Predicting creativity and academic success with a “Fake-Proof” measure of the Big Five

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Self-report measures of personality appear susceptible to biased responding, especially when administered in competitive environments. Respondents can selectively enhance their positive traits while downplaying negative ones. Consequently, it can be difficult to achieve an accurate representation of personality when there is motivation for favourable self-presentation. In the current study, we developed a relative-scored Big Five measure in which respondents had to make repeated choices between equally desirable personality descriptors. This measure was contrasted with a traditional Big Five measure for its ability to predict GPA and creative achievement under both normal and “fake good” response conditions. While the relative-scored measure significantly predicted these outcomes in both conditions, the Likert questionnaire lost its predictive ability when faking was present. The relative-scored measure thus proved more robust against biased responding than the Likert measure of the Big Five.

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1. Introduction

Prediction of real-world performance outcomes is one of the primary goals of psychometric assessment. In the study of personality, this goal has been significantly advanced by the emergence of the “Big Five” model of personality structure (Goldberg, 1992; McCrae & John, 1992). The Big Five model describes personality variation across five broad trait domains: Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness (Costa & McCrae, 1992). These personality dimensions appear to be valid cross-culturally (McCrae & Costa, 1997), are relatively stable across the lifespan (Costa & McCrae, 1997) and can be reliably used to predict real-world outcomes (for a review, see Ozer & Benet-Martinez, 2006).

The broad domain trait of Conscientiousness in particular has emerged as a significant predictor of academic success, above and beyond differences in cognitive ability (Goff & Ackerman, 1992). Individuals who score highly on scales of Conscientiousness are hard working, organized, efficient, and self-disciplined. As might be expected, these individuals are more likely to succeed in the academic realm. Recent studies suggest that Conscientiousness accounts for 12–25% of the variance in academic performance (Gray & Watson, 2002; Higgins, Peterson, Pihl, & Lee, 2007). In one such study, composite measures of self-discipline, a construct apparently related to trait Conscientiousness, were twice as effective as IQ at predicting academic performance (Duckworth & Seligman, 2005). Conscientiousness is also the best single personality predictor of workplace performance across a variety of job categories (Barrick & Mount, 1991; Hurtz & Donovan, 2000).

After Conscientiousness, Emotional Stability (the inverse of Neuroticism) is the best Big Five predictor of workplace performance (Salgado, 1997). Individuals high on Emotional Stability are secure, confident, and not easily disturbed. Such individuals may have an easier time accomplishing difficult tasks than those who score lower on this trait. Low scorers tend to be

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Extraverts, who are assertive, enthusiastic, and sociable, are good candidates for team-based activities (Barrick, Mount, & Judge, 2001). Their high levels of positive affect and enthusiasm also help make Extraverts effective performers in leadership positions (Judge, Bono, Ilies, & Gerhardt, 2002) and accounts for their comparatively high levels of job satisfaction and sense of personal accomplishment (Thoresen et al., 2003). Trait Agreeableness, like Extraversion, is also a good predictor of team-based work performance (Barrick et al., 2001). Highly agreeable individuals are warm, considerate, trusting, and empathic, in contrast to their tough-minded, selfish, and hostile counterparts, at the low end of the spectrum. When combined with Extraversion, high Agreeableness also predicts a transformational leadership style, which is associated with increased commitment, satisfaction, and motivation among group members (Judge & Bono, 2000).

Openness to Experience, finally, has been linked to higher levels of creative achievement (Carson, Peterson, & Higgins, 2005). Open people are curious, imaginative, and willing to entertain new ideas. People who score highly on this dimension have a greater tendency towards cognitive exploration and also manifest higher levels of cognitive flexibility and divergent thinking (DeYoung, Peterson, & Higgins, 2005; McCrae, 1987). Neuropsychological investigations suggest that individual differences in Openness are related to dopaminergic function in the prefrontal cortex (DeYoung et al., 2005). The increased cognitive flexibility afforded by dopaminergic activity is thought to underlie the generation of novel associations central to the creative process (Eysenck, 1995). Scores on personality questionnaires measuring Openness thus appear to be significant predictors of an individual’s creative capacity.

Despite the frequently reported predictive utility of questionnaires assessing these Big Five traits, their implementation in real-world selection processes can be hindered, at least in some circumstances, by the presence of biased responding. When individuals are asked to rate themselves on a series of personality dimensions, they sometimes exaggerate their positive and downplay their negative qualities (Paulhus, 2002). This tendency presents a potentially serious problem in the domain of performance prediction, because respondents may be highly motivated to make a good impression. A large literature now shows that motivated individuals are able to fake their scores on a five factor personality scale when attempting to do so (e.g., Furnham, 1997; Viswesvaran & Ones, 1999).

Although there has been some debate in the literature as to whether response bias is a problem in real-world assessment contexts (e.g., Barrick & Mount, 1996; Ones, Viswesvaran, & Reiss, 1996), a recent meta-analysis of job applicant faking on personality questionnaires has demonstrated that applicants score significantly higher than non-applicants on Extraversion, Conscientiousness, emotional stability, and openness (Birkeland, Manson, Kisamore, Brannick, & Smith, 2006). Furthermore, these traits are differentially biased, with Conscientiousness and Emotional Stability, the two most important predictors of real-world success, being inflated more than the other dimensions. Higher scores on these traits may therefore indicate greater levels of self-presentation and biased responding rather than an accurate description of personality. Higgins et al. (2007) demonstrated, for example, that self-rated Conscientiousness predicted self but not manager rated job performance, indicating the presence of inflationary bias across outcome and predictor variables. It thus becomes difficult to distinguish individuals who are authentically high on positive traits from those who are simply trying to present themselves in a favourable light. Consequently, personality questionnaires can lose a substantial portion of their predictive validity when there is an incentive for respondents to make a good impression (Mueller-Hanson, Heggestad, & Thornton, 2003; Rosse, Stecher, Miller, & Levin, 1998).

One approach to resolving this issue has been to administer tests of socially desirable responding, assessing the extent to which respondents are willing to admit to undesirable traits or behaviours. These tests originated as “lie” or “response bias” scales, and were designed to detect individuals who fake good while completing personality questionnaires (Eysenck, 1994; Furnham, 1986; Paulhus, 1991). These scales include the K scale of the MMPI (Block, 1965), Edward’s Social Desirability Scale (1953; 1957), Sackeim and Gur’s Self-Deception Questionnaire (SDQ, 1978), the Marlowe-Crowne Social Desirability Scale (MCS, Crowne & Marlowe, 1960; Reynolds, 1982), Byrne’s Repression–Sensitization Scale (Byrne & Bounds, 1964), Allaman, Joyce, and Crandall’s (1972) Censure-Avoidance questionnaire, the Lie Scale in Eysenck’s Personality Questionnaire (EPQ, Eysenck, Eysenck, & Barrett, 1985), Paulhus’ Balanced Inventory of Desirable Responding (BIDR, 1991), and the NEO Research Validity Scales (Schinka, Kinder, & Kremer, 1997).

Despite their purported function, these bias scales appear to be associated with more genuine personality variance than response bias, particularly when responses are anonymous (Borkenau & Amelang, 1985; DeYoung, Peterson, & Higgins, 2002; McCrae & Costa, 1983; Piedmont, McCrae, Riemann, & Angleitner, 2000). Although social desirability measures appear to be correlated with discrepancies between self-reports and observer ratings of personality (Paulhus & John, 1998), controlling for them statistically tends to decrease the correlation between self-reports and observer ratings (Borkenau & Amelang, 1985; Piedmont et al., 2000). Furthermore, controlling for socially desirable responding does not appear to improve criterion-related validities of personality predictors of job performance (Ellingston, Sackett, & Hough, 1999; Hough, Eaton, Dunnette, & Kamp, 1990; Ones et al., 1996). In a recent meta-analysis, neither measures of conscious or unconscious response bias were able to improve the predictive validity of their accompanying personality questionnaires (Li & Bagger, 2006). In fact, high scores on the NEO PI-R Positive Presentation Management scale actually correlate positively with workplace productivity, even though the former is also highly correlated with Self-Deceptive Enhancement as measured by the BIDR (Reid-Seiser & Fritzschke, 2001). Overall, the ability to fake good on personality questionnaires appears to be unrelated to scores on measures of social desirability and response bias, which themselves appear to reflect genuine variance in personality (Mersman, 2003).
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