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# The structure and personality predictors of self-rated creativity

David J. Hughes[a,*], Adrian Furnham[b], Mark Batey[a]

[a] Psychometrics at Work Research Group, Manchester Business School, United Kingdom
[b] Division of Psychology and Language Sciences, University College London, United Kingdom

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ABSTRACT

Two hundred and twenty-two participants completed a multidimensional measure of self-estimated creativity, one on self-rated personal characteristics and a Big Five personality measure. Exploratory factor analysis showed the self-ratings loaded on four interpretable factors labelled Creativity, Intelligence (Cognitive Ability), Angry-Impulsive and Emotions. General response trends were consistent with previous self-estimates research as participants tended to rate themselves as just above average. A structural equation model containing all four self-estimated factors revealed that Openness predicted all four and, as expected, was the strongest predictor of self-estimated Creativity ($\beta = .56$). Openness was also the strongest predictor of self-estimated Cognitive Ability ($\beta = .27$). Agreeableness was the strongest predictor of self-estimated Emotions ($\beta = .29$) and Angry-Impulsive ($\beta = -.34$). Conscientiousness did not explain unique variance in any of the factors.



## 1. Introduction

For almost 100 years, psychologists have been interested in the determinants of people's self-estimated/rated abilities (Ackerman & Wolman, 2007; Kaufman, 2012). People assess their own abilities in almost all situations throughout everyday life (Ackerman & Wolman, 2007; Freund & Kasten, 2011): Am I fast enough to cross the road before the on coming vehicles? Am I smart enough to undertake this job? Do I possess the creativity necessary to solve this problem in an innovative way?

Self-assessments of our abilities influence what we attempt to do and how much effort we expend (Deci & Ryan, 2000; Haimovitz, Wormington, & Corpus, 2011); often serving as self-fulfilling prophesies (Judge, 2009). Thus, what one believes they are capable of doing is directly linked to what one will do and resultantly what one can achieve. It has been shown empirically that self-estimates of our abilities are important not just to self-perception but also to performance (e.g. Ackerman, Chamorro-Premuzic & Furnham, 2011; Putwain, Kearsley & Symes, 2012).

Recent empirical investigation into self-estimated abilities has been dominated by research on multiple and general intelligence (Furnham, 2000, 2001; Paulus, Lysy, & Yik, 1998). However, there is also research concerning self-estimates of other personal characteristics such as, attention (Menglekamp & Jager, 2007), emotional intelligence (Petrides, Furnham, & Martin, 2004), general human performance (Furnham, von Stumm, Makendrayogan, & Chamorro-Premuzic, 2009) and most recently, creativity (Putwain et al., 2012).

This study also focuses on self-estimated creativity. Creativity is widely considered an important component of human behaviour and there is now broad consensus that creativity can be defined as the processes and abilities that facilitate the generation of new, imaginative, useful and valuable ideas and products (Boden, 2004; Mumford, 2003). Such ideas

* Corresponding author.
*E-mail address:* david.hughes@postgrad.mbs.ac.uk (D.J. Hughes).

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and products are often concerned with classical creative endeavours such as music, art and literature but novel and useful products can also arise as a result of creativity applied during the process of problem solving outside of traditionally creative areas (Batey & Furnham, 2006; Runco, 2004).

This study had two main aims. First, to examine the structure of self-estimates of creativity and how this related to a range of other socially important characteristics. This is achieved through the application of exploratory and confirmatory factor analysis to responses on two measures of self-estimated characteristics, namely, a multi-dimensional creativity measure and a general measure of numerous other characteristics such as intelligence, anger, emotional awareness and problem solving. Second, the self-estimates are considered in relation to a range of demographic variables and the Big Five personality factors, namely, Neuroticism, Extraversion, Openness-to-experience, Agreeableness and Conscientiousness.

### 1.1. Self-estimates of creativity

In a relevant investigation of self-rated creativity, Kaufman (2006) asked participants to rate their creativity in 56 different domains (i.e. cooking, photography, music) which[1] factored into five areas: science, social, sports, visual art and verbal art. These five domains of creativity, are also assessed in the current study using an abbreviated version of this questionnaire. Kaufman found that males tended to rate their creativity in science and sports higher than females who, in turn, rated their creativity in the social arena and visual arts higher than males. We expect to find a similar pattern of results here, namely, that males will tend to rate themselves higher in the main, but that females will have higher scores in social and emotional areas.

Self-estimates of creativity have been found to show convergent, divergent and predictive validity. For example, Furnham, Zhang, and Chamorro-Premuzic (2006) found subjective and objective ratings of creativity to be positively correlated ($r = .27$, 64; $p < .05$). Further, Batey and Furnham (2008) found that self-rated creativity was significantly correlated with Gough's (1979) creativity scale as well as the Biographical Inventory of Creative Behaviours (Batey, 2007). Interestingly, they also found self-rated creativity to be unrelated to cognitive ability but positively correlated with two out of four (unusual experiences, impulsive non-conformity) measures of schizotypy.

In relation to the prediction of outcomes, self-assessed creativity has been shown to relate to entrepreneurial behaviour (Ames & Runco, 2005), divergent thinking scores (Furnham, Batey, Anand, & Manfield, 2008), choice of arts or science courses, with arts students rating themselves higher (Furnham, Batey, Booth, Patel, & Lozinskaya, 2011) and academic performance (Sen & Hagtvet, 1993). A recent analysis considered the importance of self-estimated creativity to school performance (Putwain et al., 2012). Putwain et al. (2012) examined whether self-estimated creative ability was predictive of literacy achievement. It was, even after fluid intelligence (measured by performance on the Raven's Standard Progressive Matrices) was controlled for. Further to performance, self-estimated creativity was also found to be incrementally predictive of levels of motivation, correlating positively with both intrinsic and extrinsic motivation and negatively with amotivation (lack of motivation). Upon reviewing the small but growing body of empirical work concerning self-estimated creativity, it is evident that self-estimates of creativity are related to more objective measures of creativity and important real-world outcomes.

### 1.2. Creativity and personality

A number of studies have considered how broad factors of personality relate to psychometric and task based creativity. There is now a widely agreed acceptance that both Openness and Extraversion are positively correlated with creativity (Batey, Furnham, & Safiullina, 2010; Chamorro-Premuzic & Reichenbacher, 2008; Feist, 1998; Furnham, Crump, Batey, & Chamorro-Premuzic, 2009). Conscientiousness (Feist, 1998) and Neuroticism (Chamorro-Premuzic & Reichenbacher, 2008; Furnham, Crump, et al., 2009; Furnham, von Stumm, et al., 2009) have also been shown to correlate with creativity, however, these relationships are less consistent. Generally, Agreeableness shows little or no correlation with creativity.

There are fewer studies that have examined personality and self-estimated creativity. The few that have tend to mirror the results observed with psychometric and task-based creativity with Openness and Extraversion the largest correlates and occasionally Conscientiousness and Neuroticism also correlate (e.g. Kaufman, Cole, & Baer, 2009; Silvia, Kaufman, Reiter-Palmon, Wigert, 2011). For instance, Furnham et al. (2008) found that self-rated creativity was significantly correlated with Openness and Extraversion as measured by the NEO-FFI (Costa & McCrae, 1992). Further, that alongside Hypomania ($\beta = .28$), Openness ($\beta = .28$) accounted for 22% of the variance. Similarly, Silvia, Nusbaum, Berg, Martin, and O'Connor (2009), reported significant correlations between Openness and self-rated general, hands-on and interpersonal creativity. However, Openness was unrelated to maths/science based creativity.

Extant literature of self-reported, psychometric and task creativity suggests that Openness and Extraversion will be positively correlated to creativity, with Openness likely to be of particular importance to self-estimated creativity. Evidence from studies of psychometric and task based creativity suggest that Extraversion is also likely to be positively correlated.

[1] Self-ratings are closely aligned but not synonymous with creative self-efficacy (Karwowski, 2011). Creative self-efficacy relates to capacity judgements, whether one believes that they are capable of being creative, whereas self-ratings, examine estimates of current creative ability, whether one believes they are creative.