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Published in: Asia Pacific Journal of Human Resources

DOI: 10.1177/103841119703500204

Published: 01/07/1997

Document Version: Peer reviewed version

Link to publication in Bond University research repository.

Recommended citation(APA): Fisher, C. D., & Boyle, G. J. (1997). Personality and employee selection: Credibility regained. *Asia Pacific Journal of Human Resources, 35*(2), 26-40. https://doi.org/10.1177/103841119703500204

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Personality and Employee Selection: Credibility Regained

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Personality and Employee Selection: Credibility Regained

Conceptual and methodological advances on both the predictor and criterion side and several influential meta-analytic reviews have contributed to a resurgence of credibility for personality as a predictor in employee selection. This paper reviews the prior problems with personality as a predictor, summarises research findings on the effectiveness of personality in selection, and lays out the circumstances under which personality measures are most likely to be useful. The most consistent findings are that personality measures such as integrity and conscientiousness predict contextual and motivational aspects of performance reasonably well. Suggestions for future research on personality in selection are made, and human resource management implications of personality-based selection are discussed. Personality testing for employee selection has had a chequered history. Over the years, considerable research attempting to validate personality instruments for selection has been conducted. An early review by Guion and Gottier (1965) pointed out that predictive validities from personality questionnaires appeared to be weak and inconsistent. Academics took this message to heart and began to discourage the use of personality instruments for hiring purposes. Consequently, research on personality and job performance virtually went into hibernation for 20 years. Human resource practitioners, however, continued to believe that personality was an important predictor (Dunn, Mount, Barrick, & Ones, 1995).

Criticisms of personality testing in selection have included: poor criterion related validity, potential faking by applicants, unfairness, limited face validity, and invasion of privacy (cf. Hogan, 1991). Fairness may be breached because applicants may incriminate themselves without being aware of what they are doing (the purpose and coding of items is not obvious), there is usually no feedback of test scores and no appeal process, and little explanation for the choice and use of the particular instrument is given to applicants (Harland, Rauzl, & Biasotto, 1995). Face validity and privacy suffer when questionnaire items cover sexual fantasies and other personal beliefs and behaviour in the non-work domain.

Resurgence of Interest in Personality Testing for Selection

Recently there has been a major resurgence in academic interest in personality testing for employee selection. A number of factors have contributed to this: literature reviews using metaanalytic techniques, the use of typologies of personality traits to organise past validation studies, more sophisticated conceptualisations of the performance criteria to be predicted, the development of personality measures more closely focused on job demands, and reassuring research on faking by applicants. Each of these will be discussed below, while specification of exactly which personality variables appear to predict which aspects of job performance will be deferred until a later section of the paper.

Meta analytic reviews by Barrick and Mount (1991, updated in Mount and Barrick, 1995) and Tett, Jackson, and Rothstein (1991) suggested that some personality variables were significant predictors of some aspects of performance, with mean validity coefficients corrected for unreliability as high as .45 across occupational groups. Central to these reviews was the adoption of the "Big Five" personality typology as a means of organising previous studies which used a large variety of specific trait measures. One of the more interesting findings of Tett et al. was that validity coefficients were much stronger in studies in which personality predictors were chosen on the basis of theory and job analysis (r = .38) than in those in which they were not (r = .12). Schneider and Hough (1995, p. 87) likewise criticised blindly empirical research in which "Predictors are hurled against criteria in the hope that some will stick." A more theory-based approach to understanding both personality and job performance constructs seems needed to clearly forecast when, why, and how personality variables may be expected to predict job behaviour. Substantial progress on such a framework has been made during the past decade.

Campbell (1990) has sounded a call for a "theory of performance" to improve the understanding and prediction of job performance (see Cooksey and Gates, 1995, for a competing model). Such a theory would specify the distinct components of job performance and the likely determinants of each component. This framework would be useful in generating hypotheses about which aspects of performance are best predicted by personality or other types of predictors. Campbell's initial suggestion for a typology of job performance included seven components: job specific task proficiency (performance on core technical aspects of the job), nonjob specific task proficiency (tasks most incumbents have to do, regardless of specific occupation), written and oral communication, maintaining personal discipline, facilitating peer and team performance, supervision, and management/administration. Several of the meta-analyses of personality test validity have also found it necessary to consider multiple aspects of job performance, not just global measures of overall performance.

While the exact number of components needed to cover the domain of performance in the majority of jobs is not yet agreed, recent research suggests that at least two very distinct aspects

of performance must be considered: task performance, and contextual performance (Motowidlo & Van Scotter, 1994). Contextual performance includes Campbell's personal discipline dimension, Barrick and Mount's personnel data criterion, and activities elsewhere called law abiding, organisational citizenship, extra-role, or prosocial organisational behaviour. Specific behaviours include following rules, attending work reliably, volunteering for extra duties, being cooperative, and supporting the organisation in a variety of discretionary ways. Others have focused on the negative side of contextual performance: irresponsible, counter-productive, or "deviant" behaviours such as quitting, being absent, stealing, and being the target of disciplinary actions.

Motowidlo and Van Scotter found that supervisors are capable of distinguishing between task and contextual performance when making ratings, and that both aspects contribute independently to ratings of overall performance. Research quite clearly shows that personality predicts contextual performance better than task performance. Earlier studies that focused only on overall performance or objective measures of job proficiency quite understandably produced low average validities for personality measures.

Advances in personality testing have also helped improve the credibility and predictive ability of tests in the employment setting. Earlier instruments such as the Minnesota Multiphasic Personality Inventory (MMPI) were designed to identify diagnosable mental disorders, and were of limited use in normal populations of job applicants (see critique by Helmes & Reddon, 1993). The development of instruments (such as the California Psychological Inventory -CPI) suited to assessing general (non-clinical) populations was a step forward. (See McAllister 1986 for advice on using the CPI in selection.) Factor analytically based instruments such as the Sixteen Personality Factor Questionnaire (16PF) have been developed to assess overall source traits (see Cattell, Cattell, and Cattell, 1994). The NEO Personality Inventory has been specifically designed to assess the Big Five personality dimensions, with six subfactors in each Big Five dimension (Costa and McCrae, 1992). Hogan set out to produce a six-factor instrument that assessed the ability of normal adults to adapt and get along in society (see critique by Boyle,

1992). The Hogan Personality Inventory's six dimensions (intellectance, adjustment, prudence, ambition, sociability, likeability) are comprised of "homogeneous item composites (HICs)" - internally consistent clusters of items that measure one of 45 more precise characteristics such as self-esteem, cooperativeness, and autonomy. A number of studies have used these HICs to construct customised inventories aimed at the demands of particular jobs. Examples include the Sales Potential Inventory (Hogan, Hogan, & Gregory, 1992), the Claims Examiner Inventory (Arneson, Millikin-Davies, & Hogan, 1993), and the Service Orientation Index (Hogan, Hogan, & Busch, 1984). Additional advances have been made in the development and validation of job-relevant personality-like tests of honesty, integrity, and employee reliability (Ones, Viswesvaran, & Schmidt, 1993).

In Australia at the present time, the 16PF, CPI, and the Occupational Personality Questionnaire (OPQ, Saville & Holdsworth, 1990-1994) seem to be the most commonly used personality inventories in the selection context. Both the 16PF and the CPI have a longestablished history of use in this regard, whereas the OPQ is a more recently constructed instrument which incorporates some of the features of the 16PF (see review by Haladyna 1992).

A further perceived impediment to the use of personality instruments was the concern about fakability, though simple motivational distortion in responses can be detected with the "lie" or social desirability scales built into many inventories. Research has shown that respondents can raise their scores when instructed to "fake good," though they can "fake bad" even better. However, applicants generally do not seem to distort their responses very much, and validity is not affected. Only random responding destroys validity (Hough, Eaton, Dunnette, Kamp, & McCloy, 1990). Some scholars have suggested that choosing to distort and present oneself positively can be a useful predictor of job success. Applicants who are socially sensitive enough to present themselves favourably may be better at getting along in the social world, and may make better employees (Schmit, Ryan, Stierwalt, & Powell, 1995; Seisidos, 1993). However,

Hough et al. did not find evidence that favourable self-presentation was related to job performance in their military sample.

Dimensionality of Personality in the Selection Context

A very major issue for many researchers is how the personality domain should be conceptualised and measured. There are several typologies of personality traits at a high level of generality: The Big Five advocated by Costa and McCrae (1988), Goldberg (1990), Mount and Barrick (1995), and others (see critique by Block, 1995); the 16 source trait factors and the six second-order factors delineated by Cattell (see Krug & Johns, 1986); the three typological factors of Eysenck (1991); the six factors used by Hogan; and the nine categories Hough (1992) found necessary to organise previous research on the validity of specific traits for predicting job performance. Table 1 lists these typologies. A detailed exploration of the empirical evidence for each is beyond the scope of this paper (cf. Boyle, 1989). Suffice it to say that some researchers feel that five traits is too few for predicting job performance, and that the so-called Big Five both exclude relevant individual difference constructs (eg. Boyle, Stankov, & Cattell, 1995) and combine into single dimensions other attributes which are distinctly and differently related to job behaviour criteria (Hough, 1992; Schmit & Ryan, 1993).

****Insert Table 1 About Here****

Regardless of which typology is adopted as an overarching framework, a further issue arises in whether for prediction purposes, traits should be assessed at the highest and broadest level, or if more specific traits should be measured and used as separate predictors. It seems doubtful that measures at the macro level of extraversion, neuroticism, and psychoticism would provide the fine-grained information needed to predict job success in specific occupations, even though Eysenck's typology is well supported in the personality literature. Mershon and Gorsuch (1988) have shown empirically that more and more specific traits provide better prediction than fewer general factors. They compared the use of all 16 scales of the 16PF to the use of summary measures of the 16PF's higher-order factors, and found that the prediction of criteria such as salary, tenure, performance, and occupation membership was nearly always better when the 16 individual traits were used. Measurement and validation at the level of specific traits is also expected to shed more light on a theory of the causes of distinct aspects of performance (Schneider, Hough, & Dunnette, 1996).

One the other hand, Ones and Viswesvaran (1996) make a convincing argument for the reliability and predictive validity of broad trait constructs, such as the Big Five, over the narrower traits that comprise each Big Five construct. They argue both logically and empirically that most job performance criteria are broad and multi-dimensional, necessitating an equally broad predictor construct. In a reply to this paper, Hogan and Roberts (1996) point out that the broadness or specificity of the predictor needs to match the broadness or specificity of the performance criteria at time and place for both broad and specific personality trait measures.

What Works - Specific Findings on Personality-Performance Relationships

If job performance is viewed as a multiplicative function of ability (can do) and motivation (want to do), then both ability measures and stable dispositional factors indicative of motivation should be useful predictors of job success. The case for ability measures has already been made convincingly (Hunter, 1986). Some personality attributes, such as achievement orientation and conscientiousness, are probably good indicators of motivation and should be useful in predicting job success. In fact, there is now an overwhelming body of evidence showing that measures of integrity, reliability, prudence, dependability, conscientiousness, and achievement orientation are significantly related to contextual performance on many jobs (cf. Barrick & Mount, 1991; Mount and Barrick, 1995; Murphy, 1993; Ones et al. 1993; Sackett, Burris, & Callahan, 1989). In some cases, these types of personality constructs also significantly predict task performance/proficiency, but usually not as strongly as they do contextual performance (McHenry, Hough, Toquam, Hanson, & Ashworth, 1990; Motowidlo & Van Scotter, 1994). It makes sense that motivation should influence behaviour most subject to volitional control by individuals, while motivation/personality measures alone will be less able to predict task performance when ability is also required.

There have been several influential meta-analytic reviews of personality-performance relationships over the past few years. The reviewers agree that some personality measures can contribute to the prediction of some aspects of job performance. However, the detailed conclusions reached by the various reviewers do not always agree, and it would be premature to make blanket recommendations about validity generalisation (with the probable exception of integrity).

Barrick and Mount's (1991) review based on the Big Five has received the most attention. These authors reported that across all job categories studied, conscientiousness was the only characteristic which was related to all three categories of performance criteria (job proficiency, training proficiency, personnel data) across all job categories studied (estimated true correlation ($\hat{\rho}$) = .22). Training proficiency was predicted by intellectance/openness to experience ($\hat{\rho}$ = .25), extraversion ($\hat{\rho}$ = .26), and conscientiousness ($\hat{\rho}$ = .23). Both sales and managerial success were significantly predicted by extraversion. However, the magnitudes of the uncorrected mean correlations were quite modest, .15 or below, accounting for very limited proportions of the variance in the criterion. A 1995 update of this meta-analysis found that conscientiousness predicted "will do" performance criteria like reliability, effort, and quality with an estimated true validity of .45, and predicted "can-do" ability-based criteria on average .22 (Mount and Barrick, 1995).

Tett et al. (1991) used somewhat different criteria and procedures in their meta-analysis, and produced generally higher validity estimates than the original Barrick and Mount work. They found that agreeableness, openness to experience, and neuroticism (negatively) were most strongly related to job performance. The mean correlation for conscientiousness was positive, but this construct was not as useful in their study as it was in Barrick and Mount's analysis.

Hough's (1992) meta-analysis concluded that different personality traits predict different types of criteria. For instance, she found that locus of control and achievement predicted training success and overall performance; dependability, achievement, and adjustment predicted law abiding versus irresponsible behaviour; potency and achievement predicted managerial proficiency; and affiliation, potency, achievement, adjustment, and locus of control predicted sales effectiveness. Interestingly, creativity was <u>negatively</u> predicted by affiliation and agreeableness, suggesting that more isn't always better, even on stereotypically "good" dimensions.

While a number of types of tests have recently shown promising validity in predicting aspects of job performance, integrity tests provide the most striking and surprising success story. Two types of integrity tests are available: those that are overt, focusing on attitudes toward theft and past dishonest behaviour; and those that are more personality-oriented, assessing general conscientiousness, impulse control, rule following, dependability, and the like. Personality based integrity measures seem to owe their effectiveness to combining conscientiousness, agreeableness, achievement, dependability, and emotional stability into a composite that outpredicts any of its individual components (Collins & Schmidt, 1993; Murphy & Lee, 1994; Ones, Schmidt, & Viswesvaran, 1994). A meta-analysis by Ones et al. (1993) provides strong evidence for the cross-situation and cross-occupational validity of these instruments for predicting both job performance and counter-productive behaviours. Integrity tests predict not just employee theft, but also a wide range of counter-productive behaviours. Mean corrected validity coefficients of up to .41 were found. Organisational level time series studies of integrity tests have also shown interesting results, with shrinkage and terminations for cause decreasing substantially following the adoption of integrity tests in selection (see Sackett et al., 1989, for a review).

These robust results led Ones to speculate that integrity may be the personality equivalent to general mental ability in the cognitive domain: valid for virtually all jobs and often superior to more specific trait measures (see also Mount and Barrick, 1995 for a discussion of the

"functional personality" at work). Given these findings, employers could probably adopt one of the more reputable integrity tests on the basis of validity generalisation, and forgo doing their own validation study. However, with low base-rate behaviours like employee theft and seriously non-compliant behaviour, the problem of false positives (erroneously rejecting employees who would <u>not</u> have stolen or been non-compliant) will remain severe (Murphy, 1993).

Some studies have focused on identifying the personality traits which are most useful in predicting success in specific occupational fields. A meta-analysis by McDaniel and Frei (1994) suggested that measures of customer service orientation were significantly related to performance in service jobs, with a mean corrected correlation of .50. Like integrity, customer service measures also seem to tap conscientiousness, emotional stability, and agreeableness (Hough & Schneider, 1996).

In the managerial realm, success has been found to be significantly correlated with potency, adjustment, achievement, extraversion, and need for advancement (Barrick & Mount, 1991; Bray & Howard, 1983 Hough, 1992). Bentz (1985) reported on decades of research on personality and managerial performance at Sears, a major U.S. retailer. In summarising the results of work on manufacturing managers, he described the successful "Competitive Leadership Syndrome" as follows (p. 112):

"Persuasive and socially assured, the person moves aggressively into a central role whenever part of a social or business group (Sociability, Social Ascendancy, Persuasive Interests). Confident to initiate and act without external support (Self-Confidence), the individual catches on rapidly (Mental Ability) and moves into action with energy and flexibility (General Activity and Serious versus Carefree). With heightened personal concern for status, power, and money (Political and Economic Values), the person will work hard to achieve positions that yield such rewards."

It is quite apparent that personality does contribute meaningfully to the prediction of some aspects of job success. Personality measures are usually uncorrelated with ability measures, so

they may add unique variance to the prediction of job performance (cf. Rosse, Miller, & Barnes, 1991). However, it is necessary to caution that most of the meta-analytic studies mentioned above (Hough excepted) have corrected the observed validity coefficients for both predictor and criterion unreliability. This is useful in determining construct-to-construct relationships, but it over-estimates the validity that would actually be achieved in using less than perfectly reliable instruments in a selection context. We will next consider how and when personality is likely to be most useful in selection.

How and When does Personality Predict Performance?

There seem to be two implicit theories underlying research on personality in selection: the person-job match theory, and the "good apple" theory. The former says that the personality traits needed for different jobs and occupations might be quite different, and that getting the match right is critical. Stereotypically, one might recommend choosing extraverts for sales job and introverts for book-keeping jobs. Unfortunately, the meta-analytic work is not yet able to offer extensive guidance on trait choices for different occupations (other than service orientation for service jobs), partly because number of studies in each job category is insufficient for conclusive analyses. In order to apply this approach, further developments on taxonomies of personality relevant to work and personality-oriented job analysis methods will be necessary. With these tools, it may be possible to assess the likely personality requirements of different jobs, then select measures which will predict performance on those jobs.

The good apple approach says that most good employees share traits of being honest and conscientious and stable and probably agreeable, and that these traits should be selected for regardless of the specific occupation. This view has received support from several meta-analytic studies (Barrick and Mount, 1991, Ones et al., 1993, Ones & Viswesvaran, 1996; Tett et al., 1991), and is also consistent with managerial beliefs about what traits are generally important in employee selection (Dunn et al., 1995). A more sophisticated version of this approach points out that different traits predict different behaviours, and if behaviours like exerting effort, obeying

rules, and getting along with others are important in a particular job, then measures of achievement, dependability, and the like should contribute to the prediction of job success (Hough, 1992).

How exactly do personality attributes become converted into job performance? In the case of contextual behaviour, conscientiousness and integrity may work simply by increasing the chances that employees will choose to attend work, obey the rules, and be helpful and pleasant. In the case of task performance, conscientiousness and similar traits may increase time on task, effort, persistence, and attention to detail, which may beneficially impact performance on some jobs. There is also evidence that personality variables such as conscientiousness and achievement motivation may affect performance via the intermediate steps of spontaneous goal setting and goal commitment (Austin & Klein, 1996; Barrick, Mount, & Strauss, 1993). Finally, there is evidence that personality sometimes interacts with ability to predict performance (Hollenbeck, Brief, Whitener, & Pauli, 1988; Wright, Kacmar, McMahan, & Deleeuw, 1995). Both of these studies showed that when ability is low, motivation (in the form of internal locus of control, high self esteem, or achievement need) can be problematic, as employees try very hard to perform tasks they are incapable of carrying out correctly and thus compound their errors relative to low ability people who are less motivated. However, when ability is high, the same personality variables are positively related to performance.

It has long been thought that dispositional variables will predict behaviour better in "weak" situations allowing discretion than in "strong" situations which suppress the display of individual differences (Mischel, 1977). There is relatively little research addressing this issue in the case of personality and job performance, but the studies that have been done tend to support the above assertion. For instance, the meta-analysis of integrity tests by Ones et al. (1993) found that validity was much higher in more complex jobs. They speculated that this was because more complex jobs were less closely supervised and allowed more opportunity to engage in dishonesty if the employee was so inclined. Barrick and Mount (1993) found that autonomy moderated the validity of conscientiousness, extraversion, and agreeableness, such that personality characteristics were more predictive of performance when autonomy was high. Oldham and Cummings (1996) found that a personality-based measure of creativity was more predictive of actual on-the-job creative behaviour under the facilitating conditions of high job complexity and non-controlling supportive supervision.

Personality is also more likely to predict performance over longer time periods, and perhaps when cognitive ability is relatively less important. This suggests that personality might not be a strong predictor of near term performance during training or immediately after hire when learning ability is crucial, but may become more important in maintaining performance after job skills are mastered. Helmreich, Sawin, and Carsrud (1986) reported that the validity of personality predictors increased over the first eight months of employment for airline reservation agents. Long term studies of managerial success at AT&T and Sears also confirmed that personality variables have substantial predictive power over a 10 to 20 year career (Bentz, 1985; Bray & Howard, 1983; McClelland & Boyatzis, 1982).

In summary, personality predictors are most useful over the longer term, on jobs in which performance is not highly constrained by ability, job design, or organisational control systems, and when predicting contextual aspects of performance.

Future Research Needs

There is still room for additional research on applied personality assessment in selection. More work is needed on the form of the predictor-criterion relationship, which traits are measured, and how they are measured.

Alternative forms of the predictor-criterion relationship should be explored. The typical linear validity paradigm has been criticised by Campbell (1990), and in the case of personality, non-monotonic relationships seem quite possible. For instance, optimal performance in some cases may be associated with intermediate rather than high or low levels of traits such as dominance. Another possible form of the relationship would be a cutoff threshold (e.g., negative selection procedures as used by the Australian Army Psychology Corps). Personality

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Table 1

Big Five	Eysenck	Hogan	Hough	Cattell (Krug & Johns)
Extravertion/ Surgency	Extraversion	Sociability	Affiliation	Extraversion
		Ambition	Potency	
			Achievement	
Emotional Stability	Neuroticism	Adjustment	Adjustment	Anxiety (Neuroticism)
	Psychoticism			
Conscientiousness		Prudence	Dependability	Control (Super ego)
Agreeableness		Likeability	Agreeableness	Tough Poise
Openness to Experience/ (Intellectance/Culture)		Intellectance	Intellectance	Intelligence
			Rugged Individualism/ Masculinity	Independence
			Locus of Control	

Typologies of Personality Traits