Why is Conscientiousness negatively correlated with intelligence?

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Abstract

The aim of the present study was to investigate the nature of the negative relationship which has been observed between the trait of Conscientiousness and intelligence, using different measures of both variables (Furnham, Chamorro-Premuzic, & Moutafi, under review; Moutafi, Furnham, & Crump, 2003; Moutafi, Furnham, & Paltiel, under review). A total of 201 participants completed the Fifteen Factor Questionnaire (15FQ) and the General Reasoning Test Battery (GRT1), which included both measures of fluid and crystallized intelligence. Conscientiousness (Control) was significantly negatively correlated with abstract reasoning (fluid intelligence), but not with verbal reasoning (crystallized intelligence). This was interpreted as indicating that the negative relationship between intelligence and Conscientiousness is due to fluid intelligence affecting the development of Conscientiousness, in an educated and need-achieving population. © 2003 Elsevier Ltd. All rights reserved.

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1. Introduction

Researchers in the field of individual differences have, over the last decades, been investigating the relationship between two major constructs in their field of (individual differences) psychology; personality and intelligence (Ackerman & Heggestad, 1997; Austin et al., 2002; Furnham et al., under review; Furnham, Forde, & Cotter, 1998a, 1998b; Goff & Ackerman, 1992; Hembree, 1988; Kyllonen, 1997; Matthews, 1986; Moutafi et al., 2003; Moutafi et al., under review;
Zeidner, 1995). Most of the research within this area has been conducted by observing correlations of IQ test scores with the various personality factors. A drawback of this approach is that although it helps to reveal how the two constructs are linked, it does not provide sufficient information so as to understand why the constructs are linked. That is, there is little understanding of the process explaining the relationships, particularly with respect to specific Big 5 personality factors like Conscientiousness.

The most consistent findings concerning the relationship between intelligence and personality are that intelligence is negatively correlated with Neuroticism (Ackerman & Heggestad, 1997; Furnham et al., 1998a; Moutafi et al., 2003; Zeidner & Matthews, 2000) and positively correlated with Openness to Experience (Austin et al., 2002; Brand, 1994; Chamorro-Premuzic, Moutafi, & Furnham, under review; Goff & Ackerman, 1992; McCrae, 1994; Moutafi et al., 2003; Zeidner & Matthews, 2000). Recent studies have also observed that intelligence is negatively correlated with Conscientiousness (Furnham et al., under review; Moutafi et al., 2003; Moutafi, Furnham, & Crump, under review; Moutafi et al., under review), although earlier studies had not found this correlation to be significant (Ackerman & Heggestad, 1997; Austin et al., 2002). These correlations may mean that personality is related to actual intelligence, but they could also mean that personality is primarily related to intelligence test performance. Furthermore, in the case when personality is related to actual intelligence, it is important to understand if the causal relationship is from personality to intelligence, vice versa, or bi-directionally.

It is important to clarify the distinction between fluid (gf) and crystallized intelligence (gc) in order to understand why personality is related to intelligence. This distinction was first proposed by Raymond Cattell (1941, 1963, 1971), and the gf–gc theory has since then become one of the most widely accepted psychometric paradigms of intelligence (Stankov, Boyle, & Cattell, 1995). Fluid intelligence has been defined as our “on-the-spot reasoning ability, a skill not basically dependent on our experience” (Belsky, 1990, p. 125). It involves things like quick thinking, reasoning, seeing relationships between ideas, approaching new problems, and is considered to be biologically based (Brody, 1992). According to Cattell (1963), gf tends to increase up to the age of about 16–20 and steadily decrease thereafter. Belsky (1990) proposed that this is because gf is associated with the central nervous system (CNS), and is therefore at its peak when the CNS is at its physiological peak. It should also be noted that according to some researchers gf is also understood as real g (Stankov, 2000).

Crystallized intelligence on the other hand has been defined as “the extent to which a person has absorbed the content of culture” (Belsky, 1990, p. 125). It is the accumulation of information, of facts, figures, skills and knowledge, over time, and is usually measured by vocabulary tests. Gc is believed to be influenced by education and cultural exposures (Brody, 1992), and is at its peak at around the age of 45–54 years, beginning to decline during the eighth decade of life. It is therefore important in the investigation of the relationship between personality and intelligence, to look at whether a personality factor is related to gf or gc, as this can shed light on how the relationship occurred.

With regard to Openness, it has been proposed that individuals who are high in Openness have a higher motivation to engage in intellectual activities, which leads them to expand their gc (Brand, 1994). Another suggestion, which further explains the relationship between Openness and gf, is that individuals with lower gf may become less curious and have narrower interests, due to their lower ability to handle novel experiences, which discourages Openness. Also, individuals
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