From dawn to dusk: The role of personality in different organisational contexts

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DECLARATION

I, Aikaterini Palaiou, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

ABSTRACT

Robert Hogan was the first person who distinguished between the "bright" side and the "dark" side of personality. Hogan, Curphy and Hogan (1994) noted that the Five Factor Model (FFM) represented the bright side of personality. The dark side traits can be understood as those dysfunctional tendencies that tend to surface when people are under stress or are off their guard. The Hogan Development Survey (HDS) was designed in order to identify individuals who have the potential to be derailed (Hogan & Hogan, 2001). The characteristics of the bright and dark sides co-exist; individual differences have an impact on both functional and dysfunctional behaviours. This thesis aimed to validate and investigate the role of personality, especially the dark side, in different organisational contexts. Firstly, I examined the bright side and dark side of CEOs. I found that they have significantly higher scores in Conscientiousness, Extraversion, Agreeableness, Bold and Colourful behaviour compared to the working norms of people in their sector who were more Neurotic, Excitable, Cautious, Leisurely and Dutiful (**Chapter 2**). Validating the bright side and the dark side in a different organisational context, I showed that Ambition, Prudence and Adjustment predicted both negative and positive organisational attitudes. Moreover, the dark side explained more variance for both organisational attitudes, with Bold being a consistent predictor (**Chapter 3**). Finally, I examined the updated subscale structure of the HDS, which has relatively low internal consistency and fits relevantly well in the three higher order factors. I also found that Fantasied Talent, Public Confidence and Conforming were positive strong predictors for work success, whereas Fearful and Manipulative were negative predictors (**Chapter 4**). The findings of this thesis validated Hogan's distinctions between the bright and the

dark side of personality as well as Hogan's instruments, and provided a deeper understanding of the role of personality in various organisational contexts.

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Preface

All of the work presented henceforth was conducted for the purpose of investigating the role of both the bright side and the dark side of personality in various organisational contexts. The main advantage of this thesis was that the sample consisted of working adults, thus making the findings have more ecological validity.

A version of Chapter 2, study 1, has been published [Palaiou, 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]. Study 2 is under peer review [Palaiou, K. & Furnham, A., (revised). The dark side of CEOs: Personality disorder differences between CEOs and their staff in five work functions. *Consulting Psychology Journal: Practice and Research*]. I was the lead investigator, responsible for all major areas of concept formation, analysis as well as manuscript composition.

A version of Chapter 3 has also been published [Palaiou, K., Zarola, A. & Furnham, A. (2016). The dark side of personality predicts positive and negative work attitudes. *Personality and Individual Differences, 88,* 12-16, http://dx.doi.org/10.1016/j.paid.2015.08.029]. I was the lead investigator, responsible for all major areas of concept formation, analysis as well as manuscript composition.

A version of Chapter 4, study 2, is under peer review [Palaiou, K., Broekema, H. & Furnham, A. (under review). Examining the multidimensional subscales of detailers; a validation of HDS and work success. *Journal of Business Ethics*]. In those studies, I was the lead investigator (i.e. being responsible for all major areas of concept formation, data analysis and manuscript composition).

Chapter 1: General Introduction

The conceptual distinction of the "bright" and "dark" sides of personality was first introduced by Robert Hogan (1986; Hogan & Hogan 1997). The bright side refers to our "public" persona: how we come across to other people most of the time and how other people would describe us. It is those aspects of our personality that we can largely manage. In contrast, the dark side is the more extreme version of our personality and it is likely to appear when we are off our guard (e.g. with family and friends) or when we are under stress. Considering that personality is a spectrum, our dark side lies towards the end of the spectrum whereas the bright side lies in the middle. This is why, both bright and dark side characteristics co-exist; however, other individual differences and situational-organisational factors have an impact on dysfunctional behaviours and leadership behaviours (Tett & Burnett, 2003)

1.1 Bright side of personality

The bright side of personality refers to our everyday self: who we are under "normal circumstances" (i.e. not being under stress / day to day) when we interact with other people. This section of the thesis will focus on the most influential personality framework, the Five Factor Model (FFM). There will be a brief historical overview regarding its development, as well as each of the five factors and their role in the occupational context. In the second part of this section, this thesis will focus on Hogan's socioanalytic theory.

1.1.1 Five Factor Model

There are almost 20,000 trait words in the English vocabulary. Some of these are used by researchers in a more "technical" sense whereas others are almost ignored. Lay people tend to describe and explain behaviours and attitudes based on what they see in others by using the trait vocabulary, e.g. she is aggressive, he is impulsive. The trait psychologists have tried to develop a theory that is powerful, inclusive and rigorous. Some have mainly been concerned with taxonomisation, others with how the trait processes work, and still others with the predictive validity of the traits. The ultimate goal has been to create a valid and reliable measurement that can assess with accuracy the fundamental traits (e.g. stable over time).

The two prominent advocates of the FFM, McCrae and Costa (1995), noted the following regarding personality traits (p.248):

a. *"Personality traits are not descriptive summaries of behaviour, but rather dispositions that are inferred from and can predict and account for patterns of thoughts, feelings and actions.*

b. *Scientific evidence for the existence of traits is provided (in part) by studies that show patterns of covariation across time, twin pairs, and cultures – covariation that cannot be readily explained by such alternatives as transient influences, learned responses and cultural norms.*

c. *Patterns of covariation provide non-circular explanations, because observation of some behaviours allows the prediction of other, non-observed behaviours.*

d. *Psychological constructs give conceptual coherence to the covarying patterns of thoughts, feelings and actions; good constructs have surplus meaning that points beyond the known correlates of a trait.*

e. *Trait explanations are not themselves mechanistic; the mechanisms through which they operate may or may not be specified in a psychological theory.*

f. *When trait standing in an individual is assessed using a validated methods, knowledge of the trait's manifestations can legitimately, albeit fallibly, be invoked to explain that individual's behaviour.*

g. *Personality traits are hypothetical psychological constructs, but they are presumed to have a biological basis.*

h. *Over time, traits interact with the environment to produce culturally conditioned and meaning-laden characteristic adaptations (such as attitudes, motives, and relationships).*

i. *Specific behaviours occur when these characteristic adaptations interact with the immediate situation; traits are thus best construed as indirect or distal causes of behaviour."*

However, it should be clarified that McCrae and Costa's (1995) model of FFM is one of the many models within the broader Big Five.

Some researchers like Diener (1996) stated that traits are not the only thing that we need in order to explain different behaviours. It is important to understand how traits can influence a behaviour, how they interact with the environment as well as how they are stored in the nervous system.

1.1.1.2 Three vs. 16 vs. five personality traits

The lexical approach was implemented in order to identify personality factors that exist within the natural language (Goldberg, 1996). Lexical researchers stated that the most vital dimensions in aggregated personality findings are those that replicate across cultures, languages and samples. This is why the idea that phenotypes can be encoded into natural language, over time, is a powerful sign of salient psychological phenomena (Saucier & Goldberg, 2001).

Over 50 years ago, Cattell used lexical criteria for 171 trait names in order to conduct a factor analysis. By using different styles of data (e.g. self-report or observational), he developed and conducted many exploratory factor analyses on various datasets. Finally, he established 16 factors – the famous 16 Personality Factors (PF) – that can be outlined in either technical or everyday language (Cattell, 1989).

Eysenck, however, was instead a supporter of first developing and then testing theories, which in practice today is called criterion-factor analysis. He originally developed and tested two Galen-inspired super-factors, which later led to the three super-factors: The Psychoticism, Extraversion, Neuroticism model, also known as PEN (Eysenck & Eysenck 1976).

Even if Tupes and Christal (1961) and Norman (1963) investigated the Big 5 (in a slightly different form). It was not until 1992 when the work of Costa and McCrae led to the Five Factor Model (FFM). The factors are: Extraversion, Openness to Experience, Conscientiousness, Agreeableness and Neuroticism (or its opposite, Emotional Stability). There is overwhelming evidence that the FFM, especially the traits of Extraversion, Conscientiousness and Neuroticism, are stable over time

(McCrae & Costa, 1990; Rantanen, Metsapelto, Feldt, Pulkkinen & Kokko, 2007). The most common tool to measure the FFM is the NEO-Personality Inventory-Revised (NEO-PI-R) (Costa & McCrae, 1992). However, the FFM is not without its critics (Block, 1995).

1.1.1.3 Other personality models

Other than the FFM and PEN, there are various other popular frameworks that attempt to describe and categorise personality. One is the seven-factor model based on socioanalytic theory (more in section 1.2.2), Hogan (1986) suggested six domains: Sociability (FFM: Extraversion), Ambition (FFM: Extraversion), Adjustment (FFM: Neuroticism), Likability/Interpersonal Sensitivity (FFM: Agreeableness), Prudence (FFM: Conscientiousness) and Intellectance/Inquisitive (FFM: Openness to Experience), but later added one more domain: School Success (FFM: Openness to Experience). In order to assess these seven factors, he created a tool specific for work-related outcomes named Hogan Personality Inventory (HPI) (Anderson, Foster, van Landuyt & Tett, 2006; Hogan & Hogan, 1992).

Another popular framework is the two-factor model. Digman (1997), in a meta-analysis of FFM, shaped the current view of personality psychology. By conducting inter-scale correlation of 14 FFM studies with a mean of .26 and citing excellent confirmatory fit indices (CFIs), he found that there are two higher-order factors (Big Two), Alpha and Beta. DeYoung, Peterson and Higgins (2001) conducted a study based on the findings of Digman (1997), confirming the existence of Big Two. DeYoung et al. (2001) named the Alpha factor Stability and the Beta factor Plasticity. Stability refers to how motivated a person can be as well as to social

interaction. Plasticity refers to seeking new and rewarding experiences that are intellectual and social as well as to the extent that this happens.

The third framework is the one-factor model. Modelled on the pre-existing single general factor of Intelligence (g) (Spearman, 1904), the general "p-factor" was introduced by Hofstee (2001), who proposed that social desirability (e.g. reality-orientation, emotional steadiness) is more than an artifact of social perception. However, it was Musek (2007) who brought the general factor of personality (GFP) into the spotlight. Musek (2007) claimed that GFP is superordinate to all personality domains and that it is possibly rooted in genetics and neurophysiology. In his study, after confirming Digman's (1997) theory of the Big Two, he showed that there was a higher-order factor that explained approximately 60% of the variance.

Yet another model is the six-factor model. Ashton et al. (2004) developed a new six-dimensional framework for personality structure. The factors include Honesty-Humility (H), Emotionality (E), Extraversion (X), Agreeableness (A), Conscientiousness (C), and Openness to Experience (O). According to these authors, HEXACO predicts a number of personality phenomena that are not explained within the FFM, such as the relations of personality factors with theoretical biologists' constructs of the reciprocal and kin altruism (i.e. a behaviour whereby someone acts in a manner that temporarily reduces its fitness while increasing someone else fitness).

The similarities and differences between all the structures are illustrated in Table 1.1.

Table 1.1

Similarities and differences of the most popular personality frameworks

Different Factors	One Super Factor	Two Super factors	Three Factors	Five Factors	Six Factors	Seven Factors
Stability	X	X				
Plasticity	X	X				
Psychoticism	X		X			
Openness to Experience	X			X	X	XX
Extraversion	X		X	X	X	XX
Neuroticism	X		X	X	X*	X
Conscientiousness	X			X	X	X
Agreeableness	X			X	X	X
Honest- Humility	X				X	

*Note: * it is named as Emotionality but it represents Neuroticism.*

As we can see in Table 1.1, the most common factors within all models are Extraversion and Neuroticism, whereas Stability, Plasticity and Honest-Humility do not map to other factors.

Despite criticism, the FFM model is still the most well-known, accepted and researched model in individual differences (Barrick & Mount, 1991; Judge, Bono, Ilies & Gerhardt, 2002). Many studies have looked at the role of personality at work. A meta-analysis of the FFM showed that Conscientiousness is the strongest predictor of career success across various occupations and all measures of success. Barrick, Mount & Judge (2001) also found that Openness to Experience is not as strong a predictor of job performance as Conscientiousness or Neuroticism. Neuroticism is negatively related to job performance, since low tolerance to stress and anxiety could reduce not only career satisfaction but also lead to poor performance (Ng, Eby, Sorensen & Feldman, 2005).

Other studies have shown that employees who are inflexible, intolerant, argumentative and uncooperative (i.e. low scores in Agreeableness) are less likely to be effective in team settings and are more likely to engage in counterproductive behaviours. Agreeableness may be the best single predictor for team effectiveness (Mount, Barrick & Stewart, 1998).

1.1.1.4 Personality at work

A little more than 20 years ago, Furnham (1992) stated that "*organisational behaviour theorists and management scientists have neglected to examine individual differences in any systematic way… while personality theorists have been eager to examine clinical, educational and medical social correlates of individual differences/personality dimensions, they have consistently ignored occupational/organisational correlated*" (p. 2). Since then, hundreds of empirical studies and dozens of meta-analytical reports have investigated the role of personality in the working environment.

The role of personality in the work context is very important. Managers care about personality, and they would not hire an individual who is careless, impulsive, low in achievement orientation or irresponsible (low scores in Conscientiousness). Moreover, managers would not prefer individuals that are anxious, hostile, depressed or insecure (high scores in Neuroticism) (Barrick & Mount, 2005).

In addition, research has shown a link between personality and work-related attitudes such as wellbeing, burnout, organisational commitment, engagement and perceived organisational support (e.g. Reinke & Chamorro-Premuzic, 2014; Palaiou,

Zarola & Furnham, 2016; Soh, Zarola, Palaiou & Furnham, 2016; Treglown, Palaiou, Zarola & Furnham, 2016). The reason why I was referring to these variables as attitudes is because attitude can be defined by the Affective Behaviour Cognitive (ABC) model (Eagly & Chaiken, 1993). Affective refers to how someone feels (e.g. feeling exhausted), thinks (e.g. I get support from my organisation) or behaves (e.g. I get carried away when I work). Thus, I perceive behaviour as a form of action. I will elaborate on organisational attitudes in Chapter 3.

Judge, Heller and Mount (2002) reported that the multiple correlation using all FFM for predicating overall job satisfaction was .41. Judge et al. (2002) noted a multiple correlation of .53 using all FFM when predicting leader emergence and .48 for both leader emergence and effectiveness.

Among all FFM personality domains, Conscientiousness is the best predictor of overall job performance (Li, Barrick, Zimmerman & Chiaburu, 2014). Individuals usually perform better through careful planning and persistence (Barrick & Mount, 1991). Reinke and Chamorro-Premuzic (2014) also found that Conscientiousness is negatively linked with burnout.

Neuroticism is the second strongest predictor of work performance and is usually negatively correlated (Barrick et al., 2001). Individuals with high Emotional Stability scores are typically more likely to effectively function under pressure and are less likely to experience negative feelings (e.g. anger and anxiety) during stressful situations in comparison to individuals with low Emotional Stability (Costa & McCrae, 1992). Reinke and Chamorro-Premuzic (2014) found a strong positive relation between Neuroticism and burnout. Soh et al. (2016) found that Emotional Stability positively predicts wellbeing at work.

The findings on Agreeableness as a valuable predictor of work-related outcomes are mixed. Some studies have shown that Agreeableness is a predictor of job performance and training success (Salgado, 1997; Tett, Jackson & Rothstein, 1991), whereas others have not shown this to be the case (Li et al., 2014). Agreeableness was found to be the best predictor of employees' withdrawal, by explaining more than 25% of the variance (Li et al., 2014). Furnham (2008) argued that because leaders/individuals in high managerial positions have to make tough decisions and confront poor performance, many are less agreeable than individuals in lower managerial positions.

The evidence suggests that Extraversion is linked to both contextual and task performance as well as to proactivity (Crant, 1995; Pearsall & Ellis, 2006). Extraverts tend to have positive moods that enable contextual performance because they are perceived as more empathetic (Scott, Colquitt, Paddock & Judge, 2010) and are more likely to create stronger networks of close peer relationships (Asendorpf & Wilpers, 1998). Extraversion has also been found to be a strong predictor of leadership ability (Bono & Judge, 2004). Sociability is also important in mobilising others and developing a social network that is located inside and outside of an organisation (McDonald & Westphal, 2003). Furnham, Crump and Ritchie (2013) showed that those who were promoted more rapidly to senior levels tended to be more emotionally stable (i.e. less neurotic), more extraverted and more conscientious than others

More importantly Le, Oh, Robbins, Ilies, Holland and Westrick (2001) found that Conscientiousness and Emotional Stability have a curvilinear relationship with job performance (e.g. task performance). Individuals with very high or very low

scores often show signs of unproductive behaviours. People with very high scores on Emotional Stability tend to have saturated attention and super vigilance. Furthermore, Grant (2013) found Extraversion to have a curvilinear relationship with job performance. For example, individuals with high scores on Extraversion may come across as overconfident and enjoy being the centre of the attention (Judge, Piccolo & Kosalka, 2009), which may result in weak performance, owing to being overly self-focused (Ashton, Lee & Paunonen, 2002; Grant, 2013).

Openness to Experience has been found to be less related to job performance (Judge, Rodell, Klinger & Simon, 2013). Intellect appears to be related with task performance because originality is important in completing tasks and is considered a form of intelligence (Barron, 1957). Thoresen, Bradley, Bliese and Thoresen (2004) hypothesised that Openness to Experience would be positively related to work performance; however, their hypothesis was not confirmed. Minbashian, Earl and Bright (2013) assumed that one of the reasons that Thoresen et al. (2004) rejected their hypothesis was owing to their small sample size of 48 participants. Minbashian et al. (2013) addressed the limitations of Thoresen et al. (2004) but still failed to find a relation between Openness to Experience and job performance. They did, however, find that individuals with higher scores in Openness to Experience decline in performance at a significantly slower rate than individuals with lower scores. A recent meta-analysis conducted by Huang, Ryan, Zabel and Palmer (2013) found that Openness to Experience did not predict a form of performance called Adaptive (i.e. adjusting and understanding the changes in a working environment).

1.1.1.5 Conclusion

There is no doubt that the FFM is the best researched personality model for work-related outcomes. Research has shown that Conscientiousness is the strongest predictor for work-related outcomes, followed by Neuroticism (e.g. Li et al., 2014; Barrick et al., 2001). Meta-analytic studies show that the findings of the FFM regarding work-related outcomes are consistent (e.g. Beus, Dhanani & McCord, 2015; Judge, et al., 2002) and personality explains usually around 20-30% of the variance in work-related outcomes (e.g. Rothamann & Coetzer, 2003). However, there are some issues in measuring work-related variables. The most common problem in this research, as in most occupational studies, is that the measures are self-assessed, which may raise some concerns regarding social desirability bias (see section 5.5 where I will discuss the limitations of the current thesis).

1.1.2 Socioanalytic theory

Hogan (1982) is the father of socioanalytic theory, which provided a perspective on human nature based on insights from: (1) Charles Darwin (1871) about human evolution; (2) Sigmund Freud (1913) about unconscious motivation and (3) George Herbert Mead (1934) about the dynamics of social interaction. Humans have a basic instinct for survival and have evolved from living in hunter-gatherer groups to huge urban centers. Even if life is easier in some ways, it is more difficult in others (e.g. anomie – see Durkheim, 1897) (Hogan, 1982). The influence from Freud can be seen in Hogan's theory when he refers to three main concepts: people need to (1) "get along", which means that they seek social interaction and friendship and are afraid of rejection; (2) "get ahead", which means that they seek status and/or

power and (3) “find meaning”, which means to ensure that life has a purpose (Hogan, 2007; Hogan & Holland, 2003). These three concepts are rooted at a deep and unconscious level of people’s motivation. Based on Mead (1934), Hogan’s theory argues that the self is developed based on the feedback from others during social interactions.

A key characteristic of these three concepts is that they are expressed as a function of someone’s personality and values. In other words, a person’s behavioural disposition governs not only how s/he perceives his/her own self-concept but also if s/he is leaning towards cooperation and partnership or competition and dominance (Akhtar, Humphrey & Furnham, 2015).

Hogan (2007) argues that these needs play an important role in early hominid survival, and are theorised to underpin some basic survival strategies, which can also be displayed in the working environment because of competition, social interaction and the nature of the work tasks. As early hominids needed to obtain resources from other tribe members, build alliances and synchronise group activities in order to survive, current leaders should engage and embrace challenges in order to be successful in their organisation.

People have been always living/working in groups that are structured in terms of status hierarchies. The working environment is dominated by social interactions that underpin different agendas and roles. Hogan (2007) believes that on the one hand, employees need to cooperate and appear compliant, positive and team players, but on the other hand, they also need to take initiative, be competitive and achievement-driven and have a vision.

Performance standards can be set in terms of getting ahead as well as getting along. All people want to be accepted and respected, and find rejection difficult. The need to be "fit" in order to "survive" is hard-wired and thus only two goals need to be achieved: getting along and getting ahead. However, some people do these better than others, and it is very interesting to identify the characteristics/traits of these people (Furnham, 2016).

Another very important part of Hogan's theory is that individuals differ in two consequential ways. The first is how they think about themselves (identity) and the second is how others think about them (reputation). These are the two core components of socianalytical theory. Hogan (1986) noted that the identity is very hard to examine, as one can only know oneself. In contrast, reputation is easier to examine as it is the version of oneself that other people know. The reputation of someone can be seen as the summary of previous behaviour and actions, which would help understand how that person may act in the future. Therefore, reputation should be assessed through three lenses: the *bright side* (i.e. who someone is in everyday context when interacting with others), the *dark side* (i.e. who someone is under pressure or has his/her guard off) and the *inside* (i.e. someone's values).

Jobs are roles with norms and expectations, where the identity drives someone's behaviour, which then creates the reputation. That being said, people who succeed in the work environment tend to manage their reputation by understanding which is the right behaviour to display to achieve what they desire. In addition, Hogan also insisted that personality is the single best predictor of leader performance (Hogan & Shelton, 1998).

Hogan (1986) argued that many different assumptions must be made in order to explain why Conscientiousness predicts work success. He believed that Ambition and Conscientiousness are distinct. The former is linked with competiveness whereas the latter is associated with following the rules. Moreover, individuals with high scores in Conscientiousness work hard because they believe that authority figures approve of hard workers, whereas individual with high scores in Ambition work hard only when they think that it will help them get ahead.

As mentioned in section 1.1.1.3, the HPI has 41 specific traits that amount to seven factors: Sociability, Ambition, Adjustment, Likability/Interpersonal Sensitivity, Prudence, Intellectance/Inquisitive and School Success. Tett, Steele and Beauregard (2003) found that Adjustment is positively correlated with job performance and Prudence is linked with self-motivation.

Hogan and Holland (2003) found that the best predictors for getting along were Emotional Stability (because individuals that are emotionally stable are positive and rewarding to work with), Conscientiousness (because these individuals are predictable) and Agreeableness (because these individuals are sensitive towards others). The best predictors for getting ahead were Extraversion, more specifically Ambition, Emotional Stability and Conscientiousness. They also confirmed that the two "generalisable" indicators (i.e. Conscientiousness and Emotional Stability) have higher validity than Extraversion and Agreeableness. The last two traits are predictors only in specific criteria and can be considered as being based on Barrick and Mount (2005), as "niche traits". These niche traits can provide come critical insights – if they are carefully matched with relevant criteria. Moreover, Hogan stated that this study clearly presented the predictive potential of personality and job

performance. The magnitude of the true-score correlations ranges was .25 for Learning Approach, .34 for Intellectance and Interpersonal Sensitivity, .35 for Ambition, .36 for Prudence and .43 for Adjustment, which are larger than other meta-analysis when examining the validity of personality constructs.

Blickle, Wendel and Ferris (2010) showed that a person's propensity to either get along or ahead actions/behaviours can predict performance ratings above and beyond demographics, tenure and the FFM. This is because getting along interacts with a measure of political skill that predicts supervisor ratings on willingness to cooperate. However, getting ahead interacts with political skill, predicting a likelihood for promotion.

Oh and Berry (2009) also noted that task performance is focused on structuring work and achieving goals that complement the "getting ahead" aspect, whereas contextual performance (i.e. a facilitative and socially-oriented nature) complements "getting along". Thus, different personality traits bring out different motives and goals that are frequently expressed via behaviours (Judge, Piccolo & Kosalka, 2009). More information regarding FFM and NEO-PI-R will be reviewed in Chapter 2.

Many socially desirable traits (i.e. bright side) are likely to play a pivotal role in leader emergence as well as leadership effectiveness. However, some of these personality traits have the potential to become counterproductive in specific contexts, or with followers that do not perceive these traits essential for the "group's" survival. The same principal applies for socially undesirable traits (i.e. the dark side of personality; more on this in the following section). These traits have the ability to

undermine a leader's effectiveness but can be beneficial in order to ensure the group's survival (Akhtar et al., 2015).

1.1.2.1 Conclusion

Hogan has been a pioneer in the field of personality psychology. His theory provided a different way of seeing and understanding individual differences, especially with regards to organisational psychology. Hogan differentiated the identity (i.e. who we are) and the reputation (i.e. how other people perceive us). He claimed that what is important in work success is not who we are but how others perceive us based on our actions and behaviours. He also developed HPI, specifically focussed to measure the bright side of personality in working context. Moreover, he argued that we are hard-wired to get along with others (i.e. belonging in a social circle), to get ahead (i.e. the need for success and lead) and to find a meaning (i.e. have purpose in life – something that fulfil us). These hard-wired needs can be also expressed within an organisational context, which is why his theory has been successful.

1.2 Dark side of personality

During this century, there have been many public scandals that have led to an increased attention in organisational sciences looking at the negative features of organisational life. These features are often described by evocative adjectives such as deviant, aberrant and toxic. Based on Hogan's ideas and measure (see section 1.2.2), researchers have shown an increased interest in the dark side of work experience.

Thus, there is an increased interest within organisational academics in the dark side of personality (Spain, Harms & Lebreton, 2014) (Figure 1.1).

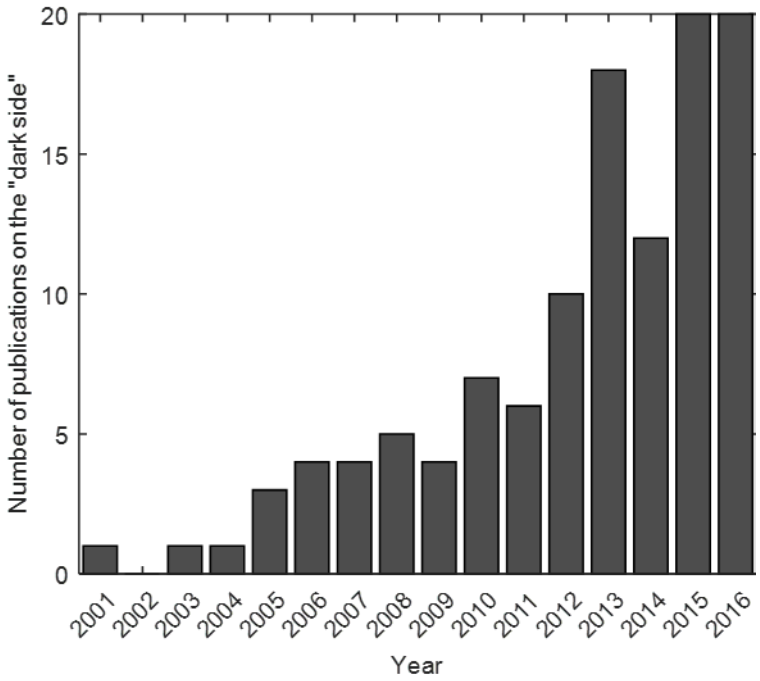

Figure 1.1. An estimation of publications (from different engines; e.g. Google Scholar, psychINFO etc.) on the dark side personality in the field of organisational psychology the last 15 years.

As established in the previous section of this thesis, the bright side traits can be strong predictors of workplace outcomes, especially in relation to job performance (e.g. Barrick & Mount, 1991). However, the existing research may be limited by the over-reliance of the dominant model in trait psychology, i.e. the FFM. As mentioned above, there are a substantial number of academics that have shown that other individual differences such as motives, goals or interest are not as easily captured by

the FMM (e.g James & LeBreton, 2010; Roberts, Harms, Smith, Wood & Webb, 2006). Thus there is an increasing demand for research in organisational psychology to go beyond the FFM (e.g. Judge et al., 2009).

The dark side of personality has garnered a great deal of attention. The book by Babiak and Hare (2006) (*Snakes in Suits: When Psychopaths Go to Work*) regarding psychopaths in a various work contexts was very popular. Ghaemi (2011), in his book, *A First-rate Madness: Uncovering the Links between Leadership and Mental Illness,* suggested that the most effective leaders in times of crisis were those suffering from a mental illness or personality defects. Furnham (2015) in *Backstabbers and Bullies: How to Cope with the Dark Side of People at Work,* provided the latest psychiatric and clinical aspects of the dark side of personality and explained in an easy-to-understand manner how to manage and prevent dark side behaviours. However, despite this increased interest in both the general public and academics, there is still a need to better understand the role of the dark side.

Managerial derailment can prove to be very costly, especially in high levels of an organisation. Losing an executive can be estimated at two to three times the executive's salary (Wells, 2005). Some of the behaviours that are associated with the potential of derailment are: (1) problems with interpersonal relationships, (2) struggles with change or adopting, (3) struggles with leading a team, (4) missing business targets and (5) presenting a function orientation that is narrow (Leslie & Van Velsor 1996). However, the potential derailment behaviours should be taken into consideration within the context of a particular company and job sector that relates to its culture and criteria for promotion. Thus, in the context of business, derailment behaviours may be manifested in the following ways: (1) under-

delivering, (2) under-managing, (3) breaking trust, (4) refusing to change, (5) excluding others, (6) avoiding decision making, (7) decreasing production (8) sabotaging growth and innovation, (9) conducting embezzlement or (10) money laundering.

Soyer, Rovenpor and Kopelman (1999) found that even if overall job satisfaction is negatively linked with Narcissism in sales, those with higher score in Narcissism were happier. Moreover, the effect of the role of dark side traits in other parts of workplace (such has is dealt with in the Affective Events theory, see Weiss & Cropanzano, 1996) is still unknown, although we would expect the dark sides to predict both positive and negative emotions. There are two popular ways to examine the dark side of personality: through the dark triad and through mapping these traits on DSM-IV Axis II personality disorders.

In conclusion, we see that there is an increased interest from both practitioners and scholars as well as lay people to better understand what the dark side of personality is. The dark side takes our understanding of personality to the next level by going beyond the FFM model. Industrial/Organisational researchers are mostly interested in the role of the dark side in the work environment by trying to identify potential signs of derailment.

1.2.1 Dark triad

The vast majority of current research regarding the dark side of personality focusses on the famous dark triad, proposed by Paulhus and Williams (2002), or on dark traits based on DSM-VI Axis II disorders (Hogan & Hogan, 2001; 2009). The

dark triad consists of Narcissism, Psychopathy and Machiavellianism (Paulhus & Williams, 2002).

Machiavellianism as a concept is derived from Machiavelli's writings (Christie & Geis, 1970). People with high scores in Machiavellianism are also called high-Machs and their main characteristics are: (1) lack of empathy, (2) low affect, (3) questionable morality, (4) willingness to manipulate or lie or exploit others and (5) focus only on their own agenda (Christie & Geis, 1970; Wu & LeBreton, 2011). However, even if high-Machs take pleasure in deceiving others, this does not mean they are particularly good at it (Jones & Paulhus, 2009). Becker and O'Hair (2007) found that Machiavellianism was a negative predictor for citizenship behaviours towards both the organisation and employees. Machiavellians are also referred as social chameleons, since they behave in a way that it looks as though they benefit the people around them, yet their motives are solely self-centred (O'Boyle et al., 2012). Machiavellians can be disadvantaged, with regards to task and team performance, when they are in a fair social context exchange (Smith, Wallece & Jordan, 2015).

Narcissism is based on ancient Greek mythology where a boy fell in love with his own reflection that he saw in a lake, and he then drowned. Narcissism includes facets such as Grandiosity, Entitlement, Dominance and Superiority. People with high scores in Narcissism tend to engage in self-enhancement (Raskin, Novacek & Hogan, 1991), which is why they initially appear as charming or pleasant. In the longer term, however, these individuals find it difficult to maintain successful interpersonal relationships, do not trust or care about anyone else and occasionally feel contempt for others (Morf & Rhodewalt, 2001).

There is a lot of research showing a positive link between leadership and Narcissism. For example, the longitudinal study by Harms, Spain and Hannah (2011) found in a military school for cadets that Narcissism positively predicted leadership development and performance. Research also showed that Narcissists make a good first impression as they are charming and self-confident but, over time, their negative qualities like arrogance, self-centredness and tendency to exploitive become apparent (Back, Schmukle & Egloff, 2010). There is often a very good chance that Narcissists can emerge as leaders; however, they are surprisingly no more or less likely to be effective leaders (on average) (Grijalva, Harms, Newman, Gaddis & Fraley, 2015). This is one paradox of the dark side of personality: although they are unwanted traits, they seem to be positive predictors for work-related outcomes (at least for a short-term). This idea – that socially undesirable traits can be beneficial for some work situations – was confirmed also by Judge and Pine (2007).

Finally, psychopathy's main features are (1) impulsivity, (2) excitement-seeking, (3) low empathy and (4) anxiety (Babiak & Hare, 2006). Psychopaths are also antagonistic; they believe that are superior to others and tend to self-promote (Lynam & Widiger, 2007). Moreover, they have a unique affective experience, i.e. they lack self-consciousness and emotional guilt and demonstrate an absence of conscience. In addition, they do not feel anxious or fear to the extent that other people do so and are less prone to feeling embarrassed. Thus, they do not learn from punishment (Hare, 1999). It is considered possibly the most deviant trait in the dark triad (Hare, 1996). At an organisation level, a recent study showed that the presence of people with psychopathic tendencies in high positions bring less corporate social responsibility and reduce organisational support for employees (Boddy,

Ladyshewsky & Galvin, 2010). Furthermore, Psychopaths disregard supervisory expectations regarding deadlines or work quality, which has an impact on performance ratings. Even if they are not necessarily self-interested, they genuinely lack concern for others (Smith et al., 2015).

1.2.1.1 Conclusion

The approach that Paulhus used to these three traits had a considerable influence on the investigation of normal personality in aberrant or dysfunctional operation. The name "dark triad" refers to the dark side of personality, whereas the FFM refers to the bright side (Spain et al., 2014). The dark triad has been well researched, both collectively (i.e. all of them together) and individually (i.e. by themselves). Although the dark triad adds a lot of value, especially regarding leadership context and styles, it is not able to capture the whole picture of the dark side of personality, as it offers limited options. Moreover, owing to the fact that these three traits share many common characteristics and consequently a lot of variance, they may be measuring the same thing. Furthermore, because of the common variance, it is not always easy to identify if some behaviours are due to Narcissistic, Machiavellian or Psychopath traits.

Before we continue to the next section, it is worth mentioning that almost two years ago, a new version of Hogan's measurement, the Hogan Development Survey (HDS), was developed. It contains a subscale structure (see more in Chapter 4). We were able to get data from the updated version only a year ago. This thesis contains studies with both versions of HDS. In this section of the thesis, we will focus in the

most common version of HDS. All the information regarding the updated version is in Chapter 4.

1.2.2 Hogan's approach to the dark side and Hogan Development Survey

Paulhus's approach to defining dark traits focussed on pathologies characterised by motives to promote the self and harm others (Paulhus & Williams, 2002). In contrast, Hogan's approach emphasised the dark side as a maladaptive characteristic that emerges when individuals are under stress or let down their guard. Hogan developed the HDS in order to measure the dark side traits (Hogan & Hogan 2001).

Although there are numerous taxonomies for the dark side of personality, the terminologies are not commonly intelligible and it is not always clear when different taxonomies are talking about the same or different concepts (Spain et al., 2014). Both the dark triad and the HDS are well established. The dark triad is more predominant in both personality and organisational research (O'Boyle, Forsyth, Banks & McDaniel, 2012), yet the HDS has some traction (see Figure 1.2) and it is mostly used by practitioners (De Fruyt et al., 2009; Harms et al., 2011a; 2011b). However, this is not surprising, as HDS' goal is to partly help selectors and people to diagnose how they would react under stressful situations at work and help them increase awareness so as to prevent potential derailment.

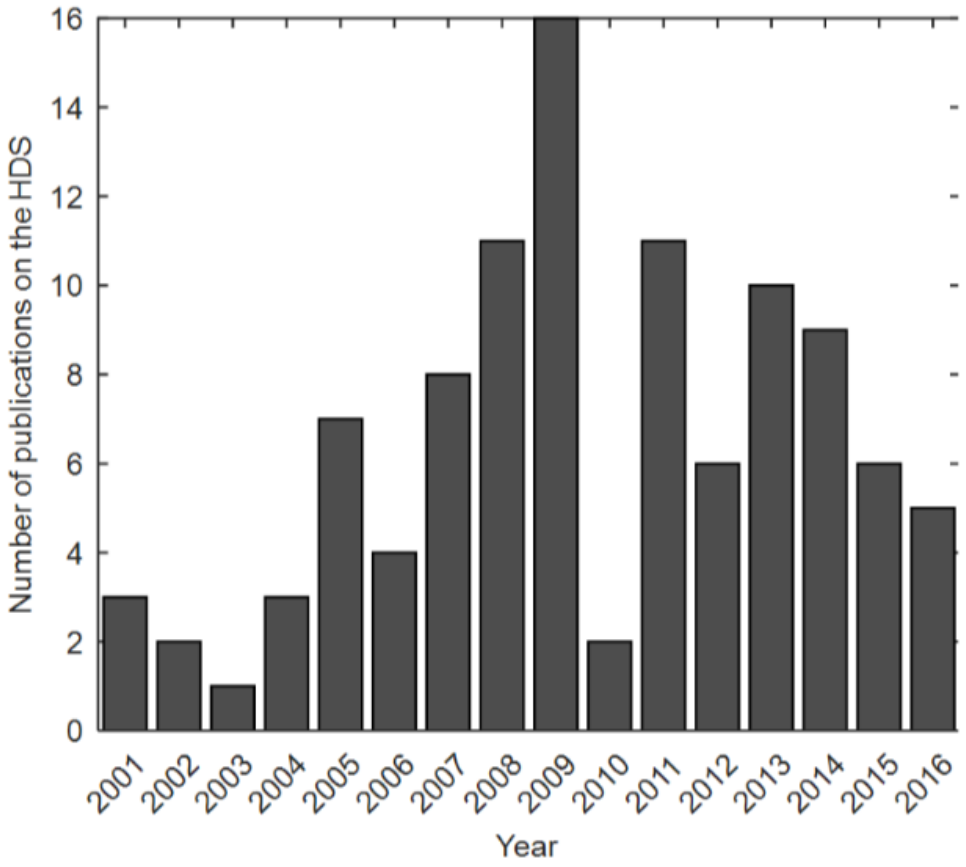

Figure 1.2 Estimation of number of HDS publications across time in organisational psychology (raw data).

The HDS consists of 11 subclinical traits that could possibly lead to potential short-term advantages but will be related to problems in the long term (Hogan 2007). The manual of HDS (Hogan & Hogan, 2001) proposes that individual with high scores could be a risk to themselves and the organisation. By identifying potential derailers in middle and senior levels, the company may save a significant amount of money. This tool uses inoffensive naming instead of the more negatively termed DSM-IV Axis II disorders. In Table 1.2, I present the HDS with a definition and where they map on the DSM-IV.

As an example of the inoffensive naming of HDS compared to DSM-IV, someone that has Obsessive Compulsive tendencies can be characterised as Diligent, which is a complement in organisational context. Every employee would like to hear that s/he is thorough and meticulous in his/her work.

Based on Horney's (1945) theory, Hogan and Hogan (2001) organised their 11 dysfunctional interpersonal tendencies in the following higher order factors: (a) Moving Away, (b) Moving Against and (c) Moving Towards Others (see Table 1.2).

Table 1.2

Mapping HDS on DMS-IV Axis II

Higher Order Factors	HDS Scales	Definition	DSM-IV	Definition
Moving Away	Excitable	Moody and inconsistent; being enthusiastic about persons ideas and projects and then becoming disappointed in them	Borderline	Inappropriate anger; unstable and intense relationships
	Sceptical	Cynical, distrustful, overly sensitive to criticism; sceptical of others' true intentions	Paranoid	Distrustful and suspicious of others; motives of others are negatively interpreted
	Cautious	Reluctant to take risks for fear of being rejected or negatively evaluated	Avoidant	Social inhibition; feelings of inadequacy and hypersensitivity to criticism or rejection
	Reserved	Aloof, detached and uncommunicative; lacking interest in or awareness of the feelings of others	Schizoid	Emotional coldness and detachment from social relationships; indifferent to praise and criticism
	Leisurely	Independent; ignoring others' requests and becoming irritated or	Passive-Aggressive	Passive resistance to adequate social and occupational

		argumentative if they persist		performance; irritated when asked to do something s/he does not want to
Moving Against	Bold	Unusually self-confident; feelings of grandiosity and entitlement; over valuation of one's capabilities	Narcissistic	Arrogant and haughty behaviours or attitudes, grandiose sense of self-importance and entitlement
	Mischievous	Enjoying risk-taking and testing the limits; needing excitement; manipulative, deceitful, cunning and exploitative	Antisocial	Disregard for the truth; impulsivity and failure to plan ahead; failure to conform
	Colourful	Expressive, animated and dramatic; wanting to be noticed and needing to be the centre of attention	Histrionic	Excessive emotionality and attention seeking; self-dramatizing, theatrical and exaggerated emotional expression
	Imaginative	Acting and thinking in creative and sometimes odd or unusual ways	Schizotypal	Odd beliefs or magical thinking; behaviour or speech that is odd, eccentric or peculiar
Moving Towards	Diligent	Meticulous, precise and perfectionistic, inflexible about rules and procedures; critical of others	Obsessive-Compulsive	Preoccupations with orderliness, rules, perfectionism and control; over conscientious and inflexible
	Dutiful	Eager to please and reliant on others for support and guidance; reluctant to take independent action or to go against popular opinion	Dependent	Difficulty making everyday decisions without excessive advice and reassurance; difficulty expressing disagreement out of fear of loss of support or approval

Descriptions taken from HDS manual (Hogan & Hogan, 2009). The DSM-IV construct is the clinical-level psychopathology associated with a given HDS dimension.

Hogan and Hogan (2001) suggested that those who belong in the first category tend to (1) be emotionally instable and immature, (2) get upset easily and (3) do not feel comfortable taking risks. As presented in Table 1.2, the first five scales of HDS (from Excitable to Leisurely) belong to this factor. According to Cooper (2003), people that have these predispositions tend to reduce their anxiety by withdrawing and avoiding interpersonal relationships. Individuals that have high scores in this higher order factor tend to be indecisive, passive-aggressive, emotionally volatile, uncommunicative, mistrustful and possibly vindictive (Hogan & Kaiser, 2005). These dysfunctional predispositions have the potential to increase the chances of displaying behaviours that are linked to derailment. To set those behaviours in a business context, managers that have these predispositions are likely to refuse to change, break the trust of their colleagues and will have a difficult time building a cohesive team.

The individuals that belong to the Moving Against higher order factor tend to be (1) selfish, (2) ambitious, (3) very confident and (4) impulsive. The traits from Bold to Imaginative correspond to this higher order factor (Hogan & Hogan, 2001). With time, people that present these predispositions reduce their feelings of interpersonal anxiety by controlling their surroundings and dominating or defeating others, and are frequently very proud of themselves (Cooper, 2003). The potential derailment behaviours that can be exhibited when individuals belong to this factor are (1) under-managing, (2) excluding others and (3) breaking other people's trust. As Horney (1945) also stated, people that have predispositions in this factor have the following needs: (a) power, (b) exploiting others, (c) recognition and (d) achievement. It is not surprising that those needs are related to rapid career success

(especially in an early stage) and managerial success, although their need to "go ahead" can create problems in possible collaboration or building interpersonal relationship (Furnham, Trickey & Hyde, 2012).

Finally, the last two scales of HDS (i.e. Diligent and Dutiful) correspond to the last higher order factor, Moving Towards. The individuals that exhibit this factor tend to be very accommodating and compliant as well as strive for affection and approval (Cooper, 2003). The characteristics of those individuals can be perceived in the short-term as hard working, affable and detail-oriented, but in long-term these predispositions are seen as rigid, over-controlling and indecisive (Hogan, Hogan & Warrenfeltz, 2007). The potential derailment behaviours that can be exhibited in this factor in a business context, are (1) resistance to change, (2) inability to take a decision and (3) behaving exclusively.

The 11 HDS traits may be problematic under some circumstances (Wu & LeBreton, 2011) and may not appear in day-to-day function (Hogan & Hogan, 2001). However, these traits can be proven beneficial under a specific context (e.g. Harms et al., 2011a) and have been linked to playing an important role to performance (e.g. O'Boyle et al., 2012) and leadership development (Harms et al., 2011a).

Furnham, Hyde and Trickey (2014) argued that if an employee's dark side profile does not fit with the organisation where s/he is working (e.g. someone Mischievous on a job where tradition is important), then it is very likely that this "misfit" will trigger derailment behaviours. In an order study, Furnham, Hyde and Trickey (2012b) showed that some HDS scales are positively linked with work success (i.e. Mischievous with stress tolerance and sales potential and Bold with clerical potential). Race, Hyde and Furnham (2012) also found that Diligent and

Dutiful are linked with promotion. Palaiou & et al. (2016) found Excitable, Sceptical and Bold to be predictors for both positive and negative organisational attitudes, whereas Leisurely was a predictor for positive organisational attitudes and Cautious a predictor for negative organisational attitudes (see Chapter 3). Treglown et al. (2016) found that high scores in Excitable and Cautious but low scores in Reserved and Bold predict burnout whereas high scores in Bold and Diligent but low in Excitable, Cautious and Imaginative predict resilience.

1.2.2.1 Conclusion

To conclude, the HDS maps onto the DSM-IV Axis II and provides more granularity in understanding the dark side of personality. These dark side traits have paradoxically been found to have positive relations with leadership and other work-related outcomes (e.g. Boo & Khoo, 2008; Furnham et al., 2012b). However, having a "bad apple" in a team can have major influence in the working environment. That one "apple" has the potential to derail or misbalance an effective team, possibly even destroying a company's reputation. For the purpose of this thesis, more studies and their findings of HDS will be discussed as part of the introduction of Chapters 2, 3 and 4.

1.3 Linking the bright side and the dark side of personality

In the previous sections (1.1 & 1.2), I discussed the role of the bright and dark side independently regarding working outcomes. This section attempts to link both sides of personality by providing a more holistic approach.

Blashfield (1984) mentioned that historically, the supporters of dimensional conceptualisation of psychopathology as a spectrum with normal experience are psychologists. Psychiatrists believe in a categorical approach, where mental disorders are perceived as discreet diseases like somatic illness (Oluf & Furnham, 2015).

Within the last 20 years, there have been a few meta-analytic studies showing a correlation between personality disorders and dimensional trait approach (especially on FFM). Samuel and Widiger (2008) used data from 16 different studies and they analysed the NEO-PI-R, both in domain- and facet-level, which enabled them to state the effect size of these correlations (see Table 1.3). This was an attempt to understand the common ground, or common characteristics, between the FFM and the DMS-IV.

As we can see, the facets of Neuroticism have strong effects, with five scales of DMS-IV. To be more specific, we seen that Borderline has large effect sizes (r>.50) with all facets of Neuroticism, Avoidant and Dependent have with four facets and Schizotypal and Paranoid have two. We can also see that Agreeableness is negatively linked with all personality disorders and Conscientiousness is negative linked with all but Obsessive.

Table 1.3

Samuel and Widiger (2008): Effect sizes of FFM and personality disorders

	FFM Facet	Borderline	Paranoid	Avoidant	Schizoid	Narcissistic	Antisocial	Histrionic	Schizotypal	Obsessive	Dependent
N	Anxiousness	+++	++	+++	+				++	+	+++
	Angry Hostility	+++	+++	++	+	++	++		++	+	+
	Depressiveness	+++	+++	+++	++		+		+++		+++
	Self-consciousness	+++	++	+++	++			-	+++	+	+++
	Impulsiveness	+++	+	+		+	++	+	+		+
	Vulnerability	+++	++	+++	+				++		+++
E	Warmth	--	--	---	---		-	++	--		
	Gregariousness	-	--	---	---			+++	--	-	
	Assertiveness			---	--	+		++	-		--
	Activity	-		--	--			++	-		-
	Excitement seeking			--	--	+	++	++		-	
	Positive emotions	--	--	---	---			++	--		-
A	Trust	--	---	--	--	--	--		---		
	Straightforwardness	--	--			---	---	-	-		
	Altruism	-	--	-	-	--	--		-		
	Compliance	--	--			--	---	-	-		+

	Modesty			++		---	-	-				+
	Tender-mindedness		-		-	-	-					
C	Competence	--	-	--	-		--		-	+	--	
	Order	-					-			++		
	Dutifulness	--	-			-	--		-	++		
	Achievement striving	-		--	-		-		-	++	-	
	Self-discipline	--	-	--	-		--		-	++	--	
	Deliberation	--				-	---	-	-	++		
O	Fantasy	+				+	+	+	+			
	Aesthetics							+				
	Feelings				-			+				
	Actions		-	--	-		+	+		-	-	
	Ideas										-	
	Values											

Note: +/- = small effect size (r > .10), ++/-- = medium effect size (r >.30), +++/--- = large effect size (r > .50).

There is evidence that there is an overlap between normal-range personality traits and clinical level of personality disorders (Markon, Krueger & Watson, 2005; Walton, Roberts, Krueger, Blonigen & Hicks, 2008; Widiger & Trull, 2006). Wu and LeBreton (2011) stated that all dark triads are negatively associated with Agreeableness, mostly owing to their socially toxic nature. They also mentioned that Psychopathy and Machiavellianism are negatively linked to Conscientiousness, but Psychopathy and Narcissism are positively linked to Openness to Experience and Extraversion. Finally, they found that Narcissism and Machiavellianism are positively linked to Neuroticism, whereas Psychopathy is negatively linked to Neuroticism.

Furnham and Crump have examined in several studies different HDS scales along with NEO. Furnham and Crump (2014a) confirmed that there is an association of Bold and the FFM. More specifically, they found that individuals with high scores on Bold are disagreeable extraverts and, on a facet level, they have low scores in Modesty and moderately high scores in Assertiveness, Competence and Achievement Striving. In a different study (2014b), they found that individuals with high scores in Excitable also have high scores in Neuroticism and in Hostility, Anxiety, Depression and Vulnerability. Their analysis also showed that those individuals tend to be introverted and disagreeable (Furnham & Crump, 2014b). Furthermore, in 2015, these authors confirmed that individuals with high scores in Sceptical are disagreeable, neurotic and conscientious. In addition, the facets where those individuals have low scores are Trust, Compliance and Straightforwardness, but they have high scores in Depression and Angry Hostility (Furnham & Crump, 2015). In their latest study, they found that people with a high score in Mischievous

have low scores in Agreeableness and Neuroticism and very low scores in Conscientiousness. In addition, they found that those individuals have high scores in Excitement-Seeking but low scores in Straightforwardness, Anxiety and Deliberation (Furnham & Crump, 2016).

Oluf and Furnham (2015) showed the independent mean effect sizes between the HDS scales and the HPI (Table 1.4). As in the study by Samuel and Widiger (2008), the analysis was conducted at both domain- and facet-level. As indicated in Section 1.1.1.3, the HPI was specifically designed for work-related issues, to measure the seven factors of the bright side of personality. The authors found similar results to previous literature, showing how the bright side can be meaningfully expressed in the dark side traits, and that the personality is a spectrum. This finding echoes Eysenck's idea that extremes of normality are linked to abnormality. Consequently, it is reasonable to assume that there is a curvilinear relationship between the dark side and success in specific work settings.

Table 1.4

Oluf and Furnham (2015): Independent mean effect size correlations (Pearson correlation) between HPI HICs and HDS factors

	HPI HICs	Excitable	Sceptical	Cautious	Reserved	Leisurely	Bold	Mischievous	Colourful	Imaginative	Diligent	Dutiful
Adjustment	Empathy	---	--	--	-	-				-		
	NotAnxious	--	-	--		-						-
	NoGuilt	---	-	--	-	-				-		-
	Calmness	--	-	-		-		-	-	-		
	EvenTempered	---	-	--	-	-				-		
	NoComplaints	--	-	--	-	-						
	Trusting	--	---	-	--	--	-	-		-	-	
	GoodAttachment	--	-	-	-	-				-		
Ambition	Competitive	-		--	-	-	+	+	+	+	+	-
	SelfConfidence	--		---	-	-	+	+	+	+	+	-
	Accomplishment	--	-	--	-	-						-
	Leadership	-		--	-		++	+	++	+		--
	Identity	--	-	--	-	-						-
	NoSocialAnxiety	-	-	---	--	-	+	+	++	+		-
Sociability	LikesParties	-		-	--		+	+	++	+		
	LikesCrowds	-		-	-		+	+	+			
	ExperienceSeeking	-		--	-		+	++	++	++		
	Exhibitionistic	+	+	-			++	++	+++	++		
	Entertaining			-	-		+	+	++	+		
Likeability	EasyToLiveWith	-	-	-	-							+
	Sensitive				-						+	+
	Caring	-			-				+			+
	LikesPeople	-	-	--	---	-			+			
	NoHostility	--	--		-	-	-	-		-		
Prudence	Moralistic	--	-	-	-		+				+	
	Mastery	-			-		+				++	+

	Virtuous	--	--	-	-						+	
	NotAutonomous		-		-			-		-		+
	NotSpontaneous					-		-	-	-	+	
	ImpulseControl	-	-			-	-	---	--	--	+	
	AvoidsTrouble	-	--		-	-	-	--	-	--		
Intellectance	ScienceAbility						+	+		+		
	Curiosity	-		-			+	+		+	+	
	ThrillSeeking			-			+	++	+	+		
	IntellectualGames						+				+	
	GeneratesIdeas			-	-		++	++	++	++		-
	Culture								+	+		
Learning	Education	-		-			+		+			-
	MathAbility	-		-			+		+			-
	GoodMemory	-		-	-		+	+	+	+	+	
	Reading											

Note: +/- = small effect size (r > .10), ++/-- = medium effect size (r > .30), +++/--- = large effect size (r > .50).

Barrick and Mount (1991) found that managerial effectiveness is linked with Conscientiousness, Openness to Experience and Extraversion. If we accept that personality is dimensional and not categorical, this means that effective leaders with the potential to derail have exactly these traits but to a larger degree than they should: that is, their scores are maximal rather than optimal. Indeed, Hogan and Hogan (2001) stated that leaders that have the potential to derail often score very highly in personality traits such as Conscientiousness and Extraversion. Research has also shown that Dutiful and Diligent have a fairly consistent positive relation with leader effectiveness (e.g. Furnham, Crump, Batey, Chamorro-Premuzic & Lindberg, 2006; Torregiante, 2005). A possible explanation for these findings is the considerable positive relationship between these traits and Conscientiousness (Hogan & Hogan, 2007).

Kovach, Simpson, Reitmaier, Johnson and Kelber (2010) in a sample of almost 200 nurses found that Adjustment, Prudence, Likeability, Excitable and Dutiful are predictors of job satisfaction and performance. Akhtar et al. (2015) found that business intelligence is linked with high scores in Adjustment, Ambition and Learning Ability but low scores in Excitable.

It is worth mentioning that the HPI and HDS do not share a lot of common variance, which means that the two instruments measure two different things. Hogan and Hogan (2001) reported only 10% of the correlation between HPI and HDS, exceeding an absolute value of .40 in a sample of 1416 people. Benson (2006), in a sample larger than 16,000, found only 13% of the same correlation, also exceeding an absolute value of .40. Furnham and Crump (2005) regressed the HDS scales onto the FFM. They found R^2 values ranging from .08 (for Leisurely) to .43 (for Cautious)

(Benson & Campbell, 2007). Davies, Hogan, Foster and Elizondo (2005) found that HDS predict leadership ratings above and beyond the HPI. More specifically, they found that HDS accounted for nearly twice as much variance in job performance than HPI.

1.3.1 Conclusion

In summary, it is noted that there is a link between FFM and dark side (e.g. Guenole, 2014), as shown in Tables 1.3 and 1.4. The FFM cannot explain dark traits because it represents an incomplete taxonomy of traits, because terms such as "dangerous" or "evil" were dismissed in the early stages of the psycholexical research that eventually led to FFM (e.g Allport & Odbert, 1936; Goldberg, 1981). Thus, many essential characteristics of the dark side are not captured by the FFM. The bright side and dark side complement each other, with the dark side explaining some work outcomes above and beyond the bright (Gaddis & Foster, 2015).

1.4 Scope of the thesis

I am interested in psychometrics and I would like to explore the relation of the bright and the dark side of personality in various organisational context. In lay terms, my thesis is about an empirical marriage of the bright and the dark side of personality within the working environment.

As demonstrated in the previous sections of the introduction, there is much literature regarding the relation of the FFM with work-related outcomes, but not much in dark side of personality and its role in the work context. Furthermore, most

of the studies in the field use the dark triad to examine the dark sides. However, this thesis will focus in the HDS. The main reason is because the dark triad was never intended as a taxonomy of dark characteristics (in a sense of providing a holistic approach in personality traits) and this why it leaves out important areas of the subclinical domain that are captured by the HDS dimensions (Spain et al., 2013). I/O researchers should focus on a broader set of dark side traits (e.g. odd/eccentric) that can also be strong predictors of working outcomes (Wille, De Fruyt & De Clerq, 2013). In addition, the dark triad measures complex noxious personality characteristics but the HDS provides a dimensional taxonomy to the dark side traits.

Although there is some research regarding the bright and dark faces of leadership, there is not enough information regarding understanding what really differentiates leaders (in the business context, Chief Executive Officers – CEOs) from other people in the same sector (working norms). Also, since an individual cannot study to become CEO, it is interesting to see how such individuals differentiate with professionals from five popular professions. Thus, Chapter 2 will investigate the bright and dark side traits that CEOs have compared to other working norms. It will also examine the differences between CEOs and individuals from five professions (i.e. engineers, accountants/finance, lawyers, human resources and marketing employees).

After identifying which are the traits that differentiate CEOs from the rest of the employees and those in other professions, I will investigate the relations between the bright and dark side of personality regarding organisational attitudes. However, I need to clarify that the debate of whether attitudes predict behaviours is beyond the scope of this thesis. Specifically, I am interested in identifying which personality

traits predict positive and negative organisational attitudes (Chapter 3). Thus, my goal in this study is to validate and expand our knowledge on both the bright and the dark side of personality, and how they explain organisational attitudes.

In Chapter 4, I will validate the latest version of the HDS scale, which was published almost two years ago and contains a subscale structure. It was very challenging to obtain a large sample of data. Until now, to the best of my knowledge, there are no publications with the updated scale. However, I believe that the updated scale will slowly replace the old one and it would be useful to see what it has to offer and how reliable and valid it is.

Thus, to conclude, this thesis will try to address the following questions:

1. On which bright and dark side characteristics do CEOs differ from middle ranking managers (working norms)?
2. How do CEOs differentiate from managers in different job sectors?
3. Which are the bright and dark sides of personality traits that relate to positive and negative organisational attitudes?
4. Overall, to what extend do bright and dark sides of personality traits explain positive and negative organisational attitudes?
5. What is the evidence of the structure of the new psychometric properties of the subscale HDS?

Overall, the purpose of this thesis is to examine the role of personality holistically (i.e. both bright and dark side) in different organisational context. The HDS is used more widely, in empirical data, because it accounts for more variance than other measurements. In addition, I am also interested to see if its predictability will continue to be the case in the latest version of the tool.

CHAPTER 2: The bright and the dark side of CEOs. A comparison of CEOs with other working norms and five popular functions

2.1 Overview

The purpose of this chapter is to investigate which are the bright and the dark side personality traits of the CEOs as compared to working norms (i.e. people that work in the same function- not overall population) and to five different functions. To clarify by functions, I mean the people who have similar skills and expertise. I will look separately at the bright side, then at the dark side, and I will close this chapter by providing a brief overview of both studies and discuss the common implications and limitations.

2.2 General introduction

It is very important to examine the differences in CEOs to other managers in order to gain a better understanding of CEOs' personality characteristics and find ways to cope with the dark side of their personalities.

As leaders of an organisation, CEOs are expected to not only act in the best interests of the organisation (Hambrick & Mason, 1984; Winsborough & Sambath, 2013) but also to maintain high performance under stressful circumstances (Denison, 2001). According to the upper echelon theory, organisational outcomes may be partly

predicted by assessing managerial background characteristics (e.g. tenure, education, age) (Hambrick, 2007; Hambrick & Mason, 1984).

Although this theory has amplified our understanding of organisational outcomes (e.g. strategic change and structural choices; Carpenter, Geletkanycz & Sanders, 2004), researchers have only recently begun to address the impact of executive personality on organisational outcomes (Nadkarni & Herrmann, 2010; Winsborough & Sambath, 2013). Because only a relatively small number of individuals become CEOs, it is reasonable to assume that CEOs should significantly differentiate from the working norms (Winsborough & Sambath, 2013) in both the bright and the dark side traits.

2.2.1. Job Choice

Vocational choice is based on a mix of factors such as a person's ability, personality and values, as well as social background. Through experience and socialisation, people become more homogenous in background within certain industries/functions and therefore are different to those in others. This *attraction-selection-attrition* (ASA) framework proposed by Schneider (1987) suggests that people are differentially attracted to careers as a function of their interests and personality. Organisations then select people they consider compatible for different jobs, which later may lead to employees leaving the job when they feel they do not fit in. Research has shown that people in job sectors have distinct bright and dark side personality profiles (e.g. Furnham, Hyde & Trickey, 2014). This theory could play a role in helping us explaining the differences between the CEOs and those in five other professions.

2.3 Study 1: CEOs and the bright side of personality

2.3.1 Introduction

In section 1.1.1.4 I discussed the role of the FFM related to working outcomes. Thus, I will not repeat ourselves in this section. However, it is worth mentioning that a point of conflict among the researchers is whether these five domains are efficient in predicting job performance (Barrick & Mount, 2005) or whether these domains are too broad (Tett, Steele & Beauregard, 2003). The NEO-PI-R contains 30 facets with six facets for each domain. DeYoung, Quilty and Peterson (2007) tried to address the conflict above by developing a hierarchical framework, also known as the 6–2–1 model (Judge et al., 2013), which organises the five domains into 10 phenotypic factors, and each phenotypic factor contains one or more facets (see Figure 2.1). This organisational framework, developed by using the six facets developed by Costa and McCrae (1992), is separated into two distinct phenotypic factors that correspond to each domain. Similarly, to the FFM, the phenotypic factors have genetic and environmental causes (DeYoung et al., 2007). This model is important for this study because it will allow us to gain a better understanding of the relationship between personality and job performance (from a broader to a narrower point of view).

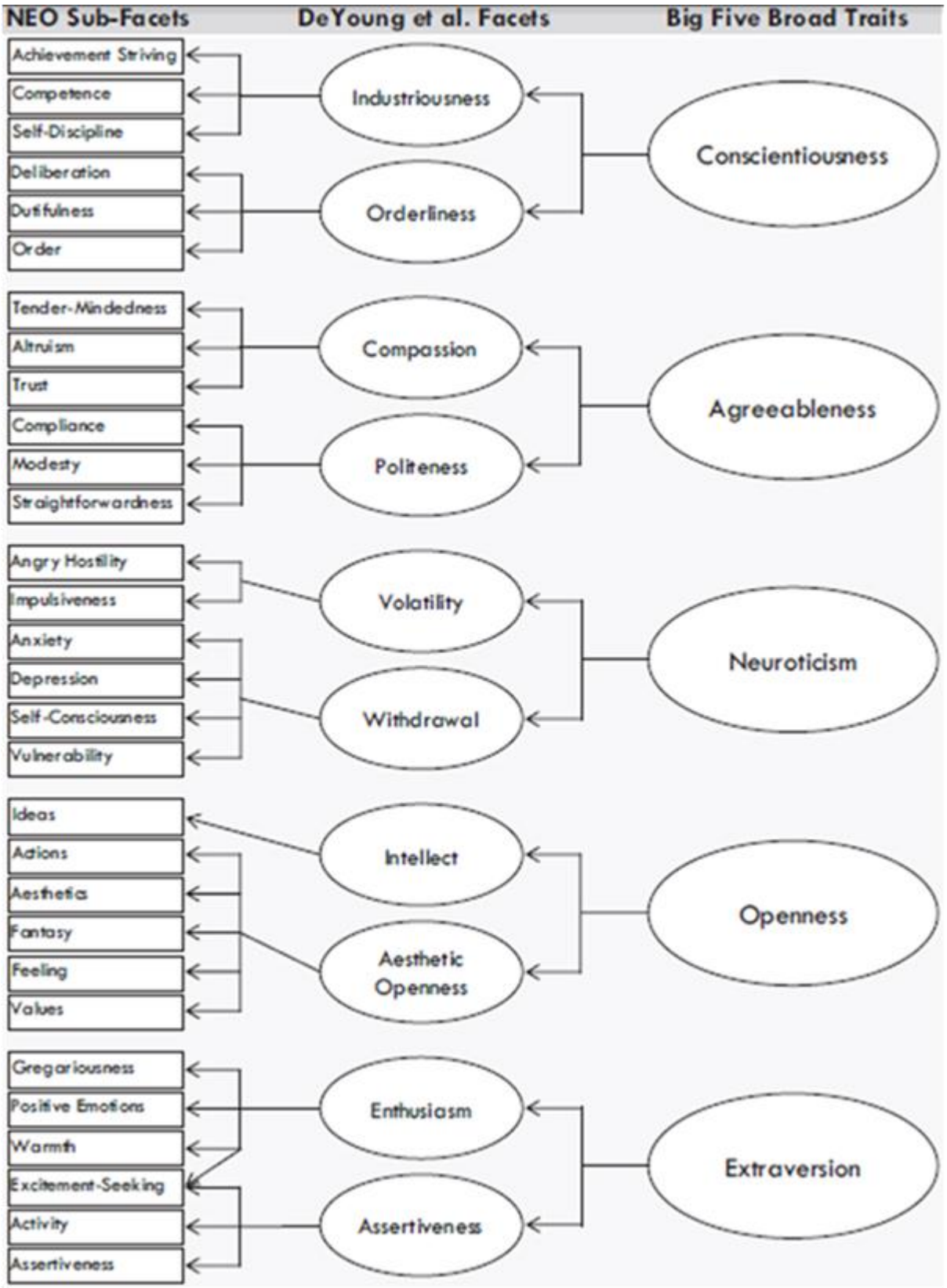

Figure 2.1. Hierarchical representation of personality from NEO facets (Costa & McCrae, 1992) to DeYoung, Quilty and Peterson (2007) model. (Judge et al., 2013, p. 878).

2.3.1.2 CEOs and working norms

To the best of MY knowledge, there is limited research on various managerial levels and their individual differences. Moutafi, Furnham and Crump (2007) used the Myers-Briggs (MBTI) and the NEO-PI-R on 900 managers to measure the relationship between seniority and Conscientiousness, Emotional Stability, Extraversion and Intuitiveness. With a larger population of 2,000 employees and the fundamental interpersonal relations orientation-business (FIRO-B) measure, Furnham, Crump and Chamorro-Premuzic (2007) found that most individuals with seniority had the highest expressed inclusion (comfortable in social settings) and control (enjoys taking on responsibilities) but lowest wanted inclusion (selective about whom to be associated with) and control (does not want to be controlled by others) scores.

Winsborough and Sambath (2013) compared the bright and dark sides of personality by using the HPI (Hogan & Hogan, 1992) in a sample of 151 New Zealand CEOs compared with population norms. They found CEOs were significantly more stable, competitive/ambitious, sociable and oriented to formal learning. Although there have been limited studies on individual differences within various managerial levels, there have been very few studies comparing the personality of CEOs to those of "lower" rank within organisations among various sectors/functions.

2.3.1.3 Current study

The purpose of the current study was to validate and extend the findings of Winsborough and Sambath (2013) regarding the bright side of personality of CEOs compared with working norms. A further aim was to build on that research by directly comparing CEOs with five popular professions (i.e. engineers, lawyers, accountants/finance, human resources (HR) professionals and marketing professionals).

For the first aim of this study, some of my hypotheses for the domain levels were to be based on findings from Winsborough and Sambath (2013). First, I expected that CEOs would have significantly higher scores than working norms in Extraversion (Hypothesis 1). Assertiveness is linked to task performance and enthusiasm to contextual performance. Assertiveness is vital for team members and is linked to team performance and proactive behaviours (Crant, 1995; Pearsall & Ellis, 2006). In contrast, Enthusiasm is related with positive emotions and affectability toward other individuals (DeYoung et al., 2007). Because CEOs are considered to be the leaders of an organisation, and a leader should be a team player and care about his or her followers (Bono & Judge, 2004), I hypothesised that they would have higher scores on both phenotypic factors (Assertiveness, Hypothesis 1a, and Enthusiasm, Hypothesis 1b) compared with working norms.

In line with the findings of Winsborough and Sambath (2013), I expected CEOs to have significantly lower scores in Neuroticism (Hypothesis 2). Withdrawal has a negative relationship with task performance. Individuals with high scores in Withdrawal experience negative affect that predicts task performance (Kaplan, Bradley, Luchman & Haynes, 2009). Moreover, the depressive part of Withdrawal

may decrease performance due to cognitive misinterpretations (Dunning & Story, 1991). Volatility is linked to low contextual performance. Owing to the facets that volatility is based on, hostility (Lee & Allen, 2002) and irritability (Felfe & Schyns, 2004) are related to low organisational citizenship behaviours. Because CEOs need to be calm and perform optimally under stressful situations (Denison, 2001), I hypothesised that CEOs would have significantly lower scores on both phenotypic factors (Withdrawal, Hypothesis 2a and Volatility, Hypothesis 2b).

Although Winsborough and Sambath (2013) did not find a significant difference with regards to Conscientiousness, other research has found that Conscientiousness is the strongest predictors for job performance (e.g. Li et al., 2014; Stewart, 1999). Therefore, I believed that CEOs would have significantly higher scores on Conscientiousness than working norms (Hypothesis 3). Industriousness is related to achievement orientating and dependability, which links to both task and contextual performance, whereas Orderliness is related to cautiousness (Dudley, Orvis, Lebiecki & Cortina, 2006). Because CEOs are achievement oriented, I hypothesised that they would have higher scores in Industriousness (Hypothesis 3a) than working norms. Because Orderliness is not related to any form of performance, I did not state any specific hypothesis.

According to Winsborough and Sambath (2013), CEOs do not differ significantly on Agreeableness. Therefore, I also did not expect CEOs to significantly differentiate from working norms (Hypothesis 4). Regarding Agreeableness phenotypic factors, namely Compassion (Hypothesis 4a) and Politeness (Hypothesis 4b), I expected CEOs to not significantly differentiate from working norms.

As mentioned in section 1.1.1.4, Openness to Experience has been relatively ignored in prior literature on work performance (Judge et al., 2013). Minbashian et al. (2013) and Huang et al. (2013) did not find any relation between Openness to Experience and job performance. Winsborough and Sambath (2013) found CEOs had significantly higher scores in Learning Approach but not in Inquisitiveness. Because the literature does not reveal enough evidence to suggest a relationship to job performance and Openness to Experience and only one of the two scales of HPI that correspond to Openness to Experience was significant, I hypothesised that CEOs would not differ from the working norms (Hypothesis 5). Regarding the phenotypic factors of Openness to Experience (Intellect, Hypothesis 5a) and (Aesthetic, Hypothesis 5b), I also expected CEOs to not be significantly different.

Finally, regarding the second aim of the study – examining the personality trait differences between CEOs, engineers, lawyers, accountants/finance, HR professionals and marketing professionals – I hypothesised that the same domains and phenotypic factors would be differentiated in the same way as in the working norms. I chose these professions because they are some of the most common functions. My aim was to see if the results replicated across different functions because there was reason to believe there may be important differences, for instance between people who work in the public and private sectors (Furnham et al., 2014).

2.3.2 Method

2.3.2.1 Participants

The first part of the analysis compared CEOs with working norms. A total of 16,258 (3873 females, 23.8%) employees working in a broad range of companies in the UK across a 10-year period participated in the study. Among those who participated, 8490 were discarded because of missing data. As a result, the final sample consisted of 7768 CEOs and working norms (1549 females, 19.9%) aged between 20 and 67 years (M = 40.66, SD = 7.47). The sample consisted of participants with African (.4%), Austrian (1.6%), British (78%), Caribbean (.1%), Middle Eastern (.2%), North American (3.9%), Non-UK Europeans (4.9%), South American (.4%), South East Asian (1.8%) and other (8.7%) ethnic origins.

In the second part of the analysis, using the same original sample as above, I compared CEOs with engineers, lawyers, accountants/finance, human resource and marketing professionals. Including CEOs, a total of 4263 employees (939 females, 22%) aged between 20 and 67 years (M = 39.95, SD = 7.5) responded to the NEO-PI-R. The sample consisted of participants with African (.4%), Austrian (1.6%), British (80.2%), Caribbean (.1%), Middle Eastern (.1%), North American (2.8%), Non-UK European (4%), South American (.3%), South East Asian (including India & China) (1.4%) and other (9.1%) ethnic origins.

2.3.2.2. Measure

The NEO Personality Inventory Revised (NEO-PI-R) (Costa & McCrae, 1992) is a 240-item questionnaire designed to measure the Five Factor Model (FFM) domains

and the six primary traits/facets associated with each domain. Current research has suggested that each domain has two distinct phenotypic factors (DeYoung et al., 2007). The average response time was 35 minutes. Research has provided evidence for the validity and the reliability of this instrument (Chamorro-Premuzic & Furnham, 2010; De Fruyt, Wille & Furnham, 2013; McCrae, Kurtz, Yamagata & Terracciano, 2011).

2.3.2.3 Procedure

All of the participants were tested by a British-based psychological consultancy over a 10-year period as part of an assessment exercise within their company. At the end of the study, participants were given personal feedback on their scores.

2.3.3 Results

2.3.3.1 CEOs vs. working norms

Descriptive statistics of the NEO-PI-R (domains, phenotypic factors and facets) comparing scores of CEOs with the working norms in the UK are presented in Table 2.1. For each domain, phenotypic factor and facet, the mean, standard deviation and Cohen's d was calculated. Cohen's d allowed us to evaluate the effect size in a study and is not influenced by any possible size difference (one group having more participants than the other). It is also not influenced by the scale used to collect the data. Cohen's d forms the basis of meta-analytic studies and of power analyses (Cohen, 1988). Finally, even if Cohen's d shows the effect size, it does not reveal

any statistical differences, therefore, I conducted a series of Independent Sample t-tests.

Table 2.1

Descriptive statistics of the NEO-PI-R (domains, the distinct phenotypic factors and facets) of the working norms and the CEOs

NEO-PI-R	Working Population (N = 7630)		CEOs (N = 138)			
	Mean	SD	Mean	SD	*D*	*t*
Neuroticism	63.49	19.86	51.91	16.06	.58	**6.80*** **
Volatility	24.54	7.5	21.12	6.75	.46	**5.32*** **
Withdrawal	39	15	30.88	11.57	.54	**6.33*** **
N1	11.94	5.20	9.43	4.43	.48	**5.62*** **
N2	9.92	4.61	8.25	3.90	.36	**4.23*** **
N3	9.2	4.72	7.08	3.74	.45	**5.24*** **
N4	11.52	4.32	10.03	3.49	.35	**4.04*** **
N5	14.62	4.41	12.88	4.22	.39	**4.62*** **
N6	6.33	3.51	4.34	2.92	.57	**6.64*** **
Extraversion	128.47	18.59	132.64	16.99	-.22	**-2.61** **
Enthusiasm	85.44	13.63	85.59	13.72	-.01	-.12
Assertiveness	62.06	9.71	65.72	8.02	-.38	**-4.4*** **
E1	23.73	4.01	23.57	4.49	.04	0.47
E2	20.07	4.72	20.99	4.33	-.19	**-2.25***
E3	21.16	4.4	23.03	3.64	-.43	**-4.96*** **
E4	21.92	4.06	24.03	3.3	-.52	**-6.06*** **
E5	18.97	4.47	18.67	4.22	.07	0.80
E6	22.67	4.62	22.37	4.64	.06	0.75
Openness	120.32	18.5	121.47	18.64	-.06	-0.72
Intellect	20.65	5.25	21.3	5.13	-.12	-1.45
Aesthetic	99.69	15.19	100.17	15.05	-.03	-.36
O1	16.78	4.84	16.41	4.97	.08	0.90
O2	17.37	5.93	18.29	5.95	-.15	-1.80
O3	21.89	4.21	21.17	4.49	.17	**2.00***

O4	19.92	4.18	20.14	4.13	-.05	-0.62
O5	20.65	5.25	21.3	5.14	-.12	-1.45
O6	23.72	3.4	24.16	3.13	-.13	-1.49
Agreeableness	119.86	15.69	122.72	14.94	-.18	**-2.12***
Compassion	65.46	8.26	67.2	7.83	-.21	**-2.45****
Politeness	54.41	9.8	55.56	10.19	-.11	-1.37
A1	22.14	4.13	23.48	3.89	-.32	**-3.77*****
A2	18.8	4.42	19.69	4.79	-0.2	**-2.34***
A3	23.87	3.47	23.63	3.38	.07	0.81
A4	17.98	4.02	18.33	3.79	-.09	-0.99
A5	17.63	4.63	17.55	4.75	.02	0.20
A6	19.45	3.43	20.09	3.08	-.17	**-2.19***
Conscientiousness	134.83	17.19	141.42	15.86	-.38	**-4.47*****
Industriousness	72.01	9.47	75.95	8.59	-.42	**-4.85*****
Orderliness	62.83	9.59	65.47	8.91	-.27	**-3.21****
C1	24.43	3.22	25.44	3.09	-.31	**-3.65*****
C2	19.02	4.5	19.75	4.41	-.16	-1.89
C3	25.12	3.5	26.54	3.24	-.4	**-4.72*****
C4	23.54	3.96	25.22	3.57	-.42	**-4.95*****
C5	24.04	4.04	25.29	3.43	-.31	**-3.60*****
C6	18.69	4.39	19.18	4.15	-.11	-1.31

Note: N1 = Anxiety; N2 = Angry Hostility; N3 = Depression; N4 = Self-Consciousness; N5 = Impulsiveness; N6 = Vulnerability; E1 = Warmth; E2 = Gregariousness; E3 = Assertiveness; E4 = Activity; E5 = Excitement Seeking; E6 = Positive Emotion; O1 = Fantasy; O2 = Aesthetics; O3 = Feelings; O4 = Actions; O5 = Ideas; O6 = Values; A1 = Trust; A2 = Straightforwardness; A3 = Altruism; A4 = Compliance; A5 = Modesty; A6 = Tender Mindedness; C1 = Competence; C2 = Order; C3 = Dutifulness; C4 = Achievement Striving; C5 = Self-Discipline; C6 = Deliberation.

*$p < .05$, **$p < .01$, ***$p < .001$

The results of the *t*-test analysis, provided in Table 2.1, showed that there was a significant difference between CEOs and the working norms in four domains of NEO-PI-R: in Neuroticism $t(7766) = 6.80$, $p <. 001$, in Extraversion $t(7766) = -2.61$, $p < .01$, in Agreeableness $t(7766) = -2.12$, $p<.05$ and in Conscientiousness $t(7766) = -4.47$, $p < .001$. Both phenotypic factors of Neuroticism and Conscientiousness were significantly different between the CEOs and the working norms. It is worth noting that two out of three facets that correspond to Orderliness (Order and Deliberation) were not statistically significant; however, Dutifulness was highly significant, which explains why Orderliness became significant as well.

For Extraversion, the phenotypic factor Enthusiasm was not statistically different. This was not surprising since the three facets that correspond to Enthusiasm are not statistically different as well (Warmth, Positive Emotions and Excitement-Seeking). Regarding Openness to Experience, only one facet was statistically significant (Feelings). With regards to Agreeableness, the phenotypic factor Politeness was not statistically different. Again, it was not surprising, since two out of three items that correspond to Politeness were not statistically different (Compliance and Modesty) and the third facet was not highly significant.

Cohen (1988) reported that values around .20 indicate a small effect size, values around .50 indicate a medium effect size and values around .80 and above indicate a large effect size. The negative values on Cohen's d corresponded to CEOs, whereas the positive values corresponded the working norms. There were two small effect sizes on Extraversion (d = .22) and Agreeableness (d = 18.), and a medium effect size on Conscientiousness (d = 38.), which revealed higher scores for CEOs. In contrast, there was a medium effect showing that working norms had higher scores

on Neuroticism (d = .58). With regards to phenotypic factors, the working norms had higher scores in Volatility (d = .46) and Withdrawal (d = .54), but lower scores in Assertiveness (d = .38), Compassion (d = .21), Industriousness (d = .42) and Orderliness (d = .27). Finally, regarding the facets, the largest value of Cohen's d was found in Neuroticism and the smallest value was found in Agreeableness (.02 indicating almost a non-existing effect size).

2.3.3.2 CEOs vs. engineers, lawyers, accountants/finance, HR professionals and marketing professionals

For the second part of the study, I analysed the data based on functions. I chose five popular professions and compared them with CEOs. More specifically, I conducted a MANCOVA and MANOVA to examine if there was a significant difference between CEOs and engineers, lawyers, accountants/finance, HR professionals and marketing professionals.

Firstly, a MANCOVA (followed by univariate ANCOVAs) was computed with the five domains, the 10 phenotypic factors and their facets of the NEO-PI-R as dependent variables between the six profession groups, while controlling for gender and age. By controlling these two variables, I measured the effect of the predictor (i.e. personality traits) while all other predictors (i.e. age and gender) were held constant. Consequently, age and gender should not have affected our results. Using Wilks's statistic, there was a significant difference between these groups, $\Lambda = .81$, $F(175, 20938) = 5.20$, $p < .001$. Agreeableness was the only domain that was not statistically significant; however, Compassion and Politeness were significant. Finally, at a facet level, all but three facet analyses (Altruism, Compliance and

Order) were significant, which meant that at least two professions were significantly different in the domains, phenotypic factors and facets levels of the NEO-PI-R (Table 2.2).

Table 2.2

Descriptive statistics of the group professions showing ANCOVAs results for each of the NEO-PI-R domains, the distinct phenotypic factors and facets

NEO-PI-R	CEOs (N = 138)		Engineering (N = 1705)		Lawyers (N = 536)		Account/Finance (N = 1195)		HR (N = 391)		Marketing (N = 298)		*F* Level
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
Neuroticism	51.91	16.06	67.06	19.89	69.75	21.94	62.12	20.38	63.69	19.35	62.09	19.01	**31.37*** **
Volatility	21.12	6.75	25.00	7.62	25.31	7.88	24.06	7.57	24.27	7.20	24.41	7.20	**11.42*** **
Withdrawal	30.88	11.57	42.06	15.05	44.69	16.56	38.11	15.43	39.49	14.44	37.72	14.12	**34*** **
N1	9.43	4.43	12.74	5.18	13.94	5.69	11.73	5.38	11.99	5.00	11.58	4.77	**26.06*** **
N2	8.25	3.90	10.41	4.80	10.8	4.82	9.65	4.56	9.28	4.21	9.67	4.46	**16.23*** **
N3	7.08	3.74	9.96	4.79	10.97	5.56	8.83	4.73	9.13	4.55	8.8	4.47	**27.99*** **
N4	10.03	3.49	12.26	4.47	12.5	4.38	11.29	4.42	11.71	4.49	11.03	4.00	**18.16*** **
N5	12.88	4.22	14.59	4.29	14.52	4.71	14.41	4.5	14.99	4.52	14.73	4.33	**4.66*** **
N6	4.34	2.92	7.11	3.55	7.29	3.76	6.25	3.42	6.66	3.49	6.31	3.67	**27.36*** **
Extraversion	132.64	17	122.85	18.5	123.17	19.86	128.14	18.47	131.9	16.53	135.27	16.56	**39.33*** **
Enthusiasm	85.59	13.73	81.92	13.86	82.79	13.93	85.43	13.8	20.51	5.29	21.99	5.13	**26.75*** **
Assertiveness	65.72	8.02	59.42	9.85	58.32	10.11	61.75	9.85	62.47	8.77	64.71	8.46	**39.71*** **
E1	23.57	4.41	22.74	4.12	23.56	4.11	23.79	4.09	24.93	3.78	25.10	3.40	**18.48*** **

E2	20.99	4.33	18.96	4.82	19.32	4.61	20.17	4.57	20.99	4.64	21.59	4.47	**25.67*** **
E3	23.03	3.64	20.17	4.48	19.59	4.66	20.95	4.56	20.99	4.27	22.03	4.05	**25.83*** **
E4	24.03	3.30	20.75	4.13	21.13	4.19	21.78	4.08	22.55	3.89	23.02	3.67	**34.67*** **
E5	18.67	4.22	18.51	4.52	17.6	4.66	19.02	4.46	18.94	4.23	19.66	4.11	**16.12*** **
E6	22.37	4.64	21.72	4.70	22.31	4.89	22.46	4.61	23.51	4.32	23.9	4.14	**10.21*** **
Openness	121.47	18.64	117.35	18.38	119.22	16.97	117.84	18.68	125.34	17.84	127.06	17.46	**16.21*** **
Intellect	21.3	5.13	20.62	5.16	19.87	5.22	20.31	5.36	20.51	5.29	21.99	5.13	**8.16*** **
Aesthetic	100.17	15.05	96.76	15.03	33.37	13.84	97.5	15.26	104.86	14.58	105.13	14.32	**17.72*** **
O1	16.41	4.97	16.26	4.74	16.42	4.77	16.17	4.81	17.88	4.83	18.32	4.75	**11.64*** **
O2	18.29	5.95	17.11	5.74	17.88	5.45	16.43	6.21	18.60	5.72	18.82	5.55	**10.96*** **
O3	21.17	4.49	21.08	4.31	22.3	4.32	21.39	4.14	23.11	3.97	22.92	4.12	**8.93*** **
O4	20.14	4.13	19.26	4.15	18.92	4.1	19.85	4.15	20.91	3.96	20.77	3.95	**14.75*** **
O5	21.3	5.14	20.62	5.16	19.87	5.22	20.32	5.36	20.51	5.29	21.99	5.13	**8.16*** **
O6	24.16	3.13	23.06	3.61	23.85	3.50	23.65	3.40	24.36	3.05	24.31	3.14	**12.63*** **
Agreeable Ness	122.72	14.94	120.08	16.1	120.03	15.28	119.1	16.6	122.27	14.24	120.97	14.84	1.60
Compassion	67.20	7.83	64.92	8.37	64.64	8.40	64.92	8.50	67.08	8.00	67.16	7.50	**6.47*** **
Politeness	55.56	10.19	55.13	10.26	55.37	9.30	54.34	9.81	55.18	8.90	53.75	9.50	**2.69***

A1	23.48	3.89	21.67	4.16	20.89	4.22	21.77	4.29	23.01	3.82	23.09	3.80	**18.11*** **
A2	19.69	4.79	19.11	4.62	19.09	4.17	19.03	4.33	18.58	4.16	18.55	4.43	**3.6***
A3	23.63	3.38	23.67	3.49	24.12	3.56	24.01	3.54	24.26	3.48	24.34	3.25	.80
A4	18.33	3.79	18.22	4.086	18.1	3.83	17.96	4.08	18.55	3.669	18.02	3.982	1.04
A5	17.55	4.75	17.8	4.72	18.18	4.62	17.35	4.66	18.05	4.36	17.18	4.53	**3.97****
A6	20.09	3.08	19.58	3.55	19.63	3.56	19.13	3.37	19.81	3.44	19.73	3.23	**4.12****
Conscientiousness	141.42	15.86	133.23	17.22	132.58	18.02	136.37	16.75	132.09	18.13	134.87	17.11	**11.07*** **
Industriousness	75.95	8.6	70.19	9.5	69.82	10.12	72.72	9.13	71.24	9.62	72.73	9.27	**20.94*** **
Orderliness	65.47	8.91	63.04	9.55	62.76	9.47	63.66	9.36	60.85	10.31	62.14	9.73	**5.41*** **
C1	25.44	3.09	23.97	3.16	23.84	3.48	24.65	3.14	24.3	3.17	24.53	3.27	**13.15*** **
C2	19.75	4.41	18.87	4.66	19.18	4.56	19.06	4.29	18.76	4.70	18.63	4.66	1.95
C3	26.54	3.24	25.01	3.4	24.6	3.58	25.54	3.36	24.37	3.88	25.05	3.45	**12.02*** **
C4	25.22	3.57	22.6	4.05	22.49	4.33	23.71	3.93	23.27	3.93	24.09	3.70	**24.47*** **
C5	25.29	3.43	23.61	4.17	23.49	4.21	24.36	3.88	23.67	4.25	24.11	3.92	**9.35****
C6	19.18	4.15	19.16	4.39	18.98	4.44	19.06	4.37	17.72	4.39	18.47	4.32	**4.06****

Note: N1 = Anxiety; N2 = Angry Hostility; N3 = Depression; N4 = Self-Consciousness; N5 = Impulsiveness; N6 = Vulnerability; E1 = Warmth; E2 = Gregariousness; E3 = Assertiveness; E4 = Activity; E5 = Excitement Seeking; E6 = Positive Emotion; O1 = Fantasy; O2 = Aesthetics; O3 = Feelings; O4 = Actions; O5 = Ideas; O6 = Values; A1 = Trust; A2 = Straightforwardness; A3 = Altruism; A4 = Compliance; A5 = Modesty; A6 = Tender Mindedness; C1 = Competence; C2 = Order; C3 = Dutifulness; C4 = Achievement Striving; C5 = Self-Discipline; C6 = Deliberation.

*$p < .05$,**$p < .01$,***$p < .001$

Table 2.2 shows the results of ANCOVAs on each domain, phenotypic factor and facet of NEO-PI-R. My interest lay in identifying which professional groups differed from CEOs. Therefore, I conducted a MANOVA (Table 2.3) using the post-hoc test of Hochberg's GT2 because the sample size was not the same among the groups (Field, 2013).

Table 2.3

Differences on the NEO-PI-R domains, the distinct phenotypic factors and facets of CEOs compared with the other professions

NEO-PI-R	Professions		Mean Difference	Std. Error	d
Neuroticism	CEOs	Engineering	**-15.14*** **	1.78	-.77
		Lawyers	**-17.84*** **	1.92	-.85
		Accounting/Finance/Finance	**-10.21*** **	1.80	-.51
		HR	**-11.77*** **	2.00	-.63
		Marketing	**-10.17*** **	2.07	-.56
Volatility	CEOS	Engineering	**-3.88*** **	.66	-.51
		Lawyers	**-4.19*** **	.72	-.55
		Accounting/Finance	**-2.94*** **	.68	-.39
		HR	**-3.14*** **	.75	-.44
		Marketing	**-3.29*** **	.78	-.46
Withdrawal	CEOs	Engineering	**-11.18*** **	1.34	-.75
		Lawyers	**-13.81*** **	1.44	-.88
		Accounting/Finance	**-7.22*** **	1.36	-.48
		HR	**-8.60*** **	1.50	-.62
		Marketing	**-6.83*** **	1.56	-.51
N1	CEOs	Engineering	**-3.30*** **	.46	-.64
		Lawyers	**-4.50*** **	.50	-.83
		Accounting/Finance	**-2.30*** **	.47	-.43
		HR	**-2.55*** **	.52	-.52
		Marketing	**-2.15** **	.54	-.46
N2	CEOs	Engineering	**-2.17*** **	.41	-.45
		Lawyers	**-2.55*** **	.44	-.55
		Accounting/Finance	**-1.41***	.42	-.31
		HR	-1.03	.46	-.25
		Marketing	**-1.43***	.48	-.33
N3	CEOs	Engineering	**-2.88*** **	.42	-.61
		Lawyers	**-3.89*** **	.46	-.74

		Accounting/Finance	**-1.75****	.43	-.38
		HR	**-2.05*****	.48	-.47
		Marketing	**-1.72****	.49	-.40
N4	CEOs	Engineering	**-2.23*****	.39	-.50
		Lawyers	**-2.47*****	.42	-.59
		Accounting/Finance	**-1.26***	.39	-.29
		HR	**-1.68****	.43	-.39
		Marketing	-1.00	.45	-.25
N5	CEOs	Engineering	**-1.71*****	.39	-.40
		Lawyers	**-1.64****	.42	-.35
		Accounting/Finance	**-1.53****	.40	-.34
		HR	**-2.11*****	.44	-.47
		Marketing	**-1.86****	.46	-.43
N6	CEOs	Engineering	**-2.77*****	.31	-.79
		Lawyers	**-2.95*****	.34	-.82
		Accounting/Finance	**-1.91*****	.32	-.57
		HR	**-2.32*****	.35	-.69
		Marketing	**-1.96*****	.36	-.57
Extraversion	CEOs	Engineering	**9.80*****	1.62	.53
		Lawyers	**9.47*****	1.75	.49
		Accounting/Finance	4.51	1.65	.25
		HR	.74	1.81	.04
		Marketing	-2.62	1.88	-.16
Enthusiasm	CEOs	Engineering	**3.66***	1.19	.26
		Lawyers	2.79	1.29	.20
		Accounting/Finance	.15	1.21	.01
		HR	-2.77	1.33	-.22
		Marketing	**-4.66***	1.39	-.37
Assertiveness	CEOs	Engineering	**6.30*****	.85	.65
		Lawyers	**7.40*****	.92	.76
		Accounting/Finance	**3.98*****	.87	.41

		HR	**3.25****	.95	.38
		Marketing	1.01	.99	.12
E1	CEOs	Engineering	.83	.36	.20
		Lawyers	.01	.39	0
		Accounting/Finance	-.22	.36	-.05
		HR	**-1.36***	.40	-.34
		Marketing	**-1.54****	.42	-.40
E2	CEOs	Engineering	**2.03*****	.41	.42
		Lawyers	**1.66***	.45	.37
		Accounting/Finance	.82	.42	.55
		HR	0	.46	0
		Marketing	-.61	.48	-.13
E3	CEOs	Engineering	**2.86*****	.39	.65
		Lawyers	**3.44*****	.42	.77
		Accounting/Finance	**2.08*****	.40	.46
		HR	**2.04*****	.44	.49
		Marketing	1.00	.46	.25
E4	CEOs	Engineering	**3.28*****	.36	.80
		Lawyers	**2.90*****	.39	.72
		Accounting/Finance	**2.25*****	.36	.56
		HR	**1.48****	.40	.39
		Marketing	1.01	.42	.28
E5	CEOs	Engineering	.16	.39	.03
		Lawyers	1.07	.43	.23
		Accounting/Finance	-.35	.40	-.07
		HR	-.27	.44	-.06
		Marketing	-.99	.46	-.23
E6	CEOs	Engineering	.65	.41	.14
		Lawyers	.06	.44	.01
		Accounting/Finance	-.09	.42	-.02
		HR	-1.14	.46	-.26

		Marketing	**-1.53***	.48	-.35
Openness	CEOs	Engineering	4.12	1.61	.22
		Lawyers	2.25	1.74	.13
		Accounting/Finance	3.63	1.63	.19
		HR	-3.87	1.8	-.21
		Marketing	**-5.59***	1.87	-.31
Intellect	CEOs	Engineering	.68	.46	.13
		Lawyers	1.43	.50	.27
		Accounting/Finance	1.00	.47	.18
		HR	.79	.52	.15
		Marketing	-.68	.54	-.13
Aesthetic	CEOs	Engineering	3.4	1.32	.22
		Lawyers	.79	1.42	.06
		Accounting/Finance	2.67	1.34	.17
		HR	**-4.69***	1.47	-.32
		Marketing	**-4.97***	1.53	-.34
O1	CEOs	Engineering	.14	.42	.03
		Lawyers	-.02	.46	0
		Accounting/Finance	.23	.43	.05
		HR	**-1.47***	.47	-.30
		Marketing	**-1.92****	.49	-.40
O2	CEOs	Engineering	1.18	.52	.26
		Lawyers	.41	.56	.07
		Accounting/Finance	**1.86****	.52	.30
		HR	-.31	.58	-.05
		Marketing	-.53	.60	-.09
O3	CEOs	Engineering	.09	.37	.02
		Lawyers	-1.13	.40	-.26
		Accounting/Finance	-.23	.38	-.05
		HR	**-1.95*****	.42	-.47
		Marketing	**-1.75****	.43	-.41

O4	CEOs	Engineering	.89	.36	.21
		Lawyers	**1.23***	.39	.30
		Accounting/Finance	.29	.37	.07
		HR	-.76	.41	-.19
		Marketing	-.62	.42	-.15
O5	CEOs	Engineering	.68	.46	.13
		Lawyers	1.43	.50	.27
		Accounting/Finance	.99	.47	.18
		HR	.80	.52	.15
		Marketing	-.69	.54	-.13
O6	CEOs	Engineering	**1.10****	.30	.31
		Lawyers	.31	.33	.09
		Accounting/Finance	.51	.31	.15
		HR	-.20	.34	-.06
		Marketing	-.15	.35	-.05
Agreeableness	CEOs	Engineering	2.64	1.40	.16
		Lawyers	2.68	1.51	.18
		Accounting/Finance	3.62	1.43	.22
		HR	.45	1.57	.03
		Marketing	1.75	1.63	.12
Compassion	CEOs	Engineering	**2.28***	.73	.27
		Lawyers	**2.56***	.79	.31
		Accounting/Finance	**2.2***	.75	.27
		HR	.12	.82	.01
		Marketing	.04	.85	.005
Politeness	CEOs	Engineering	.43	.87	.042
		Lawyers	.20	.94	.02
		Accounting/Finance	1.22	.88	.12
		HR	.38	.97	.04
		Marketing	1.82	1.01	.19
A1	CEOs	Engineering	**1.80*****	.37	.44

		Lawyers	**2.59*** **	.39	.62
		Accounting/Finance	**1.70*** **	.37	.40
		HR	.47	.41	.12
		Marketing	.39	.43	.10
A2	CEOs	Engineering	.58	.39	.12
		Lawyers	.6	.42	.14
		Accounting/Finance	.66	.40	.15
		HR	1.11	.44	.26
		Marketing	1.13	.46	.25
A3	CEOs	Engineering	-.04	.31	-.01
		Lawyers	-.49	.33	-.13
		Accounting/Finance	-.38	.31	-.10
		HR	-.63	.34	-.18
		Marketing	-.71	.36	-.21
A4	CEOs	Engineering	.11	.35	.02
		Lawyers	.23	.38	.06
		Accounting/Finance	.36	.36	.09
		HR	-.22	.40	-.06
		Marketing	.31	.41	.08
A5	CEOs	Engineering	-.25	.41	-.05
		Lawyers	-.63	.44	-.13
		Accounting/Finance	.2	.42	.04
		HR	-.5	.46	-.11
		Marketing	.37	.48	.08
A6	CEOs	Engineering	.52	.31	.14
		Lawyers	.47	.33	.13
		Accounting/Finance	**.96***	.31	.29
		HR	.29	.34	.08
		Marketing	.36	.35	.11
Conscientiousness	CEOs	Engineering	**8.19*** **	1.52	.48
		Lawyers	**8.84*** **	1.64	.5

		Accounting/Finance	**5.05***	1.55	.30
		HR	**9.33*****	1.71	.53
		Marketing	**6.55***	1.77	.39
Industriousness	CEOs	Engineering	**5.76*****	.84	.61
		Lawyers	**6.13*****	.90	.62
		Accounting/Finance	**3.23****	.85	.35
		HR	**4.70*****	.94	.50
		Marketing	**3.22***	.97	.35
Orderliness	CEOs	Engineering	2.43	.84	.25
		Lawyers	**2.71***	.91	.29
		Accounting/Finance	1.81	.86	.19
		HR	**4.62*****	.95	.46
		Marketing	**3.33****	.98	.35
C1	CEOs	Engineering	**1.47*****	.28	.46
		Lawyers	**1.60*****	.31	.47
		Accounting/Finance	.8	.29	.25
		HR	**1.14***	.32	.36
		Marketing	.91	.33	.28
C2	CEOs	Engineering	.88	.40	.19
		Lawyers	.57	.43	.12
		Accounting/Finance	.7	.41	.16
		HR	.99	.45	.21
		Marketing	1.13	.47	.24
C3	CEOs	Engineering	**1.52*****	.31	.45
		Lawyers	**1.93*****	.33	.55
		Accounting/Finance	.99	.31	.3
		HR	**2.17*****	.34	.58
		Marketing	**1.49*****	.36	.44
C4	CEOs	Engineering	**2.61***	.35	.65
		Lawyers	**2.72*****	.38	.65
		Accounting/Finance	**1.51*****	.36	.38

		HR	**1.95*** **	.40	.50
		Marketing	1.13	.41	.31
C5	CEOs	Engineering	**1.68*** **	.36	.40
		Lawyers	**1.80*** **	.39	.44
		Accounting/Finance	.93	.36	.24
		HR	**1.62** **	.40	.40
		Marketing	1.18	.42	.31
C6	CEOs	Engineering	.02	.39	0
		Lawyers	.21	.42	.04
		Accounting/Finance	.12	.39	.03
		HR	**1.46***	.43	.34
		Marketing	.71	.45	.17

Note: N1 = Anxiety; N2 = Angry Hostility; N3 = Depression; N4 = Self-Consciousness; N5 = Impulsiveness; N6 = Vulnerability; E1 = Warmth; E2 = Gregariousness; E3 = Assertiveness; E4 = Activity; E5 = Excitement Seeking; E6 = Positive Emotion; O1 = Fantasy; O2 = Aesthetics; O3 = Feelings; O4 = Actions; O5 = Ideas; O6 = Values; A1 = Trust; A2 = Straightforwardness; A3 = Altruism; A4 = Compliance; A5 = Modesty; A6 = Tender Mindedness; C1 = Competence; C2 = Order; C3 = Dutifulness; C4 = Achievement Striving; C5 = Self-Discipline; C6 = Deliberation.

*$p < .05$, **$p < .01$, ***$p < .001$

For the domains, CEOs differed from all other professions in Neuroticism and Conscientiousness, which showed that CEOs had higher scores in Emotional Stability and self-discipline in comparison to engineers, lawyers, accountants/finance, HR professionals and marketing professionals. Furthermore, CEOs were found to be more extraverted (i.e. spending more energy directed outwards into the social world) and less open to experiences (i.e. looking for and appreciating experiences for their own sake) when compared to engineers, lawyers, and marketing professionals respectively. Consequently, it appeared that amongst the five domains, engineers, lawyers and marketing professionals differed the most from CEOs, whereas HR professionals and accountants/finance seemed to be less differentiated from CEOs.

CEOs differentiated the most from all the five professions in Volatility, Withdrawal and Industriousness. CEOs had lower scores in Volatility (e.g. high hostility and irritability) and Withdrawal (e.g. easily overwhelmed) but higher scores in Industriousness (e.g. need for achievement) than all the five professions. However, CEOs did not differ significantly from any of the five professions in Intellect (e.g. creative achievement) and Politeness (e.g. cooperative behaviour). Regarding Enthusiasm (e.g. positive mood), CEOs had higher scores than engineers, but lower scores than marketing professionals. Furthermore, in Assertiveness (e.g. proactive behaviour) CEOs had higher scores than engineers, lawyers, accountants/finance and HR professionals. In Aesthetic (e.g. imagining tasks that require intuition and originality), CEOs had significantly lower scores than HR and marketing professionals. In Compassion (i.e. trust), CEOs had higher scores than engineers,

lawyers and accountants/finance. Finally, in Orderliness (e.g. diligence) CEOs had higher scores than lawyers and HR and marketing professionals.

It is worth noting that in all facets of Neuroticism (except Angry-Hostility with HR and Self-Conscientiousness with marketers), CEOs had significantly lower scores in Comparison than all five professions. In contrast, CEOs did not differ from any of the five professions in Excitement-Seeking, Ideas, Order, as well as all facets in Agreeableness, with the exception of Trust (with engineers, lawyers and accountants) and Tender Mindedness (with accountants/finance).

In Table 2.3 the Cohen's d values are also shown. The negative values correspond to the engineers, lawyers, accountants/finance and HR and marketing professionals, whereas the positive values correspond to CEOs. In Neuroticism, the largest effect size (d = .88) was in Withdrawal. More specifically, lawyers had higher scores than CEOs. Furthermore, there were medium to large effect sizes showing that accountants/finance, marketing and HR professionals, engineers and lawyers had higher scores than CEOs. There was a small effect size (accountants/finance) and two medium effect sizes (engineers and lawyers), which showed that CEOs had higher scores in Extraversion. There was also a small effect size, showing that marketing professionals had higher scores than CEOs in Extraversion. Moreover, in Openness to Experience, there were four small effect sizes, showing that CEOs had higher scores than engineers and accountants/finance, and two that showed that HR and marketing professionals had higher scores than CEOs. There were two small effect sizes (one in Agreeableness and one in Conscientiousness), revealing that CEOs had higher scores than accountants/finance. Finally, there were four medium

effect sizes (marketing and HR professionals, engineers and lawyers), showing that the CEOs had higher scores in Conscientiousness.

2.3.4 Discussion

The findings of the current study indicated that CEOs had significantly different personality characteristics than those working at lower rankings (first aim). Interestingly, I also found a significant difference between CEOs and engineers, lawyers, accountants/finance and HR professionals and marketing professions (second aim). The majority of my hypotheses were confirmed.

2.3.4.1 CEOs and working norms

First, I confirmed that CEOs had higher scores on Extraversion (Hypothesis 1) and Assertiveness (Hypothesis 1a) in comparison with working norms. I did not, however, confirm that CEOs had higher scores in Enthusiasm (Hypothesis 1b). Because CEOs had higher scores in Extraversion and Assertiveness, team working, proactive behaviour and persuading come more naturally than to working norms. CEOs are considered leaders of an organisation; therefore, it is logical that they are more extraverted to better engage with their employees. The non-differentiation between CEOs and working norms in behaviours with regards to Enthusiasm may be explained by contextual performance (Christian, Garza & Slaughter, 2011), prosocial behaviour (George, 1991) and organisational citizenship behaviours (OCB) (Kaplan et al., 2009).

I also confirmed all of my hypotheses regarding Neuroticism (Hypotheses 2, 2a and 2b) and Conscientiousness (Hypotheses 3 and 3a). Compared with working norms, CEOs had lower scores in Neuroticism and were less likely to experience negative emotions (anxiety, anger, depression, shyness) and be susceptible to stress. Furthermore, CEOs had higher scores in Conscientiousness, with behaviours such as self-disciple, believing in their own self-efficacy, emphasising the importance of moral obligations and needing personal achievement coming more naturally to them. I did not state any hypotheses regarding Orderliness because is not linked to contextual or task performance (Judge et al., 2013); however, I did find a relationship between order and cautiousness (Dudley et al., 2006). A possible explanation as to why CEOs had higher scores in Orderliness may be due to the nature of their job; that is, CEOs may be more cautious because of the nature of their responsibilities.

Initially, I did not expect to find any significant differences between CEOs and working norms for Agreeableness (Hypothesis 4). However, I found CEOs did have significantly higher scores. A possible explanation may lie in the findings of Judge and Bono (2000), who have positively linked Agreeableness with transformational leadership. I also found that CEOs had significantly higher scores in Compassion (Hypothesis 4a) but not in Politeness (Hypothesis 4b). Compassion is associated with believing in the good intentions of others, concern for the welfare of others and OCB (DeYoung et al., 2007), which are all necessary elements for a transformational leader (Bono & Judge, 2004; Judge & Bono, 2000). Therefore, because CEOs had higher scores in Compassion, behaviours that are associated with leadership are easier for them than the working norms. According to Judge et al. (2013), it seemed appropriate for Politeness to be related with contextual

performance because it consists of traits such as nurturance, cooperation and pleasantness (DeYoung et al., 2007). For Enthusiasm, CEOs did not differentiate from the working norms regarding contextual performance.

Although Winsborough and Sambath (2013) found a significant difference between CEOs and working norms in Openness to Experience, in my study, as expected, CEOs did not differentiate (Hypotheses 5, 5a, and 5b). The only variable that statistically differentiated was CEOs' lower scores in feelings. Because CEOs had lower scores in feelings, sharing their inner feelings and emotions is more difficult for them than for working norms. Owing to the ambiguous nature of the literature on Openness to Experience, it was expected that different findings may occur. For example, some researchers have found that people with higher scores in Openness to Experience are more successful in consulting (Hamilton, 1988), in training (Barrick & Mount, 1991) and in adapting to change (Raudsepp, 1990), whereas others have reported that people with lower scores in Openness to Experience are more successful at work overall (Johnson, 1997). Moreover, Tett et al. (1991) found that Openness to Experience was not a valid predictor for job performance, which could offer a possible explanation for our findings. Another justification for the mixed results in job performance could be because different jobs have different requirements (Rothmann & Coetzer, 2003). This explanation may also be linked with the findings from the second aim of my current study.

2.3.4.2 CEOs and engineers, lawyers, accountants/finance, HR professionals, and marketing professionals

For the second aim of my study, I found that CEOs had significantly lower scores in Openness to Experience than marketing professionals. Furthermore, marketing and HR professionals had significantly higher scores in Aesthetic. Recent literature has shown that aesthetics, creativity and marketing are very closely positively related (Hoyer & Strokburger-Sauer, 2012; Slater, Hult & Olson, 2010). Also, the HR function is frequently linked to innovation and creativity because HR management is partly responsible for motivating behaviours and attitudes among the organisation (Farr & Tran, 2008).

The analysis also revealed that CEOs had significantly lower scores in Neuroticism and in its phenotypic factors compared with all five professions (engineers, lawyers, accountants/finance, HR professionals and marketing professionals). Neuroticism has always been found to be negatively correlated with effective leadership (Judge et al., 2002). Because CEOs are considered the leaders of an organisation, it is hard to imagine that a leader would be as easily overwhelmed, depressed, hostile and discouraged (Judge & Bono, 2000) as their followers – in this case, their employees. To clarify, I do not imply that engineers, lawyers, accountants/finance and HR and marketing professionals, and other working norms, are discouraged, hostile or depressed. However, because CEOs have lower scores in neuroticism, emotions like anxiety and distress occur less for them than for others.

For Conscientiousness and Industriousness, CEOs had significantly higher scores than all five professions. Conscientiousness is linked with promotions, productivity and effectiveness (Furnham, 2008). Furthermore, Conscientiousness is

the strongest predictor of overall job performance (Li et al., 2014), and Industriousness is linked to achievement orientation, task and contextual performance (Judge et al., 2013). Therefore, it was not surprising that CEOs had higher scores than all the other professions. As noted above, Orderliness is not directly related to any kind of job performance but only to order and cautiousness (Dudley et al., 2006). Thus, the fact that CEOs differed significantly from engineers and accountants/finance may not be related to job performance but to working situation preferences. Conscientiousness, as Emotional Stability, has a curvilinear relationship with job performance (Le et al., 2011). Wille et al. (2013) have argued that very high scores in Conscientiousness are related to obsessive compulsive disorder, whereas very low scores are related to borderline and antisocial personality disorders. Consequently, very high or low scores in Conscientiousness are not necessarily beneficial for the individual or the organisation.

Regarding extraversion, CEOs had higher scores than engineers and lawyers. For the engineers, an explanation of this outcome might lie with the theory that we mentioned in 2.3 section, the ASA theory, which proposes that specific people are attracted to specific jobs because of their interest and personality (Schneider, 1987). Based on the ASA theory and the nature of engineering jobs, engineers may be more interested in mechanical processes than socializing with people and management because of their higher reports of introversion (Johnson & Singh, 1998). ASA theory also explains why HR and marketing professionals did not differ significantly from CEOs, because they both had high scores in Extraversion (Matzler, Bidmon & Grabner-Krauter, 2006; Seibert & Kraimer, 2001). However, the ASA theory cannot justify why lawyers had lower scores in Extraversion than CEOs, because sociability

and communication are very important aspects of their profession. A possible explanation for this outcome may be because lawyers tend to be unhappy (Schiltz, 1999; Seligman, Verkuil & Kang, 2001) and suffer from depression (Mounteer, 2004), whereas individuals with high scores in Extraversion are energetic and optimistic (Rothmann & Coetzer, 2003).

For Assertiveness, CEOs had higher scores than all the professions except for marketing professionals. For Enthusiasm, CEOs had higher scores than engineers but lower scores than marketing professionals. Extraversion has a curvilinear relation with overall job performance (Grant, 2013). Wille et al. (2013) argued that high scores on Extraversion are related to narcissistic traits and that narcissism is frequently found in senior-level managers and CEOs. In contrast, very low scores on Extraversion are associated with avoidant personality disorder. Therefore, similarly to Conscientiousness, very high or low values are not always positively associated with job performance, nor are they beneficial for the well-being of the individual. Finally, in Agreeableness and Politeness, CEOs did not statistically differ from any of the five professions, as expected.

However, in Compassion, CEOs had higher scores than engineers, lawyers, and accountants/finance. As, mentioned above, a possible explanation may lie in the relation of Agreeableness and transformational leadership (Judge & Bono, 2000). Personality traits have always captured the attention of I/O researchers, especially when trying to understand what makes a good manager.

2.3.5 Conclusion of current study

To recap, most of the hypotheses were confirmed. I was able to validate and expand the findings of Winsborough and Sambath (2013). I showed that CEOs differed from both working norms and the five functions. Examining data on bright and dark sides of personality will help us detect who is capable of becoming a "top" leader in an organisation and who is likely to derail. Thus, in the next study, I conducted a study with the same principles (i.e. CEOs vs. working norms and CEOs vs. the five functions).

2.4 Study 2: CEOs and the dark side of personality

2.4.1. Introduction

Burch and Foo (2010) found that Imaginative has a positive relation regarding employees' creativeness. Thompson, Payne, Horner and Morey (2012) showed a negative relation of borderline characteristics with work-related effects, such as task strategies and task performance. Moscoso and Salgado (2004) found in a scale that was conceptually related with Cautious a negative relation with task (i.e. the core technical knowledge related to a job) and contextual (attitudes and activities that support the environment of an organisation in a social and psychological way) performance (Griffin, Neal & Neale, 2000). Furnham et al. (2007) investigated whether there was a significant difference on HDS between managers and non-managers. They found that non-managers had significantly higher scores on Diligent and Dutiful. Interestingly, research has shown that dysfunctional personality

characteristics have proven to be beneficial in the workspace (Bold, Mischievous, Colourful and Diligent) (Furnham et al., 2012b).

Different factors predict upward mobility with specific job types and functions. Thus, using years to promotion as manager and senior manager as a criterion, Furnham et al. (2013) showed shorter times to promotion and success were associated with low Neuroticism and Extroversion, high Conscientiousness and Intelligence, as well as high scores on Bold, Mischievous, Imaginative and Colourful, but low scores on Cautious, Reserved, Diligent and Leisurely. Regarding the three clusters of HDS, Moving Against was positively associated with speed of promotion whereas Moving Away and Moving Toward Others were negatively associated.

Thus, it was not unreasonable to assume that CEOs in different functions shared similar personality characteristics. There is relatively little theoretical work in this area except the work of Judge and LePine (2007). They noted that personality characteristics such as Narcissism can harm the organisation when leaders view others as inferiors. However, narcissistic traits are often seen in charismatic leadership and narcissistic leaders are often associated with vision, strength and firms' performance. Judge et al. (2009) proposed a model of leader emergence which suggested both bright (i.e. Emotional Stability, Conscientiousness) and dark side traits (i.e. Narcissism, Dominance, Machiavellianism) as predictors of leadership emergence and effectiveness, though moderated by various other factors. More specifically, Judge et al. (2009) mentioned that in comparative situations (e.g. negotiations) individuals with higher scores in Narcissism fare better than those with lower scores.

2.4.1.2 CEOs as leaders

Khoo and Burch (2008) found that three HDS traits were related with transformational leadership: Cautious and Bold had a negative relation whereas Colourful had a positive one. Their findings showed that under specific circumstances, obtaining high scores in some scales in HDS may have a beneficial work outcome. Davies (2004) found that transformational leadership had a negative relation with Excitable, Sceptical, Cautious, Reserved, Leisurely and Dutiful but a positive relation with Colourful and Imaginative. Benson and Campbell (2007) found that leader performance was negatively related with high scores on Excitable, Sceptical, Cautious, Leisurely, Mischievous and Imaginative.

Babiak and Hare (2006) reported that 3.5% of top business executives had very high scores on psychopathy, which is very high considering that the frequency in the general population is 1%. It appears that psychopathic features are beneficial in business and corporate settings, especially if the job requires taking risks and social skills. De Fruyt, Wille and Furnham (2013) argued that up to 25% of all managers "qualified" as having one problematic behavioural tendency.

There are now many studies that have associated certain dark side traits with work success and failure (Carson, Shanock, Heggestad, Andrew, Pugh & Walter, 2012; Winsborough & Sambath, 2013). However, as mentioned in the previous study, there is not much research looking at CEOs with other profession, thus this study helped get a better understanding of the CEOs' personality characteristics. It built on the small existing literature, while taking it one step further by looking at differences with other professions. In addition, this study can enable coaches when working with CEOs. Owing to the fact that CEOs represent a small proportion of the

working norm, it was very difficult to gather a sufficient sample that would provide us enough information regarding their personality characteristics. Consequently, it was difficult to provide enough feedback in order to help them grow and develop.

2.4.1.3 Current study

Winsborough and Sambath (2013) showed that CEOs had significantly lower HDS scores on Excitable, Sceptical, Cautious, Diligent and Dutiful but higher HDS scores on Colourful. The purpose of the current study was to validate and extend the findings of Winsborough and Sambath (2013) regarding the dark side of personality of CEOs compared to other managers/working norms.

For the first aim of this study, some of my hypotheses were based on findings from Winsborough and Sambath (2013). I hypothesised that in my sample, CEOs would have lower scores on Excitable, Sceptical, Cautious, Diligent and Dutiful but higher scores on Colourful and Bold than other managers/working norms. Considerable research has shown that the most common personality trait that impacts CEOs' decisions is Narcissism (Chatterjee & Hambrick, 2007; 2011), hence my inclusion of Bold. I also hypothesised that CEOs would have higher scores on Moving Against, but lower scores on Moving Toward and Moving Away (Furnham et al., 2012; 2013).

Regarding the second aim of the study – examining the personality trait differences between CEOs, engineers, lawyers, accountants/finance and HR and marketing professionals – I expected that the same scales of HDS would be differentiated in the same way as in the other managers/working norms. I chose these

professions because they are some of the most common functions. My aim was to see if the results replicated across different functions because there was reason to believe there may be important differences, for instance between people who work in the public and private sectors (Furnham et al., 2014).

My hypotheses were that both overall, and in each specific job function that we were investigating, CEOs would score significantly lower on Excitable (Hypothesis 1), Sceptical (Hypothesis 2), Cautious (Hypothesis 3), Diligent (Hypothesis 4) and Dutiful (Hypothesis 5) but higher on Colourful (Hypothesis 6) and Bold (Hypothesis 7). Finally, I also hypothesised that both overall and in each specific job function CEOs would score significantly higher on Moving Against Others (Hypothesis 8) but lower on Moving Away from Others (Hypothesis 9) and Moving Toward Others (Hypothesis10).

2.4.2 Method

2.4.2.1 Participants

The first part of the analysis compared CEOs (128, of which 10 were female) with other managers/working norms (4698, of which 933 were female). A total of 4826 (943 females, 19.5%) employees aged between 22 and 67 years (M = 41.76, SD = 7) working in a broad range of four different companies in the UK across a 10-year period participated in the following study. In this sample, 83.4% were of British nationality whereas the rest were of European (6.8%), North and South American (5%), Middle and South East (1.7%), Australian (1.2%) and other (1.9%) nationalities.

In the second part of the analysis, using the same original sample as above, I compared CEOs with engineers (1218, where 99 were females), lawyers (183, where 64 were females), accountants/finance (688, where 159 were females), HR professionals (259, where 159 were females) and marketing professionals (181, where 68 were females). Including CEOs, a total of 2657 employees (554 females, 20.9%) aged between 22 and 67 (M = 41.42, SD = 7.11) were included in this study. In this sample, 86.4% were of British nationality, whereas the rest were of European (4.1%), North and South American (3.5%), Middle and South East (1.4%), Australian (1.2%) and other (3.4%) nationalities.

2.4.2.2 Measure

The HDS (Hogan & Hogan, 1997) is a self-administered personality questionnaire that focuses on personality disorders occupying the psychological space halfway between psychopathology and normal personality, which means that it allows for a dimensional approach to the research. It includes 168 items that are dichotomous (true-false). The range of the correlation in a sample of 140 participants was among .45 for Mischievous and .67 for Excitable (Hogan & Hogan, 2001). The coefficient alphas ranged from .50 to .70, with the average alpha coefficient being .64. In the test-retest reliabilities for sample of 60 participants over a three-month interval, the range was between .50 and .80, with an average of .68. There are no significant differences in the mean-levels among racial groups or younger vs. older people, and no gender differences are found (Hogan & Hogan, 2001), except from the study of Furnham and Trickey (2011), which found a small gender difference.

2.4.2.3 Procedure

All of the participants were tested by a British-based psychological consultancy over a 10-year period as part of an assessment exercise within the company. At the end of the study, participants were given personal feedback on their scores. The British-based psychological consultancy gave permission for their data to be included as research.

2.4.3 Results

2.4.3.1 CEOs vs. other managers/working norms

Descriptive statistics of the HDS scales, comparing scores of CEOs with our working norms from middle senior managers in the UK, are presented in Table 2.4. The negative values on Cohen's d corresponded to higher scores in CEOs, whereas the positive values corresponded to higher scores in the working norms.

Table 2.4

Descriptive statistics of HDS scales of our norms from senior managers and the CEOs

HDS	Our working norms from senior managers (N = 4698)		CEOs (N = 128)			Winsborough & Sambath (2013)	
	Mean	SD	Mean	SD	*d*	*d'*	*t*
Excitable	43.19	26.26	36.41	23.95	.26	-.46	**2.89****
Sceptical	44.61	26.99	40.42	27.21	.15	-.47	1.73
Cautious	41.05	26.79	34.47	23.42	.25	-.47	**2.75****
Reserved	52.79	27.32	52.33	29.35	.01	-.08	0.19

Leisure	46.92	27.9	40.21	28.41	.24	-.28	**2.68****
Bold	61.46	27.08	69.8	23.79	-.31	.00	**-3.45****
Mischievous	59.57	28.34	61.73	24.8	-.07	.30	-0.85
Colourful	61.76	27.12	68.65	25.38	-.25	.77	**-2.84****
Imagine	54.64	27.86	56.53	26.37	-.06	-.04	-0.76
Diligent	52.74	28.12	50.66	26.09	.07	-.67	0.83
Dutiful	50.66	27.47	44.69	26.92	.22	-.77	**2.43***

Note. d' corresponds to the values of Winsborough and Sambath (2013). In their paper, the negative values corresponded to working norms and the positive to CEOs, whereas in our paper the negative values corresponded to CEOs and the positive to our norms from senior managers. *p<.05, **p<.01, ***p < .001

CEOs had higher scores on Bold and Colourful (d = -.31. and d = -25 respectively) whereas on Excitable, Cautious, Leisurely and Dutiful our norms from senior managers had higher scores (d = .26, d = .25, d = 24 and d = .22). The results of the *t*-test analysis, provided in Table 2.4, showed that there was a significant difference between the CEOs and our norms from senior managers in six scales in Excitable $t(4824) = 2.89$, $p < .001$, Cautious $t(4824) = 2.75$, $p < .01$, Leisurely $t(4824) = 2.68$, $p < .01$, Bold $t(4824) = -3.45$, $p < .01$, Colourful $t(4824) = -2.84$, $p < .01$ and Dutiful $t(4824) = 2.04$, $p < .05$.

I then conducted an Exploratory Factor Analysis (EFA) using Maximum of Likelihood in the seven measurements in order to investigate if our speculation was valid. Maximum likelihood was considered as the best method for two main reasons: 1) it permits computing a broad range of indexes of the good fit of the model and 2) it allows statistical significance testing of factor loadings and correlations between the factors, as well as calculation of confidence intervals for these parameters (Cudeck & O'Dell, 1994; Fabrigar, Wegener, MacCallum &

Strahan, 1999). I used an orthogonal rotation (Varimax) and any values below .30 were suppressed.

I found three main factors, as did previous studies (Furnham & Trickey, 2011; Furnham et al., 2012; Khoo & Burch, 2008). The Kaiser-Meyer-Olkin measure verified the sampling adequacy for analysis. KMO = .75 with Bartlett's shericity $\chi^2(55) = 11367.5$ $p < .000$. The three factors accounted for 27.13%, 18.5% and 10.56% of the variance respectively. The first factor has four scales loading on it: Colourful (.75), Bold (.74), Mischievous (.72) and Imaginative (.66) and is labelled *Moving Against Others*. The second factor has five scales loading on it: Excitable (.74), Cautious (.69), Sceptical (.68), Reserved (.63) and Leisure (.60) and is labelled *Moving Away from Others.* The third factor has two scales loading on it: Diligent (.74) and Dutiful (.71) and is labelled *Moving Toward Others.*

Using these three factors, I computed the Cohen's d and compared the means of CEOs with working norms using Independent sample *t*-test. All the effect sizes were small. The working norms had higher scores on Moving Away from Others (d = .27) and on Moving Toward Others, (d = .19) whereas CEOs had higher scores on Moving Against Others (d = -.23). Finally, I found that working norms had significantly higher scores in Moving Away and Moving Toward Others, with a $t(4824) = 2.1$, $p < .05$ and $t(4824) = 3.03$, $p < .01$ respectively. However, in the factor Moving Against Others, CEOs had significantly higher scores, with a $t(4824) = -2.63$, $p < .01$. This finding confirms my hypotheses (H8 to H10).

2.4.3.2 CEOs vs. engineers, lawyers, accountants/finance, HR professionals and marketing professionals

For the second part of the study, I analysed the data based on functions. I chose five popular professions and compared them with CEOs. More specifically, I conducted a MANCOVA and MANOVA to examine if there was a significant difference between CEOs and engineers, lawyers, accountants/finance and HR and marketing professionals.

Firstly, a MANCOVA (followed by univariate ANCOVAs) was computed with the 11 scales of HDS as dependent variables between the six professions groups while controlling for gender and age. By controlling these two variables, I measured the effect of the predictor (i.e. personality traits) while all other predictors (i.e. age and gender) were held constant. Consequently, age and gender should not have affected our results. Using Wilks's statistic, there was a significant difference between these groups, $\Lambda = .89$, $F(55,12218) = 5.85$, $p < .001$. All but one of the 11 analyses was significant, which means that at least two professions were significantly different in 10 scales of the HDS (Table 2.5).

Table 2.5

Descriptive statistics of the group professions showing ANCOVA results for each of the HDS scale

HDS	CEO (N = 128)		Engineer/Technical (N = 1218)		Lawyers (N = 183)		Account/Finance (N = 688)		HR (N = 259)		Marketing (N = 181)		F *Level*
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
Excitable	36.41	23.95	48.88	27.27	48.37	27.21	40.62	25.32	45.85	26.12	40.72	26.28	**14.28*** **
Sceptical	40.42	27.21	45.78	27.81	44.04	25.72	43.90	26.80	43.75	25.28	43.43	26.67	1.61
Cautious	34.47	23.42	50.04	27.36	50.79	28.05	40.25	26.80	43.83	27.45	35.77	25.54	**25.82*** **
Reserved	52.33	29.36	60.15	26.77	52.42	27.33	53.25	27.06	46.88	27.05	44.29	24.57	**12.99*** **
Leisure	40.21	28.41	50.86	28.36	47.46	29.11	48.27	26.49	50.71	28.62	45.18	27.86	**4.75*** **
Bold	69.80	23.79	56.41	28.08	55.49	25.47	61.44	27.86	60.82	26.07	67.12	26.42	**12.04*** **
Mischievous	61.73	24.81	53.77	29.67	48.65	28.19	56.84	27.39	62.32	27.03	66.46	25.98	**13.31*** **
Colourful	68.65	25.38	53.57	28.82	56.00	25.93	60.36	26.36	66.85	25.16	71.31	23.51	**25.70*** **
Imagine	56.53	26.37	50.04	28.44	47.59	26.12	51.30	27.04	54.91	27.64	62.36	25.78	**8.03*** **
Diligent	50.66	26.09	56.01	29.06	58.60	26.54	54.39	26.84	44.61	29.42	48.96	26.90	**9.79*** **
Dutiful	44.69	26.92	56.01	27.49	54.7	27.54	49.45	28.20	48.18	25.9	50.04	27.91	**10.29*** **

Note. ***$p < .001$

Table 2.5 shows the results of ANCOVAs on each scale of HDS. Except for Sceptical, all the other scales significantly differed between the six professions. My interest lay in identifying which professional groups differed from CEOs. Therefore, I conducted a MANOVA (Table 2.6) using the post-hoc test of Hochberg's GT2, because the sample size was not the same among the groups (Field, 2013).

Table 2.6

Differences on the HDS scale of CEOs compared with the other professions

HDS	Profession		Mean Difference	Std. Error	*d*
Excitable	CEO	Engineers	**-12.47*** **	2.46	-.46
		Lawyers	**-11.96** **	3.05	-.46
		Accountants/finance	-4.21	2.54	-.17
		HR	**-9.44***	2.86	-.37
		Marketing	-4.31	3.05	-.17
Sceptical	CEO	Engineers	-5.36	2.51	-.19
		Lawyers	-3.62	3.12	-.14
		Accountants/finance	-3.48	2.60	-.13
		HR	-3.33	2.92	-.13
		Marketing	-3.01	3.13	-.11
Cautious	CEO	Engineers	**-15.57*** **	2.51	-.58
		Lawyers	**-16.32*** **	3.11	-.62
		Accountants/finance	-5.78	2.60	-.22
		HR	**-9.36***	2.91	-.36
		Marketing	-1.30	3.11	-.05
Reserved	CEO	Engineers	**-7.82***	2.50	-.29
		Lawyers	-0.09	3.10	.00
		Accountants/finance	-0.92	2.59	-.03
		HR	5.45	2.91	.19
		Marketing	**8.04***	3.11	.30
Leisure	CEO	Engineers	**-10.64** **	2.60	-.37
		Lawyers	-7.25	3.22	-.25

		Accountants/finance	**-8.06***	2.69	-.30
		HR	**-10.50****	3.02	-.37
		Marketing	-4.97	3.23	-.18
Bold	CEO	Engineers	**13.39*****	2.54	.48
		Lawyers	**14.31*****	3.15	.58
		Accountants/finance	**8.36***	2.63	.31
		HR	**8.97***	2.96	.35
		Marketing	2.68	3.16	.10
Mischievous	CEO	Engineers	**7.96***	2.63	.27
		Lawyers	**13.08****	3.26	.49
		Accountants/finance	4.88	2.72	.18
		HR	-0.59	3.05	-.02
		Marketing	-4.73	3.26	-.18
Colourful	CEO	Engineers	**15.08*****	2.52	.53
		Lawyers	**12.65****	3.13	.49
		Accountants/finance	**8.29***	2.61	.32
		HR	1.80	2.93	.07
		Marketing	-2.66	3.14	-.11
Imaginative	CEO	Engineers	6.49	2.56	.23
		Lawyers	8.94	3.18	.34
		Accountants/finance	5.23	2.65	.19
		HR	1.62	2.98	.06
		Marketing	-5.83	3.18	-.22
Diligent	CEO	Engineers	-5.44	2.61	-.19
		Lawyers	-7.94	3.24	-.30
		Accountants/finance	-3.72	2.70	-.14
		HR	6.05	3.03	.21
		Marketing	1.70	3.24	.06
Dutiful	CEO	Engineers	**-11.32*****	2.56	-.41
		Lawyers	**-10.01***	3.17	-.37
		Accountants/finance	-4.76	2.65	-.17
		HR	-3.49	2.97	-.13
		Marketing	-5.36	3.18	-.19

Note. *p <. 05, **p <.01, ***p < .001

This analysis revealed that CEOs did not differ from any of the five professions in three scales: Sceptical, Imaginative and Diligent. However, CEOs were less inconsistent/moody/borderline (Excitable) and less reluctant to make changes (Cautious) than engineers, lawyers and HR employees, but were more Narcissistic (Bold) than engineers, lawyers, accountants/finance and HR professionals. Furthermore, CEOs were less indifferent to other people's requests (Leisurely) than engineers, accountants/finance and HR professionals. They were also less eager to please than engineers and lawyers (Dutiful) and less socially withdrawn (Reserved) than engineers. In contrast, CEOs enjoyed taking risks (Mischievous) more than engineers and lawyers and also sought more to be at the centre of attention (Colourful) than engineers, lawyers and accountants/finance.

Engineers differed the most from CEOs, followed by lawyers, HR professionals and accountants/finance. Interestingly, marketing professionals did not have any significant differences to CEOs in any of the 11 scales.

In Table 2.6, the Cohen's d values are shown. The negative values corresponded to the engineers, lawyers, accountants/finance and HR and marketing professionals, whereas the positive values corresponded to CEOs. There were two medium effect sizes, where engineers and lawyers had higher scores, and one small effect size, where HR employees had a higher score than CEOs in Excitable. Regarding Sceptical and Reserved, engineers had higher scores than CEOs. In Cautious there were two medium and two small effect sizes, where engineers and lawyers and accountants/finance and HR professionals respectively had higher scores than CEOs. In Leisurely there were four small effects, where engineers, lawyers, accountants/finance and HR professionals had higher scores.

Regarding Bold there were two medium effect sizes, where CEOs had higher scores than engineers and lawyers, and two small effect sizes, where CEOs had higher scores than accountants/finance and HR employees. There was a small and a medium effect size for Mischievous, showing that CEOs had a higher score than engineers and lawyers respectively. In Colourful, there were two medium effect sizes, showing that CEOs had higher scores than engineers and lawyers, and one small effect size, showing that CEOs had higher scores than accountants/finance. In Imaginative and Diligent, there were four small effects. In the first case, CEOs had higher scores compared to engineers, lawyers and accountants/finance but lower scores compared to marketing professionals. This result means that marketing employees were more creative and thought in a more unusual way than the CEOs. In the latter case, CEOs had higher scores than HR employees but lower scores than engineers, lawyers and accountants/finance. Finally, in Dutiful, there were four small effect sizes, showing that engineers, lawyers, accountants/finance and marketing professionals had higher scores than CEOs.

I conducted the same analysis for the three factors and the six professions. A MANCOVA (followed by univariate ANCOVAs) was computed for the three factors as dependent variables between the six professions groups controlling for gender and age. Using Wilks's statistic, there was a significant difference between these groups, $\Lambda = .92$, $F(15,7307) = 15.06$, $p < .001$. All the factors were significant, which means that at least two professions were significant. Finally, I conducted a MANOVA (Table 2.7) using the post-hoc test of Hochberg's GT2 in order to identify if CEOs were significantly different to the other five professions.

Table 2.7

Differences of the three factors of HDS of CEOs compared with the other professions

Factors	Professions		Mean Difference	Std. Error	*d*
Moving Against	CEO	Engineers	**42.92*** **	7.53	.51
		Lawyers	**48.98*** **	9.34	.66
		Accountants/finance	**26.76** **	7.80	.34
		HR	11.81	8.76	.15
		Marketing	-10.55	9.36	-.14
Moving Toward	CEO	Engineers	**-16.76*** **	3.94	-.39
		Lawyers	**-17.95** **	4.88	-.45
		Accountants/finance	-8.48	4.08	-.20
		HR	2.56	4.58	. 06
		Marketing	-3.65	4.89	-.09
Moving Away	CEO	Engineers	**51.87*** **	8.48	-.55
		Lawyers	**-39.24** **	10.52	-.43
		Accountants/finance	-22.45	8.79	-.25
		HR	-27.17	9.87	-.30
		Marketing	-5.54	10.54	-.06

Note. *$p < .05$, **$p < .01$, ***$p < .001$

As Table 2.7 shows, CEOs had significantly lower scores compared to engineers and lawyers in Moving Toward and Moving Away, but they had significantly higher scores compared to engineers, lawyers and accountants/finance in Moving Against. The Cohen's d values are also presented in Table 2.7. In all three factors, the higher values of Cohen's d were between CEOs and engineers and lawyers, whereas the lower values were between CEOs and marketing professionals, followed by HR professionals.

2.4.4 Discussion

The findings of the current study indicated that CEOs had significantly different personality characteristics than those working at lower levels (first aim). I also found a significant difference between CEOs and engineers, lawyers, accountants/finance, HR professionals and marketing professions (second aim). The majority of my hypotheses were confirmed.

2.4.4.1 CEOs and Moving Against, Moving Towards and Moving Away

Regarding the three factors, I confirmed all of our hypotheses (Hypothesis 8 to Hypothesis10). CEOs had significantly lower scores than working norms from senior managers on Moving Toward and Moving Away from Others and significantly higher scores on Moving Against Others. My findings agree with other studies in this area (Furnham et al., 2012; Furnham et al., 2013). More precisely, Moving Away and Moving Toward Others have been found to be negatively related with speed to promotion (Furnham et al., 2013) and with management and leadership potential (Furnham et al., 2012), whereas Moving Against Others is positively related with management potential and speed to promotion (Furnham et al., 2012; Furnham et al., 2013). However, it is also related to management derailment (Hogan, 2006).

Concerning the comparison of the CEOs with engineers, lawyers, accountants/finance, HR professionals and marketing professionals, the results revealed that CEOs had significantly higher scores compared to engineers, lawyers and accountants/finance on Moving Against Others. However, CEOs had

significantly lower scores on Moving Toward and Moving Away from Others compared to engineers and lawyers.

2.4.4.2 CEOs and working norms/other managers

I confirmed all but two of my hypotheses (Hypothesis 2 and Hypothesis 4). More specifically, I confirmed that CEOs had significantly lower scores on Excitable, Cautious and Dutiful and significantly higher scores on Colourful and Bold. However, I did not find any significant differences on Sceptical and Diligent, as did the study of Winsborough and Sambath (2013). Furthermore, I found that my sample of working norms from senior managers had significantly higher scores in Leisurely than CEOs. Diligent can be considered controversial because Winsborough and Sambath (2013) found that the working norms have significantly higher scores than the CEOs and Furnham et al. (2013) found a negative relation with promotion. However, Diligent has been implicated as potentially beneficial in some professions (Furnham, 2008). A possible explanation of the differences between our study and Winsborough and Sambath (2013) may be the consistency of the working norms samples. Regarding Leisurely, Furnham et al. (2013) found that it was negatively correlated with work success, which possibly explains why our norms from senior managers had significantly higher scores than CEOs.

There are many differences regarding Cohen's d between our findings and those by Winsborough and Sambath (2013). The most interesting are in Bold, Colourful, Mischievous and Diligent. Our findings revealed that CEOs were more Bold (d = -.31), whereas in Winsborough and Sambath's study (2013), there was not an effect size (d = .00). In Mischievous, I found an almost non-existent effect size (d = -.07)

whereas Winsborough and Sambath (2013) found a small effect size (d = .30) and in Diligent we found again an almost non-existent effect size (d = .07), whereas Winsborough and Sambath (2013) found a medium effect size (d = -.67). Finally, in Colourful, I found a small effect size (d = -.25), whereas Winsborough and Sambath (2013) found a medium to large effect size (d = .77). These differences may be a result of the very different samples in the two studies. My comparison was mainly of senior and middle managers while their comparison was with general norms.

2.4.4.3 CEOs and engineers, lawyers, accountants/finance, HR professionals and marketing professionals

For the second aim of my study, I did not find any significant difference between CEOs and any of the five professions in: Sceptical, Imaginative and Diligent. Thus, CEOs were not more Paranoid, Schizotypal or Obsessive Compulsive compared to their subordinates. Although slightly higher on Schizotypal, they were lower on the other dimensions.

Furthermore, the results showed that engineers, lawyers and HR professionals differed significantly from CEOs on Excitable and Cautious. Engineering was the only profession that had significantly higher scores on Reserved. Furthermore, engineers, accountants/finance and HR employees had significantly higher scores on Leisurely whereas on Dutiful only engineers and lawyers had significantly higher scores. On Bold, CEOs had significantly higher scores than engineers, lawyers, accountants/finance and HR employees whereas on Mischievous CEOs had significantly higher scores than only engineers and lawyers. Finally, on Colourful,

CEOs had significantly higher scores than engineers, lawyers and accountants/finance.

Marketing employees did not differ in any of the 11 scales with CEOs, followed by accountants/finance, which differed in three scales and then HR professionals, which differed in four scales. The profession that differentiated the most from the CEOs was engineers (eight scales), followed by lawyers (six scales). This finding may account for the impression that in the UK it is most common for CEOs to come from a finance background, and to some extent a marketing background, and much less frequently from engineering and HR (Furnham, 2012).

2.4.5 Conclusion

In summary, most of my hypothesis were confirmed. I validated and expanded the research of Winsborough and Sambath (2013). I showed that CEOs differed from working norms and the five functions. This study allowed us to get a holist view of the CEOs by investigating both in terms of the bright side and the dark side of personality.

2.5. Overall Conclusion

Personality traits have always captured the attention of I/O researchers, especially when trying to understand what makes a good manager. Both studies showed that CEOs demonstrate a combination of traits that makes them unique compared to the rest of the working norms and the five functions. Looking at both studies, we could see that marketing professionals differed the least whereas

engineers differed the most. A possible explanation could be that the marketing people are more natural managers; they understand better what people want (i.e. higher emotional intelligence-EQ). This is not surprising as the job of marketing professions is to understand the market and make products compelling.

Looking back to section 1.3 (Tables 1.3 and 1.4) where the dark side was mapped on the bright side, we can see that CEOs had higher scores both in Extraversion and Bold and Colourful and lower scores in Neuroticism and Excitable, Cautious and Dutiful. These findings were not surprising as leaders tend to be more narcissistic and more extraverted as well as more stress tolerant that others. Interestingly, even if CEOs had higher scores in Conscientiousness, there were not any significant differences in Diligence. This could mean that CEOs are task-oriented and pay enough attention to detail without micro-managing and over-obsessing about following the rules.

However, personality traits are not the only factors that may lead an individual to engage in a specific behaviour within an organisation. Many theories such as trait activation theory (Tett & Burnett, 2003) and cognitive-affective personality system (CAPS; see Mischel & Shoda, 1995) argue that the behaviour is a product of personality and the situation. Trait activation theory (Tett & Burnett, 2003) is a personality theory of work performance and proposes the behaviours demonstrated are an outcome of trait, situationism and personality-job theory. CAPS theory argues that the most important factor that influences behaviour is the situation itself (Mischel & Shoda, 1995). In other words, Mischel and Shoda (1995) proposed that a behaviour is not the outcome of some global personality trait, but it comes from an individual's perceptions of themselves in a specific situation. These theories

are complimentary and are presented to provide alternative explanations as to why a specific behaviour may be demonstrated.

A recent study of Soto, John, Gosling and Potter (2011) showed that Extraversion and Openness to Experience differentiated less across adulthood. Moreover, Neuroticism had a negative relation with age, whereas Agreeableness and Conscientiousness had a positive relation. According to Soto et al. (2011), our sample belonged to the middle-aged. The authors did not find any differences in FFM in this group, thus it is very unlikely that our results were influenced by it.

2.5.1. Implications

These findings also have implications for executive selection and development. First, my results provided a personality profile of typical CEOs, which may allow consultants to assess potential candidates for executive roles. Second, the results suggested that in some functions, such as engineering and the law, it may be more difficult to promote people into senior roles, as the profile of CEOs tends to be more different than the average manager in those functions. Pendleton and Furnham (2012) suggested that there are essentially three types of jobs – technical, supervisory, and strategic – and that people tend to get rewarded for success by being promoted into a different sort of job. This can mean the loss of a very skilled and knowledgeable technical expert (engineer or lawyer) into a less happy or successful manager; or promotion from a successful transactional manager into a less successful transformational leader. It can mean that in some functions it is more difficult to recruit from within, as there are fewer people suited to the CEO role. Third, the results suggested that CEOs in some functions may cause more friction with other

managers as their preferences and perceptions are different. It could also mean that CEOs in some functions require more coaching and development than CEOs in others to fit the role.

2.5.2 Limitations and future research

A main limitation of the two studies is that it was not possible to know the number of companies that participated, their various sectors or the professional backgrounds of the CEOs. Knowledge of the professional backgrounds of the CEOs would provide additional sociodemographic information that may explain their success. Moreover, both of the samples were cross-sectional and not a preferred longitudinal sample. As a result, I could not rule out the possibility that some personality characteristics of the CEOs may have changed when they obtained their CEO position or because of their subsequent work-related experiences. Furthermore, another important limitation is that I did not have data on CEOs' performance while they held their position. This information may have offered insight into how, when and why personality factors are implicated in leadership promotion and success. Moreover, I did not have any additional information regarding the level of education (e.g. undergraduate, postgraduate, PhD), or the IQ or EQ of the participants. In addition, I was not aware of the cultures of the organisations and whether this enhances teamwork or individualism. Different working environments may lead to different behaviours despite the personality traits of an individual (Mischel & Shoda, 1995).

Another clear limitation of the two studies was method invariance, which is particularly problematic with occupational studies. Restricting a study to self-report

has two problems: 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. However, if indeed some dissimilation did occur, there is no reason to believe the process would occur differently in CEOs as compared with others.

Moreover, these studies compared mean differences between the job functions. However, no metric performance was available for any of the groups in order to discern if the personality profiles found at different job levels actually differentiate effectiveness. Therefore, these studies should not necessarily be generalised to all working environments because these findings were based on mean score differences. Mean score differences do not necessarily predict which personality traits are essential in order to be promoted. However, in these studies we do not imply that the mean score differences necessarily predict what personality factors are required or what is necessary to be promoted or successful in the CEO role. These were convenience samples of CEOs and we did not have any data about their relative success however that may be measured.

Future studies should address the limitations previously mentioned by collecting data on leadership and overall job performance to discern any differences between high and low performers relative to other leaders outside the organisation. Moreover, collecting observational data (multisource data) or behavioural data would enlighten us regarding the differences between CEOs and working norms as well as CEOs and the other professions. Another suggestion for future research would be to collect benchmarking data about CEOs' performance relative to any other company/industry.

CHAPTER 3: The bright and the dark side of positive and negative organisational attitudes.

3.1 Overview

In the previous Chapter, I expanded and validated the findings of Winsborough and Sambath (2013). By first identifying which are the traits that CEOs differentiated from the rest of the employees and five popular functions, I tried to understand the traits that had an effect on organisational attitudes. Unlike Chapter 2, in this Chapter I had one large study and our sample is consisted by medical-oriented professions. I investigated the relation of the bright and dark side of personality regarding both positive and negative organisational attitudes. In the current Chapter, positive and negative organisational attitudes are latent factors, which are various related measures that are associated with either affective or behavioural or cognitive component, such as burnout, work engagement, physical health, organisational commitment and job satisfaction.

3.2 Introduction

We spend half or more of our lives working. It is therefore important to try to identify aspects that influence our working environment. The relation that we have with work and the complications that may arise affect us not only during work but also in our personal life.

3.2.1 Organisational attitudes

According to Allport (1935) attitude is defined as: "*a mental and neural state of readiness, organised through experience, exerting a directive and dynamic influence upon the individual's response to all objects and situations with which it is related*" (p. 810). Thirteen years later, Krech and Crutchfield (1948) defined attitude as: "*an enduring organisation of motivational, emotional, perceptual and cognitive processes with respect to some aspect of the individual's world*" (p. 152). Hogg and Vaughan (2005) defined attitude as "*a relatively enduring organization of beliefs, feelings and behavioural tendencies towards socially significant objects, groups, events or symbols*" (p.150) whereas Bem (1970) stated that "*Attitudes are likes and dislikes*" (p. 14).

One of the most popular theoretical model of attitudes is the ABC model. The letter 'A' stands for affective component, which is related to feelings of an attitude; the letter 'B' stands for behaviour component, which is related to the tendencies to act upon an attitude and the letter 'C' stands for cognitive component, which is related to thoughts towards an attitude (Eagly & Chaiken, 1993). Eagly and Chaiken (1993) also noted that attitude is a psychological tendency that is manifested by evaluating a particular entity with some degree of favour or disfavour. The tripartite nature of attitudes has a significant heuristic representation and has been criticised (e.g. Fazio & Olson, 2003), mostly regarding whether an affectively-based attitude function differentiates from a cognitively-based one. Another issue is the belief that all three components have to be consistent with one another, which is not confirmed

by the literature that presents that even strongly held attitudes may not be apparent in behaviour (Judge & Kammeyer-Mueller, 2012).

However, in this thesis, I chose the ABC model because it provides a more holistic view. As Eagly and Chaiken (1993) noted, behaviour is a tendency to act, thus we interpret behaviour as a form of act (e.g. I get carried away when I work) or reaction (e.g. I get headaches when I get annoyed with someone). Conner and Armitage (1998) noted that attitudes are a function of a person's salient behavioural beliefs that represent perceived outcomes or attributes of a behaviour. Baron and Byrne (1984) stated that attitudes are a combination of a relatively lasting clusters of feelings, beliefs and behaviour tendencies towards a person, idea, object or group.

This Chapter will focus on positive and negative organisational attitudes. A positive organisational attitude (POA) can encourage creativity owing to the fact that the employees feel that their ideas will enable the organisation's success (e.g. Woodman, Sawyer & Griffin, 1993). Moreover, POAs help employees to become more involved in a company's success as well as develop their career and be potentially involved in future projects, which could lead to better performance and lower turnover (e.g. Maslach, Schaufeli & Leiter, 2001; Judge & Kammeyer-Mueller, 2012).

In contrast, a negative organisational attitude (NOA) limits creativity because employees are indifferent towards the company's growth. Furthermore, NOAs contribute to the increase of turnover and, as a consequence, the loss of staff members, which minimises the company's ability to grow (Maslach, et al., 2001).

In order to create POAs I combined job satisfaction, organisational commitment, perceived organisational support and work engagement. In order to create NOAs we combined burnout, perceived stress and physical health.

3.2.2 Positive organisational attitudes

Despite the numerous definitions of attitudes, it is still not easy to pin point which are the exact affective, behavioural and cognitive components that create job attitudes. I proposed the following components to compose POAs.

Job satisfaction can be seen as the extent to which a job is a source of fulfilment and contentment or rather a means to an end (Maslach et al., 2001). It refers to an employee's affective reaction to his/hers job regarding how much it satisfies his/her wanted outcome (Jorfi & Jorfi, 2011). Simply put, job satisfaction indicates how much the employee likes his/her job and/or whether s/he is emotionally attached to it. Research has shown that high scores in job satisfaction are related positively to promotions and negatively to employee turnover (e.g. Kosteas, 2001).

Organisational commitment refers to an employee's affective reaction to the characteristics of his/hers employing company. It is related to feelings of attachment to the aims and values of an organisation. A positive outcome may be the employee's well-being at work (Cook & Wall, 1980). Although organisational commitment and job performance have been investigated in a number of studies, the relation is not very strong (Wright & Bonnet, 2002) It is separated into three components: identification (i.e. pride in the company and internalisation of the company's values and goals), involvement (i.e. dedication to the activities of one's role) and loyalty

(i.e. a feeling of belonging) (Buchanan, 1974). In attitudes, we chose a model that is more holistic, which is also why we will use the sum of the components.

Work engagement is considered the opposite of burnout (which will be discussed later on) (Schaufel & Baker, 2003). Employees with high scores in work engagement are positive, fulfilling, energetic and effective in their duties. They feel that they are able to deal with the responsibilities of their job. A study showed that work engagement mediates the relation of job resources such as job control and positive organisational outcomes such as job performance (Schafeli & Salanova, 2007). Work engagement is composed of three subthemes: vigour (i.e. high levels of energy and mental resilience), dedication (i.e. experiencing a sense of significance) and absorption (i.e. feeling completely concentrated and happy to engross in one's job) (Schaufel & Baker, 2003). Although we see some overlap in the naming between organisational commitment and work engagement, the essence of what each represents is different. As in organisational commitment, we are interested in the holistic approach and we used the sum of all the components.

Perceived organisational support refers to an employee's point of view on how the organisation that s/he works for perceives him/her. In other words, it is 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). Based on social exchange theory, the resources obtained from others are stronger appreciated if they are based on unrestricted choice rather than occasions beyond the donor's control. Applying this theory in organisational context, it would mean that organisational rewards and favourable job conditions like payment, promotion and development contribute to

perceived organisational support if the employee believes that they result from the organisation's voluntary actions (Eisenberger, Huntington, Hutchison & Sowa, 1986). Employees with high scores on perceived organisational support feel an obligation to care about the organisation's wellbeing and consequently enable the organisation to reach its aims/goals. This happens because employees believe that the organisation appreciates/recognises and rewards increased performance (i.e. performance-reward expectations) (Rhoades & Eisenberger, 2002).

3.2.3 Negative organisational attitudes

As suggested above, the definition for job attitudes is very broad and can be seen as an umbrella term that includes many components. Thus, I believed that combining many different measurements could provide us with a more holistic approach regarding how attitudes can be interpreted and explained from a personality trait perspective.

Burnout, as indicated above, is the opposite of work engagement. It is vague concept with no standard definition (Maslach et al., 2001), and has its roots in care-giving and service occupations such as nurses or teachers. Burnout has a positive relation with many aspects of job withdrawal and turnover. It has three main dimensions: exhaustion (i.e. reflects 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). As in POAs, we used the sum of the three dimensions to obtain a holistic understanding.

Perceived stress refers to the level to which situations in one's life are evaluated as stressful (Cohen, Kamarck & Mermelstein, 1983). It tries 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 more poorly (Cohen & Williamson, 1988). Stress contributes to organisational inefficacy, high staff turnover and lower quality as well as quantity of care (Cohen et al., 1983).

Physical Health refers to the somatic reactions of an individual caused by his/her negative feelings (e.g. anger or stress) 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 positive relationship with absenteeism and low performance (Merrill et al., 2013).

3.2.4 Personality traits at work

As states in section 1.1.1.4, personality traits were proven to be predictors of many organisational outcomes, such as team effectiveness (Barrick, Stewart, Neubert & Mount, 1998) and performance. Furthermore, personality characteristics have been found to be predictors of many organisational behaviours such as OCB and counterproductive work behaviour (CWB) (Rotundo & Sackett, 2002).

As indicated in section 1.1.1.3, the HPI is tailor-made to assess personality characteristics that are related to work. It also provides detailed information on the

bright side of personality traits that are presented during a social interaction and help or inhibit an individual's ability to connect with others and to pursue his/her academic and/or occupational objectives (Hogan & Hogan, 1992). As it was mentioned in section 1.5, I will use the HDS to measure the dark side of personality and will also take into consideration the three higher order factors.

3.2.5 Current study

The aim of this study was to investigate which personality characteristics of the bright and the dark side of personality predicted job attitudes as defined and specified above. As established above, job attitudes and personality traits play a vital role not only in the organisation's growth and development but also in the employee's behaviour and perception of work.

This study was partially exploratory. From the literature and the link of HPI and FFM, I could draw some hypothesis regarding POAs and NOAs. However, for the HDS, there was not enough literature to draw any valid hypotheses, thus was exploratory. It was found that high scores in Neuroticism and low scores in Agreeableness, Conscientiousness and Extraversion were predictors of burnout (Swider & Zimmerman, 2010), job satisfaction was positively related to Extraversion and Conscientiousness and negatively related to Neuroticism (Judge, Heller & Klinger, 2002). Thus, I believed that Ambition (Hypothesis 1), Adjustment (Hypothesis 2) and Prudence (Hypothesis 3) would be positive predictors for POAs and negative for NOAs.

3.3 Methods

3.3.1 Participants

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 participants of British (69.8%), mixed (.2%), European (1.1%), Asian (.6%) and unknown origin (28.2%).

3.3.2 Measures

3.3.2.1. Hogan Development Survey (HDS)

The HDS (Hogan & Hogan, 1997) is a self-administered personality questionnaire that focuses on personality disorders occupying the psychological space halfway between psychopathology and normal personality, which means that it allows for a dimensional approach to the research. It includes 154 items that are dichotomous (agree-disagree). HDS has been cross-validated with the MMPI personality disorder scales. The range of the correlation in a sample of 140 participants was between .45 for Mischievous and .67 for Excitable (Hogan & Hogan, 2001).

3.3.2.2. Hogan Personality Inventory (HPI)

The Hogan Personality Inventory (HPI) is one of the most recognised and widely-used measurements in the USA and in UK (Hogan & Hogan, 1992). It is a 206-item measurement that was designed based on the FFM (McCrae & Costa Jr,

1999). The items are dichotomous (agree-disagree) and testing lasts 15 to 20 minutes. The seven domains (Ambition, Sociability, Int. Sensitivity, Prudence, Adjustment, Intellectance and School Success) comprise 41 Homogenous Item Composites (HICs). Each HIC itself comprises a small group of items. The number of items vary among the HICs from four (School Success) to eight (Adjustment) items (Hogan & Hogan, 1992). The internal consistency and test-retest reliability of the seven domains are: Ambition (0.86/0.83), Sociability (0.83/0.79), Int. Sensitivity (0.71/ 0.80), Prudence (0.78/0.74), Adjustment (0.89/0.86), Intellectance (0.78/0.73) and School Success (0.75/0.86) (Hogan & Holland, 2003).

3.3.2.3. Physical Health Questionnaire (PHQ)

The PHQ (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 rated in a Likert scale from 1 (not at all) to 7 (all the time), with an internal consistency higher than .70.

3.3.2.4. Work Burnout (WB)

The WB 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. The WB includes six

items rated in a Likert scale from 1 (to a very high degree or always) to 5 (to a very low degree or never), with an internal validity of .74.

3.3.2.4. Utrecht Work Engagement- Short version (WENG)

The WENG is a self-administered questionnaire that includes nine items that measure three different factors: vigour, dedication and absorption. All items are scored on a 7-point Likert scale ranging from 0 (never) to 6 (always). The internal validity lies from .75 to .91 across 25 studies (Schaufeli & Bakker, 2003).

3.3.2.6. Organisational Commitment Instrument-Short version (OCI)

The OCI was developed by Cook and Wall (1980). It measures the level of a person's affective reactions to characteristics of his/hers employing organisation. The short version contains three items that are scored on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) with an internal validity of .68. The three items correspond to three different themes: organisational identification, involvement and loyalty.

3.3.2.7. Perceived Stress Scale-Short version (PSS)

The PPS includes 10 items that measure feelings and thoughts during the last month. All the items are scored on a 5-point Likert scale ranging from 0 (never) to 4 (very often). The scale was developed by Cohen et al. (1983) and has an internal validity of .80.

3.3.2.8. Perceived Organisational Support-Short version (POS)

The POS was developed by Eisenberger et al. (1986) and measures the global beliefs of an employee concerning the extent to which an organisation values his/hers contributions and care about his/her well-being. The current short version contains nine items that are scored on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree), with an internal validity above .90.

3.3.2.9. Overall Job Satisfaction (JS)

This is a 15 item scale devised by Warr, Cook and Wall (1979), which can be used to test people from many backgrounds. The scale has been extensively used, particularly in Great Britain, since it was devised (Furnham, 2008).

3.3.3 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 British-based psychological consultancy gave permission for their data to be included as research.

3.4 Results

The aim of this study was to investigate the role of the bright side and the dark side of personality on two latent factors called positive organisational attitudes (POAs) and negative organisational attitudes (NOAs). The former latent factor

represents organisational attitudes that contribute to a successful and healthy environment whereas the latter factor represents organisational attitudes that contribute to a stressful and overwhelming environment.

Descriptive statistics, Cronbach's Alpha (Table 3.1) and correlations (Table 3.2) of the seven measurements contributed to the existence of POA and NOA. Regarding the Cronbach's alpha, we followed the threshold of .65 (DeVellis, 1991). Moreover, in Table 3.3 we present the correlations of HDS and HPI.

Table 3.1

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
PHQ	28.95	5.68	.74
BW	11.4	3.07	.74
WENG	49.19	5.94	.80
OCI	17.92	2.85	.68
JS	51.18	8.55	.84
PSS	15.92	4.35	.80
POS	41.15	10.58	.94

Note. N = 451. 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.

Table 3.2

Pearson Correlation 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. **p<.01. 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. In bold *r*>|.5

As shown in Table 3.1, all the Cronbach's alpha values were above the desired threshold. In Table 3.2, it is evident that all seven measurements were significantly correlated with each other. I could thus get a rough idea regarding the measurements that I was going to use to examine the existence of POAs and NOAs. We could see that there were some measurements to correlate positively together (i.e. WENG, OCI, JS, POS and PHQ, WB, PSS). In order to further examine if my speculation was valid, I conducted an exploratory factor analysis (EFA) (see section 3.4.1).

As is evident in Table 3.3 below, there were some highly significant correlations (r > |.50|) between the HPI and HDS. For example, Excitable was strongly negatively correlated with Adjustment, Cautious was very strongly negatively correlated with Ambition, Reserved was very strongly negatively correlated with Interpersonal Sensitivity and Colourful was strongly positively correlated with Sociability.

Table 3.3

Pearson correlation of HPI and HDS.

	1.Adjust.	2.Ambit	3.Sociab	4.Inter. Sensit.	5.Prud	6.Intel.	7.Learn. Appr.	8.Excit	9.Scept	10.Cautious	11.Reseved	12.Leisur	13.Bold	14.Misch	15.Colour.	16.Imagin.	17.Dilig.	18.Dutif.
1	1	.331**	0.034	.460***	.484***	0.088	.216***	**-.725****	-.417**	-.472***	-.310***	-.296***	-0.016	-.102**	0.019	-.177***	-0.048	-.100**
2		1	.381***	.229***	.143**	.171***	.240***	-.372***	-.141**	**-.646*****	-.298***	-.198***	.321***	.134**	.456***	0.091	0.069	-.151**
3			1	.204***	-.174***	.335***	.128**	-.124**	0.006	-.344***	-.240***	-0.004	.355***	.355**	***.649******	.294***	-0.044	-0.091
4				1	.339***	0.058	0.069	-.389***	-.274***	-.224***	***-.523*****	-.151**	0.076	-0.045	.156**	-0.011	-0.007	.125**
5					1	-0.086	.101*	-.376***	-.341***	-.158***	-.312***	-.237***	-0.044	-.385***	-.195***	-.329***	.185***	.171***
6						1	.375***	-0.057	0.069	-.142**	0.03	0.003	.281***	.325***	.294***	.316***	.097*	-0.07
7							1	-.184***	-0.066	-.206***	0.004	-0.035	.226***	0.067	.121*	.120*	0.051	-0.089
8								1	.281***	.449***	.286***	.223***	-0.061	0.027	-.123**	.127**	0.032	.121***
9									1	.226***	.281***	.416***	.275***	.308***	0.073	.304***	.258***	0.019
10										1	.258***	.356***	-.207***	-.146**	-.306***	0.025	.095*	.217***
11											1	.211***	-0.068	0.056	-.193***	.110*	-0.048	-.126**
12												1	.227***	.250***	0.086	.280***	.232***	.138**
13													1	.389***	.474***	.372***	.295***	-0.017
14														1	.434***	.404***	0.032	-.120*
15															1	.291***	-0.031	-0.058
16																1	.160**	-0.027
17																	1	.188***
18																		1

Note: the numbers in the column in the right correspond to the numbers in the numbers in the top. In bold $r > |.5|$. $*p < .05$, $**p < .01$, $***p < .001$

I also conducted a Pearson correlation analysis to see how similar the POAs and NOAs were. The analysis showed that there was a negative correlation (r = |.43|), p < .001. This result meant that the two independent variables did not share much of common variance.

3.4.1 Exploratory factor analysis

In an EFA using Maximum of Likelihood, I used an orthogonal rotation (Varimax) and any values below .30 were suppressed. The Kaiser-Meyer-Olkin measure verified the sampling adequacy for analysis. KMO = .80 with Bartlett's shericity $\chi^2(21) = 1159.3$ p < .000. The seven measurements 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 clustered together and PHQ, WB and PSS clustered together.

Table 3.4

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 and Factor 2 is Negative Organisational Attitudes. 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

As shown in Table 3.4, there was not much overlap between the two factors. Only WENG loaded in both but it had a stronger load with POA. In order to further validate the existence of the two latent factors, I conducted a CFA. However, before we did so, I ran a Pearson correlation in order to identify if there was multicolinearity between the items that corresponded to the measurements. Another reason why I conducted this correlation was because AMOS (software used for the CFA) is very sensitive to multicolinearity. The analysis showed that some items needed to be removed. I used two criteria to identify which items should be removed. The first criterion was when items significantly correlated with $r > |.70|$ (Field, 2013) and the second criterion was when there were at least three highly significant correlations with $r > |.50|$. Consequently, in total I removed 10 items from the CFA. These items were: WENG3, WENG4, JS6, JS8, POS1, POS3, POS5, PHQ6, PSS3 and PSS10. Cronbach's alpha of the scales of the items were removed was above |.70|.

3.4.2 Structural Equation Modelling

There are many "goodness of fit" tests but there is no consensus on the best, so the use of more than one is commonly recommended (Kline, 1998). In the current study, the tests in order to examine the goodness of fit of the model were: chi-square (χ^2), the Comparative Fit Index (CFI), the Normed Fit Index (NFI) and the Root Mean Square Error of Approximation (RMSEA). In order to have a good fit of the model, the chi-square value should not be significant. Usually, models with high values on chi-square imply that modifications are needed (Jöreskog & Sörbom, 1996). However, when the sample size is relatively high (above 400), the chi-square is always significant (Kenny, 2014). The values of NFI and CFI range from 0 to 1

and are derived from comparison with the independence model. It is argued that the cut-off should be at 0.95 (Hu & Bentler, 1999), yet many researchers still use the original cut-off, which is 0.90 (Bentler, 1992). Finally, the RMSEA takes into consideration the error of approximation in a sample. Owing to the fact that RMSEA is expressed per degree of freedom, it is sensitive on how complex a model is. The values that are less than 0.05 are considered as a good fit, values from 0.08 to 0.10 are considered as a mediocre fit and values above 0.10 are considered as a poor fit (Byrne, 2013).

3.4.2.1 Positive organisational attitudes

As Table 3.5 shows, the chi-square is relatively large and significant but this may owing to the large sample size (Kenny, 2014). The NFI was not in the desirable threshold (.90); however, is was very close (.88). The values of CFI and RMSEA (.93 and .05 respectively) provided evidence for a good fit of the model.

Table 3.5

Model fit of Positive Organisational Attitudes

Model	χ^2	df	p	CFI	NFI	RMSEA
POA	528.94	241	.000	.93	.88	.052

Note N = 451. df = degrees of freedom; CFI = comparative fit index; NFI= normed fit index; RMSEA = root mean square error of approximation.

3.4.2.2 Negative organisational attitudes

As in Table 3.5, in Table 3.6 the chi-square was relatively large and significant but this may be owing to the large sample size (Kenny, 2014). As in the POAs

model, the NFI was not higher than (.90). Furthermore, the NFI value of the current model was lower than POA (.86). In contrast, the CFI was higher in this model (.94) and the RMSEA was lower (.037) than in POAs, indicating an even better model fit.

Table 3.6

Model fit of Negative Organisational Attitudes

Model	χ^2	df	p	CFI	NFI	RMSEA
NOA	471.3	294	.000	.94	.86	.037

Note N = 451. df = degrees of freedom; CFI = comparative fit index; NFI = normed fit index; RMSEA = root mean square error of approximation.

In order to proceed to our final analysis (i.e. investigating the roles of the bright side and the dark side of personality with regards to positive and negative organisational attitudes), we added the four measures (WENG, OCI, POS and JS) that corresponded to POAs and the three measures (PHQ, WB and PSS) that corresponded to NOAs.

3.4.3 Multiple regression analysis

A series of hierarchical multiple regressions were conducting using as the depended variables (DVs) the POAs and NOAs and as independent variables the HPI, HDS and the three higher order of HDS (IVs). For each of the DV I ran two-step hierarchical regression, at each time using one of the IVs separately. I then ran two three-step hierarchical regressions (first step: age and gender, second step HPI and third step HDS or the three higher order factors: Moving Away, Moving Against, Moving Towards Others).

3.4.3.1 Hogan Personality Inventory

In order to gain a better understanding of the differences between POAs and NOAs, I decided to separate the subsections of the multiple regression analysis based on our IV. Firstly, I used HPI as our IV (Table 3.7).

Table 3.7

Two-step hierarchical regression of POA and NOA using HPI

	POA		NOA	
Step 1	F(2,448) = 1.15 R^2adj = .001		F(2,448) = 2.28 R^2adj = .006	
Step 2	F(9,441) = 13.8 R^2adj = .20		F(9,441) = 22.61 R^2adj = .30	
	β	t	β	t
Age (step 1)	-.07	-.73	.09	1.64
Gender (step 1)	-3.57	-1.41	2.30	1.57
Adjustment	.52	**2.68****	-.87	**-8.28*****
Ambition	1.003	**4.27*****	-.44	**-3.51****
Sociability	.12	.62	-.07	-.65
Interpersonal Sensitivity	.19	.43	.17	.70
Prudence	.97	**4.55*****	-.26	**-2.23***
Inquisitive	.14	.70	-.04	-.40
Learning Approach	.28	1.15	-.11	-.81
Age (step 2)	.06	.68	.02	**.**42
Gender (step 2)	-2.56	-1.11	1.20	.96

*Note: *p*<.05, **p*<.01, ***p*<.001. In bold the significant values.

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

In step 2 of the hierarchical regression, the HPI explained an additional 19% of the variance, with Adjustment, Ambition and Prudence as significant positive predictors of POAs. Regarding NOAs, the HPI explained an additional 24% of the variance, with Adjustment, Ambition and Prudence as significant negative predictors.

3.4.3.2 Hogan Development Survey

In this subsection I conducted a two-step regression analysis using HDS as our IV and POA and NOA as my DVs (Table 3.8).

Table 3.8

Two-step hierarchical regression of POA and NOA using HDS

	POA		NOA	
Step 1	F(2,448) = 1.15 R^2adj = .001		F(2,448) = 2.28 R^2adj = .006	
Step 2	F(13,437) = 11.56 R^2adj = .23		F(13,437) = 16.06 R^2adj = .30	
	β	t	B	T
Age (Step 1)	-.07	-.79	.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	**3.1** **
Cautious	-.75	-1.92	1.23	**5.73*** **
Reserved	-.39	-.95	-.46	**-2.08***
Leisurely	-1.15	**-3.22** **	.31	1.59
Bold	.99	**2.72** **	-.48	**-2.44***
Mischievous	-.54	-1.59	.11	.59
Colourful	.26	.81	.13	.74
Imaginative	.28	.71	.28	1.31
Diligent	.96	**2.62** **	-.33	-1.66
Dutiful	1.02	**2.85** **	-.05	-.23
Age (Step 2)	.11	1.2	.03	.57
Gender (Step 2)	-1.64	-.72	.57	.45

Note: *p<.05, **p<.01, ***p<.001. In bold the significant values.

In step 1 of the hierarchical regression, I controlled for age and gender, which 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 found, with Excitable, Sceptical and Cautious being significantly positive predictors and Reserved and Bold being significantly negative predictors. As shown in Table 3.7, there were some differences regarding HDS scales predicting POAs and NOAs. In POAs, Cautious and Reserved were not predictors whereas in NOAs Leisurely, Diligent and Dutiful were not predictors.

In looking at Tables 3.7 and 3.8, we can identify an interesting difference between the HPI and the HDS regarding POAs in that the HDS explains 3% of additional variance whereas for NOAs the variance explained is the same.

3.4.3.3 Higher order factors of HDS

In this subsection I 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 3.9).

Table 3.9

Two-step hierarchical regression of POA and NOA using the three higher order factors of HDS

	POA		NOA	
Step 1	F(2,448) = 1.15 R^2adj = .001		F(2,448) = 2.28 R^2adj = .006	
Step 2	F(5,445) = 25.85 R^2adj = .22		F(5,445) = 27.45 R^2adj = .23	
	β	t	β	t
Age (Step 1)	-.07	-.73	.09	1.64
Gender (Step 1)	-3.57	-1.41	2.30	1.57
Moving_Against	.79	**2.05***	-.33	-1.48
Moving_Away	-5.40	**-11.11*****	3.18	**11.37*****
Moving_Towards	2.14	**4.87*****	-.23	-.89
Age (Step 2)	.07	.78	.03	.58
Gender (Step 2)	-2.37	-1.06	1.76	1.36

*Note: *p* < .05, ***p* < .01, ****p* < .001. In bold are the significant values.

In step 1 of the hierarchical regression, I controlled for age and gender, which 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 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 were positive predictors whereas Moving Away was a negative predictor. In contrast, 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.

The two-step hierarchical regressions showed us that HDS explained the larger amount of variance for both POAs and NOAs. The HPI explained more variance for NOAs than for POAs, whereas the three higher order factors explained more variance for POAs but the less for NOAs.

3.4.3.4 Three-step hierarchical regression using HPI and HDS

A series of hierarchical regressions were conducted in order to investigate which personality traits predicted positive and negative organisational attitudes. At this stage, I was interested in observing how much variance was explained with both HPI and HDS (Table 3.10).

Table 3.10

Three step hierarchical regression of POA and NOA using HPI and HDS

		POA		NOA	
	Step 1	F(2,448) = 1.15 R^2adj = .001		F(2,448) = 2.28 R^2adj = .006	
	Step 2	F(19,448) = 13.8 R^2adj = .20		F(9,441) = 22.61 R^2adj = .30	
	Step 3	F(20,430) = 8.44 R^2adj = .25		F(20,430) = 12.60 R^2adj = .34	
		β	t	β	t
Step 1	Age (Step 1)	-.07	-.73	.09	1.64
	Gender (Step 1)	-3.57	-1.41	2.23	1.57
Step 2	Adjustment	.52	**2.68****	-.87	**-8.28*****
	Ambition	1	**4.27*****	-.44	**-3.51****
	Sociability	.12	.62	-.07	-.65
	Inter. Sensitivity	.19	.43	.17	.67
	Prudence	.97	**4.55*****	-.26	**-2.23***
	Inquisitive	.14	.70	-.04	-.40

	Learning Approach	.28	1.15	-.11	-.81
	Age (Step 2)	.06	.68	.02	.42
	Gender (Step 2)	-2.56	-1.11	1.2	.96
	Excitable	-1.18	**-2.33***	.32	1.17
	Sceptical	-.88	**-2.46***	.29	1.52
	Cautious	-.15	-.32	.91	**3.67****
	Reserved	-.36	-.80	-.97	**-2.73****
	Leisurely	-1.06	**-2.96****	.28	1.44
	Bold	.74	**2.03***	-.40	**-2.04***
	Mischievous	-.30	-.85	.04	.23
Step 3	Colourful	.24	.64	.05	.26
	Imaginative	.37	.90	.27	1.20
	Diligent	.56	1.48	-.19	-.94
	Dutiful	1.01	**2.77****	-.02	-.08
	Adjustment (Step 2)	.18	.73	-.59	**-4.32****
	Ambition (Step 2)	.61	**2.12***	-.11	-.68
	Sociability (Step 2)	-.05	-.23	-.03	-.27
	Inter. Sensitivity (Step 2)	-.37	-.79	-.15	-.56

	Prudence (Step 2)	.54	**2.24***	-.19	-1.44
	Inquisitive (Step 2)	.12	.60	-.05	-.44
	Learning Approach (Step 2)	.26	1.07	-.04	-.31
	Age (Step 3)	.12	1.38	.01	.30
	Gender (Step 3)	-1.86	-.82	.57	.46

Note: *$p < .05$, **$p < .01$, ***$p < .001$. In bold are the significant values.

In step 1 of the hierarchical regression, I controlled for age and gender, which 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 HPI explained an additional 19% of the variance for POAs and 24% for NOAs. The same scales for both POAs and NOAs were significant predictors. More specifically, Adjustment, Ambition and Prudence were positive predictors for POAs and negative predictors for NOAs.

In step 3 of the hierarchical regression, the HDS explained an additional 5% of the variance for POAs and 4% for NOAs. Regarding POAs, Excitable, Sceptical and Leisurely were significantly negative predictors and Bold, Dutiful, Ambition and Prudence were significantly positive predictors. Interestingly, Adjustment and Diligent were no longer significant predictors. Regarding NOAs, Sceptical was the only significant positive predictor whereas Reserved, Bold and Adjustment were significantly negative predictors. Interestingly, Ambition, Prudence, Excitable and Sceptical were no longer significant predictors.

3.4.3.5 Three-step hierarchical regression using HPI and HDS

A series of hierarchical regressions was conducted in order to investigate which personality traits predicted positive and negative organisational attitudes. At this stage, I was interested in observing how much variance was explained with both HPI and the three higher order factors of HDS (Table 3.11).

Table 3.11

Three step hierarchical regression of POA and NOA using HPI and the three higher order factors of HDS.

		POA		NOA	
	Step 1	F(2,448) = 1.15 R^2adj = .001		F(2,448) = 2.28 R^2adj = .006	
	Step 2	F(19,448) = 13.8 R^2adj = .20		F(9,441) = 22.61 R^2adj = .30	
	Step 3	F(12,438) = 13.4 R^2adj = .27		F(12,438) = 17.9 R^2adj = .31	
		B	t	β	t
Step 1	Age (Step 1)	-.07	-.73	.09	1.64
	Gender (Step 1)	-3.57	-1.41	2.23	1.57
Step 2	Adjustment	.52	**2.68****	-.87	**-8.28*****
	Ambition	1	**4.27*****	-.44	**-3.50****
	Sociability	.12	.62	-.07	-.65
	Inter. Sensitivity	.19	.43	.16	.69
	Prudence	.97	**4.55*****	-.26	**-2.23***
	Inquisitive	.14	.70	-.04	-.40

	Learning Approach	.28	1.15	-.11	-.81
	Age (Step 2)	.06	.68	.02	.42
	Gender (Step 2)	-2.56	-1.11	1.2	.96
Step 3	Moving_Against	.77	1.42	-.24	-.83
	Moving_Away	-3.7	**-4.87*** **	1.21	**2.86** **
	Moving_Towards	1.6	**3.9** **	-.002	-.01
	Adjustment (Step 2)	.19	.87	-.70	**-5.89*** **
	Ambition (Step 2)	.50	1.93	-.28	-1.94
	Sociability (Step 2)	-.09	-.43	.02	.13
	Inter. Sensitivity (Step 2)	-.35	-.79	.29	1.18
	Prudence (Step 2)	.64	**2.78** **	-.22	-1.74
	Inquisitive (Step 2)	.11	.55	-.05	-.49
	Learning Approach (Step 2)	.32	1.37	-.11	-.82
	Age (Step 3)	.09	1.05	.02	.38
	Gender (Step 3)	-2.22	-.99	1.25	1.01

*Note: *p* < .05, **p* < .01, ***p* < .001. In bold are the significant values.

In step 1 of the hierarchical regression, I controlled for age and gender, which 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 findings were the same as in the previous three-step hierarchical regression.

In step 3 of the hierarchical regression, the three higher order factors explained an additional 7% of the variance for POAs but only 1% for NOAs. Regarding POAs, unlike in Table 3.9, Moving Against was no longer a predictor, Moving Away was a statistically negative predictor and Moving Towards was statistically a positive predictor. Interestingly, only Prudence was a positive significant predictor. Adjustment and Ambition were no longer predictors. Finally, regarding NOAs, as in Table 3.11, Moving Away was the only positive predictor and Ambition the only negative. Adjustment and Prudence were no longer predictors.

3.5 Discussion

In this study the aim was to investigate which were the bright and the dark side personality traits that predicted what I named POAs and NOAs. After I confirmed that existence of these two latent factors (i.e. POAs and NOAs), I continued my investigation regarding the role of personality in working attitudes.

I confirmed all of my hypotheses. POAs and NOAs had the same predictors regarding the HPI and these were Ambition (Hypothesis 1), Adjustment (Hypothesis 2) and Prudence (Hypothesis 3). As indicated in section 1.1.1.3, Adjustment corresponds to Emotional Stability, Ambition is part of Extraversion and Prudence

corresponds to Conscientiousness. Research has shown that high scores in Extraversion, Conscientiousness and Emotional Stability are the best predictors for many organisational outcomes, such as job performance (Li et al., 2014), productivity, effectiveness (Furhnam, 2008), promotion (Furnham et al., 2013) and job satisfaction (Judge et al., 2002). Individuals that tend to be calm in stressful situations, learn from mistakes (Adjustment), set realistic goals for accomplishment (Ambition) and are responsible and adjust to change (Prudence) are likely to obtain positive organisational attitudes because of their affective and cognitive perceptions. For the same reasons, individuals that have negative affective and cognitive perceptions tend to be negative biased and see everything through a negative filter.

Regarding HDS there were some common scales between POAs and NOAs, including Excitable, Sceptical and Bold. For POAs, Excitable and Sceptical were negative predictors and Bold was a positive predictor. For NOAs, it was the other way around. A possible interpretation for these key personality traits that can predict people's job attitudes is that Excitable and Sceptical are negative predictors for work success whereas Bold is positive predictor (Furnham et al., 2012), specifically to promotion (Furnham et al., 2013). Thus, individuals that overreact to criticism (Excitable), take criticism personally (Sceptical) and have low self-esteem (low Bold) have negative job attitudes because of the way they interpret what is been said to them.

Regarding the three factors of HDS, Moving Away is the most significant predictor for both POAs and NOAs. This is not surprising considering the fact that Moving Away is consisted with traits such as Excitable and Sceptical. Another significant positive predictor of POAs was the Moving Towards factor. Moving

Towards is consisted with Dutiful and Diligent in that both were positive predictors of POAs. A reason for this finding may lie in the fact that 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 organisations, such as such as those dealing with medicine (Baker, Day & Salas 2006). Moving Against is not a predictor, which was not surprising, as only Bold was a significant predictor, which could not be enough to make the whole factor significant.

Despite the common traits, for POAs Leisurely was the third strongest predictor and for NOAs Cautious was the second. More specifically, Leisurely (passive-aggressive) was a negative predictor for POAs. An explanation may be that passive-aggressive behaviour is the latest focus on the issue of the non-performing employees. Individuals with passive-aggressive traits aim to resist work and social requests because they identify them as coming from the "hated" enemy of their past (such as authority figures). Thus, this unsolved anger is 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. Wildavsky (1979) reported that the highest risk of all is not taking any risks and that new technological developments are essential. Moreover, March and Shapira (1987) argued that calculated risk-taking was 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 taking risks and adapting to technology. Another reason why Cautious was a positive predictor of NOAs may be that, based on Tables 1.3 and 1.4, Cautious is associated with low Extraversion and high

Neuroticism, which are signs of burnout and stress (Maslach et al., 2001; Hasel et al., 2013).

It was very interesting to observe that the strongest predictors of POAs and NOAs when both the bright and dark side were included were not the same. This was because POAs and NOAs are not opposite sides of the same coin, even if they are closely related (e.g. happy is not opposite of sad – see Cacioppo & Berntson, 1994; Larsen, McGraw & Cacioppo, 2001). This argument can also be justified by the fact that the correlation of the two variables was less than .50.

Regarding POAs, the strongest positive predictor was Dutiful and the strongest negative predictor was Leisurely. A possible explanation for this finding may be that passive-aggressive behaviour goes against everything POAs stand for such as organisational commitment and work engagement (Warner, 2011). In contrast, individuals with Dutiful traits help to create a team working environment and develop the organisational spirit (Baker et al., 2006).

Regarding NOAs, the strongest positive predictor was Sceptical and the strongest negative predictors were Reserved and Adjustment. An interesting finding was that in the previous analyses, Reserved was found to be significant but not a very strong predictor, whereas when both bright and dark sides of personalities were included, it was the third strongest predictor. As discussed in section 1.3, the dark side explains more than the bright side, and when these two sides are combined, we are able to see a more representative and realistic representation of which traits actually matter.

Taking into account the components of NOAs (i.e. burnout, perceived stress and physical health), it was easier to interpret why Reserved was a negative

predictor. Individuals with high scores in our NOAs would not have been willing to take any initiative and make independent decisions (McGee, 1989) (all the characteristics that an individual with Reserved traits have). Using the same rational, it was expected that Adjustment would be a negative predictor because individuals with high scores in Adjustment enjoy taking charge, making decisions, talking in public or competing with others. However, individuals with high scores on burnout are aloof and indifferent (Maslach et al., 2001) and individuals with high scores on stress are reluctant to take charge (Linn, 1986).

Finally, regarding the three higher order factors of HDS, we could see the same trends regarding NOAs, in that Adjustment was the strongest negative predictor and Moving Away was the strongest positive predictor. Another interesting finding was that even if Cautious (i.e. insecure and afraid of being criticised) and Reserved (i.e. quiet, withdrawn and prefer to work alone) both belong to the Moving Away factor, Cautious seemed to be a stronger predictor, thus making the whole factor a positive instead of a negative predictor. In other words, Cautious and Adjustment seemed to be the most important personality characteristics, predicting what I call in NOAs.

With regards to POAs, Moving Away was also the strongest predictor, although negative, unlike NOAs. Furthermore, Moving Towards and Prudence were the strongest positive predictors. Another interesting finding was that when the HDS was used, Prudence was not a very important factor; however, when the HDS scales were combined, Prudence became more important. A possible explanation may be that some HDS scale(s) influenced this finding. Further research needs to be done in order to identify the role of the HDS scales with Prudence with regards to POAs.

Looking at my data more holistically, my overall findings showed that the dark side of personality accounted for more variance that the bright side of personality in both POAs and NOAs. A possible explanation for these findings may lie in the negative bias, also known as a negativity effect (Kanouse & Hanson, 1972). According to this theory, elements of a more negative nature (e.g. feelings, thoughts and social interactions) have a greater effect on an individual's psychological state, processes and attitudes than of a neutral or positive elements. Consequently, very positive events will have a lower impact on an individual's cognition and behaviour than an equally negative event.

Finally, regardless of the side of personality, NOAs had more variance explained. There were two possible explanations for this finding. The first one lay again on the negative bias. 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 may be that this model had a slighter better fit than POAs. My findings were aligned with the findings of Harms, Spain, Hannah, Hogan and Foster (2011b), showing that HDS dimensions had more substantial incremental validity over HPI and the NEO-PI-R (Costa & McCrae, 1992).

3.5.1 Implications

Most of the literature referring to job attitudes imply positive attitudes (e.g. Judge & Kammeyer-Mueller, 2012; Penner, Midili & Kegelmeyer, 1997). To my knowledge, this is the first study that looked into not only the positive as well as the negative job attitudes, but also used the bright side and the dark side of personality as

predictors, using the Hogan instruments. As Spain et al. (2013) mentioned, the relation of the FFM traits (mostly Extraversion and Neuroticism) are well established regarding to job satisfaction and job attitudes/affect (Judge et al., 2002), but the relation of the dark side traits and work place have not been investigated much. Thus, the current research was one of the first steps to look into the role of personality in both positive and negative job attitudes.

Since positive job attitudes are associated with positive outcomes such as citizenship behaviour (Penner et al. 1997), it was only reasonable to assume that negative job attitudes were associated with negative outcomes such as CWB. My findings showed that negative personality traits accounted for more variance. Moreover, when both bright and dark side traits were taken into account, dark traits tended to be more significant predictors. This finding meant that dark traits tended to have more predictive power than the bright ones.

3.5.2 Limitations and future research

A clear limitation of the study was method invariance (see section 2.5.2 for more information). Moreover, my sample consisted of a specialised public medical profession (majority ambulance personnel) and thus the findings may not be generalised. Also, this was a convenience sample and there is no information on promotions or performance to gain a better and deeper understanding of the findings.

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 (multisource data) or behavioural data

would enlighten us regarding the influences of POAs and NOAs as well as the role of personality.

Finally, it would be interesting for future studies to use core-self evaluations (CSE) and emotional intelligence as a mediator and/or moderator. CSE refers to a stable personality characteristic that encompasses an individual's central evaluations about him/herself. Individuals with high scores on CSE tend to think positively and be confident about their own abilities, whereas individuals with low scores tend to have negative appraisal of themselves (Judge, Locke & Durham, 1998). Thus, it would be interesting to see how CSE influences POAs and NOAs regarding the bright and the dark personality traits. Because emotional intelligence is the ability to understand one's own and other people's emotions and to use this emotional information to guide thinking and behaviour (Coleman, 2008), it consequently can provide us with more information on the affective and cognitive model of the POAs and NOAs while taking into consideration the role of personality in them.

CHAPTER 4: The validation of the subscale structure of HDS scale

4.1 Overview

So far, I have looked the role of the bright and the dark side of personality in different organisational context (i.e. understanding from a personality perspective how leaders differentiate from working norms -Chapter 2- and the role of personality in explaining positive and negative job attitudes - Chapter 3). The purpose of this Chapter is to validate the updated version of HDS. In section 1.5, I mentioned that this thesis is interested in psychometrics and on the empirical marriage of the bright and the dark side of personality. In addition, I mentioned that the HDS is popular due to its ability to account for more variance than other tool. In other words, HDS is popular to for its predictability. Thus, in Chapter 2 and 3, I built on the empirical marriage of two sides of personality while showing the predictability of HDS. In this Chapter I present two studies; one validating the updated HDS and the second looking at differences within professions (similar to Chapter 2) and also building on the study of Furnham et al. (2012). The updated HDS has 33 subscales, three for each scale. This new feature can be proven to be extremely valuable, as it can help not only scholars but also practitioners to pin point which are the most influential traits, leading to a step closer to identifying which are the exact characteristics that are beneficial for work success. Although this tool was available from the end of 2014 and currently there are no publications.

4.2. General introduction

Historically, there have been two main approaches to classifying abnormal personality or psychopathology: the neo-Krapelinian approaches and quantitative approaches (Blashfield, 1984). The neo-Krapelinian theory is based on expert consensus and has framed the modern DSM III to DSM IV-TR. This approach symbolises an a priori conceptualisation of almost all forms of psychopathology as categorical and polythetic (Wright, Krueger, Hobbs, Markon, Eaton & Slade, 2013). Inevitably, the mental disorders are defined in DSMs as having a categorical nature, so that people either meet criteria for a diagnosis or they do not. Moreover, people can meet the criteria for many specific disorders in various ways owing to the fact that the DSMs' polythetic diagnostic categories are created from sets of principles, where symptoms within the principles are frequently treated as fungible (Wright et al., 2013).

The latest DSM-5 is the first edition that presents an empirically-based model of abnormal personality traits. Unlike DSM-IV-TR, DSM-5 contains two chapters on personality disorders (PDs). Section II (i.e. Diagnostic Criteria and Codes) contains the criteria of DSM-IV and in Section III (i.e. Emerging Measures and Models), the PD system developed for DSM-5 is presented (Krueger & Markon, 2014). This hybrid approach incorporates the dimensional approach that was developed through the Personality Inventory for DSM-5 (PID-5) (Krueger, Derringer, Markon, Watson & Skodol, 2012), which was necessary to capture the familiar PD structure of DSM-IV and create a smoother transition to DSM-V for a more empirically-based approach to classifying PDs (Krueger & Markon, 2014).

Many researches have shown that the structure of personality is essentially the same in both clinical and non-clinical samples (O'Connor, 2002). Moreover, research has shown that abnormal personality can be modelled as extremes of normal personality traits (O'Connor & Dyce, 2001). There have been arguments in favour of a single factor of personality as well as a two-, three-, five-, six-, seven-and-up-factor model (Ashton et al., 2004; Musek, 2007; Digman, 1997; Hogan & Hogan, 1992; Costa & McCrae, 1992). All models attempt to be comprehensive and parsimonious and many attempt to measure traits at both the domains and factors.

Thus, it is not surprising that the higher order levels of DSM-5 traits can be understood as the maladaptive variants of the domains of the FFM (Krueger & Markon, 2014). More specifically, PID-5 has 25 primary traits (i.e. facets that form the trait aspect of Section III in DSM-5) that correspond to five broad domains. These domains are: Negative Affectivity vs. Emotional Stability, Detachment vs. Extraversion, Antagonism vs. Agreeableness, Disinhibition vs. Conscientiousness and Psychoticism vs. Lucidity.

As mentioned in section 1.3, there has been considerable interest in the relationship between the FFM of normal personality functioning and the personality disorders (PDs), although the latter only at the domain level, as there appeared, until recently, to be no subscale measures for the PDs (Bastiaansen, Rossi, Schotte & De Fruyt, 2011; Miller, 2012; Samuel & Widiger, 2008). Various papers have reviewed the relationship between the PDs and the Facets of the FFM (Widiger, Trull, Clarkin, Sanderson & Costa, 2002) confirming a good level agreement between the two models (Lynam & Widiger, 2007). Griffin and Samuel (2014) confirmed that PID-5 and FFM resemble each other and share a common structure.

Jopp and South (2014) compared self and spouse reports on the PID-5 and found excellent agreement among the different spousal reports. Anderson, Snider, Sellbom, Krueger and Hopwood (2014) got 397 students to complete a DSM-IV and DSM-5 measure to examine correlations across domains and subscales for 10 (Cluster A, B and C) PDs. They found the results supportive for the DSM-5, Section III subscale model but recommended that additional research be undertaken to replicate the findings. In DSM-IV-TR, there were three main domains/clusters: A: Odd/Eccentric (Paranoid, Schizoid, Schizotypal); B: Dramatic/Emotional/Erratic (Antisocial, Histrionic, Narcissistic, Borderline) and C: Anxious/Fearful (Avoidant, Dependent and Obsessive-Compulsive) (APA, 2000).

With the evolution of DSM-V and the need to go a bit deeper than the main factors, the HDS evolved as well in order to capture the granularity of the dark side traits. As mentioned in Chapter 1, the HDS is inspired by the DMS-IV but it does not look at personality disorders thus it did not have to change as DMS-V did.

Finally, as it was indicated in section 1.1.1.5, I wanted to validate the updated HDS. In Table 4.1 I present the updated HDS, with the subscales, their definition and some examples of the items included in the tool.

Table 4.1
The subscale structure of the HDS.

Higher order factors	HDS	Subscales	Definitions	Sample Item
Moving Away	Excitable	Volatile	Moody, often angered or annoyed easily upset and hard to soothe.	*I can get angry quickly.*
		Easily Disappointed	Initial passion for people and projects, who inevitably disappoint, and passion then turns to rejection.	*Few people have met my expectations.*
		No Direction	Lacking few well defined beliefs or interests, but with regrets about past behaviour.	*Sometimes I am not sure what I really believe.*
	Sceptical	Cynical	Prone to doubt others' intentions and assume they have bad ulterior motives.	*When someone does me a favour I wonder what (s)he wants from me.*
		Mistrusting	Generalized mistrust of people and institutions; being alert for signs of perceived mistreatment.	*People who are in charger will take advantage of you if you let them.*
		Grudges	Holding grudges and being unwilling to forgive real or perceived wrongs.	*There are some people I will never forgive.*
	Cautious	Avoidant	Avoiding new people and situations to avoid imagined potential embarrassment.	*I feel awkward around strangers.*
		Fearful	Afraid of being criticized for making mistakes and being reluctant to act independently or make decisions.	*People sometimes think I am timid.*
		Unassertive	Unwilling to act assertively and therefore prone to being overlooked or ignored.	*People tell me I'm not assertive enough.*
	Reserved	Introverted	Valuing one's private time and preferring to work alone.	*I consider myself a loner.*
		Unsocial	Keeping others at a distance, limiting close relationships,	*I prefer to keep people at a*

			and being generally detached.	*distance.*
		Tough	Indifferent to the feelings and problems of others, focused on tasks rather than people.	*Other people's problem do not concern me.*
	Leisurely	Passive Aggressive	Overtly pleasant and compliant but privately resentful and subversive regarding requests for improved performance.	*I sometimes put off doing things for people I don't like.*
		Unappreciated	Believing that one's talents and contributions are ignored; perceiving inequities in assigned workloads.	*People at work expect me to do everything.*
		Irritated	Privately but easily irritated by interruptions, requests, or work related suggestions.	*It irritates me to be interrupted when I am working on something.*
	Bold	Entitled	Feeling that one has special gifts and accomplishments and, consequently, deserves special treatment.	*I would never take a job that is beneath me.*
		Overconfidence	Unusually confident in one's abilities; belief that one will succeed at anything one chooses to undertake.	*I do many things better than almost everyone I know.*
		Fantasized Talent	Believing that one has unusual talents and gifts and that one has been born for greatness.	*I was born to do great things.*
Moving Against	Mischievous	Risky	Prone to taking risks and testing limits; deliberately bending or breaking inconvenient rules.	*I try things that other people think are too risky.*
		Impulsive	Tending to act impulsively without considering the long term consequences of one's actions.	*I often do things on the spur of the moment.*
		Manipulative	Machiavellian tendencies-using charm to manipulate others and no remorse about doing so.	*When I want to get my way, I know how to turn on the charm.*
	Colourful	Public Confidence	Expecting others to find one's public performances fascinating and not knowing when to be quiet.	*In a group, I am often the centre of attention.*
		Distractible	Easily distracted, minimal focus, needing constant	*I like to have several things going*

			stimulation, confusing activity with productivity.	*on at the same time.*
		Self-Display	Wanting to be the centre of attention and using dramatic costumes and gestures to attract attention to oneself.	*I sometimes dress so as to stand out from the crowd.*
	Imaginative	Eccentric	Expressing unusual views that can be either creative or merely strange; tendency to be absorbed in these ideas.	*People describe me as unconventional.*
		Special Sensitivity	Believing that one has special abilities to see things others don't and understand things others can't.	*I sometimes feel I have special talents and abilities.*
		Creative Thinking	Believing that one is unusually creative; easily bored and confident in one's imaginative problem solving ability.	*Many of my ideas are ahead of their time.*
	Diligent	Standards	Having exceptionally high standards of performance for oneself and others.	*I have high standards for my performance at work.*
		Perfectionistic	Perfectionistic about the quality of work products and obsessed with the details of their completion.	*I tend to be a perfectionist about my work.*
Moving Towards		Organized	Meticulous and inflexible about schedules, timing, and rules and procedures.	*I am fussy about schedules and timing.*
	Dutiful	Indecisive	Overly reliant on others for advice and reluctant to make decisions or act independently.	*On important issues, I dislike making decisions on my own.*
		Ingratiating	Excessively eager to please one's superiors, telling them what they want to hear, and never contradicting them.	*There is nothing wrong with flattering your boss.*
		Conforming	Taking pride in supporting one's superiors and following their orders regardless of one's personal opinion.	*I take pride in being a good follower.*

4.3 Study 1: Validation of subscale structure of HDS

4.3.1 Introduction

As indicated in section 1.2.3 the HDS assessed dysfunctional interpersonal themes. It is argued that these dysfunctional dispositions reflect distorted beliefs about others that emerge when people encounter stress or stop considering how their actions affect others. Over time, these dispositions may become associated with a person's reputation and can impede job performance and career success (Hogan & Hogan, 2007). Various studies have examined how the dark side traits are related to the NEO-PI-R subscales (Furnham & Crump, 2014).

With the new shift on DSM-5, a more dimensional approach and the need for a subscale level analysis, HDS, the most widely-used assessment in working settings, had to adapt and to bring a more in-depth approach.

The naming of the subscales is not the same as those used in the PD literature. Inevitably, the former are very "clinical" in their language and orientation whilst the HDS subscales names are directed towards more "normal" behaviour, usually in the work context.

Based on the literature mentioned above, it can be seen that there is a shift towards a more in-depth analysis of PDs, looking at subscale levels. The aim of this study was to examine the factor structure of this new measure on a large sample. Furthermore, this analysis might inform the debate about the subscales of the PDs by suggesting clear, interpretable subscales, for each of the dark side traits.

4.3.2 Methods

4.3.2.1 Participants

In total, 3064 British adults took part in this study. Moreover, we have data on age and gender for 2284 participants (692, 30.3%, were females): their mean age was 43.61 years (*SD* = 8.24 years), with the range being between 20 and 68 years.

4.3.2.2 Measure

The HDS (Hogan & Hogan, 1997) is a self-administered personality questionnaire that focuses on PDs occupying the "psychological space" halfway between psychopathology and normal personality, which means that it allows for a dimensional approach to the research. It includes 168 items that are dichotomous (true-false). HDS has been cross-validated with the MMPI personality disorder scale. The findings showed coefficient alphas ranged from .50 to .70, with the average alpha coefficient being .64. In the test-retest reliabilities for a sample of 60 participants over a three-month interval, the range was between .50 and .80, with an average of .68. In the subscale model there are 14 questions per PD with each subscale having either four or five items.

4.3.2.3 Procedure

The data for this study came from a British consultancy company that runs assessment and development centres for large organisations. The data used in this study was obtained from eight mainly international organisations that agreed to let

the anonymised data be used for this analysis. All participants received detailed, expert feedback on their scores. Ethical approval was sought and received for this study.

4.3.3 Results

4.3.3.1 Descriptive statistics and correlations

In Table 4.2, descriptive statistics and Cronbach's alpha values are presented. According to Nunally (1978), the "cut-off" point of Cronbach's alpha is .70. However, more recent research supports a "cut-off" point of .60 (Nagpal, Kumar, Kakar & Bhartia, 2010). As presented in Table 4.2, the range of Cronbach's alpha is from .40 to .60. In theory, these values indicate a low reliability. However, Cortina (1993) proposed that if a scale has a few items (2 to 3), then it is reasonable and acceptable to have a lower "cut-off" point. Moreover, studies have shown that values between .50 and .70 indicate a good fit (Strainer & Norman, 2008; Altman, 1991).

Table 4.2
Descriptive statistics and Cronbach's alphas of the HDS subscales study1

HDS scales	HDS subscales	Mean	Std. Dev	Cronbach's Alpha
Excitable	Volatile	1.35	1.20	.52
	Easily Disappointed	1.14	1.15	
	No Direction	.91	.99	
Sceptical	Cynical	1.33	1.11	.61
	Mistrusting	.76	.99	
	Grudges	1.61	1.39	
Cautious	Avoidant	.93	.99	.61
	Fearful	.86	1.09	

	Unassertive	2.00	1.29	
	Introverted	1.37	.95	
Reserved	Unsocial	1.67	1.49	.54
	Tough	1.28	1.2	
	Passive-Aggressive	1.80	1.25	
Leisurely	Unappreciated	1.02	1.05	.41
	Irritated	.85	.97	
	Entitled	2.14	1.25	
Bold	Overconfidence	1.55	1.29	.62
	Fantasized Talent	3.51	1.25	
	Risky	2.71	1.47	
Mischievous	Impulsive	1.75	1.28	.56
	Manipulative	2.40	1.11	
	Public Confidence	2.58	1.42	
Colourful	Distractible	2.26	.88	.54
	Self-Display	2.00	1.25	
	Eccentric	.99	1.11	
Imaginative	Special Sensitivity	3.51	1.34	.52
	Creative Thinking	2.87	1.53	
	Standards	3.61	.89	
Diligent	Perfectionistic	2.82	1.4	.60
	Organized	2.74	1.26	
	Indecisive	1.99	1.11	
Dutiful	Ingratiating	2.44	1.3	.43
	Conforming	2.83	1.2	

In the following tables (Table 4.3 – 4.5), I present the correlations of the HDS subscales within each of the three higher order factors (i.e. moving away, against and towards others). The vast majority of the items are correlated around $.10 < r > .30$, thus avoiding issues of multicollinearity.

Table 4.3

Correlations of the HDS subscales corresponding to Moving Away from Others factor

Sub-scales	1. Volatile	2. Easily Disapp-ointed	3. No Direction	4. Cynical	5. Mistrust-ing	6. Grudges	7. Avoidant	8. Fearful	9. Unassert-ive	10. Introver-ted	11. Unsocial	12. Tough	13. Passive Aggress-ive	14. Unappre-ciated	15. Irritated
1	1	.368***	.184***	.235***	.228***	.330***	.144***	.145***	.061***	.111***	.169***	.049***	-.231***	.154***	.325***
2		1	.226***	.354***	**.553*** **	.346***	.223***	.146***	.064***	.215***	.370***	.188***	0.02	.261***	.277***
3			1	.205***	.201***	.145***	.305***	.296***	.294***	.271***	.306***	.067***	.139***	.179***	.259***
4				1	.449***	.282***	.166***	.142***	.201***	.137***	.232***	.154***	.102***	.270***	.301***
5					1	.346***	.192***	.167***	.159***	.168***	.313***	.187***	.075***	.259***	.285***
6						1	.178***	.133***	.077***	.154***	.231***	.055***	.060***	.155***	.280***
7							1	.382***	.264***	.467***	.497***	.087***	.145***	.129***	.242***
8								1	.410***	.264***	.214***	-0.018	.152***	.119***	.217***
9									1	.195***	.158***	0.004	.240***	.236***	.227***
10										1	.462***	.166***	.166***	.090***	.227***
11											1	.252***	.167***	.168***	.244***
12												1	.066***	.108***	.133***
13													1	.158***	.119***
14														1	.332***
15															1

Note. The numbers in the row under the tile 'Subscales' correspond to the numbers of the columns. $N = 3064$ ***$p < .01$. In bold $r > |.5|$

Table 4.4

Correlations of the subscales of Moving Against Others factor.

Sub-factors	1.Entitled	2.Over-confidence	3.Fantasized Talent	4.Risky	5.Impulsive	6.Manipulative	7.Public Confidence	8.Distractible	9.Self-Display	10.Eccentric	11.Special Sensitivity	12.Creative Thinking
1	1	.334***	.350***	.131***	.116***	.234***	.168***	.011	.253***	.095***	.241***	.121***
2		1	.367***	.099***	.111***	.193***	.172***	.003	.186***	.095***	.313***	.233***
3			1	.227***	.242***	.264***	.384***	.111***	.323***	.142***	.444***	.332***
4				1	.401***	.193***	.231***	.233***	.250***	.344***	.216***	.270***
5					1	.307***	.314***	.328***	.329***	.372***	.222***	.267***
6						1	.376***	.138***	.315***	.232***	.287***	.146***
7							1	.158***	.453***	.218***	.237***	.292***
8								1	.194***	.158***	.111***	.113***
9									1	.345***	.257***	.186***
10										1	.211***	.272***
11											1	.322***
12												1

Note. The numbers in the row under the tile 'Subscales' correspond to the numbers of the columns. $N = 3064$ ***$p < .01$

Table 4.5

Correlations of the HDS subscales for Moving Towards Others factor

	1.Standards	2.Perfectionistic	3.Organized	4.Indecisive	5.Ingratiating	6.Conforming
1	1	.452***	.251***	.096***	.053***	.067***
2		1	.326***	.159***	.055***	.076***
3			1	.149***	.079***	.133***
4				1	.201***	.196***
5					1	.217***
6						1

Note. The numbers in the row under the tile 'Subscales' correspond to the numbers of the columns. $N = 3064$ ***$p < .01$

4.3.3.2 Exploratory factor analysis

An EFA using Maximum Likelihood was conducted in the 33 HDS facets with orthogonal rotation (Varimax). Any values below .30 were suppressed (Field, 2013). The Kaiser-Meyer-Olkin measure verified the sampling adequacy for analysis. KMO = .845 and Bartlett's sphericity $\chi^2(528) = 23728$, $p < .001$. The nine components explained a total 56.02% of the variance. In Table 4.6, the factor loadings are presented.

Table 4.6

Exploratory factor analysis of the HDS subscales

	1	2	3	4	5	6	7	8	9
Mistrusting	**.739**								
Easily Disappointed	**.653**								
Cynical	**.637**								
Grudges	**.605**								
Manipulative	**.533**	.32							
Eccentric		**.718**							
Impulsive		**.687**							
Risky		**.642**							
Creative Thinking		**.501**		.345					
Self-Display		**.49**		.309					
Public Confidence		**.424**	-.411		-.312				
Introverted			**.776**						
Avoidant			**.737**						
Unsocial	.306		**.722**						
Overconfidence				**.698**					
Entitled				**.691**					
Fantasized Talent				**.664**					
Special Sensitivity		.342		**.576**					
Unassertive					**.706**				
Fearful			.333		**.604**				
Unappreciated					**.528**				
Irritated	.38				**.472**				
No Direction			.346		.394				
Perfectionistic						**.800**			
Standards						**.739**			
Organized		-.305				**.518**			
Distractible		.389				**-.403**			
Conforming							**.752**		
Ingratiating							**.628**		-.324
Indecisive					.354		**.505**		
Passive-Aggressive								**.764**	
Volatile	.394							**-.65**	
Tough									**.77**

Note. Values below .30 were suppressed. *N* = 3064

As shown in Table 4.6, the factor loading was not very "clean". However, some subscales did load neatly onto some factors (e.g. conforming, ingratiating and indecisive that correspond to Dutiful load strongly to only one factor – factor 7). Thus, even if the factor loading was not ideal, nevertheless, it was not far from reality.

4.3.2.3 Structural Equation Modelling

I then conducted a CFA using AMOS. CFA examines how well the measured variables represent the number of constructs. It is a reliable tool to confirm/reject whether the model proposed is a good fit or not. After we included error co-variances (also known as "correlated errors" or "correlated residuals" – a very common procedure – see Brown, 2015), results indicated a good fit for all the models. As in the analysis of Judge, Rodell, Klinger and Simon (2013), each higher order factor was analysed separately.

The chi-square was significant ($p < .001$) for all models (Moving Away, Against and Towards Others) with values of ($\chi^2(65) = 487.37$, $\chi^2(37) = 313.24$ and $\chi^2(7) = 369.68$ respectively). However, large sample sizes can artificially inflate chi-square values, causing a rejection of the model (Bentler & Bonnet, 1980). For this reason, other absolute fit indices were used, showing a very good fit for all models. More specifically, CFI = .958; RMSEA = .046 and NFI = .952 for Moving Away. Regarding Moving Against, CFI = .962; RMSEA = .049 and NFI = .957. Finally, Moving Towards indicated the best fit (compared to the other two models), with CFI = .990; RMSEA = .027 and NFI = .986.

4.3.4 Discussion

The aim of this study was to examine the internal factor structure of the new HDS subscales and potentially help to identify behaviourally coherent disorder subscales. The findings revealed that the 33 subscales had decent load factors and a "reasonable good fit" for the higher order factors models, with Moving Towards Others having the best fit.

The subscales provide information regarding the inner theoretical structure of the HDS scales. There are a number of ways of deciding on subscales; the first is theoretical, which is an *a priori* approach, where subtle distinctions are observed and warrant measuring. Thus, those interested in measuring Narcissism or Hubris have distinguished between Grandiosity and Vulnerability, although there are few scales to measure these different subtypes. The second approach is *a posteriori*, in which empirical analysis of a measure shows it to be multidimensional. It appears that the subscale version of the HDS was constructed on *a priori* distinctions, based on many years with HDS data.

Three issues arose from this study. The first was demonstrating the usefulness of the subscale approach in understanding the nature of the dark side traits. Thus, if some subscales of the same trait were differentially correlated with some outcome measure, this may have provided very useful information on explaining those processes at work with that trait or disorder. For instance, if it were to be shown that two subscales were positively and one negatively correlated with a criterion variable, it may give significant insight into the process and mechanisms by which this dark side trait operates. At present, the subscale version of the HDS is too new to have any data to examine this issue.

The second issue was the usefulness of the HDS 3-11-33 models. That is, the measure can be used to get scores at the three dimensions' *higher order factors*, the eleven *primary traits* or the thirty-three *subscales*. The issue for the researcher, rather than the assessor, was which level is most parsimonious and accounts for most of the variance. Up to this point, most HDS studies have reported data at the primary traits level, although a number of them also used the higher order factors in the analysis (Furnham & Trickey, 2011). The results from this study suggested a new approach may be to examine HDS factors at the subscale level from one of the three higher order factors one at a time. Thus, the Moving Against Others factor has four primary traits and therefore twelve subscales and the Moving Towards Others factor has two primary factors and therefore six subscales. This may prove a useful and manageable way to understand the role of the dark side traits.

Third, the success of this approach may have made a contribution to the psychometric assessment by providing a more in-depth understanding of the dark side traits (Furnham, Milner, Akhtar & de Fruyt, 2014). Clearly, more work needs to be done on this HDS subscale version. In due course it will no doubt require revision to ensure that its psychometric properties are improved.

4.4 Study 2: **Dark side subscales and work success**

4.4.1 Introduction

As suggested in sections 1.2 and 2.4, there is a need to understand the paradox that some dark side personality traits are positively associated with work success. There is now extensive literature on dark side traits in the workplace (Gaddis & Foster, 2015; Grijalva & Newman, 2015; Kaiser & Craig, 2014; Kaiser, LeBreton & Hogan, 2015; Spain et al., 2014) which suggests that moderate levels of certain dark side traits can be advantageous in the workplace but that at extreme levels (high) it can cause derailment and unwanted behaviours.

More and more studies have shown that some dark traits like Narcissistic Personality Disorder could have a positive effect on leadership (e.g. Ouimet, 2010), whereas Board and Fritzon (2005) showed that senior managers have higher scores on many dark side traits. In section 2.4 we showed that CEOs are more Colourful than middle managers. Furnham, Richards and Paulhus (2013) also showed that the dark triad (Narcissism, Machiavellianism and Psychopathy) in sub-clinical levels appear in many successful leaders. Moreover, depending on the profession different dark side traits may emerge (e.g. engineers are more reserved whereas marketing employees have higher scores in Bold – see section 2.4).

As presented in Table 4.1 and confirmed in various studies (e.g. Furnham & Trickey, 2011; Hogan & Hogan, 2001), the HDS has three higher order factors that were based on Horney's model (1950). The first aim of this study was to validate the new subscale factor structure of the HDS. The second aim was to shed more light on, and gain a deeper understanding of, the bright aspects of the dark traits that are associated with work success using the six measures derived from the HPI. As

mentioned in section 1.1.2, the HPI was designed to predict performance in the working environment. Hogan and Hogan (2001) showed that several scales are consistently linked to work success and performance requirements that are common to many jobs.

The six established occupational scales that predict performance in a specific role are: service orientation (i.e. being attentive, pleasant and courteous to clients and customers), stress tolerance (i.e. being able to handle stress – low scores are associated with absenteeism and health problems), reliability (high scores correspond to integrity and low scores to organisational delinquency), clerical potential (i.e. the ability to follow directions, pay attention to details and communicate clearly), sales potential (i.e. energy, social skills, and the ability to solve problems for clients) and managerial potential (i.e. leadership ability, planning and decision making skills). These six occupational scales predict a person's ability to perform in these broad roles. They were established based on research comparing high and low performers in each of the occupational scales. Thus, these scales assess qualities that differentiate the high from the low rated performers (Hogan & Hogan, 2001).

This study extends the work of Furnham et al. (2012), who, using the HDS scale scores and the HPI criterion-based measures of occupational success, showed that whilst some disorders seemed consistently associated with low success and potential ratings, others seemed either neutral or positively associated. Specifically, moody, mercurial, Excitable (Hypothesis 1) personalities are a challenge to work with, and consequently had a strong negative association with all six occupational measures. The same result applied for Cautious (Hypothesis 2), people who are

likely to be distrustful, suspicious and cynical as well as avoidant types, whose inhibition and risk aversion often prove problematic.

Building on my second aim, we looked to gain a better understanding of the association between select dark side traits and work success using the subscale measure of the updated HDS. Based on Furnham et al.'s (2012) findings, I hypothesised that the subscales corresponding to Moving Away (Hypothesis 3) from Others will be negative predictors whereas the subscales corresponding to Moving Against (Hypothesis 4) and Towards Others will be positive (Hypothesis 5).

4.4.2 Methods

4.4.2.1 Participants

In total, 262 British employees took part in this study, of which 102 (38.9%) were females. The mean age was 42.94 years (*SD* = 9.45) with the range being between 16 to 71 years. In total, 68% were between 30 and 50 years old.

4.4.2.2 Materials

Hogan Development Survey

The HDS (Hogan & Hogan, 1997) is a self-administered personality questionnaire that focuses on personality disorders occupying the psychological space halfway between psychopathology and normal personality, which means that it allows for a dimensional approach to the research. It includes 168 items that are dichotomous (true-false). There are no significant differences in the mean-levels

among racial groups and younger vs. older people, nor between genders (Hogan & Hogan, 2001), except for the study of Furnham & Trickey (2011), which found a small gender difference.

Hogan Personality Inventory

The Hogan Personality Inventory (HPI) is one of the most recognized and used measurements in the USA and in the UK (Hogan & Hogan, 1997). It is a 206-item measurement that was designed based on the FFM (McCrae & Costa Jr, 1999). The items are dichotomous (*true-false*) and testing lasts 15 to 20 minutes. The seven domains (Ambition, Sociability, Interpersonal Sensitivity, Prudence, Adjustment, Intellectance and School Success) are composed of 41 Homogenous Item Composites (HICs).

4.4.2.3 Procedure

The data for this study came from a British consultancy company that runs assessment and development centres for large organisations. The data used in this study was obtained from mainly international organisations that agreed to let the anonymised data be used for this analysis. All participants received detailed, expert feedback on their scores.

4.4.3 Results

4.4.3.1 Descriptive statistics

As in section 4.3.3.1, the same argument for the Cronbach's alpha applies. In Table 4.7 we can see the means, standard deviation and the Cronbach's alpha values. As is evident, the values range from .45 to .66. Therefore the results should be interpreted with caution, for the scales that have alphas below .50

Table 4.7

Descriptive statistics and Cronbach's alpha of the subscale structure of HDS – study 2

HDS scales	HDS subscales	Mean	Std. Dev	Cronbach's Alpha
Excitable	Volatile	1.48	1.28	.49
	Easily Disappointed	1.25	1.32	
	No Direction	1.07	1.14	
Sceptical	Cynical	1.57	1.17	.61
	Mistrusting	0.87	1.08	
	Grudges	1.94	1.51	
Cautious	Avoidant	1.03	0.97	.59
	Fearful	0.91	1.19	
	Unassertive	2.26	1.42	
Reserved	Introverted	1.49	1.04	.66
	Unsocial	1.88	1.63	
	Tough	1.46	1.27	
Leisurely	Passive-Aggressive	2.03	1.27	.45
	Unappreciated	1.13	1.13	
	Irritated	1.05	1.1	
Bold	Entitled	2.31	1.27	.64
	Overconfidence	1.72	1.28	
	Fantasized Talent	3.53	1.28	
Mischievous	Risky	2.86	1.43	.62
	Impulsive	1.99	1.27	
	Manipulative	2.32	1.15	
Colourful	Public Confidence	2.58	1.54	.54
	Distractible	2.36	0.94	
	Self-Display	2.15	1.35	

Imaginative	Eccentric	1.14	1.22	.62
	Special Sensitivity	3.57	1.33	
	Creative Thinking	2.87	1.53	
Diligent	Standards	3.7	0.89	.62
	Perfectionistic	3.03	1.4	
	Organized	2.71	1.37	
Dutiful	Indecisive	2.1	1.15	.46
	Ingratiating	2.65	1.33	
	Conforming	2.86	1.21	

4.4.3.2 Exploratory factor analysis

An EFA using Maximum Likelihood with a Varimax rotation was used in order to identify the number of factors where the HDS subscales were loaded. Any values below .30 were suppressed (Field, 2013). As seen in Table 4.8, there were eight factors, explaining the total of the variance with KMO = 0.786 and Bartlett's sphericity $\chi^2(528) = 2843.92$, $p < .001$.

Table 4.8

Factor loadings of the subscale structure of HDS

	1	2	3	4	5	6	7	8
Cynical	**.703**							
Grudges	**.695**							
Easily Disappointed	**.691**		.314					
Irritated	**.675**							
Mistrusting	**.647**							
Volatile	**.559**							-.492
Unappreciated	**.554**							
Eccentric		**.745**						
Risky		**.722**						
Impulsive		**.692**						

Creative Thinking		**.606**						
Self-Display		**.486**			.48			
Introverted			**.764**					
Unsocial	.325		**.741**					
Tough			**.637**					
Avoidant			**.575**		-.462			
Entitled				**.672**				
Special Sensitivity		.421		**.601**				
Fantasized Talent				**.553**	.385			
Overconfidence		.304		**.491**	.303			
No Direction			.311	**-.401**			.388	
Public Confidence					**.746**			
Fearful					**-.695**		.331	
Manipulative	.303			.378	**.472**			
Perfectionistic						**.792**		
Standards						**.725**		
Distractible		.475				**-.543**		
Organized				.319		**.528**		
Conforming						**.408**	.381	
Ingratiating							**.728**	
Indecisive							**.707**	
Passive Aggressive								**.675**
Unassertive				-.304	-.315		.354	**.528**

The factor loading is not very "clean". However, we have observed that some subscales load together in one factor (e.g. indecisive and ingratiate to factor seven).

4.4.3.3 Structural equation modelling

I then conducted a CFA using AMOS. CFA examines how well the measured variables represent the number of constructs. It is a reliable tool to confirm/reject whether the model proposed is a good fit or not. After we included error co-variances (also known as "correlated errors" or "correlated residuals" – a very common procedure – see Brown, 2015), results indicated a good fit for all the models. As in the analysis of Judge et al. (2013), each higher order factor was analysed separately.

The chi-square was significant for all models, with $p < .001$ for Moving Away and Moving Against Others and $p < .01$ for Moving Towards Others, with values of $\chi^2(77) = 145.08$, $\chi^2(40) = 84.54$ and $\chi^2(9) = 26.49$ respectively. However, large sample sizes can artificially inflate chi-square values, causing a rejection of the model (Bentler & Bonnett, 1980). For this reason, other absolute fit indices were used, showing a very good fit for all models. More specifically, CFI = .932, RMSEA = .058 and NFI = .87 for Moving Away. Regarding Moving Against, CFI = .946, RMSEA = .065 and NFI = .957. Finally, Moving Towards indicated the worse fit with CFI = .885, RMSEA = .086 and NFI = .841. Of the three models, Moving Against Others seems to have the best fit.

4.4.3.4 Multiple regression analysis

A series of hierarchical multiple regressions were conducting using as the dependent variables the six occupational scales from HPI (i.e. service orientation, stress tolerance, reliability, clerical potential, sales potential and managerial potential). As independent variables, I first used the HDS and then I used separately the subscales that corresponded to each higher order factor. In all regressions, demographics (i.e. age and gender) entered first and then the HDS subscales (Tables 4.9 to 4.12).

Table 4.9

Multiple regression of the HDS scales predicting the six occupations of HPI.

	Service Orientation		Stress tolerance		Reliability		Clerical		Sales		Manager	
Step 1	F(2,259) = 3.66		F(2,259) = .1		F(2,259) = .05		F(2,259) = .66		F(2,259) = .14		F(2,259) = .54	
	adj R^2 = .02		adj R^2 = .001		adj R^2 = .001		adj R^2 = .001		adj R^2 = .001		adj R^2 = .001	
Step 2	F(13,248) = 11.89		F(13,248) = 21.15		F(13,248) = 14.43		F(13,248) = 11.95		F(13,248) = 33.45		F(13,248) = 9.62	
	adj R^2 = .35		adj R^2 = .50		adj R^2 = .40		adj R^2 = .35		adj R^2 = .61		adj R^2 = .33	
	β	t	β	t	β	t	β	t	β	t	β	t
Age (Step 1)	-.02	-1.22	.01	.27	-.007	-.32	.004	.22	-.02	-.42	.02	1.01
Gender (Step 1)	.74	**2.36***	-.17	-.34	-.004	-.01	-.41	-1.12	-.35	-.33	-.21	-.44
Excitable	-.43	**-6.45*****	-.67	**-7.29*****	-.14	-1.78	-.32	**-4.14*****	-.19	-1.14	-.29	**-2.79****
Sceptical	-.15	**-2.37****	-.18	**-2.08***	-.23	**-3.22****	-.16	**-2.21***	-.12	-.75	-.18	-1.9
Cautious	.013	.21	-.53	**-6.31*****	.01	.13	-.31	**-4.41*****	-.55	**-3.64*****	-.41	**-4.36*****
Reserved	-.08	-1.57	.16	**2.39***	-.09	-1.53	.023	.41	-.89	**-7.47*****	.01	.09

Leisurely	.15	**2.30***	-.11	-1.24	-.02	-.22	-.032	-.44	-.12	-.75	-.11	-1.14
Bold	.08	1.38	.08	.98	.04	.58	.14	**2.12***	.23	1.64	.21	**2.43***
Mischievous	.06	1.02	-.01	-.16	-.37	**-5.19*****	-.034	-.49	.59	**3.93*****	-.10	-1.11
Colourful	-.01	-.15	-.1	-1.22	-.03	-.4	.06	.83	.85	**5.47*****	-.04	-.46
Imaginative	.02	.31	-.01	-.07	-.17	**-2.58****	-.03	-.49	.18	1.3	.03	.32
Diligent	.01	.20	-.07	-1.04	.10	1.7	-.08	-1.54	-.12	-1.03	.19	**2.6****
Dutiful	.15	**2.79****	-.004	-.06	.14	**2.23****	.13	**2.08***	.18	1.37	.04	.45
Age (Step 2)	-.02	-1.15	-.04	-1.92	-.002	-.15	-.01	-.85	-.06	-1.72	.01	.26
Gender (Step 2)	.50	1.87	-.37	-1.01	-.49	-1.54	-.43	-1.4	-.78	-1.16	-.36	-.87

Note: *$p < .05$, **$p < .01$, ***$p < .001$. In are bold the significant values

As we can see in Table 4.9, the findings showed that in the first step, gender and age accounted for 0.1% to 2.0% of the variance whereas the 11 scales accounted for 33% to 61%. From the 11 scales, Excitable, Sceptical and Cautious were negative predictors for four occupations, whereas Leisurely and Imaginative were significant predictors only for two professions. It was also very interesting to observe how the traits that defined success differentiated based on the occupation. For example, Mischievous was a very strong negative predictor for Reliability but a very strong positive predictor for Sales. The updated HDS offers the opportunity to understand in more depth which are the subscales that play an important role in making the scale a significant predictor. Or, interestingly, we may find that some subscales are significant predictors despite the fact the scale itself may not be.

Table 4.10

Multiple regression of Moving Away subscales of the subscales structure of the HDS predicting the six occupations of HPI.

	Service Orientation		Stress Tolerance		Reliability		Clerical		Sales		Manager	
Step 1	F(2,259) = 3.66		F(2,259) = .10		F(2,259) = .05		F(2,259) = .66		F(2,259) = .14		F(2,259) = .62	
	adj R^2 = .02		adj R^2 = .001		adj R^2 = .001		adj R^2 = .001		adj R^2 = .001		adj R^2 = .001	
Step 2	F(17,244) = 11		F(17,244) = 18.99		F(17,244) = 4.17		F(17,244) = 9.51		F(17,244) = 11.86		F(17,244) = 7.29	
	adj R^2 = .39		adj R^2 = .54		adj R^2 = .17		adj R^2 = .36		adj R^2 = .41		adj R^2 = .29	
	β	t	β	t	β	t	β	t	β	t	β	t
Age (Step 1)	-.02	-1.22	.007	.27	-.07	-.32	.004	.22	-.02	-.42	.03	1.01
Gender (Step 1)	.74	**2.36***	-.17	-.34	-.04	-.01	-.41	-1.12	-.35	-.34	-.21	-.44
Volatile	-.74	**-6.33****	-.86	**-5.38*****	-.26	-1.54	-.42	**-3.01****	-.33	-.88	-.16	.86
Eas. Disap.	-.09	-.69	-.24	-1.28	-.25	-1.26	-.25	-1.50	.34	**2.01***	.01	.06
No Direction	-.29	**-2.34***	-.73	**-4.31*****	.06	.36	-.24	-1.62	-.007	-.20	-.80	**-4.01*****
Cynical	-.24	-1.82	-.34	-1.94	-.32	-1.74	-.13	.39	.004	.01	-.17	-.81
Mistrusting	-.3	-.22	-.16	**-.73**	-.37	-1.65	-.1	.60	.09	.18	-.1	-.39
Grudges	-.21	**-2.24***	-.14	-1.07	-.07	-.54	-.23	**-1.99***	-.33	-1.07	-.22	-1.41
Avoidant	-.3	-1.80	-.35	-1.52	.37	1.55	-.56	**-2.84****	-2.13	**-3.98*****	-.11	-.41
Fearful	-.14	-1.15	-.99	**-5.90*****	-.07	-.40	-.59	**-4.03*****	-1.86	**-4.68*****	-.68	**-3.4****

Unassertive	.28	**2.69****	-.09	-.61	.30	**2.03***	-.02	-.18	-.04	-.12	-.13	-.79
Introverted	.06	.37	.003	.02	-.12	-.56	.006	.03	-.72	-1.47	-.27	-.17
Unsocial	-.17	-1.68	.13	.96	-.13	-.89	.08	.65	-1.39	**-4.24*****	-.05	-.31
Tough	-.1	-.90	.18	1.26	-.04	-.26	-.03	-.22	-.6	-1.74	.22	1.26
Pas. Aggres.	.06	.55	.04	.29	-.08	-.05	-.05	-.41	-.09	-.26	-.06	-.33
Unappreciated	.38	**3.01****	-.12	-.69	-.04	-.19	.16	1.04	.2	.49	.16	.80
Irritated	-.01	-.08	-.47	**-2.46***	-.36	-1.80	-.21	-1.27	-.05	-.11	-.55	**-2.41***
Age (Step 2)	-.02	-1.56	-.5	**-2.49***	-.01	-.71	-.02	-1.38	-.05	-1.09	-.01	.77
Gender (Step 2)	.48	1.86	-.28	-.78	-.30	-.81	-.5	-1.64	-.95	-1.15	-.29	.48

Note: *$p < .05$, **$p < .01$, ***$p < .001$. In bold are the significant values

Table 4.10 shows the results of the two-step regressions using the HDS subscales that correspond to the Moving Away factor. The findings showed that in the first step, gender and age accounted for 0.1% to 2.0% of the variance whereas the dark traits accounted for 17% to 54%. The subscales explained more variance in stress tolerance occupation and less in reliability. Furthermore, fearful, volatile and no direction were the most influential negative predictors. Unassertive was a positive predictor for both service orientation and reliability whereas unappreciative was a strong predictor only for service orientation. Overall, service orientation and stress tolerance were explained the most from the HDS subscales corresponding to the Moving Away factor, whereas reliability was explained the least.

It is also very interesting to see that, for example, although Excitable was not a predictor for Sales, one of its facets (i.e. Easily Disappointed) was a positive predictor. The same applies for Cautious and Reliability (i.e. Unassertive being a positive predictor).

Table 4.11

Multiple regression of Moving Against subscales of the new HDS predicting the six professions of HPI.

	Service Orientation		Stress Tolerance		Reliability		Clerical		Sales		Manager	
Step 1	F(2,259) = 3.66		F(2,259) = .10		F(2,259) = .05		F(2,259) = .66		F(2,259) = .14		F(2,259) = .62	
	adj R^2 = .02		adj R^2 = .001		adj R^2 = .001		adj R^2 = .001		adj R^2 = .001		adj R^2 = .001	
Step 2	F(14,247) = 4.21		F(14,247)=4.81		F(14,247)=1.24		F(14,247)=5.2		F(14,247) = 2.84		F(14,247) = 4.61	
	adj R^2 = .14		adj R^2 = .17		adj R^2 = .33		adj R^2 = .18		adj R^2 = .51		adj R^2 = .16	
	β	t	β	t	β	t	β	t	β	t	β	t
Age (Step 1)	-.02	-1.22	.01	.28	-.07	-.33	.004	.83	-.02	-.42	.03	1.00
Gender (Step 1)	.74	**2.36***	-.17	-.34	-.04	-.01	-.41	.27	-.35	-.33	-.21	-.44
Entitled	-.12	-.87	-.63	**-3.10****	-.15	-1.01	-.31	**-2.11****	-.48	-1.47	.23	-1.17
Overconfidence	.15	1.09	.34	1.63	.05	.33	.15	.99	.07	.21	.36	1.82
Fantasized Talent	.44	**3.03****	.85	**3.78*****	.16	.99	.62	**3.78*****	1.70	**4.76*****	.71	**3.29****
Risky	-.09	-.70	.02	.01	-.52	**-3.65*****	-.07	-.50	.82	**2.60****	.05	.28
Impulsive	.41	**2.96****	.12	.57	-.31	**-2.02***	.13	.86	1.37	**4.00*****	-.2	-.98
Manipulative	-.63	**-4.01*****	-.86	**-3.6*****	-.52	**-3.11****	-.57	**-3.25****	-1.02	**-2.69****	-.59	**-2.58***
Public Confidence	.26	**2.17***	.41	**2.22***	.33	**2.56***	.57	**4.20*****	1.96	**6.65*****	.61	**3.45****
Distractible	-.09	-.50	-.18	-.68	-.11	-.56	.04	.19	.12	.28	-.41	-1.59
Self-Display	-.21	-1.34	.02	.01	-.32	**-2.01***	-.03	-.16	.82	**2.28***	-.24	-1.12
Eccentric	-.23	-1.55	-.91	**-3.95*****	-.60	**-3.71*****	-.52	**-3.12****	-.67	-1.82	-.59	**-2.69****
Special Sensitivity	.15	1.07	.18	.84	.05	.32	.34	**2.22***	-.38	-1.14	.32	1.56
Creative Thinking	.05	.44	.21	1.19	-.02	-.2	-.10	-.79	.75	**2.75****	.09	.54
Age (Step 2)	-.03	-1.89	-.02	-.71	-.01	-.68	-.02	-.85	-.09	**-2.22***	.01	.56
Gender (Step 2)	.82	**2.74****	-.09	-.19	-.21	-.64	-.33	-.97	.87	1.18	.05	.11

Note: $*p < .05$, $**p < .01$, $***p < .001$. In bold are the significant values

Table 4.11 shows the results of the two-step regression using the HDS subscales that correspond to the Moving Against factor. In step 2, the variance accounted for by the dark traits was from 14% to 51%, with Service Orientation accounting for less, whereas Sales accounted for more. Specifically, Public Confidence was a positive strong predictor for all professions, followed by Fantasised Talent. Very interestingly, although Bold was significant predictor for only two professions, we could see that Fantasied Talent was a positive predictor for all but one occupation (i.e. Reliability). Moreover, Colourful was a significant predictor for only one occupation but Public Confidence was a positive predictor for all six occupations.

Table 4.12

Multiple regression of Moving Towards subscales of the new HDS predicting the six professions of HPI.

	Service Orientation		Stress Tolerance		Reliability		Clerical		Sales		Manager	
Step 1	F(2,259) = 3.66		F(2,259) = .10		F(2,259) = .05		F(2,259) = .66		F(2,259) = .14		F(2,259) = .62	
	adj R^2 = .02		adj R^2 = .001		adj R^2 = .001		adj R^2 = .001		adj R^2 = .001		adj R^2 = .001	
Step 2	F(8,253) = 3.28		F(8,253) = 4.04		F(8,253) = 1.96		F(8,253) = 3.37		F(8,253) = 1.39		F(8,253) = 2.61	
	adj R^2 = .07		adj R^2 = .09		adj R^2 = .03		adj R^2 = .07		adj R^2 = .01		adj R^2 = .05	
	β	t	β	t	β	t	β	t	β	t	β	t
Age (Step 1)	-.02	-1.22	.007	.28	-.007	-.33	.004	.22	-.02	-.42	.03	1.01
Gender (Step 1)	.74	**2.36***	-.17	-.34	-.004	-.01	-.41	-1.12	-.35	-.34	-.21	-.44
Standards	-.16	-.82	-.91	**-3.05****	-.14	-.56	-.74	**-3.35****	-.10	-.16	-.41	-1.41
Perfectionistic	.01	.08	-.24	-1.23	.17	1.10	-.10	-.71	-.81	-1.9	.11	.57
Organised	-.13	-1.04	.43	**2.28***	.17	1.12	.16	1.15	-.22	-.54	.59	**3.21****
Indecisive	.02	-.14	-.69	**-3.14****	.23	1.30	-.32	**-2.00***	-.62	-1.31	-.46	**-2.17***
Ingratiating	-.03	-.27	-.11	-.61	-.08	-.55	.08	.56	.60	1.49	-.01	-.04
Conforming	.54	**4.16*****	.32	1.56	.42	**2.56***	.38	**2.56***	.28	.63	.22	1.01
Age (Step 2)	-.02	-1.19	-.04	-1.35	.001	.04	-.01	-.73	-.04	-.77	.004	.15
Gender (Step 2)	.08	**2.90****	-.09	-.19	.04	.09	-.27	-.74	-.10	-.10	-.26	-.55

*Note: *p* < .05, ***p* < .01, ****p* < .001. In bold are the significant values

Table 4.12 shows the results of the two-step regression using the HDS subscales that correspond to the Moving Towards factor. In step 2, the variance accounted for by the dark side traits was from 1% to 9%, with Sales accounting for less, whereas Stress Tolerance accounted for more. It is unexpected that the variance was low. Looking carefully, we observed that the most common predictor of the six professions was Organised and Conforming followed by Indecisive. Organised and Conforming were positive predictors whereas Indecisive and Standards were negative predictors. We also saw that even if Organised was the only subscale that was a significant predictor for Manager, it was enough to make the whole scale (i.e. Diligent) significant.

4.4.4 Discussion

The current study had two aims. The first was to validate the factor structure and internal validity of the updated HDS and the second aim was to build and expand upon the study of Furnham et al. (2012) in looking at the bright aspects of the dark side traits in relation to work success.

The findings revealed that the internal constancy was relatively good; most of the alphas were within acceptable ranges (for three subscales per scale). However, some alphas were not above the accepted threshold, meaning that there could be a need to re-construct or make some changes to reach the acceptable cut-off point. The factor analysis showed that the loadings were moderately clear and the confirmatory factor analysis revealed that the higher order factors have a relative good fit. Each higher order factor was assessed individually, similarly to Judge et al.'s (2013) paper,

in order to get an unbiased, independent image of the fit without being concerned at this point about covariance amongst the rest of the factors.

Regarding the second aim of the study, my hypotheses were partially confirmed. As research has shown (e.g. Thompson, Payne, Horner & Morey, 2012), traits that are related to Borderline and Neurotic characteristics have negative relations with work-related effects such as performance. As in Furnham et al.'s (2012) study, personalities and traits that are related with moody, mercurial, volatile behaviours (Excitable) are difficult to work with and consequently are negative predictors of the six professions (Hypothesis 1). My hypothesis about Cautious (Hypothesis 2) was partially confirmed. Cautious was a predictor for four out of six professions; a possible explanation regarding why in our study it is not significant for all six occupations could be our smaller sample size.

My hypothesis that subscales of the Moving Away (Hypothesis 3) factor would be negative predictors of various aspects of work success was partially confirmed. The subscale Unassertive was a positive predictor for Service Orientation and Reliability. Making decisions slowly seems to be beneficial for occupations that are related with integrity and pleasing clients and/or others. It provides a feeling of cooperativeness.

Hypothesis 4 regarding Moving Against was also partially confirmed: two subscales were positive predictors, two were negative predictors and three were positive for some occupations but negative for others. More specifically, subscales such as Fantasied Talent and Public Confidence were the strongest positive predictors amongst most of the professions. Interesting, Overconfidence was not a significant predictor. This finding suggests that people with confidence are perceived

as being capable whereas the truth seems to be that is their belief in their Fantasied Talent that makes employees more successful. In addition, I found that the Manipulation and Eccentricity were negative predictors in most of the professions, whereas Risky and Self-display were positive predictors for Sales but strong negative predictors for Reliability. Moreover, Impulsive was a positive predictor of Service Orientation and Sales but negative for Reliability. These findings are in line with those of Furnham et al. (2012), showing that Mischievous was a positive predictor of Service Orientation and Sales and negative for Reliability.

Hypothesis 5 about the higher factor Moving Towards others was again partly confirmed: two subscales were positive predictors but other two were negative predictors of the outcome measures. More specifically, the facets Standards and Indecisive were both negative predictors for Stress Tolerance and Clerical. In addition, Indecisive was also a negative predictor for Managerial Success. Organised and Conforming were positive predictors for Stress Tolerance and Manager and Service Orientation, Reliability and Clerical accordingly. Interestingly, Standards and Organised are both traits associated with Conscientiousness (that is the strongest work-related predictor for success in any profession, see Li et al., 2014). However, the former is a negative predictor whereas the latter is a positive predictor. A possible explanation could be that Standards may be more associated with micro-managing thus being a negative predictor.

Another interesting finding was that the variance explained by this factor was very low (less than 10%). A possible explanation for this outcome could be that mainly Stress Tolerance and Clerical occupations were explained by these subscales, whereas Sales was not predicted by any subscale. Clerical is associated with

professions that involve following directions, which is reasonably explained by subscales that are related to Dutiful. Stress Tolerance is related with professions that are associated with low absenteeism and handling stress, which explains why it is negatively related to Indecisive. The assumption of standards being related to micro-managing also possibly explains why it is a negative predictor as well.

To conclude, the updated HDS provides some very useful insights as to which subscales are those that make each scale a positive or a negative predictor (e.g. Public Confidence is important for all profession, even if Colour predicted only one occupation). The subscales allow us to get a deeper understanding of the key traits.

Looking into the subscale level, it seems that Volatile, No Direction and Fearful are the stronger subscales that contribute to make Moving Away a negative predictor for job success. Cynical, Tough, Passive Aggressive, Introverted and Mistrusting are not predictors in any occupation, whereas Unassertive is a positive predictor for only two professions. This finding led us to the conclusion that uncertainty, burst of anger and fear are the strongest traits in making someone unsuccessful at work, and might derail them.

Moreover, Public Confidence is the only positive predictor for all six occupations, following by Fantasised Talent. Manipulative and Eccentric are negative predictors, followed by Entitled. Risky, Impulsive and Self-display are positive predictors for some occupations but negative for others. Interestingly, Overconfidence and Distractible were not predictors in any profession. There is a fine line between Overconfidence, Fantasied Talent and Public Speech in terminology. The difference between Overconfidence and Fantasised Talent is that in the former, the individual believes generally in his/her abilities whereas in the later,

s/he believes that s/he possesses unusual talents – showing uniqueness. Public Confidence is more on making people engaged and presenting ideas with enthusiasm and energy.

Finally, the ability to be meticulous and on time as well as supportive, cooperative and putting aside personal feelings while following instructions are the strongest predictors of work success. This is because these traits give the impression of a reliable individual that is able to execute orders even if s/he believes that the instructions are not correct, showing a high level of maturity. Standards has a negative relation since it seems to be related to micro-managing, thus being incapable of being pleased with someone's work and being fixated in trivial things. Also, Indecisive is perceived as lack of independent thinking and being proactive. Interestingly, Perfectionism and Ingratiating do not predict anything. A possible explanation could be that Standards is about being fixated with high performance that could lead to micro-managing and Perfectionism is about work in general, whereas Organised is more about time, rules and being thorough. From these three subscales an observer can perceive very easily if someone is on time as well as respects other people's time. In the case of Conforming, it shows a level of maturity and responsibility, whereas Standards and Perfectionism can be perceived as peculiar behaviours.

4.5 Conclusion

In both studies, the findings regarding the validity of the HDS were not very different. In both studies, the alphas were relatively good. One could argue that the low alphas was owing to the diversity of the subscales; the relative low correlation

could support this argument. Nevertheless, the findings should be interpreted with caution. A possible effect of the low alphas could play a role for the very low explained variance in the second study.

Moreover, in both studies, the EFA was not very "clean". The CFA, after allowing some error covariance, revealed a relatively good fit. However, the fit was better in the first study than the second. A possible explanation could be the difference in the number of participants. If we had a larger sample in the second study, we may have had better results. In the second study, we also found that the variance explained was than 10% in Moving Towards Others. A possible explanation could be that the CFA was not a very good fit.

4.5.1 Implications, limitations and future research

Coaches and HR staff may benefit from our findings by gaining a better understanding of the personality characteristics that are related to each profession and what exactly the dark side traits are that are associated with specific occupations. It was very interesting to identify that Overconfidence was not a strong predictor, whereas Public Speech and Fantasied Talent were. This finding could give a very different perspective as to what makes employees look more desirable. In other words, an employee with Overconfidence may be someone that believes that s/he is excellent in everything and thus will be perceived as arrogant and a "know-all" type. However, an employee with Fantasied Talent may be someone that is an excellent in a couple of things and thus is perceived as confident. Furthermore, the ability to keep a crowd interested and engaged can be perceived as a leadership quality and this is could be one explanation as to why it is a positive predictor in all occupations.

As any other study, this research had some limitations. Since this version was released almost two years ago, it was difficult to obtain data not associated with Hogan's assessment (e.g. engagement, performance, promotions, tenure), making the validation of the measurement challenging. In addition, as in the other studies, clear limitation of the study was method invariance (see section 2.5.). Finally, another limitation was regarding the relatively low alphas, thus findings should be interpreted with caution.

CHAPTER 5: GENERAL DISCUSSION

5.1 Overview

In the early 1990s, the most widely accepted personality model was introduced by Costa and McCrae (1992), the FFM, otherwise known as the Big 5. The FFM shed light onto the role of personality in various organisational context (e.g. job performance, organisational engagement and counterproductive behaviours; see section 1.1.1.4). However, the FFM could not capture the whole picture of personality (e.g. Allport & Odbert, 1936; Goldberg, 1981; Paunonen & Jackson, 2000; see section 1.3.1).

Along with the increase of awareness of personality disorders, it was not until the beginning of the 21st century when Hogan and Hogan (2001) introduced the term "dark" side of personality. The dark side refers to dysfunctional personality characteristics that come to the surface when individuals are under stress or are off their guard. I/O researchers are very interested into investigating this new conceptual approach. Most of the studies on the dark side has focussed on the dark triad (see section 1.2.1). However, we argued that this approach omits many more valuable traits that can provide better insights.

Hogan then designed the HDS that was mapped on Axis II in DSM-IV for non-clinical population. In the last 15 years, there has since been increased research on the dark side of personality (e.g. Paulhus & Williams, 2002; Boo & Khoo, 2008; O'Boyle et al., 2012; Fruyt et al., 2009; Harms et al., 2011a; 2011b; Furnham et al., 2014) but there are not many that look at bright and dark side combined (e.g. Winsborough, & Sambath, 2013; Furnham et al., 2012; Palaiou et al., 2016).

The purpose of this thesis was to examine the role of personality in various organisational contexts, in order to get a more in-depth understanding of and identify possible common personality characteristics that are important, no matter the context. More specifically, I tried to identify which are the bright and the dark side traits that CEOs have that differ from those of lower level managers as well as how they differ from professionals in five specific functions (Chapter 2). Then, I tried to identify which are the bright and dark side traits that predict positive and negative organisational attitudes. In order to categorise the organisational attitudes (i.e. latent factors), we combined different variables such as job satisfaction and organisational commitment and burnout and physical health (Chapter 3). Finally, I validated the updated subscale structure of the HDS. The latest HDS contains an additional 33 subscales, three for each scale, thus providing a deeper understanding of which traits play the most important roles in derailment and work success (Chapter 4).

5.2 Research questions addressed in this thesis

The research presented in this thesis endeavoured to answer to five research questions: On which bright and dark side characteristics do CEOs differ from middle ranking managers (working norms)? How do CEOs differentiate from managers in different job sectors? What are the bright and dark side of personality traits that relate to positive and negative organisational attitudes? Overall, to what extend do bright and dark side of personality traits explain positive and negative organisational attitudes? What is the evidence of the structure of the new psychometric properties of the subscale HDS?

5.2.1 On which bright and dark side characteristics do CEOs differ from middle ranking managers?

CEOs are linked with an organisation's success. Their communication, modelling of any desired changes, building strong top teams and getting personally involved are just a few of their responsibilities (Winsborough & Sambath, 2013). The role of CEO is unique in that s/he stands at the top of the pyramid and all other members of the organisation get indications from him/her. Despite the CEOs' background, whether it is product invention, marketing, finance, commercial or engineering, they should show good governance and management of the business as well as provide clarity to employees, stakeholders and market (Palaiou & Furnham, 2014).

It was therefore essential to identify which are those bright and dark side traits that the CEOs have and how they differentiate from those of lower ranking managers (i.e. working norms). My overall findings are presented in Figure 5.1

Figure 5.1 Overall findings of Chapter 2, looking how the CEOs differentiate from the working norms regarding the bright and the dark side of personality based on Cohen's d. Only the statistically significant traits are presented. The size of the words corresponds to magnitude of Cohen's d.

My findings showed that lower level managers are more vulnerable to stress. More specifically, they are more likely to have mood swings (Excitable), to be shy (Cautious), passive-aggressive (Leisurely) and less independent (Dutiful). Due to stress vulnerability, lower level managers are less likely to cope in stressful environment where decisions need to be made on the spot and are more likely to engage into counterproductive behaviours (Yang & Diefendorff, 2009).

In contrast, CEOs had higher scores in Extraversion, Agreeableness, Conscientiousness, Bold and Colourful. As shown in Table 1.3, it was apparent that Extraversion is linked to both Bold and Colourful, thus it was not surprising that CEOs had higher scales on those dark side scales. This means that leaders are more confident to speak in public without any fear (Colourful) and they should come across as confident (Bold). In addition, the CEOs were more warm and considerate than lower level manager and this could be due to their leadership style. More specifically, Agreeableness is linked with one of the most successful leadership style is the transformational (i.e. leaders work with their subordinates closely, more as a collaboration than giving orders). It is also very interesting to see that although CEOs were more conscientious, they did not have higher scores in Diligent as well. A possible explanation for this could be that individuals with high scores in Diligent tend to micro-manage and engage in counterproductive behaviours that do not match a leader's profile.

As CEOs emerge from various educational backgrounds (e.g. finance, marketing, engineering etc.) we can assume that there is something in their personality- in the way that they interpret and re-act to the environment- that makes

them different from the working norms. The implications of these findings can be applied in both academic and empirical contexts. In the former by pushing the boundaries and showing that personality is an important factor and encourage more research and potential the development of more tools that could help us have a dive deeper. In the latter by helping coaches and HR professionals to create materials and address their audience accordingly. For example, a coach or an HR professional can create courses targeting on building skills that can help in career progress (e.g. public speaking). Or they can help low level managers to cope better with stress.

5.2.2 How do CEOs differentiate from managers in different job sectors?

In order to answer this question, my sample was consisted by engineers, lawyers, accountants/finance, HR professionals and marketing professions. In Figure 5.2, I present the overall findings for the bright and the dark side of personality of CEOs and these five professions.

The overall findings showed that CEOs were more focus, achievement-oriented and driven (Conscientiousness) and less vulnerable to stress (e.g. mood swings, anxiety, anger) (Neuroticism) than any of the five sectors. Also CEOs were more confident and self-oriented than all sectors but marketing professionals. An explanation could be that marketing professionals need to be very confident and charming.

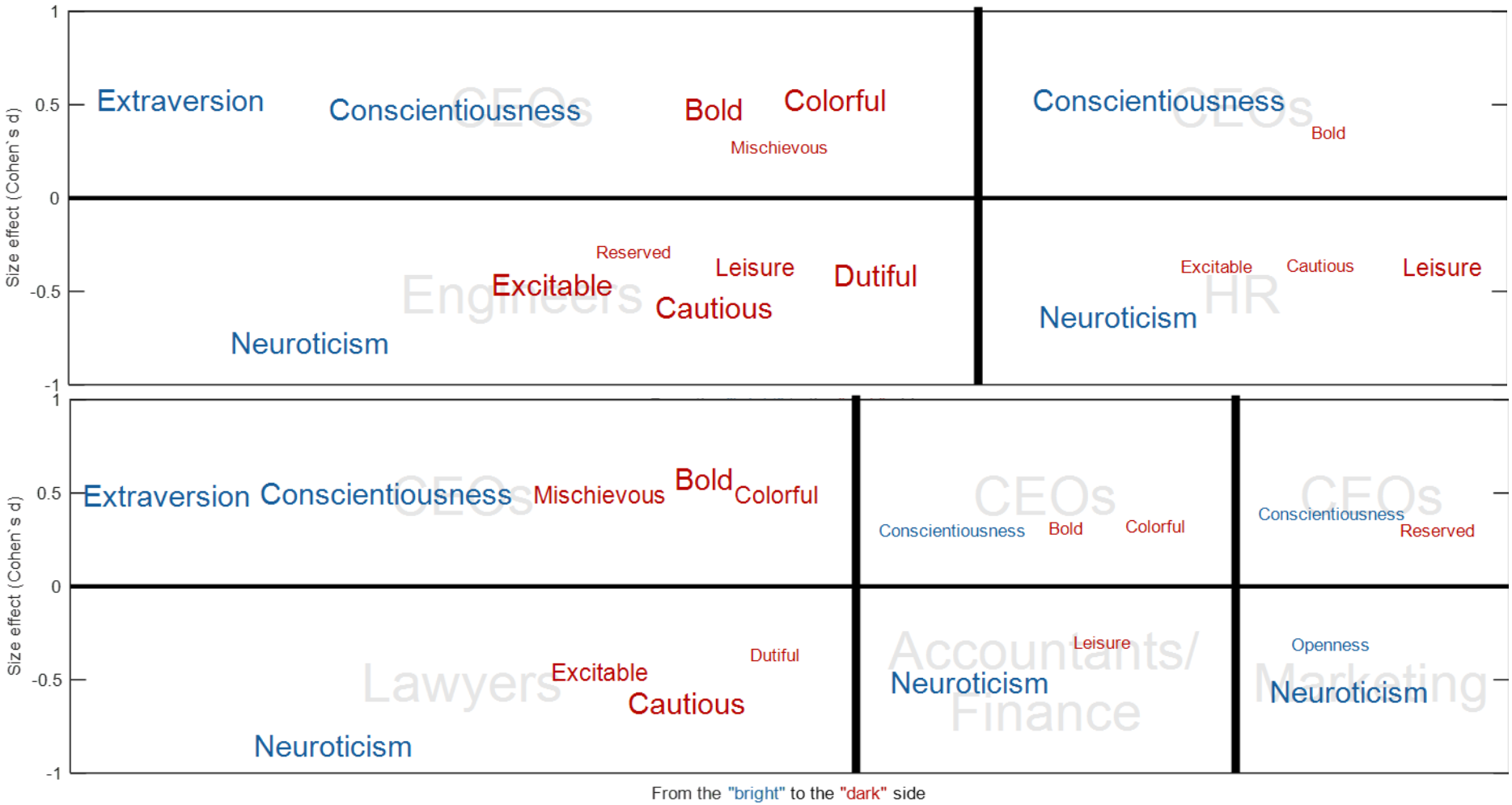

Figure 5.2 Overall findings of differences between CEOs and mangers from five functions based on Cohen's d. Only the statistically significant traits are presented. The size of the words corresponds to magnitude of Cohen's d.

CEOs were more charming and self-confident (Bold) than all professions but marketing. However, they only differentiated significantly in Extraversion only with engineers and lawyers. An interpretation of this finding could that these two professions may be more introvert than all the other sectors, thus it is not the CEOs that were more extraverts but the engineers and lawyers that were introverts.

Behaviours that come more naturally to CEOs are self-disciple, self-efficacy and need for personal achievement (Conscientiousness). Furnham (2008) stated that Conscientiousness is related with promotions, productivity and effectiveness as well as being the strongest predictor of overall work performance (Li et al., 2014), which justifies my findings.

A final observation from Figure 5.2 is that CEOs seemed to differentiate the most from engineers, then lawyers, then HR professionals, then accountants/finance and lastly marketing professionals. There could a couple of possible explanations for this. The first way to explain this finding is due to the fact that in the UK many CEOs come from either finance or marketing backgrounds. Another explanation could be that the sector of the organisations included in the sample may represent more marketing and finance professionals than lawyers or engineers.

Regarding the three higher order factors of HDS, we found that CEOs tend to be significantly more selfish, ambitious and impulsive (Moving Against) but significantly less emotionally unstable, immature, risk averse (Moving Away) and compliant or obsessive (Moving Towards Others).

The implications are the findings are similar as in 5.2.1. I will expand more in section 5.4.

5.2.3 Which are the bright and dark side of personality traits that relate to positive and negative organisational attitudes?

In Chapter 3, I focussed on investigating which are the bright and the dark side personality traits that predict positive and negative organisational attitudes. As explained in Chapter 3, there is not a universally accepted definition on attitudes. The most popular model is the ABC, which we chose because it is more inclusive. In the study, I composed positive and negative organisational attitudes (POA and NOA), using different variables (e.g. burnout and job performance). These two latent factors were confirmed by using structural equation modelling.

The summary of the findings is presented in Figures 5.3 and 5.4.

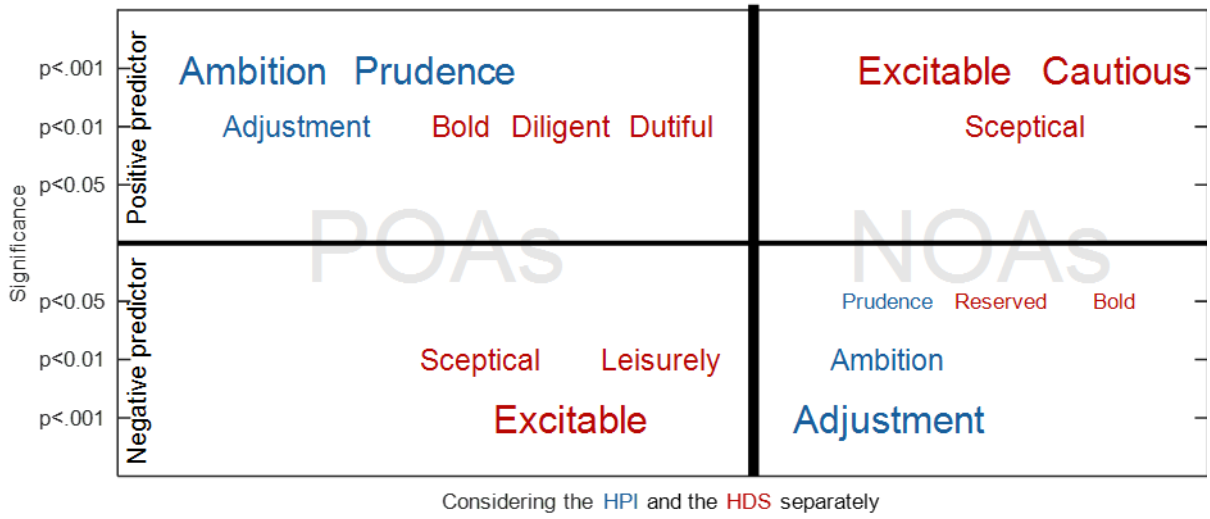

Figure 5.3 Overall findings of the two-step regression (i.e. using HPI and HDS independently as predictors). The figure also presents the level of significance in order to identify which are the strongest predictors. The size of the fond corresponds to the level of significance.

In Figure 5.3, we see that the same bright side traits predict both positive and negative organisational attitudes but with a different level of significance. To be

more specific, people that set realistic goals, enjoy public speaking (Ambition) and able to adjust as well as strike a good balance of speed and accuracy (Prudence) are more like to have positive attitudes at work. The results also showed that individuals that can handle stress, learn from mistakes and do not take criticism personally (Adjustment) are significantly less like to have any kind of negative attitudes at work. A possible explanation for why Adjustment was the strongest predictor of POAs could be that Adjustment in linked to Neuroticism in FFM and Neuroticism is the main predictor for negative outcomes due to the inability to cope with stress. In other words, employees that can cope under demanding or extreme circumstances (Adjustment) and adapt to change (Prudence) and aim for achievable targets (Ambition) will have positive organisational attitudes because of their affective and cognitive perceptions. The same line of thought applies to negative affective and cognitive perceptions.

In Figure 5.3, it is clear that the dark side personality traits are important predictors for POAs and NOAs. Individuals that are emotionally unstable (Excitable), take criticism personally (Sceptical) and are reluctant to change tend to have negative attitudes at work whereas individuals that are confident (Bold) tend to have positive attitudes at work. Based on Furnham et al. (2012), the first two traits are negatively related to work success whereas Bold is positively related.

Individuals that enjoy working with others and avoid confrontation (Dutiful) and are attention-oriented (Diligent) are likely to have positive experiences in the working environment, leading to positive attitudes (Baker, Day & Salas, 2006).

Finally, as shown in Figure 5.3, individuals that are passive-aggressive tend to resist work or social requests and, as a result, this unresolved anger leads to

negative experiences with colleagues that could lead to negative attitudes. Cautious was a very strong positive predictor of NOA and that could be because individuals with high scores in this scale resisting taking risks, which is vital for the development of a company (March & Shapira, 1987).

However, when both bright and dark side of personality were taken into account, there was a change regarding the predictors (see Figure 5.4).

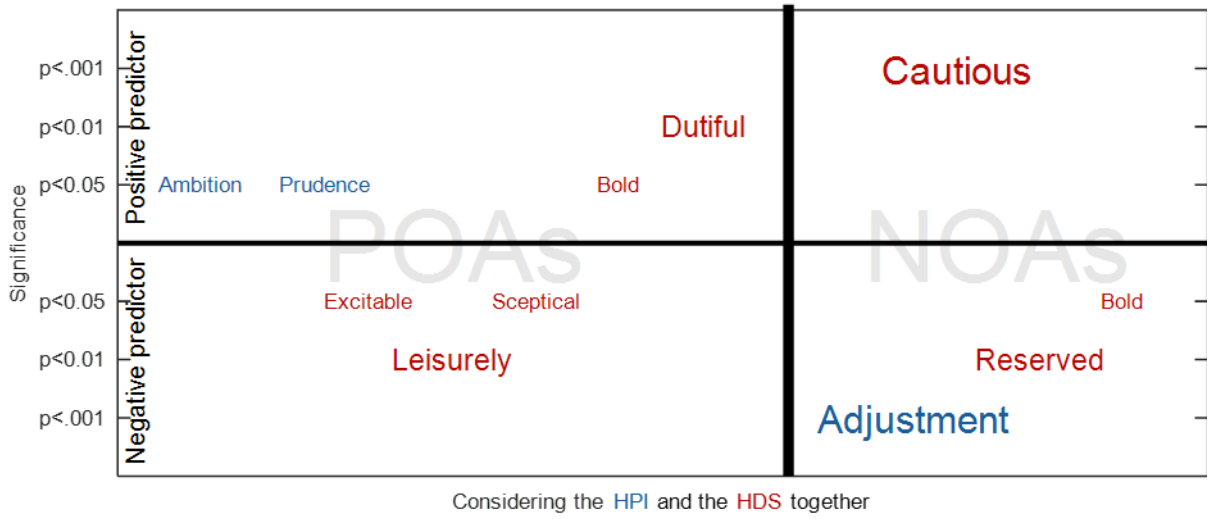

Figure 5.4 Overall findings of the three step regression (i.e. using HPI and HDS simultaneously). The figure also presents the level of significance in order to identify which are the strongest predictors. The size of the font corresponds to the level of significance.

In Figure 5.4, it is apparent that the predictors are not necessarily the same as in Figure 5.3. For example, Excitable was a very strong negative predictor and Adjustment was a positive predictor for POAs, but when both were included in the model, we saw that Adjustment was no longer significant and Excitable was not as strong. Also, Diligent was also no longer a predictor for POAs. A possible explanation for these changes could be because some variables share same the

variance and thus one overcame the other. For example, if we look back at Table 3.3, Excitable was very highly correlated with Adjustment (r>.70).

Regarding NOAs, the only positive predictor was Cautious and that Prudence and Ambition were no longer predictors. Looking at the significance level, it was apparent that Reserved now was stronger than before. Like in POAs, a possible explanation of why some predictors were not significant any more could lie in the amount of common variance shared between the HPI and the HDS.

The implications of our findings can be seen from two perspectives; the one is academic and the other empirical.

From the academic perspective, my study was the first to look holistically the role of personality in organisational attitudes, expanding our knowledge in our field and showing which may be the predominant traits (e.g. Dutiful -being a team member and compliant for positive attitudes- and Cautious -resistant to change for negative attitudes-).

From an empirical perspective, these findings can help organisations decrease counterproductive behaviours. If an organisation is conscious of their personnel, they can take actions into creating an environment that will be more appropriate. For example, if an organisation has many employees that are resistant to change then they could do small campaign by showing the benefits and help them cope with ambiguity.

5.2.4. Overall, to what extend do bright and dark side of personality traits explain positive and negative organisational attitudes?

As I mentioned in section 1.3, there is an overlap in the characteristics of the bright and the dark side of personality. However, this does not imply that they measure the same thing. The best way to illustrate this is in Figure 5.5

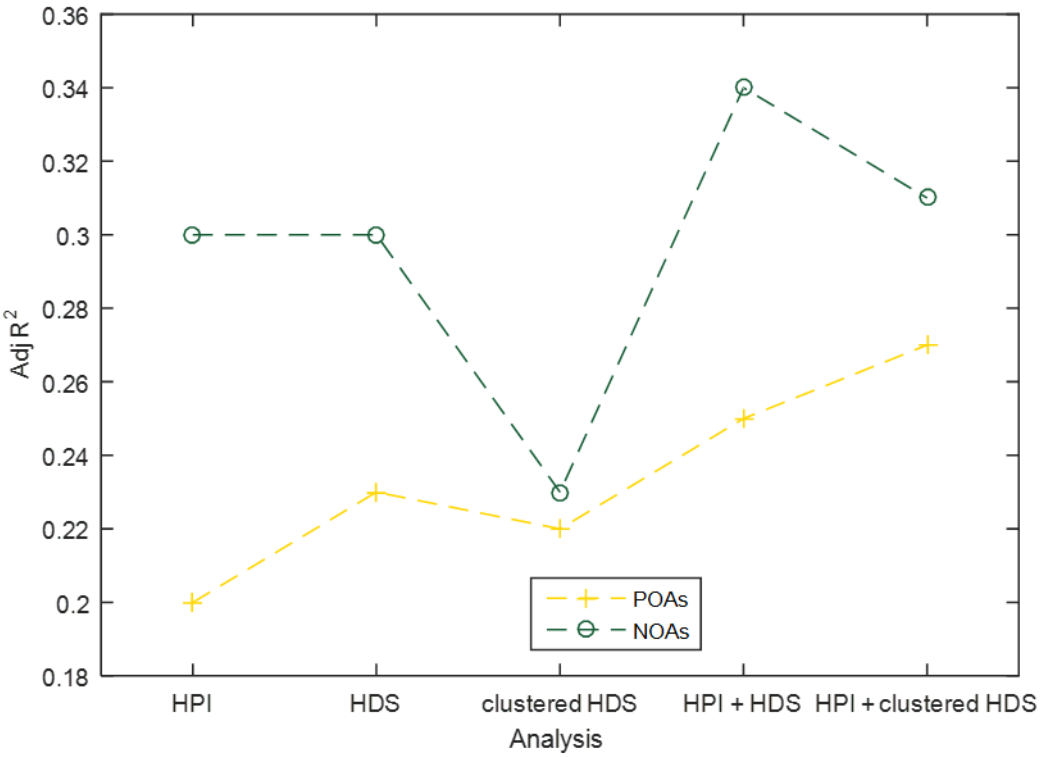

Figure 5.5 Variance explained of POAs and NOAs based on all the analyses that were conducted.

The first observation from the Figure 5.5 is that, overall, both the bright and dark side of personality explained more variance in NOAs than POAs. These findings may be due to negative bias or else negativity effect (i.e. negative states such as feelings or interactions have a strongest effect than positive in a person) (Kanouse & Hanson, 1972). Another reason could be that NOAs had a better fit in the structural equation modelling than POAs.

The second observation was that the dark side of personality explained more variance than the bright side when analysed separately in both POAs and NOAs. This also confirmed that the dark traits tend to overcome or explain above and beyond the bright traits. Harms and Spain (2015) stated that the dark side differs from other personality characteristics. An additional explanation of why the dark side traits explained more variance than the bright side traits could be – as mentioned above – the negative bias effect.

When the three higher order factors were combined with HPI, they explained more variance for POA than any other analysis. This confirms that the bright and dark side did not measure the same thing but something different. Moreover, the fact that the three factors explained more variance than the HDS scales for POAs may be due to POAs' nature (i.e. positive work related outputs). Thus, the combination of the HPI (bright side of personality) with positive outcomes were amplified in the appearance of three higher order factors.

The fourth observation was that the largest variance explained was for NOAs when HPI and HDS were added. This again confirms that the bright and dark side of personality account for different things and, when combined, provide a more holistic picture than they do individually. Both sides accounted for more variance, for both attitudes, regardless if we used the HDS scales or the three higher order factors. Finally, personality explained from 20% to 34% of the variance, showing that personality was an important predictor for work-related findings.

From an academic perspective, my study showed that the dark side explains above and beyond more variance than the bright side, confirming that the dark side differs from the bright side. This is a very important implication, as the field of dark

side is still in an infant stage (compared to the bright side). I showed that the dark side not only exists but explains more variance, which means that I/O should invest more time investigating this topic and develop more tools and theories that can help practitioners to interpret and potentially change some behaviours.

5.2.5 What is the evidence of the structure of the new psychometric properties of the subscale HDS?

The HDS gives meaningful insights on critical blind spots and increase self-awareness and personal development. The updated HDS has a subscale structure. This improvement aims to add a new level of precision into identifying potential derailment patterns. Moreover, derailment behaviours are complex and multi-faceted. Thus, these subscales are tapping into this issue by providing additional information regarding the rational of a behaviour. It was released nearly two years ago, which makes it very hard to find a good sample size and, to the best of my knowledge, there are no publications yet.

I had two different samples, one with around 3000 people and another one with approximately 250 people. The validation of both studies were more or less similar. In both studies, there were occasions where the alpha levels were below .50, which implied that we should interpret the data with caution. The low alphas could imply that each subscale measures something different. This is verified by looking at Tables 4.3-4.5 (i.e. almost all correlations are below |.50|).

The Structural Equation Modelling showed a relatively good fit. The first study, all models had a very good fit whereas in the second that was not the case. A possible explanation could be due the difference in the sample size.

In the second study the six occupational scales of HPI that predict work success were used as the dependent variables. Figure 5.6 shows which scales of HDS were significant predictors for these six occupations.

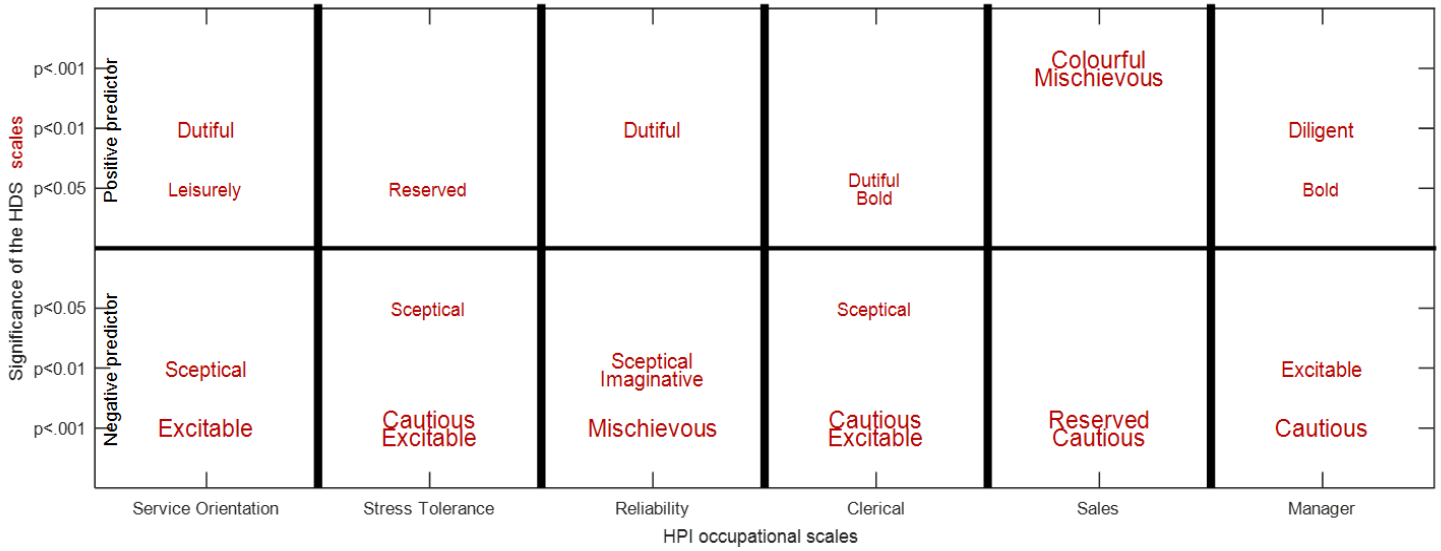

Figure 5.6 The HDS scales predicting the six HPI occupational scales. The figure also presents the level of significance in order to identify which are the strongest predictors. The size of the fond corresponds to the level of significance.

As shown in Figure 5.6, there was not one scale that was a predictor (either positive or negative) for any of the six occupations. Individuals that were moody and gave up on projects and people (Excitable), were afraid that others wanted to deceive them (Sceptical) and were reluctant to take risks (Cautious) were less likely to be successful in any of the six occupations. The most common positive predictor was Dutiful, which appeared three times (Service Orientation, Reliability

and Clerical). In these professions, in order to be successful, individuals need to be willing to compromise, avoid confrontation and get pleasure by helping others.

Surprisingly, Bold was only a significantly positive predictor of Clerical. As discussed in 1.2.1, Narcissism is usually a success predictor. However, both in our study and that of Furnham et al. (2012), Bold was a predictor of managerial and clerical professions. The study of Furnham et al. (2012) had many more HDS scales as predictors (both positive and negative) for these six occupations than our study (e.g. Sceptical was a negative predictor for all professions and Diligent was a positive predictor of three occupations). An explanation for these findings may lie on the enormous sample size 5000 vs. 250 people.

However, I was also very interested to see which of the subscales played an important role in being successful. Thus, in Figure 5.7 I present the significant predictors in both scale and subscale level.

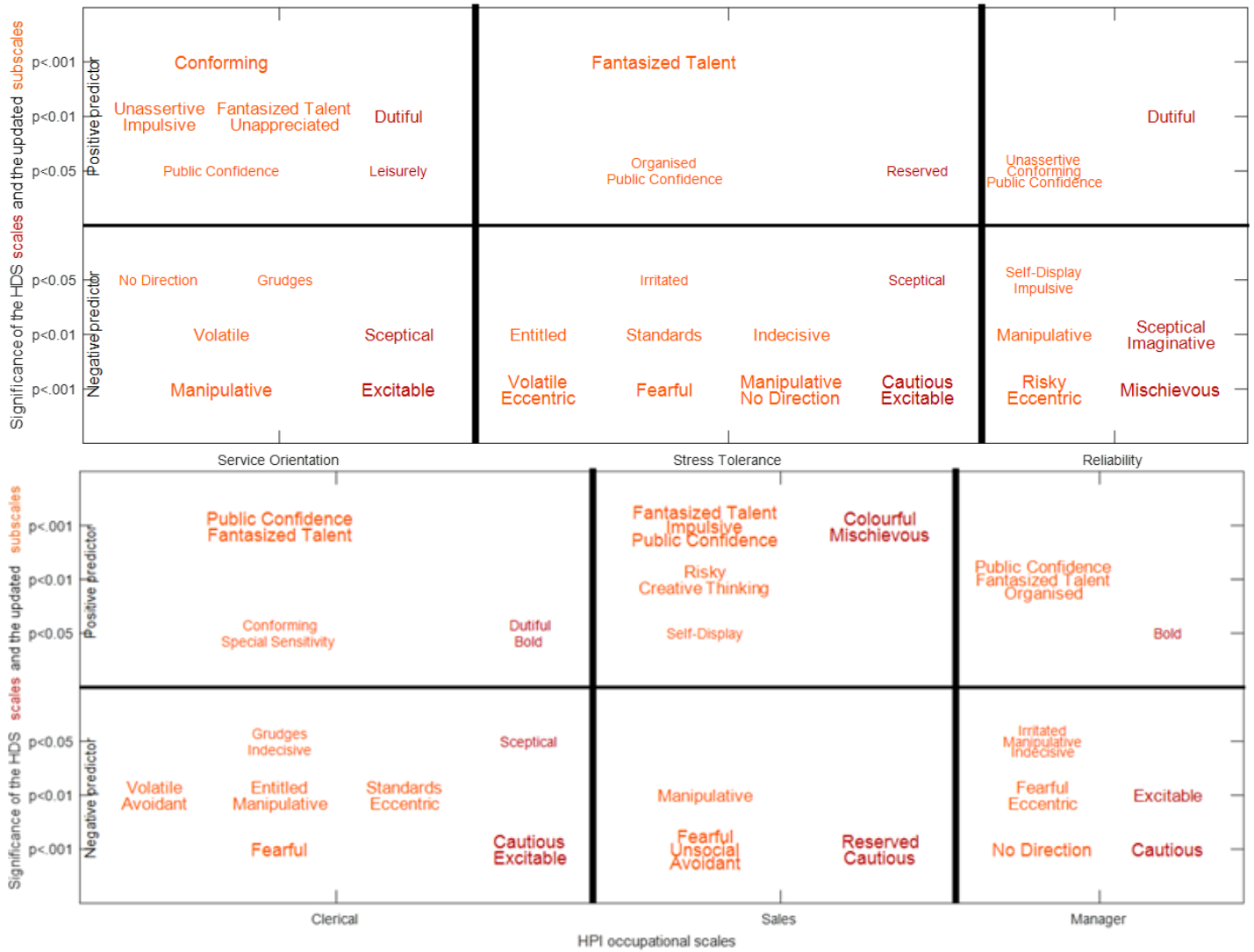

Figure 5.7. Overall findings of the HDS with the subscales as predictors of the six occupational scales. The figure also presents the level of significance in order to identify which were the strongest predictors. The size of the font corresponds to the level of significance.

The analysis with the subscales revealed a very different image to that shown in Figure 5.6. For example, Public Confidence was a positive predictor for professions. Public Confidence belongs to the Colourful scale but Colourful was only a significant predictor in Sales. Moreover, we saw that Fantasied Talent was also a significant positive predictor for all occupations but Reliability. This subscale belongs to Bold but Bold by itself is a significant predictor only for Clerical and Managers. Moreover, Overconfidence was not a significant predictor.

This a very interesting finding, especially regarding the implications in the academic field. Most of the literature discusses that coming across as very confident could speed promotion or have positive impact to work outcomes is actually incorrect – it may actually be the Fantasied Talent makes those people successful. This could give a very interesting twist in the literature as we know and could lead to a very different interpretation of leaders' success as we currently know it. For example, if the findings are replicated we could identify that a leader needs to have two main qualities: 1) ability to talk confidently in public and 2) believe in his/her abilities, whereas being overconfident is perceived as a negative characteristic. Consequently, these results could lead to an industry of specialised courses and coaching on how to develop more of these qualities while managing potential disengaging behaviours. Also, all the literature on Narcissism and leadership may need to reconsider why this is the case.

I also found that Manipulative was a constant negative predictor for all six occupations. Interestingly, even if Manipulative belongs to Mischievous, Mischievous was a positive predictor of Sales. An explanation for this could be that

the other two subscales of Mischievous (Impulsive and Risky) were positive predictors.

Even if Excitable appeared to be a negative predictor for four occupational scales, the subscales that appeared varied depending on the profession, meaning that it was not one constant subscale that made Excitable a predictor, but rather a combination. It was not surprising that Excitable, Cautious and Sceptical were negative predictors, as these traits are linked with negative work related outcomes such as performance (e.g. Thompson et al., 2012).

Although not expected, Unassertiveness (i.e. acting slowly) (subscale of Cautious) wad a positive predictor for Service Orientation and Reliability. A way to explain this could be that for Service Orientation and Reliability, being too slow could be perceived as being too careful, which can be considered as a sign of being reliable and thus an advantage.

Finally, another interesting observation was that Standards, Perfectionism and Organised were part of Diligent, which was linked to Conscientiousness, did not appear much. Moreover, I found that Organised was a positive predictor, whereas Standards was a negative predictor for work success. This could be because Standards may be linked to micro-managing and obsession of following the rules, which could lead to moving slowly, whereas Organised could be associated with planning and thinking ahead as well as way to achieve the desired goals.

Overall, the updated structure of the HDS provides valuable insights as to which traits are the most influential to career success. This study showed that despite the occupational scale, Public Speech and Fantasied Talent are positive predictors whereas Manipulative and Fearful are negative predictors.

5.3 General findings of the thesis

In this stage of the thesis, before looking at the limitations, implications and future studies sections, it would be appropriate to present from a very high level perspective what was found with regards to bright and dark side of personality, regardless of the organisational context. The high level findings are presented in Tables 5.1 and 5.2

Table 5.1

High level findings of the thesis based on the bright side of personality

FFM	Extraversion		Agreeableness	Neuroticism	Conscientiousness	Openness to Experience	
HPI	Ambition	Sociability	Interpersonal Sensitivity	Adjustment	Prudence	Intellectance	Learning Approach
Study 1: CEOs bright side		X		X	X		
*Study 3: POA	X				X		
*Study 3:NOA				X			

Note: * it is based on the three step regression findings

Table 5.2

High level of the thesis based on the dark side of personality

HDS	Excitable	Sceptical	Cautious	Reserved	Leisurely	Bold	Mischievous	Colourful	Imaginative	Diligent	Dutiful
Study 2: CEOs dark side	X		X			X		X			X
*Study 3: POA	X	X				X					X
*Study 3:NOA			X	X		X					
Study 4: new HDS and HPI occupational Scales	X	X	X								X

Note: * it is based on the three step regression findings

Regarding the bright of personality, the findings of these studies are consistent with the literature describe in Chapter 1. To be more specific, I found that Extraversion, Conscientiousness and Neuroticism played a role as outputs within organisational context. Furthermore, also in line with the literature, there was not a pattern with either Agreeableness or Openness to Experience. For example, Wille et al. (2013) followed almost 1000 people for over 15 years. Their interpretation of the data was around the FFM and they concluded that Extraversion is linked with job performance and Conscientiousness with managerial success. Furthermore, Conscientiousness and Neuroticism are the strongest predictors for overall performance. The former is positively linked whereas the latter is negatively linked. These two factors refer to the inclination to follow the rules and put the extra effort (Conscientiousness) and capability to allocate resources to accomplish tasks (Neuroticism). Consequently, these predictors can be considered "generalisable" and are perceived as measures of trait-oriented work motivation (Barrick & Mount, 2005).

With regards to the dark side of personality, the findings were still in line with the literature. The dark side traits that are linked with Neuroticism (e.g. Excitable, Sceptical and Cautious) appeared to play an important role in most of our studies. These traits are usually linked with negative work-related outcomes, as these people tend to overreact to criticism (Excitable), be alert for signs of betrayal or disrespect (Sceptical) and worry about making mistakes (Cautious). Thus, it may not always be easy to work with them (Hogan & Kaiser, 2005). In addition, these traits belong to the Moving Away factor, which is linked with negative job outcomes (e.g. Burch & Foo, 2010). In addition, Furnham et al. (2012b) found that Colourful and

Bold are positive predictors of work success. Race et al. (2012) found that Dutiful is a predictor for promotion. Harms et al. (2011) found that Bold, Colourful, Dutiful and Cautious are positive predictor of leaders' personal development. An explanation of why Cautious is a possible predictor for leadership development could be understood if we look the last study, where Unassertive was a positive predictor for work success, even if Cautious as a scale was a negative predictor. Thus for the study of Harms et al. (2011), Unassertive may have been a very strong predictor that made the whole scale being significant. If the updated HDS was available when that study was conducted, I would have been able to get more insightful information on what plays a pivotal role in the personal development of leaders.

5.4 Implications

This thesis attempted to validate and expand our knowledge on the role of personality in different organisational context. More specifically, the interest of this thesis was regarding the empirical marriage of bright and dark side of personality in the working environment. One of the major strengths of this thesis is that all samples in all studies were working adults. Most of the studies in the field use students as a sample size and their data lack ecological validity. I also obtained data from different sectors (e.g. marketing, HR, finance, engineering and law), which allowed me to get an idea of which traits are important and dominant in real working environment.

Furthermore, my findings can be used as part of selection and/or promotion process. This could be in a specific interest for HR professions as they would be able to take more informative decisions as to whether the individuals selected would be

able to cope with the work demand and whether they would be a good fit for an organisation's culture and identity.

Moreover, coaches/consultants/practitioners could be benefit from my findings. This is because personality-based approach to coaching has an important contribution in assessing as well as facilitating behavioural change (McCormick & Burch, 2008). Peterson (2010) argued that we can get accurate insights into an individual's developmental needs through effective coaching. Assessing someone's personality can be an excellent way to start coaching, get an idea of who that person is and act accordingly. For example, is a person is high on Neuroticism, then the coach can help the individual remain calm in emotional situations, resist the urge to express negative emotions and manage his/her suspiciousness constructively.

In addition, all of the studies had a novel feature to them. In Chapter 2, I replicated and extended our knowledge of CEOs and their differences regarding the bright and the dark side of personality in relation to lower ranking managers and in relation to engineers, lawyers, accountants/finance and HR and marketing professions. This chapter helped to shed more light in the CEOs' personality profile. More specifically, the findings can help both HR and coaches to gain a deeper understanding into the complex personality of the CEOs. CEOs do not come from a specific sector (e.g. we cannot study to become CEOs) but they all have some similar traits that differentiates them from the rest. However, the comparison with different sectors showed us with which professions they have more or less similarities. Also, since CEOs are leaders it is very hard to find a large enough sample, and they do not usually receive constructive feedback that will help them be aware of their strengths and weakens in order to grow in themselves and the organisation that they lead.

To the best of my knowledge, Chapter 3 was the first study that looked into both positive and negative organisational attitudes using bright and dark sides of personality as predictors. Due to the fact that positive attitudes are related with positive work outcomes such as organisational citizenship behaviour, it was logical to assume that negative attitudes were related to counterproductive behaviours. In understanding the traits that predict different attitudes that could lead the different behaviours, companies can benefit and create a better working environment. For example, a company can be perceived as caring for the employees' wellbeing and be advised to stop sending emails after working hours. In this example, individuals that tend to be more stressed and struggle to balance a healthy balance between work and outside work could be less stressed and feel cared for. As a consequence, that could lead to higher engagement and better performance.

The dark side of personality is less investigated than the bright side. It is even less usual to find studies that use both bright and dark side of personalities. The interaction of these two sides provided us with valuable insights as to which traits were stronger than others and how they behaved when used together in an analysis. Moreover, this study confirmed that dark side differs from the bright side of personality and explained significantly more variance above and beyond the almost universally accepted FFM.

My findings using the updated HDS can be of a great value for both scholars, coaches, practitioners and HR professions. Even if the updated measurement still needs a bit of work, the insights that we can take for this study are invaluable.

For example, it is not Overconfidence that could make someone successful and fast track their career, but rather their Fantasied Talent. All these years, we believed that being overconfident is the key for success, in interviews, promotions etc. We also thought that Narcissistic are successful due to their over-confidence. However, my study provided a different angle. My results showed that Overconfidence was not a significant predictor of success. Moreover, my findings showed that Fantasied Talent was a significant predictor. My interpretation is that if an individual is over-confident, s/he may come across as arrogant and snob, whereas of an individual comes across as believing that s/he is good in a couple of things, s/he can be perceived as 'down to earth'. In other words, people will perceive her/him as an individual that is self-aware, knowing her/his strengths and developmental needs without being arrogant.

Another very important finding of my study is that Public Confidence was a positive significant predictor for all professions. This can be of a great value especially for HR and practitioners. If this finding is replicated and confirmed, it could mean that there is one fundamental trait that is a success predictor for all professions, regardless of the background (e.g. engineering or marketing).

Moreover, we can see that traits that may have a negative tone (e.g. Unassertive) is a positive predictor for career success, and, as mentioned earlier, that could also explain why Harms et al. (2011) found that Cautious is a positive predictor for personal growth in leaders. Thus it is possible to gain a deeper understanding into which are the important traits that can either derail or fast track an employee. For example, I found that manipulative was a negative predictor for work success in all six occupational scales.

From an academic perspective, my study could help to shed more light and perhaps in different interpretation of the past literature and from an empirical perspective the relevant parties (e.g. HR) can change how interviews are conducted, create materials and courses to equip their employees to be more successful.

Living in a world that is volatile (e.g. numerous changes), with uncertainty (e.g. not easy to make prediction) and that is complex (e.g. multitasking) and ambiguous (e.g. haziness of reality), we need, more than ever, to be able to coach employees in a meaningful way, identify ways to be more resilient, increase our awareness and be able to adapt as the working environment. Moreover, companies need to be sure that they have the right talent in place in order to cope and be competitive. This thesis contributed to an extent to this aim by identifying the bright and the dark side traits that could help create better working environments.

5.5 Limitations

As with any other work, this thesis had some limitations. Although, limitations were noted at the end of each study, these will be summarised and expanded.

My sample was consisted by working adults of the UK. Although, UK's working population is consisted by many different cultures, the majority are Europeans or westerners. Thus, my findings have ecological validity in the Western civilisation and should be generalised for Eastern culture.

In addition, in order to obtain these data, I had to work with different consultancies. This means that I would choose which data to use to answer my

questions but I would not be able to get other important data like performance, tenure, number of promotion etc. Thus, there is a lot of background information that is missing and could shed more light to my findings.

HDS is a self-report measurement, which is very common in personality studies (e.g. 95% of the published articles in *Journal of Personality* in 2006, Kagan, 2007). Self-reports do have some advantages – for example they are cost and time effective. Furthermore, as Paulhus and Vazire (2007) noted: "*no one else has access to more information than oneself, and that this information is rich with motivational and other introspective details that other might not be aware of*" (p. 227). That being said, the most common limitation was method invariance and for self-report measures this meant: social desirability bias (i.e. faking the answers to be more likable). Although, HDS takes this into account, it was not the only self-report measurement used in this thesis. Even if a participant is being honest, a possible limitation could be the introspective ability (i.e. not being able to provide with an accurate response to a question).

Another limitation to this method is that it tends to increase the reported size of relationships (correlations). Also the interpretation of some items may not be understood by the same participant in the same way, which could lead to different and perhaps incoherent findings. Rating scales is also usually another issue, for example the HPI and HDS have an "agree-disagree" option, which could limit the participant's choice. This binary choice can be perceived as "too strong" as some individuals may not necessary agree or disagree, but slightly agree or disagree.

However, all these limitations are common for most of the studies that use self-reported measures. This is why the results should be interpreted with caution and

avoid making strong statements. Another limitation that we also considered was that the HDS is mapped on the DSM-IV. Although the HDS does not measure personality disorders (it was "inspired" by it), there is still a possible of co-morbidity. Finally, we wished that we could have been able to control for more variables than age and gender, such as education and socio-economic class, and have some outcomes to link our findings with (e.g. number of promotions, performance rating and tenure).

5.6 Future research

Firstly, future research should look into addressing the limitations mentioned above by collecting data than can be linked to work outcomes. Furthermore, it would ideal to collect observational data (i.e. multi-source data) or behavioural data that would help us link them directly with specific personality traits, especially now with the updated HDS. In addition, in using the updated HDS, it would be very interesting to identify the subscales that are linked with speed of promotion, job performance as well as derailing behaviours.

Since the HDS was mapped on DSM-IV, it would be very interesting to see how the new structure of HDS maps on the latest DSM-V version. As mentioned in Chapter 4, the new DSM-V is a hybrid, using a dimensional rather than categorical approach to personality disorders, and has two sections (i.e. Diagnostic Criteria and Codes – the same as DSM-IV and Emerging Measures and Models). This led to the development of PID-5, which is a more empirically-based approach to identify personality disorders. It would therefore be of great interest if we could see which of the subscales map onto the PID-5 and then clarify what would these "clinicalish" mean/demonstrate in the working environment.

Finally, it would be interesting to see how the subscales of HDS (especially of Mischievous) are linked Gray's (1987) reinforcement sensitivity theory (RST) and, more specifically, with the behavioural inhibition system (BIS) and behavioural approach system (BAS). It is possible that by linking HDS to Gray's theory we can gain a better, deeper understanding of any potential neuropsychological roots. For example, with regards to Psychopathy, which links to Mischievous in HDS (see Tables 1.3 and 1.4), we may be able to identify that from the three subscales (i.e. Risky, Impulsive and Manipulative) only one may have neuropsychological roots (e.g. Impulsive), or that high scores in BAS are linked with Risky and Impulsive. However, all these are just assumptions and it would be interesting to see future research identifying which of these subscales have neuropsychological roots and how they are linked with BIS and BAS.

5.7 Conclusion

To summarise, this thesis showed the importance of personality in the working environment, using as a sample working adults, which provides more credibility to our findings. The study validated and demonstrated the role of the bright and the dark side of personality in different organisational contexts. The findings were consistent with the literature, showing that Extraversion, Conscientiousness, Neuroticism, Excitable, Sceptical, Bold and Dutiful play an important role in the working environment. In addition, it was possible to confirm that the dark side measures something different than the bright side and explains more variance above and beyond than the bright side of personality.

Furthermore, an attempt was made to validate the new structure of HDS and see the valuable insights that the subscales have to offer in how these traits can be understood regarding work success. Even if there were no working outcomes such as promotions or job performance, the findings can help scholars and practitioners to understand which are the main bright and dark side traits that could enable or disable someone in the working environment.

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