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The relationship between the big-five model of personality and self-regulated learning strategies

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Abstract

The study examined the relationship between the big-five model of personality and the use of self-regulated learning strategies. Measures of self-regulated learning strategies and big-five personality traits were administered to a sample of undergraduate students. Results from canonical correlation analysis indicated an overlap between the big-five personality factors and the set of self-regulatory learning strategies. The study also compared the relative contributions of the personality factors and the self-regulated learning strategies in predicting academic achievement. The results from hierarchical multiple regressions suggest that the personality trait of Intellect made an independent contribution to the variance in student GPA, whereas effort regulation mediated the effects of Conscientiousness and Agreeableness. The relevance of personality constructs in the learning context is discussed in terms of dispositions for active learning.
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Although self-regulated learning is a relatively new construct in the domain of educational psychology (Zimmerman, 1989), its theoretical importance and practical implications have drawn increasing research attention. While advances in understanding of self-regulated learning are evident, there are still unanswered questions. One of these questions concerns the extent to which self-regulated learning could be considered a "learnable" characteristic or a characteristic that could be tied to pre-existing individual differences. Stated differently, to what extent self-regulated learning is associated with stable personality dispositions has not been systematically investigated. The purpose of the current investigation is to determine if a set of self-regulated learning strategies, identified in previous research as being core elements of the self-regulation learning processes, varies as a function of cross-situational individual differences in terms of big-five personality traits.

1. The nature of self-regulated learning

Self-regulation theory originates from the psychological tradition of theory and research on self-control (Schunk, 2005). Several models of self-regulated learning have been proposed, the majority of which stem from

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Bandura's (1986) socio-cognitive theory of human functioning. An underlying assumption of Bandura's theory is that people are proactive, self-regulating agents, rather than passively shaped by their surroundings (Pajares & Valiante, 2002). Research conducted by Zimmerman and colleagues (Zimmerman, 1995; Zimmerman & Schunk, 2001, 2004) has found that self-regulating learners set proximal, attainable goals; are learning- rather than achievement-oriented; have an understanding that different learning tasks require different strategies and tend to use the most appropriate strategies effectively; possess high self-efficacy; control their achievement through strategies such as imaginary, self-instruction, and attention focusing; are mindful of the intermediate outcomes of their learning process and able to make accurate causal attributions for the learning outcomes; and finally, are open to adapt their learning strategies to the immediate requirements of each particular learning situation.

Pintrich (1995) characterizes self-regulated learning as constant adjustment of one's cognitive activities and processes to the demands of a particular learning situation (Pintrich & De Groot, 1990). In the conceptual framework formulated by Pintrich (2000), the self-regulation process consists of four phases, namely forethought; panning and activation; monitoring; control; and reaction and reflection. These phases are not necessarily linearly and temporally ordered, and each phase is characterized by distinctive learner's activities within four general areas — cognition, motivation, behavior, and context.

Both Zimmerman's (1995) and Pintrich's (1995) conceptualizations of self-regulated learning reflect a social–cognitive perspective on self-regulation. Under the social cognitive framework, self-regulation in academic setting has been conceived of as a set of skills that can be developed, rather than unchangeable or genetically rooted. Pintrich (1995) posited, for example, that students are able to learn to self-regulate in academic settings through self-reflection and exercise. Therefore, it is incumbent upon parents and teachers to cultivate these skills in students from a very early age (Coppola, 1995). Although research has shown that self-regulation develops from early childhood to adolescence (Demetriou, 2000; Weinstein, Husman, & Dierking, 2000), training and intervention studies have lent support to the arguments that self-regulation can be successfully taught to students of all grade levels, and that the skills acquired through self-regulation training lead to notable improvement in student academic achievement (Muthukrishna & Borkowski, 1995; Randi & Corno, 2000; Reid & Borkowski, 1987; Zimmerman & Schunk, 2001). Various aspects of self-regulated learning have been often conceptually treated as situational, context dependent variables. However, in actual research, self-report measures are often used, which are usually not situated in specific learning tasks or situations, begging the question of whether they are measuring stable individual differences across a class of learning situations. Very little attention has been devoted to the connection between self-regulated learning and individual trait-like characteristics (Hong & O'Neil, 2001).More recently, Zimmerman and Schunk (2004) proposed a four-level model of development of self-regulation skill whereby a learner gradually achieves full self-regulation through an internalization process. Although they identified the quality of modeling, social feedback, process goals, and achievement outcomes as sources of the development, they also identified two distinct types of learners, proactive learners and reactive self-regulators, thus implicating individual differences as a potential source of the development of self-regulation. In his action control theory of self-regulation, Kuhl (1985) identified state orientation and action orientation, a distinct individual difference perspective on stylistic differences regarding self-regulation of goals and action. Therefore, in addition to social–contextual and developmental underpinnings of self-regulation, a less recognized source of self-regulated learning may be individuals' predispositions to develop and exercise self-regulatory skills such as behaving proactively rather than reactively, engaging in elaborated information processing rather than surface processing. Such predispositions or behavioral propensities are traditionally studied as personality traits.

2. Personality and self-regulated learning strategies

Personality traits are conceptualized as stable individual difference characteristics explaining an individual's disposition to particular patterns of behavior, cognitions and emotions (Hogan, Hogan, & Roberts, 1996). Research stemming from the psychometric tradition has established empirically a five-factor structure of personality (McCrae & Costa, 1987), which includes the dimensions of Extraversion, Agreeableness, Conscientiousness, Emotional Stability (or Neuroticism), and Openness to Experience or Intellect (from here on the term Intellect will be used). The operationalization of these big-five traits include self-regulatory tendencies or propensities. For example, Conscientiousness includes features such as dependability and responsibility, the ability to plan, organize and persist in the service of achievement. Individuals high on the dimension of Intellect are depicted as deep and