The Relationship between Personality and Job Performance in Sales:

A Replication of Past Research and an Extension to a Swedish Context

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THE RELATIONSHIP BETWEEN PERSONALITY AND JOB PERFORMANCE IN SALES

This study examined the relationship between personality dimensions and supervisory ratings of job performance, in a sales context in Sweden. A sample of 34 telesales workers, employed at two major telecom companies, completed the NEO PI-3 (McCrae & Costa, 2010). As hypothesized, it was found that Extroversion, Conscientiousness, and Neuroticism correlated moderately with job performance. In line with past research, this suggests that individuals, who display high levels of Extroversion and Conscientiousness, as well as low levels of Neuroticism, perform better in sales related occupations. Unlike hypothesized, no correlation was found between job performance and Agreeableness and Openness to Experience. Additional computations indicated the importance of specific sub dimensions of Extroversion and Conscientiousness in respect to job performance. Practical implications in respect to recruitment and directions of future research are discussed.

It is critically important for organizations today to recruit high performing employees. One big question that organizations may find hard to answer is how to separate individuals who will perform well from those who will not. The answer may to some extent relate to the type of personality that one exhibit. Discussions that concern personality as a valid predictor of job performance have flourished ever since Barrick and Mount (1991) conducted a substantial meta-analysis on the same topic. The commercial aspect that comes along with personality testing has been one factor that has contributed to a more specialized focus in the field of personality psychology. However, ever since organizations started to incorporate personality testing in their recruitment processes there has been reasonable doubt in terms of their true usefulness (Giles, Burch & Anderson, 2008). To date, the major objective in most research studies have been to investigate the potential relationship between the famous Five-Factor Model (FFM) and overall job performance. More specifically, researchers have been motivated to discover the factual relationship between broad personality traits and their direct impact on job performance. Moreover, research suggests that personality traits as predictor variables can be generalized across all occupations and work tasks (Barrick & Mount, 1991). If true, it is interesting to further investigate the FFM and its association to job performance in specific occupations. One particularly interesting occupation is sales. It may be that some personality traits, more than others, are likely to be associated with successful performance, in sales related occupations. The value of realizing which personality traits that characterize top performers in sales may be beneficial to the extent that organizations may be able to identify, early in a recruitment process, those individuals who are more likely to achieve success. This paper seeks to advance and replicate previous work regarding personality and job performance by examining the relationship between the FFM and job performance in a Swedish business setting. Specifically, the purpose of this paper is to examine the relationship between Neuroticism, Extroversion, Openness to Experience, Agreeableness, Conscientiousness, and supervisory ratings of job performance, in a sales context. In order to get a deeper understanding of predictor variables, appropriate sub dimensions of Conscientiousness and Extroversion, will be examined.
**The Significance of Sales**

According to the Bureau of Labour Statistics BLS (2010) sales and related occupations are the second largest occupational group accounting for approximately 10% of the total number of employments in the US (US Department of Labour, 2010). Based on statistical data from BLS, organizations in the USA employ roughly 14 million workers within the occupation of sales (Farr & Tippins, 2010, as cited in US Department of Labour, 2007). More importantly, Farr and Tippins (2010) have addressed that sales occupations represent a significant portion of the total workforce in the world and that the success of businesses solely depend on their sales workers’ job performance.

**Competencies required in Sales**

O*NET scientific databases ([onetonline.org](http://onetonline.org)) has through extensive scientific research gathered and categorized thousands of work related competencies which have been found to be related to successful performance in specific occupations. In line with O*NET, Farr and Trippins (2010) acknowledge telesales competencies to knowledge, skills, abilities, and other characteristics (i.e., KSAOs). More specifically, it is of great importance to have the knowledge to execute well in a sales job in terms of promoting and selling a company’s products and services to customers, clients or businesses. This accomplishment requires knowledge in fundamental sales- and marketing principles. Required skills for sales occupations include being able to persuade others to change their minds, being able to communicate effectively, listen actively, actively look for ways to help others, and to manage one’s own time and the time of other people. Furthermore, it is important to have the ability to communicate information and to speak clearly to others so that they can understand and comprehend the intended message, and to comprehend communications from others by listening and understanding. Last, but not least, other characteristics refers to the importance of work styles such as being dependable, reliable, achievement oriented, and detailed oriented. Furthermore, flexibility, to maintain composure and being able to deal with high-stress situations are defined under “other characteristics” as well.

**Job Performance**

It may be fairly difficult to point out the central characteristics of job performance. This may be because researchers seem not to agree in terms of its exact definition. Some researchers suggest that job performance is a multi-factor construct (Boshoff & Arnolds, 1995). In such a construct, some factors can indicate how well individuals perform at their work tasks and how well they manage to master problem solving in specific work related situations. Other factors can indicate how well individuals use their resources, to what extent they utilize time and energy at the task at hand, and how well they take actions towards completing their work tasks (Boshoff & Arnolds, 1995). Campbell, McHenry, and Wise (1990) debated that job performance is based on an eight factor model which covers all sub dimensions of job performance in all types of occupations. The same researchers (1990) distinguished between job performance and work results because the results are always influenced by other factors than job performance alone. Finally, McCloy, Campbell, and Cudeck (1994) and Viswesvaran and Ones (2000) indicated that job performance refers to how resourcefully individuals take actions and contribute with behaviors that are in line with an organization’s objectives. As the present study will measure job performance subjectively, through supervisory ratings, the definition of job performance, throughout, will refer to measurable behaviors and
actions that employees engage in and contribute to that are expected to relate to an organization’s objectives, achieved or not. Objectives in sales work can be expected to relate to achievable sales targets and achievable budgets.

The Five-Factor Model and Job Performance

With regard to personality traits, the most widely accepted structure of personality, among scientists and researchers, is the FFM of personality (Goldberg, 1993). According to Costa and McCrae (1992) the structure of the FFM is based on five broad main factors, also known as the “Big Five” personality dimensions (as cited by Goldberg, 1990), with each factor being built up by groups of some narrow intercorrelated traits, which are commonly referred to as facets (or sub dimensions). The five main dimensions of personality, included in the FFM, are evidently, referred to as Neuroticism, Extroversion, Openness to Experience, Agreeableness, and Conscientiousness (Costa & McCrae, 1992; Costa & McCrae, 1995; Digman, 1990; Goldberg, 1993; McCrae & Costa, 1997). Although, cognitive ability (GMA) previously has been found to be the most reliable and valid predictor of job performance across occupations (r=.53; as cited in Schmidt & Hunter, 1998), various studies and meta-analyses have indicated that human personality traits, particularly those included in the Five-Factor Model (FFM), also are highly related to job performance (Barrick & Mount, 1991; Barrick, Mount, & Judge, 2001; Rothmann & Coetzter, 2003; Salgado, 1997; Tett, Jackson, & Rothstein, 1991; Vinchur, Schippmann, Sweizer & Roth, 1998). Tett et al. (1991) showed that there is a relationship between personality and job performance, as a significant and fairly acceptable correlation coefficient was reported (r=.24). Furthermore, more recent research support previous findings as Dudley, Orvis, Lebiecki and Cortina (2006) have confirmed that personality traits are capable of predicting behavioral outcomes at work. Although most reported studies on the present topic have been conducted in the USA, Salgado (1997) has replicated results from a large scale sample in the European community. This indicates that the findings are universal and that it is possible to generalize the results of such studies across cultures. This idea is further supported by previous research (McCrae & Costa, 1997; Saucier & Goldberg, 1998). The relationship between personality traits and job performance has been studied to a great extent and the field has flourished to become a hot topic under investigation, ever since Barrick and Mount (1991) forced extraordinary attention to it. The following sections will define the personality dimensions included in the FFM as well as cover ground on what past research specifically has found on each of them.

Neuroticism. Neuroticism, as opposed to Emotional stability, refers to individuals who tend to be shy, angry, insecure, depressed, vulnerable and anxious (Costa & McCrae, 1992). In contrast, individuals who are emotionally stable tend to be secure and calm, and therefore more likely to control their impulses and cope with stress. The six sub dimensions of Neuroticism include Anxiety, Angry Hostility, Depression, Self-consciousness, Impulsiveness, and Vulnerability (Costa & McCrae, 1992). Past research indicates that Emotional stability predicts job performance (Rothmann & Coetzter, 2003). Besides Conscientiousness (r=.23), Emotional stability (r=.12) is considered to be a reliable and valid predictor of job performance across occupations and work tasks (Barrick et al., 2001). However, findings in the same study revealed that Emotional stability correlated strongest with teamwork (r=.22). Furthermore, investigating the European community, Salgado (1997) found support that, besides Conscientiousness, Emotional stability is a valid predictor of all types of job performance, measured across occupations. Even if this personality trait today is
considered a valid predictor for job performance it is worth mentioning that Barrick and Mount (1991) reported a quite questionable correlation coefficient ($r = .08$). As the present study focuses on identifying predictors of supervisory ratings of job performance, in a sales context, it is important to test the potential contribution of Neuroticism. It seems reasonable to believe that neurotic sales workers will perform worse compared to sales workers who are less neurotic. Therefore, the following hypothesis is generated:

**Hypothesis 1:**

*Neuroticism will correlate negatively with supervisory ratings of job performance*

**Extroversion.** Extroversion refers to the quantity and intensity of energy directed outwards into the social world (Costa & McCrae, 1992). This dimension of personality also refers to the quantity and intensity of preferred interpersonal interactions, activity level, need for stimulation, and capacity for joy. Individuals who are high in Extroversion tend to be sociable, active, talkative, person oriented, optimistic, fun, loving, and affectionate. Individuals who are low in Extroversion tend to show traits of shyness; hence they tend to prefer spending time on their own rather than being drawn to an eventful scene with large groups of people. The six sub dimensions included in this broad dimension of personality refers to Warmth, Gregariousness, Assertiveness, Activity, Excitemet seeking, and Positive emotions (Costa & McCrae, 1992). In agreement with the above, research suggests that extroverted individuals are likely to excel in occupations that require individuals to socialize and be highly interactive with other individuals (Barrick & Mount, 1991). The same researchers concluded that Extroversion predicts not only overall job performance, but specifically sales performance as well. These findings have been replicated. In evidence, researchers have reported that individuals with high levels of Extroversion tend to perform well at supervisory-, police-, and sales related positions (Salgado, 1997). It should be noted, that Barrick et al. (2001) found no significant relationship between Extroversion and overall job performance, however they extended Salgado’s findings by reporting that Extroversion predicts managerial performance ($r = .21$) as well as teamwork ($r = .16$). Surprisingly, no significance was found for sales performance. Additionally, Vinchur et al. (1998) conducted a meta-analysis where findings indicated that Extroversion is a solid predictor of supervisory ratings of sales performance and objective data (sales volume) of sales performance. In light of this information, reoccurring findings in the past have shown that Extroversion has a positive relationship with job performance. However, past research findings, all in all, hint at the possibility that extroversion is an important personality trait to consider only for some specific occupations (Barrick & Mount, 1991; Salgado, 1997). On the basis of what has been identified in the literature, it is nonetheless reasonable to believe that extroverted sales workers, rather than introverted ones, are likely to perform better in sales related positions, particularly as such work frequently requires one to be highly sociable with customers. The following hypothesis is tested:

**Hypothesis 2:**

A) *Extroversion will correlate positively with supervisory ratings of job performance*

As it seems reasonable to think that Extroversion will correlate significantly with job performance in the context of sales work, it is interesting to also investigate the potential relationship between job performance and specific sub dimensions of Extroversion.
Assertiveness and Activity are two such sub dimensions. Individuals who score high in Activity tend to have fast-paced and busy lives whereas low scorers are considered more relaxed and do not have a need to do things in a high tempo. Assertiveness refers to individuals who are forceful and speak clearly and without hesitation (Costa & McCrae, 1992). In light of this information, these traits are expected to be substantial indicators of successful performance in sales occupations. Consequently, the following hypotheses are tested:

B) **Assertiveness will correlate positively with supervisory ratings of job performance**

C) **Activity will correlate positively with supervisory ratings of job performance**

**Openness to Experience.** Openness to Experience refers to individuals who tend to be creative, imaginative, and curious to experience new things amongst other things (Costa & McCrae, 1992). Also, individuals scoring high on this trait are likely to have positive attitudes towards their own ideas and experiences in life. In contrast, individuals who score low tend not to prefer fixed routines. More specifically, the dimension relates to an individual’s emotional processes. Those who score high may experience deeper emotional states meaning they might experience emotions of both happiness and unhappiness to a larger extent compared to low scorers. The six sub dimensions of Openness to Experience include Fantasy, Aesthetics, Feelings, Actions, Ideas, and Values (Costa & McCrae, 1992). Previous research regarding this dimension is not in agreement to what extent it actually predicts job performance. Barrick et al. (2001) found no significant relationship between Openness and overall job performance. However, findings indicated that Openness predicted success in specific occupations and specific work tasks. As indicated by Barrick and Mount (1991) Openness was found to be a valid predictor for training proficiency. For overall job performance the correlation coefficient was rather weak (r=.11). In perspective, Salgado (1997) reported that Openness was significantly related to “police and skilled labor performance”. As sales on the phone may be characterized by monotone work processes and fixed routines it is reasonable to believe that sales workers who score high on Openness will perform better, compared to sales workers who score low on Openness.

**Hypothesis 3:**

Openness to Experience will correlate positively with supervisory ratings of job performance

**Agreeableness.** Agreeableness refers to individuals who tend to be trusting, helpful towards others, forgiving, soft hearted, and compassionate (Costa & McCrae, 1992). Quite contrary, individuals who are low in Agreeableness tend to be egocentric, pessimistic, suspicious, distrustful, and they also lack the desire to cooperate with others. The six sub dimensions included in this broad dimension of personality refer to Trust, Straightforwardness, Altruism, Compliance, Modesty, and Tender Mindedness (Costa & McCrae, 1992). Past research has found no correlation between Agreeableness and overall job performance (Barrick and Mount (1991). However, Barrick et al. (2001) found that the dimension predicts teamwork (r=.34) and that the dimension respectively can predict success in specific occupations. This indicates that, depending on the type of occupation, Agreeableness may still be conceptualized as a contributing factor to job performance. However, in respect to supervisory ratings of job performance in the context of sales work, it is reasonable to believe that job performance of agreeable sales workers will be rated lower.
compared to sales workers who tend to be, to some extent, egocentric. This may be due to the fact that the sales methodology covered in the present study requires the employees to focus on individualistic competition rather than on teaming with others. Consequently, in order for the sales representatives to reach their sales targets they have to focus on making as many phone calls and sales as possible. Based on these arguments the following is tested:

**Hypothesis 4:**

Agreeableness will correlate negatively with supervisory ratings of job performance

**Conscientiousness.** Conscientiousness refers to individuals who exhibit traits of self-control by means of being capable of planning, organizing, working strategically towards goals, and carrying out tasks (Costa & McCrae, 1992; Barrick & Mount, 1998). Conscientiousness is also the trait that is associated with diligence, self-discipline, punctuality, and general competence (Costa & McCrae, 1992; McCrae & Costa, 2003). The trait characterizes a person who is achievement oriented. On the negative side, high Conscientiousness may lead to annoying fastidiousness, compulsive neatness or workaholic behavior. Low scorers may not necessarily lack moral principles, but they are less thorough in applying them. The six sub dimensions included in this broad dimension of personality refer to Competence, Order, Dutifulness, Achievement-striving, Self-discipline, and Deliberation (Costa & McCrae, 1992). By summarizing large amounts of data from studies conducted from 1952 to 1988, Mount and Barrick (1991), in their large scale meta-analysis, investigated the relationship between the FFM and job performance across five occupational groups (i.e., professionals, police, managers, sales, and skilled/semiskilled). By utilizing both subjective- and objective measures of performance, they were hoping to find a strong and significant association between at least one personality dimension included in the FFM, and job performance across all occupations. The results indicated that their hypothesis was supported. In fact, Conscientiousness correlated positively ($r = .22$) with all five occupational groups, in respect to successful job performance. More recently, Mount and Barrick (1998, p. 851) reestablished their own conclusions from 1991 by stating: “individuals who are dependable, persistent, goal directed, and organized tend to be higher performers on virtually any job; viewed negatively, those who are careless, irresponsible, low achievement striving, and impulsive tend to be lower performers on virtually any job”. In line with the results of Barrick and Mount (1991), subsequent research findings support the notion that expresses that Conscientiousness is the personality dimension that correlates the strongest, out of all personality dimensions, with overall job performance, across occupations (Barrick et al., 2001; Hurtz & Donovan, 2000; Mount & Barrick, 1995; Ones & Viswesvaran, 1996; Salgado, 1997; Vinchur et al., 1998). In respect to the present study, these findings suggest that sales workers who will rate themselves as high in conscientiousness are also those who will receive high supervisory ratings of job performance. For that reason, the following hypothesis is tested:

**Hypothesis 5:**

A) Conscientiousness will correlate positively with supervisory ratings of job performance

Quite comparable to the correlation coefficients, in that of Barrick’s and Mount’s (1991) reported findings, Vinchur et al (1998) also found Conscientiousness to correlate positively with job performance. Vinchur et al (1998) further investigated the relationship between job
performance and sub dimensions of Conscientiousness. They found that the sub dimension Achievement striving significantly correlated with job performance. In fact, Achievement striving \((r=.25)\) correlated stronger with job performance than the broader factor \((r=.21)\). In light of this information, it is interesting to further examine how Achievement striving may relate to job performance in the present study. In order to extend the investigation of sub dimensions, Self-discipline will also be looked at. Achievement striving refers to individuals who work hard to achieve their goals, a trait that is expected to correlate positively with supervisory ratings of job performance in the present study. This reasoning becomes evident as sales workers focus, more or less, on reaching fixed goals in terms of budget and sales targets. Self-discipline refers to an individual’s ability to begin tasks and carry them through to completion, despite boredom or other distractions (Costa & McCrae, 1992). This trait along with Achievement striving is expected to be associated with successful job performance in the context of sales. Thus, the following hypotheses are tested:

- **B** Achievement striving will correlate positively with supervisory ratings of job performance
- **C** Self-discipline will correlate positively with supervisory ratings of job performance

**The Present Study**

Essentially, past research indicates that the FFM predicts overall job performance. Neuroticism has been found to correlate with teamwork, but also with overall job performance across occupations and work tasks. Furthermore, findings suggest that Neuroticism, Conscientiousness and Extroversion are perhaps the most reliable and valid predictor variables of job performance. Similarly, this relationship may also be generalized to the occupation of sales. Sub dimensions, such as for example Achievement striving, have been reported as highly linked to job performance as well. Apart from Neuroticism, Agreeableness has also been found to be associated with teamwork. Openness to Experience has been found to relate to training proficiency. No substantial arguments have supported that Big Five factors, other than, Neuroticism, Extroversion and Conscientiousness, are predicting job performance, specifically in the occupation of sales. In general, the association between personality dimensions included in the FMM and job performance has been suggested to be highly dependent on the type of occupation and work criteria being measured. It seems as if past research has been to some extent inconclusive in fully explaining the relationship between Big Five factors and job performance. In light of this information, it is important to investigate further in what ways and to what extent the FFM is associated with job performance in a sales context. In line with past research the present study will investigate to what extent Neuroticism, Extroversion, Openness to Experience, Agreeableness, and Conscientiousness will excel as valid predictor variables of job performance for telesales workers, in a Swedish business setting. The predictive validity of sub dimensions such as Achievement striving, Self-discipline, Assertiveness, and Activity will also be evaluated. Extensive research on the current topic has been done. However, by using a correlation design and by employing a robust personality inventory (NEO PI-3) it is expected that the results from this study will extend and replicate previous research findings. Using NEO PI-3 this study is also the first of its kind in Sweden.
Method

Participants
A sample of 34 telesales workers (23 males, 11 females) participated in this study, all of whom, at the time, were employed by two major telecom companies (A and B) that operate in the Swedish market. Initially, the personality inventory was sent out to 51 sales workers. However, due to drop outs and missing measures of job performance the sample was finalized to 34 participants. The total sample consisted of 21 participants from company A, including 12 males and 9 females, and 13 participants from company B, including 11 males and 2 females. The age of the participants ranged from 19 to 38 years, with the average age being 22.80 (SD= 3.53). Essentially, the participants were situated in two call center offices, located in Stockholm, which belonged to either one of the two telecom companies1. The sales workers’ jobs involved promoting and selling telecom related products (i.e., cell phones, devices and payment plans) targeting households and end consumers via telephone (outbound calls only which were initiated by the call centers). Twenty seven (79%) individuals entered “yes” that they had received some form of sales training in the past. Sales experience varied from “less than 1 year” (10/29%), “1-2 years” (9/26%), to “2-4 years” (9/26%) to “4 years or longer” (6/18%). Furthermore, educational status indicated that nine (26%) sale workers had pursued some form of post-school education.

Materials
NEO Personality Inventory-3 (NEO PI-3). The participants’ personalities were assessed by NEO Personality Inventory-3, (McCrae & Costa, 2010). The data that was collected in this present study was on the one hand used to complete a master’s thesis at Stockholm University and on the other hand it was used to validate the NEO-PI-3 as a valid and reliable measure in the work context in Sweden. The NEO PI-3 is a 240-item inventory designed to assess the Big Five domains of personality; Neuroticism, Extroversion, Openness to Experience, Agreeableness and Conscientiousness. These factors include six facets (sub dimensions) each (as outlined in previous sections). A facet, include eight item, aiming to measure the intended construct. As this study was partially a validation study of existing item in the original NEO PI-R inventory 37 items were added to the Swedish version used in this study (Bergman & Källmén, 2002). In total, the participants were to respond to 277 items included in the test. Furthermore, the arrangement of the items was randomized in order to diminish order effects. The participants were told; “This test consists of a number of statements. There are no ”right“ or ”wrong“ answers. Your task is to decide which response that is best suited to your normal way to act and feel, not how you feel right now, but more how you tend to be in general.” Essentially, the participants were asked to respond to all the items (statements) by indicating to what extent they agreed or disagreed with the statements. Each item was rated on a five-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). Internal consistencies (Cronbach’s alpha) were 0.90 (Neuroticism), 0.88 (Extroversion), 0.88 (Openness to Experience), 0.89 (Agreeableness), and 0.94 (Conscientiousness). As this study predicted specific facets of Extroversion and Conscientiousness to correlate significantly with job performance it is necessary to indicate the

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1 Because the employees worked with the exact same things and executed similar work tasks, the companies were considered as one sample in the analyses.
reliability for those measures as well. Reported Cronbach’s alphas for facets were 0.84 (Achievement Striving), 0.88 (Self-Discipline), 0.77 (Assertiveness), and 0.67 (Activity).

**Job Performance Scale.** Job performance was measured by supervisory ratings. A total of four supervisors (two from each company) rated the job performance of their sales force. Specifically, each supervisor rated sales workers who they were responsible for. The measure included 21 items (See appendix 1). As there was no preexisting measure of job performance available, the measure used in this study was created to be suitable for the intended purpose. Essentially, the creation of items are based prominently on telesales related competencies, as outlined in the O*NET scientific databases ([onetonline.org](http://onetonline.org)). Items aimed to indicate to what extent the sales workers were committed to behaviors and actions that are associated with successful performance in the occupation of sales. Example items included “The employee does not give up and is consistent in his or her work,” The employee has the ability to persuade, build confidence and sell themselves to customers,” and “The employee is good at planning, organizing and carrying out their work.” Each item was measured on a five-point likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). The reported Cronbach’s alpha was 0.90.

**Procedure**
Initially, companies were contacted via phone and informed about the purpose of the study. The companies were also told that their participation would be beneficial to the extent that the study would indicate which personality traits characterize high performing sale workers. Two major telecom companies wanted to participate in the study. The NEO Personality Inventory-3 was provided by the Swedish test publisher Hogrefe2 and sent out via e-mail to the participants on a fixed time and date. As all sale workers were equipped with a computer it was fairly convenient to have them fill out the test at one specific occasion. The test included a section where participants were asked to read through and approve informed consent. Once informed consent was obtained the participants were to fill out the test battery. Furthermore, in order to secure participants with anonymity they were provided with a test code that enabled them to login and get access to the test questions, anonymously. The same test code was later used in order to identify supervisory ratings. The test took approximately 40 minutes to complete. When test data was collected the supervisors were instructed to rate their employees job performance. The survey, measuring job performance, was administered via e-mail and took about 5 minutes to complete. Last but not least, company A and B agreed that the results, from the study, were to be presented in a scientific report as well as in the form of a hands-on presentation customized to the employee population of each company.

**Results**

Means and standard deviations for the key variables are shown in Table 1. Initially, correlations were computed in order to investigate the relationship between supervisory ratings of job performance and personality domains included in the FFM (*Neuroticism*,

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2 NEO is copyright protected by Psychological Assessment Resources (PAR) and Costa & McCrae.
Extroversion, Openness to Experience, Agreeableness, and Conscientiousness). As hypothesized, it was found that Extroversion ($r = .33$, $p = .03$) and Conscientiousness ($r = .39$, $p = .01$) were significantly correlated with job performance. This indicates that those sales workers who rated themselves as high in Extroversion and Conscientiousness were also those who were rated high by supervisors on job performance. In line with the hypothesis, there was nearly a significant correlation between Job performance and Neuroticism ($r = -.26$, $p = .06$). This indicates that those sales workers who rated themselves as low in Neuroticism were also those who were rated high by supervisors on job performance. None of the other main hypotheses were supported. Contrary to the hypotheses, there was no significant correlation between job performance and Agreeableness, and Openness to Experience. Table 2 shows these results.

Table 1. Means and Standard Deviations for Key Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Performance</td>
<td>3.69</td>
<td>.60</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>2.74</td>
<td>.43</td>
</tr>
<tr>
<td>Extroversion</td>
<td>3.67</td>
<td>.37</td>
</tr>
<tr>
<td>Openness to Experience</td>
<td>3.30</td>
<td>.40</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>3.20</td>
<td>.39</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>3.55</td>
<td>.50</td>
</tr>
</tbody>
</table>

Note. n=34. Higher scores indicate a greater magnitude of each variable.

Table 2. Correlations between Job Performance and FFM Variables; Neuroticism, Extroversion, Openness to Experience, Agreeableness and Conscientiousness

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>E</th>
<th>O</th>
<th>A</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Performance</td>
<td>-.26</td>
<td>.33*</td>
<td>.07</td>
<td>.10</td>
<td>.39*</td>
</tr>
</tbody>
</table>

Note. n=34. Higher scores indicate a greater magnitude of each variable. All analyses are one-tailed.
* $p < .05$. ** $p < .01$. These correlations are not corrected for restriction of range in the predictor variables or corrected for unreliability in the criteria. Therefore this relationship is probably underestimated (Schmidt & Hunter, 1998).

In the second step, additional correlations were computed in order to find out which of the sub dimensions of Extroversion and Conscientiousness that contributed significantly to the relationship with Job performance. Means and standard deviations for sub dimensions of relevant Big Five domains are shown in table 3. As hypothesized, it was found that there was a significant correlation between job performance and Assertiveness ($r = .33$, $p = .03$) and Self-discipline ($r = .43$, $p = .005$). This indicates that those sales workers who rated themselves high on Assertiveness and Self-discipline were also those who were rated high by supervisors on job performance. Contrary to the hypotheses, no significant correlation was found between job performance and Achievement-striving and Activity. Table 4 shows these results.
Table 3. Means and Standard Deviations for Sub dimensions of Extroversion and Conscientiousness

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assertiveness</td>
<td>3.24</td>
<td>.61</td>
</tr>
<tr>
<td>Activity</td>
<td>3.28</td>
<td>.46</td>
</tr>
<tr>
<td>Achievement-Striving</td>
<td>3.51</td>
<td>.69</td>
</tr>
<tr>
<td>Self-Discipline</td>
<td>3.50</td>
<td>.77</td>
</tr>
</tbody>
</table>

Note. n=34. Higher scores indicate a greater magnitude of each variable.

Table 4. Correlations between Job Performance and Sub dimensions of Extroversion and Conscientiousness

<table>
<thead>
<tr>
<th>Variable</th>
<th>Assertiveness</th>
<th>Activity</th>
<th>Achievement-Striving</th>
<th>Self-discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Performance</td>
<td>.33*</td>
<td>.23</td>
<td>.22</td>
<td>.43**</td>
</tr>
</tbody>
</table>

Note. n=34. Higher scores indicate a greater magnitude of each variable. All analyses are one-tailed. * p < .05. ** p < .01.

By extending the analysis, only for descriptive purposes, it was relevant to test if any sub dimensions (those subordinated to Extroversion and Conscientiousness), other than Assertiveness and Self-discipline, were significantly correlated with job performance. Means, standard deviations, correlation coefficients, and Chronbach’s alpha for sub dimensions of relevant Big Five domains are shown in Table 5. Findings showed that Warmth (r= .34, p= .02), Positive emotions (r= .37, p=.01) and Competence (r= .51, p= .001) correlated significantly with supervisory ratings of job performance. All taken together, these findings indicate that sales workers who rated themselves high on Assertiveness, Self-discipline, Warmth, Positive emotions, and Competence were also those who were rated high by supervisors on job performance.

Table 5. Key findings for all Sub dimensions of Extroversion and Conscientiousness

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>r</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warmth (E)</td>
<td>3.93</td>
<td>.57</td>
<td>.34*</td>
<td>.79</td>
</tr>
<tr>
<td>Gregariousness (E)</td>
<td>3.83</td>
<td>.57</td>
<td>-.02</td>
<td>.72</td>
</tr>
<tr>
<td>Assertiveness (E)</td>
<td>3.24</td>
<td>.61</td>
<td>.33*</td>
<td>.77</td>
</tr>
<tr>
<td>Activity (E)</td>
<td>3.28</td>
<td>.46</td>
<td>.23</td>
<td>.67</td>
</tr>
<tr>
<td>Excitement seeking (E)</td>
<td>3.75</td>
<td>.53</td>
<td>.04</td>
<td>.54</td>
</tr>
<tr>
<td>Positive emotions (E)</td>
<td>4.03</td>
<td>.58</td>
<td>.37*</td>
<td>.82</td>
</tr>
<tr>
<td>Competence (C)</td>
<td>3.84</td>
<td>.59</td>
<td>.51**</td>
<td>.85</td>
</tr>
<tr>
<td>Order (C)</td>
<td>3.47</td>
<td>.52</td>
<td>.16</td>
<td>.70</td>
</tr>
<tr>
<td>Dutifulness (C)</td>
<td>3.80</td>
<td>.50</td>
<td>.21</td>
<td>.70</td>
</tr>
<tr>
<td>Achievement-striving (C)</td>
<td>3.51</td>
<td>.69</td>
<td>.22</td>
<td>.84</td>
</tr>
<tr>
<td>Self-discipline (C)</td>
<td>3.50</td>
<td>.77</td>
<td>.43**</td>
<td>.88</td>
</tr>
<tr>
<td>Deliberation (C)</td>
<td>3.00</td>
<td>.83</td>
<td>.27</td>
<td>.87</td>
</tr>
</tbody>
</table>
Discussion

The purpose of this study was to investigate the relationship between the FFM and job performance. An additional purpose was to investigate the possible relationship between specific sub dimensions of Extroversion and Conscientiousness and job performance. Nine hypotheses were formulated based on past research. Five hypotheses were supported. Consistent with the predictions, Extroversion, Conscientiousness, Assertiveness (E), and Self-discipline (C) correlated significantly with job performance. Neuroticism was nearly significantly correlated with job performance. Contrary to the hypotheses, there was no correlation between job performance and Agreeableness, Openness to Experience, Achievement-striving (C), and Activity (E). Additional examinations, in terms of exploratory analyses, showed that several sub dimensions of Extroversion and Conscientiousness, other than Assertiveness and Self-discipline, correlated significantly, at moderate rates, with job performance as well (Warmth (E), Positive emotions (E) and Competence (C)).

**Big Five and Job Performance**

In line with the hypothesis, this study found a significant positive correlation between Conscientiousness and job performance. This indicates that those sales who rated themselves as high in Conscientiousness were also those who were rated high by supervisors on job performance. Specifically, this result suggests that sales workers who are highly conscientious are performing better in sales related work compared to sales workers who are less conscientious. It makes sense that those sales workers who plan and organize their sales work strategically, in order to achieve their budgets and sales targets, are more successful than those sales workers who do not. This becomes even more evident as telesales workers may be required to be competitive and goal oriented in order to become successful. Another trait that seems to be important for sales workers to exhibit is Extroversion

Consistent with the prediction, the result in this study further showed that Extroversion is positively associated with successful performance in sales related work. This indicates that those sales workers who scored high on Extroversion were also those who were rated high by supervisors on job performance. In line with previous research (Vinchur et al., 1998), this suggests that it is important for sales workers to display this trait in order to be successful in such occupations. In respect to telesales jobs, it seems reasonable to believe that extroverted sales workers, rather than introverted ones, are able to create a sense of trust with customers on the phone. As an example, this may be beneficial to the extent that a sales pitch, which is communicated on the phone, will not, by customers, be perceived as a strategy of selling. With regards to further predictions in this study, it seems to be important to exhibit low levels of Neuroticism in order to become successful in sales.
In this study and in line with the prediction, Neuroticism was nearly significant and correlated negatively with job performance. Even though not significant at the .05-level it is reasonable to believe that the relationship is underestimated due to restriction of range and unreliable criteria. This finding indicates that those sales workers, who rated themselves as low on Neuroticism, were also those who were rated high by supervisors on job performance. This suggests that neurotic sales workers are performing worse in sales related work, compared to sales workers who are less neurotic. This relationship is not surprising as Emotional stability, besides Conscientiousness, has been reported to be a valid predictor of all types of job performance, measured across occupations (Salgado, 1997). In respect to the present study, it seems fairly easy to explain this result. First the present sample was not displaying high neurotic traits. This may indicate that telesales is not a job that attracts individuals, who tend to be shy, angry, insecure, depressed, vulnerable and anxious. Second, telesales is a job that can be extremely stressful, which is another reason why neurotic individuals would perform poorly in this occupation. Quite contrary to Neuroticism, this study showed that Openness may be unrelated to job performance. Surprisingly, no correlation was found between Openness to Experience and job performance. Monotone work processes and fixed routines were expected to hint at a significant positive relationship. In addition, one would expect that openness would be an important personality trait to exhibit, in terms of creatively creating new sales techniques, in order to successfully increasing sales with new customers. Instead, it is possible that, in occupations where innovative and creative thinking is rewarded, such as in Data/IT consultation, Openness may predict successful performance. Another explanation to the insignificant outcome in this study may be that the present sample was not representative of Openness as a personality trait. Besides Openness, Agreeableness seems also to be unrelated to job performance in sales. Contrary to the hypothesis, Agreeableness was not found to correlate significantly with job performance. A possible explanation may be that telesales do not rely heavily on teamwork. Instead, sales workers are rewarded based on individual performance. However, it is still possible that Agreeableness may predict job performance in other occupations that require sales skills. Sales minded consultants for example, who work on projects, may to a greater extent, compared to telesales workers, depend on sufficient teamwork. Therefore, Agreeableness may predict performance for consultants who do not only focus on delivering a service through teaming with others, but who also focuses on selling new customized services to their customers. In this case it is reasonable to believe that agreeableness will be a significant predictor of job performance. This reasoning is supported by past research (Barrick et al., 2001) as it has been reported that Agreeableness may predict success in specific occupations and work tasks. In this study, exploratory analyses showed further that sub dimensions of Extroversion and Conscientiousness may predict successful performance in sales.

Sub dimensions of Extroversion and Conscientiousness and Job Performance
The present study predicted that specific sub dimensions of Extroversion (Assertiveness, Activity) and Conscientiousness (Achievement-striving, Self-discipline) would be related to job performance. This prediction was to a certain extent correct as Assertiveness and Self-discipline turned out to be significant. As correlational analyses had shown that Extroversion
and Conscientiousness were significant predictors, it was interesting to further test all subdimensions and their association to job performance. Results showed that several other subdimensions correlated with job performance as well. The results that do not relate to any of the hypotheses in this paper will be passed on to future research to investigate more extensively. With that being said only subdimensions hypothesized in this paper will be discussed.

In line with the hypothesis, Assertiveness was found to correlate significantly with job performance. Assertiveness refers to individuals who are forceful and speak clearly and without hesitation. These individuals also tend to become group leaders (Costa & McCrae, 1992). This was a trait that was expected to be a great indicator of successful performance in telesales. Not said that telesales requires leadership skills, but rather that is important to speak clearly and without hesitation with customers on the phone. This prediction turned out to be correct. This simply indicates that assertive sales workers tend to perform better compared to sales workers who are less assertive. In line with past research (Vinchur et al., 1998) this finding suggests that specific sub dimensions of the FFM can predict job performance. Unlike Assertiveness, Activity was found to be unrelated to job performance.

Contrary to the hypothesis, activity did not correlate significantly with job performance in this study. Individuals who score high in activity tend to have fast-paced and busy lives and a need to keep busy. The low scorers may be more relaxed and do not necessarily have a need to do things in a high tempo (Costa & McCrae, 1992). As telesales work may relate to fast-paced work processes (making as many calls as possible) it was expected that there would be a relationship between Activity and job performance. The insignificant result hints at the possibility that it does not matter whether or not sales workers have a need to keep themselves busy or not. Surprisingly, the results also showed that Achievement-striving was unrelated to job performance.

Unlike hypothesized, no significant correlation was found between Achievement-striving and job performance. Achivement-striving refers to individuals who work hard to achieve their goals (Costa & McCrae, 1992). As past research (Vinchur et al., 1998) had shown that Achievement-striving relate to job performance it was expected that a significant positive correlation would be generated also in the present study. As the correlation coefficient ($r=.22$) was almost equivalent to that in Vinchur’s significant study ($r=.25$), the result may have been hurt by the low sample size. It would be unrealistic to conclude that sales workers who work hard towards their goals are not performing better than those who do quite the opposite. Another explanation is that the present sample was not representative of this trait. However, this seems unrealistic as well, especially as the sample was drawn from two major “players” in the Swedish telecom market. Unlike Achievement-striving, Self-discipline was found to be highly associated with successful performance.

Self-discipline correlated positively with job performance. This indicates that those sales workers in the present sample who scored high on self-discipline were also those who were rated high by supervisors on job performance, compared to sales workers who scored low on Self-discipline. Self-discipline refers to an individual’s “ability to begin tasks and carry them through to completion, despite boredom or other distractions” (Costa & McCrae, 1992). With regards to successful performance, as telesales appears to be a monotone job,
sales workers who display high levels of Self-discipline may have the ability to begin tasks (e.g. sales calls) and carry them through completion, despite boredom or other distractions. Furthermore, the correlation coefficient that was reported ($r = .43$) indicates that Self-discipline is a sub dimension that can be considered a valid predictor of job performance.

**Findings in the Present Study from a Past Research Perspective**

In line with past research (Barrick & Mount, 1991; Salgado, 1997; Vinchur et al., 1998), the results in this study showed that Neuroticism, Extroversion and Conscientiousness are associated with job performance. The results also support past research (Barrick et al., 2001; Hurtz & Donovan, 2000; Mount & Barrick, 1995; Ones & Viswesvaran, 1996; Salgado, 1997; Vinchur et al., 1998) as Conscientiousness, in this study, was the Big Five variable that correlated the strongest with job performance. This strengthens the conceptualization that Conscientiousness may be the most valid and reliable predictor variable of overall job performance, across occupations and work tasks. Furthermore, in this study Agreeableness and Openness to experience were not found to correlate with job performance. These findings characterize a replication of past research as well (Mount & Barrick, 1991; Barrick et al., 2001). Reflecting further, on research findings reported in the past (Barrick et al., 2001), it may be that Agreeableness and Openness to Experience perhaps only predict success in specific occupations and work tasks. Worth noting, the findings in this study suggest that these two factors are unrelated to job performance, in the occupation of sales. The interpretation of the overall findings, in respect to the relationship between Big Five factors and job performance, suggest that individuals who display high levels of Extroversion and Conscientiousness, as well as low levels of Neuroticism, perform better in sales related occupations. Findings in the present study also hint at the possibility that specific sub dimensions of Extroversion and Conscientiousness correlate with job performance, at convincing rates, as well. All taken together, findings suggest that when individuals, to a great extent, exhibit personality traits of Assertiveness, Self-discipline, Warmth, Positive emotions, and Competence, they are likely to perform better in sales related work compared to individuals who exhibit lower levels of the same traits.

**Strengths and Limitations**

A major strength in this study is its external validity, as the sample was drawn from a population where the work tasks were limited mainly to making sales calls on the phone. This enabled the results to be generalized to other similar populations. The personality inventory, which was used for the study, was already in existence and well established with good reliability, and the measure of job performance had high item reliability (Chronbach alpha). A few limitations of the study should also be noted. Firstly, the present sample consisted predominantly of males which may influence mean levels. This is reasonable to believe as men and women are likely to perceive and rate their personalities differently. Secondly, the small sample size limited the statistical power, meaning that it was relatively hard to find significance for some variables. Thirdly, even if the correlation coefficients in this study were stronger than those reported in the past it may only be an indication of a measure of internal consistency. In order to measure the “true” reliability (intra-class coefficient) two independent raters of job performance are required. This was not possible in this study. Fourthly, correlation design does not imply causation, meaning that the findings cannot hint at the direction in which one variable causes a change in another. Although this is an important scientific question, for the purpose of personnel selection it is
sufficient to know the relationship between personality and job performance. The correlation shows how to rank candidates, and this guides recruiters in their selection process. Another possible limitation is that job performance was limited to supervisory ratings.

Vinchur et al. (1998), found support that indicators of job performance highly depend on the type of outcome measure. Job performance is often indicated by the use of subjective- (i.e., supervisors rate their subordinates’ job performance) and objective measures (sales statistics). In line with Vinchur et al. (1998), the present study aimed initially at measuring job performance through a combination of supervisory ratings and sales statistics. When investigating primarily the occupation of telesales, a combination of the two measures would be beneficial as it could help to explain to what extent one measure correlates stronger than the other. Unfortunately, due to confidentiality restrictions neither of the two telecom companies that took part in the study was willing to provide information on actual sales data per employee. Nevertheless, it was expected that sales statistics would be directly linked to supervisory ratings of employees’ work related behaviors. Therefore, it was assumed that supervisory ratings would still be a valid and reliable way of measuring job performance in this study. Essentially, subjective measures are one of the most widely employed measures whenever job performance is assessed (Viswesvaran & Ones, 2000).

**Directions for Future Research**

The findings in the present study open up numerous possibilities for future research to build on and develop. Essentially, the major findings in this study replicated the results of past research. Apart from the findings that relate to the Big Five factors, further insight on sub dimensions of Extroversion and Conscientiousness was yielded. As only key variables, which conformed to the hypotheses, were tested and discussed, it will be important, for further research, to investigate the relationship between relevant sub dimensions of Big Five factors and job performance. Even though not all findings in this study were discussed, the findings still give a glimpse of what future research, regarding the relationship between the FFM and job performance, should focus on. Future research, using a larger sample, should test the regression equation with all the significant dimensions in this study. If this composite trait is valid it can be used in a real selection context.

**Conclusion**

The results in this study confirmed, along with past research findings, that there is an association between the FFM and job performance, specifically in the occupation of sales. In line with previous research Conscientiousness was found to be the strongest predictor of job performance. This is consistent with Mount’s and Barrick’s (1998, p. 851) results as they stated that “individuals who are dependable, persistent, goal directed, and organized tend to be higher performers on virtually any job”. The overall findings in the present study showed that individuals who display high levels of Extroversion, and Conscientiousness, as well as low levels of Neuroticism, perform better in sales related occupations. In addition, sub dimensions of Extroversion and Conscientiousness such as Assertiveness, Self-discipline, Warmth, Positive emotions, and Competence stood out as valid predictor variables of job performance as well. This suggests that recruiters, who search for qualified telesales workers, should consider these traits as part of their selection decision. Using a personality inventory in employee selection processes might add useful information, regarding any employment decision. Based on the findings and viewed from an organizational perspective,
personality testing is a helpful and aiding tool, in terms of its ability to separate potentially poor sales performers from top sales performers. This study adds to past research by showing that previous results were replicated in a Swedish business setting.
References


<table>
<thead>
<tr>
<th>Item</th>
<th>Item Included in the Sales Performance Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The employee is convincing in their way of arguing</td>
</tr>
<tr>
<td>2</td>
<td>The employee does not like to be in the centre of attention in social settings</td>
</tr>
<tr>
<td>3</td>
<td>The employee often initiate contact with potential customers</td>
</tr>
<tr>
<td>4</td>
<td>The employee cannot handle multiple tasks simultaneously</td>
</tr>
<tr>
<td>5</td>
<td>The employee is competitive</td>
</tr>
<tr>
<td>6</td>
<td>The employee is working hard towards their monthly budget</td>
</tr>
<tr>
<td>7</td>
<td>The employee is goal oriented in their work to increase their sales figures</td>
</tr>
<tr>
<td>8</td>
<td>The employee often achieves their sales budget</td>
</tr>
<tr>
<td>9</td>
<td>The employee likes to take on responsibility</td>
</tr>
<tr>
<td>10</td>
<td>The employee does not give up, but is consistent in their work</td>
</tr>
<tr>
<td>11</td>
<td>The employee contacts enough customers to make a sale</td>
</tr>
<tr>
<td>12</td>
<td>The employee has the ability to perform their tasks independently</td>
</tr>
<tr>
<td>13</td>
<td>The employee masters demanding challenges and achieve their goals</td>
</tr>
<tr>
<td>14</td>
<td>The employee is trustworthy</td>
</tr>
<tr>
<td>15</td>
<td>The employee is flexible and open to change</td>
</tr>
<tr>
<td>16</td>
<td>The employee treats customers and colleagues in an honest manner</td>
</tr>
<tr>
<td>17</td>
<td>The employee can accept criticism in a positive way</td>
</tr>
<tr>
<td>18</td>
<td>The employee has the ability to persuade, build trust, and sell themselves to customers</td>
</tr>
<tr>
<td>19</td>
<td>The employee has the ability to communicate and adapt the company’s products and services based on customer needs</td>
</tr>
<tr>
<td>20</td>
<td>The employee is good at planning, organizing, and carrying out their work</td>
</tr>
<tr>
<td>21</td>
<td>The employee is working consistently towards their goals</td>
</tr>
</tbody>
</table>
Vi som driver DWS har en gedigen expertis inom rekrytering och urval samt det arbetspsykologiska fältet, med fokus på personlighetspsykologi, beteendevetenskap och psykometri. Vi är specialister inom kvalitativ och kvantitativ datainsamling, analyser och rapportering. Med gedigen erfarenhet från stora koncernföretag garanterar vi er kundnöjdhet.

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Utbildning & metodik
✓ Masterexamen i organisationspsykologi med fördjupning i psykometri, urval och förändringsprocesser.
✓ Examen (fil kand) i psykologi från universitetet i North Carolina och New Jersey, USA.
✓ Certifierad testanvändare av NEO Personality Inventory, NEO Five Factor Inventory

OM FÖRFATTAREN

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