Exploring the Dark side of conscientiousness. The relationship between conscientiousness and its potential derailers: perfectionism and narcissism

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Abstract

The current study aimed to identify what individual differences and situational variables cause derailment in highly conscientious people. Data were from a representative working sample of 716 participants across 27 industries, spanning both management and non-management roles. We tested four hypotheses with regard to bright- and dark-side personality traits and the relationship between boss/manager and staff member. Hierarchical linear regressions revealed mixed findings for Leader-Member Exchange (LMX) as a stressor. For maladaptive perfectionism it was confirmed, but not for adaptive perfectionism or narcissism. Results suggest introverts may be more prone to maladaptive perfectionism, even with higher levels of conscientiousness if there are lower LMX levels. Overall, the findings suggest selecting for conscientiousness alone and discounting other personality traits and situational variables may be detrimental in practice. Further implications are discussed alongside the study limitations.

Keywords Personality · Conscientiousness · Extraversion · Dark side · Perfectionism · Narcissism · LMX

Introduction

The Big Five model has been the primary focus of personality research across organizational psychology (Barrick et al., 2001). There is an abundance of research linking personality to academic success (Poropat, 2009), career success (Judge et al., 1999), job performance (Hogan & Holland, 2003; Salgado, 1997), leadership emergence (Judge et al., 2002) as well as health related outcomes (Bogg & Roberts, 2004).

Meta-analyses also confirm this, citing conscientiousness as the most highly correlated trait with these outcomes (Sackett & Walmsley, 2014): estimates of correlations are from $r = .20$ to 0.30 (Hurtz & Donovan, 2000). Conscientiousness is often used as a proxy for motivation as individuals with higher scores on this trait are more likely to exert more effort and be proactive (Barrick et al., 1993), as well as be more self-disciplined and persevere in comparison to those scoring lower (Roberts et al., 2005).

Dark side personality

There is now a large and growing literature on what have been called the dark-side traits. These are essentially subclinical manifestations of the personality disorders of which some like Narcissism, Psychopathy and Obsessive-Compulsive Disorder (OCD) have attracted most attention. They are often considered as "derailers" in the sense that they are related to a range of negative behaviours in the work-place (Hogan et al., 2011). There exist many measures of these traits, some of which, like the Hogan Development Survey (HDS) measure all dark-side traits, while others measure just one trait/disorder at a time. The HDS measures eleven dark-side traits changing labels from clinical to sub-clinical: hence narcissistic is called bold, psychopathy mischievous and histrionic colourful.

Organizations usually focus on hiring highly conscientious individuals. However, there are instances where

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extreme scores can be detrimental: recent research looking into this idea that there may be a dark side to bright side traits (Judge & LePine, 2007; McCord et al., 2014; Pierce & Aguinis, 2013; Smith et al., 2018). These studies suggest there may be a 'too-much-of-a-good-thing effect', whereby excessive scores of personality traits relate to negative outcomes (Widiger et al., 2002). Others within the literature suggest dark side personality better seen as derailment, whereby stress is most often the trigger for the specified negative outcome (Hogan et al., 2011).

To understand causes of stress, this study draws on the Job Demands-Resources (JD-R) model (Bakker & Demrouti, 2007), which has strong longitudinal and meta-analytic support in the literature (Lesener et al., 2019). JD-R views stress as arising from an imbalance between the two variables: job demands and job resources. *Job demands* are described by Demerouti et al., (2001, p. 501) as "physical, social, or organizational aspects of the job that require sustained physical or mental effort and are therefore associated with certain physiological and psychological costs". Common examples may include time and work pressure, role conflicts, or quantitative workload. *Job resources* are "those physical, psychological, social, or organisational aspects of the job that either/or (1) reduce job demands and the associated physiological and psychological costs; (2) are functional in achieving work goals; (3) stimulate personal growth, learning and development" (Demerouti et al., 2001, p. 501).

Dark side of conscientiousness

Conscientiousness has been shown to have a curvilinear relationship with performance, task performance, Organizational Citizenship Behaviours (OCB) and Counterproductive Work Behaviours (CWB) (Carter et al., 2016; Le et al., 2011). CWB is a construct that covers a range of acts or behaviors, such as withholding effort, absenteeism, interpersonal aggression, and theft which are harmful for organizations and their stakeholders (Bennett & Robinson, 2000). Several different categorizations and measurers of counterproductive behavior exists.

Other findings by Martocchio and Judge (1997) also posit how conscientiousness can lead to impaired learning via self-deception and self-efficacy. Interestingly, Boyce et al. (2010) longitudinal study of 9,570 participants also found higher levels of conscientiousness can result in significantly lower life satisfaction following unemployment, because conscientious people seek out a sense of personal accomplishment that work provides. They also value rules and structure to their lives usually provided in the workplace.

Furnham (2017) found a significant relationship between higher conscientiousness scores and higher scores on the dark side trait *Diligence* on the HDS, which is relates to perfectionism. Diligence is essentially a sub-clinical manifestation of OCD. Evidence in the same study suggests a relationship with the *Bold*, scale from the HDS also known as narcissism. If conscientiousness is characterised by detail-orientation and ambition, then derailers would logically be highly perfectionistic and narcissistic.

Conscientiousness and perfectionism

Conscientiousness' link with perfectionism stems from simple lexical association, often with words such as 'stringent', 'overbookish', 'overcautious', 'tight' and 'leisureless' (Coker et al., 2002). Researchers have linked conscientiousness to Obsessive Compulsive Disorders (OCD) (Samuel & Gore, 2012; Samuel & Widiger, 2011; Stairs et al., 2012). Those who are very high in conscientiousness may be rigid and inflexible, thus being less adjustable to change (LePine et al., 2000). High levels of conscientiousness also likely accompany a focus on following rules and the defined role, possibly resulting in less innovation and opportunity to learn new skills (Tett, 1998).

Perfectionism is a complex construct itself, traditionally viewed as having two forms (Stoeber et al., 2009; Stricker et al., 2019). The first is a more adaptive form of perfectionism, which relates to individuals who have high personal standards for performance on themselves (Dunkley et al., 2012). This often is referred to as *excellence-seeking* (Harari et al., 2018), or *perfectionistic strivings* (Stoeber & Otto, 2006), as these individuals escalate in their goal setting to higher and higher goals on themselves in order to derive self-worth. The secondary form is maladaptive form of perfectionism which relates more so to *failure-avoiding* (Harari et al., 2018) or *perfectionistic concerns* (Stoeber & Otto, 2006).

Overall, perfectionism is believed to have a net negative effect on both the individual and organization, particularly failure-avoiding perfectionism, and evaluative concerns (Harari et al., 2018; Hill & Curran, 2016). We hypothesised:

H1 *Conscientiousness will be positively correlated with adaptive perfectionism.*

H2 *Conscientiousness will be negatively correlated with maladaptive perfectionism.*

Conscientiousness and narcissism

Furnham (2017) also found a significant relationship between conscientiousness and the 'bold' construct on the HDS, which relates to narcissism (Furnham & Crump,

2005; Saulsman & Page, 2004) also found a slight negative relationship, although this may be explained to the meta-analysis focusing on DSM criteria rather than subclinical traits.

Like perfectionism, Narcissism is also believed to comprise of two forms (Miller et al., 2011). For the purposes of this study, the focus is on grandiose narcissism. Vulnerable narcissism is more neurotic, while grandiose narcissism is more attention-seeking (Morf & Rhodewalt, 2001). This study hypothesizes this attention-seeking may be interpreted as excessive goal setting and achievement-orientation, hence the link between conscientiousness and narcissism.

Narcissism has been linked with negative effects such as engaging in more CWBs (Grijalva & Newman, 2015) however, narcissists believe they do not engage as often in such behaviours (Judge et al., 2006). In the context of subclinical narcissism, like perfectionism, it is not always a negative trait. Furnham et al. (2012) found narcissism to be positively related to certain areas of potential such as sales, while other studies have shown those scoring higher on the bold trait of the HDS (i.e., narcissists) are more likely to have shorter times to promotion (Furnham et al., 2013).

H3 *Conscientiousness will be positively correlated with grandiose narcissism.*

LMX as a Stressor

We also focus in this study on the relationship between a worker and his/her boss or leaders often known as Leader–member exchange (LMX) This study conceptualises low Leader–member exchange as a missing job resource and thereby becoming a stressor drawing on the JD-R model. That is, a good relationship with one's boss is benefit, but a bad one a stressor. LMX is a relationship-based approach to leadership that is centred on the two-way relationship between leaders and followers (Graen & Uhl-Bien, 1995). LMX has been shown, through meta-analysis, to be consistently positively correlated with job performance, satisfaction (both overall and supervisory), commitment, role perceptions and negatively correlated with turnover intentions (Gerstner & Day, 1997).

A meta-analysis by Martin et al. (2016) suggests that the costs of low LMX could be more significant than originally suspected as neglected followers may be more likely to engage in CWBs. Bakker et al., (2005) also demonstrated the effect of high-quality relationships and social support on buffering the impact of other stressors on individuals, suggesting high LMX to be a job resource. Consequently, low LMX is posited to be a potential stressor. Perceived social support has been found to mediate the relationship with

perfectionism, with higher support leading to lower levels of distress (Dunkley et al., 2000).

H4 *LMX will be negatively related to adaptive and maladaptive perfectionism.*

Interpersonal conflict at work has been shown to negatively impact self-esteem and be a stressor (De Dreu et al., 2002). Narcissism was shown to moderate the levels of CWB against the organisation and towards individuals, with higher narcissism resulting in higher levels of CWB (Meurs et al., 2013; O'Boyle et al., 2012, p.5) found that the relationship between narcissism and CWB was weakened in organizational cultures that "emphasize duty and loyalty to the organization and its members, cohesiveness among co-workers and relatedness among peers". This suggests that when there is a culture of high LMX, there may be a lesser risk of narcissism.

H5 *LMX will be negatively related to narcissism.*

Interactive Effects of individual differences and situational variables

Regarding perfectionism, conscientiousness is expected to be the strongest predictor of personal standards and adaptive perfectionism (Dunkley et al., 2012; Smith et al., 2019; Furnham & Crump, 2005) also found this relationship between self-oriented perfectionism and extraversion and conscientiousness but no relationship between low agreeableness and self-oriented perfectionism as had been expected. Extraversion was expected to be positively related to adaptive perfectionism (Rice et al., 2007). Like LMX being a situational factor, extraversion is considered an individual difference influencing the conscientiousness and perfectionism relationship.

Regarding maladaptive perfectionism there is an expected negative relationship between extraversion with failure-avoiding and maladaptive perfectionism (Rice et al., 2007; Smith et al., 2019).

H6a *Extraversion will positively moderate the LMX effect between conscientiousness adaptive perfectionism, as measured by the Standards subscale.*

H6b *Extraversion will negatively moderate the LMX effect between conscientiousness and maladaptive perfectionism, as measured via the Discrepancy subscale.*

Extraversion is strongly positively related to grandiose narcissism (Trull & McCrae, 2002; Samuel & Widiger, 2008).

However, similarly to perfectionism as was discussed earlier, Furnham and Crump (2014) found only a single facet of agreeableness to be linked with narcissism, while all the facets of extraversion correlated positively.

For the purposes of this study, the focus on being broad traits, extraversion rather than agreeableness will be used as a moderating variable. Extraversion has been shown to be the most strongly correlated personality factor of the Big Five with grandiose narcissism (Mathieu, 2013; Zajenkowski & Szymaniak, 2019). As previously discussed, grandiose narcissism reflects an individual who is often overconfident, attention-seeking, highly extraverted, dominant, and interpersonally exploitative. This echoes the description of extreme ends of extraversion with phrases such as self-aggrandizing and egotistic (Coker et al., 2002). Those who score high on dominance and assertiveness, which is a facet of extraversion may be viewed as a tyrant as shown in a study by Ames and Flynn (2007) who found high levels of assertiveness were not conducive to leadership. This study predicts extraversion will positively moderate the relationship between conscientiousness and narcissism when LMX is low.

H7 *Extraversion will moderate the LMX effect between conscientiousness and grandiose narcissism.*

Method

Participants

There were 716 participants: 378 females, 333 males and 5 preferring not to say or having no data. The mean age of the participants were 42.36 years ($SD = 10.93$) for female participants and 44.77 years ($SD = 11.23$) for male participants. 78.5% of the sample were in full-time employment, while 7.5% were unemployed and 4.9% were in part-time employment. Overall, participants represented 27 industries, with the most frequently cited industries of work were Manufacturing ($n = 87$; 12.2%), followed by Business and Management Consultancy Services ($n = 75$; 10.5%), Financial Services ($n = 50$; 7.0%) and Hospitality ($n = 43$; 6.0%). Regarding job function, the most frequently cited were HR ($n = 92$; 12.8%), followed by General/Corporate Management ($n = 83$; 11.6%), Sales ($n = 75$; 10.5%) and Finance ($n = 35$; 4.9%). Additionally, 35.8% of the sample were not in management roles, while there were 23.7% in Senior/Executive Management roles ($n = 170$), while 25.3% were in Middle Management ($n = 181$) and 12.4% were in First-Line Management roles ($n = 89$).

Materials

High potential traits inventory (HPTI)

The HPTI measures personality traits in the organisational workplace settings (MacRae & Furnham, 2020). Previous research has shown the HPTI relates to both objective and subjective measures of workplace success (Furnham & Impellizzeri, 2021; Teodorescu et al., 2017). There are 12 items measuring conscientiousness with an alpha of 0.82. It was favoured over other measures of conscientiousness because it focuses specifically on behaviour at work.

Extraversion - big-five factor structure

Extraversion was measured using the Big-Five Factor I, which related to surgency or extraversion (Goldberg, 1992). This was accessed online via the International Personality Item Pool (IPIP) (Goldberg et al., 2006). It is a 10-item scale and has a Cronbach's alpha of 0.87.

Leader-Member Exchange: LMX-7

Graen and Uhl-Bien (1995) developed the LMX-7 measure, which contains a series of 7 questions in which participants are asked to rate their relationship with their leader or follower. Previous research shows a Cronbach's alpha level of between 0.8 and 0.9 (Graen & Uhl-Bien, 1995). The total LMX scores can be interpreted as *very high* (30–35), *high* (25–29), *moderate* (20–24), *low* (15–19), and *very low* (7–14) (Hanasono, 2017).

Narcissistic personality inventory (NPI-16)

Narcissism was measured using a shortened 16 item version of the NPI (Ames et al., 2006), which is based on the original scale by Raskin and Terry (1988). The NPI-16 has a Cronbach's alpha of 0.72, compared to the original NPI-40's 0.84. The NPI-16 correlates with the NPI-40 scale at 0.90 and maintained good levels of test-retest reliability 0.85 (Ames et al., 2006). It is essentially a measure of grandiose, rather than vulnerable, narcissism.

Almost perfect scale-revised (APS-R)

Perfectionism was measured using the APS-R, which consists of 23 items (Slaney et al., 2001). The APS-R consists of three subscales: Standards (7 items), Order (4 items), and Discrepancy (12 items). The Cronbach's alpha scores ranged from 0.85 to 0.92 on the subscales (Slaney et al., 2001).

Procedure

Participants were recruited through a UK based psychometric company via email, having signed up to volunteer for future research projects. The questionnaire was created online using a university account of Qualtrics. Participants were sent instructional text for each section of the questionnaire and advised it would take between 10 and 15 min to complete. Consent was provided by all participants before engaging in the study at the beginning of the questionnaire.

Analyses

New codes were created for Managerial Level to transform the variable into ordinal data and allow for more statistical tests such as correlations. The new codes were 1 (*Administrative*), 2 (*Professional/ Non-Management*), 3 (*First-Line Management*), 4 (*Middle Management*), and 5 (*Executive/ Senior Management*). In doing this, 69 cases were excluded with answers such as 'I don't know' and 'Other management', as these could not be categorized into the ordinal structure and would not allow further statistical tests.

Using Rice and Ashby's (2007) classification of scores on the APS-R, those with scores of 42 and above on the standards subscale are classified as *adaptive perfectionists*. Those with scores below 42 are considered *non-perfectionists*. Individuals with scores of 42 and above on the Standards subscale and scores of 42 and above on discrepancy, may be classified as *maladaptive perfectionists*. Similar cut-off points were also found by Rice & Richardson (2014) across the groups of perfectionism in a non-university population.

Results

Descriptives and correlations

Pearson's product-moment correlation coefficient analyses were run to assess relationships across all the study variables (see Table 1). It shows conscientiousness highly correlated with standards and order, extraversion with narcissism, and standards with order and perfectionism. H1, H2 and H3 were initially tested with correlations to investigate the relationship between conscientiousness, standards, discrepancy, and narcissism. In support for H1, a significant strong positive correlation was found between conscientiousness and standards. In support of H2, a significant negative relationship was discovered between conscientiousness and discrepancy. Finally, in support of H3, a significant positive relationship between conscientiousness and NPI scores.

Table 1 Descriptive Statistics and Pearson Correlations for Demographics, Personality, LMX, Perfectionism and Narcissism

	n	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Age	697	43.49	11.13	-										
2. Gender [a]	711	1.48	0.53	0.11**	-									
3. Manager Level [b]	647	3.45	1.24	0.34**	0.17**	-								
4. Conscientiousness	716	71.58	8.86	0.06	-0.02	0.03	-							
5. Extraversion	716	35.49	7.55	-0.02	0.00	0.03	0.24**	-						
6. LMX	716	25.19	5.84	-0.02	-0.07	0.02	0.13**	0.14**	-					
7. Standards	716	42.15	5.25	0.08*	-0.01	0.00	0.60**	0.16**	0.20**	-				
8. Order	716	21.95	4.45	0.06	-0.02	-0.03	0.28**	-0.01	0.08*	0.37**	-			
9. Discrepancy	716	42.69	15.35	-0.06	0.033	-0.06	-0.13**	-0.25**	-0.15**	0.08*	0.00	-		
10. Perfectionism [c]	716	106.79	17.69	-0.01	0.03	-0.06	0.14**	-0.17**	-0.05	0.46**	0.36**	0.89**	-	
11. Narcissism	716	3,120.00	5.17	0.03	0.03	-0.02	0.25**	0.44**	0.11**	0.25**	-0.02	-0.11**	-0.02	-

Note. *$p<.05$. **$p<.01$. [a] 1 – female and 2 – male [b] Manager Level was transformed into an ordinal variable, ranking participant groups from lowest to highest level of seniority (1 = Administrative through to 5 = Executive Senior Management). Several cases were removed due to inability to code ordinal responses. [c] Perfection is the sum score of the three subscales: Standards, Order, and Discrepancy

With respect to H4, mixed results were found. LMX was shown to have a have a significant negative relationship with discrepancy, which was expected. However, LMX was found to have a significant positive relationship with Standards, which was surprising. Interestingly, standards and discrepancy were positively correlated which is contrary to previous research showing a negative correlation (Rice et al., 2011). Contrary to H5, there was a significant positive relationship between LMX and NPI scores, compared to the hypothesized negative relationship. Age was also checked for correlations with narcissism and perfectionism, as previous research has shown a slight negative relationship (Twenge et al., 2008). This was to ensure age effects would not impact the hierarchical regressions in the next step.

Hierarchical regressions

To further investigate the relationships observed in the Pearson's correlations table a series of hierarchical regressions were carried out to test the hypotheses. The regressions helped identify how interpersonal differences in extraversion, as well as situational variables i.e., LMX, may predict the derailment above and beyond conscientiousness alone. Within each of the hierarchical regressions, gender and age were entered in the first step of each regression to establish if the independent variables were able to predict over and above the scores for gender and age.

Discrepancy

To investigate H6a, a hierarchical regression was carried out to assess if extraversion and LMX moderated the relationship between conscientiousness and Discrepancy i.e., maladaptive perfectionism. Preliminary analyses indicated that the assumptions required for multiple linear regression were met with Cook's distance below 1, Durbin Watson statistic of 2.054, VIF values below 10 and Tolerance values above 0.2. Full results are shown in Table 2.

Results of the hierarchical linear regression, shown in Table 2, indicated that there was a collective significant effect for the overall model, explaining 10% of the variance of maladaptive perfectionism. Step one involved inputting age and gender to ensure the following steps would predict discrepancy over and above age and gender effects. Conscientiousness followed in step two and was a significant positive predictor, but extraversion in step three was the largest predictor of the model. LMX in step four and was also a significant predictor. At step five the interaction variables were entered into the model, with conscientiousness and extraversion, being the only significant predictor of the three interactions. Finally, the interaction between conscientiousness, extraversion and LMX was added in step six, which was a

Table 2 Hierarchical Linear Regression Analysis for Variables Predicting Discrepancy

	Step 1 β	t	Step 2 β	t	Step 3 β	t	Step 4 β	t	Step 5 β	t	Step 6 β	t
Constant	-	15.92***	-	15.92***	-	16.49***	-	16.70***	-	16.85***		16.80***
Age	−0.063	−1.65	−0.056	−1.45	−0.064	−1.74	−0.065	−1.78	−0.067	−1.84	−0.062	−1.70
Gender	0.050	1.31	0.047	1.23	0.049	1.32	0.041	1.11	0.043	1.17	0.042	1.14
CON			−0.119	−3.15**	−0.065	−1.72**	−0.054	−1.44	−0.059	−1.57	−0.042	−1.10
EXT					−0.232	−6.17***	−0.220	−5.82***	−0.217	−5.77***	−0.210	−5.57***
LMX							−0.106	−2.87**	−0.104	−2.79**	−0.098	−2.63**
CON X EXT									−0.102	−2.70**	−0.100	−2.66**
CON X LMX									0.001	0.02	−0.007	−0.18
EXT X LMX									0.010	0.28	0.006	0.17
CON X EXT X LMX											−0.087	−2.29**
F Change (df)	2.00 (2, 694)		9.91 (1, 693)		38.81 (1, 692)		8.21 (1, 691)		2.56 (3, 688)		5.26 (1, 687)	
R^2 (Δ R^2)	0.006		0.020 (0.014)		0.071 (0.051)		0.082 (0.011)		0.092 (0.010)		0.099 (0.007)	

Note. CON – conscientiousness; EXT – extraversion; LMX – leader-member exchange

*** = p < .001; ** = p < .01

significant predictor above and beyond the other variables in the model. As hypothesized there was a significant interaction effect between conscientiousness, extraversion and LMX, negatively predicting scores on discrepancy. Overall, support for H6a was observed.

Standards

To investigate H6b, a hierarchical regression was carried out (See Table 3) to assess if extraversion and LMX moderated the relationship between conscientiousness and Standards (i.e., adaptive perfectionism). Preliminary analyses indicated that the assumptions required for multiple linear regression were met with Cook's distance below 1, Durbin Watson statistic of 2.022, VIF values below 10 and Tolerance values above 0.2. Full results are shown in Table 3.

Results of the hierarchical linear regression indicated that there was a collective significant effect for the model, explaining 36.5% of the variance of standards, with conscientiousness accounting for the largest proportion of variance. Step one involved inputting age and gender to ensure the following steps and variables would predict Standards over and above age and gender effects. Conscientiousness followed in step two and was a significant predictor, while extraversion and LMX were added in step three and four, respectively. LMX was found to be a significant predictor while extraversion was not. At step five the interaction variables were entered into the model but were not found to be significant. Finally, the interaction between conscientiousness, extraversion and LMX was added in step six. There were no significant interaction effects across the model, suggesting conscientiousness and LMX are independent contributors to standards.

Those who are low in LMX and conscientiousness, appear to have lower personal standards, which suggests these individuals may be less motivated and driven comparing to those with higher scores. By promoting and investing in activities to foster higher LMX levels in those with lower conscientiousness scores, there may be a possibility to improve these individual's personal standards. Despite the independent contributions of conscientiousness and LMX, overall, support for H6b was not observed.

Narcissism

To investigate H7, a hierarchical regression was carried out to assess if extraversion and LMX moderated the relationship between conscientiousness and narcissism. Preliminary analyses indicated that the assumptions required for multiple linear regression were met with Cook's distance below 1, Durbin Watson statistic of 1.984, VIF values below 10 and Tolerance values above 0.2.

Table 3 Hierarchical Linear Regression Analysis for Variables Predicting Standards

	Step 1		Step 2		Step 3		Step 4		Step 5		Step 6	
	β	t	β	t	β	t	β	t	β	t	β	t
Constant		43.11***		53.74***		53.69***		53.99***		53.79***		53.71***
Age	0.079	2.07*	0.045	1.45	0.046	1.48	0.047	1.54	0.047	1.54	0.049	1.60
Gender	−0.020	−0.52	−0.004	−0.15	−0.005	−0.15	0.005	0.15	0.004	0.13	0.004	0.12
CON			0.585	19.05**	0.579	18.34***	0.567	18.06***	0.565	17.94***	0.572	17.81***
EXT					0.026	0.82	0.011	0.34	0.011	0.35	0.014	0.45
LMX							0.126	4.08***	0.127	4.06***	0.129	4.13***
CON X EXT									−0.008	−0.24	−0.007	−0.22
CON X LMX									−0.020	−0.63	−0.023	−0.73
EXT X LMX									0.000	0.009	−0.001	−0.04
CON X EXT X LMX											−0.035	−1.10
F Change (df)	2.18 (2, 694)		362.69 (1, 693)		0.68 (1, 692)		16.63 (1, 691)		0.19 (2, 688)		1.20 (1, 687)	
R²(ΔR²)	0.006		0.348 (0.341)		0.348 (0.001)		0.364 (0.015)		0.364 (0.001)		0.365 (0.001)	

Note. CON – conscientiousness; EXT – extraversion; LMX – leader-member exchange

*** = $p < .001$; ** = $p < .01$

Results of the hierarchical linear regression indicated that there was a collective significant effect for the overall model but that there were no interaction effects among the variables. Step one involved inputting age and gender to ensure the following steps would predict narcissism over and above age and gender effects. Conscientiousness followed in step two as a significant predictor, as was extraversion in step three. LMX was added in step four but was not found to be significant. At step five the interaction variables for conscientiousness and extraversion, conscientiousness and LMX, as well as LMX and extraversion were entered into the model.

Finally, the interaction between conscientiousness, extraversion and LMX was added in step six. Conscientiousness and extraversion were observed to independently contribute to NPI scores, with higher levels of each, predicting higher levels of narcissism. LMX was not found to be a significant predictor in the model, higher. Overall, these results did not support the expected H7 (see Table 4).

ANOVA – perfectionism

Rather than just looking at each subscale of the APS-R in isolation, as was done in the regressions, participants were grouped using Rice and Ashby's (2007) scoring classification system on the APS-R for adaptive and maladaptive perfectionists, as well as non-perfectionists. The current study found a slightly higher proportion of maladaptive perfectionists 30.2% maladaptive, compared to previous studies at 26.9%. This was offset with slightly lower adaptive perfectionists at 32.5% compared to 40.7% and non-perfectionist 37.3% compared to 32.4% (Rice & Ashby, 2007). The three groups were then analysed via a one-way ANOVA to compare differences across the three groups in each of the study variables.

As Levene's test of homogeneity of variance revealed most variables did not have equal population variance. Hence, a Welch's ANOVA was used for this reason to calculate Welch's F to ensure more accurate statistics (Cribbie et al., 2012). This likely arises from the unequal group sizes across the conditions. Despite some of the variables being slightly skewed, being the sample sizes were large enough beyond 160 cases per group to avoid issues of normality (Wilcox, 2010). Research also shows the ANOVA to be robust even in non-normally distributed data (Schmider et al., 2010).

With respect to standards, no significant difference was found between adaptive and maladaptive perfectionists. However, significant differences were found at $p < .05$ between non-perfectionists, perfectionists and the other two groups, scoring much lower than these groups. Regarding order, there was no significant difference observed between

Table 4 Hierarchical Linear Regression Analysis for Variables Predicting Narcissism

	Step 1		Step 2		Step 3		Step 4		Step 5		Step 6	
	β	t	β	t	β	t	β	t	β	t	β	t
Constant		8.96***		9.41***		9.99***		9.93***		9.91***		9.85***
Age	0.000	-0.01	-0.014	-0.38	0.001	0.02	0.001	0.03	0.001	0.04	0.005	0.14
Gender	0.015	0.39	0.021	0.56	0.018	0.52	0.020	0.58	0.021	0.60	0.020	0.58
CON			0.237	6.42***	0.144	4.14***	0.141	4.03***	0.138	3.93***	0.149	4.18***
EXT					0.405	11.69***	0.402	11.49***	0.404	11.54***	0.409	11.66***
LMX							0.031	0.90	0.036	1.04	0.040	1.15
CON X EXT									-0.047	-1.33	-0.045	-1.30
CON X LMX									0.004	0.12	-0.001	-0.02
EXT X LMX									0.041	1.18	0.038	1.10
CON X EXT X LMX											-0.059	-1.67
F Change (df)	0.08 (2, 694)		41.19 (1, 693)		136.54 (1, 692)		0.81 (1, 691)		0.95 (3, 688)		2.80 (1, 687)	
R^2 (ΔR^2)	0.000		0.056 (0.056)		0.212 (0.156)		0.213 (0.001)		0.216 (0.003)		0.219 (0.003)	

Note. CON – conscientiousness; EXT – extraversion; LMX – leader-member exchange

*** = p < .001

Table 5 Welch's ANOVA Illustrating Perfectionism Group Differences Across Variables

| | Maladaptive perfectionists | | Adaptive perfectionists | | Non-perfectionists | | | | |
| | N = 216 | | N = 233 | | N = 267 | | | | |
	M	SD	M	SD	M	SD	df	F	ω²
CON	73.57	8.42	76.05	6.48	66.06	8.11	2, 461.71	120.51***	0.250
EXT	34.53	8.25	38.04	6.81	34.05	7.01	2, 458.58	23.28***	0.059
LMX	25.05	5.47	26.53	5.85	24.15	5.92	2, 470.27	10.32***	0.025
STAN	45.37	2.56	45.18	2.41	36.89	4.41	2, 467.79	405.75***	0.531
ORD	22.74	4.33	23.06	4.10	20.35	4.39	2, 468.12	29.65***	0.074
DISC	57.77	10.83	30.00	6.93	41.57	13.02	2, 443.68	524.29***	0.594
PERF	125.88	13.06	98.24	7.93	98.81	14.97	2, 439.38	380.16***	0.514
NPI	5.38	3.05	6.03	3.23	4.26	2.83	2, 460.90	22.20***	0.056

Note. N = 716. CON - Conscientiousness; ADJ – Adjustment; COMP – Competitiveness; EXT – Extraversion; LMX – Leader-Member Exchange; STAN – Standards; ORD – Order; DISC – Discrepancy; PERF – Perfectionism Total Score; NPI – Narcissism

*** $p < .001$

adaptive and maladaptive perfectionists. Significant differences were found at $p < .05$ between non-perfectionists and the other two groups, scoring lower than both adaptive and maladaptive perfectionists. For discrepancy there were significant differences at $p < .05$ found across all three groups with maladaptive perfectionists scoring significantly higher than both other groups and adaptive perfectionists scoring the lowest compared to non-perfectionists.

Next to LMX, no significant difference was found between non-perfectionists and maladaptive perfectionists. However, significant differences at $p < .05$ were found between adaptive perfectionists and the other two groups, scoring much higher than the others. Regarding narcissism, there was no significant difference found between adaptive and maladaptive perfectionist groups. There were significant differences found at $p < .05$ between non-perfectionists and the others, with non-perfectionists scores lower than both groups.

Discussion

As expected, conscientiousness did show a positive relationship with both standards subscale and narcissism, which is in line with previous research. Individuals who may be described as highly diligent, industrious, and thorough are also likely to derail through excessively high personal standards and perfectionistic strivings (Stoeber & Otto, 2006). Conscientiousness was also found to have a negative relationship with the discrepancy subscale, which was as anticipated based on previous studies. This may be explained at the facet level of conscientiousness, with higher levels of competence and self-discipline shown to be the main driver of this negative association as these individuals are totally focused and confident in their ability, and hence less prone to the perfectionist or evaluative concerns (Dunkley et al.,

2012). Being discrepant relates to the concern between performance and expectation. It is likely neuroticism is the strongest predictor of discrepancy because anxious individuals would worry most about not achieving their goals and targets (Smith et al., 2019).

With respect to the positive relationship between conscientiousness and narcissism, the current results were in line with the literature. This suggests those who may be highly goal-oriented and achievement-oriented may be at more risk of narcissistic derailment, although the relationship is much weaker than for perfectionism. That is, the positive results of conscientiousness may lead workers to become hubristic.

Evidence of LMX as a Stressor

The major finding of the study relates to the interactive moderating effect of extraversion and LMX on the relationship of conscientiousness and discrepancy. Support was found for the hypothesis that LMX moderates the relationship between personality and discrepancy, particularly at lower levels of conscientiousness and extraversion. These results may suggest that introverts may be more prone to maladaptive perfectionism and even with higher levels of conscientiousness if there are lower LMX levels. Conversely, at higher levels of conscientiousness and extraversion, higher LMX is observed to further reduce the levels of discrepancy, suggesting this social support may have a buffering effect on maladaptive perfectionism. This is in line with what was hypothesized utilizing the JD-R model (Bakker & Demrouti, 2007), that by providing better job resources such as improved LMX, it may be possible to reduce maladaptive perfectionism.

This suggests greater care may be advised for managers in organisational settings who have introverted yet highly conscientious team members. On the outward appearance they may be seen as hard-working and driven colleagues

who get on with their tasks, but they may be susceptible to socially oriented maladaptive perfectionism behaviours, ruminating on perceived standards of others, while not seeking out help and interaction with their manager to resolve matters and the manager being oblivious to the situation. Lesener et al. (2019) suggest fostering environments that create a resource-oriented working environment including regular feedback sessions with managers, more cooperative working conditions, proactive promotion of learning opportunities, variety in job tasks, and an increase of autonomy for both individual and team.

Positive relationship of LMX with Derailers

Conscientiousness was shown to account for a large proportion of the variance of Standards link to adaptive perfectionism, which is in line with previous findings (Smith et al., 2019). In this circumstance LMX does not appear to be a stressor, but in fact a positive predictor of personal standards. This may be explained as managers are likely to promote and reward these types of behaviours displayed by conscientious individuals in organizational settings, whereby the higher personal standards may result in a more engaged LMX relationship (Stoeber & Damian, 2016). However, it was surprising that extraversion was not related as it was hypothesized that higher extraversion would relate to higher standards via the assertiveness and high energy associated with extraversion, which in turn would be related to motivational intentions for status striving (Barrick, Mitchell & Stewart, 2003; Barrick , Mount & Gupta, 2003). One reason maybe that the measure of extraversion in this study differed from those in others studies by having more emphasis on affective rather than arousal needs. That is extraversion has different facets which some questionnaires emphasise more than others (Furnham, 2008). Similarly, highly conscientious, and highly extraverted persons are often described as ambitious, serious, and purposeful, which is similar to what one may imagine to be adaptive perfectionists (Hofstee et al., 1992; Johnson & Ostendorf, 1993).

Overall, the findings of this positive relationship suggest LMX has mixed support as a stressor. It raises the question that LMX may in fact be a product of the high standards and performance of an adaptive perfectionist. Clearly there are different aspects of an LMX which could in part be governed by both corporate culture as well as the nature of the work activity.

The findings concerning narcissism are in line with even the early work of Emmons (1987) who suggested it correlates positively with self-esteem, extraversion, dominance, and independence; and negatively with abasement, self-ideal discrepancy, neuroticism, and social anxiety, In terms of the moderating effect of LMX, there was a significant positive relationship observed, which was contrary to the hypothesis. This is surprising as research has shown those higher in narcissism are likely to have lower levels of concern for others, hold a negative view of others, often with a tendency to focus on dominating others and their adversarial orientation towards them (Paulhus, 2001). It is suggested that narcissists reject intimacy, lack empathy, and seek applause and when threatened tend to derogate others (Stucke & Sporer, 2002). Bushman and Baumeister's (1998) study, which examined interpersonal interactions between narcissists and other individuals, found a positive relationship between narcissism and hypervigilance to threats, which then led to aggressive behaviours.

However, much of this research often focuses on vulnerable narcissism, which involves a higher level of other-oriented narcissism rife with neuroticism (Zajenkowski & Szymaniak, 2019). Hence, the more grandiose narcissism may view LMX as a positive reflection on the individual, and there may be under-reporting of problems in LMX much like the underreporting of workplace deviance (Judge et al., 2006). Perhaps as this study used the NPI-16, thereby not being able to look at the facet level of narcissism and identify potential relationships with LMX such as Leadership/Authority facets which were related to social support in Rhodewalt and Morf's (1995) study. This may be a promising future research study to investigate the facet level of narcissism alongside the facet level conscientiousness.

The results of the current study show a different pattern compared to a clinical population, which tend to show narcissism to be mainly linked with low trait agreeableness, whereas this study showed the narcissist to be conscientious and extraverted. This is in line with previous suggestions that the subclinical narcissism measure may be tapping into the profile of what may be a successful manager (Furnham, 2010; Howard & Howard, 2001). Further to this, Furnham et al. (2016) found narcissism was positively linked with management and sales potential. Others have also linked narcissism to leadership emergence (Brunell et al., 2008).

Extraversion was found to be a key factor in linking conscientiousness with perfectionism and narcissism. In the case of socially prescribed perfectionism, higher extraversion reduced the discrepancy scores and chances of maladaptive extraversion. However, high extraversion and high conscientiousness individuals may be more at risk for narcissism derailment. This highlights how it is important to not view derailers, personality traits and outcomes in isolated siloes (Penney et al., 2011), rather it is better to acknowledge where strengths in one area may become risks in other areas. Research has linked narcissism with forms of perfectionism, so it is possible the two can manifest together and are not necessarily discrete. The observed positive relationship between narcissism and the standards subscale was in

line with previous findings (Smith et al., 2016). This relates back to comments in the literature on the link between conscientiousness and the bold derailer profile, suggesting the conceptualisation of this derailer to be the profile of a successful manager being stable, self-assured, extraverted and low agreeableness (Furnham, 2010; Howard & Howard, 2001). In practice, selecting personnel with higher conscientiousness and extraversion scores to avoid possible maladaptive perfectionists may result in those who are at risk of narcissistic derailment, which could also negatively impact the organization such as risk-taking behaviours (Buelow & Brunell, 2014).

Limitations

There are difficulties in classifying perfectionists (Rice & Richardson, 2014), with other cut-off scores used and suggested as well such as those for adolescent populations > 35 standards and > 45 discrepancy (Rice et al., 2011). This may raise questions on the usefulness of categorical cut-off scoring for the APS-R as those classified as non-perfectionists, may in fact have high levels of perfectionist concerns, which can be missed due to the labelling used. Another limitation of the study is that it is cross-sectional in nature, so extrapolating cause and effect is challenging. A further limitation may be that tenure within their current job role was not recorded. Finally, the study suffers from method-invariance relying exclusively on self-report, and it is always desirable to have observational and behavioural data to supplement self-report.

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Author contribution LT collected the data and did the statistical analyses, AF wrote the paper. GC: Visualisation, data analysis, draft. LT: Data provision, supervision. AF: Drafting and Editing.

Data Availability This is obtainable from the first author on request.

Declarations

Ethics This was sought and obtained (CEHP/514/2017).

Registration This paper was not pre-registered with the journal. There is no conflict of interest

References

Ames, D. R., & Flynn, F. J. (2007). What breaks a leader: The curvilinear relation between assertiveness and leadership. *Journal of Personality and Social Psychology*, *92*(2), 307–324. https://doi.org/10.1037/0022-3514.92.2.307

Ames, D. R., Rose, P., & Anderson, C. P. (2006). The NPI-16 as a short measure of narcissism. *Journal of Research in Personality*, *40*(4), 440–450. https://doi.org/10.1016/j.jrp.2005.03.002

Bakker, A. B., & Demerouti, E. (2007). The Job Demands-Resources model: State of the art. *Journal of Managerial Psychology*, *22*(3), 309–328. https://doi.org/10.1108/02683940710733115

Bakker, A. B., Demerouti, E., & Euwema, M. C. (2005). Job resources buffer the impact of job demands on burnout. *Journal of Occupational Health Psychology*, *10*(2), 170–180. https://doi.org/10.1037/1076-8998.10.2.170

Barrick, M. R., Mitchell, T. R., & Stewart, G. L. (2003). Situational and motivational influences on trait–behavior relationships. In M. R. Barrick, & A. M. Ryan (Eds.), *Personality and work* (pp. 60–82). San Francisco, CA: Jossey-Bass.

Barrick, M. R., Mount, M. K., & Gupta, R. (2003). Meta-analysis of the relationship between the five-factor model of personality and Holland's occupational types. *Personnel Psychology*, *56*, 45–74. https://doi.org/10.1111/j.1744-6570.2003.tb00143.x

Barrick, M. R., Mount, M. K., & Judge, T. A. (2001). The FFM personality dimensions and job performance: Meta-Analysis of meta-analyses. *International Journal of Selection and Assessment*, *9*(1), 9–30.

Barrick, M. R., Mount, M. K., & Strauss, J. P. (1993). Conscientiousness and performance on sales representatives: Test of the mediating effects of goal setting. *Journal of Applied Psychology*, *78*(5), 715–722. https://doi.org/10.1037/0021-9010.78.5.715

Bennett, R. J., & Robinson, S. L. (2000). Development of a Measure of Workplace Deviance. *Journal of Applied Psychology*, *85*, 349–360.
https://doi.org/10.1037/0021-9010.85.3.349

Bogg, T., & Roberts, B. W. (2004). Conscientiousness and health-related behaviors: A Meta-analysis of the leading behavioral contributors to mortality. *Psychological Bulletin*, *130*(6), 887–919. https://doi.org/10.1037/0033-2909.130.6.887

Boyce, C. J., Wood, A. M., & Brown, G. D. (2010). The dark side of conscientiousness: Conscientious people experience greater drops in life satisfaction following unemployment. *Journal of Research in Personality*, *44*(4), 535–539. https://doi.org/10.1016/j.jrp.2010.05.001

Brunell, A. B., Gentry, W. A., Campbell, W. K., Hoffman, B. J., Kuhnert, K. W., & DeMarree, K. G. (2008). Leader emergence: The case of the narcissistic leader. *Personality and Social Psychology Bulletin*, *34*(12), 1663–1676. https://doi.org/10.1177/0146167208324101

Buelow, M. T., & Brunell, A. B. (2014). Facets of grandiose narcissism predict involvement in health-risk behaviors. *Personality and Individual Differences*, *69*, 193–198. https://doi.org/10.1016/j.paid.2014.05.031

Bushman, B. J., & Baumeister, R. F. (1998). Threatened egotism, narcissism, self-esteem, and direct and displaced aggression: Does self-love or self-hate lead to violence? *Journal of*

Personality and Social Psychology, *75*(1), 219–229. https://doi.org/10.1037/0022-3514.75.1.219

Carter, N. T., Guan, L., Maples, J. L., Williamson, R. L., & Miller, J. D. (2016). The downsides of extreme conscientiousness for psychological well-being: The role of obsessive compulsive tendencies. *Journal of Personality*, *84*(4), 510–522. https://doi.org/10.1111/jopy.12177

Coker, L. A., Samuel, D. B., & Widiger, T. A. (2002). Maladaptive personality functioning within the Big Five and the five-factor model. *Journal of Personality Disorders*, *16*(5), 385–401. https://doi.org/10.1521/pedi.16.5.385.22125

Cribbie, R. A., Fiksenbaum, L., Keselman, H. J., & Wilcox, R. R. (2012). Effect of non-normality on test statistics for one-way independent groups designs. *British Journal of Mathematical and Statistical Psychology*, *65*(1), 56–73. https://doi.org/10.1111/j.2044-8317.2011.02014.x

De Dreu, C. K. W., Van Dierendonck, D., & De Best-Waldhober, M. (2002). Conflict at work and individual well-being. In M. Schabracq, J. A. M. Winnubst, & C. L. Cooper (Eds.), *The handbook of work and health psychology* (2nd ed., pp. 495–516). Chichester, UK: Wiley.

Demerouti, E., Bakker, A., Nachreiner, F., & Schaufeli, W. (2001). The Job Demands–Resources model of burnout. *Journal of Applied Psychology*, *86*(3), 499–512. https://doi.org/10.1037/0021-9010.86.3.499

Dunkley, D. M., Blankstein, K. R., & Berg, J. L. (2012). Perfectionism dimensions and the five-factor model of personality. *European Journal of Personality*, *26*(3), 233–244. https://doi.org/10.1002/per.829

Dunkley, D. M., Blankstein, K. R., Halsall, J., Williams, M., & Winkworth, G. (2000). The relation between perfectionism and distress: Hassles, coping, and perceived social support as mediators and moderators. *Journal of Counselling Psychology*, *47*(4), 437–453. https://doi.org/10.1037/0022-0167.47.4.437

Emmons, R. A. (1987). Narcissism: theory and measurement. *Journal of Personality and Social Psychology*, *52*(1), 11–17. https://doi.org/10.1037//0022-3514.52.1.11

Furnham, A. (2008). *Personality and Intelligence at Work*:. London: Routledge.

Furnham, A. (2010). *The elephant in the boardroom: The psychology of leadership derailment*. Bracknell, UK: Palgrave MacMillan.

Furnham, A. (2017). The dark side of conscientiousness. *Psychology*, *8*, 1879–1893. https://doi.org/10.4236/psych.2017.811122

Furnham, A., & Crump, J. (2005). Personality traits, types, and disorders: an examination of the relationship between three self-report measures. *European Journal of Personality*, *19*, 167–184. https://doi.org/10.1002/per.543

Furnham, A., & Impellizzeri, S. (2021). The personality and motivation of "Quants": The maths geniuses of Wall Street.Journal of Financial Management, Markets and Institutions, *2150002.*

Furnham, A., & Crump, J. (2014). A Big Five facet analysis of subclinical narcissism: Understanding boldness in terms of well-known personality traits. *Personality and Mental Health*, *8*(3), 209–217. https://doi.org/10.1002/pmh.1262

Furnham, A., Crump, J., & Ritchie, W. (2013). What it takes: Ability, demographic, bright and dark side trait correlates of years to promotion. *Personality and Individual Differences*, *55*(8), 952–956. https://doi.org/10.1016/j.paid.2013.07.469

Furnham, A., Humphries, C., & Leung Zheng, E. (2016). Can successful sales people become successful managers? Differences in motives and derailers across two jobs. *Consulting Psychology Journal: Practice and Research*, *68*(3), 252–268. https://doi.org/10.1037/cpb0000060

Furnham, A., Trickey, G., & Hyde, G. (2012). Bright aspects to dark side traits: Dark side traits associated with work success.

Personality and Individual Differences, *52*(8), 908–913. https://doi.org/10.1016/j.paid.2012.01.025

Gerstner, C. R., & Day, D. V. (1997). Meta-Analytic review of leader–member exchange theory: Correlates and construct issues. *Journal of Applied Psychology*, *82*(6), 827–844. https://doi.org/10.1037/0021-9010.82.6.827

Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. *Psychological Assessment*, *4*(1), 26–42. https://doi.org/10.1037/1040-3590.4.1.26

Goldberg, L. R., Johnson, J. A., Eber, H. W., Hogan, R., Ashton, M. C., Cloninger, C. R., & Gough, H. C. (2006). The International Personality Item Pool and the future of public-domain personality measures. *Journal of Research in Personality*, *40*, 84–96. https://doi.org/10.1016/j.jrp.2005.08.007

Graen, G. B., & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. *The Leadership Quarterly*, *6*(2), 219–247. https://doi.org/10.1016/1048-9843(95)90036-5

Grijalva, E., & Newman, D. A. (2015). Narcissism and counterproductive work behavior (CWB): Meta-analysis and consideration of collectivist culture, Big Five personality, and narcissism's facet structure. *Applied Psychology: An International Review*, *64*(1), 93–126. https://doi.org/10.1111/apps.12025

Hanasono, L. K. (2017). Leader-Member Exchange 7 questionnaire (LMX-7). In Worthington, D. L. & Bodie, G. D. (Eds.). *The Sourcebook of Listening Research* (pp.354–360). https://doi.org/10.1002/9781119102991.ch36

Harari, D., Swider, B. W., Steed, L. B., & Breidenthal, A. P. (2018). Is perfect good? A meta-analysis of perfectionism in the workplace. *Journal of Applied Psychology*, *103*(10), 1121–1144. https://doi.org/10.1037/apl0000324

Hill, A. P., & Curran, T. (2016). Multidimensional perfectionism and burnout: A meta-analysis. *Personality and Social Psychology Review*, *20*(3), 269–288. https://doi.org/10.1177/1088868315596286

Hofstee, W. K. B., de Raad, B., & Goldberg, L. R. (1992). Integration of the Big Five and circumplex approaches to trait structure. *Journal of Personality and Social Psychology*, *65*, 563–576. https://doi.org/10.1037//0022-3514.63.1.146

Hogan, J., Hogan, R., & Kaiser, R. (2011). Management derailment. In S. Zedeck (Ed.), *APA handbook of industrial and organizational psychology* (3 vol., pp. 555–576). Washington, DC: American Psychological Association.

Hogan, J., & Holland, B. (2003). Using theory to evaluate personality and job-performance relations: A socioanalytic perspective. *Journal of Applied Psychology*, *88*(1), 100–112. https://doi.org/10.1037/0021-9010.88.1.100

Howard, P. J., & Howard, J. M. (2001). *The owner's manual for personality at work*. Austin, GA: Bard Press.

Hurtz, G. M., & Donovan, J. J. (2000). Personality and job performance: The Big Five revisited. *Journal of Applied Psychology*, *85*(6), 862–879. https://doi.org/10.1037/0021-9010.85.6.869

Johnson, J. A., & Ostendorf, F. (1993). Clarification of the Five-Factor Model with the abridged Big Five dimensional circumplex. *Journal of Personality and Social Psychology*, *65*, 563–576. doi:https://doi.org/10.1037//0022-3514.65.3.563

Judge, T. A., Bono, J. E., Ilies, R., & Gerhardt, M. W. (2002). Personality and leadership: A qualitative and quantitative review. *Journal of Applied Psychology*, *87*(4), 765–780. https://doi.org/10.1037/0021-9010.87.4.765

Judge, T. A., Higgins, C. A., Thoresen, C. J., & Barrick, M. R. (1999). The Big Five personality traits, general mental ability, and career success across the life span. *Personnel Psychology*, *52*(3), 621–652. https://doi.org/10.1111/j.1744-6570.1999.tb00174.x

Judge, T. A., & LePine, J. A. (2007). The bright and dark sides of personality: Implications for personnel selection in individual and team contexts. In J. Langan-Fox, C. L. Cooper, & R. J. Klimoski (Eds.), *New horizons in management. Research companion to the dysfunctional workplace: Management challenges and symptoms* (pp. 332–355). Edward Elgar Publishing. https://doi.org/10.4337/9781847207081.00028

Judge, T. A., LePine, J. A., & Rich, B. L. (2006). Loving yourself abundantly: Relationship of the narcissistic personality to self- and other perceptions of workplace deviance, leadership, and task and contextual performance. *Journal of Applied Psychology*, *91*(4), 762–776. https://doi.org/10.1037/0021-9010.91.4.762

Le, H., Oh, I. S., Robbins, S. B., Ilies, R., Holland, E., & Westrick, P. (2011). Too much of a good thing: Curvilinear relationships between personality traits and job performance. *Journal of Applied Psychology*, *96*(1), 113–133. https://doi.org/10.1037/a0021016

LePine, J. A., Colquitt, J. A., & Erez, A. (2000). Adaptability to changing task contexts: effects of general cognitive ability, conscientiousness, and openness to experience. *Personnel Psychology*, *53*(3), 563–593. https://doi.org/10.1111/j.1744-6570.2000.tb00214.x

Lesener, T., Gusy, B., & Wolter, C. (2019). The job demands-resources model: A meta-analytic review of longitudinal studies. *Work & Stress*, *33*(1), 76–103. https://doi.org/10.1080/02678373.2018.1529065

MacRae, I., & Furnham, A. (2020). A psychometric analysis of the High Potential Trait Inventory (HPTI). *Psychology*, *11*, 1125–1140. https://doi.org/10.4236/psych.2020.118074

Martin, R., Guillaume, Y., Thomas, G., Lee, A., & Epitropaki, O. (2016). Leader–member exchange (LMX) and performance: A meta-analytic review. *Personnel Psychology*, *69*(1), 67–121. https://doi.org/10.1111/peps.12100

Martocchio, J. J., & Judge, T. A. (1997). Relationship between conscientiousness and learning in employee training: Mediating influences of self-deception and self-efficacy. *Journal of Applied Psychology*, *82*(5), 764–773. https://doi.org/10.1037/0021-9010.82.5.764

Mathieu, C. (2013). Personality and job satisfaction: The role of narcissism. *Personality and Individual Differences*, *55*(6), 650–654. https://doi.org/10.1016/j.paid.2013.05.012

McCord, M. A., Joseph, D. L., & Grijalva, E. (2014). Blinded by the light: The dark side of traditionally desirable personality traits. *Industrial and Organizational Psychology: Perspectives on Science and Practice*, *7*(1), 130–137. https://doi.org/10.1111/iops.12121

Meurs, J. A., Fox, S., Kessler, S. R., & Spector, P. E. (2013). It's all about me: The role of narcissism in exacerbating the relationship between stressors and counterproductive work behaviour. *Work & Stress*, *27*(4), 368–382. https://doi.org/10.1080/02678373.2013.849776

Miller, J. D., Hoffman, B. J., Gaughan, E. T., Gentile, B., Maples, J., & Campbell, W. K. (2011). Grandiose and vulnerable narcissism: A nomological network analysis. *Journal of Personality*, *79*(5), 1013–1042. https://doi.org/10.1111/j.1467-6494.2010.00711.x

Morf, C. C., & Rhodewalt, F. (2001). Unraveling the paradoxes of narcissism: A dynamic self-regulatory processing model. *Psychological Inquiry*, *12*(4), 177–196. https://doi.org/10.1207/S15327965PLI1204_1

O'Boyle, E. H. Jr., Forsyth, D. R., Banks, G. C., & McDaniel, M. A. (2012). A meta-analysis of the Dark Triad and work behavior: A social exchange perspective. *Journal of Applied Psychology*, *97*(3), 557–579. https://doi.org/10.1037/a0025679

Paulhus, D. L. (2001). Normal narcissism: Two minimalist accounts. *Psychological Inquiry*, *12*, 228–230. https://www.jstor.org/stable/1449480

Penney, L. M., David, E., & Witt, L. A. (2011). A review of personality and performance: Identifying boundaries, contingencies, and future research directions. *Human Resource Management Review*, *21*(4), 297–310. https://doi.org/10.1016/j.hrmr.2010.10.005

Pierce, J. R., & Aguinis, H. (2013). The too-much-of-a-good-thing effect in management. *Journal of Management*, *39*(2), 313–338. https://doi.org/10.1177/0149206311410060

Poropat, A. E. (2009). A meta-analysis of the five-factor model of personality and academic performance. *Psychological Bulletin*, *135*(2), 322–338. https://doi.org/10.1037/a0014996

Raskin, R., & Terry, H. (1988). A principal-components analysis of the Narcissistic Personality Inventory and further evidence of its construct validity. *Journal of Personality and Social Psychology*, *54*(5), 890–902. https://doi.org/10.1037/0022-3514.54.5.890

Rhodewalt, F., & Morf, C. C. (1995). Self and interpersonal correlates of the Narcissistic Personality Inventory: A review and new findings. *Journal of Research in Personality*, *29*(1), 1–23. https://doi.org/10.1006/jrpe.1995.1001

Rice, K. G., & Ashby, J. S. (2007). An efficient method for classifying perfectionists. *Journal of Counseling Psychology*, *54*(1), 72–85. https://doi.org/10.1037/0022-0167.54.1.72

Rice, K. G., Ashby, J. S., & Gilman, R. (2011). Classifying adolescent perfectionists. *Psychological Assessment*, *23*(3), 563–577. https://doi.org/10.1037/a0022482

Rice, K. G., Ashby, J. S., & Slaney, R. B. (2007). Perfectionism and the five-factor model of personality. *Assessment*, *14*(4), 385–398. https://doi.org/10.1177/1073191107303217

Rice, K. G., & Richardson, C. M. E. (2014). Classification challenges in perfectionism. *Journal of Counseling Psychology*, *61*(4), 641–648. https://doi.org/10.1037/cou0000040

Roberts, B., Chernyshenko, O., Stark, S., & Goldberg, L. (2005). The structure of conscientiousness. *Personnel Psychology*, *58*, 103–139. https://doi.org/10.1111/j.1744-6570.2005.00301.x

Sackett, P. R., & Walmsley, P. T. (2014). Which personality attributes are most important in the workplace? *Perspectives on Psychological Science*, *9*(5), 538–551. https://doi.org/10.1177/1745691614543972

Salgado, J. F. (1997). The five factor model of personality and job performance in the European Community. *Journal of Applied Psychology*, *82*(1), 30–43. https://doi.org/10.1037/0021-9010.82.1.30

Samuel, D. B., & Gore, W. L. (2012). Maladaptive variants of conscientiousness and agreeableness. *Journal of Personality*, *80*(6), 1669–1696. https://doi.org/10.1111/j.1467-6494.2012.00770.x

Samuel, D. B., & Widiger, T. A. (2008). A meta-analytic review of the relationships between the five-factor model and DSM-IV-TR personality disorders: A facet level analysis. *Clinical Psychology Review*, *28*(8), 1326–1342. https://doi.org/10.1016/j.cpr.2008.07.002

Samuel, D. B., & Widiger, T. A. (2011). Conscientiousness and obsessive-compulsive personality disorder. *Personality Disorders: Theory Research and Treatment*, *2*(3), 161–174. https://doi.org/10.1037/a0021216

Saulsman, L. M., & Page, A. C. (2004). The five-factor model and personality disorder empirical literature: A meta-analytic review. *Clinical Psychology Review*, *23*(8), 1055–1085. https://doi.org/10.1016/j.cpr.2002.09.001

Schmider, E., Ziegler, M., Danay, E., Beyer, L., & Bühner, M. (2010). Is It Really Robust? Reinvestigating the Robustness of ANOVA Against Violations of the Normal Distribution Assumption. *Methodology: European Journal of Research Methods for the Behavioral and Social Sciences*, *6*(4), 147–151. https://doi.org/10.1027/1614-2241/a000016

Slaney, R. B., Rice, K. G., Mobley, M., Trippi, J., & Ashby, J. S. (2001). The revised Almost Perfect Scale. *Measurement and Evaluation in Counselling and Development*, *34*, 130–145. https://doi.org/10.1080/07481756.2002.12069030

Smith, M. B., Hill, A. D., Wallace, J. C., Recendes, T., & Judge, T. A. (2018). Upsides to dark and downsides to bright personality: A multidomain review and future research agenda. *Journal of Management*, *44*(1), 191–217. https://doi.org/10.1177/0149206317733511

Smith, M. M., Sherry, S. B., Chen, S., Saklofske, D. H., Flett, G. L., & Hewitt, P. L. (2016). Perfectionism and narcissism: A meta-analytic review. *Journal of Research in Personality*, *64*, 90–101. https://doi.org/10.1016/j.jrp.2016.07.012

Smith, M. M., Sherry, S. B., Vidovic, V., Saklofske, D. H., Stoeber, J., & Benoit, A. (2019). Perfectionism and the five-factor model of personality: A meta-analytic review. *Personality and Social Psychology Review*, *23*(4), 367–390. https://doi.org/10.1177/1088868318814973

Stairs, A. M., Smith, G. T., Zapolski, T. C. B., Combs, J. L., & Settles, R. E. (2012). Clarifying the construct of perfectionism. *Assessment*, *19*(2), 146–166. https://doi.org/10.1177/1073191111411663

Stoeber, J., & Damian, L. E. (2016). Perfectionism in employees: Work engagement, workaholism, and burnout. In F. M. Sirois, & D. S. Molnar (Eds.), *Perfectionism, health, and well-being* (pp. 265–283). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-18582-8_12

Stoeber, J., & Otto, K. (2006). Positive conceptions of perfectionism: Approaches, evidence, challenges. *Personality and Social Psychology Review*, *10*, 295–319. https://doi.org/10.1207/s15327957pspr1004_2

Stoeber, J., Otto, K., & Dalbert, C. (2009). Perfectionism and the Big Five: Conscientiousness predicts longitudinal increases in self-oriented perfectionism. *Personality and Individual Differences*, *47*(4), 363–368. https://doi.org/10.1016/j.paid.2009.04.004

Stricker, J., Buecker, S., Schneider, M., & Preckel, F. (2019). Multidimensional perfectionism and the Big Five personality traits: A Meta-analysis. *European Journal of Personality*, *33*(2), 176–196. https://doi.org/10.1002/per.2186

Stucke, T. S., & Sporer, S. L. (2002). When a grandiose self-image is threatened: Narcissism and self-concept clarity as predictors of negative emotions and aggression following ego-threat. *Journal of Personality*, *70*(4), 509–532. https://doi.org/10.1111/1467-6494.05015

Teodorescu, A., Furnham, A., & MacRae, I. (2017). Trait correlates of success at work. *International Journal of Selection and Assessment*, *25*(1), 36–42. https://doi.org/10.1111/ijsa.12158

Tett, R. P. (1998). Is Conscientiousness always positively related to job performance? *The Industrial–Organizational Psychologist*, *36*, 24–29. https://doi.org/10.1037/e577032011-002

Trull, T. J., & McCrae, R. R. (2002). A five-factor perspective on personality disorder research. In P. T. Costa, Jr. & T. A. Widiger (Eds.), *Personality disorders and the five-factor model of personality* (2nd ed., p. 45–57). American Psychological Association. https://doi.org/10.1037/10423-004

Twenge, J. M., Konrath, S., Foster, J. D., Campbell, W. K., & Bushman, B. J. (2008). Egos inflating over time: a cross-temporal meta-analysis of the Narcissistic Personality Inventory. *Journal of Personality*, *76*(4), 875–928. https://doi.org/10.1111/j.1467-6494.2008.00507.x

Widiger, T. A., Trull, T. J., Clarkin, J. F., Sanderson, C., & Costa, P. T. Jr. (2002). A description of the DSM-IV personality disorders with the five-factor model of personality. In P. T. Costa Jr., & T. A. Widiger (Eds.), *Personality disorders and the five-factor model of personality* (2nd ed., pp. 89–99). American Psychological Association. https://doi.org/10.1037/10423-006

Wilcox, R. R. (2010). *Fundamentals of modern statistical methods: Substantially improving power and accuracy*. New York, NY: Springer-Verlag

Zajenkowski, M., & Szymaniak, K. (2019). Narcissism between facets and domains. The relationships between two types of narcissism and aspects of the Big Five. *Current Psychology*, 1–10. https://doi.org/10.1007/s12144-019-0147-1