

The relationship between academic and practical intelligence: a case study in Kenya

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Abstract

We worked in a rural village in Western Kenya to test the notion that academic and practical intelligence are separable and relatively distinct constructs. Eighty-five children (43 boys and 42 girls) between the ages of 12 and 15 years participated in the study. The main dependent variable of interest was their set of scores on a test of their tacit knowledge for natural herbal medicines used to fight illnesses. This kind of knowledge is viewed by the villagers as important in adaptation to their environment, which is understandable given that the overwhelming majority of the children have, at a given time, parasitic infections that can interfere with their daily functioning. We found that scores on the test of tacit knowledge correlated trivially or significantly negatively with measures of academic intelligence and achievement, even after controlling for socioeconomic status (SES). We suggest that, among these villagers, time spent developing academic skills may be perceived as taking away from time that needs to be spent developing practical skills and vice versa. The result is that academic and practical intelligence can develop independently or even at odds with one another. © 2001 Elsevier Science Inc. All rights reserved.

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1. Introduction

The conventional wisdom is that people may have relatively high levels of intelligence in an academic setting and yet show little intelligence in practical settings, or that they may show relatively high levels of intelligence in practical settings but more modest levels of intelligence in academic settings. Of course, no one would claim that such an inverse relationship always holds and there are numerous examples of people who perform well (or poorly) in both academic and practical contexts. The conventional wisdom may be taken as suggesting, therefore, that, on average, there may not be much of a systematic relationship between academic and practical aspects of intelligence.

But it is possible that the conventional wisdom goes little beyond an “I know a person who . . .” kind of thinking (Nisbett & Ross, 1980). In other words, it may be nothing more than an example of the representativeness heuristic (Kahneman & Tversky, 1972), whereby people take one or a few instances with which they are familiar and assume that they apply more generally to a population as a whole.

A substantial body of psychological theory makes essentially the same claim as the conventional wisdom. One of the earliest psychologists to stake this theoretical claim was an experimental psychologist, Edward Thorndike (1924), who argued that social intelligence is distinct from the kind of intelligence measured by conventional intelligence tests. Many others subsequently have made this claim as well (see review in Kihlstrom & Cantor, 2000). A related claim was made by a well-known psychometrician, J. P. Guilford (1967), who separated behavioral content from more typical kinds of test-like content in his theory of the structure of intellect. More recently, Howard Gardner (1983, 1999) has argued that interpersonal and intrapersonal intelligences are distinct from the more academic ones (e.g., linguistic and logical–mathematical) and Salovey and Mayer (1990; see also Goleman, 1995; Mayer, Salovey, & Caruso, 2000) have further suggested the separateness of emotional intelligence. Neisser (1976) proposed that the conventional wisdom accurately reflects two different kinds of intelligence, academic and practical.

The psychological theory underlying the present research makes a related claim, namely, for a distinction between analytical intelligence (or what Neisser refers to as “academic intelligence” — the two terms will be used interchangeably in this article) and practical intelligence (Sternberg, 1985, 1988, 1997, 1999b). According to Sternberg’s theory, the basic information-processing components underlying abstract analytical and practical intelligence are the same (e.g., defining problems, formulating strategies, inferring relations, and so on). But differences in tasks and situations requiring the two kinds of intelligence, and hence, in the concrete contexts in which they are used, can render the correlations between scores on tests of the two kinds of intelligence trivial or, in principle, negative. People who well apply a set of processes in one context may not be those who well apply them in another.

Our argument in this article is not over whether analytical or academic intelligence matters at all. We believe there is solid evidence that the kind of analytical intelligence measured by conventional kinds of intelligence tests predicts performance, at least to some degree, in a variety of situations (see Barrett & Depinet, 1991; Carroll, 1993; Gottfredson, 1997; Herrnstein & Murray, 1994; Hunt, 1995; Hunter & Hunter, 1984; Jensen, 1998; Neisser et al., 1996; Schmidt & Hunter, 1981, 1998; Wigdor & Garner, 1982). Hence, we would not

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