

The Dark Tetrad at Work

by

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Abstract

The Dark Tetrad at Work

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The purpose of this study was to create and validate a workplace-specific measure of the Dark Tetrad (i.e. narcissism, Machiavellianism, psychopathy, and sadism). A 22-item scale was created that possessed acceptable reliability and construct validity. Each scale trait was positively associated with, and predicted, measures of workplace deviance even above and beyond pre-established measures. These results support the use of a context-specific personality measure for organizational research and have implications for developing new research on the Dark Tetrad in the workplace.

August 18, 2016.

The Dark Tetrad at Work

A great deal of psychological literature has focused on the Big Five personality traits (Guenole, 2014) and these traits have been found to predict a wide array of organizationally relevant criteria (e.g., Berry, Ones, & Sackett, 2007; Dalal, 2005). However, more recent research has explored the darker, socially aversive 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).

For the most part, organizational research on dark personality traits has focused on a limited array of organizational outcomes (e.g., workplace deviance; Jonason, Wee, & Li, 2015). Moreover, 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. Therefore the purpose of the current study is to develop a scale that specifically measures the Dark Tetrad personality characteristics in a workplace setting. This study also examined the scale’s ability to predict various organizational behaviours and constructs.

The Dark Tetrad

As typically defined, the Dark Triad comprises (sub-clinical) narcissism, Machiavellianism, and (sub-clinical) psychopathy. Individuals high in narcissism hold a

grandiose sense of self-importance, a tendency to feel entitled, and are often arrogant and exploitative (DeShong, Grant, & Mullins-Sweatt, 2015). Narcissists are self-absorbed, crave attention, and tend to self-promote (O'Boyle, Forsyth, Banks, & McDaniel, 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 & 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 also associated with competitiveness and a cynical view of the world (Jones & Paulhus, 2014). Those high in sub-clinical psychopathy lack empathy and social regulatory mechanisms, tend to be impulsive, and lack guilt or remorse (Williams & Paulhus, 2004). Psychopathy is also associated with an inability to form close attachments (Lilienfeld & Andrews, 1996). Sub-clinical psychopathy differs from clinical psychopathy in that clinical psychopaths tend to be chronically unstable, live an antisocial lifestyle, and often leave a path of destruction in their wake, often related to criminal behaviour (Murphy & Vess, 2003). The impulsiveness of those high in everyday psychopathy is attributed to boredom or sensation seeking (Levenson, Kiehl, & Fitzpatrick, 1995). Each of the three Dark Triad traits are positively, moderately related to one another (Jones & Paulhus, 2014).

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 ability (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). It is important to note that everyday sadism is distinct from the usual conceptions of sadism that relate to criminal behaviour and sexual fetishes (Buckels et al., 2013). For instance, a common conceptualization of sadism is that of sexual sadism. Sexual sadism involves sexual pleasure that is derived through the pain, suffering, and/or humiliation of others and often implicated in crimes of a sexual nature (Buckels, 2012).

Everyday sadism is a personality trait in the subclinical range (Buckels, 2012). Everyday sadism can be seen as commonplace manifestations of cruelty (Buckels, Jones, & Paulhus, 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). However, given the common notion that sadism consists of the more extreme criminal behaviours, comparatively little research has examined everyday sadism, especially in the workplace.

Those exhibiting each individual Dark Tetrad trait have different motives (e.g., a sadists is motivated to harm others) and needs (e.g., a narcissist desires attention). As

such, some research has looked into the relationship between personality and job perceptions (Jonason, Wee, & Li, 2015). Narcissism positively predicted perceived job prestige and autonomy while Machiavellianism positively predicted competitiveness (Jonason et al., 2015). Regardless of the actual amount of prestige, narcissists tend to believe that their job is prestigious and high in autonomy. Those high in narcissism desire to feel successful and be in control (Ames, Rose, & Anderson, 2006). Those high in Machiavellianism, on the other hand, have self-beneficial motives and always seek to gain the upper hand (DeShong, Grant, & Mullins-Sweatt, 2015). As such, Machiavellians' work environment would either be of a competitive nature (e.g., sales) or at least perceived as such.

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 harm (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). 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, Forsyth, Banks, & McDaniel, 2012). In fact, 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, leadership/authority (wanting to have authority over others) was negatively associated with overall CWB and CWB-O, while entitlement/exploitativeness (feelings of entitlement and manipulative behavior) was positively associated with overall CWB, CWB-I and CWB-O (Grijalva & Newman, 2015).

While there has been no published research to date on workplace deviance and sadism, associations are to be expected given the very nature of the behaviour. Those high in sadism enjoy hurting others while workplace deviance, by definition, encompasses behaviours that harm others. It is expected that sadism should positively predict workplace deviance. Furthermore, sadism is likely to be more strongly related to CWB directed at individuals than at the organization since hurting individuals is more salient in nature.

Since the dark personality traits are characterized by callousness, literature has looked at their relationship with workplace bullying (i.e. repeated behaviours directed towards 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 behaviour is related to the presence of bullying in the organization, suggesting that narcissistic leaders may indirectly influence bullying behaviours (Regnaud, 2015). Similarly, having

corporate psychopaths present in the workplace is related to significantly higher levels of bullying compared to workplaces without psychopaths present (Boddy, 2011).

While there appears to be a lack of research empirically linking sadism to workplace bullying, 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 rumours; 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 behaviours (Buckels, Trapnell, & Paulhus, 2014). Incivility refers to rude or discourteous behaviours 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 towards supervisors. Narcissism also predicted incivility towards coworkers when there was a lack of reciprocity (Meier & Semmer, 2013). Narcissists' self-absorption may lead them to ignore or act rudely towards those in their organization. Similarly, their sense of entitlement may lead those high in narcissism to

act in an uncivil manner towards 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 behaviour directed at a competitor for a romantic/sexual partner. No research could be found linking sadism to incivility. 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 behaviour. Organizational citizenship behaviour (OCB) is defined as individual behaviour that is discretionary and that supports the organizational, social, and psychological environment in the workplace (Organ, 1988). Judge, LePine, and Rich (2006) found that narcissism negatively predicted organizational citizenship behaviour rated by others but no relationship existed using self-ratings. This disparity makes sense given both the self-promoting and sense of entitlement that is inherent in narcissism. The self-promoting nature of those high in narcissism may cause them to over-report their engagement in

these positive behaviours (which would lead to a positive association between narcissism and OCB). However, their sense of entitlement may lead narcissists to believe that they do not need to support others at work, and are above these citizenship behaviours. This sense of entitlement may be the reason that narcissists do not engage in such positive behaviours as indicated by the external raters. Similarly, the entitlement component of narcissism may lead to a null or lack of relationship between narcissism and OCB by cancelling out the influence of self-promotion in self-ratings.

Similarly, Zagenczyk, Restubog, Kiewitz, Kiazad, and Tang (2014) found that Machiavellianism was negatively related to peer-rated and supervisor-rated OCB. Machiavellians are interested in benefiting themselves as much and as often as possible. If engaging in OCBs does not help them get their way, Machiavellians have no reason to engage in such behaviours. Additionally, those high in Machiavellianism often have a cynical world view. Their cynicism may cause them to be even less supportive and helpful towards their colleagues or their organization.

There is a lack of evidence linking OCB to psychopathy and sadism. However, due to the helping nature of these citizenship behaviours, it is likely that high levels of psychopathy and sadism are related to low levels of OCB. Psychopaths are impulsive and lack empathy and thus have no reason to help their organization or the people in it. Similarly, as sadists seek pleasure from the pain of others, they would be even less motivated to support their coworkers.

A meta-analysis found that Machiavellianism and psychopathy were weakly negatively related to job performance while narcissism was not significantly related to

job performance (O'Boyle, Forsyth, Banks, & McDaniel, 2012). However, one study found that CEOs grandiose narcissism was negatively related to overall firm performance (Reina, Zhang, & Peterson, 2014). While looking at the Dark Triad or Tetrad in terms of performance, the results are more promising when looking at more specific types of performance. For example, Machiavellianism is related to sales performance (Aziz, 2005; Aziz, May, & Crotts, 2002). This relationship may be stronger when employees have more control over their client interactions (e.g., variable prices and terms of condition; Aziz, 2005).

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). Those high in Machiavellianism seek power and are highly competitive, these people would value their career and promote it. As such, Machiavellians would seek opportunities to move up the corporate ladder. On the other hand, Machiavellians aim to maximize their own benefits by exploiting others. Thus it is beneficial for those high in Machiavellianism to not feel attached to their organization. Similarly, when Machiavellians are so focused on themselves, they have no need to feel any commitment towards the people they manipulate at work.

In a similar light, Machiavellianism is positively related with 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,

Whitaker, & Levy, 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).

Measuring the Dark Tetrad

Various scales exist that measure the individual Dark Tetrad traits. Due to the high correlation among these four traits, researchers argue that these traits should be studied in tandem. However, many of these scales are long and it thus becomes arduous for participants to complete multiple scales. There is currently no single existing published scale that measures the four Dark Tetrad traits. Furthermore, no scale has been designed (or at least, no scale has been published) that specifically measures any of these traits in a workplace setting. Many questions in the existing scales ask questions that are unrelated to workplace behaviour (e.g., I was purposely mean to some people in high school; Buckels & Paulhus, 2014) or are simply inappropriate for a workplace questionnaire (e.g., I enjoy having sex with people I hardly know; Jones & Paulhus, 2014).

The 20-item MACH-IV (Christie & Gies, 1970) is the most commonly used Machiavellian scale (Dahling, Whitaker, & Levy, 2009), however, it has inconsistent reliability and often unacceptably low reliability (Dahling et al., 2009; Ray, 1983). The MACH-IV also has an inconsistent factor structure and some double-barrelled items (e.g., All in all, it is better to be humble and honest than important and dishonest; Ahmed & Stewart, 1981; Christie & Gies, 1970; Dahling et al., 2009). Furthermore, there is evidence that the MACH-IV lacks validity in work contexts. For example, while Aziz,

May and Crotts (2002) and Aziz (2005) found moderate to strong correlations between sales performance and Machiavellianism using their Machiavellian Behaviour Scale (Mach-B), there is weak support for the relationship between the MACH-IV and sales performance (e.g., Turnbull, 1976).

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 behaviour 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 will allow for fewer items than the amount of items needed when combining multiple personality scales (e.g., the Short Dark Triad measure is 27 items and the Varieties of Sadistic Tendencies measure is 16 items,

totalling 43 items to measure all four traits). A reduced number of items assessing personality 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 would provide psychologists a means to explore these personalities in tandem by providing them with a concise, contextually relevant, scale to measure multiple traits.

As a second objective, this study examined the cross-sectional 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. Additionally, by examining the predictive ability of the Dark Tetrad, this thesis will add to the current literature.

Time 1

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 and criterion-related validity as well as the reliability of the scale. Time 1 data assessed the psychometric properties of the newly developed measure of the Dark Tetrad at Work (DTW). Time 1 data also assessed the newly developed scale ability to predict workplace constructs based on cross-sectional data.

Method

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. 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. Organizational tenure ranged between .08 (1 month) and 46 years, with a mean of 8.8 years, with 43.9% indicating they work in some sort of managerial position.

Measures. Upon reviewing relevant literature pertaining to the Dark Tetrad, 53 items were drafted to reflect each of the four traits in a workplace setting (see Appendix A); 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 behaviour 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 Cronbach's alphas in past literature were reported as 0.74 for narcissism (e.g., I insist on getting the respect I deserve), 0.71 for Machiavellianism (e.g., I like to use clever manipulation to get my way), and 0.77 for psychopathy (e.g., Payback needs to be quick and nasty). The current study yielded Cronbach's alphas of 0.74, 0.83, and 0.81 for each of the subscales, respectively.

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 Cronbach's alphas in past literature were reported as 0.84 and 0.79 for each of the subscales, respectively. The current study yielded Cronbach's alphas of 0.81 and 0.80 for each of the subscales, respectively.

In order to determine predictive validity, measures of counterproductive work behaviour, incivility, workplace bullying, organizational citizenship behaviour, job satisfaction, engagement, and organizational commitment were also included in the survey (Appendix B).

Participants' counterproductive work behaviour (CWB) was assessed using a scale developed by Bennett and Robinson (2000). This measure contains two subscales: counterproductive work behaviour directed at individuals (CWB-I) and directed towards 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 Cronbach's alphas in past literature were reported as 0.78 CWB-I and 0.81 for CWB-O. The current study yielded Cronbach's alphas of 0.95 and 0.95 for each of the subscales, respectively.

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 behaviour 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 Cronbach's alpha in past literature was reported as 0.84. The current study yielded a Cronbach's alpha of 0.93.

Workplace bullying was assessed using 17 items from the Negative Acts Questionnaire-Revised (NAQ-R; Einarsen, Hoel, & Notelaers, 2009). Participants were asked how often they engaged in each behaviour 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 Cronbach’s alpha in past literature was reported as 0.90 when the scale was used to assess being the victim of these workplace bullying acts (Notelaers, & Einarsen, 2013). The current study yielded a Cronbach’s alpha of 0.97 for overall workplace bullying.

Participants’ organizational citizenship behaviour was assessed using a 14-item scale developed by Williams and Anderson (1991). This measure contains two subscales: organizational citizenship behaviour directed at individuals (OCB-I) and directed towards 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 Cronbach’s alphas in past literature were reported as 0.88 for OCB-I and 0.75 for OCB-O. The current study yielded Cronbach’s alphas of 0.86 and 0.67 for each of the subscales, respectively.

Participants’ job satisfaction was measured using a single item measure (Nagy, 2002). The item, “Taking everything into consideration, how do you feel about your job as a whole?”, is rated on a 7-point scale ranging from 1 for *extremely dissatisfied* through to 7 for *extremely satisfied*.

Work engagement was assessed using the 9-item Utrecht Work Engagement Scale (UWES-9; Schaufeli, Bakker, & Salanova, 2006). Values ranged from 0 for *never* through to 6 for *always*. The subscales consisted of vigor (e.g., At my work, I feel bursting with energy), dedication (e.g., I am enthusiastic about my job), and absorption (e.g., I feel happy when I am working intensely). The Cronbach's alphas in past literature were reported as 0.77, 0.85, and 0.78, respectively, and a total UWES-9 alpha of .92. The current study yielded Cronbach's alphas of 0.86, 0.90, and 0.85, respectively, and a total UWES alpha of 0.95.

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 Cronbach's alpha in past literature was reported as 0.89. The current study yielded a Cronbach's alpha of 0.87.

The Marlowe Crowne Social Desirability Scale Short Form (Reynolds, 1982) was also administered. This measure contains 13 true-false items that measure behaviours 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 Cronbach's alpha in past literature was reported as 0.74 (Greenberg & Weiss, 2012). The current study yielded a Cronbach's alpha of 0.73.

Procedure. Once recruited, participants were directed to an online consent form (Appendix B) and were prompted to respond with “Yes, I agree and wish to participate” if they wanted to proceed with the survey. If they did not want to proceed with the survey, participants could either close the survey or respond with “No, I do not wish to participate”. If consent was obtained, participants begin the study.

The survey began with the 53 items that were developed for the new Dark Tetrad at Work scale. Following the new scale, participants answered the other personality measures and the organizational variable scales (see Appendix C). The last section of the survey consisted of a short demographics section including age, sex, organizational tenure, position (management or employee), and industry. Once participants had completed the survey, they submitted it online. After completion, a feedback form that elaborated on the full purpose of the study was provided (See Appendix D).

Results

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 pre-existing 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 (see Table 1).

Table 1

Dark Tetrad at Work: Initial item reduction

Items	Trait
1. My position at work is prestigious.	Narcissism
2. I am much more valuable than my coworkers.	Narcissism
4. I demand respect at work.	Narcissism
5. People always pay attention to me at work.	Narcissism
10. Others admire me at work.	Narcissism
13. I like being the centre of attention at work.	Narcissism
17. I do not trust others at work.	Machiavellianism
19. I have taken revenge against someone at work.	Machiavellianism
20. At work, you always have to look out for number one.	Machiavellianism
22. It is okay to lie to get ahead at work.	Machiavellianism
25. At work, people backstab each other to get ahead.	Machiavellianism
26. At work, people are only motivated by personal gain.	Machiavellianism
27. I don't care if my work behaviour hurts others.	Psychopathy
29. I have been told I act rashly at work.	Psychopathy
32. When I'm at work, I don't tend to think about the consequences of my actions.	Psychopathy
33. I like to mooch off my coworkers.	Psychopathy
34. I'm rather insensitive at work.	Psychopathy
39. I don't care if I accidentally hurt someone at work.	Psychopathy
44. I love to watch my boss yelling at my coworkers.	Sadism
45. I can dominate others at work using fear.	Sadism
47. It's funny to watch people make mistakes at work.	Sadism
49. I never get tired of mocking my coworkers.	Sadism
50. I would laugh if I saw someone get fired.	Sadism
51. I have daydreams about hurting people I work with.	Sadism

Next, an exploratory factor analysis (EFA) was conducted on the 24 items for the full Dark Tetrad at Work scale. Based on the Kaiser method with eigenvalues greater than one, a 3-factor model emerged that explained 59.42% of the total variance in the scale. However, based on the scree-plot, a 4-factor model appears possible. A series of factor analyses using an both an orthogonal varimax rotation and an oblique promax rotation were then conducted. Based on the factor loadings, two Machiavellianism items

(items 19 and 22) were removed as they loaded more highly with the psychopathy and sadism items than with the other four Machiavellianism items.

Given those changes, a new EFA was conducted on the remaining 22 items.

Based on the Kaiser method with eigenvalues greater than one, a 3-factor model emerged that explained 60.53% of the total variance in the scale. However, based on the scree-plot, a 4-factor model appears possible. A series of factor analyses using both an orthogonal varimax rotation and an oblique promax rotation were then conducted. Based on the results, clean subscales emerged for narcissism (6 items) and Machiavellianism (4 items). However, psychopathy and sadism items combined into one single factor. That said the sadism items loaded more strongly on the factor than did the psychopathy items. Additionally, the plots of the rotated factors in space show that while psychopathy and sadism items cling together, they do not cling together as tightly as the narcissism or Machiavellianism items. The sadism items and the psychopathy items each sat on their own side of the cluster of items for the single factor.

Next, MPlus 7.4 was used to examine the EFA model fit indices. Fit indices for the models tested are presented in Table 2 while the standardized factor loadings can be found in Table 3. The fit indices for the Dark Tetrad at Work suggest that the model with the best fit is the 4-factor model. The 4-factor model fit better than the 3-factor model ($\chi^2_{\text{difference}}(19) = 126.54, p < .001$). Additionally, the 4-factor model provided the best fit based on the other model indices. In the 4-factor model, both the CFI and TLI are greater than .95 (indicating good fit) and slightly higher than the CFI and TLI of the 3-factor model. Similarly, in the 4-factor model, both the RMSEA and SRMR are less than .08

(indicating good fit) and slightly lower than the RMSEA and SRMR of the 3-factor model.

Table 2

Dark Tetrad at Work: EFA Model Comparisons

Model	χ^2	<i>df</i>	CFI >.95	TLI >.95	RMSEA <.08	SRMR <.08
3 factors	360.82	168	.96	.95	.05	.03
4 factors	234.28	149	.98	.98	.04	.02

Note. $N=414$; CFI = comparative fit index, TLI = Tucker-Lewis index, RMSEA = root mean square error of approximation, SRMR = standardized root mean square residual

The narcissism subscale had a Cronbach's alpha of 0.78, and the Machiavellianism subscale had a Cronbach's alpha of 0.81. The psychopathy items had an alpha of 0.88 and the sadism items had an alpha of 0.94.

Table 3

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 centre 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 behaviour 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

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

Correlations: Construct validity. Correlations were conducted as an initial assessment of the construct and criterion-related validity of the scale. 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 4).

As expected, the DTW narcissism subscale is most strongly correlated with the SD3 narcissism subscale and the DTW Machiavellianism subscale is most strongly correlated with the SD3 Machiavellianism subscale. Based on the Pearson's r (uncorrected) correlations, the DTW psychopathy subscale is most strongly correlated with the DTW sadism subscale. However, based on the disattenuated correlations (which controls for measurement error), the DTW psychopathy subscale is most strongly correlated with the SD3 psychopathy subscale. The DTW sadism subscale appears to be more highly correlated with the SD3 psychopathy subscale but is also highly correlated with the VAST scale (especially direct sadism). However, the SD3 psychopathy scale is also highly correlated with the VAST direct sadism subscale indicating that the strong relationship between psychopathy and sadism exists in the established subscales as well.

Table 4

Time 1 Descriptives and Correlations Between the New Dark Tetrad at Work Scale (DTW), the Short Dark Triad (SD3), and the Varieties of Sadistic Tendencies (VAST)

		Mean	SD	Dark Tetrad at Work				SD3			VAST
				N	M	P	S	N	M	P	V-S
DTW	Narcissism	3.11	.69								
	Machiavellianism	2.73	.93	.15**							
	Psychopathy	1.61	.70	.26***	.49***						
	Sadism	1.44	.74	.31***	.44***	.82***					
SD3	Narcissism	2.74	.60	.65***	.18***	.26***	.30***				
	Machiavellianism	2.83	.71	.26***	.56***	.52***	.54***	.35***			
	Psychopathy	1.79	.65	.29***	.41***	.72***	.76***	.38***	.60***		
VAST	Vicarious Sadism	2.00	.76	.34***	.26***	.49***	.54***	.34***	.42***	.61***	
	Direct Sadism	1.64	.59	.30***	.38***	.67***	.73***	.29***	.50***	.77***	.61**

Note. N=416; top value = uncorrected correlation, bottom value = disattenuated correlation; * < .05, ** < .01, *** < .001

Correlations: 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 (Table 5).

All the Dark Tetrad trait of both the Dark Tetrad at Work and the established scales are positively related with each of the workplace deviance measures (i.e. CWB-I, CWB-O, instigated incivility, and bullying behaviour). All of the Dark Tetrad traits from both the new and established scales except for narcissism were negatively related to OCB-I. DTW narcissism was positively related to OCB-I while the SD3 narcissism was unrelated. Similarly, the same Dark Tetrad traits from both the new and established scales were negatively related to OCB-O while both narcissism measures were unrelated to OCB-O. Both narcissism measures were positively linked to job satisfaction while both measures of Machiavellianism and psychopathy were negatively linked to job satisfaction. All measures of sadism (DTW sadism, and both VAST sadism measures) were unrelated to job satisfaction. Both narcissism measures were positively linked to all three forms of engagement (vigor, dedication, and absorption). Both Machiavellianism measures were negatively linked to vigor and dedication. However, only DTW Machiavellianism was (negatively) related to absorption. Somewhat similarly, both psychopathy measures were negatively linked to vigor and dedication but both unrelated to absorption. DTW sadism and VAST direct sadism were negatively linked to dedication but unrelated to the other forms of engagement (vigor and absorption). VAST vicarious sadism was unrelated to all forms of engagement. Finally, 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.

Table 5

Time 1 Correlations between the Dark Tetrad and Workplace Measures

	Dark Tetrad at Work				SD3			VAST	
	N	M	P	S	N	M	P	V-S	D-S
CWB-I	.28***	.37***	.60***	.70***	.27***	.49***	.65***	.52***	.72***
CWB-O	.24***	.34***	.57***	.64***	.22***	.47***	.59***	.45***	.65***
Instigated incivility	.23***	.34***	.55***	.65***	.23***	.48***	.59***	.41***	.63***
Bullying behaviour	.29***	.36***	.57***	.67***	.26***	.46***	.59***	.44***	.67***
OCB-I	.20***	-.17**	-.29***	-.20***	.06	-.20***	-.32***	-.10*	-.23***
OCB-O	-.03	-.26***	-.52***	-.47***	-.06	-.37***	-.54***	-.34***	-.50***
Job satisfaction	.31***	-.35***	-.16**	-.09	.16**	-.18***	-.14**	.00	-.07
Engagement (vigor)	.39***	-.18***	-.10*	-.03	.32***	-.10*	-.11*	.04	-.09
Engagement (dedication)	.39***	-.24***	-.16***	-.10*	.28***	-.15**	-.19***	-.03	-.11**
Engagement (absorption)	.40***	-.11*	-.04	-.01	.27***	-.03	-.07	.03	-.04
Affective commitment	.26***	-.34***	-.25***	-.19**	.10*	-.26***	-.28***	-.12*	-.23***

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

Predictive validity: Linear regressions. Multiple linear regressions were conducted using the Dark Tetrad traits as the predictors and the workplace variables as the outcomes to further assess criterion-related validity. Together, the Dark Tetrad at Work explained between 42 and 50% of the variance in workplace deviance variables and between 17% and 28% of the variance in positive workplace behaviours and outcomes (Tables 6a-6b).

Workplace deviance. Overall, the Dark Tetrad at Work explained 50% of the variance in CWB-I ($R^2=.50$, $F(4,411)=103.04$, $p<.001$). Specifically, the unique effect of sadism ($\beta=.61$, $p<.001$, $sr^2=.12$) significantly predicted CWB-I but the unique effects of narcissism ($\beta=.07$, $p=.05$, $sr^2=.01$), Machiavellianism ($\beta=.07$, $p=.10$, $sr^2=.003$), and psychopathy did not ($\beta=.05$, $p=.43$, $sr^2=.001$). Individuals high in sadism are more likely to engage in counterproductive work behaviours directed at individuals than those low in sadism.

Overall, the Dark Tetrad at Work explained 42% of the variance in CWB-O ($R^2=.42$, $F(4,411)=74.99$, $p<.001$). Specifically, the unique effect of sadism ($\beta=.51$, $p<.001$, $sr^2=.08$) significantly predicted CWB-O but the unique effects of narcissism ($\beta=.04$, $p=.28$, $sr^2=.002$), Machiavellianism ($\beta=.05$, $p=.24$, $sr^2=.002$), and psychopathy did not ($\beta=.11$, $p=.09$, $sr^2=.004$). Individuals high in sadism are more likely to engage in counterproductive work behaviours directed at the organization than those low in sadism.

Overall, the Dark Tetrad at Work explained 42% of the variance in instigated incivility ($R^2=.42$, $F(4,411)=74.05$, $p<.001$). Specifically, the unique effect of sadism ($\beta=.58$, $p<.001$, $sr^2=.11$) significantly predicted instigated incivility but the unique effects

of narcissism ($\beta=.03, p=.44, sr^2=.001$), Machiavellianism ($\beta=.06, p=.16, sr^2=.003$), and psychopathy did not ($\beta=.03, p=.62, sr^2=.0003$). Individuals high in sadism are more likely to engage in incivility than those low in sadism.

Overall, the Dark Tetrad at Work explained 46% of the variance in bullying behaviour ($R^2=.46, F(4,411)=88.52, p<.001$). Specifically, the unique effects of narcissism ($\beta=.09, p<.05, sr^2=.01$) and sadism ($\beta=.59, p<.001, sr^2=.11$) significantly predicted bullying behaviour but the unique effects of Machiavellianism ($\beta=.08, p=.06, sr^2=.005$), and psychopathy did not ($\beta=.02, p=.72, sr^2=.0002$). Individuals high in narcissism and/or sadism are more likely to engage in (or at least, report engaging in) bullying behaviour than those low in narcissism and/or sadism.

Positive workplace behaviours and outcomes. Overall, the Dark Tetrad at Work explained 17% of the variance in OCB-I ($R^2=.17, F(4,411)=20.28, p<.001$). Specifically, the unique effects of narcissism ($\beta=.29, p<.001, sr^2=.08$) and psychopathy ($\beta=-.36, p<.001, sr^2=.04$) significantly predicted OCB-I but the unique effects of Machiavellianism ($\beta=-.04, p=.43, sr^2=.001$), and sadism did not ($\beta=.02, p=.83, sr^2=.0001$). Individuals high in narcissism and low in psychopathy are more likely to engage in organizational citizenship behaviour directed at individuals than those low in narcissism and/or high in sadism.

Overall, the Dark Tetrad at Work explained 28% of the variance in OCB-O ($R^2=.28, F(4,411)=40.78, p<.001$). Specifically, the unique effects of narcissism ($\beta=.13, p<.01, sr^2=.01$), psychopathy ($\beta=-.41, p<.001, sr^2=.05$), and sadism ($\beta=-.17, p<.05, sr^2=.01$) significantly predicted OCB-O but the unique effect of Machiavellianism ($\beta=.00$,

$p=.99$, $sr^2=.00$) did not. Individuals high in narcissism and low in psychopathy and sadism are more likely to engage in organizational citizenship behaviour directed at the organization than those low in narcissism and high in psychopathy and sadism.

Overall, the Dark Tetrad at Work explained 26% of the variance in job satisfaction ($R^2=.26$, $F(4,410)=36.62$, $p<.001$). Specifically, the unique effects of narcissism ($\beta=.38$, $p<.001$, $sr^2=.13$) and Machiavellianism ($\beta=-.37$, $p<.001$, $sr^2=.11$) significantly predicted job satisfaction but the unique effects of psychopathy ($\beta=-.14$, $p=.08$, $sr^2=.01$), and sadism did not ($\beta=.07$, $p=.32$, $sr^2=.002$). Individuals high in narcissism and low in Machiavellianism are more likely to have more job satisfaction than those low in narcissism and/or high in Machiavellianism.

Overall, the Dark Tetrad at Work explained 22% of the variance in the vigor component of engagement ($R^2=.22$, $F(4,411)=28.91$, $p<.001$). Specifically, the unique effects of narcissism ($\beta=.44$, $p<.001$, $sr^2=.18$), Machiavellianism ($\beta=-.18$, $p<.001$, $sr^2=.02$), and psychopathy ($\beta=-.17$, $p<.05$, $sr^2=.01$) significantly predicted vigor but the unique effect of sadism ($\beta=.05$, $p=.55$, $sr^2=.001$) did not. Individuals high in narcissism and low in Machiavellianism and psychopathy are more likely to be more engaged (vigor) than those low in narcissism and high in Machiavellianism and psychopathy.

Similarly, the Dark Tetrad at Work explained 27% of the variance in the dedicated component of engagement ($R^2=.27$, $F(4,411)=37.04$, $p<.001$). Specifically, the unique effects of narcissism ($\beta=.47$, $p<.001$, $sr^2=.20$), Machiavellianism ($\beta=-.23$, $p<.001$, $sr^2=.04$), and psychopathy ($\beta=-.16$, $p<.05$, $sr^2=.01$) significantly predicted dedication but the unique effect of sadism ($\beta=.02$, $p=.83$, $sr^2=.00$) did not. Individuals high in narcissism

and low in Machiavellianism and psychopathy are more likely to be more engaged (dedicated) than those low in narcissism and high in Machiavellianism and psychopathy.

The Dark Tetrad at Work explained 19% of the variance in the absorption component of engagement ($R^2=.19$, $F(4,411)=24.56$, $p<.001$). Specifically, the unique effects of narcissism ($\beta=.44$, $p<.001$, $sr^2=.18$) and Machiavellianism ($\beta=-.18$, $p<.001$, $sr^2=.01$) significantly predicted absorption but the unique effects of psychopathy ($\beta=-.08$, $p=.29$, $sr^2=.002$) and sadism ($\beta=-.00$, $p=.96$, $sr^2=.00$) did not. Individuals high in narcissism and low in Machiavellianism are more likely to be more engaged (absorption) than those low in narcissism and high in Machiavellianism.

Finally, the Dark Tetrad at Work explained 25% of the variance in affective commitment ($R^2=.25$, $F(4,411)=33.41$, $p<.001$). Specifically, the unique effects of narcissism ($\beta=.36$, $p<.001$, $sr^2=.11$), Machiavellianism ($\beta=-.30$, $p<.001$, $sr^2=.07$), and psychopathy ($\beta=-.19$, $p<.05$, $sr^2=.01$) significantly predicted affective commitment but the unique effect of sadism ($\beta=-.01$, $p=.88$, $sr^2=.00$) did not. Individuals high in narcissism and low in Machiavellianism and psychopathy are more likely to be more affectively committed than those low in narcissism and high in Machiavellianism and psychopathy.

Table 6a

Results of the linear regression analyses

Predictor	Standardized Betas			
	CWB-I	CWB-O	Incivility	Bullying
DTW-Narcissism	.07	.04	.03	.09*
DTW-Machiavellianism	.07	.05	.06	.08
DTW-Psychopathy	.05	.11	.03	.02
DTW-Sadism	.61***	.51***	.58***	.59***
R ²	.50***	.42***	.42***	.46***

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

Table 6b

Results of the linear regression analyses

Predictor	Standardized Betas						
	OCB-I	OCB-O	Job satisfaction	Engagement (vigor)	Engagement (dedication)	Engagement (absorption)	Affective commitment
DTW-Narcissism	.29***	.13**	.38***	.44***	.47***	.44***	.36***
DTW-Machiavellianism	-.04	.00	-.37***	-.18***	-.23***	-.13*	-.30***
DTW-Psychopathy	-.36***	-.41***	-.14	-.17*	-.16*	-.08	-.19*
DTW-Sadism	.02	-.17*	.07	.05	-.02	-.00	-.01
R ²	.17***	.28***	.26***	.22***	.27***	.19***	.25***

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

Incremental validity: Hierarchical regressions. Hierarchical multiple regressions were conducted to determine if the Dark Tetrad at Work scale has incremental validity over the existing non-contextual Dark Triad and sadism scales. Together, the Dark 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 behaviours and outcomes (Tables 7a-7b).

Workplace Deviance. At Step One, social desirability ($\beta=-.08, p<.05, sr^2=.01$), SD3 Machiavellianism ($\beta=.09, p<.05, sr^2=.005$), SD3 psychopathy ($\beta=.12, p<.05, sr^2=.004$), VAST vicarious sadism ($\beta=.10, p<.05, sr^2=.01$), and VAST direct sadism ($\beta=.50, p<.001, sr^2=.09$) uniquely predicted CWB-I ($R^2=.56, F(6,409)=85.70, p<.001$). With the addition of the Dark Tetrad at Work scale, only VAST direct sadism ($\beta=.39, p<.001, sr^2=.05$) remained significant. At Step Two, DTW sadism ($\beta=.36, p<.001, sr^2=.03$) uniquely predicted CWB-I ($\Delta R^2=.04, F(4,405)=10.25, p<.001$) above and beyond the established trait measures.

At Step One, social desirability ($\beta=-.17, p<.001, sr^2=.02$), SD3 Machiavellianism ($\beta=.11, p<.05, sr^2=.01$), and VAST direct sadism ($\beta=.44, p<.001, sr^2=.07$) uniquely predicted CWB-O ($R^2=.48, F(6,409)=62.82, p<.001$). With the addition of the Dark Tetrad at Work scale social desirability ($\beta=-.16, p<.001, sr^2=.02$) and VAST direct sadism ($\beta=.34, p<.001, sr^2=.04$) remained significant. At Step Two, DTW sadism ($\beta=.29, p<.001, sr^2=.02$) uniquely predicted CWB-O ($\Delta R^2=.03, F(4,405)=7.16, p<.001$) above and beyond the established trait measures.

At Step One, social desirability ($\beta=-.08, p<.05, sr^2=.01$), SD3 Machiavellianism ($\beta=.15, p<.01, sr^2=.01$), SD3 psychopathy ($\beta=.17, p<.01, sr^2=.01$), and VAST direct sadism ($\beta=.41, p<.001, sr^2=.06$) uniquely predicted instigated incivility ($R^2=.45, F(6,409)=55.62, p<.001$). Only SD3 Machiavellianism ($\beta=.13, p<.05, sr^2=.01$) and VAST direct sadism ($\beta=.31, p<.001, sr^2=.02$) remained significant after the addition of the Dark Tetrad at Work. At Step Two, DTW sadism ($\beta=.37, p<.001, sr^2=.03$) uniquely predicted instigated incivility ($\Delta R^2=.04, F(4,405)=8.19, p<.001$) above and beyond the established trait measures.

At Step One, social desirability ($\beta=-.11, p<.01, sr^2=.01$), SD3 Machiavellianism ($\beta=.10, p<.05, sr^2=.01$), and VAST direct sadism ($\beta=.50, p<.001, sr^2=.09$) uniquely predicted bullying behaviour ($R^2=.47, F(6,409)=63.34, p<.001$). With the addition of the Dark Tetrad at Work scale, social desirability ($\beta=-.09, p<.05, sr^2=.01$) and VAST direct sadism ($\beta=-.15, p<.001, sr^2=.05$) remained significant. At Step Two, DTW sadism ($\beta=.39, p<.001, sr^2=.04$) uniquely predicted bullying behaviour ($\Delta R^2=.05, F(4,405)=11.58, p<.001$) above and beyond the established trait measures.

Positive workplace behaviours and outcomes. At Step One, SD3 narcissism ($\beta=.20, p<.001, sr^2=.03$), SD3 psychopathy ($\beta=-.45, p<.001, sr^2=.06$), and VAST vicarious sadism ($\beta=.12, p<.05, sr^2=.01$) uniquely predicted OCB-I ($R^2=.15, F(6,409)=11.97, p<.001$). Only SD3 psychopathy ($\beta=-.37, p<.001, sr^2=.04$) remained significant after the addition of the Dark Tetrad at Work. At Step Two, 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.

At Step One, social desirability ($\beta=.14, p<.01, sr^2=.02$), SD3 narcissism ($\beta=.17, p<.001, sr^2=.02$), SD3 psychopathy ($\beta=-.37, p<.001, sr^2=.04$), and VAST direct sadism ($\beta=-.20, p<.01, sr^2=.01$) uniquely predicted OCB-O ($R^2=.36, F(6,409)=37.50, p<.001$). Only social desirability ($\beta=.14, p<.01, sr^2=.02$), SD3 psychopathy ($\beta=-.28, p<.001, sr^2=.02$), and VAST direct sadism ($\beta=-.18, p<.05, sr^2=.01$) remained significant after the addition of the Dark Tetrad at Work. At Step Two, DTW psychopathy ($\beta=-.28, p<.001, sr^2=.02$) uniquely predicted OCB-O ($\Delta R^2=.03, F(4,405)=4.69, p<.01$) above and beyond the established trait measures.

At Step One, social desirability ($\beta=.12, p<.05, sr^2=.01$), SD3 narcissism ($\beta=.25, p<.001, sr^2=.05$), SD3 Machiavellianism ($\beta=-.17, p<.01, sr^2=.02$), and SD3 psychopathy ($\beta=-.20, p<.05, sr^2=.01$) uniquely predicted job satisfaction ($R^2=.11, F(6,408)=8.76, p<.001$). Only social desirability ($\beta=.11, p<.05, sr^2=.01$) remained significant after the addition of the Dark Tetrad at Work. At Step Two, DTW narcissism ($\beta=.37, p<.001, sr^2=.08$) and DTW Machiavellianism ($\beta=-.35, p<.001, sr^2=.08$) uniquely predicted job satisfaction ($\Delta R^2=.17, F(4,404)=23.38, p<.001$) above and beyond the established trait measures.

At Step One, social desirability ($\beta=.11, p<.05, sr^2=.01$), SD3 narcissism ($\beta=.41, p<.001, sr^2=.14$), and SD3 psychopathy ($\beta=-.20, p<.05, sr^2=.01$) uniquely predicted the vigor component of engagement ($R^2=.19, F(6,409)=15.75, p<.001$). Social desirability ($\beta=.11, p<.05, sr^2=.01$), SD3 narcissism ($\beta=.20, p<.01, sr^2=.02$), and SD3 psychopathy

($\beta=-.18, p<.05, sr^2=.01$) all remained significant after the addition of the Dark Tetrad at Work. At Step Two, DTW narcissism ($\beta=.33, p<.001, sr^2=.06$), DTW Machiavellianism ($\beta=-.14, p<.01, sr^2=.02$), and DTW sadism ($\beta=.18, p<.05, sr^2=.01$) uniquely predicted vigor ($\Delta R^2=.09, F(4,405)=11.83, p<.001$) above and beyond the established trait measures.

At Step One, SD3 narcissism ($\beta=.41, p<.001, sr^2=.14$), SD3 Machiavellianism ($\beta=-.13, p<.05, sr^2=.01$), and SD3 psychopathy ($\beta=-.27, p<.01, sr^2=.02$) uniquely predicted the dedication component of engagement ($R^2=.20, F(6,409)=16.68, p<.001$). SD3 narcissism ($\beta=.16, p<.01, sr^2=.01$) and SD3 psychopathy ($\beta=-.24, p<.01, sr^2=.01$) remained significant after the addition of the Dark Tetrad at Work. At Step Two, DTW narcissism ($\beta=.39, p<.001, sr^2=.08$) and DTW Machiavellianism ($\beta=-.19, p<.001, sr^2=.02$) uniquely predicted dedication ($\Delta R^2=.12, F(4,405)=17.26, p<.001$) above and beyond the established trait measures.

At Step One, SD3 narcissism ($\beta=.35, p<.001, sr^2=.10$), and SD3 psychopathy ($\beta=-.21, p<.05, sr^2=.01$) uniquely predicted the absorption component of engagement ($R^2=.12, F(6,409)=9.43, p<.001$). Only SD3 psychopathy ($\beta=-.19, p<.05, sr^2=.01$) remained significant after the addition of the Dark Tetrad at Work. At Step Two, DTW narcissism ($\beta=.39, p<.001, sr^2=.08$) and DTW Machiavellianism ($\beta=-.12, p<.05, sr^2=.01$) uniquely predicted absorption ($\Delta R^2=.22, F(4,405)=12.86, p<.001$) above and beyond the established trait measures.

At Step One, social desirability ($\beta=.12, p<.05, sr^2=.01$), SD3 narcissism ($\beta=.25, p<.001, sr^2=.05$), SD3 Machiavellianism ($\beta=-.17, p<.01, sr^2=.02$), and SD3 psychopathy

($\beta=-.24, p<.01, sr^2=.02$) uniquely predicted affective commitment ($R^2=.16, F(6,409)=13.35, p<.001$). Social desirability ($\beta=.11, p<.05, sr^2=.01$) and SD3 psychopathy ($\beta=-.19, p<.05, sr^2=.01$) remained significant after the addition of the Dark Tetrad at Work. At Step Two, 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.

Table 7a

Results of the hierarchical regression analyses

Predictor	Final Standardized Betas			
	CWB-I	CWB-O	Incivility	Bullying
Step 1				
Social Desirability	-.07	-.16***	-.07	-.09*
SD3-Narcissism	-.01	-.04	-.01	-.00
SD3-Machiavellianism	.06	.09	.13*	.05
SD3-Psychopathy	.00	-.03	.05	-.04
VAST-Vicarious Sadism	.08	.04	-.04	-.00
VAST-Direct Sadism	.39***	.34***	.31***	.37***
ΔR^2	.56***	.48***	.45***	.47***
Step 2				
DTW-Narcissism	.03	.03	.01	.06
DTW-Machiavellianism	.02	-.02	-.02	.03
DTW-Psychopathy	-.06	.02	-.06	-.06
DTW-Sadism	.36***	.29***	.37***	.39***
ΔR^2	.04***	.03***	.04***	.05***
Total R^2	.60***	.51***	.49***	.52***

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

Table 7b

Results of the hierarchical regression analyses

Predictor	Final Standardized Betas						
	OCB-I	OCB-O	Job satisfaction	Engagement (vigor)	Engagement (dedication)	Engagement (absorption)	Affective commitment
Step 1							
Social Desirability	-.01	.14**	.11*	.11*	.07	.07	.11*
SD3-Narcissism	.01	.10	.00	.20**	.16**	.11	.00
SD3-Machiavellianism	-.04	-.05	.00	-.04	-.04	.02	-.05
SD3-Psychopathy	-.37***	-.28***	-.13	-.18*	-.24**	-.19*	-.19*
VAST-Vicarious Sadism	.07	-.02	.01	.04	-.00	-.01	-.03
VAST-Direct Sadism	-.02	-.18*	.06	-.09	-.08	-.06	-.07
ΔR^2	.15***	.36***	.11***	.19***	.20***	.12***	.16***
Step 2							
DTW-Narcissism	.30***	.10	.37***	.33***	.39***	.39***	.38***
DTW-Machiavellianism	-.01	.06	-.35***	-.14**	-.19***	-.12*	-.25***
DTW-Psychopathy	-.26**	-.28***	-.11	-.09	-.07	-.02	-.11
DTW-Sadism	.19*	.09	.13	.18*	.15	.12	.17*
ΔR^2	.07***	.03**	.17***	.09***	.12***	.22***	.13***
Total R^2	.22***	.38***	.28***	.27***	.31***	.10***	.29***

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

Time 2

The same sample of working adults were surveyed a second time approximately two months later. This second data collection allowed the current study to reassess the new scale and its factor traits. The longitudinal data allowed this study to assess the test-retest reliability (stability) of the Dark Tetrad at Work measure.

Method

Participants. Utilizing a longitudinal design, participants from Study 1 were recruited to complete a second survey two months later. Two hundred and twelve participants (69% female) of the original 416 participated at Time 2.¹ The age of the participants ranged between 22 and 78, with a mean of 43.07 years. Organizational tenure ranged between .33 (4 months) and 43 years, with a mean of 10.12 years, with 24.3% indicating they work in some sort of managerial position.

Measures and Procedure. At Time 2, participants completed the same survey and measures as described previously for Time 1. See Table 8 for Time 2 Cronbach's alpha values.

¹ Only 212 individuals were contacted by the survey firm at Time 1 (i.e. this is not a 50% response rate)

Table 8
Time 2 Cronbach's alphas

Scale	α
DTW narcissism	.76
DTW Machiavellianism	.80
DTW psychopathy	.88
DTW sadism	.92
SD3 narcissism	.69
SD3 Machiavellianism	.85
SD3 psychopathy	.82
VAST vicarious sadism	.80
VAST direct sadism	.81

Results

CFA. All model tests were based on the covariance matrix and used ML estimation as implemented in MPlus 7.4. Fit indices for the models tested are presented in Table 9. A 1-factor model (i.e. all 22 Dark Tetrad items on one factor), 3-factor model (i.e. narcissism, Machiavellianism, and psychopathy-sadism), and 4-factor model (i.e. narcissism, Machiavellianism, psychopathy, and sadism) were tested. The fit indices for the Dark Tetrad at Work suggest that the model with the best fit is the 4-factor model. The 4-factor model fit better than both the 3-factor model ($\chi^2_{difference}(3) = 32.08, p < .001$) and 1-factor model ($\chi^2_{difference}(6) = 365.63, p < .001$). However, while the 4-factor model provided the best fit, it did not quite reach adequate model fit.

Table 9
Dark Tetrad at Work: CFA Model Comparisons

Model	χ^2	<i>df</i>	CFI >.95	TLI >.95	RMSEA <.08	SRMR <.08
1 factor	797.55	209	.75	.72	.12	.10
3 factors	464.00	206	.89	.88	.08	.08
4 factors	431.92	203	.90	.89	.08	.08

Note. $N=203$; CFI = comparative fit index, TLI = Tucker-Lewis index, RMSEA = root mean square error of approximation, SRMR = standardized root mean square residual

The fit indices for the SD3 and VAST scales suggest that the model with the best fit is the 5-factor model (one for each of the Triad and two for sadism- direct and vicarious). The 5-factor model fit better than both the 4-factor model ($\chi^2_{\text{difference}(4)} = 193.90, p < .001$), 3-factor model ($\chi^2_{\text{difference}(7)} = 238.06, p < .001$), and 1-factor model ($\chi^2_{\text{difference}(10)} = 543.91, p < .001$). However, while the 5-factor model provided the best fit, it did not provide a good model fit (see Table 10).

Table 10
SD3 and VAST: CFA Model Comparisons

Model	χ^2	<i>df</i>	CFI >.95	TLI >.95	RMSEA <.08	SRMR <.08
1 factor	2570.66	860	.59	.57	.10	.10
3 factors	2264.81	857	.66	.65	.09	.09
4 factors	2220.65	854	.67	.65	.09	.09
5 factors	2026.75	850	.72	.70	.09	.09

Note. $N=192$; CFI = comparative fit index, TLI = Tucker-Lewis index, RMSEA = root mean square error of approximation, SRMR = standardized root mean square residual

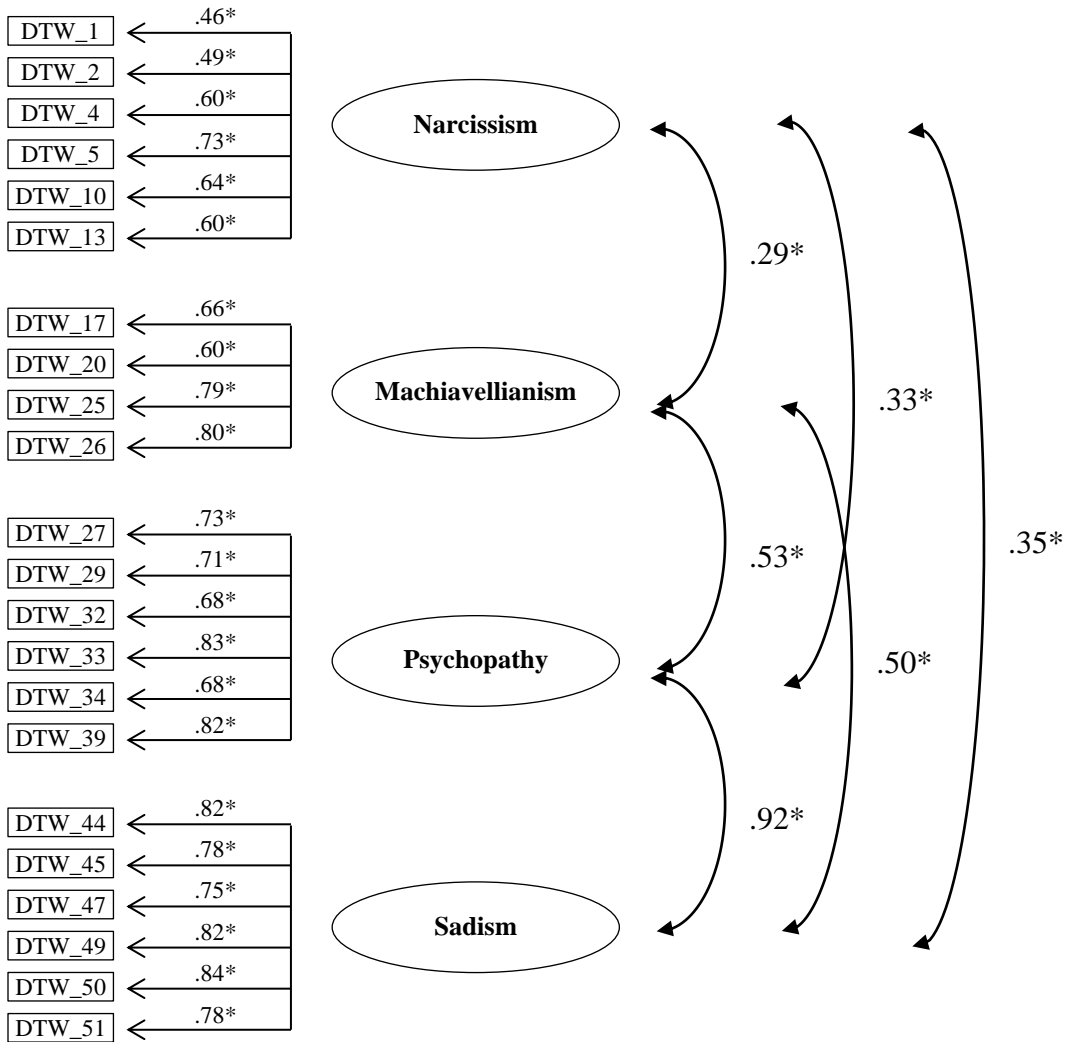


Figure 1. Scale factor standardized loadings and intercorrelations; *p<.05

Correlations. Correlations between the Dark Tetrad trait measures at Time 1 and Time 2 show that the Dark Tetrad at work (as well as the SD3 and the VAST) possesses test-retest reliability. Longitudinal uncorrected (Pearson's r) correlations ranged between .70 and .80 (see Table 11). In fact, every subscale except for the DTW sadism possessed a longitudinal disattenuated correlation of 1.00.

Table 11

Dark Tetrad Longitudinal Correlations

		Uncorrected correlation	Disattenuated correlation
DTW	Narcissism	.70***	1.00
	Machiavellianism	.70***	1.00
	Psychopathy	.80***	1.00
	Sadism	.70***	.80
SD3	Narcissism	.77***	1.00
	Machiavellianism	.71***	1.00
	Psychopathy	.71***	1.00
VAST	Vicarious Sadism	.80***	1.00
	Direct Sadism	.71***	1.00

Note. $N=209$; * < .05, ** < .01, *** < .001

Just like Time 1, based on correlations, all four Dark Tetrad at Work traits are positively related to each other and each trait from previously established scales (Table 12). As expected, the DTW narcissism is most strongly correlated with the SD3 narcissism and DTW Machiavellianism is most strongly correlated with SD3 Machiavellianism. Based on the Pearson's r correlations, the DTW psychopathy is most strongly correlated with DTW sadism. However, based on the disattenuated correlations

(which controls for scale variance), DTW psychopathy is most strongly correlated with DTW sadism as well as SD3 psychopathy. However, the SD3 psychopathy scale is also highly correlated with the VAST direct sadism subscale indicating that the strong relationship between psychopathy and sadism exists in the established subscales as well. Based on the Pearson's r correlations, DTW sadism is more highly correlated with DTW psychopathy. However, based on the disattenuated correlations, DTW sadism is most strongly correlated with VAST direct sadism.

Table 12

Time 2 Descriptives and Correlations Between the New Dark Tetrad at Work Scale (DTW), the Short Dark Triad (SD3), and the Varieties of Sadistic Tendencies (VAST)

		Mean	SD	Dark Tetrad at Work				SD3			VAST
				N	M	P	S	N	M	P	V-S
DTW	Narcissism	3.17	0.68								
	Machiavellianism	2.85	0.95	.25*** (.41)							
	Psychopathy	1.69	0.78	.33*** (.49)	.50*** (.71)						
	Sadism	1.47	0.73	.30*** (.43)	.46*** (.63)	.81*** (1.00)					
SD3	Narcissism	2.74	0.55	.53*** (1.00)	.23*** (.42)	.25*** (.41)	.25*** (.39)				
	Machiavellianism	2.85	0.73	.21** (.33)	.62*** (.91)	.52*** (.70)	.57*** (.73)	.35*** (.60)			
	Psychopathy	1.82	0.65	.26*** (.42)	.43*** (.66)	.75*** (1.00)	.71*** (.94)	.31*** (.55)	.56*** (.80)		
VAST	Vicarious Sadism	2.05	0.80	.31*** (.51)	.22*** (.34)	.41*** (.58)	.42*** (.56)	.27*** (.48)	.30*** (.44)	.54*** (.82)	
	Direct Sadism	1.64	0.59	.24*** (.39)	.40*** (.62)	.69*** (.97)	.75*** (1.00)	.22** (.40)	.51*** (.75)	.79*** (1.00)	.49** (.76)

Note. N=209; top value = uncorrected correlation, bottom value = disattenuated correlation; * < .05, ** < .01, *** < .001

Discussion

The purpose of this thesis 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 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 dimensions comprising the scale demonstrated acceptable Cronbach's alphas and substantial test-retest reliability 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.

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 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.

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. However, past research (e.g., Reidy, Zeichner, & Seibert, 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 behaviour). These relationships between the Dark Tetrad and higher levels of these deviant behaviours correspond with and add to past literature as well as aid in establishing the new scale's criterion-related validity (e.g., O'Boyle Forsyth, Banks, & McDaniel, 2012).

Interestingly, when examining the linear regressions using the Dark Tetrad at Work, only sadism emerged as a unique predictor of CWB-I, CWB-O, and incivility (and only narcissism and sadism uniquely predicted bullying behaviour). This general pattern also emerged in the hierarchical regressions with both the pre-existing measures and the new scales. Given these findings, the Dark Triad traits may not lead to deviant behaviours once the focus on hurting others (i.e. sadism) is removed. O'Boyle et al. found that when

controlling for narcissism and Machiavellianism, psychopathy negatively predicted counterproductive work behaviour. O'Boyle et al. postulated that psychopathy may not lead to counterproductive work behaviour 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). Consistent with this hypothesis, Thibault and Kelloway (2016) found that sadism moderated the prediction of outcomes from the Dark Triad. In general, when sadism was low measures of the Dark Triad were not associated with organizational deviance or interpersonal conflict behaviours.

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 behaviours 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 cancelled out due to narcissists' sense of entitlement where they may believe they that they do not own their organization and thus do not engage in behaviours that help their organization outside of their in-role job description. 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 behaviour (Zagenczyk, Restubog, Kiewitz, Kiazad, & Tang, 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 behaviours directed at both the organization and individuals. Sadism only uniquely predicted OCB-O while Machiavellianism failed to add any additional explained variance to either forms of citizenship behaviour. When partialling out the other dark traits, narcissists engage in both types of these behaviours (or at least report that they do) while those high in psychopathy avoid these behaviours.

Narcissism emerged as the strongest predictor of job satisfaction, engagement and (affective) commitment above the other traits in the Dark Tetrad at Work. In fact, DTW narcissism continued to be the strongest predictor of these outcomes after controlling for the pre-established scales. This would indicate that those high in narcissism are happier with their job, more engaged in their work, and more affectively committed to their organization than those low in narcissism. 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, Wee, & Li, 2015). These misconceptions may lead narcissists to actually feel satisfied, engaged, and committed.

Interestingly, while sadism was the strongest predictor of workplace deviance, it was the weakest predictor for all of the positive workplace behaviours and outcomes (except for OCB-O). These results suggest that while the desire to hurt others may lead an employee to engage in overt deviant behaviour, the same desire has less of an

influence on an employee's propensity to engage in citizenship behaviours directed at their organization, or his/her job satisfaction, work engagement or commitment to his/her organization.

The Dark Tetrad at Work scale added additional explained variance in every outcome measure above and beyond the existing measures, indicating not only predictive validity, but incremental validity over the pre-established measures. These results support the idea that a workplace-specific measure is better suited for organizational research.

The purpose of the current study 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 behaviours (Bennett & Robinson, 2000; Einarsen, Hoel, & Notelaers, 2009; Leiter & Day, 2013). The new Dark Tetrad at Work measure provided better prediction of organizational behaviours and outcomes than did the existing measures of the Dark Tetrad traits.

Potential Limitations

The current study relies on self-report and cross-sectional survey data thereby limiting causal inference. The use of sole-source data also 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. 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 analyses (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 ability.

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 behaviours harm the organization and/or its members and as such is seen in a negative light. However, those individuals who engage in these behaviours, especially in CWB, often have a reason for engaging in such behaviour (e.g., organizational justice; O'Neill, Lewis, & Carswell, 2011). Those high in narcissism are likely to feel like they deserve to engage in these behaviours 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).

As the items comprising the Dark Tetrad at Work are context-specific and sometimes behavioural markers of the specific traits, there is a potential overlap between the Dark Tetrad at Work scale items and certain outcome variables (e.g., sadism – ‘I never get tired of mocking my coworkers’ and CWB-I – ‘Made fun of someone at work’). While the correlations between the Dark Tetrad at Work and workplace measures were not extreme, the item overlap may have inflated these relationships. Given this potential overlap, future research should examine the distinction between the new personality scale and its workplace outcomes.

The Dark Tetrad at Work also contains items that would be consistent with the belief system of an individual high in one of these dark traits. While the new scale assumes these beliefs are markers of the specific trait, there is the potential that these workplace perceptions are true of the participants’ work environment. For example, two of the Machiavellianism items (i.e. ‘At work, people backstab each other to get ahead’ and ‘At work, people are only motivated by personal gain’) refer to Machiavellians’

cynical world view. As these items discuss others instead of the participant answering the question, there is a chance that these items are tapping into a different construct (for example, organizational culture). While this concern is somewhat mitigated by the high correlation between DTW Machiavellianism and SD3 Machiavellianism, further research should examine the relationship and distinction between the new measure's Machiavellianism scale and workplace outcomes relating to perceptions like organization culture.

Future Research

While the current study 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, I note that, although the four factor model provided the best fit, 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 the current study's data shows little or no change in the workplace outcomes over a two month period. Other reports of organizational behaviours 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 behaviour 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 behaviours. 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 behaviour. Complete trait profiles may also contribute to the personality literature.

Practical Implications

Testing measures in selection often include personality tests (e.g., the Big Five personality traits) or integrity tests (designed to predict dishonest behaviours at work),

especially when the objective is to predict counterproductive work behaviours 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 practices (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. This is especially important as, in their review, O'Boyle, Forsyth, Banks, and McDaniel (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.

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. The four dark traits were correlated with,

and predicted, workplace deviance as well as other organizationally-relevant behaviours 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.

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Appendix A: Dark Tetrad at Work Scale

Please rate your agreement or disagreement with each item using the following guidelines.

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 could do a better job at leading than my supervisor.
4. I demand respect at work.
5. People always pay attention to me at work.
6. I am important at work.
7. I don't like speaking out during meetings. (R)
8. My work performance is way above average.
9. I should be praised for my effort at work.
10. Others admire me at work.
11. I am constantly receiving compliments at work.
12. I enjoy showing off at work.
13. I like being the centre of attention at work.

Machiavellianism

14. I often manipulate my coworkers.
15. I am very strategic with my actions at work.
16. I am careful not to damage my work reputation.
17. I do not trust others at work.
18. At work, honesty is the best policy. (R)
19. I have taken revenge against someone at work.
20. At work, you always have to look out for number one.
21. I would never exploit someone to get my way. (R)
22. It is okay to lie to get ahead at work.
23. People at work have good intentions. (R)
24. At work, I can easily control the situation.
25. At work, people backstab each other to get ahead.
26. At work, people are only motivated by personal gain.

Psychopathy

27. I don't care if my work behaviour hurts others.
28. I have a lot of self-control at work. (R)

29. I have been told I act rashly at work.
30. I have never gotten into trouble at work. (R)
31. Much of what I do at work is because I'm bored.
32. When I'm at work, I don't tend to think about the consequences of my actions.
33. I like to mooch off my coworkers.
34. I'm rather insensitive at work.
35. I don't mind taking risks at work.
36. My actions have unintentionally hurt others at work.
37. I don't plan very far in advance for things at work.
38. I don't really have any long-term career goals.
39. I don't care if I accidentally hurt someone at work.
40. When something goes wrong at work, it's always someone else's fault.
41. I will take revenge against people at work who have wronged me.

Sadism

42. I get a kick out of making people cry at work.
43. I am purposely mean to coworkers.
44. I love to watch my boss yelling at my coworkers.
45. I can dominate others at work using fear.
46. I would be embarrassed if my supervisor criticized a coworker in front of me. (R)
47. It's funny to watch people make mistakes at work.
48. Humiliating people at work is disgusting. (R)
49. I never get tired of mocking my coworkers.
50. I would laugh if I saw someone get fired.
51. I have daydreams about hurting people I work with.
52. When I say mean things about someone I work with, it's usually to their face.
53. I would cringe if someone got hurt at work. (R)

Appendix B: Consent Form

The Dark Tetrad at Work

REB File 16-108

Tabatha Thibault and Dr. E. Kevin Kelloway

Department of Psychology

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INTRODUCTION

We invite you to take part in a research study being conducted by Tabatha Thibault as partial fulfillment of a Master's in Applied Psychology, under the supervision of Dr. Kevin Kelloway, Department of Psychology at Saint Mary's University in Nova Scotia, Canada. The investigators have no financial interest in conducting this research study. Participation in this study will in no way affect your work status.

PURPOSE OF THIS RESEARCH

The purpose of this study is to examine the relationships between personality, work behaviours, and feelings about work. This study seeks to develop a new measure of personality for the workplace that is both reliable and valid.

WHO IS ELIGIBLE TO TAKE PART? (OR WHO IS BEING INVITED TO PARTICIPATE)

Participants must be 18 years of age or older. Participants must also be able to read proficiently in English, as the survey will not be translated into other languages. Participants must also be employed as this survey is measuring employees' perceptions of their work environment and work behaviour.

WHAT DOES PARTICIPATING MEAN? (OR WHAT WILL I HAVE TO DO)

Agreeing to participate in this study involves visiting this survey link. This survey will ask you questions about your feelings, thoughts, and experiences involving your work and your workplace. The survey is expected to take approximately 30 minutes to complete. [*Survey 1 ONLY*: If you participate, you will be contacted by Qualtrics in approximately 2 months' time and asked to complete a second survey. Your participation in this first survey in no way obligates you to complete a second survey. However, we would appreciate your participation in both surveys.]

WHAT ARE THE POTENTIAL BENEFITS OF THIS RESEARCH?

There are no direct benefits to participating in this study; however, participation may lead to the development of a new measure that can be used to assess personality in the workplace.

WHAT ARE THE POTENTIAL RISKS FOR PARTICIPANTS?

There are minimum risks in participating in this research. We are aware that adverse work experiences can be stressful. Although the information you will be providing us through this survey is very important, if at any point in completing this survey causes your stress or anxiety levels to increase, we encourage you to stop filling out the survey.

HOW CAN I WITHDRAW FROM THIS STUDY?

You can stop your participation in this survey simply by exiting the survey. However, once you submit your responses at the end of the survey, we are unable to remove your data. This is because we are not collecting any identifying information and therefore we will not know which responses are yours.

WHAT WILL BE DONE WITH MY INFORMATION? WHO WILL HAVE ACCESS TO IT?

The information you provide in this study is anonymous and confidential. Ensuring that the information you provide us will be strictly anonymous and confidential is important to us. Data will be kept secure by using Qualtrics secure servers in Ireland, which cannot be accessed by third parties. The only individuals who will have access to the survey data will be the researchers named on this form and their research assistants at Saint Mary's University.

Once we have completed collecting individuals' responses to this survey, we intend to communicate the overall summary results of this survey in academic settings. However, we assure you that you will **not** be individually identified in any of these communications.

HOW CAN I GET MORE INFORMATION OR FIND OUT MORE ABOUT THIS STUDY?

For more information about this study, or to voice concerns or questions you may have regarding this research please contact one of the researchers at:

Tabatha Thibault
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Saint Mary's University
(902) 221-7993
Tabatha.Thibault@smu.ca

Kevin Kelloway
Department of Psychology
Saint Mary's University
(902) 491-8616
Kevin.Kelloway@smu.ca

Certification:

This research has been reviewed and approved by the Saint Mary's University Research Ethics Board. If you have any questions or concerns about ethical matters, you may contact Dr. Jim Cameron, Chair of the Saint Mary's University Research Ethics Board at ethics@smu.ca or 491-8653.

I understand what this study is about and appreciate the risks and benefits. I have had adequate time to think about this and have had the opportunity to ask questions. I understand that my participation is voluntary and that I can end my participation at any time.

I agree to participate in this study: Yes _____ No _____

Please print a copy of this form for your own records.

Appendix C: Additional Survey Scales

Short Dark Triad (SD3; Paulhus & Jones, 2014)

Please rate your agreement or disagreement with each item using the following guidelines.

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

Machiavellianism subscale

1. It's not wise to tell your secrets.
2. I like to use clever manipulation to get my way.
3. Whatever it takes, you must get the important people on your side.
4. Avoid direct conflict with others because they may be useful in the future.
5. It's wise to keep track of information that you can use against people later.
6. You should wait for the right time to get back at people.
7. There are things you should hide from other people because they don't need to know.
8. Make sure your plans benefit you, not others.
9. Most people can be manipulated.

Narcissism subscale

1. People see me as a natural leader.
2. I hate being the center of attention. (R)
3. Many group activities tend to be dull without me.
4. I know that I am special because everyone keeps telling me so.
5. I like to get acquainted with important people.
6. I feel embarrassed if someone compliments me. (R)
7. I have been compared to famous people.
8. I am an average person. (R)
9. I insist on getting the respect I deserve.

Psychopathy subscale

1. I like to get revenge on authorities.
2. I avoid dangerous situations. (R)
3. Payback needs to be quick and nasty.
4. People often say I'm out of control.
5. It's true that I can be mean to others.
6. People who mess with me always regret it.
7. I have never gotten into trouble with the law. (R)
8. I enjoy having sex with people I hardly know.

9. I'll say anything to get what I want.

Varieties of Sadistic Tendencies (VAST; Paulhus & Jones, 2015)

Please rate your agreement or disagreement on 5-point scales anchored by (1) strongly disagree and (5) strongly agree.

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

1. In video games, I like the realistic blood spurts.
2. I sometimes replay my favorite scenes from gory slasher films.
3. I enjoy watching cage fighting (or MMA), where there is no escape.
4. I sometimes look away in horror movies. (R)
5. In car-racing, it's the accidents that I enjoy most.
6. There's way too much violence in sports. (R)
7. I love the YouTube clips of people fighting.
8. I enjoy physically hurting people.
9. I would never purposely humiliate someone. (R)
10. I was purposely cruel to someone in high school.
11. I enjoy hurting my partner during sex (or pretending to).
12. I can dominate others using fear.
13. I enjoy making people suffer.
14. I enjoy mocking losers to their face.
15. I never said mean things to my parents. (R)
16. I enjoy tormenting animals – especially the nasty ones.

[Vicarious sadism = mean of items 1-7; Direct sadism = mean of items 8-16]

Counterproductive work behaviour (CWB; Bennett & Robinson, 2000)

0	1	2	3	4	5	6
Never	Sporadically	Now and Then	Regularly	Often	Very Often	Daily

CWB-I

1. Made fun of someone at work
2. Said something hurtful to someone at work
3. Made an ethnic, religious, or racial remark at work
4. Cursed at someone at work
5. Played a mean prank on someone at work
6. Acted rudely toward someone at work

7. Publicly embarrassed someone at work

CWB-O

1. Taken property from work without permission
2. Spent too much time fantasizing or daydreaming instead of working
3. Falsified a receipt to get reimbursed for more money than you spent on business expenses
4. Taken an additional or longer break than is acceptable at your workplace
5. Come in late to work without permission
6. Littered your work environment
7. Neglected to follow your boss's instructions
8. Intentionally worked slower than you could have worked
9. Discussed confidential company information with an unauthorized person
10. Used an illegal drug or consumed alcohol on the job
11. Put little effort into your work
12. Dragged out work in order to get overtime

Straightforward Incivility Scale - Instigated incivility (SIS; Leiter & Day, 2013)

Over the past month, how often have you behaved in the following ways?

0	1	2	3	4	5	6
Never	Sporadically	Now and then	Regularly	Often	Very often	Daily

1. You behaved without consideration for someone
2. You spoke rudely to someone
3. You behaved rudely to someone
4. You excluded someone
5. You ignored someone

Negative Acts Questionnaire-Revised (NAQ-R; Einarsen et al., 2009)

During the last 6 months, have you...

1	2	3	4	5
Never	Now and then	Monthly	Weekly	Daily

1. Withheld information which affects someone's performance
2. Humiliated or ridiculed someone in connection with their work
3. Spread gossip about someone
4. Ignored or excluded someone

5. Made insulting or offensive remarks about someone's person, attitudes, or private life
6. Shouted at someone or been angry at someone
7. Engaged in insulting behaviour
8. Hinted or signaled someone that they should quit their job
9. Repeatedly reminded someone of their errors or mistakes
10. Ignored or given a hostile reaction when someone approached you
11. Repeatedly criticised someone with respect to their work and effort
12. Ignored someone's opinions
13. Carried out practical jokes on someone you do not get along with
14. Made allegations against someone
15. Pressured someone to not claim something to which by right they are entitled to
16. Subjected someone to excessive teasing and sarcasm
17. Engaged in threats of violence or physical or actual abuse

Organizational citizenship behaviour (OCB; Williams & Anderson, 1991)

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

OCB-I

1. I help others who have been absent
2. I help others who have heavy work loads
3. I help orient new people even though it is not required
4. I assist my supervisor with his/her work (when not asked)
5. I take time to listen to co-workers' problems and worries
6. I take a personal interest in other employees
7. I pass along information to co-workers

OCB-O

8. My attendance at work is above the norm
9. I give advance notice when I am unable to come to work
10. I take undeserved work breaks (R)
11. A great deal of my time is spent on personal phone/email/other communications (R)
12. I complain about insignificant things at work (R)
13. I conserve and protect organizational property
14. I adhere to informal rules devised to maintain order

Job Satisfaction (Nagy, 2002)

1	2	3	4	5	6	7
Extremely dissatisfied						Extremely satisfied

Taking everything into consideration, how do you feel about your job as a whole?

Utrecht Work Engagement Scale (UWES-9; Schaufeli, Bakker, & Salanova, 2006)

The following 17 statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, cross the “0” (zero) in the space after the statement. If you have had this feeling, indicate how often you felt it by crossing the number (from 1 to 6) that best describes how frequently you feel that way.

0	1	2	3	4	5	6
Never	Almost never	Rarely	Sometimes	Often	Very often	Always

1. At my work, I feel bursting with energy.
2. I find the work that I do full of meaning and purpose.
3. Time flies when I am working.
4. At my job, I feel strong and vigorous.
5. I am enthusiastic about my job.
6. When I am working, I forget everything else around me.
7. My job inspires me.
8. When I get up in the morning, I feel like going to work.
9. I feel happy when I am working intensely.
10. I am proud of the work that I do.
11. I am immersed in my work.
12. I can continue working for very long periods at a time.
13. To me, my job is challenging.
14. I get carried away when I am working.
15. At my job, I am very resilient, mentally.
16. It is difficult to detach myself from my job.
17. At my work, I always persevere, even when things do not go well.

Affective Organizational Commitment (Meyer & Allen, 1991)

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

1. I would be very happy to spend the rest of my career with this organization.
2. I really feel as if this organization’s problems are my own.
3. I do not feel a strong sense of belonging to my organization. (R)
4. I do not feel emotionally attached to this organization. (R)
5. I do not feel like part of the family at my organization. (R)
6. This organization has a great deal of personal meaning for me.

Marlowe Crowne Social Desirability Scale Short Form (Reynolds, 1982)

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally

1. It is sometimes hard to go on with my work if I am not encouraged.
2. I sometimes feel resentful when I don’t get my way.
3. On a few occasions, I have given up doing something because I thought too little of my ability.
4. There have been times when I felt like rebelling against people in authority even when I knew they were right.
5. No matter who I’m talking to, I’m always a good listener.
6. There have been occasions when I took advantage of someone.
7. I’m always willing to admit it when I make a mistake.
8. I sometimes try to get even rather than to forgive and forget.
9. I am always courteous, even to people who are disagreeable.
10. I have never been irked when people expressed ideas very different from my own.
11. There have been times when I was quite jealous of the good fortune of others.
12. I am sometimes irritated by people who ask favors of me.
13. I have never deliberately said something that hurt someone’s feelings.

Demographics

Gender: Male____ Female____ Trans____
 Prefer not to answer____ Other_____

Age: ____

Organizational tenure: _____ years

(Please respond in years, and use decimal numbers for months

1 month = 0.08; 2 months = 0.17; 3 months = 0.25; 4 months = 0.33; 5 months = 0.42;
6 months = 0.5; 7 months = 0.58; 8 months = 0.67; 9 months = 0.75; 10 months = 0.83;
11 months = 0.92)

Job position: Manager / non-manager ____; specific position: _____

Industry: _____

Appendix D: Feedback Letter

The Dark Tetrad at Work

REB File 16-108**Tabatha Thibault and Dr. E. Kevin Kelloway****Department of Psychology, Saint Mary's University, Halifax, NS B3H 3C3**

Dear Participant,

Once again we thank you for your participation in this study. We appreciate your input. The aggregate data will be used to develop a new measure of the Dark Tetrad for the workplace. This information will inform the scientific literature on the relationships between the Dark Triad (sub-clinical narcissism, Machiavellianism, sub-clinical psychopathy, and everyday sadism) and allow the survey's use in future research.

If you are interested in receiving more information regarding the results of this study, or if you have any questions or concerns about this research, please contact us.

Additionally, if participating in this research has had any negative effects for you, please get in touch with us to report this adverse event. Alternatively, you may contact the Chair of the Research Ethics Board at SMU (Dr. Jim Cameron, ethics@smu.ca, (902) 491-8653) with any questions or concerns about ethical matters.

Regards,

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