



The dark side of personality predicts positive and negative work attitudes



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ABSTRACT

This exploratory study examined the relationship between positive and negative organisational attitudes and the dark side of personality. In all, 451 employees working in the medical sector completed a number of questionnaires including the Hogan Development Survey and well-established organisational measures. We found that Excitable, Sceptical and Bold dark-side traits were predictors for both positive and negative organisational attitudes, whereas Leisurely was a predictor for positive organisational attitudes and Cautious for negative. We also found that the higher order factor Moving Away from Others was the strongest predictor for both types of work attitudes whereas Moving Against and Moving Towards Others were positive predictors for positive organisational attitudes. Implications and limitations are considered.

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1. Introduction

This study looks at dark-side personality correlates of job attitudes. Job attitudes have an effect on everyone in an organisation, from the employees to the owner. Consequently, it is essential to understand how positive and negative attitudes affect the working environment. In the last fifteen years, there has been an increased interest by I/O researchers in the “dark side” of work experience (Ghaemi, 2011; Spain, Harms, & Lebreton, 2013). There are many studies that have associated certain dark-side traits with work success and failure (Board & Fritzon, 2005; Furnham, Crump, & Ritchie, 2013; Furnham, Trickey, & Hyde, 2012; Palaiou & Furnham, 2014). The dark-side traits are often seen to moderate the relationship between leader emergence and leadership effectiveness (Judge, Piccolo, & Kosalka, 2009; Khoo & Burch, 2008).

In this study, we use the Hogan Development Survey (HDS) in order to assess the role of the dark side of personality in job attitudes. The HDS is based on APA 4th edition of Axis II and focuses on maladaptive personalities occupying the psychological space halfway between psychopathology and normal personality, which means that it allows for a dimensional approach to the research. It has three higher order factors (Moving Away, Moving Against, Moving Towards) that are based on Horney's taxonomy (Horney, 1950) (see Table 1).

Researchers have noted the potential but paradoxical benefits of high scores on dark-side traits. Judge et al. (2009) noted that socially undesirable traits can in some (work) situations have positive implications. Harms, Spain, and Hannah (2011) indeed demonstrated this in a

longitudinal study of dark-side traits in military cadets over a three year period. Also Zibarras, Port, and Woods (2008) found innovative characteristics in managers related to ‘Moving Against People’ traits like narcissism and anti-social behaviour.

2. Organisational attitudes

The most prominent theoretical model of attitudes is the ABC model. A stands for affective component that is related to feelings of an attitude, B stands for behaviour component that is related to the tendencies to act upon an attitude and C stands for cognitive component that is related to thoughts towards an attitude (Eagly & Chaiken, 1993). The current study looks at composite positive and negative organisational attitudes (POAs and NOAs). In order to get a more robust and reliable measure of positive and negative attitudes towards work and one's organisation we combined various related measures that are associated with either affective, or behavioural or cognitive component.

2.1. Positive organisational attitudes

There are many concepts that are closely linked and positively inter-correlated: job commitment, engagement, involvement and satisfaction. *Job satisfaction* can be seen as the extent to where job is a source of fulfilment and contentment or a means to an end (Maslach, Schaufeli, & Leiter, 2001). It refers to an employee's affective reaction to his/her job regarding how much it satisfies his/her wanted outcome (Jorfi & Jorfi, 2011). *Organisational commitment* refers to an employee's affective reaction to the characteristics of his/hers employing company (Buchanan, 1974). *Work engagement* is considered the opposite of burn-out (Schaufeli & Bakker, 2003). Employees with high scores in work engagement are positive, fulfilling, energetic and effective in their duties.

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Table 1
Description of HDS and its association with DSM-IV.

DSM-IV	Definition	Higher order factors of HDS	HDS scales	Definition
Borderline	Inappropriate anger; unstable and intense relationships	Moving Away	Excitable	Moody and inconsistent concerns being enthusiastic about persons ideas, and projects and then becoming disappointed in them
Paranoid	Distrustful and suspicious of others; motives of others are interpreted negatively		Sceptical	Cynical, distrustful, overly sensitive to criticism, and Sceptical of others' true intentions
Avoidant	Social inhibition; feelings of inadequacy and hypersensitivity to criticism or rejection		Cautious	Reluctant to take risks for fear of being rejected or negatively evaluated
Schizoid	Emotional coldness and detachment from social relationships; indifferent to praise and criticism		Reserved	Aloof, detached and uncommunicative; lacking interest in or awareness of the feelings of others
Passive-aggressive	Passive resistance to adequate social and occupational performance; irritated when asked to do something he/she does not want to		Leisurely	Independent; ignoring people's requests and becoming irritated or argumentative if they persist
Narcissistic	Arrogant and haughty behaviours or attitudes, grandiose sense of self-importance and entitlement	Moving Against	Bold	Unusually self-confident; feelings of grandiosity and entitlement; over valuation of one's capabilities
Antisocial	Disregard for the truth; impulsivity and failure to plan ahead; failure to conform		Mischievous	Enjoying risk taking and testing the limits; needing excitement; manipulative, deceitful, cunning and exploitative
Histrionic	Excessive emotionality and attention seeking; self dramatising, theatrical and exaggerated emotional expression		Colourful	Expressive, animated and dramatic; wanting to be noticed and needing to be the centre of attention
Schizotypal	Odd beliefs or magical thinking; behaviour or speech that is odd, eccentric or peculiar		Imaginative	Acting and thinking in creative and sometimes odd or unusual ways
Obsessive-compulsive	Preoccupations with orderliness; rules, perfectionism and control; over conscientiousness and inflexible	Moving Towards	Diligent	Meticulous, precise and perfectionistic, inflexible about rules and procedures; critical of others
Dependent	Difficulty making everyday decisions without excessive advice and reassurance; difficulty expressing disagreement out of fear of loss of support or approval		Dutiful	Eager to please and reliant on others for support and guidance; reluctant to take independent action or to go against popular opinion

Definition is based on Hogan and Hogan (1997).

Perceived organisational support refers to employee's point of view on how the organisation that (s)he is working for is perceiving him/her. In other words, the extent to which the employee feels valued and supported by the organisation that (s)he is working for. Employees are often concerned with the company's commitment to them (Rhoades & Eisenberger, 2002).

2.2. Negative organisational attitudes

There are also a number of tests and concepts that measure negative organisational attitudes (NOAs). *Burnout* is the opposite of work engagement. It has three main dimensions; exhaustion (i.e. reflects on employee's feelings being overextended and depleted), cynicism or depersonalisation (i.e. refers to negative and callous reactions to different aspects of the job) and detachment (i.e. refers to the reduction of efficacy, productivity and lack of achievement at work) (Maslach et al., 2001). *Perceived stress* refers to the level to which situation in one's life is evaluated as stressful (Cohen, Kamarck, & Mermelstein, 1983). It attempts to investigate the degree to which someone feels that his/her life is uncontrollable, unpredictable and overloaded. Employees that score high in perceived stress tend not only to be physically weaker than others but also to be less satisfied and perform less well (Cohen & Williamson, 1988). *Physical health* refers to the somatic symptoms of an individual caused by his/her negative feelings (e.g. stress and exhaustion) in the working environment (Schat, Kelloway, & Desmarais, 2005). The perception of stress has the potential to influence the physical state of an individual by causing negative affective states that may even lead to behavioural patterns that can increase the risk of a disease (Cohen, Janicki-Deverts, & Miller, 2007). Physical health has a negative relationship with absenteeism and low performance (Merrill et al., 2013).

3. Current study

The aim of this study is to investigate which dark-side personality traits predict job attitudes. As, we have established earlier, job attitudes and personality traits play a vital role not only in the organisation's

growth and development but also to the employee's behaviour and perception of work. There are not any direct hypotheses because this is an exploratory study for two main reasons. The first reason is that to the best of our knowledge, there is no literature on predicting job attitudes using HDS. The second reason is that the literature is unclear regarding the exact components that correspond to positive and negative job attitudes. Thus, for the purpose of this exploratory study, we suggest a series of affective, behavioural and cognitive components to compose what we called positive and negative organisational attitudes. In order to create POAs we combined job satisfaction, organisational commitment, perceived organisational support and work engagement. In order to create NOAs, we combined burnout, perceived stress and physical health.

4. Method

4.1. Participants

In all 451 employees (51 females – 11.3%) of a United Kingdom medical oriented public sector participated in this study. The age range was between 21 and 64 years ($M = 39.98$, $SD = 8.3$). The sample consisted of British (69.8%), mixed (0.2%), European (1.1%), Asian (0.6%) and unknown origin due to missing data (28.2%).

4.2. Measures

1. *The Hogan Development Survey* (Hogan & Hogan, 1997) contains 168 true/false items that assess dysfunctional interpersonal theme which reflect one's distorted beliefs about others that emerge when people encounter stress or stop considering how their actions affect others.
2. *Physical Health Questionnaire (PHQ)*: The Physical Health Questionnaire (Schat et al., 2005) is a self-administered health questionnaire that measures four aspects of somatic symptoms. These symptoms are sleep disturbance, headaches, gastro-intestinal problems and respiratory infections. It includes 14 items.
3. *Work Burnout (WB)*: The Work Burnout questionnaire is a self-administered questionnaire that was taken from the Copenhagen

Burnout Inventory (CBI) (Kristensen, Borritz, Villadsen, & Christensen, 2005). It assesses a state of extended physical and psychological exhaustion that is perceived as related to the person's work. It has six items.

4. *Utrecht Work Engagement-Short version (WENG)*: The Utrecht Work Engagement-Short version is a self-administered questionnaire that includes nine items that measure three different factors: vigour, dedication and absorption (Schaufeli & Bakker, 2003).
5. *Organisational Commitment Instrument-Short version (OCI)*: It was developed by Cook and Wall (1980). It measures the level of a person's affective reactions to characteristics of his/her employing organisation. The three items correspond to three different themes: organisational identification, involvement and loyalty.
6. *Perceived Stress Scale-Short version (PSS)*: The Perceived Stress Scale-Short version includes 10 items that measures feelings and thoughts during the last month. The scale was developed by Cohen et al. (1983) with a reliability of .80.
7. *Perceived Organisational Support-Short version (POS)*: The Perceived Organisational Support-Short version was developed by Eisenberger, Huntington, Hutchison, and Sowa (1986) and measures the global beliefs of an employee concerning the extent to which an organisation values his/her contributions and cares about his/her well-being. The current short version contains nine items with a reliability above .90.
8. *Overall Job Satisfaction (JS)*: This is a 15 item scale devised by Warr, Cook, and Wall (1979) which could be used to test people from many backgrounds. The scale has been extensively used, particularly in Great Britain, since it was devised (Furnham, 2008).

4.3. Procedure

All of the participants were tested by a British-based psychological consultancy as part of an assessment exercise within their company. At the end of the study, participants were given personal feedback on their scores. The consultancy gave permission for their anonymised data to be included as research.

5. Results

Descriptive statistics, Cronbach's alpha (Table 2) and correlations (Table 3) of the seven measures that contributed to the existence of POAs and NOAs. Regarding the Cronbach's alpha, we followed the threshold of .65 (DeVellis, 1991).

As showed in Table 2, all the Cronbach's alpha values are above the acceptable threshold. In Table 3, we can see that all seven measurements were significantly correlated with each other.

5.1. Exploratory factor analysis

EFA using Maximum of Likelihood was conducted in the seven measurements in order to investigate if our speculation was valid. We used an orthogonal rotation (Varimax) and any values below .3 were suppressed (Field, 2013). The Kaiser–Meyer–Olkin measure verified the

Table 2
Descriptive statistics and Cronbach's alpha of the seven measurements that contributed to the creation of POA and NOA.

Measurements	Mean	Std. deviation	Cronbach's alpha	Items per scale
Physical Health Questionnaire	28.95	5.68	.74	13
Work Burnout	11.4	3.07	.74	6
Utrecht Work Engagement	49.19	5.94	.80	7
Organisational Commitment Inventory	17.92	2.85	.68	3
Job Satisfaction	51.18	8.55	.84	13
Perceived Stress Scale	15.92	4.35	.80	8
Perceived Organisational Support	41.15	10.58	.94	6

Note. N = 451.

Table 3
Pearson correlations of the seven measurements that contributed to the creation of POA and NOA.

	1. PHQ	2. BW	3. WENG	4. OCI	5. JS	6. PSS	7. POS
1	1	.511**	-.249**	-.230**	-.200**	.400**	-.228**
2		1	-.416**	-.371**	-.374**	.574**	-.319**
3			1	.536**	.479**	-.332**	.404**
4				1	.555**	-.339**	.525**
5					1	-.380**	.717**
6						1	-.284**

Note. N = 451. The numbers in the horizontal row correspond to the numbers in the vertical row. PHQ: Physical Health Questionnaire, BW: Work Burnout, WENG: Utrecht Work Engagement, OCI: Organisational Commitment Inventory, JS: Job Satisfaction, PSS: Perceived Stress Scale, POS: Perceived Organisational Support.

** $p < .01$, two tailed.

sampling adequacy for analysis (KMO = .80 with Bartlett's sphericity $\chi^2(21) = 1159.3 p < .000$). The seven measures clustered into two factors. The first component explained 42.70% of the variance and the second component explained an additional 11.40%. As speculated, WENG, OCI, JS, and POS factored together and PHQ, WB, and PSS factored together (Table 4).

In order to further validate the existence of the two latent factors we conducted a Confirmatory Factor Analysis (CFA). However, before we conducted the CFA, we ran a Pearson correlation in order to identify if there is multicollinearity between the items that correspond to the measurements. The analysis showed that some items needed to be removed. We used two criteria to identify which items should be removed: when items significantly correlate $r > .7$ (Field, 2013) and when there are at least three highly significant correlations with $r > .55$. Consequently, in total we removed 10 items from the CFA. These items were: WENG3, WENG4, JS6, JS8, POS1, POS3, POS5, PHQ6, PSS3, and PSS10. Cronbach's alpha of all the scales after the items were removed all remained above .65.

5.2. Confirmatory Factor Analysis

In the current study, the tests in order to examine the goodness of fit of the model are: chi-square (χ^2), the Comparative Fit Index (CFI), the Normed Fit Index (NFI) and the Root Mean Square Error of Approximation (RMSEA) (Byrne, 2013).

5.2.1. Positive organisational attitudes

The chi-square is relatively large and significant but this may be due to the large sample size (Kenny, 2014). The NFI is not in the desirable threshold (.90) however is very close to it (.88). The values of CFI and RMSEA (.93 and .05 respectively) provide evidence for a good fit of the model.

Table 4
Factor loading using EFA with maximum likelihood.

Measurements	Factors	
	1	2
JS	.85	
POS	.79	
OCI	.61	
WENG	.49	-.36
WB		.82
PSS		.62
PHQ		.58

Note. N = 451. Values below .3 were suppressed. Factor 1 is positive organisational attitudes (POA) and Factor 2 is negative organisational attitudes (NOA). PHQ: Physical Health Questionnaire, WB: Work Burnout, WENG: Utrecht Work Engagement, OCI: Organisational Commitment Inventory, JS: Job Satisfaction, PSS: Perceived Stress Scale, POS: Perceived Organisational Support. The strongest loading factors are highlighted in bold.

5.2.2. Negative organisational attitudes

The chi-square is again significant but this can be explained due to the large sample (Kenny, 2014). As in the POA model, the NFI is not higher than (.90). Furthermore the NFI value of the current model is lower than POA (.86). On the other hand, the CFI is higher in this model (.94) and the RMSEA is lower (.037) than in POAs indicating an even better model fit.

In order to proceed to our final analysis (i.e. investigating the role of the dark side of personality in regard to positive and negative organisational attitudes) we added the four measures (WENG, OCL, POS and JS) corresponding to POAs and the three measures (PHQ, WB and PSS) corresponding to NOAs.

5.3. Multiple regression analysis

A series of hierarchical multiple regressions were conducted using as the dependent variables (DV) the POAs and NOAs and as independent variables the HDS and the three higher order factors of HDS (IV). In this subsection we conducted a two-step regression analysis using HDS as our IV and POA and NOA as our DVs (Table 5).

In step 1 of the hierarchical regression, we controlled for age and gender that accounted for 1% of the variance for POAs and 6% for NOAs. Neither age nor gender had an effect on POAs or NOAs.

In step 2 of the hierarchical regression, the HDS explained an additional 22% of the variance with lower values on Excitable, Sceptical and Leisurely and higher values on Bold, Diligent and Dutiful significantly predicting POA. Regarding NOA, an additional 24% of variance was explained with Excitable, Sceptical, and Cautious being significantly positive predictors and Reserved and Bold being significantly negative predictors. There were some differences regarding the HDS scales predicting POAs and NOAs. In POAs, Cautious and Reserved are not predictors whereas in NOAs Leisurely, Diligent and Dutiful are not predictors.

In this subsection we conducted a two-step regression analysis using the three higher order factors of HDS as our IV and POAs and NOAs as our DVs (Table 6).

As earlier, in step 1 of the hierarchical regression, we controlled for age and gender that accounted for 1% of the variance for POAs and 6% for NOAs. Neither age nor gender had an effect on POAs or NOAs.

Table 5
Regression of POA and NOA using HDS.

	POA		NOA	
	F(2448)	R ² adj	F(2448)	R ² adj
Step 1	1.15	.001	2.28	.006
Step 2	11.56	.23	16.06	.30
	β	t	β	t
Age (step 1)	−0.07	−.79	0.09	1.63
Gender (step 1)	−3.57	−1.41	2.3	1.57
Excitable	−1.76	−4.44***	1.26	5.79***
Sceptical	−1.14	−3.29**	.59	3.10**
Cautious	−.75	−1.92	1.23	5.73***
Reserved	−.39	−0.95	−.46	−2.08*
Leisurely	−1.15	−3.22**	.31	1.59
Bold	.99	2.72**	−.48	−2.44*
Mischievous	−.54	−1.59	.11	0.59
Colourful	.26	0.81	.13	0.74
Imaginative	.28	0.71	.28	1.31
Diligent	.96	2.62**	−.33	−1.66
Dutiful	1.02	2.85**	−.05	−0.23
Age (step 2)	.11	1.2	.03	0.57
Gender (step 2)	−1.64	−0.72	.57	0.45

Note: in bold highlighting the significant results. Gender: male coded with 1 and female with 2.

* $p < .05$, two tailed.

** $p < .01$, two tailed.

*** $p < .001$, two tailed.

Table 6

Regression of POA and NOA using the three higher order factors.

	POA		NOA	
	F(2448)	R ² adj	F(2448)	R ² adj
Step 1	1.15	.001	2.28	.006
Step 2	25.85	.22	27.45	.23
	β	t	β	t
Age (step 1)	−.07	−0.73	.09	1.64
Gender (step 1)	−3.57	−1.41	2.30	1.57
Moving_Against	0.79	2.05*	−0.33**	−1.48
Moving_Away	−5.40	−11.11***	3.18	11.37***
Moving_Towards	2.14	4.87***	−0.23	−0.89
Age (step 2)	0.07	0.78	0.03	0.58
Gender (step 2)	−2.37	−1.06	1.76	1.36

Note: in bold highlighting the significant results. Gender: male coded with 1 and female with 2.

* $p < .05$, two tailed.

** $p < .01$, two tailed.

*** $p < .001$, two tailed.

In step 2 of the hierarchical regression, the higher order factors of HDS explained an additional 21% of the variance with all the higher order factors being significant predictors for POAs. More specifically, Moving Against and Moving Towards are positive predictors whereas Moving Away being a negative predictor. On the other hand, the three higher order factors of HDS explained an additional 17% of the variance with Moving Away being a positive predictor for NOAs. As we can see, Moving Away is the only common predictor for both POAs and NOAs.

6. Discussion

The findings of this study revealed that some traits were differentially associated with both POAs and NOAs. The higher order Moving Away was a predictor for both organisational attitudes and the other two factors were positive predictors for POAs.

The dark side traits accounted for more variance in NOAs than in POAs. A possible explanation for this finding may lie in the negative bias, also known as the negativity effect (Rozin & Royzman, 2001). According to this theory, elements of a more negative nature (e.g. feelings, thoughts, and social interactions) have a greater effect on individual's psychological state, processes and attitudes than of neutral or positive elements. Consequently, positive events will have a lower impact on an individual's cognition and behaviour than an equal negative event. Since negative events have a higher impact on an individual, it is logical to assume that negative organisational attitudes can be explained more easily by personality traits (Kanouse & Hanson, 1972). The second reason why NOAs had more variance explained may be that this model had a slighter better fit than POAs.

Some HDS scales were predictors for both POAs and NOAs: Excitable, Sceptical and Bold. For POAs, Excitable and Sceptical were negative predictors and Bold was a positive predictor whereas for NOAs it was the other way around. A possible interpretation for these findings may be that these are the key personality traits that can predict people's job attitudes. Moreover, many studies have shown that these traits are important in various aspects of work outcomes. For instance, Excitable and Sceptical have been shown to be negative predictors of work success whereas Bold is a positive predictor (Furnham et al., 2012) and more specifically related to promotion (Furnham et al., 2013). Thus, individuals that tend to overreact to criticism (Excitable), take criticism personally (Sceptical) and have low self-estimate (low Bold) have negative job attitudes because of the way they interpret how they are treated at work.

Leisurely was the third strongest predictor of POAs and NOAs while Cautious was the second. Leisurely was a negative predictor of POAs,

which may be because it is associated with poor and non-performing employees. Individuals with passive–aggressive traits aim to resist work and social requests because they identify them as coming from disliked enemy of their past (such as authority figures). Thus, this unsolved anger is being reactivated on an everyday basis against co-workers and partners (Warner, 2011). Cautious (reluctant on taking risks and technology) was a positive predictor of NOAs. Perhaps the highest risk of all is not taking any risks and calculated risk-taking is vital for the development of an organisation. Thus, individuals that tend to have high scores in Cautious tend to have negative job attitudes because of their resistance to take risks and adapt to technology. Another reason may be that Cautious is associated with low Extraversion and high Neuroticism that are signs of burnout and stress (Maslach et al., 2001).

Moving Away was the most significant predictor for both POAs and NOAs. A significant positive predictor of POAs was Moving Towards. Moving Towards Others is consisted by Dutiful and Diligent that are associated with conformity and eagerness to please. Individuals with high scores in this factor tend to be team players, easy going, open to suggestions and focus on their task which is critical for high reliability in organisations such as medicine (Baker, Day, & Salas, 2006). Moving Against was also a positive predictor for POAs. A possible explanation for that may lie in the importance of the Bold trait which is associated with work success (Furnham et al., 2013), enthusiasm and energy (Hogan & Hogan, 1997) which are themselves components associated with job attitudes (Arvey, Bouchard, Segal, & Abraham, 1989).

To our knowledge, this is the first study that looks into not only positive but negative job attitudes using HDS scales as predictors. As Spain et al. (2013) mentioned, the relation of the Five Factor Model traits (mostly Extraversion and Neuroticism) are well established regarding job satisfaction and job attitudes/affect (Judge, Heller, & Mount, 2002), the relation of the dark side traits and work place are less investigated. Thus, the current research is one of the first to look into the role of personality in both positive and negative job attitudes.

A clear limitation of the study is method invariance, which is particularly problematic with occupational studies. First, it tends to increase the reported size of relationships (correlations), and second, there are problems associated with social desirability. Participants may have been tempted to dissimulate in order to create a favourable impression. Moreover, our sample is consisted predominantly by males and by a specialised public medical profession, and thus the findings may not be generalised.

Future studies should address the limitations mentioned above by collecting data on performance to discern any differences between POAs and NOAs. Furthermore, collecting observational data (multi-source data) or behavioural data would enlighten us regarding the influences of POAs and NOAs as well as the role of personality in them. Finally, it would be interesting to investigate the role of the “bright” side of personality.

References

Arvey, R. D., Bouchard, T. J., Segal, N. L., & Abraham, L. M. (1989). Job satisfaction: Environmental and genetic components. *Journal of Applied Psychology*, 74, 187–192 (<http://dx.doi.org/10.1037/0021-9010.74.2.187>).

Baker, D. P., Day, R., & Salas, E. (2006). Teamwork as an essential component of high-reliability organisations. *Health Services Research*, 41, 1576–1598. <http://dx.doi.org/10.1111/j.1475-6773.2006.00566.x>.

Board, B. L., & Fritzon, K. (2005). Disordered personalities at work. *Psychology, Crime & Law*, 11, 17–32. <http://dx.doi.org/10.1080/10683160310001634304>.

Buchanan, B. (1974). Building organizational commitment: The socialization of managers in work organizations. *Administrative Science Quarterly*, 19, 533–546.

Byrne, B. M. (2013). *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. Taylor & Francis.

Cohen, S., Janicki-Deverts, D., & Miller, G. E. (2007). Psychological stress and disease. *Journal of the American Medical Association*, 298, 1685–1687. <http://dx.doi.org/10.1001/jama.298.14.1685>.

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, 385–396 (<http://dx.doi.org/10.2307/2136404>).

Cohen, S., & Williamson, G. (1988). Perceived stress in a probability sample of the United States. In S. Spacapan, & S. Oskamp (Eds.), *The social psychology of health*. Newbury Park, CA: Sage.

Cook, J., & Wall, T. (1980). New work attitude measures of trust, organizational commitment and personal need non-fulfillment. *Journal of Occupational Psychology*, 53, 39–52. <http://dx.doi.org/10.1111/j.2044-8325.1980.tb00005.x>.

DeVellis, R. F. (1991). *Scale development: Theory and applications*. Newbury Park: Sage.

Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Forth Worth, TX: Harcourt Brace Jovanovich.

Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology*, 71, 500–507 (<http://dx.doi.org/10.1037/0021-9010.71.3.500>).

Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. Sage.

Furnham, A. (2008). *Personality and intelligence at work*. London: Routledge.

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

Furnham, A., Trickey, G., & Hyde, G. (2012). Bright side aspects to dark side traits: Dark side traits associated with work success. *Personality and Individual Differences*, 52, 908–913. <http://dx.doi.org/10.1016/j.paid.2012.01.025>.

Ghaemi, N. (2011). *A first rate madness: Uncovering the links between leadership and mental illness*. New York, NY: Penguin Books.

Harms, P. D., Spain, S. M., & Hannah, S. T. (2011). Leader development and the dark side of personality. *The Leadership Quarterly*, 22, 495–509. <http://dx.doi.org/10.1016/j.leaqua.2011.04.007>.

Hogan, R., & Hogan, J. (1997). *Hogan development survey manual*. Tulsa, OK: Hogan Assessment Systems.

Horney, K. (1950). *Neurosis and human growth*. New York: W W Norton and Company.

Jorfi, H., & Jorfi, S. (2011). Strategic operational management: Investigating the factors impacting communication effectiveness and job satisfaction. *Procedia-Social and Behavioural Science*, 24, 1596–1605. <http://dx.doi.org/10.1016/j.sbspro.2011.09.003>.

Judge, T. A., Heller, D., & Mount, M. K. (2002). Five-factor model of personality and job satisfaction: A meta-analysis. *Journal of Applied Psychology*, 87. <http://dx.doi.org/10.1037/0021-9010.87.3.530> (530–41).

Judge, T. A., Piccolo, R. F., & Kosalka, T. A. (2009). The bright and dark sides of leader traits: A review and theoretical extension of the leader trait paradigm. *The Leadership Quarterly*, 20, 855–875 (<http://dx.doi.org/10.1016/j.leaqua.2009.09.004>).

Kanouse, D. E., & Hanson, L. (1972). Negativity in evaluations. In E. E. Jones, D. E. Kanouse, S. Valins, H. H. Kelley, R. E. Nisbett, & B. Weiner (Eds.), *Attribution: Perceiving the causes of behavior*. Morristown, NJ: General Learning Press.

Kenny, D. A. (2014, October 6). Measuring model fit. Retrieve from <http://davidakenny.net/cm/fit.htm>

Khoo, H. S., & Burch, G. S. J. (2008). The ‘dark side’ of leadership personality and transformational leadership: An exploratory study. *Personality and Individual Differences*, 44, 86–97. <http://dx.doi.org/10.1016/j.paid.2007.07.018>.

Kristensen, T. S., Borritz, M., Villadsen, E., & Christensen, K. B. (2005). The Copenhagen Burnout Inventory: A new tool for the assessment of burnout. *Work and Stress*, 19, 192–207. <http://dx.doi.org/10.1080/02678370500297720>.

Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, 52, 397–422. <http://dx.doi.org/10.1146/annurev.psych.52.1.397>.

Merrill, R. M., Aldana, S. G., Pope, J. E., Anderson, D. R., Coberley, C. R., Grossmeier, J. J., et al. (2013). Self-related job performance and absenteeism according to employee engagement, health behaviours, and physical health. *Journal of Occupational and Environmental Medicine*, 55, 10–18. <http://dx.doi.org/10.1097/JOM.0b013e31827b73af>.

Palaïou, K., & Furnham, A. (2014). Are bosses unique? Personality facet differences between CEOs and staff in five work sectors. *Consulting Psychology Journal: Practice and Research*, 66, 173–196 (<http://dx.doi.org/10.1037/cpb0000010>).

Rhoades, L., & Eisenberger, R. (2002). Perceived organisational support: A review of the literature. *Journal of Applied Psychology*, 87, 698–714. <http://dx.doi.org/10.1037/0021-9010.87.4.698>.

Rozin, P., & Royzman, E. (2001). Negativity bias, negativity dominance and contagion. *Personality and Social Psychology Review*, 5, 296–320.

Schat, A. C., Kelloway, K. E., & Desmarais, S. (2005). The Physical Health Questionnaire (PHQ): Construct validation of a self-report scale of somatic symptoms. *Journal of Occupational Health Psychology*, 10, 363–381. <http://dx.doi.org/10.1037/1076-8998.10.4.363>.

Schaufeli, W., & Bakker, A. (2003). *Utrecht Work Engagement Scale: Preliminary manual*. Occupational Health Psychology Unit, Utrecht University.

Spain, S. M., Harms, P., & Lebreton, J. M. (2013). The dark side of personality at work. *Journal of Organizational Behavior*, 35, 41–60. <http://dx.doi.org/10.1002/job.1894>.

Warner, N. (2011). *Guerrilla tactics against passive aggression in the workplace*. Florida: Creative Conflict Resolutions, Inc.

Warr, P. B., Cook, J., & Wall, T. (1979). Scales for the measurement of some work attitudes and aspects of psychological well-being. *Journal of Occupational Behaviour*, 52, 129–148.

Zibarras, L. D., Port, R. L., & Woods, S. A. (2008). Innovation and the ‘dark side’ of personality: Dysfunctional traits and their relation to self-reported innovative characteristics. *Journal of Creative Behaviour*, 42, 201–215. <http://dx.doi.org/10.1002/j.2162-6057.2008.tb01295.x>.