

The Five-Factor model of personality and work behaviour in Greece

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This study explores the validity of the five-factor model of personality (FFM) in occupational settings in Greece, examining its relationship to employees' overall job performance, job satisfaction, organizational citizenship behaviour, and generic work competencies. Two hundred and twenty-seven employees from various Greek SMEs participated in the study completing a personality and a job satisfaction measure. Their supervisors completed three questionnaires assessing their performance and their work competencies. Some of the most significant results of this study were the strong links identified between personality and job satisfaction and the moderating effect of job type on the criterion-related validity of some personality dimensions. These results are discussed in terms of the FFM literature taking into consideration the strong effect of Greek culture. The theoretical and practical implications for research and practice in Greece are also discussed.

Personnel selection and assessment remains a very important issue during the life-span of every small or large organization. Companies not only invest millions in choosing the appropriate people for filling in their vacancies, but also spend valuable working hours of current employees acting as interviewers, or test administrators (Schmitt & Chan, 1998). Greece is one of the countries where the attempts to use valid and reliable methods of recruitment are quite scarce. Two are the main reasons: First, the relatively weak position of the Greek economy,

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which has only recently started developing in a satisfactory rate, and second the lack of valid and reliable instruments of recruitment and assessment. Research on selection and assessment in Greece is also very limited. Papalexandris (1992a), discussing the role of human resource management in Greece, claimed that Greek HRM is in a stage of rapid development and change, as a result of European Union's pressure. Nevertheless, these changes usually occur in multinational companies operating in Greece, rather than the small family run and owned enterprises, which dominate the Greek economy (Papalexandris, 1992b). Very few research, if any, has been undertaken to explore the issue of the recruitment and selection procedures followed by small-and-medium enterprises (Bartram, Lindley, Marshall, & Foster, 1995). Two studies carried out in Greece investigated the recruitment tools used by managers in Greek small and medium enterprises (SMEs), claiming that less reliable and valid measures, such as unstructured interviews, personal recommendations, and examination of CVs, are still largely used (Eleftheriou & Robertson, 1999; Kantas, Kalogera, & Nikolaou, 1997).

These attempts highlight the importance of additional research in the field of personnel selection and assessment in Greek SMEs. The present study is an attempt to fill in this gap regarding the use of personality testing in selection and assessment by exploring the validity of the five-factor model and its relationship to other work-related variables, such as job satisfaction, organizational citizenship behaviour, and generic work competencies, in a sample taken from employees of small and medium enterprises.

THE FIVE-FACTOR MODEL OF PERSONALITY AT WORK

The five-factor model of personality (FFM) or "big-five" has dominated the field of personality during the last two decades, providing a significant degree of convergence in the trait-factor analytic psychology (Robertson & Callinan, 1998). The five factors, usually labelled neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness (Costa & McCrae, 1992), have provided personality psychology with a clear measurement framework and are responsible for the resurgence of interest to personality in the field of work and organizational psychology.

These five factors have been identified across a number of cultures and radically different languages, providing further support for the existence of the FFM and its universal application (McCrae & Costa, 1997). Apart from the American/English languages, the factor structure of the FFM has been replicated in German, Dutch, Italian, Hungarian, Spanish, Chinese, Japanese, Belgian, Israeli, Estonian, Finnish, Croatian, and Czech (McCrae & Costa, 1997; Tsaousis, 1999). The model has also been extracted in Greek language in parents' free descriptions of their children (Kohnstamm, Mervielde, Besevegis, & Halverson, 1995).

What is of most interest for I/O psychologists and human resource professionals is the application and utility of the FFM in occupational settings. Three major meta-analytic studies have investigated the validity of big-five against occupational criteria. Barrick and Mount (1991) examined the criterion-related validity of these dimensions obtaining sample-weighted mean correlations (corrected for unreliability) ranging up to .22 for traits related to conscientiousness, which was a valid predictor for all job performance criteria across occupational groups. In addition, extraversion was a valid predictor of job performance for two occupations, managers and salesmen, and openness a valid predictor of training proficiency. Recently, Barrick and Mount attempted to replicate these results in a meta-analysis of service-oriented occupations involving either teamwork or dyadic interactions between employees and customers or clients (Mount, Barrick, & Stewart, 1998). Their results showed that all of the FFM constructs had non-zero correlations with both ratings of overall job performance and with specific ratings of the quality of interaction with others, with stronger correlations for conscientiousness ($r = .26$), agreeableness ($r = .21$), and emotional stability ($r = .18$). Their hypothesis regarding the moderating effect of the type of interpersonal interaction (teamwork vs. dyadic interaction) in the relationship between agreeableness, emotional stability, and job performance was also confirmed, providing further evidences of the utility of personality constructs based on the FFM in predicting job performance.

A second meta-analysis was carried out by Tett, Jackson, and Rothstein (1991). They obtained better results when a confirmatory (i.e., theoretically driven) approach was followed. The corrected estimate of the overall relation between personality and job performance obtained in this study was .24. Tett and his colleagues argued that the most significant finding of their study was that the mean validities derived from confirmatory studies were considerably greater than those derived from exploratory studies, denoting the importance of careful and theory-driven matching between specific personality facets and relevant criteria. Tett et al. (1991) found that agreeableness and openness to experience had the highest effect sizes, contrary to Barrick and Mount (1991) who argued that conscientiousness is the most valid predictor across performance criteria and occupational groups. The third meta-analysis on the validity of big-five was conducted by Salgado (1997, 1998), which included only studies that were carried out in Europe. His results suggested that conscientiousness and emotional stability generalize their validities across criteria and occupations, and that the other three factors have low validities. When their validity with more specific criteria and occupations was examined, openness and agreeableness were valid predictors of training criteria, and also extraversion, but not agreeableness, was a valid predictor of work performance for occupations with interpersonal requirements (e.g., managers).

A characteristic of these meta-analytic studies is that the measures included were not specifically developed to assess the FFM but were grouped into clusters of the Big-Five for the purposes of the meta-analyses. This method however, as

Salgado and Rumbo (1997) suggested, is problematic, since researchers arrived at different clusters for the same questionnaires, showing a lack of convergent validity for these measures. Very few studies have specifically examined the criterion-related validity of measures based on the FFM (Ferguson, Sanders, O’Hehir, & James, 2000), especially in non-American/English cultures within Europe. Salgado and Rumbo (1997) found that neuroticism, conscientiousness, and a composite of all Big-Five factors were valid predictors of the criteria of job-problem ability, job motivation and overall job performance in a sample of Spanish financial services managers. Recent work carried out in the United Kingdom by Ferguson et al. (2000), Robertson, Baron, Gibbons, MacIver, and Nyfield (2000) and Robertson, Gibbons, Baron, MacIver, and Nyfield (1999), provided further support on the validity of personality scales, as expressed by the FFM, questioning however the universal validity of conscientiousness across occupations and job levels (Robertson et al., 1999, 2000). The present study will also serve as an exploration of the criterion-related validity of the FFM in a non-English culture and language.

According to Robertson (1993), the most significant result of the research on the validity of personality and the FFM more specifically, is that “when a theoretically driven research strategy is adopted there is considerable support for the existence of links between personality constructs and performance-related behaviour” (p. 193). Although it is impossible to determine work behaviour from the effect of personality alone, because of the importance of situational variables such as colleagues, supervision, job environment, reward structure, etc. (Robertson & Callinan, 1998), personality variables can be significant predictors of work performance, when they are carefully matched with appropriate occupations and organizations. Day and Silverman (1989), using a small sample of accountants, showed that when a preceding job analysis has identified potentially useful personality constructs, these can explain incremental variance to a standard cognitive ability test. Schmidt and Hunter (1998), in a paper reviewing the validity of 19 selection procedures and their incremental validity when they are paired with measures of general mental ability, showed that a combination of integrity tests with cognitive ability measures produce the highest multiple validity coefficients (multiple $R = .65-.67$) from any other combination, for the criteria of overall job performance and performance in job training programmes.

PERSONALITY AND JOB SATISFACTION

The majority of the research in this field has concentrated on the personality dispositions of positive and negative affectivity. Negative affectivity is a disposition characterized by a tendency to experience aversive emotional states. People high in negative affectivity tend to be distressed, agitated, pessimistic, and dissatisfied, whereas people low in negative affectivity tend to feel more

secure and satisfied with their environments (Watson & Clark, 1984). On the other hand, positive affectivity is seen in high levels of energy, excitement, and enthusiasm; individuals scoring high in positive affectivity are more active and view their environments more positively, than low scorers (Warr, 1996). Scores in those two measures are moderately (negatively) correlated with each other, around -0.25 (Cropanzano, James, & Konovsky, 1993).

The dispositions of positive and negative affectivity are related to the core of extraversion (Diener, 1996; Tokar, Fischer, & Subich, 1998) and neuroticism (Robertson & Callinan, 1998) respectively. Cropanzano et al. (1993) found that lower negative affectivity and higher positive affectivity predicted global satisfaction. Necowitz and Roznowski (1994) also found that negative affectivity predicted some aspects of lower job satisfaction. Tokar and Subich (1997) found that the block of the Big-Five personality dimensions contributed significantly to the prediction of job satisfaction, where higher extraversion and lower neuroticism were unique predictors to higher job satisfaction. Furnham and Zacherl (1986), in a study examining the relationship between Eysenck's personality traits and job satisfaction, found that extraversion correlated positively with overall job satisfaction and satisfaction with pay, where neuroticism showed negative correlations with some aspects of job satisfaction, but a statistically significant correlation was not found with overall satisfaction.

PERFORMANCE AT WORK

Employees' performance has been one of the most important and widely used dependent variables in research and practice in work and organizational psychology. Especially in personnel selection and assessment, the measurement of job performance is an essential part of both the development and also the application of any method.

An important issue related to our understanding of the concept of job performance is whether it is a single "general" factor or it consists of a number of dimensions. Campbell (1994) described the unidimensional approach to job performance as the "classical" approach to personnel research, since he claims that it has been used for the most part of the century and when people refer to the term, they clearly imply the existence of one general factor. Nevertheless, he argued that this approach has been a major source of the criterion problem "because the search for reliable, uncontaminated, and objective indicators that significantly reflect the general factor, or ultimate criterion, has generally been a failure" (Campbell, 1994, pp. 34–35). The unidimensional approach has received more attention recently, especially since the application of meta-analytic methods has shown that a general factor underlies most common performance measures (Viswesvaran, 1996, cited in Arvey & Murphy, 1998).

The alternative approach accepts that job performance is composed of a number of clearly distinguishable components, such that some employees could

perform well on one performance component, but not as well on others (Campbell, 1994). One of the most significant studies in this field was the longitudinal research carried out for the American army, the so-called Project A. Based on the findings of this research, Campbell (1994) proposed a "theory of job performance" suggesting that job performance consists of eight major dimensions, each of which is composed of several more-specific features. These dimensions include job-specific and non-specific task proficiency, written and oral communication, demonstrating effort, personal discipline, facilitating peer and team performance, supervision/leadership, and management/administration (Campbell, 1994). Whatever is the case, about the dimensions of job performance, it is necessary to have appropriate and psychometrically sound measures of the relevant constructs. In most occupations it is usually impossible to use objective measures of job performance. This has led researchers and practitioners to adopt reputational measures, i.e., employees' performance is assessed by the immediate supervisor(s) (which is the most common approach) by peers, subordinates, or even using self-ratings. Supervisory ratings have attracted most attention because they are easy to develop and simple to use. In addition, supervisors' assessments are usually considered as the most important source of information for employees' behaviour and performance at work in most work settings. Although they have often been criticized for a wide variety of errors, such as the similar-to-me effect, leniency, central tendency, and halo effect, the overall picture is not as bleak as might be expected (Campbell, 1994; Schmidt, Ones, & Hunter, 1992).

The nature of job performance at the beginning of the twenty-first century is expanding. It is apparent from Campbell's (1994) dimensions that job performance is not simply considered anymore as the completion of specific tasks alone. Although overall job performance still remains a very important issue in personnel selection and assessment, the significant changes in the characteristics of most occupations and a move towards more flexible definitions of work roles and jobs has resulted into viewing occupations as more dynamic and interchangeable, and performance viewed in a more broad and adaptable way, defined with less precision. This new approach, as Arvey and Murphy (1998) suggest, implies that the new definition of successful performance at work settings should also incorporate concepts such as contextual performance and personal competencies. They argue that contextual performance or citizenship behaviour is viewed as an important part of the revised concept of job performance, essential in most jobs of the contemporary, globalized, competitive work environment, whereas personal competencies are necessary in order to perform a variety of roles and tasks instead of concentrating to a confined view of specific work duties inherent in narrowly described job descriptions and titles.

PERSONALITY AND ORGANIZATIONAL CITIZENSHIP BEHAVIOUR

The term Organizational Citizenship Behaviour (OCB) first emerged in the literature of work and organizational psychology in the early 1980s, when Organ with his colleagues (Bateman & Organ, 1983; Smith, Organ, & Near, 1983) in an effort to explain the satisfaction–causes–performance relationship, suggested an alternative form of job performance, which they called citizenship behaviour. They argued that the low correlations usually found between job satisfaction and work performance may lie in part in the meaning given to performance, usually defined as quantity of output or quality of craftsmanship (Bateman & Organ, 1983). Organ (1988a, p. 4) defined OCB as “the individual behaviour that is discretionary, not directly or explicitly recognised by the formal reward system, and that in the aggregate promotes the effective functioning of the organisation”. By discretionary, Organ describes the type of behaviour that is not enforceable by the organization or a requirement of the role or the job description, but “rather a matter of personal choice, such that its omission is not generally understood as punishable” (Organ, 1988a, p. 4), noting that job satisfaction leads to increased performance not captured by the usual measures of in-role job performance.

Most of the studies examining the structure of OCB agree that it is a multidimensional concept bearing at least two dimensions, a “personal” and an “impersonal” construct. These are altruism and conscientiousness (or generalized compliance) respectively. Altruism refers to behaviour, which is directed towards an individual in face-to-face situations aiming at helping him/her (e.g., assisting someone with a heavy overload, or orienting new colleagues at work), directed not only towards colleagues, although this is the most frequent use, but also towards outsiders (e.g., customers, clients, suppliers), as long as these actions have organizational relevance (Organ, 1988a). The impersonal form of OCB, called either conscientiousness or generalized compliance, is indirectly helpful to other people within the firm (peers, supervisors, or subordinates), assisting to the better running of the organization in general, such as being punctual, giving advanced notice if unable to attend, etc. Mostly it includes instances where the employee carries out certain role behaviours well beyond the minimum level required from the position (Organ, 1988a).

The emergence of Big-Five in the personality field in the early 1990s brought a new opportunity for research in the field of OCB. In a study exploring the relationship between personality, satisfaction, and OCB, Organ and Lingl (1995) examined the hypothesis that agreeableness and conscientiousness accounted for commonly shared variance between job satisfaction and citizenship behaviours. Their results showed that although agreeableness and conscientiousness were significant predictors of work satisfaction—positively and negatively, respectively—it was only conscientiousness that showed a reliable connection to

OCB and only in respect to the dimension of generalized compliance. In a meta-analysis published the same year, Organ and Ryan (1995) did not find encouraging results for agreeableness and conscientiousness, the two personality dimensions included in their analyses, which could be a result of the small number of studies included. For agreeableness they found a sample-weighted mean estimate of .127 for altruism and .107 for generalized compliance, but in both cases, zero was included in the 95% confidence intervals around the mean, which weakens the generalizability of the result substantially. For conscientiousness the results were more supportive, with a sample-weighted mean estimate of .217 for altruism and .302 for generalized compliance. Unfortunately, the latter estimates were much weaker when only other-ratings of citizenship behaviours were included in the analyses, dropping to .043 and .228 respectively.

Konovsky and Organ (1996) predicted that agreeableness would relate particularly with altruism, courtesy, and sportsmanship, whereas conscientiousness would relate with generalized compliance. The statistically significant correlations they came up with were quite weak: .12 between agreeableness and courtesy and .15 between conscientiousness and generalized compliance. The results of usefulness and regression analyses showed that, with the exception of generalized compliance, the dispositional variables could not predict significant variance in OCB beyond that predicted by work attitudes. However, in the case of generalized compliance, the personality dimension of conscientiousness was the strongest predictor of all, accounting for unique variance on the impersonal dimension of OCB. These results supported the idea that conscientiousness is the most valuable personality dimension to study, with regard to OCB.

WORK COMPETENCIES

The concept of work competencies and especially their relationship with personality has attracted limited, if any, attention to the field of I/O psychology. Competencies were defined from Boyatzis (1982), as the certain characteristics or abilities of the person that enable him/her to demonstrate the appropriate specific actions, leading to effective work performance. Thus, in an individual level, competencies are the capabilities brought by the employee in the job context. They are underlying characteristics in that they may be motives, traits, skills, aspects, self-images, social roles, or body of knowledge used by the person in order to perform successfully. Sparrow (1997), in a review of the use of organizational competencies in personnel selection and assessment, defined competencies as those behavioural repertoires (sets of behavioural patterns) which some people can carry out more effectively than others, including all those behaviours that employees bring into the organization in order to perform well.

Boam and Sparrow (1992), describing the major changes occurring in human resources management, argued that organizations are looking for an approach that will enable them to bring changes "by describing global issues in a way that

is sensitive to the local context ... drawing upon the language of line managers and facilitating long-term changes in individuals' behaviour" (p. 11), suggesting that competency-based approaches can offer this alternative. Sparrow and Bognanno (1993) claimed that the increased use of competencies during the 1990s was reinforced by strategic change in organizations. The realization that success in the new competitive environment depends largely on the ability to learn faster than competitors, and subsequently reconstruct and adapt the organization, has turned the focus of attention to internal resources and capabilities of the organization, such as employees' competencies, and the integration of HR policies and practices with business strategies. Another factor behind the development of the competency-based approach may have been the recession of the early 1980s, followed by the globalization of business in the 1990s. Traditional personnel practices proved not to be effective any longer, following the waves of change in West-European and North-American economies. The established job descriptions tailored along the lines of employees and managers, who would retain their positions until retirement, ceased to exist, probably for ever. Expressions, such as leadership potential, innovation, creativity, strategic vision, etc., started appearing in the requirements sections of job adverts, searching for a new type of employee.

The competencies approach may be a very influential part of the human resources strategy of any organization. Since the relevant competencies have been identified, they can be applied in a number of organizational activities, including personnel selection and assessment, training, career development, performance management, etc. Sparrow and Bognanno (1993) claimed that the creation of a core set of effective behaviours, such as competencies, may be used in a large set of assessment settings encouraging mutual behavioural reinforcement across HR policy areas.

HYPOTHESES OF THE STUDY

The present study represents the first attempt to examine whether well-established concepts in personnel psychology also apply in a developing country, such as Greece. Initially, the criterion-related validity of the five-factor model of personality is examined. It is expected that conscientiousness and emotional stability at least, which have been consistently found to be valid predictors of job performance according to meta-analytic findings, will predict overall job performance (Barrick & Mount, 1991; Salgado, 1997, 1998). It was also hypothesized that some personality scales of the FFM (e.g., extraversion, agreeableness) would predict work performance for some occupations (e.g., managers, salesmen) but not for others, verifying the existence of the moderating effect of the job type (i.e., occupations involving interpersonal interaction as opposed to those that do not) on the validity of personality (Barrick & Mount, 1991; Mount et al., 1998). The relationship between personality, job satisfaction, and OCB is

also explored. More specifically it is expected that extraversion and agreeableness will correlate positively and neuroticism negatively with job satisfaction (Robertson & Callinan, 1998), based on research on positive and negative affectivity, and also that agreeableness and conscientiousness will correlate positively to the personal and the impersonal form of OCB, respectively (Organ & Lingl, 1995). Further, positive relationships are expected between job satisfaction and job performance, based on research identifying a positive correlation between them (Spector, 1997) and likewise between OCB and work performance (Organ, 1988a).

METHOD

The research design adopted in the present study was that of a concurrent criterion-related validity. The data file consists of the responses of employees and their immediate supervisors. The employees completed two measures, a personality inventory and a job satisfaction measure, and their supervisors rated their performance in three independent measures: one questionnaire assessing organizational citizenship behaviour, a short job performance measure, and another questionnaire measuring generic work competencies, specifically developed for the purposes of the current study.

The selection of the organizations participating in the study was random, based on Greek and European Business guides (e.g., Dun & Bradstreet's *International Business Directory*, 1996; ICAP's *Hellenic Money Guide*, 1995) and on personal contacts. In most organizations the distribution and collection of the material was arranged centrally through the HR department following a structured, confidential procedure. The employees received an envelope explaining the purposes of the study and the two questionnaires (personality–job satisfaction). As soon as they returned their completed questionnaires their immediate supervisors were identified and they were handed out an envelope containing a cover letter explaining the purposes of the study, the names of the subordinates they had to rate, and the three performance questionnaires. In the remaining organizations the distribution and collection of the questionnaires was made by the first author, upon agreement of the management. All employees and supervisors received written feedback of their responses.

Materials

The personality questionnaire used in this study is a normative measure called TPQue (Traits Personality Questionnaire: Tsaousis, 1999). It was developed based on Costa and McCrae's definitions of the most acceptable factors in the five-factor theory, taking into account, simultaneously, the specific ethnic and cultural characteristics of the Greek population. It consists of 206 statements and the respondents have to indicate their reply in a 5-point from "strongly agree" to "strongly disagree". There are 180 items measuring the five dimensions, with six

facets per dimension, i.e., 30 subscales, and 26 items measuring social desirability, together with a lie scale and a validity check. The choice of this instrument was straightforward since it is to date the only personality inventory used in Greece originally developed in Greek language, without being a translation or adaptation of American or British instruments. The psychometric properties of the instrument were very satisfactory with very good internal consistency, factor structure, and construct validity. The test-retest reliabilities of the five dimensions ranged from .89 to .95 and the internal consistency (Cronbach's α) from .78 to .89, supporting the existence of the Big-Five in Greek language and justifying the use of the TPQue as a valid measure of the model.

The job satisfaction measure developed by Warr, Cook, and Wall (1979) was considered appropriate since it was short with acceptable internal consistency and strong empirical support (e.g., Clegg & Wall, 1981). It consists of 15 items where the respondents have to indicate their responses on a 7-point scale from "extremely dissatisfied" to "extremely satisfied". A total job satisfaction score is obtained by averaging the scores of the items.

Smith et al. (1983) developed the measure of organizational citizenship behaviour used here. It consists of 16 items, where employee's immediate supervisor has to rate him/her on a 5-point scale indicating the number that best describes how characteristic this behaviour is of the employee. The five-point scale ranged from "very characteristic" to "not at all characteristic". Subsequent factor analysis with both varimax and oblimin rotation identified two dimensions the authors called altruism and generalized compliance or conscientiousness, which had adequate internal consistency. Organ and Konovsky (1989) and Becker and Randall (1994) found similar results.

The measure of generic work competencies, which was specifically developed for the present study, assesses three types of employees' generic competencies: Action-leadership competencies, people orientation competencies, and communication skills. The action-leadership competencies assess an employee's capacity as a leading figure in his/her work environment, working actively and dynamically, inspiring and motivating his/her colleagues. In the people orientation cluster, the high scoring employee is sensitively and positively orientated towards his/her colleagues, taking into account their opinions and suggestions, showing consideration for their problems. Finally, the communication skills orientation captures employees' oral and written communication abilities. The measure was developed after a series of pilot studies. The results of exploratory factor analyses supported the existence of a three-factor solution explaining a total variance of 84.9%. The three factors emerging were the action-leadership, people orientation competencies, and communication skills. They all showed acceptable internal consistency (alphas above .90). It consists of 17 items, with items like "this employee behaves dynamically at work", "this employee respects his/her colleagues", and "this employee uses correct spelling in writing", where the supervisor has to rate his/her subordinates on an 8-point scale.

Finally, employees' immediate supervisors completed an overall job performance measure, as well. The present measure was successfully used in a number of studies (e.g., Robertson et al., 1999, 2000) as an overall job performance score eliciting internal consistency reliability of .86. It consists of six items where the supervisor has to indicate whether she/he agrees or disagrees with the behaviour described in a 5-point scale. An overall job performance score was calculated by averaging the raw scores of the six items.

The job satisfaction, the OCB, and the job performance measures were then translated in Greek following a translation-back translation procedure with the assistance of bilingual W/O psychologists and teachers of Greek and English literature. The guidelines developed by Van de Vijner and Hambleton (1996) for test translation and adaptation were taken into account during the translation procedure.

Sample description

The total number of employees participating in the study was 227. The majority of them were below the age of 40 (83%), predominantly females (53%). Fifty-seven supervisors in total (41 males) provided the performance data (a ratio of one supervisor for four subordinates). The participating employees were drawn from 22 organizations in total, i.e., an average of 10 employees from each organization. Half of them had been working for 2 years or less in their current position, with a mean tenure of 4.3 years. For statistical purposes, and also in order to examine the moderating effect of the job type, their job titles were grouped into a small number of job families. The first author and two Greek occupational psychologists repeated the task of assigning each job title to a job family, independently from each other; then the different viewpoints were brought together producing the job families. The average level of agreement between the raters was 78%. Subsequently, the job families were grouped into two types of occupations, involving interpersonal interaction and communication with other people or not, in order to examine the specific questions of the study. Thus, it was suggested that occupations such as teachers, managers, employees in human resources and sales, which involve a great deal of interaction with other people, are quite distinct from posts in administration, accountancy, arts/design, and science. People employed in the latter posts are not normally exposed to everyday interaction with other people, as part of their duties, and their interpersonal skills are not usually essential in exhibiting successful job performance.

RESULTS

Table 1 presents the descriptive statistics and reliability estimates of the study's measures. All alphas are at an acceptable level; the most notable comment regarding the descriptive statistics of the study is that the supervisory ratings

TABLE 1
Descriptive characteristics and internal consistencies of the study's measures

<i>Measures</i>	<i>N</i>	<i>No of items</i>	<i>Mean</i>	<i>SD</i>	<i>Alpha</i>
Extraversion	222	6	128.10	16.12	.83
Neuroticism	222	6	100.42	19.54	.85
Openness	222	6	125.19	14.91	.70
Agreeableness	222	6	122.05	11.91	.67
Conscientiousness	222	6	129.76	16.83	.85
Job satisfaction	219	15	4.97	0.95	.90
OCB altruism	209	7	3.59	0.96	.90
OCB-conscientiousness	200	7	3.94	0.68	.71
Communication skills	218	5	5.13	1.62	.95
People orientation	218	6	5.33	1.72	.97
Action-leadership	218	6	4.74	1.58	.93
Overall job performance	218	6	4.00	0.77	.93

assessing job performance, OCB, and work competencies were lenient, a quite common drawback of performance ratings (Landy & Farr, 1980).

The inter-correlation matrix of all measures is presented in Table 2. Overall job performance is not predicted either from personality or from job satisfaction. Subsequently, personality dispositions, as expressed by the five-factor model or job satisfaction are not related to supervisory ratings of job performance, in the present sample. Tenure, however, is positively related to job performance. As far as the relationship between personality–job satisfaction and OCB is concerned, the inter-correlation matrix shows that job satisfaction is related to extraversion, neuroticism, openness to experience, and conscientiousness.

Neuroticism shows a negative correlation to job satisfaction, whereas agreeableness showed no relationship to job satisfaction, and extraversion had a statistically significant relationship. These results establish the significance of positive and negative affect in the prediction of work satisfaction for Greek employees. The remaining two dimensions of the Big-Five were also correlated to job satisfaction to a statistically significant level. Conscientiousness correlated positively to job satisfaction and openness to experience negatively. An hierarchical regression analysis (Cohen & Cohen, 1983), with job satisfaction as dependent variable and the five personality dimensions entered as independent variables, showed that neuroticism and openness to experience are unique predictors of job satisfaction explaining almost 8% of the total variance in job satisfaction, as shown in Table 3.

The regression analysis (Cohen & Cohen, 1983) was repeated in order to examine the effects of the block of Big-Five in job satisfaction. Tokar and Subich (1997) found that when the five personality variables are entered as one block,

TABLE 2
Inter-correlation matrix of the study's variables (N = 200–222)

	1	2	3	4	5	6	7	8	9	10	11	12
1. Tenure	1.000											
2. Extraversion	-.123	1.000										
3. Neuroticism	.088	-.329**	1.000									
4. Openness to experience	-.248**	.249**	-.003	1.000								
5. Agreeableness	.242**	-.002	.056	.119	1.000							
6. Conscientiousness	.148*	.210**	-.526**	-.205**	-.003	1.000						
7. Job satisfaction	-.032	.145*	-.242**	-.156*	-.048	.182**	1.000					
8. OCB-altruism	.161*	-.011	.028	.066	.025	.086	.133	1.000				
9. OCB-conscientiousness	-.128	-.094	.110	.099	-.036	.088	-.014	.217**	1.000			
10. Communication skills	.034	-.075	.013	.164*	.036	-.051	-.049	.280**	.163*	1.000		
11. People orientation	.059	-.031	.068	.124	.069	-.075	-.002	.406**	.145*	.682**	1.000	
12. Action-leadership	.126	.055	-.013	.087	-.029	.024	.060	.595**	.193**	.667**	.761**	1.000
13. Job performance	.194**	-.122	.077	.038	.101	.057	.050	.750**	.441**	.392**	.390**	.571**

* $p < .05$, two-tailed; ** $p < .01$, two-tailed.

they contribute significantly to the prediction of job satisfaction. The results of this analysis are presented in Table 4.

These results replicated and extended Tokar and Subich's findings (1997) regarding the prediction of satisfaction at work from the Big-Five personality dimensions. Further, the total variance of job satisfaction explained by personality in the present study is almost twice as big as the one reported by Tokar and Subich (1997). They argued that 3–5% of satisfaction's variance is due to personality, where in the present study, an adjusted R^2 of .076 means that almost 8% of employees' satisfaction at workplace can be explained by the Big-Five personality dimensions.

As far as the relationship between personality, job satisfaction and OCB is concerned, the inter-correlation matrix of Table 2 showed that OCB is not related either to any of the personality dimensions in the present sample or to job satisfaction. Further, the performance measures (OCB, competencies, job performance) are also positively correlated. These correlations, however, are not very strong, with the exception of the correlation between the personal dimension

TABLE 3
Hierarchical regression analysis of the Big-Five dimensions
on job satisfaction ($N = 219$)

<i>Variables</i>	<i>B</i>	<i>SE B</i>	β
Step 1			
Neuroticism	-.01	.00	-.24**
Step 2			
Neuroticism	-.01	.00	-.24**
Openness to experience	-.01	.00	-.16*

$R^2 = .059$ ($p < .00$) for Step 1; $\Delta R^2 = .025$ ($p < .05$). ** $p < .00$; * $p < .05$.
Dependent variable: Job satisfaction.

TABLE 4
Simultaneous regression analysis of the block of Big-Five to
job satisfaction ($N = 219$)

<i>Variables</i>	<i>B</i>	<i>SE B</i>	β
Extraversion	.007	.004	.087
Neuroticism	-.009	.004	.017*
Openness to experience	-.012	.005	.011*
Agreeableness	-.001	.005	.808
Conscientiousness	.001	.005	.827

$R^2 = .10$ ($p < .00$); * $p < .05$. Dependent variable: Job satisfaction.

of OCB and overall job performance, suggesting that supervisors take into account both competencies and OCB when assessing employees' performance, but at the same time they are able to distinguish those concepts. The issue of the influence of work competencies and citizenship behaviour on managers' performance appraisals in Greece has been discussed elsewhere (Nikolaou & Robertson, 1999).

Table 5 examines the moderating effect of the type of job (involving interpersonal interaction or not) on the validity of personality, by examining the correlations of the five factors of personality with the performance measures for the two subsamples. The effect sizes between the two subsamples, where at least one of the correlations is statistically significant, are also compared, using the Fisher z transformation (Rosenthal & Rubin, 1982), in order to examine if these differences are statistically significant.

The examination of the differences between the effect sizes for seven of the nine pairs, following the Fisher z transformation, showed that the existence of interpersonal interaction moderates the validity of personality traits. This is especially the case for openness, and agreeableness. The emergence of agreeableness as a valid predictor of job performance for jobs involving interpersonal interaction was not surprising. The moderating effect of job type in the criterion-related validity of agreeableness was established in a number of studies (Hough, 1992; Mount et al., 1998) highlighting the importance of this personality dimension for occupations involving interaction with other people. In these positions (e.g., teachers, sales people, managers, etc.) employees have to demonstrate the ability to get on well with either colleagues/subordinates or customers, since successful interaction with them is usually accompanied by successful completion of job requirements, which could be interpreted as either better relations with colleagues/customers or even improved sales record.

The validity of openness, however, was not surprising considering the suggestions made from a lot of researchers that measures of openness are positively correlated with measures of intellectual ability (Ferguson & Patterson, 1998). Mount et al. (1998) also found that openness is a moderate predictor of overall job performance for this type of jobs, but they neither provide an adequate explanation and discussion of their result nor discuss its relation to the ability domain. The relationship often found between openness to experience and cognitive/verbal ability measures (Ferguson & Patterson, 1998; King, Walker, & Broyles, 1996) which are now considered as the best predictors of overall job performance (Ree, Earles, & Teachout, 1994; Schmidt & Hunter, 1998), may provide an explanation of this result. A suggestion could be that it is desirable for employees with a requirement to successfully interact with other people to be open to the ideas, proposals, and feelings of the people they work with. Take for example a manager, a teacher, or a human resource specialist who hesitates to accept new suggestions or who does not take into account the ways that colleagues or customers feel about him/her or his/her work. This person will

TABLE 5
The moderating effect of job type on the validity of personality

	Extraversion		Neuroticism		Openness		Agreeableness		Conscientiousness	
	<i>I</i> ^a	<i>2</i> ^b	<i>I</i> ^a	<i>2</i> ^b	<i>I</i> ^a	<i>2</i> ^b	<i>I</i> ^a	<i>2</i> ^b	<i>I</i> ^a	<i>2</i> ^b
OCB-altruism	.089	-.169	-.045	.059	.203*	-.166	.136	-.133	.170	-.134
OCB-conscientiousness	-.132	-.202	.010	.259*	.115	.099	-.133	.037	.080	-.005
Communication skills	-.217**	.046	.128	-.153	.253**	.021	.066	-.040	-.097	-.017
People orientation	-.080	.082	.102	.007	.312**	-.156	.093	-.029	-.085	-.094
Action-leadership	-.003	.105	.104	-.162	.242**	-.111	.058	-.216	.002	-.035
Job performance	-.064	-.261*	-.003	.169	.216**	-.190	.218*	-.066	.129	-.126

Shadowed cells indicate that the difference between the effect sizes is statistically significant at $p < .0001$ with the exception of the extraversion-job performance pair where the difference is statistically significant at $p < .01$, suggesting the existence of moderating effect of the type of job on the validity of personality.

^{a1} = Jobs involving interpersonal interaction ($N = 120$), ^{b2} = Jobs not involving interpersonal interaction ($N = 72$).
* $p < .05$, two-tailed; ** $p < .01$, two-tailed.

probably have major difficulties in establishing good personal contacts with his/her colleagues/students/customers since it will be hard for him/her to appreciate them as individuals and accept the diversity and variety they may provide him/her with, with consequent effect on his/her work behaviour.

DISCUSSION

The present study investigated the criterion-related validity of personality traits, as expressed by the FFM of personality, in a series of work-related outcomes such as overall job performance, organizational citizenship behaviour, and work competencies examining research findings of studies carried out in the USA and Europe, in Greece, a South-European country and a member of the European Union, where none of these research questions have been explored.

Personality and work performance

Earlier findings regarding the validity of conscientiousness (Barrick & Mount, 1991) and emotional stability (Salgado, 1997) were not replicated in the present study. None of the Big-Five dimensions was a valid predictor of an overall measure of job performance for the whole sample. No correlations were found between three of the five dimensions and job performance, with the exception of agreeableness and openness to experience, which were related to job performance for occupations involving interpersonal interaction. These results, at a first glance, question seriously the ability of the personality questionnaire to predict work-related outcomes, assessed by supervisory ratings, such as job performance and the measures of organizational citizenship behaviour and work competencies, since non-significant correlations were also detected between the five personality dimensions and the performance measures, with the exception of openness which was a valid predictor of communication skills.

These results, however, are in line with a number of recent studies that failed to replicate relationships between Big-Five and job performance using similar predictors and criterion measures. Nelson, Robertson, Walley, and Smith (1999) did not find any significant relationships between the five personality dimensions and job performance, with employees working in small and medium-sized firms (SMEs), i.e., in a sample similar to the sample used here. Similar results were also obtained by Flint-Taylor, Graymja, and Robertson (1999), who also could not find any links between a well-established measure of the FFM (NEO PI-R) and overall job performance.

Despite the poor criterion-related validity of the personality measure in the present study, some researchers have suggested that the validity of personality, especially the argument concerning the universal impact of conscientiousness, should be more carefully considered. Robertson and Callinan (1998), in a review examining the use of personality at work settings, argued that the meta-analytic studies treat conscientiousness in the same way as earlier studies examining the

validity of general mental ability, where a positive linear association is expected between measures of mental ability and overall job performance across types of occupations. They also claimed (Robertson & Callinan, 1998) that this should not necessarily be the case for conscientiousness, suggesting that people with different personality characteristics may perform at the same level of competence, by carrying out their work tasks in various ways. They maintained that different personality characteristics may be associated with different strategies adapted by people in performing the required tasks effectively.

Another reason behind the failure of personality to predict overall job performance in the present study could be due to the wide use of less valid and reliable selection methods in Greece. A study by Kantas et al. (1997) showed that psychological tests (including personality questionnaires) were the least frequently used selection method, compared to more traditional and subjective methods such as unstructured interview, CV evaluation, and personal recommendations. Further, Greek managers perceived psychological tests as the least effective method, rating interview as the most effective method of all. These results are in clear contrast with the findings of numerous studies, which have established the poor criterion-related validity of these methods, especially for unstructured interviews. They also identified the existence of a major gap between the scientific evidences for these selection methods and the degree of their implementation and perception of effectiveness in Greece. Similar findings were obtained from a more recent study exploring managerial selection in Greece (Eleftheriou & Robertson, 1999). Tixier (1996), in a comparative study of recruitment methods across the countries of European Union, claimed that although Greek HR managers value the importance of employees' personality characteristics equally to technical skills, the use of personality tests is still very limited and treated with reservation (Tixier, 1996), an attitude that leads recruiters to elicit inferences about candidates' personality from employment interviews exclusively.

The findings of these studies reflect a lack of knowledge from human resource professionals in Greece about the use of appropriate recruitment methods. The adoption of less valid and reliable methods may have direct effects on both corporate and individual performance, partially influencing the results of the present study, as well. Further, the lack of job specifications and job descriptions in many jobs across organizations (Papalexandris, 1992b) is also expected to flaw the present results. The most common pattern of selection practices in Greek SMEs is the search for an "appropriate" candidate through personal contacts or colleagues in other companies, resulting into the high usage of personal recommendations (Kantas et al., 1997), followed by an informative discussion (the unstructured interview), and the final decision. This practice is not usually followed by large Greek or multinational companies based in Greece, which tend to use more objective methods (Papalexandris, 1992b). Nevertheless, the majority of the present sample was drawn from SMEs, and subsequently the

results are expected to be heavily influenced from those effects. It would be quite surprising to find evidence for the criterion-related validity of specific personality dimensions, when employees' personality characteristics are not considered appropriate to be taken into account during the selection and performance appraisal processes.

Personality and OCB

As far as the relationship between personality and OCB is concerned, the results of the present study did not identify any links between them. A reason could be the potential disagreement regarding the boundaries between in-role and extra-role performance, both between employees and supervisors and also between supervisors across organizations. A lot of supervisors commented that some of the citizenship behaviours described by the measure were actually in-role performance and an integral part of the job. Those comments are further supported by the lack of job specifications and detailed job descriptions in the majority of Greek companies, as indicated earlier (Papalexandris, 1992b). Morrison (1994) argued that there is a discrepancy between employees and managers of what is conceived to be extra-role behaviour, and also that employees who define their job responsibilities more broadly tend to display behaviour commonly assumed to be OCB.

Managers' comments regarding citizenship behaviours along with the results regarding the validity of the performance measures, suggest that Greek managers perceive contextual performance as an integral part of employees' job performance. Such a notion would be further supported from the make-up of the sample, which is largely drawn from employees working in Greek SMEs. Employees at this type of companies are often required to carry out tasks outside their duties. Further, managers of these companies certainly prefer to recruit people who will be keen to work overtime without complaints or who will assist their colleagues or supervisor with their duties. Lack of resources in SMEs suggests that employees have to participate in a number of activities outside their duties, which could be considered citizenship behaviours.

FFM and job satisfaction

The present study was one of the first that examined the relationship between the FFM and employees' job satisfaction. Summing up the results showed that personality dimensions, as expressed by the five-factor model of personality, are related to job satisfaction.

The relationship between extraversion, neuroticism, and job satisfaction was not surprising. People who describe themselves as affectionate, optimistic, fun-loving and calm, relaxed, and self-assured are more easily satisfied not only from

their work but from their life in general (Diener, 1996). The capacity of joy and a positive and optimistic way of thinking form the core of extraversion (Costa & McCrae, 1985), explaining why these employees are more satisfied than less extrovert colleagues. As far as emotional stability is concerned, employees who score low in the neuroticism scale are usually calm and relaxed under stressful or difficult situations, feeling secure and self-satisfied (Tsaousis, 1996), characteristics they also bring in their work environments determining to a point their levels of work satisfaction.

On the other hand, the positive relationship between conscientiousness and job satisfaction was not anticipated. Although the multiple regression analysis revealed a positive relationship for the personality variables as a block, this does not imply statistical significance for each individual variable. The effect sizes for both the multiple regression analysis and the zero-order correlation (.18) are quite small. The positive relationship between job satisfaction and conscientiousness needs to be replicated by further research before it can be considered stable—even for Greek samples. Many studies (e.g., Salgado, 1997) have shown that ambitious, competent, and self-disciplined employees feel more satisfied at work because their attitude is usually welcomed and rewarded, especially in non-managerial positions (Robertson et al., 2000). Subsequently, this behaviour is expected to lead to increased work opportunities, with indirect effects on levels of job satisfaction.

As regards openness, the negative correlation found with job satisfaction may be due to the fact that employees who are imaginative, intellectual, and open to new experiences would have more difficulty getting satisfaction from aspects of their work compared to colleagues with low scores in openness. A reason being that their proneness to new experiences, or their tendency to experience feelings and emotions as an important part of their life, may be not very appropriate in a lot of posts. Further, employees scoring high in openness are expected to be more hardly satisfied, because their imaginative and aesthetic character makes them seek for working conditions which are “different” from what most people would expect, leading to decreased levels of job satisfaction, when they have to cope with “normal” and steady working conditions and job opportunities. Thus, it could be proposed as an implication for further research, that person–job fit will mediate the relationship between openness to experience and job satisfaction. Employees who have the opportunity to constructively use their creativity and imaginative spirit will feel more satisfied at work, compared to colleagues who do not “fit” in their position. It would be expected that this would be the case in Greece as well, where the lack of a well-established vocational guidance policy (Patiniotis & Stavroulakis, 1997) and the use of poor recruitment methods (Eleftheriou & Robertson, 1999; Kantas et al., 1997), often lead people to occupations incompatible to their interests and personality characteristics.

Work satisfaction and employees' performance

Following the results of previous studies, it was also expected that job satisfaction would be related both to overall job performance and organizational citizenship behaviour. Nevertheless, no relationship was found here between job satisfaction and supervisory ratings of employees' performance. This result, although quite surprising, should be interpreted taking under consideration the recent socio-economic status in Greece, the weaker member of the European Union, where the primary target of all recent governments during 1990s was the financial convergence with Europe almost at any cost. This situation has direct effects on levels of employment, which although still quite low, threatens numerous positions and organizations, especially in traditional jobs and SMEs, which progressively face severe competition from foreign companies. Under such an economic environment, it would not be surprising if employees were suppressing their negative feelings or thoughts regarding aspects of their work, under the suspicion that the management may examine their responses, since the questionnaires were not anonymous. This result was further supported by the generally high responses given by employees on the job satisfaction measure.

It was also expected that satisfied employees would receive more favourable ratings of citizenship behaviour in line with the suggestions made by researchers in the field of OCB and contextual performance that job satisfaction is more likely to lead to increased participation to citizenship behaviours, rather than in-role job performance (Organ, 1988b). Hence, this result was not confirmed in the present study. No relationship was found between job satisfaction and ratings of OCB. Apparently, even satisfied employees in Greek SMEs can see no reasons why they should participate in extra-role activities, since this behaviour does not usually guarantee any secondary benefits, such as promotion or pay raises, with the latter usually being subject to negotiations between the confederation of Greek workers with the Greek government and the Confederation of Greek Industry in order to establish national minimum wages, which usually form the basic pay structure across organizations.

Theoretical and practical implications

On a theoretical level, the lack of significant correlations between personality dimensions and the performance measures justifies the view that personality measures should be used in personnel selection and assessment only after careful theoretical examination of the characteristics relevant to the jobs concerned (Robertson & Kinder, 1993). This view was further supported from the results of the present study regarding the criterion-related validity of agreeableness and openness for occupations involving interpersonal interaction. A confirmatory approach should always be used when exploring the application of personality dispositions at work. The adoption of an exploratory approach in the present

study was supported however, by the need to investigate for the first time the application of the FFM in Greece. Finally, the relationship between four of the five personality dimensions, as assessed by the FFM, and job satisfaction, the first result of this kind using the FFM, suggests that individual differences play a major role and may account for a significant variance in determining employees' satisfaction.

As far as the practical implications of the study are concerned, the relationship between personality and job satisfaction is very significant, since most organizations and human resource consultants concentrate almost exclusively on the situational determinants of job satisfaction (e.g., job characteristics) ignoring the significant effect of individual differences. Another implication, both on a theoretical and practical level, is the multidimensionality and high intercorrelations of the performance measures supporting the significance of citizenship behaviours and work competencies in predicting supervisory ratings of overall job performance; a result which showed that especially in Greece the former (OCB) is a very important determinant of employees' performance ratings, probably because of the nature of most Greek companies.

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