Fluid intelligence, personality traits and scholastic success: Empirical evidence in a sample of Italian high school students

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Abstract

The aim of the present study was to investigate the role of intelligence and personality traits in predicting scholastic success and, particularly, verify the existence of incremental validity of the personality variables compared to cognitive ability. A sample of 286 students were administered the Advanced Progressive Matrices and the Big Five Questionnaire. Descriptive statistics, correlations and hierarchical regressions were calculated. The results confirm the impact of intelligence and personality on scholastic success, underlining the role of personality traits. However, the principal predictor was found to be Conscientiousness, utilizing the end of the academic year GPA as an indicator of success. Intelligence, as an index of performance was indicated by the grade obtained on the State Exam. The results, therefore, suggest further study that carefully considers the differentiated indices of scholastic performance.

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1. Introduction

An analysis of the vast amount of literature dealing with the predictors of academic success indicates that success of this type is generally a consequence associated to intelligence (Busato, Prins, Elshout, & Hamaker, 2000; Farsides & Woodfield, 2003; Harris, 1940; Neisser et al., 1996; Sternberg & Kaufman, 1998; Wolfe & Johnson, 1995). Particularly with regard to the relationship between intelligence and academic success, the ties revealed are usually explained in terms of the ability to learn more efficiently and effectively, which leads to successful problem-solving across a variety of scenarios (Furnham & Chamorro-Premuzic, 2004).

Today’s researchers, reprocessing data already present in the literature (Cattell & Butcher, 1968; Eysenck, 1967; Kline & Gale, 1971; Rainey, 1985), are focusing on the role that other specific differences, in terms of individual disposition, can play and, particularly, on the importance of the information that can be disclosed by the Big Five, in that the model’s five characteristics encompass many of the more important personality traits (Ackerman & Heggestad, 1997; Chamorro-Premuzic & Furnham, 2003; De Raad, 1996; De Raad & Schouwenburg, 1996; Furnham & Chamorro-Premuzic, 2004; Furnham, Chamorro-Premuzic, & McDougall, 2002; Lounsbury, Sundstrom, Loveland, & Gibson, 2003). With regard to this and in agreement with Lounsbury et al. (2003), it is striking that few studies have examined the incremental validity of the personality variables with respect to cognitive ability in predicting academic success, with the exception of studies conducted by Brown (1994), Roessler (1978) and Wolfe and Johnson (1995).

Furnham and Chamorro-Premuzic (2004), Furnham et al. (2002) and Lounsbury et al. (2003) in particular, showed not only the increased validity of personality with respect to intelligence in predicting academic performance, but also that this additional variance is greater than the variance percentage indicated by intelligence.

With regard to specific links, found in the literature, between personality traits and academic success, the importance of the following results merit emphasis. The relationship between Conscientiousness and scholastic success appears strong (Busato et al., 2000; De Fruyt & Mervielde, 1996; De Raad & Schouwenburg, 1996; Goff & Ackerman, 1992; Heaven, Mak, Barry, & Ciarrochi, 2002; Mervielde, Buyst, & De Fruyt, 1995; Rothstein, Paunonen, Rush, & King, 1994; Wolfe & Johnson, 1995), even if in but a few studies no significant correlation was found (Goff & Ackerman, 1992; Rothstein et al., 1994).

De Fruyt and Mervielde (1996), Rothstein et al. (1994) and Schuerger and Kuna (1987) demonstrated a positive relationship with Openness to experience while no significant relationship was found by Busato et al. (2000) and Wolfe and Johnson (1995).

In the literature, the relationship that links Extraversion to scholastic success is more complicated. Many studies found no significant relationship (Furnham & Mitchell, 1991; Halamandaris & Power, 1999; Heaven et al., 2002), other studies found contrasting results as some criterion variables suggested a positive relationship, while others again indicated no relationship (Goff & Ackerman, 1992; Rothstein et al., 1994).

The literature provides such a clear definition of Agreeableness that there is no research in the literature reporting on a significant and positive relationship with scholastic success in its various contexts (Busato et al., 2000; De Fruyt & Mervielde, 1996), while in some cases there is a negative correlation (Rothstein et al., 1994).
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