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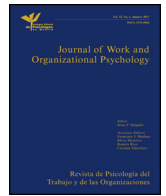## Journal of Work and Organizational Psychology

The Five-Factor model and job performance in low complexity jobs: A quantitative synthesis

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ABSTRACT

This article presents the results of four primary studies that investigated the degree to which the Big Five personality dimensions predict job performance in occupations with a low level of job complexity. Job performance was assessed as overall job performance (OJP), task performance (TP), and contextual performance (CP). The results showed that conscientiousness and emotional stability proved to be predictors of the three performance measures. In addition, extroversion was a relevant predictor of OJP and TP, and agreeableness was a predictor of CP. Implications for the theory and practice of job performance and personnel selection are discussed.

El modelo de Cinco Factores y el desempeño en el trabajo en puestos de poca complejidad: una síntesis cuantitativa

RESUMEN

Este artículo presenta los resultados de cuatro estudios primarios que investigaron el grado en que los Cinco Grandes factores de personalidad predecían el desempeño en el trabajo en ocupaciones de bajo nivel de complejidad. El desempeño en el trabajo fue evaluado como desempeño global (DG), desempeño de tarea (DT) y desempeño contextual (DC). Los resultados mostraron que los factores de conciencia y estabilidad emocional fueron predictores de las tres medidas de desempeño. Además, extroversión fue un predictor relevante de DG y DT y amabilidad fue predictor de DC. Finalmente se discuten las implicaciones de los resultados para la teoría y la práctica del desempeño en el trabajo y la selección del personal.

Personality inventories are frequently used by small and medium-size companies in their personnel selection processes (Alonso, Moscoso, & Cuadrado, 2015) and several meta-analytical reviews on the relationship between personality and job performance have been carried out during the last two decades (e.g., Barrick & Mount, 1991, 1993; Barrick, Mount, & Judge, 2001; Hogan & Holland, 2003; Hough, 1992; Judge, Rodell, Klinger, Simon, & Crawford, 2013; Salgado, 1997, 2002, 2003; Salgado, Anderson, & Tauriz, 2015; Salgado & Tauriz, 2014; Tett, Jackson, & Rothstein, 1991). These meta-analyses have shown that the Big Five personality factors are valid predictors of important work behaviors. For example, Barrick and Mount (1991) found that conscientiousness was a valid predictor of job performance, and that it generalized the validity across jobs and criteria. These researchers also showed that the other factors are predictors of some criteria for some jobs. Hough (1992) also found that personality measures are predictors of several organizational and educational criteria. In Europe, Salgado (1997) found that conscientiousness and emotional stability were valid predictors of job performance across jobs and that extroversion, openness, and agreeableness were valid predictors for specific occupations and criteria.

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The most recent meta-analyses (e.g., Judge et al., 2013; Salgado, 2003; Salgado, Anderson et al., 2015; Salgado, Moscoso et al., 2015; Salgado & Tauriz, 2014) have confirmed the previous findings and shown that the validity of the Five-Factor Model (FFM) can be larger depending on the way in which the personality factors are measured (e.g., with personality inventories developed using the FFM framework and if the personality inventories are quasi-ipsative forced-choice personality inventories).

Recent research has also shown that the FFM predicts occupational attainment, expatriate cross-cultural adjustment and outcomes, creativity and innovation, and counterproductive behaviors at work (AlDosiry, Alkhadher, AlAqraa, & Anderson, 2016; Costa, Páez, Sánchez, Garaigordobil, & Gondim, 2015; Gilar, De Haro, & Castejón, 2015; Raman, Sambasiva, & Kumar, 2016; Salgado & Bastida, 2017). Moreover, research on applicant reactions has shown that personality inventories are well rated across the world (Aguado, Rico, Rubio, & Fernandez, 2016; Anderson, Ahmed, & Costa, 2012; Anderson, Salgado, & Hülsheger, 2010; Liu, Potocnik, & Anderson, 2016; Snyder & Shahani-Denning, 2012).

Despite the empirical evidence of the validity of the FFM, several researchers have criticized personality variables on the basis that they can be affected by faking when the individual is motivated to do it, for instance, in personnel selection processes (Grieve & Hayes, 2016; Morgeson et al., 2007; Salgado, 2016).

Taken together, the results of these reviews make two conclusions appear reasonable. First, the FFM can reasonably predict job performance and its sub-dimensions. Second, the Five Factor Model is a good taxonomy for integrating the personality measures developed from different theoretical perspectives.

However, there are a number of issues that require additional research. For instance, the potential moderator effects of job components on the validity of the FFM have received less attention. For example, few studies have examined whether the validity of the Big Five can be affected by job complexity, defined as the degree of information processing required by the tasks (Hunter & Hunter, 1984; Schmidt, Shaffer, & Oh, 2008). Hunter and Hunter (1984) found that the data dimension of the occupational code of the Dictionary of Occupational Titles (DOT; US Department of Labor, 1991) mainly represents a job complexity dimension. Family II (feed) and V (compare/copy) would include the low complexity jobs. According to Hunter and Hunter (1984), low complexity jobs represent about 20.1% of occupations and they are more characterized by individual duties. Therefore, these characteristics may require a different set of personality variables than more complex occupations.

There is some empirical evidence that job complexity can moderate the relationship between personality and job performance. For example, Spector (1982) found that high anxiety (low emotional stability) was negatively related to job performance in complex tasks but was not related to performance in simple, less complex tasks. Judge, Bono, and Locke (2000) found that job complexity correlated negatively with neuroticism and positively with self-esteem, generalized self-efficacy, and locus of control.

Moreover, performance is defined as any behavior or activity, under the individual's control, adjustable in terms of ability and relevant for the organizational goals (Campbell, 1990). Nowadays, there is a consensus that the job performance domain includes at least two dimensions: task and contextual performance (Aguinis, 2007; Moscoso, Salgado, & Anderson, 2017; Salgado & Cabal, 2011). Task performance is defined as the proficiency with which employees perform the core technical activities that the job description includes (Borman, Bryant, & Dorio, 2010). Contextual performance refers to the contributions of the employee, that go beyond the technical obligations of the work, and that impact on the organizational, social, and psychological environment, helping to accomplish organizational goals (Borman, Penner, Allen, & Motowidlo, 2001; Dorsey, Cortina, & Luchman, 2010; Hoffman & Dilchert, 2012). Furthermore, Van Scotter and Motowidlo (1996) subdivided contextual performance into two narrower dimensions: interpersonal performance and job dedication.

The main objective of this article is to analyze the validity of the Big Five personality dimensions for predicting performance in jobs that involve a low level of complexity. From a theoretical perspective, job complexity can be a relevant moderator of validity. For example, Judge et al. (2000) showed that job complexity moderated the relationship between personality and job satisfaction. Therefore, understanding the personality correlates of occupations of a low complexity level can be relevant in developing models and theories of work behaviors and performance.

In order to provide some insight into the validity of the Big Five, we first present the results of four primary studies in which a FFM-based inventory was used to assess personality and we examine the relationship of the Big Five with overall job performance, task performance, and contextual performance. The four studies were conducted in jobs of a low complexity level. Next, we report the results of a meta-analytic integration of the findings of the four studies.

Previous research has demonstrated that the facets included in the FFM did not show incremental validity over the Big Five factors (Salgado, Moscoso, & Berges, 2013; Salgado, Moscoso et al., 2015). Therefore, this study has been conducted at the Big Five level. This approach has the advantage of not requiring the correction of the observed validities for imperfect construct measurement, as some researchers have done in previous meta-analyses in which scales of facets were meta-analyzed with factor scales (e.g., Mount, Barrick, & Stewart, 1998; Salgado, 1997, 2003).

Based on the findings of previous meta-analyses and primary studies, we posit three hypotheses:

Hypothesis 1.   Emotional stability and conscientiousness are valid predictors for overall, task, and contextual performance ratings.

Hypothesis 2.   Extraversion is a valid predictor for overall job performance and task performance.

Hypothesis 3.   Agreeableness is a valid predictor of contextual performance.

Method

Samples

As four independent studies were carried out, four independent samples were collected for doing the primary studies. The characteristics of these samples are described below:

Study 1: The participants of study 1 were 32 individuals who worked as private security agents in a Spanish based company at the time of testing. All the subjects were male and their age ranged from 25 to 32 years. All of them had been employed by the company for at least four years. The subjects and the supervisors of a local office of the company were invited to participate in this study. They were informed that a validation study of a personality questionnaire was being conducted. Around 50% of the employees agreed to participate in the study. The supervisors provided performance ratings of the employees they supervised. The study design was concurrent.

Study 2: The participants of this study were 46 male employees of a Spanish cold storage company who participated voluntarily in an organizational assessment program at the company. All subjects were male and their age ranged from 31 to 56 years. All of them had been employed by the company for several years. They were informed that an organizational assessment program was being conducted in order to provide information, suggestions, and future