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Do personality factors predict job satisfaction?

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Abstract

Two studies investigated the relationships between personality traits and aspects of job satisfaction. In Study 1, job applicants ($n=250$) completed the Eysenck Personality Profiler and the Work Values Questionnaire (WVQ), which requires respondents to rate various work-related facets according to the extent to which they contribute to their job satisfaction. These facets were combined into two composites (hygiene and motivator) based on previous research. The three personality superfactors accounted for a small percentage of the variance in importance ratings (about 5%). In Study 2, employees ($n=82$) completed a measure of the 'Big Five' personality traits and the Job Satisfaction Questionnaire (JSQ), which assesses both what respondents consider as important in their work environment as well as their satisfaction with their current job. Importance ratings were again combined into two composites while job satisfaction ratings were factor analyzed and three factors, differentiated along hygiene versus motivator lines, emerged. Personality traits again accounted for a small percentage of the total variance both in importance ratings and in levels of job satisfaction. It is concluded that personality does not have a strong or consistent influence either on what individuals perceive as important in their work environment or on their levels of job satisfaction. © 2002 Published by Elsevier Science Ltd.

Keywords: Personality; Job satisfaction; Intrinsic and extrinsic job motivation

What features of a job do people rate as important contributors to their happiness at work and how does one's personality bear on what he or she perceives as important? Does personality influence what job seekers look for in a job? The present studies examine these questions and also look at the relationships between personality traits and actual job satisfaction, i.e. the degree to which job features that are highly valued by individuals are present in their work environment. A

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number of recent studies have looked at personality trait correlates of job satisfaction (e.g. Connolly & Viswesvaran, 2000; Hart, 1999; Judge, Higgins, Thoresen, & Barrick, 1999). Because earlier research demonstrated the dispositional nature of job satisfaction (Arvey, Bouchard, Segal, & Abraham, 1989; Bouchard, Arvey, Keller, & Segal, 1992; Keller, Bouchard, Arvey, Segal, & Dawis, 1992), researchers (e.g. Brief, 1998) have called for an examination of the psychological processes underlying this trait. The purpose of the present paper is to investigate the extent to which personality traits can predict what work-related aspects employees perceive as important to their job satisfaction.

Probably the best-known popular "theory of job satisfaction" is that of Herzberg, Mausner, and Snyderman (1959). Herzberg et al. (1959) argued that job satisfaction and dissatisfaction depend on substantially different sets of work-related conditions and are therefore influenced by different factors. This position, along with a range of relevant empirical evidence, have been partly reviewed by Brief (1998, p. 21), who noted: "I will reconsider job satisfaction as affect and introduce evidence suggesting that positive and negative affect likely are independent of one another. Thus, of the ideas advanced by Herzberg, I remain somewhat attached to the possibility that job satisfaction in not necessarily the opposite of job dissatisfaction."

According to Herzberg et al.'s (1959) two-factor[1] theory, workers have two major types of needs: hygiene and motivator. Hygiene needs are said to be satisfied by certain conditions called hygiene factors or dissatisfiers (supervision, interpersonal relations, physical working conditions, salary, benefits, job security, etc.), which concern the context in which the job has to be done. The theory suggests that job dissatisfaction ensues in those cases where hygiene factors are absent from one's work environment. Conversely, when hygiene factors are present, e.g. when workers perceive that their pay is fair and that their working conditions are good, barriers to job satisfaction are removed. However, the fulfillment of hygiene needs cannot in itself result in job satisfaction, but only in the reduction or elimination of dissatisfaction.

Motivator needs are fulfilled by what Herzberg et al. (1959) called motivator factors or satisfiers (achievement, responsibility, advancement, etc.). Whilst hygiene factors are related to the *context* of work, motivator factors are concerned with the *nature* and *consequences* of work. Compared to hygiene factors, which result in a 'neutral state' (neither satisfaction nor dissatisfaction), the presence of motivator factors is thought to result in job satisfaction. However, when recognition, responsibility, and other motivator factors are absent from a job, the result will not be dissatisfaction, as with the absence of hygiene factors, but rather the same neutral state associated with the presence of hygiene factors. The theory also implies that if motivator factors are present and hygiene factors absent, the job incumbent will still be dissatisfied.

Herzberg et al.'s (1959) two-factor theory led to widespread enthusiasm for job enrichment schemes, i.e. the design of tasks in such a way as to build in the opportunity for personal achievement, recognition, challenge, and individual growth (e.g. job rotation and enlargement). Job enrichment programmes provided workers with more responsibility and autonomy in carrying out tasks as well as with timely feedback on their performance. However, studies in the 1970s failed to provide evidence in support of the two-factor theory and reviewers became very critical of Herzberg's methods, conclusions, and discount of individual differences (Locke, 1969, 1976). Early research failed to provide support for the theory or replicate Herzberg's findings (e.g.

[1] The term 'factor' should not be interpreted in a statistical sense in this case, but rather as a synonym for 'type'.

Hulin, 1971) and it was shown that both types of factors could influence both satisfaction and dissatisfaction (Wernimont, 1966). Korman (1971, p. 179) concluded that disconfirming evidence had "effectively laid the Herzberg theory to rest". More importantly, many studies that have tried to distinguish between the two types of factors have found them highly correlated.

King (1970) also pointed out conceptual problems in the theory by offering five slightly different hypotheses derived from it. He concluded that three of the hypotheses were either invalid or not tested in the original studies where defensive bias in self-reporting was not controlled. Waters and Waters (1972) in fact tested four of the five hypotheses, but failed to find any support for them. Nevertheless, they concluded that motivator/intrinsic variables are generally more potent than hygiene/extrinsic variables and that job satisfaction is more predictable than job dissatisfaction. Kerr, Harlan, and Stogdill (1974) found that people systematically differentiated motivator from hygiene needs in a hypothetical interview situation devoid of concrete features that could warrant such a distinction. The fact that people preferred motivator over hygiene factors in this situation led the authors to suggest that Herzberg's theory is little more than an (attribution) error of attributing satisfaction to internal factors and dissatisfaction to external factors.

Despite the criticisms, the ideas of Herzberg et al.'s (1959) two-factor theory have not passed out of the literature. Many researchers currently differentiate between 'intrinsic' and 'extrinsic' aspects of various job-related attitudes and beliefs (Amabile, Hill, Hennessey, & Tighe, 1994; Judge et al., 1999; Judge & Larsen, 2001; Pelletier, Fortier, Vallerand, Tuson, Brere, & Blais, 1995). Knoop (1994b) factor analysed measures of job satisfaction and work values completed by 386 adult educators. He found evidence of five factors, which he labelled 'intrinsic work-related values' (e.g. exercising responsibility, doing meaningful work); 'intrinsic work-outcome values' (e.g. job status, recognition for work well done); 'extrinsic job-outcome values' (e.g. benefits like vacation and pension, job security); 'extrinsic job-related values' (e.g. convenient hours of work, good working conditions) and, finally, 'extrinsic people-related values' (e.g. satisfaction with supervisor and co-workers, promotions). Knoop (1994b) argued that these results supported and extended the two-factor theory, with the two intrinsic factors concerning motivator variables (satisfiers) and the three extrinsic factors concerning hygiene variables (dissatisfiers).

In a second study, Knoop (1994a) tested two predictions from the two-factor theory, i.e. that intrinsic work values would have an inverse relationship with stress (individuals with a strong sense of achievement, recognition, responsibility, etc., should experience less stress) and that the presence of extrinsic work values would not lead to stress reduction. Knoop's (1994a) study was based on a sample of 607 teachers and administrators, who completed measures of work values and stress. He found that stress correlated negatively with most of the intrinsic work values, but was not consistently related to extrinsic ones. Nevertheless, it should be noted that not all authors use the terms 'intrinsic' and 'extrinsic' as synonyms of the Herzbergian hygiene and motivator factors.

Although this paper takes into consideration some of the more influential of Herzberg's ideas and uses his terminology (in this case, synonymously with intrinsic/extrinsic satisfaction), it is certainly not an attempt to revive his theory. Rather, it aims to replicate and extend Furnham, Forde, and Ferrari's (1999) research on the features that applicants tend to personally value in a job. The findings of that study indicated that Extraversion is related to intrinsic factors of job satisfaction, whereas Neuroticism is mainly associated with extrinsic factors. However, as Furnham

et al. (1999) noted, their sample size was small and the results needed replication. Thus, Study 1 is a straightforward replication of Furnham et al. with a bigger sample, whereas Study 2 extends this research by examining job satisfaction in relation to the Big Five rather than the Eysenckian three. Furthermore, Study 2 looks both at ratings of importance for 37 work aspects relevant to job satisfaction as well as at ratings of actual job satisfaction. In other words, in addition to rating how important each of the 37 facets are, participants also rated the degree to which each facet is actually present in their current work environment. Thus, the primary aim of the two studies presented herein is to examine the effects of basic personality traits on judgements pertaining to job satisfaction.

1. Study 1

In a study of 92 job applicants, Furnham et al. (1999) found theoretically meaningful relationships between personality traits and aspects of job satisfaction. They asked job applicants to complete the Eysenck Personality Profiler and rate various work-related facets according to how much they contribute to their happiness at work. These facets were then combined into two internally reliable composites (hygiene/extrinsic and motivator/intrinsic) based on Herzberg et al.'s (1959) two-factor theory. Regression analysis showed that extraverts were sensitive to motivator factors, while neurotics were sensitive to hygiene factors. The third Eysenckian dimension, Psychoticism, was marginally related to the hygiene composite, with tender-minded (low Psychoticism) individuals giving higher ratings of importance to external aspects of a job. The three superfactors collectively explained about 20 and 30% of the variance in the motivator and hygiene composites, respectively. These results, however, were obtained on a sample of limited size ($n = 92$). Study 1 will examine the extent to which the findings of Furnham et al. (1999) replicate on a substantially larger sample of adult job applicants.

2. Method

2.1. Participants

In total, there were 250 participants in the study of whom 165 were female and 85 male. Their mean age was 32.93 years (SD = 8.91 years). The majority of participants were white, middle-class New Zealanders.

2.2. Materials

2.2.1. The Eysenck Personality Profiler (EPP; Eysenck, Barrett, Wilson, & Jackson, 1992)

The EPP is a 420-item questionnaire measuring 21 primary factors, i.e. seven for each of the three Eysenckian superfactors (Psychoticism, Extraversion, & Neuroticism). The labels of the primary factors, along with a brief description, are presented in Table 1. The test is usually administered by personal computer and items are responded to on a trichotomous scale (Yes/Can't Decide/No). In addition to the 21 primary and three higher-order factors, the test provides

Table 1
Two-tailed correlations for the variables in Study 1

EPP scales	Brief description	Hygiene composite	Motivator composite
Inactive	Get easily tired, prefer to perform tasks one at a time, and tend to be good finishers of work.	−0.033	−0.176**
Unsociable	Enjoy solo activities, often have difficulty finding things to talk to other people, sometimes appear withdrawn in social occasions.	0.033	−0.114
Inhibited	Reserved, even-tempered, detached, and generally controlled.	−0.023	0.028
Submissive	Humble, timid, and non-assertive.	−0.049	−0.169**
Unambitious	Place little value in competitive performance or creative output in their area of work.	−0.163**	−0.285**
Dogmatic	Rigid, likely to see things in black and white, and intolerant of uncertainty.	−0.157*	−0.001
Aggressive	Argumentative, sometimes sarcastic, and likely to 'get back' at anyone who transgresses against them.	−0.076	0.100
Introversion		−0.120	−0.181**
Self-Esteem	Confident, think highly of themselves, believe they are well liked by others.	−0.077	0.173**
Happy	Optimistic, cheerful, tend to find life rewarding.	−0.029	0.197**
Calm	Placid, serene, resistant to anxiety and irrational fears.	−0.084	0.183**
Autonomy	Independent, like freedom to make their own decisions, masters of their fate.	−0.098	0.104
Sense of Health	Do not worry excessively about their health, resistant to stress.	−0.037	0.075
Guilt Freedom	Disinclined to punish themselves or regret their past behaviour.	−0.052	0.114
Casual	Easy going, little need for order, routine, or ritual.	−0.124*	0.011
Stability		−0.094	0.162*
Careful	Risk averse, show preference for familiarity, safety, and security.	0.179**	0.038
Control	Consider matters carefully before taking decisions, systematic, orderly, and cautious.	−0.027	0.063
Responsible	Careful, considerate, reliable, and trustworthy.	0.054	−0.117
Empathy	Warm-hearted, trusting, and sensitive, but perhaps also a little naïve or gullible.	0.005	−0.025
Unadventurous	Have little need for excitement or adventure, prefer the secure and familiar comforts of home.	0.092	−0.071
Tender-minded	Easily upset by bugs, blood, and brutality, tend to have interest in delicate matters such as art, clothes, and flowers.	0.166**	0.025
Reflective	Interested in ideas, abstractions, and philosophy, generally thoughtful and introspective.	0.205**	0.151*
Psychoticism (low)		0.171**	0.075
Dissimulation (high)		0.131*	0.136*
"Can't Decide" (high)		0.090	0.062

* $P < 0.05$.
** $P < 0.01$.

scores on dissimulation (lie scale), response latency (total time recorded in minutes and seconds to complete the test), and the number of "can't decide" responses. The latter three variables have themselves been shown to relate to personality traits (Furnham, Forde, & Cotter, 1998). The EPP has satisfactory evidence of both reliability and validity (Costa & McCrae, 1995; Eysenck et al., 1992; Jackson, Furnham, Forde, & Cotter, 2000). In this study, the internal consistencies for the three Eysenckian superfactors were 0.64, 0.89, and 0.66 for Extraversion, Neuroticism, and Psychoticism, respectively.

2.2.2. Work Values Questionnaire (WVQ; Mantech, 1983)

This questionnaire consists of two parts that require job applicants to rate 24 work-related aspects (e.g. convenient hours or work, feedback concerning the results of your work, job security, etc.) in two different ways. First, participants are invited to rate on a six-point scale how important each aspect is to them personally. Second, they are asked to indicate the extent to which they expect each of the aspects to be present in the job for which they are applying. The present study will consider only the former type of ratings. Following Furnham et al. (1999), 18 of the 24 aspects were classified into a hygiene/extrinsic composite and a motivator/intrinsic composite based on Herzberg et al.'s (1959) two-factor theory.

2.3. Procedure

Respondents were job applicants participating in a professionally run assessment centre. They were assessed for jobs in a wide range of occupations most of which in the service section. Each respondent was debriefed about the content of these and other tests they were required to complete.

3. Results

The internal consistencies for the hygiene/extrinsic and motivator/intrinsic composites were satisfactory ($\alpha = 0.80$ and $\alpha = 0.84$, respectively). The two composites were subsequently correlated with the EPP 21 primary scales, the three Eysenckian superfactors, dissimulation, and the number of "can't decide" responses. These correlations are presented in Table 1.

The results showed that Extraversion ($r = 0.18$) and Stability ($r = 0.16$) correlated with the motivator composite, while low Psychoticism correlated ($r = 0.17$) with the hygiene composite. As regards the primary scales, seven (three from Extraversion, three from Neuroticism, and one from Psychoticism) correlated with the motivator composite, while six (two from Extraversion, one from Neuroticism, and three from Psychoticism) correlated with the hygiene composite. The dissimulation score indicated that individuals with high scores on social desirability tended to give higher ratings on both composites ($r = 0.13$ for hygiene/extrinsic and $r = 0.14$ for motivator/intrinsic).

The two composites were subsequently entered as dependent variables in two regression equations, with the three Eysenckian superfactors, dissimulation, and the total number of "can't decide" responses as independent variables. Table 2 presents the results of the two regressions in compact form.

The regression of the hygiene/extrinsic composite was significant ($F_{(5,\ 243)} = 3.45$, $P < 0.01$; $R^2_{adj} = 0.05$). In the presence of the other four variables in the equation, low Psychoticism was a significant positive predictor of the hygiene composite ($\beta = 0.172$, $t = 2.41$, $P < 0.05$). The only other reliable predictor in the equation was Introversion ($\beta = -0.144$, $t = 2.25$, $P < 0.05$). The equation with the motivator/intrinsic composite as the dependent variable was also significant ($F_{(5,\ 244)} = 3.96$, $P < 0.01$; $R^2_{adj} = 0.06$). Introversion was a reliable negative predictor in this case too ($\beta = -0.175$, $t = 2.73$, $P < 0.01$). The other predictor that reached significance levels in the equation was Stability ($\beta = 0.157$, $t = 2.49$, $P < 0.05$). Neither dissimulation nor the total number of "can't decide" responses was a reliable predictor of either composite in the presence of the Eysenckian dimensions.

A second set of two regressions was carried out, this time excluding dissimulation and number of "can't decide" responses from the equations. The purpose of this analysis was to derive a pure estimate of personality effects, independent of the influence of dissimulation and number of "can't decide" responses. As can be seen in Table 3, the results were not appreciably different in respect of the significant regressors in the two equations. The shrunken squared multiple correlation indices (R^2_{adj}) indicated that the effects of personality on what people perceive as important elements in their job environment are rather limited, explaining only about 5% of the variance in the two criteria.

4. Discussion

The correlations obtained in Study 1 were generally in line with those reported in Furnham et al. (1999) for Extraversion and Psychoticism, but quite different for Neuroticism. In particular, extraverts seem to be more sensitive to motivator aspects of a job, such as praise and recognition for their contributions. This result makes good sense in the context of Gray's (e.g. 1981, 1982) theory, which predicts that extraverts will be responsive to rewards while introverts will be

Table 2
Regression of the hygiene and motivator composites on the three Eysenckian superfactors, dissimulation, and total number of "can't decide" responses

	Hygiene/Extrinsic		Motivator/Intrinsic	
	$F_{(5,\ 244)} = 3.45^{**}$, $R^2_{adj} = 0.05$		$F_{(5,\ 243)} = 3.96^{**}$, $R^2_{adj} = 0.06$	
	Beta	t	Beta	t
Introversion	−0.144	2.25*	−0.175	2.73**
Stability	−0.102	1.61	0.157	2.49*
Psychoticism (low)	0.172	2.41*	0.064	0.91
Dissimulation (high)	0.048	0.67	0.075	1.05
"Can't Decide" (high)	0.039	0.60	0.054	0.85

* $P < 0.05$.
** $P < 0.01$.

Table 3
Regression of the hygiene and motivator composites on the three Eysenckian superfactors

	Hygiene/Extrinsic		Motivator/Intrinsic	
	$F_{(3,\ 246)} = 5.47^{**}$, $R^2_{adj} = 0.05$		$F_{(3,\ 245)} = 5.92^{**}$, $R^2_{adj} = 0.06$	
	Beta	t	Beta	t
Introversion	−0.157	2.51*	−0.193	3.08**
Stability	−0.105	1.69	0.154	2.49*
Psychoticism (low)	0.198	2.41**	0.104	1.67

* $P < 0.05$.
** $P < 0.01$.

responsive to punishment. This prediction has received adequate support in research unrelated to occupational settings (e.g. Boddy, Carver, & Rowley, 1986; McCord & Wakefield, 1981), but it seems that the extravert's responsiveness to positive reinforcement influences his or her behaviour across a wide range of environments. A low positive correlation between Extraversion and the hygiene composite replicates the earlier finding by Furnham et al. (1999) and shows that extraverts may also be sensitive to some extrinsic aspects of a job. Indeed, the regression analysis indicated that Extraversion was a significant positive predictor of both composites. There is plenty of evidence to suggest that extraverts would highly value certain extrinsic aspects in a job, such as opportunities to interact with others and rewards in the form of pay rises and benefits (e.g. Eysenck & Eysenck, 1985; Furnham & Heaven, 1999). Furthermore, this finding is in accord with evidence that the core feature of Extraversion is reward sensitivity, rather than sociability (Lucas, Diener, Grob, Suh, & Shao, 2000).

In contrast to the strong negative correlations between all seven primary scales of Stability and the hygiene composite reported by Furnham et al. (1999), in the present study, Stability correlated (positively) with the motivator, but not with the hygiene composite. This discrepancy was also manifested in the regression analyses, where Stability was a significant positive predictor of the motivator composite, but was not reliably associated with the hygiene composite. It should be noted that, in general, Neuroticism (negative affectivity) tends to be negatively associated with job satisfaction (e.g. Brief, Butcher, & Roberson, 1995; Levin & Stokes, 1989; Watson & Clark, 1984).

The results on Psychoticism support the findings of Furnham et al. (1999) in showing that individuals with low scores on this dimension tend to emphasize hygiene rather than motivator aspects in a job. The same conclusion can be drawn from the regression analyses, which revealed an incremental negative association between Psychoticism and the hygiene composite, but no relationship with the motivator composite. It is likely that meek, compliant, and non-impulsive individuals are more interested in the contextual (external) aspects of a job. However, it is not possible to establish through the present data whether individuals low on Psychoticism are more sensitive to hygiene/extrinsic aspects or whether they have to present themselves as such (i.e. meek, compliant, etc.) because this would increase their chances of attaining favourable external conditions (e.g. high pay) in their job.

To summarize, on the basis of the present evidence, it can be said that Extraversion bears on what people think is important at work, with extraverts emphasising the importance of motivator aspects of the work environment while also valuing, to some extent, certain hygiene aspects. Tender-minded individuals (low Psychoticism), on the other hand, are more concerned with the hygiene aspects of work. As regards the effects of Neuroticism, the results in this study are not accordant with those in Furnham et al. (1999), which may be due to the relatively small sample size in the latter study ($n = 92$). In Furnham et al. (1999), Neuroticism was associated with the hygiene factor, but in the present study, it was associated with the motivator factor. In other words, in the present study, stable individuals (happy, autonomous, with good self-esteem) were more interested in motivator factors like advancement, regulation and responsibility. Another noteworthy discrepancy concerns the R^2_{adj} indices, which were considerably smaller in the present study (about 5%) than in Furnham et al. (1999; between 20 and 30%), but that may also be partly because of differences in the two samples. Nevertheless, the present R^2_{adj} are not unlike those reported by Hart (1999), who found that Neuroticism and Extraversion accounted for about 3% of the variance in job satisfaction. It therefore seems that the influence of personality traits on judgments relating to job satisfaction is, at best, modest.

5. Study 2

This study investigates the links between job satisfaction and the Big Five model of personality on a sample of job incumbents rather than job applicants. Many researchers (e.g. Costa & McCrae, 1992; Digman, 1990) believe that more than three dimensions are necessary to tap basic individual differences in personality. It is therefore important to examine whether dimensions that are not fully represented in the Eysenckian model (e.g. Openness) influence perceptions and ratings of job satisfaction. A secondary aim of this study is to obtain another estimate of the variance that personality traits explain in importance ratings.

In addition to providing importance ratings, participants were also asked to indicate how satisfied they are in their current job with respect to each of the items in the questionnaire. Thus, the second part of the present study explores the trait correlates and predictors of actual job satisfaction. More specifically, it examines the links between the Big Five and the degree to which people are satisfied with their *current* work environment. The main objective of this part of the study is to investigate the relationships between basic personality traits and job satisfaction. Furthermore, we will also examine whether the various aspects that are thought to affect job satisfaction tend to factor along the lines hypothesized by Herzberg et al. (1959), viz., in hygiene/extrinsic and motivator/intrinsic clusters.

As noted, several studies have shown that items pertaining to job satisfaction and work values tend to factor into hygiene/extrinsic and motivator/intrinsic clusters (e.g. Furnham, Petrides, Tsaousis, Pappas, & Garrod, submitted for publication; Hauber & Bruininks, 1986; Knoop, 1994b). There is also some evidence that personality affects job satisfaction. In particular, extraverts and neurotics are, respectively, more and less likely to report job satisfaction (Brief et al., 1995; Cropanzano, James, & Konovsky, 1993; Furnham & Zacherl, 1986; Tokar & Subich, 1997). The other three of the Big Five personality dimensions have received less attention and their effects on job satisfaction are on the whole unclear (Tokar, Fisher, & Subich, 1998).

6. Method

6.1. Participants

A total of 82 participants took part in the study. Of these, 30 were male and 52 were female. Participants ranged in age from 20 to 55 years. Age was measured by means of a 5-category scale, ranging from 12 to 25 years (category 1) to 56–65 years (category 5). The distribution of the sample across the five categories was 27.2, 37, 25.9, 9.9, and 0%, respectively. All participants were full-time employees in one of three different companies in positions ranging from administration to senior management.

6.2. Instruments

6.2.1. The Big Five Inventory (BFI; John, Donahue, & Kentle, 1991)

This is a 44-item questionnaire measuring the Big Five personality traits (Neuroticism, Extraversion, Openness, Agreeableness, & Conscientiousness). On this sample, the alphas were 0.75 for Neuroticism, 0.85 for Extraversion, 0.71 for Openness, 0.69 for Agreeableness, and 0.83 for Conscientiousness.

6.2.2. The Job Satisfaction Questionnaire (JSQ)

This questionnaire consists of 37 questions about work-related facets that are believed to contribute to work satisfaction. It is an expansion of the 24-item Work Values Questionnaire (Mantech, 1983) with similar format and instructions. Participants were asked to indicate on a 6-point scale both how much each facet would contribute to their 'feeling happy at work' (importance ratings) as well as the extent to which each facet is actually present in their work environment (actual job satisfaction ratings).

6.3. Procedure

Questionnaires were compiled and e-mailed to participants who were requested to reply by e-mail or by post if they wished to remain anonymous. Participants were given the opportunity to request feedback and be debriefed about the content of the questionnaire. The response rate was about 91%.

7. Results

7.1. Importance ratings

First, 16 of the items in the JSQ, rated for importance, were combined into a hygiene/extrinsic and a motivator/intrinsic composite as per Furnham et al. (1999). This allowed for a direct comparison between the two studies. The items making up the two composites, along with their reliabilities, are presented in Table 4. The two scales correlated at $r = 0.42$. It should be noted that because this study was based on the revised version of the WVQ, the items in the two composites

do not correspond exactly either with those in Furnham et al. (1999) or with those in Study 1. For example, the item 'Co-workers (pleasant fellow workers)' in the WVQ was substituted with the JSQ item 'Relationships with colleagues.' However, the differences are on the whole minor and do not prevent comparisons between studies. The correlations between the two composites and the Big Five are presented in Table 5.

Two regressions were performed with the hygiene and motivator composites as the dependent variables and the Big Five as the independent variables. For the regression with the hygiene composite, $F_{(5,\ 75)} = 2.47$, $P < 0.05$; $R^2_{\text{adj}} = 0.08$. Both Conscientiousness ($\beta = 0.241$, $t = 2.16$, $P < 0.05$) and Openness ($\beta = 0.236$, $t = 2.16$, $P < 0.05$) were significant positive predictors in the equation. For the regression with the motivator composite, $F_{(5,75)} = 3.47$, $P < 0.01$; $R^2_{\text{adj}} = 0.13$. Conscientiousness ($\beta = 0.290$, $t = 2.16$, $P < 0.05$) and Openness ($\beta = 0.236$, $t = 2.16$, $P < 0.05$) were significant positive predictors in this equation too. None of the other Big Five dimensions, viz., Extraversion, Neuroticism, and Agreeableness reached significance levels.

7.2. Actual job satisfaction

First, the 16 JSQ items, rated for the extent to which they are present in the participant's current work environment, were combined into a hygiene/extrinsic and a motivator/intrinsic composite.

Table 4
Items and internal consistencies for the hygiene and motivator composites

Hygiene/Extrinsic (Cronbach's Alpha = 0.82)	Motivator/Intrinsic (Cronbach's Alpha = 0.76)
Job Security	Opportunities for personal growth
Job Status	Use of ability and knowledge in your work
Supervisor (a fair and considerate boss)	Recognition for doing a good job
Benefits (vacation, sick leave, etc.)	Responsibility at work
Relationships with colleagues	Achievement at work
Pay (total income)	Influence in the workplace
Work conditions (comfortable, clean)	Job interest (interesting work)
Physically safe conditions at work	Advancement (chances for promotion)

Table 5
Correlations for the hygiene and motivator composites and the Big Five

	1	2	3	4	5	6
Hygiene	–					
Motivator	0.418**	–				
Extraversion	−0.086	0.019	–			
Agreeableness	0.092	−0.114	−0.067	–		
Conscientiousness	0.260*	0.265*	−0.219*	0.179	–	
Neuroticism	0.089	−0.175	0.020	−0.260*	−0.093	–
Openness	0.221*	0.261*	−0.102	−0.104	0.054	−0.085

* $P < 0.05$.
** $P < 0.01$.

The two composites had satisfactory reliabilites ($\alpha = 0.77$ and $\alpha = 0.91$, respectively). The correlations between actual and importance ratings were low and positive: actual and importance hygiene $r = 0.16$, actual and importance motivator $r = 0.19$. Interestingly, although the said correlations were not statistically significant, that between actual hygiene and importance motivator was ($r = 0.35$, $P < 0.05$).

Following this, the two composites were entered as dependent variables in two regressions with the Big Five as independent variables. For the regression with the hygiene composite, $F_{(5, 76)} = 2.86$, $P < 0.05$; $R^2_{adj} = 0.10$. The only reliable predictor in this equation was Conscientiousness ($\beta = 0.311$, $t = 2.84$, $P < 0.01$). The regression with the motivator composite as the dependent variable did not reach significance levels ($F_{(5, 76)} = 2.23$, $P = 0.06$; $R^2_{adj} = 0.07$) even though both Agreeableness ($\beta = -0.244$, $t = 2.14$, $P < 0.05$) and Conscientiousness ($\beta = 0.289$, $t = 2.59$, $P < 0.05$) appeared as significant predictors in the equation.

Subsequently, the 37 JSQ items, rated for actual job satisfaction, were factor analyzed in order to examine their factor structure. Three factors accounting for 55% of the variance were extracted and rotated via the direct OBLIMIN algorithm. Table 6 has the factor pattern matrix, where it can be seen that the first factor clearly concerns motivator/intrinsic items, whereas the other two comprise mainly hygiene/extrinsic items. It should be noted that it is often difficult to label the factors when both hygiene/extrinsic and motivator/intrinsic items load on them. In the case at hand, none of the three actual job satisfaction factors comprises solely intrinsic or solely extrinsic items. This may account for the fact that the correlation between the intrinsic and the first extrinsic job satisfaction factors was considerably higher than that between the two extrinsic factors (0.40 and 0.21, respectively; see Table 7).

Three subscales were constructed based on the factor analytic results by summing up the highest loading items (see Tables 6 and 7). The items, along with the internal reliabilities of the scales and the correlations between the three factors, are presented in Table 7.

The 37 items were first summed up to yield a global actual job satisfaction score. The alpha for the total scale was 0.95. Following this, the total score was regressed onto the Big Five, gender, and age. The regression equation was significant, with the independent variables accounting for about 11% of the total variance. Age ($\beta = -0.323$, $t = 2.77$, $P < 0.01$) and Conscientiousness ($\beta = 0.341$, $t = 3.06$, $P < 0.01$) were significant predictors, indicating that younger and more conscientious employees reported greater overall job satisfaction.

As regards the three subscales, the results in Table 8 show a coherent pattern, with age and Conscientiousness being consistent predictors of both intrinsic and extrinsic job satisfaction. Controlling for the effects of the other regressors, younger and more conscientious employees were more likely to report job satisfaction. Openness, along with age, appeared to be associated with the second extrinsic factor, but it must be noted that the regression equation did not reach significance levels in this case. None of the other independent variables reliably predicted actual job satisfaction scores.

8. Discussion

The first part of the study considered the relationships between the Big Five and what people perceive as important in their work environment. The results were clear, albeit not consistent with

Table 6
Factor pattern matrix for the actual job satisfaction ratings

Item and a priori classification[a]	Factor 1	Factor 2	Factor 3
Factor 1			
2. Advancement (M)	0.836		
1. Achievement (M)	0.789		
17. Influence in work group (M)	0.763		
36. Use of ability (M)	0.755		
24. Opportunity to meet people (H)	0.746		
32. Responsibility (M)	0.720		
22. Managerial respect (M)	0.671		
20. Job status (H)	0.643		
16. Influence within organization (M)	0.620		0.355
9. Esteem (H)	0.616		
5. Chance to use skills (M)	0.602		0.393
25. Participation in decisions (M)	0.601		
28. Recognition for doing a good job (M)	0.536	0.385	
34. Training opportunities (M)	0.536	0.344	
7. Clarity of work goals (M)	0.509		
35. Trust (M)	0.508	0.347	
26. Pay (H)	0.492	0.470	
3. Autonomy (M)	0.492		
18. Job interest (M)	0.458	0.314	
Factor 2			
11. Fatigue avoidance (H)		0.824	
37. Work conditions (H)		0.787	
13. Flexible benefits (H)		0.719	
31. Resources (H)		0.611	−0.324
14. Human resources (H)		0.610	
6. Company image (H)		0.599	
21. Harmony (M)		0.599	
10. Fairness (H)	0.301	0.584	
23. Personal growth (M)	0.525	0.533	
33. Supervisor (H)		0.510	
12. Feedback (M)		0.340	
Factor 3			
30. Relationships with subordinates (H)	0.370		0.678
27. Physically safe (H)			0.643
8. Contribution to society (M)		0.371	0.621
29. Relationships with colleagues (H)	0.347		0.600
15. Independence (M)	0.320		0.557
4. Benefits (H)			0.490
19. Job security (H)			0.482

[a] Loadings less than |0.30| are suppressed. M = motivator/intrinsic; H = hygiene/extrinsic.

Table 7
Items, alphas, and correlations for the three subscales based on actual job satisfaction ratings

Factor	1	2	3
1. Intrinsic Job Satisfaction (Factor 1)	–		
2. Extrinsic Job Satisfaction (Factor 2)	0.396	–	
3. Extrinsic Job Satisfaction II (Factor 3)	0.259	0.209	–
Items in scale[a]	2, 1, 17, 36, 26, 32, 22, 20	11, 37, 13, 31, 14, 6, 21	30, 27, 8, 29, 15, 19, 4
Cronbach's alpha	0.91	0.85	0.81

[a] Numbers correspond to items in Table 6.

Table 8
Regression of actual job satisfaction scores on the Big Five, age, and gender

	Total score (Alpha = 0.95)		Factor 1 (Alpha = 0.90)		Factor 2 (Alpha = 0.85)		Factor 3 (Alpha = 0.81)	
	$F(7, 74) = 2.46$*, $R^2_{adj} = 0.11$		$F(7, 74) = 2.58$*, $R^2_{adj} = 0.12$		$F(7, 74) = 3.31$**, $R^2_{adj} = 0.17$		$F(7, 74) = 2.05$, $R^2_{adj} = 0.08$	
	Beta	*t*	Beta	*t*	Beta	*t*	Beta	*t*
N	0.002	0.02	0.179	1.63	0.030	0.28	−0.073	0.65
E	0.018	0.14	0.202	1.65	−0.071	0.59	−0.148	1.18
O	0.105	0.78	0.087	0.65	−0.002	0.02	0.339	2.50*
A	−0.105	0.94	−0.086	0.77	0.048	0.44	−0.023	0.20
C	0.341	3.06**	0.276	2.49*	0.358	3.32**	0.117	1.04
Gender	−0.095	0.50	−0.253	1.81	−0.041	0.30	0.137	0.96
Age	−0.323	2.77**	−0.264	2.28*	−0.328	2.90**	−0.332	2.80**

* $P < 0.05$.
** $P < 0.01$.

those reported in previous studies (Furnham et al., 1999), at least with respect to Extraversion and Neuroticism. Thus, neither of these two traits correlated or predicted the two composites in the present study. In contrast, Conscientiousness and Openness were associated both with the hygiene/extrinsic as well as with the motivator/intrinsic composites. Interestingly, Salgado (1997) found that Conscientiousness (a manifestation of a strong sense of purpose, obligation, and persistence) was the best personality predictor of job performance in a meta-analysis of data collected in Europe. Earlier, Barrick and Mount (1991) reviewed 117 studies and found that Conscientiousness was a strong predictor of job proficiency and performance across a wide range of occupational groups. It therefore seems that this personality trait is a powerful predictor of work-related behaviour. Of course, Conscientiousness is not part of the three Eysenckian superfactors, although Eysenck has argued that along with Agreeableness it can be found at the negative pole of Psychoticism.

In regard to the magnitude of the effect of personality traits on what people perceive as important at work, the results of this study indicated again that it is limited. Taken together, the Big Five explained about 8 to 13% of the variance in importance ratings, values that are somewhat higher than those obtained in Study 1, but considerably lower than those reported in Furnham et

al. (1999). The fact that personality is not a strong predictor in this context explains, to a certain extent, the inconsistencies in the findings. None of the traits seems to have a powerful enough association with what people perceive to be important in their job environment in order for its effects to be highly consistent and replicable. However, explaining around 10% of the variance in such perceptions is by no means trivial. Indeed, the various meta-analyses of personality predictors of work-related behavior have shown that this is the typical amount of variance accounted for by personality factors (Salgado, 1997). In this sense, the findings of Furnham et al. (1999) might be the exception rather than the rule, although others (see Connolly & Viswesvaran, 2000) have reported similarly high values. Nevertheless, the point made in Study 1, i.e. that personality traits seem to be, at best, modest predictors of judgments concerning job satisfaction is upheld by the results of this study as well as by previous findings in the literature.

The second part of Study 2 investigated the structure of job satisfaction ratings as well as their relationship to the Big Five, age, and gender. It should be noted that the results of this study must be interpreted with caution due to the small size of the sample. The regressions with the hygiene/extrinsic and the motivator/intrinsic composites, based on ratings of actual job satisfaction, showed that the Big Five are not particularly powerful predictors of either composite, accounting for about 10% of the variance in the former and 7% in the latter. Conscientiousness seemed to be associated with both composites, however, the regression concerning motivator/intrinsic work aspects was not statistically significant.

Consistent with previous findings (e.g. Furnham et al., submitted for publication; Hauber & Bruininks, 1986; Knoop, 1994b), the factor analysis showed that job satisfaction ratings tend to cluster along hygiene/extrinsic and motivator/intrinsic lines. Thus, these data revealed three factors, one concerning motivator/intrinsic and two concerning hygiene/extrinsic aspects of job satisfaction. The results from the regressions of the global actual job satisfaction score and the three subscale scores, derived from the factor analysis, were clear. There were only two predictors of global job satisfaction, viz., Conscientiousness and age. These two variables were also significant in two of the three equations based on the subscales of actual job satisfaction. Younger and more conscientious employees consistently reported higher levels of job satisfaction. With respect to the link between age and job satisfaction the findings in the literature are equivocal. Thus, various relationships have been reported including positive and negative linear, U- and J-shaped as well as cases of no association (Bernal, Snyder, & McDaniel, 1998). In the present study, the results clearly indicated that younger employees were more satisfied with their jobs, but given the size and composition of the sample (only eight participants were over 46 years) this finding should be interpreted with caution.

Conscientiousness was also a consistent positive predictor of global actual job satisfaction, a result that echoes findings from Judge et al. (1999). Salgado (1997) noted that nearly all meta-analyses aggregating over different samples in different countries with different outcome criteria show that Conscientiousness is probably the best trait predictor of work-related behaviour. It is worth pointing out that, on this sample, Conscientiousness was positively associated both with the intrinsic and with one of the extrinsic job satisfaction factors. However, the causal direction of this relationship cannot be determined by means of concurrently obtained data. Indeed, a reciprocal relationship, whereby Conscientiousness leads to pay rewards and promotions that, in turn, spark higher levels of Conscientiousness (e.g. increased perseverance, dedication, and a higher sense of duty), seems particularly plausible in this case.

It is interesting to note that, with the exception of Conscientiousness, none of the other personality traits predicted either the global or the subscale scores of actual job satisfaction. Thus, in contrast with previous findings in the literature (e.g. Furnham & Zacherl, 1986; Tokar & Subich, 1997) neither Extraversion nor Neuroticism predicted levels of job satisfaction. As has been suggested elsewhere (Furnham, 1994), it is quite possible that the predictive validity of personality traits will vary depending on the composition of the various samples (e.g. Extraversion may be a particularly powerful predictor of performance on jobs that require a lot of interaction with others).

In conclusion, it seems that ratings of job satisfaction tend to factor into dimensions resembling those postulated by Herzberg et al. (1959), but that personality traits do not have a particularly strong or consistent influence either on what individuals believe is important in their job environment or on their level of job satisfaction. Furnham (1997) listed eight reasons why personality variables do not predict behaviour at work. These include systematic errors or biases related to self-reports, personality traits acting as moderators rather than as direct predictors, and the crucial fact that job-related cognitions and behaviours are subject to the influence of a host of other variables unrelated to personality. The results of the present studies imply that other factors, no doubt job-specific or relating to the personal experiences of individuals, are more powerful predictors of job satisfaction than personality. We note that the standard deviation of actual ratings (28.4) was substantially larger than that of importance ratings (16.9), suggesting that some of the aforementioned factors may play an especially important role in judgements of actual job satisfaction. It is not unlikely for such factors to interact with personality traits and it is through these interactions that personality may perhaps account for more variance.

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