship behavior: The good soldier syndrome*. Lexington, MA: Lexington Books.
- Paulhus, D. L. (2014). Toward a taxonomy of dark personalities. *Current Directions in Psychological Science*, 23(6), 421–426. doi:10.1177/0963721414547737
- Paulhus, D. L., & Jones, D. N. (2015). Measuring dark personalities via questionnaire. In G. J. Boyle, D. H. Saklofske, & G. Matthews (Eds.), *Measures of personality and social psychological constructs* (pp. 562–594). San Diego, CA: Academic Press.
- Pilch, I., & Turska, E. (2015). Relationships between Machiavellianism, organizational culture, and workplace bullying: Emotional abuse from the target's and the perpetrator's perspective. *Journal of Business Ethics*, 128(1), 83–93. doi:10.1007/s10551-014-2081-3
- 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. doi:10.1016/j.paid.2018.01.002
- Regnaud, D. A. (2014). The relationship between top leaders' observed narcissistic behaviors and workplace bullying (unpublished dissertation). Walden University, Minneapolis, MN.
- Reidy, D. E., Zeichner, A., & Seibert, L. A. (2011). Unprovoked aggression: Effects of psychopathic traits and sadism. *Journal of Personality*, 79(1), 75–100. doi:10.1111/j.1467-6494.2010.00691.x
- Reynolds, W. M. (1982). Development of reliable and valid short forms of the Marlowe–Crowne social desirability scale. *Journal of Clinical Psychology*, 38(1), 119–125. doi:10.1002/1097-4679(198201)38:1<119::AID-JCLP2270380118>3.0.CO;2-I
- Rogers, K. H., Le, M. T., Buckels, E. E., Kim, M., & Biesanz, J. C. (2018). Dispositional malevolence and impression formation: Dark Tetrad associations with accuracy and positivity in first impressions. *Journal of Personality*, 86(6), 1050–1064. doi:10.1111/jopy.12374
- Schmeelk, K. M., Sylvers, P., & Lilienfeld, S. O. (2008). Trait correlates of relational aggression in a nonclinical sample: DSM-IV personality disorders and psychopathy. *Journal of Personality Disorders*, 22(3), 269–283. doi:10.1521/pedi.2008.22.3.269
- Smith, G. T., McCarthy, D. M., & Anderson, K. G. (2000). On the sins of short-form development. *Psychological Assessment*, 12(1), 102–111. doi:10.1037//1040-3590.12.1.102
- Szabó, Z. P., Czibor, A., Restás, P., & Bereckei, T. (2018). “The Darkest of all” The relationship between the Dark Triad traits and organizational citizenship behavior. *Personality and Individual Differences*, 134, 352–356. doi:10.1016/j.paid.2018.04.026
- Thibault, T., & Kelloway, E. K. (in press). Personality and workplace deviance. In Carducci, B. J., Nave, C. S., Mio, J. S., & Riggio, R. E (Eds.), *The Wiley-Blackwell encyclopedia of personality and individual differences, volume IV*. Chichester, UK: Wiley.
- Wai, M., & Tiliopoulos, N. (2012). The affective and cognitive empathic nature of the dark triad of personality. *Personality and Individual Differences*, 52(7), 794–799. doi:10.1016/j.paid.2012.01.008
- Watts, A. L., Lilienfeld, S. O., Francis Smith, S., Miller, J. D., Campbell, W. K., Waldman, I. D., . . . Faschingbauer, T. J. (2013). The double-edged sword of grandiose narcissism: Implications for successful and unsuccessful leadership among U.S. Presidents. *Psychological Science*, 24(12), 2379–2389. doi:10.1177/0956797613491970
- Williams, K. M., & Paulhus, D. L. (2004). Factor structure of the Self-Report Psychopathy scale (SRP-II) in non-forensic samples. *Personality and Individual Differences*, 37(4), 765–778. doi:10.1016/j.paid.2003.11.004
- Williams, L. J., & Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management*, 17(3), 601–617. doi:10.1177/014920639101700305
- Woo, S. E., Jin, J., & LeBreton, J. M. (2015). Specificity matters: Criterion-related validity of contextualized and facet measures of conscientiousness in predicting college student performance. *Journal of Personality Assessment*, 97(3), 301–309. doi:10.1080/00223891.2014.1002134

Zagenczyk, T. J., Restubog, S. D., Kiewitz, C., Kiazad, K., & Tang, R. L. (2014). Psychological contracts as a mediator between Machiavellianism and employee citizenship and deviant behaviors. *Journal of Management*, 40(4), 1098–1122. doi:10.1177/0149206311415420

Zettler, I., Friedrich, N., & Hilbig, B. E. (2011). Dissecting work commitment: The role of Machiavellianism. *Career Development International*, 16(1), 20–35. doi:10.1108/13620431111107793

Appendix A

Dark Tetrad at Work

Please rate your agreement or disagreement with each item:

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Narcissism

- (1) My position at work is prestigious.
- (2) I am much more valuable than my coworkers.
- (3) I demand respect at work.
- (4) People always pay attention to me at work.
- (5) Others admire me at work.
- (6) I like being the center of attention at work.

Machiavellianism

- (1) I do not trust others at work.
- (2) At work, you always have to look out for number one.
- (3) At work, people backstab each other to get ahead.
- (4) At work, people are only motivated by personal gain.

Psychopathy

- (1) I don't care if my work behavior hurts others.
- (2) I have been told I act rashly at work.
- (3) When I'm at work, I don't tend to think about the consequences of my actions.
- (4) I like to mooch off my coworkers.
- (5) I'm rather insensitive at work.
- (6) I don't care if I accidentally hurt someone at work.

Sadism

- (1) I love to watch my boss yelling at my coworkers.
- (2) I can dominate others at work using fear.
- (3) It's funny to watch people make mistakes at work.
- (4) I never get tired of mocking my coworkers.
- (5) I would laugh if I saw someone get fired.
- (6) I have daydreams about hurting people I work with.