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# Predicting cognitive development, intellectual styles, and personality traits from self-rated abilities

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## Abstract

The present paper reports a series of six studies, each investigating the power of self-rated analytical, creative, and practical abilities for predicting one of six individual-difference variables: cognitive development, modes of thinking, career interests, learning approaches, thinking styles, and personality traits. Contributing to the composition of 18 samples, the 5019 (1904 males and 3115 females) university students were from three cultural groups: Hong Kong, mainland China, and the United States. Each of the six variables was assessed by a self-report inventory. Results indicated that in all three cultures, students who rated themselves higher on the ability scales tended to score significantly higher on the individual-difference variable scales that denote positive values, such as higher cognitive-developmental levels and creativity-generating thinking styles. Moreover, students who rated themselves lower on the ability scales tended to score significantly higher on the individual-difference variable scales that indicate negative values such as a lower cognitive-developmental level and norm-favoring thinking styles. Implications of these findings are discussed in relation to both research and education.

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*Keywords:* Self-rated abilities; Cognitive development; Intellectual styles; Personality traits

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## 1. Introduction

Making self-ratings is a common phenomenon, be it in academic or in nonacademic settings (e.g., Bandura, 1997; Maddux, 1995; Schwarzer, 1992, 1994). These self-ratings often can be very good

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indicators of our actual performance on certain tasks (e.g., Shrauger & Osberg, 1981; Wells & Sweeney, 1986). According to the social cognitive theory of Bandura (1986), self-referent thought mediates between knowledge and action; the beliefs that individuals hold about their abilities as well as about the outcome of their efforts have a powerful impact on the ways in which they will behave. Furthermore, abundant empirical evidence indicates that people's self-ratings vary as a function of age (e.g., Chaffin & Herrmann, 1983; Newman, 1984), gender (e.g., Beloff, 1988; Furnham & Crawshaw, 2002), and personality (e.g., Henley & Furnham, 1989; Poitrenaud, Malbezin, & Guez, 1989). However, little research has been done on students' self-ratings of their abilities across cultures.

The goal of this paper is to examine the predictive power of self-rated abilities for a variety of individual-difference variables among university students from three different cultures: Hong Kong, mainland China, and the United States. The abilities rated are analytical, creative, and practical abilities, which have their theoretical foundation in the triarchic theory of human intelligence of Sternberg (1985). The individual-difference variables investigated are cognitive development, intellectual styles (including modes of thinking, career interest types, learning approaches, and thinking styles), and personality traits. Furthermore, self-esteem is used to test the concurrent validity of the self-rated abilities. In the following, each of the theoretical models is briefly described. It is beyond the scope of this paper to provide a detailed account of the research that has been conducted based on each of the theoretical models. Suffice it to say that each of the theories is well established and has been tested in many different parts of the world. Furthermore, much research has been done in academic settings on each of the theoretical models, and the research findings have generated many implications for student learning and development.

### *1.1. The triarchic theory of human intelligence*

According to Sternberg (1985, 1996), human intelligence is best understood as three kinds of abilities: analytical, creative, and practical. The analytical ability emphasizes the use of information processing to solve familiar problems using strategies that manipulate the relationships among the elements of a problem. In using creative ability, we try to solve new kinds of problems that require us to think about the problem and its elements in a new way. In using practical ability, we try to solve problems that apply what we know to everyday contexts.

The Sternberg Triarchic Abilities Test (Sternberg, 1993) has been designed to investigate the internal validity of the theory. Repeated studies have supported the internal validity of the theory (e.g., Sternberg, Castejón, Prieto, Hautamäki, & Grigorenko, 2001; Sternberg, Ferrari, Clinkenbeard, & Grigorenko, 1996; Sternberg, Grigorenko, Ferrari, & Clinkenbeard, 1999).

In all of the studies to be described in this paper, self-reported, single-item rating scales were used to assess research participants' analytical, creative, and practical abilities. The major advantage of using self-reported, single-item rating scales is its parsimony. Furthermore, the reliability and validity of this assessment method are based on three grounds. First, in literature, many studies have suggested that there is a significant correspondence between self-reported and measured abilities (e.g., Coren & Porac, 1988; Kelso, Holland, & Gottfredson, 1977; Lowman & Williams, 1987). Second, the use of single-item rating scales for assessing psychological constructs is also prevalent in the literature (e.g., Epstein, Botvin, Dusenbury, Diaz, & Kerner, 1996; Hawkins, 1987; Simpson, Licht, Wagner, & Stader, 1996; Weinstein & Walberg, 1993). Finally, according to the self-consistency theory, people will make self-ratings that are compatible with their level of self-esteem (Felson, 1981; Wells &

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