

ARE BOSSES UNIQUE? PERSONALITY FACET DIFFERENCES BETWEEN CEOs AND STAFF IN FIVE WORK SECTORS

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This study compared the Big Five Personality facet scores of 138 CEOs compared with senior managers. The former were significantly less neurotic and had higher extraversion, agreeableness, and conscientiousness scores on both domain and facet scales. The results were then investigated in 5 work functions: engineering, legal, accounting/finance, human resources, and marketing. Two traits showed very consistent results for all 5 functions: CEOs were less neurotic and more conscientious with Cohen's *d* values between .30 and .85. Results were also examined at the phenotypic factor level to show a more detailed pattern. These results are consistent with the relatively few other studies on the personalities of CEOs. Implications and limitations are discussed.

Keywords: five factor model, bright side, CEO, working norms

Personality characteristics have been shown to play a significant role in work-related attitudes/behaviors (Barrick & Mount, 2005). Consequently, industrial/organizational (I/O) researchers have turned their attention toward identifying the essence of the relationship and the mechanisms that underlie it (Barrick, Mount, & Judge, 2001). Researchers have noted that personality affects two main behaviors that are vital for an organization: employee performance and withdrawal (Li, Barrick, Zimmerman, & Chiaburu, 2014). The personality traits that are less associated with employee withdrawal are conscientiousness, emotional stability (opposite pole of neuroticism), and agreeableness (Barrick & Mount, 2005; Zimmerman, 2008).

Five Factor Model and Job Performance/Career Success

The five factor model (FFM) assesses five basic personality domains: extraversion, neuroticism or emotional stability, agreeableness, conscientiousness, and openness to experience (McCrae & Costa, 1990). The FFM is considered one of the most valid and reliable research models on personality and leadership (Barrick & Mount, 1991; Judge, Bono, Ilies, & Gerhardt, 2002; McCrae & Costa, 1997) for two main reasons. First, the five domains are extremely stable over the life span of an adult

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(McCrae & Costa, 1990; Rantanen, Metsapelto, Feldt, Pulkkinen, & Kokko, 2007), and second, it consistently predicts many work-related findings (Barrick & Mount, 1991; Furnham, 2008). At this point, it should be clarified that the relation of conscientiousness, emotional stability, and extraversion with job performance is not linear but curvilinear (more details below; Le et al., 2011; Grant, 2013). The FFM domains have been identified as the “bright side” of personality (Hogan, Curphy, & Hogan, 1994) because it characterizes people when they are at their best (Hogan, Hogan, & Kaiser, 2010). These five basic personality domains, along with their respective facets, are discussed below.

Among all FFM personality domains, conscientiousness is the best predictor of overall job performance (Li et al., 2014). Individuals with high scores tend to be more driven and achievement-oriented (Judge & Ilies, 2002). They usually perform better through careful planning and persistence (Barrick & Mount, 1991). Furthermore, conscientiousness is positively related to organizational citizenship behavior (OCB; a group of behaviors that are not linked to task performance but assist the goals of an organization by enhancing its social and psychological environment) and negatively related to counterproductive work behavior (CWB; a group of behaviors that may harm the well-being of an organization, e.g., leaving earlier from work; Rotundo & Sackett, 2002).

Neuroticism is the second strongest predictor of work performance and is usually negatively correlated with it (Barrick et al., 2001). Individuals with high emotional stability scores (or low neuroticism) are typically more likely to function under pressure effectively 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). In addition, individuals with high scores on emotional stability generally perform better on work-related tasks and are less likely to engage in CWBs (Yang & Diefendorff, 2009). In contrast, individuals with high neuroticism scores are less likely to deal with stressors effectively and are thus more likely to experience negative feelings such as anger, anxiety, and depressed mood. Moreover, individuals with high neuroticism are more likely to be easily overwhelmed and interpret ordinary situations as threatening, consequently making it difficult for them to complete job related-tasks effectively (DeYoung, Quilty, & Peterson, 2007).

The findings on agreeableness (i.e., the preferred way of interacting with others; from compassion to tough mindedness; Costa & McCrae, 1992) 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 barely shown 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.

Evidence suggests that extraversion is linked to both contextual and task performance as well as to proactivity (Crant, 1995; Pearsall & Ellis, 2006). Task performance refers to the core technical knowledge related to a job (e.g., product knowledge for a sales job) and contextual performance refers to attitudes and activities that support the environment of an organization in a social and psychological way (e.g., helping coworkers; Griffin, Neal, & Neale, 2000). 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 (considered part of extraversion; Hogan & Hogan, 1992) is also important in mobilizing others and developing a social network that is located inside and outside of an organization (McDonald & Westphal, 2003). In a recent study, 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.

Le et al. (2011) found that conscientiousness and emotional stability have a curvilinear relationship with job performance (task performance, OCB, and CWB). Individuals with very high

scores in conscientiousness are more likely to be inflexible and focus on trivial details that may lead to unproductive behaviors. People with very high scores on emotional stability tend to have saturated attention, so when emotion increases they may become harmful toward the organization because relevant cues might be omitted due to an obsessive focus on accuracy. Furthermore, Grant (2013) also 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 center of the attention (Judge, Piccolo, & Kosalka, 2009), which may result in weak performance due to being overly self-focused (Ashton, Lee, & Paunonen, 2002; Grant, 2013).

Finally, 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) hypothesized that openness to experience would be positively related with 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 due to their small sample size of 48 participants. Minbashian et al. (2013) addressed the limitations of Thoresen et al. (2004) but still they 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 in 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).

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-Personality Inventory—Revised (NEO-PI-R) is of the more popular instrument used to measure the FFM. NEO-PI-R contains 30 facets with six facets for each domain. DeYoung, Quilty, & 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) that organizes the five domains into 10 phenotypic factors, and each phenotypic factor contains one or more facets (see Figure 1). This organizational 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. There are 10 phenotypic factors in total. Similarly to the FFM, the phenotypic factors have genetic and environmental causes (DeYoung et al., 2007) and are discussed below. This model is important for our study because it will allow us to gain a better understanding of the relation between personality and job performance (from a broader to a narrower point of view).

The two phenotypic factors for conscientiousness include industriousness (achievement seeking, competence, and self-discipline) and orderliness (deliberation, dutifulness, and order), and the two phenotypic factors for agreeableness are compassion (tender-mindedness, altruism, and trust), and politeness (compliance, modesty, and straightforward). The two phenotypic factors for neuroticism are divided into volatility (angry hostility and impulsiveness) and withdrawal (anxiety, depression, self-conscientiousness, and vulnerability), whereas the two phenotypic factors for openness to experience are intellect (ideas) and aesthetic (actions, aesthetics, fantasy, feeling, and values). Finally, for extraversion, the two phenotypic factors are enthusiasm (gregariousness, positive emotions, warmth, and excitement seeking) and assertiveness (excitement seeking, activity, and assertiveness). Excitement seeking was loaded equally to both phenotypic factors, which explains why it appears twice (DeYoung et al., 2007).

A meta-analysis conducted by Judge, Rodell, Klinger, and Simon (2013) used phenotypic factors and facet levels to examine their relationship with overall performance, task performance, and contextual performance. They found that for overall performance, only 10 out of 30 facets contained zero in the confidence intervals, meaning these 10 facets were not reliable predictors for overall performance. In regards to task performance, only 16 facets excluded zero, whereas in contextual performance there were 17 facets, meaning that 14 and 13 facets were found to be reliable predictors of task-contextual performance, respectively. Finally,

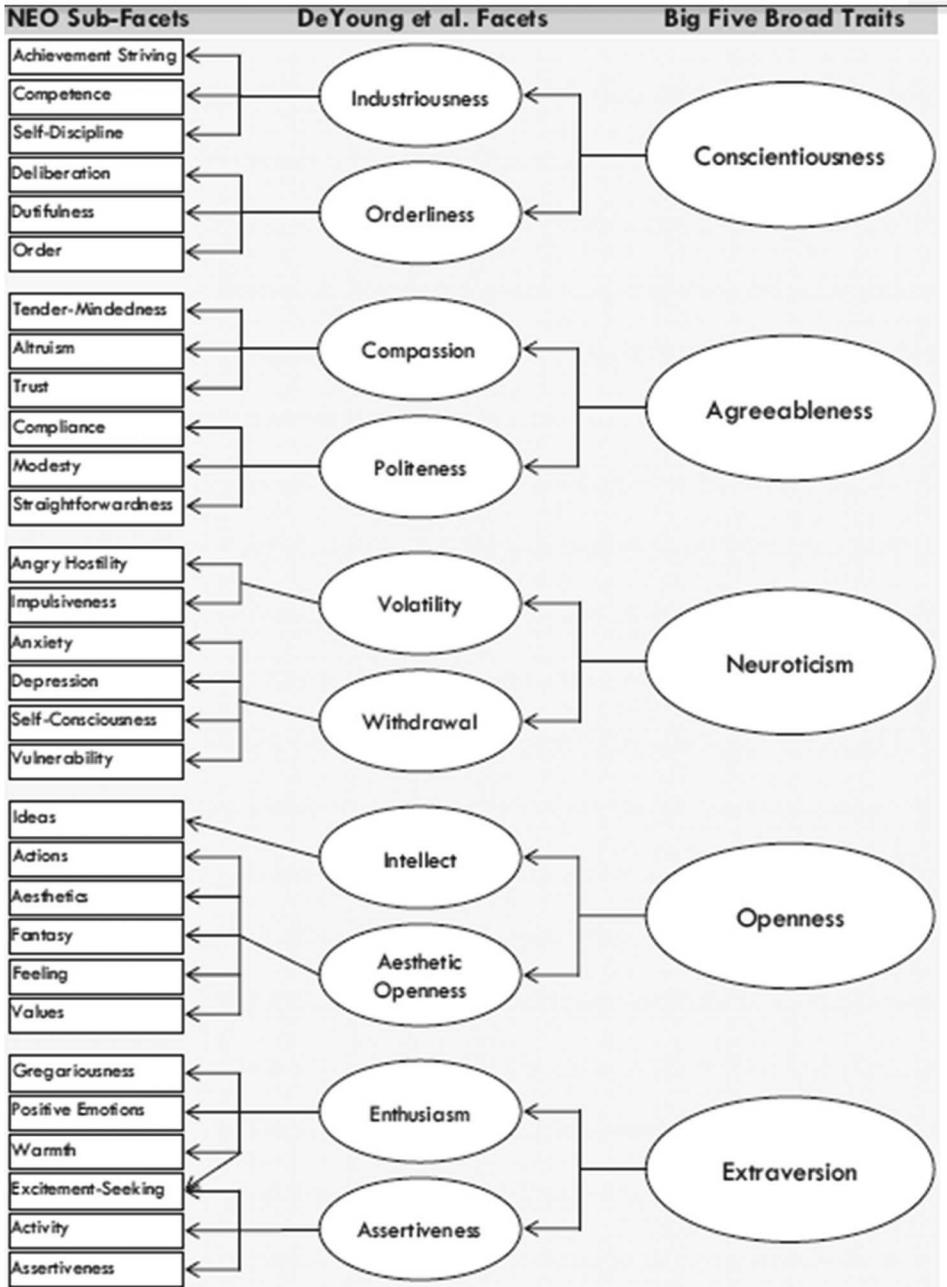


Figure 1. Hierarchical representation of personality from NEO facets (Costa & McCrae, 1992) to DeYoung, Quilty, and Peterson (2007) (Judge et al., 2013, p. 878).

regarding the 10 phenotypic factors developed by DeYoung et al. (2007), Judge et al. (2013) found that 70% excluded zero for overall performance, 90% for task performance, and 80% for contextual performance, meaning that only 30%, 10%, and 20% of the factors, respectively, were not reliable predictors.

CEOs and Working Norms

The impact of CEOs for the financial performance of an organization varies from 14% to 29% (Mackey, 2008; Nohria, Joyce, & Robertson, 2003). As leaders of an organization, CEOs are expected to not only act in the best interests of the organization (Hambrick & Mason, 1984; Winsborough & Sambath, 2013) but also to maintain high performance under stressful circumstances (Denison, 2001). According to the upper echelon theory, organizational outcomes may be partly predicted by assessing managerial background characteristics (Hambrick, 2007; Hambrick & Mason, 1984). Although this theory has amplified our understanding of organizational 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 organizational 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 the FFM.

To the best of our 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 in 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 Hogan Personality Inventory (HPI; Hogan & Hogan, 1992) among 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 organizations among various sectors/functions.

Current Study

The purpose of the current study is 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 is building on that research by directly investigating CEOs with five popular professions (i.e., engineers, lawyers, accountants/finance, human resources–HR–professionals, and marketing professionals). To our knowledge this the first study that directly compares these six professions, tackling a new topic in consulting psychology. That is, we were able to try to replicate the findings using CEOs from different work functions to see if the personality correlates of CEOs were similar. Further, in this study we utilize the more widely used NEO-PI-R as a measure of personality compared to the HPI used in the Winsborough and Sambath (2013) study.

For the first aim of the study, some of our hypotheses for the domain levels will be based on findings from Winsborough and Sambath (2013). First, we expect CEOs will 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 behaviors (Crant, 1995; Pearsall & Ellis, 2006). On the other hand, 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 organization and a leader should be a team player and care about his or her followers (Bono & Judge, 2004), we hypothesize that they will 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) we expect CEOs will 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. Due to the facets that volatility is based on, hostility (Lee & Allen, 2002) and irritability (Felfe & Schyns, 2004) are related to low OCB. Because CEOs need to be calm and perform optimally under stressful situations (Denison, 2001), we hypothesize that CEOs will 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 in regards to conscientiousness (prudence in HPI measurement), other research has found conscientiousness the strongest predictors for job performance (Li et al., 2014; Stewart, 1999). Therefore, we believe that CEOs will have significantly higher scores on conscientiousness than working norms (Hypothesis 3). Industriousness is related to achievement orientating and dependability that links to both task and contextual performance, whereas orderliness is related to cautiousness (Dudley, Orvis, Lebiecki, & Cortina, 2006). Because CEOs are achievement oriented, we hypothesize that they will have higher scores in industriousness (Hypothesis 3a) than working norms. Because orderliness is not related to any form of performance, we did not state any specific hypothesis.

According to Winsborough and Sambath (2013), CEOs do not differ significantly on agreeableness (interpersonal sensitivity in HPI). Therefore, we also do not expect CEOs to significantly differentiate from working norms (Hypothesis 4). Regarding agreeableness phenotypic factors, namely compassion (Hypothesis 4a) and politeness (Hypothesis 4b), we expect CEOs to not significantly differentiate from working norms.

As mentioned above, 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 which is subsumed by openness to experience in the NEO-PI-R) but not to inquisitiveness (another component of openness in the NEO-PI-R). Because the literature does not reveal enough evidence to suggest a relation with job performance and openness to experience and only one of the two scales of HPI that correspond to openness to experience was significant, we hypothesize that CEOs will not differ from the working norms (Hypothesis 5). Regarding the phenotypic factors of openness to experience (intellect, Hypothesis 5a) and (aesthetic, Hypothesis 5b), we also expect 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—we expect that the same domains and phenotypic factors will be differentiated in the same way as in the working norms. We chose these professions because they are some of the most common functions. Our aim is to see if the results replicate across different functions because there is reason to believe there may be important differences, for instance between people who work in the public and private sectors (Furnham, Hyde, & Trickey, 2014). As mentioned above, to our knowledge, this is the first study that directly compares CEOs with other professions.

Method

Participants

The first part of the analysis compared CEOs with working norms. A total of 16,258 (3,873 females, 23.8%) employees working in a broad range of companies in the United Kingdom across a 10-year period participated in the following study. Among those who participated, 8,490 were discarded because of missing data. As a result, the final sample consisted of 7,768 CEOs and working norms (1,549 females, 19.9%), aged between 20 and 67 years ($M = 40.66$, $SD = 7.47$). The sample consisted of African (.4%), Austrian (1.6%), British (78%), Caribbean (.1%), Middle Eastern (.2%),

North American (3.9%), non-United Kingdom Europeans (4.9%), South American (.4%), South East Asian (1.8%), and other (8.7%) ethnic origins.

For the second part of the analysis, using the same original sample as above, we compared CEOs with engineers, lawyers, accountants/finance, HR professionals, and marketing professionals. Including CEOs, a total of 4,263 employees (939 females, 22%), aged between 20 and 67 years ($M = 39.95$, $SD = 7.5$), responded to the NEO-PI-R. The following represents the mean age and standard deviation for each profession: engineers ($M = 41.26$, $SD = 7.9$), lawyers ($M = 36.9$, $SD = 6.3$), accountants ($M = 39.43$, $SD = 7.0$), HR professionals ($M = 39.65$, $SD = 6.97$), marketing professionals ($M = 37.69$, $SD = 6.6$), and CEOs ($M = 45.92$, $SD = 5.8$). The sample consisted of African (.4%), Austrian (1.6%), British (80.2%), Caribbean (.1%), Middle Eastern (.1%), North American (2.8%), non-United Kingdom European (4%), South American (.3%), South East Asian (including India and China, 1.4%), and other (9.1%) ethnic origins.

Measure

The NEO Personality Inventory Revised (NEO-PI-R; Costa & McCrae, 1992) is a 240-item questionnaire designed to measure the 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 min. 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).

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.

Results

CEOs Versus Working Norms

Descriptive statistics of the NEO-PI-R (domains, phenotypic factors, and facets) comparing scores of CEOs with the working norms in the U.K. are presented in Table 1. For each domain, phenotypic factor, and facet, the mean, standard deviation, and Cohen's d was calculated. Cohen's d allows 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, we conducted a series of independent sample T tests.

The results of the T test analysis, in Table 1, showed that there is a significant difference between CEOs and the working norms in four domains of NEO-PI-R: neuroticism $t(7,766) = 6.8$, $p < .001$; extraversion $t(7,766) = -2.61$, $p < .01$; agreeableness $t(7,766) = -2.12$, $p < .05$; and conscientiousness $t(7,766) = -4.47$, $p < .001$. 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) are not statistically significant; however, dutifulness is highly significant, which explains why orderliness became significant as well.

For extraversion, the phenotypic factor enthusiasm is not statistically different. This is 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 is not statistically different. Again, it is not surprising because two out of three items that correspond to politeness are not statistically different (compliance and modesty) and the third facet is not highly significant.

Table 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 (<i>N</i> = 7,630)		CEOs (<i>N</i> = 138)		<i>d</i>	<i>t</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>		
Neuroticism	63.49	19.86	51.91	16.06	.58	6.80***
Volatility	24.54	7.50	21.12	6.75	.46	5.32***
Withdrawal	39.00	15.00	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	9.20	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	-0.12
Assertiveness	62.06	9.71	65.72	8.02	-.38	-4.40***
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	4.40	23.03	3.64	-.43	-4.96***
E4	21.92	4.06	24.03	3.30	-.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	18.50	121.47	18.64	-.06	-0.72
Intellect	20.65	5.25	21.30	5.13	-.12	-1.45
Aesthetic	99.69	15.19	100.17	15.05	-.03	-0.36
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	21.30	5.14	-.12	-1.45
O6	23.72	3.40	24.16	3.13	-.13	-1.49
Agreeableness	119.86	15.69	122.72	14.94	-.18	-2.12*
Compassion	65.46	8.26	67.20	7.83	-.21	-2.45**
Politeness	54.41	9.80	55.56	10.19	-.11	-1.37
A1	22.14	4.13	23.48	3.89	-.32	-3.77***
A2	18.80	4.42	19.69	4.79	-.20	-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	4.50	19.75	4.41	-.16	-1.89
C3	25.12	3.50	26.54	3.24	-.40	-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. All significant values are in bold type.

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

Cohen (1988) reported that values around .2 indicate a small effect size, values around .5 indicate a medium effect size, and values around .8 and above indicate a large effect size. The negative values on Cohen's d correspond to CEOs, whereas the positive values correspond to working norms. There are two small effect sizes on extraversion ($d = -.22$) and agreeableness ($d = -.18$), and a medium effect size on conscientiousness ($d = -.38$) revealing higher scores for CEOs. On the other hand, there is a medium effect showing that working norms have higher scores on neuroticism ($d = .58$). With regards to phenotypic factors, the working norms have 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 (.57 for N6) and the smallest value was found in agreeableness (.02 for A5, indicating almost a nonexistent effect size).

CEOs Versus Engineers, Lawyers, Accountants/Finance, HR Professionals, and Marketing Professionals

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

First, 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, we 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 affect our results. Using Wilks' statistic, there was a significant difference between these groups, $\Lambda = .81$, $F(175, 20938) = 5.2$, $p < .001$. Agreeableness was the only domain that was not statistically significant; however, compassion and politeness were significant. Finally, at the facet level, all but three facet analyses (altruism, compliance, and order) were significant, which means that at least two professions are significantly different in the domains, phenotypic factors, and facets levels of the NEO-PI-R (see Table 2).

Table 2 shows the results of ANCOVAs on each domain, phenotypic factor, and facet of NEO-PI-R. Our interest lies in identifying which professional groups differ from CEOs. Therefore we conducted a MANOVA (see Table 3) using the post hoc test of Hochberg's GT2 because the sample size was not the same among the groups (Field, 2013).

For the domains, CEOs differed from all other professions in neuroticism and conscientiousness, which shows that CEOs have higher scores in emotional stability and self-discipline in comparison with engineers, lawyers, accountants/finance, HR professionals, and marketing professionals. Furthermore, CEOs were found to be more extraverted (i.e., spending more energy directed outward into the social world) and less open to experiences (i.e., looking for and appreciating experiences for their own sake) when compared with engineers, lawyers, and marketing professionals, respectively. Consequently, it appears that among the five domains, engineers, lawyers and marketing professionals differ the most from CEOs, whereas HR professionals and accountants/finance professionals seem to be less differentiated from CEOs.

CEOs differentiate the most from all the five professions in volatility, withdrawal, and industriousness. CEOs have 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. On the other hand, CEOs did not differ significantly with any of the five professions in intellect (e.g., creative achievement) and politeness (e.g., cooperative behavior). Regarding enthusiasm (e.g., positive mood), CEOs had higher scores than engineers but lower scores than marketing professionals. Furthermore, in assertiveness (e.g., proactive behavior) 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

Table 2
Descriptive Statistics of the Group Professions Showing ANCOVAs Results for Each of the NEO-PI-R Domains, the Distinct Phenotypic Factors, and Facets

	CEOs (N = 138)		Engineering (N = 1,705)		Lawyers (N = 536)		Account/Finance (N = 1,195)		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	34.00***
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	10.80	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	8.80	4.47	27.99***
N4	10.03	3.49	12.26	4.47	12.50	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	4.50	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	17.00	122.85	18.50	123.17	19.86	128.14	18.47	131.90	16.53	135.27	16.56	39.33***
Enthusiasm	85.59	13.73	81.92	13.86	82.79	13.93	85.43	13.80	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	17.60	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	23.90	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	21.30	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	97.50	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	22.30	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	4.10	19.85	4.15	20.91	3.96	20.77	3.95	14.75***

Table 2 (continued)

NEO-PI-R	CEOs (N = 138)		Engineering (N = 1,705)		Lawyers (N = 536)		Account/Finance (N = 1,195)		HR (N = 391)		Marketing (N = 298)		F level
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
O5	21.30	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***
Agreeableness	122.72	14.94	120.08	16.10	120.03	15.28	119.10	16.60	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	3.60*
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	0.80
A4	18.33	3.79	18.22	4.086	18.10	3.83	17.96	4.08	18.55	3.669	18.02	3.98	1.04
A5	17.55	4.75	17.80	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	8.60	70.19	9.50	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	24.30	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	3.40	24.60	3.58	25.54	3.36	24.37	3.88	25.05	3.45	12.02***
C4	25.22	3.57	22.60	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 = 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. All significant values are in bold type.

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

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Table 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	<i>d</i>	
Neuroticism	CEOs	Engineering	-15.14***	1.78	-.77
		Lawyers	-17.84***	1.92	-.85
		Accounting/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	0.74	1.81	.04

Table 3 (continued)

NEO = PI-R	Professions	Mean difference	Std. error	<i>d</i>	
Enthusiasm	CEOs	Marketing	-2.62	1.88	-.16
		Engineering	3.66*	1.19	.26
		Lawyers	2.79	1.29	.20
		Accounting/Finance	.15	1.21	.01
		HR	-2.77	1.33	-.22
Assertiveness	CEOs	Marketing	-4.66*	1.39	-.37
		Engineering	6.30***	.85	.65
		Lawyers	7.40***	.92	.76
		Accounting/Finance	3.98***	.87	.41
		HR	3.25**	.95	.38
E1	CEOs	Marketing	1.01	.99	.12
		Marketing	-2.62	1.89	-.16
		Engineering	.83	.36	.20
		Lawyers	.01	.39	0.00
		Accounting/Finance	-.22	.36	-.05
E2	CEOs	HR	-1.36*	.40	-.34
		Marketing	-1.54**	.42	-.40
		Engineering	2.03***	.41	.42
		Lawyers	1.66*	.45	.37
		Accounting/Finance	.82	.42	.55
E3	CEOs	HR	0.00	.46	0.00
		Marketing	-.61	.48	-.13
		Engineering	2.86***	.39	.65
		Lawyers	3.44***	.42	.77
		Accounting/Finance	2.08***	.40	.46
E4	CEOs	HR	2.04***	.44	.49
		Marketing	1.00	.46	.25
		Engineering	3.28***	.36	.80
		Lawyers	2.90***	.39	.72
		Accounting/Finance	2.25***	.36	.56
E5	CEOs	HR	1.48**	.40	.39
		Marketing	1.01	.42	.28
		Engineering	.16	.39	.03
		Lawyers	1.07	.43	.23
		Accounting/Finance	-.35	.40	-.07
E6	CEOs	HR	-.27	.44	-.06
		Marketing	-.99	.46	-.23
		Engineering	.65	.41	.14
		Lawyers	.06	.44	.01
		Accounting/Finance	-.09	.42	-.02
Openness	CEOs	HR	-1.14	.46	-.26
		Marketing	-1.53*	.48	-.35
		Engineering	4.12	1.61	.22
		Lawyers	2.25	1.74	.13
		Accounting/Finance	3.63	1.63	.19
Intellect	CEOs	HR	-3.87	1.80	-.21
		Marketing	-5.59*	1.87	-.31
		Engineering	.68	.46	.13
		Lawyers	1.43	.50	.27
		Accounting/Finance	1.00	.47	.18

(table continues)

Table 3 (continued)

NEO = PI-R	Professions	Mean difference	Std. error	<i>d</i>	
Aesthetic	CEOs	HR	.79	.52	.15
		Marketing	-.68	.54	-.13
		Engineering	3.40	1.32	.22
		Lawyers	.79	1.42	.06
		Accounting/Finance	2.67	1.34	.17
O1	CEOs	HR	-4.69*	1.47	-.32
		Marketing	-4.97*	1.53	-.34
		Engineering	.14	.42	.03
		Lawyers	-.02	.46	0.00
		Accounting/Finance	.23	.43	.05
O2	CEOs	HR	-1.47*	.47	-.30
		Marketing	-1.92**	.49	-.40
		Engineering	1.18	.52	.26
		Lawyers	.41	.56	.07
		Accounting/Finance	1.86**	.52	.30
O3	CEOs	HR	-.31	.58	-.05
		Marketing	-.53	.60	-.09
		Engineering	.09	.37	.02
		Lawyers	-1.13	.40	-.26
		Accounting/Finance	-.23	.38	-.05
O4	CEOs	HR	-1.95***	.42	-.47
		Marketing	-1.75**	.43	-.41
		Engineering	.89	.36	.21
		Lawyers	1.23*	.39	.30
		Accounting/Finance	.29	.37	.07
O5	CEOs	HR	-.76	.41	-.19
		Marketing	-.62	.42	-.15
		Engineering	.68	.46	.13
		Lawyers	1.43	.50	.27
		Accounting/Finance	.99	.47	.18
O6	CEOs	HR	.80	.52	.15
		Marketing	-.69	.54	-.13
		Engineering	1.10**	.30	.31
		Lawyers	.31	.33	.09
		Accounting/Finance	.51	.31	.15
Agreeableness	CEOs	HR	-.20	.34	-.06
		Marketing	-.15	.35	-.05
		Engineering	2.64	1.40	.16
		Lawyers	2.68	1.51	.18
		Accounting/Finance	3.62	1.43	.22
Compassion	CEOs	HR	.45	1.57	.03
		Marketing	1.75	1.63	.12
		Engineering	2.28*	.73	.27
		Lawyers	2.56*	.79	.31
		Accounting/Finance	2.20*	.75	.27
Politeness	CEOs	HR	.12	.82	.01
		Marketing	.04	.85	.01
		Engineering	.43	.87	.04
		Lawyers	.20	.94	.02
		Accounting/Finance	1.22	.88	.12
		HR	.38	.97	.04

Table 3 (continued)

NEO = PI-R		Professions	Mean difference	Std. error	<i>d</i>
A1	CEOs	Marketing	1.82	1.01	.19
		Engineering	1.80***	.37	.44
		Lawyers	2.59***	.39	.62
		Accounting/Finance	1.70***	.37	.40
A2	CEOs	HR	.47	.41	.12
		Marketing	.39	.43	.10
		Engineering	.58	.39	.12
		Lawyers	.60	.42	.14
A3	CEOs	Accounting/Finance	.66	.40	.15
		HR	1.11	.44	.26
		Marketing	1.13	.46	.25
		Engineering	−.04	.31	−.01
A4	CEOs	Lawyers	−.49	.33	−.13
		Accounting/Finance	−.38	.31	−.10
		HR	−.63	.34	−.18
		Marketing	−.71	.36	−.21
A5	CEOs	Engineering	.11	.35	.02
		Lawyers	.23	.38	.06
		Accounting/Finance	.36	.36	.09
		HR	−.22	.40	−.06
A6	CEOs	Marketing	.31	.41	.08
		Engineering	−.25	.41	−.05
		Lawyers	−.63	.44	−.13
		Accounting/Finance	.20	.42	.04
Conscientiousness	CEOs	HR	−.50	.46	−.11
		Marketing	.37	.48	.08
		Engineering	.52	.31	.14
		Lawyers	.47	.33	.13
Industriousness	CEOs	Accounting/Finance	.96*	.31	.29
		HR	.29	.34	.08
		Marketing	.36	.35	.11
		Engineering	8.19***	1.52	.48
Orderliness	CEOs	Lawyers	8.84***	1.64	.50
		Accounting/Finance	5.05*	1.55	.30
		HR	9.33***	1.71	.53
		Marketing	6.55*	1.77	.39
C1	CEOs	Engineering	5.76***	.84	.61
		Lawyers	6.13***	.90	.62
		Accounting/Finance	3.23**	.85	.35
		HR	4.70***	.94	.50
C1	CEOs	Marketing	3.22*	.97	.35
		Engineering	2.43	.84	.25
		Lawyers	2.71*	.91	.29
		Accounting/Finance	1.81	.86	.19
C1	CEOs	HR	4.62***	.95	.46
		Marketing	3.33**	.98	.35
		Engineering	1.47***	.28	.46
		Lawyers	1.60***	.31	.47
C1	CEOs	Accounting/Finance	.80	.29	.25
		HR	1.14*	.32	.36

(table continues)

Table 3 (continued)

NEO = PI-R	Professions	Mean difference	Std. error	<i>d</i>	
C2	CEOs	Marketing	.91	.33	.28
		Engineering	.88	.40	.19
		Lawyers	.57	.43	.12
		Accounting/Finance	.70	.41	.16
		HR	.99	.45	.21
C3	CEOs	Marketing	1.13	.47	.24
		Engineering	1.52***	.31	.45
		Lawyers	1.93***	.33	.55
		Accounting/Finance	.99	.31	.30
		HR	2.17***	.34	.58
C4	CEOs	Marketing	1.49***	.36	.44
		Engineering	2.61*	.35	.65
		Lawyers	2.72***	.38	.65
		Accounting/Finance	1.51***	.36	.38
		HR	1.95***	.40	.50
C5	CEOs	Marketing	1.13	.41	.31
		Engineering	1.68***	.36	.40
		Lawyers	1.80***	.39	.44
		Accounting/Finance	.93	.36	.24
		HR	1.62**	.40	.40
C6	CEOs	Marketing	1.18	.42	.31
		Engineering	.02	.39	0.00
		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. All significant values are in bold type.
* $p < .05$. ** $p < .01$. *** $p < .001$.

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

It is worth noting that in all facets of neuroticism (except angry-hostility with HR professionals, and self-conscientiousness with marketing professionals), CEOs had significantly lower scores in comparison to all five professions. On the other hand, CEOs did not differ from any of the five professions in excitement-seeking, ideas, and 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 3 the Cohen's *d* values are also shown. The negative values indicate higher scores for the engineers, lawyers, accountants/finance, HR professionals, and marketing professionals, whereas the positive values indicate higher scores for CEOs. In neuroticism, we observed the largest effect size ($d = .88$) for withdrawal. More specifically, lawyers had higher scores than CEOs. Furthermore, there are medium to large effect sizes showing that accountants/finance, marketing professionals, HR professionals, engineers, and lawyers have higher scores than CEOs. There is a small effect size (accountants/finance) and two medium effect sizes (engineers and lawyers), showing that CEOs have higher scores in extraversion. There was also a small effect size showing that marketing professionals have higher scores in extraversion than CEOs. Moreover, in openness to experience,

there are four small effect sizes, showing that CEOs have higher scores than engineers and accountants/finance, and two showing HR and marketing professionals have higher scores than CEOs. There were two small effect sizes (one in agreeableness and one in conscientiousness), revealing that CEOs have higher scores than accountants/finance. Finally, there are four medium effect sizes (marketing and HR professionals, engineers, and lawyers), showing that the CEOs have higher scores in conscientiousness.

Discussion

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

CEOs and Working Norms

First, we confirmed that CEOs have higher scores on extraversion (Hypothesis 1) and assertiveness (Hypothesis 1a) in comparison with working norms. We did not, however, confirm that CEOs have higher scores in enthusiasm (Hypothesis 1b). Because CEOs have higher scores in extraversion and assertiveness, team working, proactive behavior, and persuading comes more naturally compared with working norms. CEOs are considered leaders of an organization; therefore, it is logical that they are more extraverted to better engage with their employees. The nondifferentiation between CEOs and working norms in behaviors with regards to enthusiasm may be explained by its link to contextual performance (Christian, Garza & Slaughter, 2011), prosocial behavior (George, 1991), and OCB (Kaplan et al., 2009).

We also confirmed all of our hypotheses regarding neuroticism (Hypotheses 2, 2a, and 2b) and conscientiousness (Hypotheses 3 and 3a). Compared with working norms, CEOs have lower scores in neuroticism and are less likely to experience negative emotions (anxiety, anger, depression, shyness) and be susceptible to stress. Furthermore, CEOs have higher scores in conscientiousness, with behaviors such as self-discipline, believing in their own self-efficacy, emphasizing the importance of moral obligations, and the need for personal achievement that come more naturally to them. We did not state any hypotheses regarding orderliness because it is not linked to contextual or task performance (Judge et al., 2013); however, we 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, we did not expect to find any significant differences between CEOs and working norms for agreeableness (Hypothesis 4). However, we found CEOs did have significantly higher scores. A possible explanation may lie in the findings of Judge and Bono (2000) that have positively linked agreeableness with transformational leadership. We 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 have higher scores in compassion, behaviors that are associated with leadership are easier for them than the working norms. According to Judge et al. (2013), it seems 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 (learning in HPI), in our study, as expected, CEOs did not differentiate (Hypotheses 5, 5a, and 5b). The only variable that differentiated statistically was CEOs lower scores in feelings. Because CEOs have lower scores in feelings, sharing their inner feelings

and emotions is more difficult than for working norms. Due 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 is 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 our current study.

CEOs and Engineers, Lawyers, Accountants/Finance, HR Professionals, and Marketing Professionals

For the second aim of our study, we found CEOs had significantly lower scores in openness to experience than marketing professionals. Furthermore, marketing and HR professionals have 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 behaviors and attitudes among the organization (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 organization, 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, we do not imply that engineers, lawyers, accountants/finance, HR professionals, marketing professionals, and 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.

According to Le et al., (2011) very low scores in neuroticism (i.e., high scores in emotional stability) are not necessarily beneficial because emotional stability has a curvilinear relationship with job performance. As the authors noted: “. . . however, higher levels of Emotional Stability may no longer be helpful, as the effect on task performance via the self-regulation process and attention resource becomes saturated” (p.116). Individuals with very high levels of emotional stability and low levels of complexity in task performance may commit CWBs. Wille, DeFruyt, and DeClerq (2013) argued that neuroticism is positively associated with personality disorders such as schizotypal, borderline, and avoidant. Schizotypal personality disorder maps on the imaginative scale of the Hogan Development Survey (HDS; Hogan & Hogan, 2007) and is a positive predictor of managerial performance (Wille, DeFruyt, & DeClerq, 2013). According to *DSM-IV* (where the above articles have based their research of schizotypal personality disorder), some of the most common characteristics of an individual with schizotypal personality disorder are: odd beliefs and thinking, and eccentric or peculiar behavior or speech.

For conscientiousness and industriousness, CEOs have 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 is not surprising that CEOs have 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 differ 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 organization.

Regarding extraversion, CEOs had higher scores than engineers and lawyers. For the engineers, an explanation of this outcome might lie with the attraction-selection-attrition (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 have 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 (Munteer, 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. On the other hand, 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 score 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. However, personality traits are not the only factors that may lead an individual to engage in a specific behavior within an organization. Many theories such as trait activation theory (Tett & Burnett, 2003) and cognitive-affective personality system (CAPS; Mischel & Shoda, 1995) argue that the behavior is a product of personality and the situation. More specifically, CAPS theory argues that the most important factor that influences behavior is the situation itself (Mischel & Shoda, 1995). Another factor that influences behavior and personality is age. 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 hard that our results were influenced by it.

Implications

To our knowledge, this is the first study that directly examined CEOs with other professions. Coaches and HR staff may benefit from our findings by gaining a better understanding of the personality characteristics found in CEOs, engineers, lawyers, accountants/finance, HR professionals, and marketing professionals. Furthermore, it will also help CEOs because they do not receive enough feedback or constructive criticism (Dotlich & Cairo, 2003; Winsborough & Sambath, 2013).

These findings also have implications for executive selection and development. First, our results do provide a personality profile of typical CEOs, which may allow consultants to assess potential candidates for executive roles. Second, the results do suggest 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) suggest 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 equally, 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 suggest that CEOs in some functions may cause more friction with other managers as their preferences and perceptions are more different from theirs. It could also mean that CEOs in some functions require more coaching and development than CEOs in others to fit the role.

Limitations and Future Research

A major limitation of this study is that it is 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, this sample was cross-sectional and not a preferred longitudinal sample. As a result, we cannot 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, we 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. Lastly, we were not aware of the cultures of the organizations and whether this enhances teamwork or individualism. Different working environments may lead to different behaviors despite the personality traits of an individual (Mischel & Shoda, 1995).

Another clear limitation of the study is 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 favorable impression. However, if indeed some dissimulation did occur, there is no reason to believe the process would occur differently in CEOs compared with others. Moreover, this study compared mean differences between the job functions; however, no metric performance is available for any of the groups in order to discern if the personality profiles found at different job levels actually differentiate effectiveness. Therefore, this study should not necessarily be generalized to all working environments because these findings are based on mean score differences. Mean score differences do not necessarily predict which personality traits are essential in order to be promoted. However, in this study 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. This was a convenience sample of CEOs and we do 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 organization. Moreover, collecting observational data (multisource data) or behavioral 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.

It might be beneficial to collect data to determine which "bright sides" of personality are desirable among a wide range of organizational cultures. We encourage future research to use alternative personality instruments to confirm the various personality traits that emerge from CEOs. Finally, future research could investigate the dark side of personality among a sample of CEOs, engineers, lawyers, accountants/financial, HR professionals, and marketing professionals. Examining data on bright and dark sides of personality will help us detect who is capable of becoming a "top" leader in an organization and who is likely to derail.

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