

## A Cross-Cultural Investigation Into the Relationships Between Personality Traits and Work Values

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**ABSTRACT.** Over 500 working individuals from 2 European countries (Great Britain and Greece) participated in a 2-study investigation into the relationships between the Big Five personality factors and individuals' work values. In Study 1 ( $N = 314$ ), British employees completed the 60-item NEO-Five-Factor Inventory (NEO-FFI; P. T. Costa & R. R. McCrae, 1989) and the Work Values Questionnaire (WVQ; Mantech, 1983), which comprises 37 items measuring intrinsic (e.g., autonomy) and extrinsic (e.g., pay) work values. In Study 2 ( $N = 216$ ), Greek employees completed a Greek language measure of the Big Five and a translated version of the WVQ. The authors observed a similar factor structure for the WVQ items in both studies. Personality traits, age, and gender explained between 5% and 13% of the variance in the WVQ subscales. As a result of the 2 studies, the authors concluded that there are robust associations between certain personality traits and work values, although they do not clearly follow the intrinsic vs. extrinsic distinction.

**Key words:** job motivation, job satisfaction, personality, work values

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THE ROLE OF PERSONALITY TRAITS in work-related behaviors and values has received renewed interest over the past decade (Adler, 1996; Costa, 1996; Hough, 1998; Judge, Higgins, Thoresen, & Barrick, 1999; Judge, Martocchio, & Thoresen, 1997; Nikolaou & Robertson, 2001; Robertson & Kinder, 1993; Salgado, 1997; Schneider, 1996). In the present studies, the authors focus on the relationship of traits to work values.

In a longitudinal study, Schneider and Dachler (1978) found that the feelings a worker has about his or her job tend to be stable over time and might be a product of specific personality traits. Staw and Ross (1985) reached the same conclusion in a longitudinal investigation in which the participants were people who had changed jobs and employers. Staw, Bell, and Clausen (1986) found that measures of affective disposition from as early as adolescence predicted levels of job satisfaction throughout a period of almost 50 years. Data from the co-twin studies by Arvey, Bouchard, Segal, and Abraham (1989) provide even stronger evidence of inherited traits determining levels of job satisfaction over time.

But why should personality traits predict job attitudes or values? Staw et al. (1986) proposed two possible explanations. First, it may be that affective disposition has a pervasive influence over how people view the world, including their job. Indeed, there is evidence that this is the case (Hochwarter, Zellars, Perrewe, & Harrison, 1999). Second, it is possible that dispositions influence job-related choices, with negative people seeking or willing to accept less appealing jobs than positive people (Dormann & Zapf, 2001). In other words, it is possible that people with different personalities sort themselves into different jobs. For example, individuals high on Openness may seek out and be satisfied in jobs with variety, novelty, and opportunities for learning.

There are other possible reasons why personality traits predict job attitudes, choices, values, and behaviors. Individuals with different personalities (e.g., neurotics and extraverts) may react to different aspects of their work environment. This hypothesis can be directly tested by comparing the work values of many different employees in the same job. Such studies have been carried out, and data suggest that there is considerable variability among people in the same work environment, although it is uncertain whether this reflects personality or demographic differences or some combination of the two (Furnham, 1992).

Another longstanding argument is that jobs affect the personality of those who hold them (Kornhauser, 1965). Testing this hypothesis would require controlled longitudinal research, although recent findings on the stability of personality over time (e.g., Clark & Watson, 1999; Costa, McCrae, & Siegler, 1999) suggest that it is unlikely. Furthermore, as Arvey, Carter, and Buerkley (1991) noted, most researchers assume that the direction of causality runs from person-

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ality variables to job attitudes and values rather than vice versa. Indeed, the few experimental studies in the area have shown that personality has a clear influence on the perceived importance of job characteristics (work values), which in turn affects job satisfaction (e.g., Levin & Stokes, 1989).

Furthermore, there is the proposition that any association between self-reported personality and job attitudes and values is merely a function of common method variance and item overlap. Although it is always preferable to use multi-trait-multimethod approaches to overcome such problems, it is not clear how to measure job attitudes and values behaviorally, except by quite indirect measures such as absenteeism.

Researchers have investigated the relationships between personality and job satisfaction (Furnham, Petrides, Jackson, & Cotter, 2002), but few have examined those between personality and work values. Much of the research on work values has been concerned with their impact on job choice decisions, and it has been suggested that work values, which are partly a function of personality, work experience, and social values, primarily determine vocational choice. For instance, Judge and Bretz (1992) demonstrated that people are more likely to choose particular jobs whose content is similar to their value orientation. In this study, we consider how personality factors are related to work values, which, in turn, have been shown to influence vocational choice, satisfaction, and productivity (Furnham, 1990, 1992).

### *Work Values*

In spite of the considerable literature on work values, there seems to be some disagreement as to what they are and how they should be measured. Sometimes they are conceived of in terms of cultural values (Parsons, Cable, & Wilkerson, 1999; Selmer & De Leon, 1996), whereas at other times they are thought of as personal values (George & Jones, 1997). For Feather (1982), values are a class of motives that serve as standards or criteria to engender thought and action. They can be discrepant and congruent with particular environments, and people are motivated to find work environments that are congruent with their values.

There are several measures of work values, such as the 9-item Survey of Work Values (Wollack, Goodale, Wijting, & Smith, 1971), which measures five types of values (activity preference, attitude toward earning, job involvement, pride in work, and upward striving; Young & Parker, 1999). Perhaps one of the earliest measures was the Allport, Vernon, and Lindzey (1960) study of values, which measured six basic values: theoretical, economic, aesthetic, social, political, and religious. Another questionnaire used mainly in the area of vocational choice is Super's (1970) Work Values Inventory, which consists of 15 scales measuring extrinsic values in the form of rewards such as money and prestige (way of life, security, prestige, economic returns), extrinsic social and environmental concomitants of work (surroundings, associates, supervisory relationships, and

variety), and intrinsic rewards derived from activity pleasure and goal accomplishment (creativity, management, achievement, altruism, independence, intellectual stimulation, and aesthetics; Ben-Shem & Avi-Itzhak, 1991). Another inventory that has received considerable attention is the Work Values Questionnaire (Elizur, 1984), which comprises 24 different values to be rated on a 6-point scale. In a large international study, Elizur, Borg, Hunt, and Beck (1991) found three dimensions for this questionnaire, which they labeled cognitive (advancement, feedback, status), affective (recognition, esteem, interaction), and instrumental (pay, benefits, security).

Other measures of work values include the Minnesota Importance Questionnaire (Gay, Weiss, Hendel, Dawis, & Lofquist, 1971), which measures six types of values (achievement, altruism, autonomy, comfort, safety, and status; Keller, Bouchard, Arvey, Segal, & Dawis, 1992). Manhardt (1972) developed the Work Values Inventory, which measures 25 values that factor into three broad dimensions (comfort and security, competence and growth, status and independence; Meyer, Irving, & Allen, 1998). Occasionally, authors appear to develop measures specifically for the purposes of one study. For example, Johnson (2001) devised a 14-item questionnaire to measure four types of work values (extrinsic, intrinsic, altruistic, and social) and subsequently to investigate how they change over time.

Our present studies are concerned with personality predictors of work values, an area that has attracted only modest attention in the literature (Furnham & Zacherl, 1986; Knoop, 1994a; Rain, Lane, & Steiner, 1991; Tokar & Subich, 1997). People choose to remain in jobs or to leave them on the basis of various work-related features that they perceive are important. The question addressed in this paper is which personality traits are related to work values and how or why they are related (which in turn is related to job selection). In this article, we investigate the extent to which personality traits influence work values, which "focus on the more enduring aspects of people's orientations towards employment in general rather than on their reactions to particular jobs or occupations" (Cook, Hepworth, Wall, & Warr, 1981, p. 132).

#### *Dimensions of Job Attitudes and Values*

There remains considerable disagreement about the dimensions of work values. The debate over Herzberg's two-factor theory of job satisfaction (Herzberg, 1966; Herzberg, Mausner, & Snyderman, 1959) was largely settled in the 1970s (Carroll, 1973; Hulin & Smith, 1967; Kerr, Harlan, & Stogdill, 1974; Locke, 1976; Waters & Waters, 1972). Although researchers continued to research the dimensional structure of facets of job satisfaction and motivation (Knoop, 1994b, 1994c), they have more recently used the terms intrinsic and extrinsic.

There is considerable literature on intrinsic and extrinsic motivation that is related to the motivator-hygiene distinction (Amabile, Hill, Hennessey, & Tighe,

1994; Pelletier et al., 1995). Although the two-factor theory has not attracted much attention over the last decade, there has been a good deal of research into intrinsic and extrinsic motivation (e.g., Dagenais, 1998; Harter & Jackson, 1992). Vallerand (1997) noted that this research has been pursued in more than 800 publications and generally falls into three distinct areas or levels: situational, contextual, and global. A few researchers specifically investigated the personality correlates of motivation (e.g., Wong & Csikszentmihalyi, 1991), but, as can be seen in Vallerand's comprehensive review, most of these studies focused on contextual and situational correlates rather than on individual differences correlates of intrinsic and extrinsic motivation.

Reviewers of the work values literature have also suggested that values be classified into broad intrinsic and extrinsic types (Cotton, Bynum, & Madhere, 1997; Nord, Brief, Atieh, & Doherty, 1990). George and Jones (1997) noted that intrinsic work values, which are desired end-states, depend on the content of the work, whereas extrinsic values are independent of the content of work. For instance, they argued that people will respond differently to job redesign and enrichment as a function of their values: "For people whose intrinsic work values (a) stress the importance of a sense of accomplishment and achievement, and (b) are more important as guiding principles than their extrinsic work values, enrichment is likely to be seen as a positive change that contributes to their well-being. Conversely, for people whose extrinsic work values (a) stress the importance of a comfortable life and family security, and (b) are more important as guiding principles than their intrinsic work values, enrichment may be more likely to be viewed as a natural event or even negatively to the extent that the redesigned jobs are more demanding and tiring" (pp. 397–398). In addition, psychometric analyses have provided evidence that the majority of work values can be meaningfully classified along intrinsic versus extrinsic lines (Dagenais, 1998).

Irrespective of measures or terminology, the literature appears to show that the factor structure of most job attitudes is multidimensional. Moreover, factor analytic studies of job satisfaction, work values, and work outcomes yield clearly interpretable factors that often attract labels like intrinsic–extrinsic or motivator–hygiene (e.g., Hauber & Bruininks, 1986; Knoop, 1994c; Wakefield, Curry, Mueller, & Price, 1987). It therefore seems important to pursue a multidimensional approach to explore the possibility that different personality characteristics predict different facets of work values.

#### *Personality, Satisfaction, and Values*

Various researchers have looked at the relationship between personality traits and both work satisfaction and work values. Most, but not all, have looked at either the three- or five-dimensional model. In this study, we measure the Big Five, higher-order, orthogonal dimensions of personality: Extraversion, Neuroticism, Openness, Agreeableness, and Conscientiousness. Researchers have

argued that personality dispositions influence work values. Thus, extraverts seek jobs with variety, and neurotics seek jobs with stability.

Furnham, Forde, and Ferrari (1999) obtained data from 92 job applicants who completed the Eysenck Personality Profiler and also rated 24 work values (e.g., convenient hours of work, opportunities for personal growth, job security). They classified 18 of these into a *hygiene/extrinsic* or a *motivator/intrinsic* composite, on the basis of the Herzberg et al. (1959) two-factor theory. Furnham et al. (1999) found that Extraversion was associated with the motivator/intrinsic composite, whereas Neuroticism was associated with the hygiene/extrinsic composite. Psychoticism was also related to the hygiene/extrinsic composite, albeit marginally. However, Furnham et al. constructed their two composites on an *a priori* rather than on an empirical basis, and therefore they did not provide a test of the validity of the two-factor theory. Furnham et al. (2002) found conscientiousness the best predictor of work values.

In the present studies, we assessed the influence of personality traits over the broad types of work-related values that employees seek and value in a job. Following Furnham et al. (1999, 2002), we asked individuals to rate the extent to which they believe various work-related facets are important to them. Because all the participants in both studies were adults with considerable work experience, we assumed that they would know well which work-related aspects are personally important to them for being content at work.

## STUDY 1

A number of researchers over the past 15 years either directly or indirectly looked at the relationships between personality and job attitudes, behaviors, and values (Brief, Butcher, & Roberson, 1995; Furnham et al., 1999; Furnham & Zacherl, 1986; Hurtz & Donovan, 2000; Judge et al., 1999; Judge & Locke, 1993; Necowitz & Roznowski, 1994; Tokar & Subich, 1997). However, only a few have concentrated on work values, and still fewer have examined work values in relation to personality traits.

Our first objective in Study 1 was to examine the factor structure of work values. As noted, results of several studies have shown that items pertaining to job attitudes tend to cluster into hygiene/extrinsic and motivator/intrinsic factors (e.g., Hauber & Bruininks, 1986; Knoop, 1994c; Wakefield et al., 1987), and we expected that the work values items in this study would have a similar structure. However, the major aim of the study was to explore whether personality traits have specific and consistent influences on people's work values.

## Method

### *Participants*

British individuals ( $N = 314$ ) took part in the study (183 men, 129 women; 2 did not report gender). Their mean age was 39.55 years ( $SD = 10.6$ ). All were

adults drawn from a range of occupations, including human resources, information technology, sales, and engineering. Over 95% were White Caucasians. Most had been working for 20 years or more.

### *Instruments*

The NEO–FFI (Costa & McCrae, 1989) is a 60-item paper-and-pencil measure based on the five-factor model of personality, which yields on five factors: Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness. It is one of the most commonly used instruments to measure personality traits because of its extensive and impressive reliability and validity statistics.

The Work Values Questionnaire (WVQ) requires respondents to indicate on a 6-point scale how important 37 work-related values are in making them feel content at work. Participants were given the list of items shown in Table 1 with the following directions: “Please read each item below and rate how important each is to you to feel happy and be content with your work.” The WVQ is the revised version of the 24-item Work Values Questionnaire (Mantech, 1983) used in Furnham et al. (1999). The questionnaire has been used in assessment centers for more than a decade.

### *Procedure*

Participants were obtained from three sources. About a third were obtained from a market research company that was paid to find 100 working adults (broken down by sex, class, and age). Participants were paid a small amount to take part, but were not debriefed because the questionnaire was completed anonymously. Another third were mature students attending a seminar about MBA opportunities. The response rate was 100%, and all participants were debriefed later by post. The rest of the data were obtained from individuals attending a three-day nationwide IT conference. Participants were asked to complete anonymously a questionnaire booklet containing a number of different measures. The task took between 30 and 40 min. The response rate was 80%, and again respondents were debriefed by post.

## **Results**

Table 1 shows the means and standard deviations for the 37 items in the WVQ. The three highest rated items (achievement, job interest, and trust) concerned motivator/intrinsic needs. The three lowest rated items (flexible benefits, human resources backup, and job status) pertained to hygiene/extrinsic values. The lowest mean was 3.16 (flexible benefits).

Table 2 contains the means and standard deviations for the American NEO–FFI norms and the British sample used in this study, broken down by gen-

**TABLE 1. Means and SDs for the WVQ Items (1 = Unimportant, 6 = Extremely Important)**

Item	Britain		Greece	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
1. Achievement (personal success) at work	5.35	.75	5.12	.93
2. Advancement and chances for promotion	4.25	1.17	5.00	.94
3. Autonomy and personal freedom	4.92	.87	5.19	.88
4. Benefits (vacation, sick leave, pensions, insurance)	3.92	1.15	5.09	1.04
5. Chance to use your skills and abilities	5.11	.74	5.26	.85
6. Company image (to be employed by a company for which you are proud to work)	4.12	1.12	4.77	1.13
7. Clarity of your work goals and targets	4.42	1.10	5.00	.91
8. Contribution to society	3.83	1.28	4.75	1.11
9. Esteem (sense that you are valued as colleague or worker)	4.91	.91	5.33	.82
10. Fairness (people being equitably paid for performance compared to others)	4.65	1.04	5.19	.98
11. Fatigue avoidance (not being overworked to exhaustion)	4.01	1.29	3.89	1.42
12. Feedback (regular) concerning the results of your work	4.25	1.03	4.46	.97
13. Flexible benefits (being paid in various ways to suit you, e.g., car, life insurance, and childcare vouchers)	3.16	1.32	4.18	1.31
14. Human resources backup (being helped with selection and appraisal)	3.20	1.17	4.35	.99
15. Independence in work style	4.69	1.00	4.96	1.02
16. Influence within the organization as a whole	4.69	.98	4.37	1.09
17. Influence in the work group/team	4.86	.78	4.65	1.07
18. Job interest (to do work which is personally very interesting to you)	5.22	.77	5.56	.72
19. Job security (as permanent a job as possible)	3.91	1.26	5.16	1.02
20. Job status (to have a job others recognize as very high status)	3.80	1.19	4.55	1.16
21. Harmony (among all groups in your organization)	3.87	1.13	4.96	.94
22. Managerial respect: Being respected for your skills and input	4.87	.84	5.36	.82
23. Opportunity for personal growth and development	4.87	.93	5.26	.84
24. Opportunity to meet people and interact with them	4.51	1.06	4.69	1.01
25. Participation in decision making	4.89	.91	4.70	.92

*(table continues)*



**TABLE 1. (Continued)**

Item	Britain		Greece	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
26. Pay (a high competitive salary by performance-related systems or rapid promotion)	4.36	1.06	4.86	1.06
27. Physically safe conditions at work	3.88	1.29	5.05	1.01
28. Recognition for doing a good job	4.81	.91	4.70	.92
29. Relationships with work colleagues	4.69	.86	5.21	.77
30. Relationships with subordinates	4.61	.90	5.08	.91
31. Resources (being provided with all necessary and up-to-date equipment)	4.18	1.01	4.98	.86
32. Responsibility (being encouraged to take responsibility for work outcome)	4.89	.87	5.03	.94
33. Supervisor (a fair and considerate boss)	4.78	.91	5.33	.81
34. Training opportunities (regular, relevant opportunities to attend useful training courses)	4.29	1.10	5.05	.91
35. Trust (being trusted by all people you work with)	5.12	.92	5.35	.79
36. Use of ability and knowledge in your work	4.94	.78	5.30	.72
37. Work conditions (comfortable, clean, modern)	3.84	1.05	5.24	.81

Note. WVQ = Work Values Questionnaire.

der. These figures enabled the cross-cultural nature of the data to be examined. As there are different norms for men and women on this test, we examined sex differences. The results of *t* tests on the British sample indicated that women scored significantly higher than did men on Agreeableness.

Subsequently, we analyzed the 37 items in the WVQ (varimax rotation) and extracted four factors accounting for 42.2% of the total variance on the basis of the scree test. It should be noted that each of the 37 items was classified as intrinsic or extrinsic based on the original classification by Furnham et al. (1999). We subsequently rotated the four factors to a simple structure through an oblique rotation that resulted in the factor pattern matrix presented in Table 3. The factor inter-correlation matrix is shown in Table 4. It must be noted that the fourth factor is rather weak, with only five items loading on it, and may therefore be unstable.

With the exception of the first factor, the solution was relatively easy to interpret in terms of the motivator/intrinsic versus hygiene/extrinsic distinction. The first factor was labeled Work Relationships, with more than half its items directly concerned with others at work. However, this factor was not easily interpretable in terms of the intrinsic-extrinsic distinction, as the items loading on it comprised work values of both types. The second factor was labeled Influence and Advancement and clearly captured motivator/intrinsic needs. The third fac-

**TABLE 2. Means and SDs for the Big Five (American Norms, British Sample, and Greek Sample)**

Big Five	American <sup>a</sup>				<i>t</i> test
	Men ( <i>n</i> = 502)		Women ( <i>n</i> = 481)		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Neuroticism	16.89	7.32	20.50	8.37	
Extraversion	26.03	6.07	27.49	5.81	
Openness	27.09	5.78	28.41	6.33	
Agreeableness	28.17	4.78	30.25	4.50	
Conscientiousness	32.91	6.15	33.55	6.53	
	British <sup>b</sup>				<i>t</i> test
	Men ( <i>n</i> = 183)		Women ( <i>n</i> = 129)		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Neuroticism	16.56	8.11	17.52	6.93	1.08
Extraversion	30.49	6.19	31.38	5.55	1.04
Openness	30.45	6.04	31.44	5.73	1.45
Agreeableness	30.95	6.00	33.01	5.12	3.16*
Conscientiousness	33.06	7.07	34.20	5.87	1.49
	Greek <sup>c</sup>				<i>t</i> test
	Men ( <i>n</i> = 86)		Women ( <i>n</i> = 130)		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Neuroticism	39.40	9.56	45.04	10.21	4.08**
Extraversion	53.20	10.03	51.04	9.05	1.64
Openness	46.08	8.77	49.18	9.02	2.50*
Agreeableness	52.35	6.73	54.92	7.74	2.52*
Conscientiousness	52.88	7.42	52.46	8.80	.367

*Note.* British and Greek Big Five scores are derived from different questionnaires. <sup>a</sup>Data from Costa and McCrae (1989). <sup>b</sup>*t* test between British men and women. <sup>c</sup>*t* test between Greek men and women.

\**p* < .05. \*\**p* < .01.

tor comprised almost exclusively hygiene/extrinsic items and was labeled Financial and Working Conditions. The fourth factor comprised items pertaining to motivator/intrinsic values and was labeled Autonomy and Use of Skills. It is pos-

sible to interpret the results of the factor analysis from the perspective of the Maslowian hierarchy of needs. Thus, the Financial and Working Conditions factor reflects physiological and safety needs; the Work Relationships factor reflects social needs; the Influence and Advancement factor reflects esteem needs; last, the Autonomy and Use of Skills factor reflects self-actualization needs.

On the basis of the results of the factor analysis, we constructed four scales by summing the highest loading items on each factor. As can be seen in Table 4, the internal reliabilities of the four scales were adequate. Table 5 presents the zero-order correlations between the variables in the study.

To explore the relationships between work values and personality, we regressed the four summated scales onto the Big Five, gender, and age. Table 6 presents the results of these analyses in compact form. All four regressions were significant, but there were noticeable differences in the amount of variance explained. Taken together, the seven predictors accounted for 9% of the variance in Work Relationships,  $F(7, 306) = 5.30, p < .01$ . Extraversion, Neuroticism, and Agreeableness appeared as significant positive predictors in the equation. However, the zero-order correlation between Neuroticism and Work Relationships was very low and negative ( $r = -.007$ ; see Table 5). Neuroticism therefore was not a reliable predictor in the regression, but rather acted as the suppressor variable (Darlington, 1990).

In the second regression, Extraversion, Openness, and Conscientiousness were positive predictors of Influence and Advancement, whereas Agreeableness was a negative predictor. Together, the seven regressors explained 22% of the variance in Influence and Advancement scores,  $F(7, 306) = 13.49, p < .01$ . For the third regression, the seven predictors accounted for about 8% of the variance in Financial and Working Conditions,  $F(7, 306) = 4.60, p < .01$ . Neuroticism and Conscientiousness were positive predictors, whereas Openness was a negative predictor.

For the last regression, the seven regressors collectively accounted for 10% of the variance in Autonomy and Use of Skills,  $F(7, 306) = 6.12, p < .01$ . Openness was the only significant predictor (positive) among the personality variables. Gender was also a significant predictor, indicating that women were more likely than men to link values concerning Autonomy and Use of Skills to happiness in the workplace. It is possible that the women held lower-paying jobs than did the men, and therefore had less autonomy or opportunity for promotion. However, as insufficient data were collected on this point, we did not explore this hypothesis.

## Discussion

The Work Relationships factor was not interpretable in terms of the two-factor classification, because the highest loading items clustered mainly around issues relevant to interpersonal relationships in the workplace (see Table 3). However, the interpretation of the other three factors was straightforward from

**TABLE 3. Factor Pattern Matrix for the British Sample**

Item and classification <sup>a</sup>	Factor			
	1	2	3	4
<b>Work Relationships (Factor 1)</b>				
29. Relationships with colleagues (H)	.865			
30. Relationships with subordinates (H)	.806			
21. Harmony (M)	.570			
35. Trust (M)	.537			
24. Opportunity to meet people (H)	.496			
12. Feedback (M)	.469			
28. Recognition for doing a good job (M)	.467	.325		
9. Esteem (H)	.463	.332		
7. Clarity of work goals (M)	.454			
33. Supervisor (H)	.430			
8. Contribution to society (M)	.383			.336
10. Fairness (H)	.328			
<b>Influence and Advancement (Factor 2)</b>				
16. Influence within organization (M)		.746		
17. Influence in work group (M)		.674		
25. Participation in decisions (M)		.658		
20. Job status (H)		.594	.353	
2. Advancement (M)		.585	.346	
1. Achievement (M)		.579		
32. Responsibility (M)		.532		
23. Personal growth (M)		.474		
22. Managerial respect (M)	.412	.414		
<b>Financial and Working Conditions (Factor 3)</b>				
4. Benefits (H)			.746	
37. Work conditions (H)			.660	
19. Job security (H)			.649	
26. Pay (H)		.324	.574	
13. Flexible benefits (H)			.546	
14. Human resources (H)			.519	
27. Physically safe (H)			.519	
31. Resources (H)			.467	
11. Fatigue avoidance (H)		-.390	.395	
6. Company image (H)			.363	
34. Training opportunities (M)	.310		.332	
<b>Autonomy and Use of Skills (Factor 4)</b>				
15. Independence (M)				.769
3. Autonomy (M)				.697
5. Chance to use skills (M)				.612
18. Job interest (M)				.523
36. Use of ability (M)	.307			.382

Note. Loadings less than |.30| are suppressed. <sup>a</sup>M = motivator/intrinsic; H = hygiene/extrinsic.

**TABLE 4. Factor Intercorrelations for the WVQ, Along With Items and Alphas for the Four Summated Scales (British Sample)**

Factor	1	2	3	4
1. Work Relationships	—			
2. Influence and Advancement		.136	—	
3. Financial and Working Conditions	.308	.141	—	
4. Autonomy and Use of Skills	.303	.177	.135	—
Items in scale <sup>a</sup>	29, 30, 21, 35, 24	16, 17, 20, 2, 1, 32	4, 37, 19, 13, 26	15, 3, 5, 18
Cronbach's $\alpha$	.76	.73	.70	.69

*Note.* WVQ = Work Values Questionnaire. <sup>a</sup>Numbers correspond to items in Table 1.

an intrinsic versus extrinsic perspective, because they comprised almost exclusively either intrinsic or extrinsic items. Thus, Influence and Advancement, Financial and Working Conditions, and Autonomy and Use of Skills consisted of intrinsic, extrinsic, and intrinsic items, respectively. The factor analysis, therefore, supported the prediction that items would cluster according to the type of need they represented.

Extraversion and Agreeableness were significant positive predictors of Work Relationships. Naturally, extraverts were more likely to rate their relationships with their co-workers as important for feeling happy at work. The same was true for participants high on Agreeableness, which is in line with earlier findings by Organ and Lingl (1995). Agreeable individuals are, by their nature, kind, tolerant, and friendly and it makes good sense that they seek satisfactory relationships with others. Neuroticism was also a significant predictor of this factor, perhaps because neurotics tend to believe that they need support from others and are dependent on them for assistance.

Extraversion and Openness were positively related to the first motivator/intrinsic scale, namely, Influence and Advancement. In addition, Agreeableness and Conscientiousness were negative and positive predictors in the equation, respectively. It is possible that Agreeableness was a negative predictor because agreeable people value cooperativeness over competitiveness. Advancement and promotion, however, inevitably mean a win-lose situation with possible concomitant anger. Conscientiousness was a significant positive predictor, which may also be explainable in terms of the primary factors that this trait comprises, such as achievement striving, dutifulness, and self-discipline. Adjectives associ-

**TABLE 5. Correlations for the Variables in the Two Studies<sup>a</sup>**

Variable/factor	1	2	3	4
1. Neuroticism	—	-.396**	-.085	-.023
2. Extraversion	-.400**	—	.232**	.178**
3. Openness	.103	.044	—	.101
4. Agreeableness	-.094	.054	.049	—
5. Conscientiousness	-.224**	.248**	-.075	.142*
6. Age	-.074	-.170**	.012	.097
7. Gender	.062	.074	.083	.177**
8. Work Relationships	-.007	.264**	.037	.163**
9. Influence and Advancement	-.084	.282**	.134**	-.335**
10. Financial and Working Conditions	.100	.058	-.160**	-.017
11. Autonomy and Use of Skills	.030	.114*	.289**	-.029

Note. <sup>a</sup>Values below the diagonal are for the British sample. Values above the diagonal are for the Greek sample.

\* $p < .05$ . \*\* $p < .01$ .

ated with achievement striving include being thorough, ambitious, industrious, enterprising, determined, confident, and persistent. It therefore makes sense that Conscientiousness should be a significant predictor of work values related to Influence and Advancement.

In line with previous findings (Furnham et al., 1999), Neuroticism was a significant positive predictor of the extrinsic factor labeled Financial and Working Conditions. Conscientiousness was also a positive predictor of this factor, which makes sense because conscientious people are likely to value extrinsic work aspects that are necessary for them to perform their job in a careful manner. In addition, Openness was a negative predictor, indicating that individuals high on this dimension (imaginative, liberal, insightful) gave low importance ratings for Financial and Working Conditions.

Openness and gender were the only significant predictors of the second intrinsic factor, Autonomy and Use of Skills. It is interesting to note that this was the only case in which gender was a significant predictor, with women perceiving autonomy and opportunities to use their skills as an important element of happiness at work. Age was not a significant predictor in any of the equations, in spite of the wide variation of this variable in the sample. It therefore seems that work values do not vary substantially across age and gender. This counterintuitive finding is perhaps the most consistent in the study and has important implications for policy making.

Before discussing these findings further, it was important that their robustness be tested on a new sample. To this end, we conducted a second study with

5	6	7	8	9	10	11
-.327**	.022	.268**	.028	-.066	.029	-.012
.292**	-.188**	-.112	.103	.245**	-.036	.113
.100	-.279**	.169*	-.011	-.100	-.255**	.228**
.229**	.198**	.170*	.378**	.062	-.124	.132
—	-.115	-.025	.108	.196**	-.050	.096
-.094	—	-.033	.166*	.076	.041	.020
.085	-.141*	—	.097	-.039	-.007	.209**
.141*	-.063	.090	—	.418**	.343**	.422**
.121*	-.169**	-.061	.199**	—	.386**	.453**
.178**	-.135*	.105	.344**	.244**	—	.232**
.057	.026	.167**	.282**	.254**	.178**	—

the same aims but using a slightly different measure of the Big Five and a sample from a different country, Greece.

## STUDY 2

Study 2 was a straightforward cross-cultural replication of Study 1. Our aim was to examine the robustness of the findings of the first study on a sample from another industrialized country. Although we were certain that work practices would be different (Furnham, 1992), it was still important to establish those links between personality and work values that remain consistent in a cross-cultural context.

## Method

### *Participants*

Greek employees ( $N = 216$ ) participated in this study. Of these, 86 were men and 130 were women. Participants' ages ranged from 20 to 63 years ( $M = 34.7$ ,  $SD = 9.77$ ). Most were professionals (44%), and the rest were mainly skilled (37%) or semiskilled (17%) workers.

### *Instruments*

The Traits Personality Questionnaire 5 (TPQue5; Tsaousis & Kerpelis, 2004) is a measure of the Big Five model developed and validated specifically

TABLE 6. Regression of the Four Work Values Onto Gender, Age, and the Big Five for the British Sample ( $N = 314$ )

Variable	Work Relationships (Factor 1)		Influence and Advancement (Factor 2)		Financial and Working Conditions (Factor 3)		Autonomy and Use of Skills (Factor 4)	
	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$
Neuroticism	.133	2.18*	-.011	.19	.170	2.76**	.048	.80
Extraversion	.282	4.58**	.248	4.35**	.072	1.17	.110	1.80
Openness	.007	.13	.153	3.01**	-.168	3.05**	.268	4.93**
Agreeableness	.141	2.52*	-.348	6.71**	-.028	.49	-.087	1.57
Conscientiousness	.076	1.33	.113	2.13*	.172	2.99**	.067	1.18
Gender	.026	.46	-.051	.98	.081	1.43	.152	2.74**
Age	-.009	.16	-.091	1.75	-.073	1.29	.080	1.43

\* $p < .05$ . \*\* $p < .01$ .



for use with Greek adults. It is a short version (101 items) of the TPQue (Tsaousis, 1999) comprising scales of Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness, as well as a lie scale and a social desirability scale.

The WVQ, described in the method section of Study 1, was translated into Greek and subsequently translated back into English to ensure compatibility between the two versions.

### *Procedure*

Participants in this study came from a variety of organizations and job positions. We recruited 89 from a large private educational institution; they completed the questionnaires as part of the personnel appraisal procedure arranged by the human resources department of their institution. We recruited another 79 on a voluntary basis from a large private shipping company. The rest were recruited through the personnel managers of various small companies. Participants completed a questionnaire booklet anonymously. The task took between 30 and 40 min.

### **Results**

Table 1 shows the means and standard deviations for the 37 items in the translated WVQ and allows a comparison between British and Greek scores. A  $t$  test on the grand mean of the 37 items showed that Greek participants ( $M = 183.51$ ,  $SD = 16.69$ ) gave significantly higher ratings overall,  $t(504) = 12.37$ ,  $p < .01$ , than their British counterparts ( $M = 164.35$ ,  $SD = 17.60$ ). Table 2 shows the means and standard deviations for the TPQue5 for both samples, broken down by gender. In the present sample, the women scored significantly higher than did the men on Neuroticism, Openness, and Agreeableness.

We performed a factor analysis to examine whether the British factor solution would also emerge in the Greek sample. Four factors, together accounting for 40.83% of the variance, were extracted and rotated obliquely. As can be seen in Table 7, the Greek factor solution was similar to the British solution. About a third of the items were displaced, and the rest loaded on the same factors as in the British solution, although not always in the same order. As was the case in the British sample, the first factor comprised both intrinsic and extrinsic items, whereas the second, third, and fourth factors consisted mainly of intrinsic, extrinsic, and intrinsic items, respectively. Table 8 contains the factor intercorrelations for the Greek solution.

We calculated two sets of factor scores by summing participants' scores on the highest loading items on each of the four factors. The two sets were based on the British and Greek factor analyses, respectively (see Tables 3 and 7). The internal consistencies for the scales are given in Table 8. The alphas were generally adequate, with the exception of that for Financial and Working Conditions

**TABLE 7. Factor Pattern Matrix for the Greek Sample**

Item and classification <sup>a</sup>	Factor			
	1	2	3	4
<b>Work Relationships (Factor 1)</b>				
28. Recognition for doing a good job (M)	.660			
33. Supervisor (H)	.648			
29. Relationships with colleagues (H)	.601			
36. Use of ability (M-F4)	.599			
22. Managerial respect (M-F2)	.592			
9. Esteem (H)	.576			
21. Harmony (M)	.535			
32. Responsibility (M-F2)	.494			
35. Trust (M)	.489			
30. Relationships with subordinates (H)	.459			.316
6. Company image (H-F3)	.416	.352		
5. Chance to use skills (M-F4)	.411			
10. Fairness (H)	.369			
18. Job interest (M-F4)	.352			
<b>Influence and Advancement (Factor 2)</b>				
23. Personal growth (M)		.724		
2. Advancement (M)		.711		
1. Achievement (M)		.625		
20. Job status (H)		.621		
26. Pay (H-F3)		.583		-.385
25. Participation in decisions (M)		.567		
24. Opportunity to meet people (H-F1)		.360		
16. Influence within organization (M)		.347		
<b>Financial and Working Conditions (Factor 3)</b>				
11. Fatigue avoidance (H)			.695	
27. Physically safe (H)			.671	
13. Flexible benefits (H)	-.313		.647	
19. Job security (H)			.549	-.336
37. Work conditions (H)			.475	
14. Human resources (H)			.473	.301
4. Benefits (H)			.411	.319
31. Resources (H)			.340	
34. Training opportunities (M)			.336	
<b>Autonomy and Use of Skills (Factor 4)</b>				
3. Autonomy (M)				.815
15. Independence (M)				.747
8. Contribution to society (M-F1)				.460
7. Clarity of work goals (M-F1)				.364
12. Feedback (M-F1)		.311		.357
17. Influence in work group (M-F2)				.327

*Note.* If different, the factor on which each item loaded in the British sample is indicated in the parentheses. Loadings less than |.30| are suppressed. <sup>a</sup>M = motivator/intrinsic; H = hygiene/extrinsic.

**TABLE 8. Factor Intercorrelations for the WVQ, Along With Items and Alphas for the Four Summated Scales (Greek Sample)**

Factor	1	2	3	4
1. Work Relationships	—			
2. Influence and Advancement	.329	—		
3. Financial and Working Conditions	.334	.255	—	
4. Autonomy and Use of Skills	.385	.421	.222	—
Cronbach's $\alpha$ (British analysis)	.71	.72	.53	.61
Items in scale <sup>a</sup> (Greek analysis)	28, 33, 29, 36, 22	23, 2, 1, 20, 26	11, 27, 13, 19, 37	3, 15, 8, 7, 12
Cronbach's $\alpha$ (Greek analysis)	.69	.67	.65	.71

Note. WVQ = Work Values Questionnaire. <sup>a</sup>Numbers correspond to items in Table 1.

based on the British factor analysis ( $\alpha = .53$ ). Table 5 shows the intercorrelations between the variables in the two studies.

Table 9 gives the results of the four regressions, with the work values scales (based on the British factor analysis) as the dependent variables and the personality traits, along with gender and age, as the independent variables. The results in Table 9 may be compared with those in Table 6. The first regression showed that the seven predictors accounted for more variance in the dependent variable ( $R^2_{\text{adj}} = .13$ ) than in the British study. Agreeableness was the only significant predictor in the equation. Highly agreeable Greek participants valued jobs that provided smooth relationships with supervisors, colleagues, and subordinates.

The results of the second regression showed both similarities and differences with those obtained in the British study. Extraversion and Conscientiousness were significant positive predictors of Influence and Advancement in both studies. In contrast, Agreeableness was a reliable predictor only for the British sample. The seven predictors explained about 8% of the overall variance in Influence and Advancement; that is, considerably less than was explained in the British study (22%). The most striking difference concerned the sign of the coefficient for Openness, which changed from positive in the British study to negative in the Greek study.

In the third regression, Openness was negatively associated with Financial and Working Conditions. In contrast to the results obtained in the British sample, neither Neuroticism nor Conscientiousness was a reliable predictor in the equa-

TABLE 9. Regression of the Four Work Values Onto Gender, Age, and the Big Five for the Greek Sample ( $N = 216$ ), With Scales Based on British Factor Analysis

Variable	Work Relationships (Factor 1)			Influence and Advancement (Factor 2)			Financial and Working Conditions (Factor 3)			Autonomy and Use of Skills (Factor 4)		
	$\beta$	$t$		$\beta$	$t$		$\beta$	$t$		$\beta$	$t$	
Neuroticism	.061	.83		.079	1.04		.007	.09		.001	.01	
Extraversion	.098	1.31		.287	3.74**		.060	.77		.087	1.12	
Openness	-.042	.61		-.154	2.16*		-.264	3.64*		.193	2.70**	
Agreeableness	.334	4.83**		-.022	.30		-.117	1.61		.041	.57	
Conscientiousness	.017	.24		.150	2.06*		-.011	.15		.037	.50	
Gender	.046	.67		.008	.11		.062	.87		.182	2.57*	
Age	.105	1.50		.072	1.00		.005	.07		.084	1.16	

\* $p < .05$ . \*\* $p < .01$ .

TABLE 10. Regression of the Four Work Values Onto Gender, Age, and the Big Five for the Greek Sample ( $N = 216$ ), With Scales Based on Greek Factor Analysis

Variable	Work Relationships (Factor 1)		Influence and Advancement (Factor 2)		Financial and Working Conditions (Factor 3)		Autonomy and Use of Skills (Factor 4)	
	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$
	$F_{(7,208)} = 5.34^{**}$ , $R^2_{adj} = .12$		$F_{(7,208)} = 5.35^{**}$ , $R^2_{adj} = .12$		$F_{(7,208)} = 4.02^{**}$ , $R^2_{adj} = .09$		$F_{(7,208)} = 3.04^{**}$ , $R^2_{adj} = .06$	
Neuroticism	.077	1.04	.085	1.14	.033	.44	-.013	.17
Extraversion	.056	.75	.359	4.79^{**}	-.174	2.28*	.071	.91
Openness	.021	.30	-.208	2.99^{**}	-.204	2.89^{**}	.046	.64
Agreeableness	.215	3.09^{**}	-.083	.12	-.025	.35	.119	1.66
Conscientiousness	.181	2.55*	.026	.36	-.001	.02	.079	1.07
Gender	.122	1.77	-.036	.52	.102	1.46	.131	1.84
Age	.103	1.47	-.123	1.75	.055	.76	.167	2.29*

\* $p < .05$ . \*\* $p < .01$ .

tion. The seven regressors collectively accounted for only 5% of the variance in criterion scores.

The final regression showed almost identical results to the British analysis. Thus, Openness was a positive predictor, as was gender, with women rating greater Autonomy and Use of Skills as very important for feeling happy at work. Together, the seven predictors explained 7% of the variance in the dependent variable; that is, somewhat less than was explained in the British sample (10%).

Although it made for an indirect comparison between the two data sets, we performed a final set of regressions, this time with factor scores resulting from the Greek factor analysis (see Tables 7 and 8). However, although the two factor structures were similar and the factors were given the same labels in the two studies, the solutions were by no means identical.

As was the case in the other two sets of regressions, all four equations were significant, with the seven predictors typically accounting for about a tenth of the variance in each of the four dependent variables. In the first equation, Agreeableness and Conscientiousness were reliable positive predictors of Work Relationships. Thus, in all three equations involving Work Relationships, Agreeableness was a significant positive predictor (see Tables 6, 9, and 10). In the second equation, Extraversion and Openness were significant predictors (positive and negative, respectively) of Influence and Advancement values. Thus, Extraversion was a consistent positive predictor in all three regressions with this scale.

As in the previous analysis for the Greek data set, and in contrast to the results obtained on the British sample, higher scores on Openness were associated with lower ratings for Influence and Advancement. Extraversion and Openness were also reliable predictors in the third regression. Thus, Openness was a negative predictor in all three equations involving Financial and Working Conditions. Last, for the fourth regression, age was the only significant predictor, with older participants rating Autonomy and Use of Skills as more important than their younger counterparts.

### Discussion

Study 2 was a replication of the first study but was based on a smaller and more heterogeneous sample taken from a different European country and using a different measure of the Big Five personality traits. The primary objective was to investigate the robustness of the findings obtained in Study 1. Background differences between participants as well as differences between the measures used in the two studies may have had an impact on the results. However, our purpose in this research was to identify relationships between personality and work values that are robust enough to be replicated in a variety of contexts. The British and Greek factor solutions of the WVQ were similar, with two thirds of the items loading on the same factors across the two studies. Even though the hygiene/extrinsic–motivator/intrinsic distinction was not always manifest in the

factor analytic results, three of the four factors could be easily classified into one or the other category.

Perhaps the most important point to note is that the seven predictors in the two studies accounted for only a modest amount of variance in the work values scales. There are, of course, many factors unrelated to personality that may have an impact on people's work values; future researchers could examine variables such as education, socioeconomic status, motivation, and job type. Nevertheless, it should also be noted that the  $R^2_{adj}$  values are very likely to be underestimates of the true variance overlap as a result of the presence of measurement error in the independent, and especially the dependent, variables used in the two studies (Cochran, 1970; Pedhazur, 1997).

It should be stressed that comparisons between different studies, even if they involve the same predictors, are somewhat problematic, as it is common for the different variables to have different variances and patterns of intercorrelations across samples. Furthermore, there is the problem of varying sample sizes and the effect this variation has on the significance levels of the overall regression and the regression coefficients. That certain findings were consistently replicated despite these issues serves to highlight their robustness.

Thus, Agreeableness was a positive predictor in all three equations involving Work Relationships. In a result echoing that obtained by Organ and Lingl (1995), agreeable individuals were more likely to value good relationships with colleagues in the workplace. Also in line with earlier findings (Furnham et al., 1999), Extraversion invariably predicted the motivator/intrinsic factor Influence and Advancement across the three regression equations. Extraverted participants were more concerned with Influence and Advancement values than were their introverted counterparts.

Openness was a consistent negative predictor of Financial and Working Conditions. When we controlled for the six other predictors in the equation, higher scores on Openness were associated with lower ratings of importance for Financial and Working Conditions. Creative individuals who are original, daring, and liberal do not seem to perceive the fulfillment of extrinsic needs as important for being happy in the workplace. Thus, they tend to undervalue pay and benefits in contrast with those low on Openness, who are generally cautious, conservative, and conventional.

With the exception of a few isolated and unreplicated cases, age and gender were not reliably associated with work values. Nevertheless, it is worth noting that in two of the three regressions involving Autonomy and Use of Skills, gender was a significant predictor, with women scoring higher than men. It appears that women value autonomy in the work environment and consider it an important element for feeling contented in their jobs. Indeed, it has been shown that jobs limited in autonomy and responsibility lead to lower job satisfaction and organizational commitment in women (Rosin & Korabik, 1991).

From this research, our findings raise the possibility that personality traits are not differentially related to intrinsic and extrinsic work values. This point

merits special attention in light of the fact that the four factors in the WVQ are intercorrelated and therefore have varying degrees of overlapping variance. The orthogonality or lack thereof between the work values factors is obviously an important theoretical question. If these factors are correlated, it is difficult to expect unique relationships between them and the major personality dimensions. It would perhaps be possible to unveil a simpler pattern of results with orthogonal work values factors, but that would obviously require a different measure of the construct—a measure that would produce independent factors. Much more important, the imposition of orthogonality between intrinsic and extrinsic work values would require both strong theoretical justifications as well as unequivocal empirical support not yet provided.

In conclusion, Agreeableness, Extraversion, and Openness seem to be robust predictors of Work Relationships, Influence and Advancement, and Financial and Working Conditions, respectively. Two other salient effects that should be mentioned are that of Openness and gender on Autonomy and Use of Skills. It is important to note that the four work values facets that have been examined here could be relevant to happiness in the workplace, regardless of whether they concern motivator/intrinsic or hygiene/extrinsic values, regardless of whether this distinction has any empirical or theoretical meaning. There is now some evidence with regard to which personality traits affect people's judgments of what makes them happy at work. Moreover, there is evidence that age and gender generally do not affect such judgments.

Future research in the area may benefit from examination and control of a wider range of demographic variables in addition to gender and age, which were not found to have any significant influence in our two present studies. For example, socioeconomic status, education, and years working for an organization may be highly relevant, because better educated, middle-class participants may place greater emphasis on motivator/intrinsic work values. Another limitation that the present studies have and that must be addressed in future research concerns the issue of common method variance. Although it seems difficult to assess personality traits and work values via methods other than self-report, it would certainly be feasible to administer the inventories at different time points.

The issue of personality correlates of work values is of considerable theoretical and practical importance. Although it seems clear that theoretical work has lagged behind empirical studies in the examination of the relationships between personality traits and job attitudes in general, a renewed interest in theory and research in this complex but important area is likely to help bridge the gap between basic personality theory and organizational psychology.

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