

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/235264724>

The Big Five of personality and work involvement

Article in *Journal of Managerial Psychology* · January 2004

DOI: 10.1108/02683940410520664

CITATIONS

110

READS

823

1 author:



[Nick Bozionelos](#)

EMLYON Business School

81 PUBLICATIONS 2,152 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



The National Social Science Fund of China (Project No: 16BGL099) (2016-2019) [View project](#)



Managerial Careers [View project](#)



RESEARCH NOTE

Personality and
work
involvement

The big five of personality and work involvement

Nikos Bozionelos

University of Strathclyde, Strathclyde, UK

69

Received February 2003

Revised October 2003

Accepted November
2003

Keywords *Work psychology, Personality, Work study*

Abstract *The relationship between the big five of personality and work involvement was investigated in a questionnaire study with a sample of 279 white-collar workers, who were employed on a full-time basis in clerical, administrative and managerial positions. Hypotheses were tested by means of hierarchical regressions that controlled for the effects of demographics and human capital. Scores on agreeableness were negatively related to scores on work involvement and to total hours worked per week; and the extroversion \times openness interaction made a positive contribution to scores on work involvement. Overall, the findings suggest the existence of an, albeit not strong or extensive, relationship between the big five of personality and work involvement. The limitations of the study and its implications for practice are discussed.*

Work involvement refers to the extent to which an individual is generally interested in, identifies with, and is pre-occupied with one's work in comparison to other aspects of one's life (Kanungo, 1982). It reflects the significance individuals attach to having and performing work (Elloy and Terpening, 1992). Therefore, work involvement constitutes an important motivational variable that is of interest to organizations, especially in the new economy, which imposes the need for full mobilization of the human resources (e.g. *Work Study*, 2002; Gore, 2001). Taking into account the importance of employees' work involvement for organizations, research should focus on the identification of its antecedents.

Personality refers to cognitive and behavioral patterns that show stability over time and across situations (e.g. Cattell, 1965). Therefore, it is reasonable to expect that personality traits influence personal values and attitudes, as most recent empirical research has demonstrated (Olver and Mooradian, 2003). Work involvement reflects attitudes and values towards a particular aspect of life and, hence, it must relate to personality traits, as earlier (Lawler and Hall, 1970) and more contemporary writers (Elloy and Terpening, 1992) have suggested.

The "big five" or five-factor model of personality represents a taxonomy to parsimoniously and comprehensively describe human personality, whose validity is strongly supported by empirical evidence (e.g. Digman, 1990; Goldberg, 1993; McCrae and Costa, 1996; O'Connor, 2002). The big five consists of the following traits: neuroticism, extroversion, openness, agreeableness and conscientiousness (e.g. Digman, 1990). Because of its validity and wide



Journal of Managerial Psychology
Vol. 19 No. 1, 2004
pp. 69-81

© Emerald Group Publishing Limited
0268-3946

DOI 10.1108/02683940410520664

acceptance the big five has been extensively utilized in recent organizational and other applied research (e.g. Barrick and Mount, 1991; Hurtz and Donovan, 2000; Judge *et al.*, 1999; Judge *et al.*, 2002; Salgado, 1997). Therefore, it is important to establish the relationship between the big five traits and vital organizational behavior variables, including work involvement. The purpose of the present study was to investigate the relationship between the big five traits and work involvement.

Hypotheses

There are no empirical studies that report on the relationship between traits that are included in the big five and work involvement. Hence, hypotheses were logically formulated by considering the characteristics associated with each of the big five traits, empirical reports on the relationship between work involvement and personality traits that are not included in the big five, and research on the relationship between personality traits and other work related constructs, including work motivation, job performance and job involvement. It must be borne in mind, however, that work involvement is distinct from, albeit related to, the other work commitment constructs (Cohen, 1996; Elloy and Terpening, 1992; Hackett and Lapierre, 2001). Therefore, findings regarding these constructs cannot be safely applied to work involvement, which inevitably makes our predictions less confident.

Neuroticism encompasses characteristics that include excessive worry, pessimism, low confidence, and tendencies to experience negative emotions. Because of their tendency to interpret experiences under negative light, individuals who score high on neuroticism should be less likely to develop positive attitudes towards their work. Furthermore, due to lack of confidence and optimism, those who score high on neuroticism should be less likely to develop ambitions regarding their careers and to set performance and career goals accordingly. Indeed, empirical evidence suggests that neuroticism is negatively related to the tendency to be goal-oriented (Malouff *et al.*, 1990). Hence, due to the relative absence of career and work goals, individuals who score high on neuroticism should be less likely to devote themselves to their work. Empirical findings concur with the above line of reasoning. Recent meta-analytic research suggests that neuroticism is negatively related to work performance motivation (Judge and Ilies, 2002). Furthermore, individuals who score high on neuroticism tend to value hygiene related features of jobs, like security and working conditions, instead of intrinsically motivating features, like the nature of the work and opportunities for achievement (Furnham *et al.*, 1999). Therefore, the following hypothesis was posed:

H1. Neuroticism will be negatively associated with work involvement.

Extroversion is characterized by sociability, assertiveness, social dominance, ambition, tendencies towards action, sensation-seeking, and the experience of positive affect. Therefore, those who report high scores on extroversion must

be more likely to possess the need to occupy a central position in their work environment so they can satisfy their ambitious and domineering tendencies. Hence, they should report higher scores on work involvement. Empirical research is in line with the above reasoning, as it suggests a positive relationship between instrumentality and work involvement (Berthiaume *et al.*, 1996). Instrumentality shares common characteristics with extroversion, such as assertiveness and action tendencies, and has been empirically found to relate to extroversion (Kimlicka *et al.*, 1988). Furthermore, extroversion positively relates to a preference for intrinsically motivating job features (Furnham *et al.*, 1999) and to work performance motivation (Judge and Ilies, 2002):

H2. Extroversion will be positively associated with work involvement.

Openness includes multiplicity of interests, receptivity of new ideas, flexibility of thought, inventiveness, and the tendency to develop idealistic ideas and goals. Therefore, individuals who score high on openness should be more likely to report involvement in their work, as their work can serve as the arena to entertain their curiosity, their appetite for exploring new perspectives, and their tendency to develop genuine interests for any activities they are involved in. Empirical research (Lounsbury *et al.*, 2003) reports a positive relationship between scores on openness and scores on work drive, a construct that partly overlaps with work involvement (Lounsbury and Gibson, 1998). In addition, quantitative review research suggests that openness relates positively to motivation towards the accomplishment of self-set work goals (Judge and Ilies, 2002):

H3. Openness will be positively associated with work involvement.

Agreeableness is associated with altruism, friendliness and modesty, while low agreeableness includes antagonism, impression management and selfishness. Individuals tend to be involved in their work when they view work and career achievement as means for the maintenance and enhancement of their feelings of personal worth and esteem (Jans, 1982; Rabinowitz and Hall, 1977). Hence, individuals who score low on agreeableness must be more involved in their work because of their antagonistic and impression seeking nature, which must direct them towards seeking advancement and acknowledgment in their work environment; as these serve as sources of esteem. On the other hand, because of their altruism, modesty and good nature individuals who score high on agreeableness must prioritize relationships with others over work and career success (see Judge *et al.*, 1999), hence, they must be less likely to report high involvement in their work. In line with this reasoning, Judge *et al.* (1999) identified a negative relationship between agreeableness and extrinsic career success, which refers to objective accomplishments of individuals in their work lives:

H4. Agreeableness will be negatively associated with work involvement.

Conscientiousness is associated with industriousness, perseverance, and sense of duty. Meta-analytic studies suggest that conscientiousness is the most potent and consistent correlate of job performance across all types of jobs and occupations (Barrick and Mount, 1991; Mount and Barrick, 1995; Salgado, 1997). Hence, individuals who report high scores on conscientiousness should report more involvement in their work due to their sense of duty towards every role they assume. Furthermore, Brown (1996), in his meta-analytic review on research in job involvement, identified a positive relationship between job involvement and the extent to which the individual endorses the work ethic. Endorsement of the work ethic reflects the belief that work is a virtuous and necessary activity, and is a value that is conceptually similar to the dutifulness facet of conscientiousness:

H5. Conscientiousness will be positively associated with work involvement.

Finally, the possibility of interaction effects between the personality traits in their relationship with work involvement must not be ignored. It is likely that combinations of high or low scores on particular personality traits are associated with work involvement. Taking into account that there are ten possible two-way interactions for the five personality traits, it is not space-efficient to formulate specific hypotheses. Nevertheless, testing for interaction effects is necessary for the rigor and thoroughness of the investigation.

The research question was:

RQ. To test for interaction effects between the big five traits in their association with work involvement.

Demographic variables, including gender, age and marital status, and human capital variables, including educational attainment, organizational grade and organizational tenure, relate to work related attitudes and values (Cohen, 1995; Lorence, 1987; see also Riipinen, 1996). This is because these factors influence the extent to which individuals consider work and career as life priorities, and the extent to which individuals are able to dedicate personal time and energy to their work. Therefore, demographics and human capital were statistically controlled for in order to protect against spurious relationships.

Method

Setting and participants

The sample consisted of 279 full-time white-collar (i.e. clerical, administrative and managerial) employees in three universities in the northwest of England who voluntarily completed questionnaires sent to them via internal mail (response rate 32.6 percent). The three institutions were located in the same geographic region and had the same organizational and hierarchical structure,

which makes no formal distinction between clerical, administrative and managerial employees. The utilization of a uniform organizational structure enhanced the internal validity of the study, as empirical research suggests that organizational characteristics relate to work involvement or other work commitment constructs (Brown, 1996; Jans, 1985).

Descriptive statistics are presented in Table I. Women composed 72.8 percent of the sample, this reflecting the female to male ratio among white-collar employees in the organizations. This unbalanced ratio was not a concern because gender was utilized as a control. Participants were evenly distributed in terms of marital status, as 43.4 percent of them were married. Finally, 37.6 percent of the participants were university graduates.

Measures

Big five traits. These were assessed with the five global factors of the UK edition of the Cattell 16PF5 (Russell and Karol, 1995). These global factors correspond to the big five traits as follows:

- (1) anxiety/neuroticism;
- (2) extroversion/extroversion;
- (3) tough-mindedness/openness (negative);
- (4) independence/agreeableness (negative);
- (5) self-control/conscientiousness (Byravan and Ramanaiah, 1995; Conn and Rieke, 1994).

Sten scores (standardized ten scores), standardized on the British general population for non-manual occupations (Smith, 1994), were used. The correspondence for openness and agreeableness between the global factors of the 16PF5 and the big five is negative; hence, the signs of the respective coefficients between scores on these traits and scores on the rest of the variables were reversed in the results.

Work involvement. This was assessed with two measures. First, with a four-item scale on a five-point response format (Lodahl and Kejner, 1965). The scale has been extensively validated and utilized in empirical research over the years (e.g. Aryee *et al.*, 1996; Jaskolka *et al.*, 1985). Cronbach α for the present sample was 0.80. The second index of work involvement was total hours worked per week (contracted, paid and unpaid overtime), which was measured with a single self-report item. The two measures were significantly correlated ($r = 0.38$, $p < 0.001$), but the size of the coefficient suggests no complete overlap, which justifies retaining and using both of them as indices of work involvement.

The demographic variables of age, gender and marital status, and the human capital variables of educational attainment (1, CSE and/or O-levels/GCSE; 2, A-levels; 3, post-secondary diploma, e.g. B.Tech.; 4, Bachelor degree; 5, Postgraduate degree), organizational grade (1, lowest

Table I.
Descriptive statistics
and product-moment
correlation coefficients
($n = 279$)

	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Work involvement	8.48	3.13	–										
2. Total hours worked per week	40.33	5.91	0.38	–									
3. Neuroticism	5.46	1.89	–0.07	–0.11	–								
4. Extroversion	5.88	1.97	–0.02	–0.02	–0.19	–							
5. Openness	5.26	1.59	0.07	0.08	0.10	0.40							
6. Agreeableness	5.21	1.63	–0.12	–0.16	0.08	–0.34	–						
7. Conscientiousness	4.57	1.47	0.05	0.01	–0.13	–0.26	–0.43	0.26	–				
8. Age (in years)	35.33	9.53	0.18	0.09	–0.16	–0.24	–0.05	0.14	0.24	–			
9. Educational attainment	3.29	1.05	0.22	0.22	0	–0.06	0.23	–0.09	–0.11	0	–		
10. Organizational grade	4.76	2.44	0.31	0.44	–0.16	–0.13	–0.01	–0.07	0.01	0.38	0.40	–	
11. Organizational tenure	82.20	73.08	0.09	–0.06	–0.05	–0.22	–0.18	0.13	0.22	0.57	–0.11	0.18	–

Notes: Correlations $>|0.09|$, $|0.13|$, $|0.17|$ are significant at $p < 0.05$, $p < 0.01$, $p < 0.001$, respectively (one-tailed significance testing). Higher scores on openness and agreeableness indicate lower levels of these traits and vice versa.

possible, to 11, highest possible) and organizational tenure were also assessed with single items. Respondents reported their age and organizational tenure in years and months, which were converted into months for the analysis.

Results

Product-moment correlation coefficients are presented in Table I. Visual inspection of their values suggested that neuroticism was related to total hours worked per week ($r = -0.11, p < 0.05$), and agreeableness was related to both work involvement ($r = -0.12, p < 0.05$) and total hours worked per week ($r = -0.16, p < 0.01$).

The hypotheses and the research question were tested by means of two hierarchical regressions. Taking into account that specific hypotheses had been formulated, non-directional significance testing was utilized. The controls were forcibly entered into the regression models in the first step. The big five traits were entered in the second step, and the terms representing the interaction effects were entered in the third step. Interaction effects were operationalized as cross-products of standard scores on the respective traits (e.g. neuroticism \times extroversion). Use of standard scores instead of raw scores is recommended when interaction terms are calculated (Dunlap and Kemery, 1987). To preserve power, considering the number of personality traits and their interaction terms, the stepwise procedure for variable inclusion in the regression equations was utilized in the second and in the third step. Variable entry and removal points were set at the same, .05, significance level (Draper and Smith, 1981).

The regression models are presented in Table II. Agreeableness was the only personality trait that survived the stepwise procedure and significantly added to the total variance accounted for in the prediction of scores on the work involvement scale ($\beta = -0.12, t = -2.05, p < 0.05$). The extroversion \times openness interaction further significantly added to the total amount of variance accounted for in scores on the scale ($\beta = 0.09, t = 1.67, p < 0.05$) in a significant total model, $F(8, 270) = 6.09, p < 0.001$. Agreeableness ($\beta = -0.10, t = -1.80, p < 0.05$) also survived the stepwise procedure and was included in the model that predicted total hours worked per week, with no other trait or interaction term included in the final model, $F(7, 271) = 11.64, p < 0.001$. Visual inspection of the scatterplots of the scores on the personality traits against the scores on the work involvement measures did not suggest the existence of systematic non-linear relationships (i.e. inverted-U or logarithmic) that would justify further analysis. Hence, $H4$ was supported, whilst the rest of the hypotheses were not supported.

Discussion

The study investigated the relationship between the big five of personality and work involvement. Agreeableness, via its main effect, and extroversion and openness, via their interaction, were associated with work involvement.

Table II.
The two hierarchical regression models testing for the association of the big five traits with scores on the work involvement scale and total hours worked per week ($n = 279$)

Variables	Work involvement				Total hours worked per week			
	β	t value	R^2	ΔR^2	$F\Delta$	β	t value	R^2
<i>Step 1: forcible entry</i>								
Gender	-0.13	-2.25*				0.08	1.36	
Age	0.13	1.65				0.01	0.16	
Educational attainment	0.11	1.81*				0.02	0.27	
Marital status	-0.03	-0.44				-0.05	-0.91	
Grade	0.24	3.51**				0.44	6.58**	
Tenure	0.02	0.27	0.110		6.75**	-0.12	-1.88*	0.205
<i>Step 2: stepwise</i>								
Agreeableness	-0.12	-2.15*	0.122	0.012	4.61*	-0.10	-1.80*	0.211
<i>Step 3: stepwise</i>								
Extroversion \times openness	0.09	1.67*	0.128	0.006	2.77			0.007
				$F(8, 270) = 6.09^{**}$		none included		
						$F(7, 271) = 11.64^{**}$		

Notes: Adjusted R^2 values are presented. Beta coefficients in the overall model are presented. One-tailed significance testing is used. * $p < 0.05$; ** $p < 0.001$.

The identified relationship between agreeableness and work involvement suggests that those who possess the characteristics of agreeableness in low degrees must be expected to demonstrate higher involvement in their work and vice versa. Low agreeableness includes antagonism and selfishness; hence, those who score low on agreeableness may be more involved in their work in order to satisfy antagonistic and egotistical needs by means of advancing their careers. However, taking into account that agreeableness has been identified as a positive correlate of work performance (e.g. Barrick and Mount, 1991; Salgado, 1997), individuals who score low on agreeableness may demonstrate the type of involvement in their work that is detrimental to work performance. For example, they may be primarily involved in informal network building as a means to advance their careers at the expense of engaging in productive activities (see, for example, Luthans *et al.*, 1985). On the other hand, because of their altruism and modesty, those who score high on agreeableness are probably less likely to view their work as a means to satisfy ambitious needs (see Judge *et al.*, 1999) and, hence, they are less involved in their work. These accounts have implications for personnel selection, assessment and development, and are worth testing in future studies.

The interaction effect for extroversion and openness suggests that the relationship between personality and work involvement is more complex, as it goes beyond the main effects of personality traits. Following Cohen and Cohen's (1975) guidelines for the interpretation of interaction effects, the positive interaction effect suggests that a combination of high extroversion and high openness is associated with high scores on work involvement. This can be explained as following: Work provides opportunities to learn, and to be exposed to, deal with and challenged by novel situations and points of view. These conditions satisfy the respective tendencies of openness, and these tendencies can be expressed via the activity, action tendency and sensation-seeking characteristics of extroversion. This explanation, which can be tested in future research, accounts for the fact that neither extroversion nor openness independently, but only a combination of the two traits is required for higher work involvement. However, it has to be borne in mind that the interaction effect did not hold for the other index of work involvement, total hours worked per week.

Limitations of the study include its cross-sectional nature and the utilization of a single method (i.e. questionnaire) for the collection of data. Although cross-sectional research does not allow assertions on causality, the criterion of temporal stability (Davis, 1985) can provide us with some confidence when deciding on causality relationships. By their definition personality traits are presumed to be stable over time, and the big five traits demonstrate remarkable temporal stability over adulthood (e.g. Judge *et al.*, 1999). Therefore, we can be reasonably confident that, for example, causality is directed from agreeableness towards the indices of work involvement and not vice versa.

Regarding the latter limitation, sole reliance on the self-report method imposes the threat of percept-percept inflation, which refers to artificial inflation of estimates of co-variation. Although this is a serious issue, empirical evidence (Crompton and Wagner, 1994) and theoretical discourse (Schmitt, 1994) suggest that percept-percept inflation is a rather over-stated threat to the validity of self-report methods. For example, in their meta-analysis Crompton and Wagner (1994, p. 72) concluded that “percept-percept inflation may be more the exception than the rule in microresearch on organizations”. Nevertheless, multi-source methods should be encouraged in future investigations.

Managerial implications

Three big five traits, either independently or in combination, were found to relate to work involvement. However, taking into account that two of the traits contributed to work involvement only via their interaction, the identified relationship between the big five and work involvement cannot be considered as rich. Furthermore, the variance increments were small, which suggests that personality makes a limited, albeit significant, contribution to work involvement.

Therefore, personality testing may be of limited use in predicting who will be most pre-occupied with one’s work and dedicate most time in it. The present results imply that work involvement is mainly influenced by factors that are outside the domain of personality. As noted, work involvement reflects values and attitudes. Although personality relates to personal values, its account for their development is far from exhaustive (see, for example, Olver and Mooradian, 2003). Values are predominantly the product of cultural learning (e.g. Hofstede, 1980, 1981; Schein, 1992); hence, work involvement may be more the product of culture, which is entirely learnt, rather than of personality, which is largely inherited (Jang *et al.*, 1996). In this respect, psychometric testing on work values may be of value to personnel selectors.

Nevertheless, it must be borne in mind that the relationships identified in the present study were held over and above an array of demographics and human capital variables in a structurally uniform environment, a feature that decreases the likelihood to identify existing relationships (Nunnally, 1978). Furthermore, the present findings, which suggest a limited contribution of personality to work involvement, may be specific to the particular occupational and organizational setting of the study (i.e. white-collar, public sector). There is some evidence to suggest that the relationship between personality traits and work involvement varies across occupations (Riipinen, 1996). Hence, before we dismiss personality as a useful predictor of work involvement it may be wise to investigate the relationship between the big five and work involvement in other organizational and occupational contexts. For example, working in commercial organizations probably demands more flexibility, dedication, and involvement than working in the public sector. Hence, personality traits may have a more potent role in these settings.

References

- Aryee, S., Wyatt, T. and Stone, R. (1996), "Early career outcomes of graduate employees: the effect of mentoring and ingratiation", *Journal of Management Studies*, Vol. 33, pp. 95-118.
- Barrick, M.R. and Mount, M.K. (1991), "The big five personality dimensions and job performance: a meta-analysis", *Personnel Psychology*, Vol. 44, pp. 1-26.
- Berthiaume, M., David, H., Saucier, J.F. and Borgeat, F. (1996), "Correlates of gender role orientation during pregnancy and the postpartum", *Sex Roles*, Vol. 35, pp. 781-800.
- Brown, S.P. (1996), "A meta-analysis and review of organizational research on job involvement", *Psychological Bulletin*, Vol. 120, pp. 235-55.
- Byravan, A. and Ramanaiah, N.V. (1995), "Structure of the 16PF fifth edition from the perspective of the five-factor model", *Psychological Reports*, Vol. 76, pp. 555-60.
- Cattell, R.B. (1965), *The Scientific Analysis of Personality*, Penguin, Baltimore, MD.
- Cohen, A. (1995), "An examination of the relationships between work commitment and non-work domains", *Human Relations*, Vol. 48, pp. 239-63.
- Cohen, A. (1996), "On the discriminant validity of the Meyer and Allen measure of organizational commitment: how does it fit with the work commitment construct?", *Educational and Psychological Measurement*, Vol. 56, pp. 494-503.
- Cohen, J. and Cohen, P. (1975), *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences*, Lawrence Erlbaum, Hillsdale, NJ.
- Conn, S.R. and Rieke, M.L. (1994), "Construct validation of the 16PF fifth edition", in Conn, S.R. and Rieke, M.L. (Eds), *The 16PF Fifth Edition Technical Manual*, Institute for Personality and Ability Testing, Champaign, IL, pp. 101-42.
- Crampton, S.M. and Wagner, J.A. III (1994), "Percept-percept inflation in micro-organizational research: an investigation of prevalence and effect", *Journal of Applied Psychology*, Vol. 79, pp. 67-76.
- Davis, J.A. (1985), *The Logic of Causal Order*, Sage, Beverly Hills, CA.
- Digman, J.M. (1990), "Personality structure: emergence of the five-factor model", *Annual Review of Psychology*, Vol. 41, pp. 417-40.
- Draper, N.R. and Smith, H. (1981), *Applied Regression Analysis*, 2nd ed., Wiley, New York, NY.
- Dunlap, W.P. and Kemery, E.R. (1987), "Failure to detect moderating effects: is multicollinearity the problem?", *Psychological Bulletin*, Vol. 102, pp. 418-20.
- Elloy, D.F. and Terpening, W.D. (1992), "An empirical distinction between job involvement and work involvement: some additional evidence", *Canadian Journal of Behavioural Science*, Vol. 24, pp. 465-78.
- Furnham, A., Forde, L. and Ferrari, K. (1999), "Personality and work motivation", *Personality and Individual Differences*, Vol. 26, pp. 1035-43.
- Goldberg, L.R. (1993), "The structure of phenotypic personality traits", *American Psychologist*, Vol. 48, pp. 26-34.
- Gore, N. (2001), "What's all this mobilizing about?", *Canadian HR Reporter*, Vol. 14 No. 21, pp. 17-19.
- Hackett, R.D. and Lapierre, L.M. (2001), "Understanding the links between work commitment constructs", *Journal of Vocational Behavior*, Vol. 58, pp. 392-413.
- Hofstede, G. (1980), *Culture's Consequences: International Differences in Work-related Values*, Sage, Beverly Hills, CA.

- Hofstede, G. (1981), "Culture and organizations", *International Studies of Management and Organization*, Vol. 10 No. 4, pp. 15-41.
- Hurtz, G.M. and Donovan, J.J. (2000), "Personality and job performance: the big five revisited", *Journal of Applied Psychology*, Vol. 85, pp. 869-79.
- Jang, K.L., Livesley, W.J. and Vernon, P.A. (1996), "Heritability of the big five personality dimensions and their facets: a twin study", *Journal of Personality*, Vol. 64, pp. 577-91.
- Jans, N.A. (1982), "The nature and measurement of work involvement", *Journal of Occupational Psychology*, Vol. 55, pp. 57-67.
- Jans, N.A. (1985), "Organizational factors and work involvement", *Organizational Behavior and Human Decision Processes*, Vol. 35, pp. 382-96.
- Jaskolka, G., Beyer, J.M. and Trice, H.M. (1985), "Measuring and predicting managerial success", *Journal of Vocational Behavior*, Vol. 26, pp. 189-205.
- Judge, T.A. and Ilies, R. (2002), "Relationship of personality to performance motivation: a meta-analytic review", *Journal of Applied Psychology*, Vol. 87, pp. 797-807.
- Judge, T.A., Bono, J.E., Ilies, R. and Gerhardt, M.W. (2002), "Personality and leadership: a qualitative and quantitative review", *Journal of Applied Psychology*, Vol. 87, pp. 765-80.
- Judge, T.A., Higgins, C.A., Thoresen, C.J. and Barrick, M.R. (1999), "The big five personality traits, general mental ability, and career success across the life span", *Personnel Psychology*, Vol. 52, pp. 621-52.
- Kanungo, R.N. (1982), "Measurement of job and work involvement", *Journal of Applied Psychology*, Vol. 67, pp. 341-9.
- Kimlicka, T.A., Sheppard, J.M., Sheppard, P.L. and Wakefield, J.A. (1988), "The relationship between Eysenck's personality dimensions and Bem's masculinity and femininity scales", *Personality and Individual Differences*, Vol. 9, pp. 833-5.
- Lawler, E.E. III and Hall, D.T. (1970), "Relationship of job characteristics to job involvement, satisfaction and intrinsic motivation", *Journal of Applied Psychology*, Vol. 54, pp. 305-12.
- Lodahl, T.M. and Kejner, M. (1965), "The definition and measurement of job involvement", *Journal of Applied Psychology*, Vol. 49, pp. 24-33.
- Lorence, J. (1987), "Age differences in work involvement: analyses of three explanations", *Work and Occupations*, Vol. 14, pp. 533-57.
- Lounsbury, J.W. and Gibson, L.W. (1998), *Personal Style Inventory: A Work-based Personality Measurement System*, Resource Associates, Knoxville, TN.
- Lounsbury, J.W., Sundstrom, E., Loveland, J.M. and Gibson, L.W. (2003), "Intelligence, 'big five' personality traits, and work drive as predictors of course grade", *Personality and Individual Differences*, Vol. 35, pp. 1231-9.
- Luthans, F., Rosenkrantz, S.A. and Hennessey, H.W. (1985), "What do successful managers really do? An observational study of managerial activities", *Journal of Applied Behavioral Science*, Vol. 21, pp. 255-70.
- McCrae, R.R. and Costa, P.T. Jr (1996), "Toward a new generation of personality theories: theoretical contexts for the five-factor model", in Wiggins, J.S. (Ed.), *The Five-factor Model of Personality: Theoretical Perspectives*, Guilford, New York, NY, pp. 51-87.
- Malouff, J., Schutte, N., Bauer, M. and Mantelli, D. (1990), "Development and evaluation of a measure of the tendency to be goal-oriented", *Personality and Individual Differences*, Vol. 11, pp. 1191-200.
- Mount, M.K. and Barrick, M.R. (1995), "The big five personality dimensions: implications for research and practice in human resources management", in Rowland, K.M. and Ferris, G.

(Eds), *Research in Personnel and Human Resources Management*, Vol. 13, JAI Press, Greenwich, CT, pp. 153-200.

Nunnally, J.C. (1978), *Psychometric Theory*, McGraw-Hill, New York, NY.

O'Connor, B.P. (2002), "A quantitative review of the comprehensiveness of the five-factor model in relation to popular personality inventories", *Assessment*, Vol. 9, pp. 188-203.

Olver, J.M. and Mooradian, T.A. (2003), "Personality traits and personal values: a conceptual and empirical investigation", *Personality and Individual Differences*, Vol. 35, pp. 109-25.

Rabinowitz, S. and Hall, D.T. (1977), "Organizational research on job involvement", *Psychological Bulletin*, Vol. 84, pp. 265-88.

Riipinen, M. (1996), "The relation of work involvement to occupational needs, need satisfaction, locus of control, and affect", *Journal of Social Psychology*, Vol. 136, pp. 291-303.

Russell, M.T. and Karol, D.L. (1995), *The UK Edition of the 16PF5: Administrator's Manual*, NFER-NELSON, Windsor.

Salgado, J.F. (1997), "The five-factor model of personality and job performance in the European Community", *Journal of Applied Psychology*, Vol. 82, pp. 30-43.

Schein, E. (1992), *Organizational Culture and Leadership*, 2nd ed., Jossey-Bass, San Francisco, CA.

Schmitt, N. (1994), "Method bias: the importance of theory and measurement", *Journal of Organizational Behavior*, Vol. 15, pp. 393-8.

Smith, P. (1994), *The UK Standardization of the 16PF5: A Supplement of Norms and Technical Data*, NFER-NELSON, Windsor.

Work Study (2002), "Economic downturn raises motivational issues", *Work Study*, Vol. 2, p. 98.