Journal of Research in Personality 52 (2014) 29–36

Contents lists available at ScienceDirect

Journal of Research in Personality

journal homepage: www.elsevier.com/locate/jrp

Predicting school success: Comparing Conscientiousness, Grit, and Emotion Regulation Ability

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ARTICLE INFO

Article history:
Available online 26 June 2014

Keywords:
School success
Conscientiousness
Grit
Emotion Regulation Ability

ABSTRACT

The present paper examines validity of three proposed self-regulation predictors of school outcomes – Conscientiousness, Grit and Emotion Regulation Ability (ERA). In a sample of private high school students ($N = 213$) we measured these constructs along with indices of school success obtained from records (rule violating behavior, academic recognitions, honors, and GPA) and self-reported satisfaction with school. Regression analyses showed that after controlling for other Big Five traits, all school outcomes were significantly predicted by Conscientiousness and ERA, but not Grit. The discussion focuses on the importance of broad personality traits (Conscientiousness; measure of typical performance) and self-regulation abilities (ERA; measure of maximal performance) in predicting school success.

1. Introduction

Achieving challenging goals – such as school success – requires willingness to control impulses and work hard, as well as the ability to manage emotions associated with goal pursuit. While it is clear that academic achievement is predicted by intellectual abilities (Poropat, 2009), it is less clear what is the predictive power of psychological attributes at the intersection of emotions, cognition and self-regulation. Conscientiousness – a personality trait that primarily describes impulse control and self-regulation of behavior (John, Naumann, & Soto, 2008) – has been consistently related to academic achievement (Poropat, 2009). In this paper we test another two proposed predictors of school success – Grit and Emotion Regulation Ability (ERA). Grit is a lower-level personality trait in the domain of Conscientiousness (Duckworth, Peterson, Matthews, & Kelly, 2007). Both Conscientiousness and Grit describe typical everyday performance or behavior (how people generally behave). By contrast, ERA is an ability to reason about effectiveness of different emotion regulation strategies and describes maximal capacity for solving emotion-related problems (Brackett, Rivers, & Salovey, 2011). While both self-regulation traits (such as Conscientiousness and Grit) and ERA predict important outcomes (Brackett et al., 2011; Duckworth et al., 2007; Roberts, Walton, & Bogg, 2005), they are only modestly and inconsistently correlated to each other (e.g., Day & Carroll, 2004; Lopes, Salovey, & Straus, 2003; Lopes et al., 2004).

Conscientiousness is the Big Five trait that "describes socially prescribed impulse control that facilitates task- and goal-related behavior" (p. 120, John et al., 2008). As a super-trait, Conscientiousness includes a number of lower-level traits or facets, such as self-control and perseverance (e.g., MacCann, Duckworth, & Roberts, 2009; Roberts, Chernyshenko, Stark, & Goldberg, 2005). Grit is a noncognitive personality trait involving persistence and long-term consistency of interests (Duckworth et al., 2007). As such, Grit is conceptually closely related to Conscientiousness; persistence, a major component of Grit has been identified as one of the facets of Conscientiousness in multiple studies (e.g., Hough & Ones, 2001; MacCann et al., 2009). Conscientiousness emerged as the personality trait most consistently and strongly correlated to academic success (Poropat, 2009), and initial studies of Grit showed relationships to various measures of academic achievement (Duckworth & Quinn, 2009; Duckworth et al., 2007).

In contrast to the personality traits of Conscientiousness and Grit, ERA is an ability (a component of emotional intelligence; Mayer & Salovey, 1997) and describes individual's maximal capacity to evaluate emotion regulation strategies and to influence one's affective experience and actions in ways that promote goal attainment in emotionally charged situations (e.g., presence of competing goals, experience of challenges or obstacles). This ability is distinct from personality traits describing a tendency toward positive or negative emotions (i.e., Extraversion and Neuroticism; Mayer, Roberts, & Barsade, 2008) and rather describes the capacity to reason about a variety of emotions. The present study aims to

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http://dx.doi.org/10.1016/j.jrp.2014.06.005
0092-6566/

examine the independent predictive power of Conscientiousness, Grit, and ERA in relation to measures of high school success.

1.1. Conscientiousness and Grit in prediction of school success

Conscientiousness is a super-trait that encompasses a family of lower-level traits in the broad domain of self-regulation (John et al., 2008; Roberts, Lejuez, Krueger, Richards, & Hill, 2014). Analyses of trait adjectives and personality inventories define a range of lower-level Conscientiousness-related traits, with five traits identified in multiple studies: orderliness, self-control, industriousness, responsibility, and traditionalism (Roberts et al., 2014). Two most common traits are orderliness and industriousness (Roberts et al., 2014). Orderliness can be defined as "the overarching tendency to be prepared" (p. 1317, Roberts et al., 2014), which includes a predisposition toward neatness and planfulness, while industriousness describes a predisposition to be hard-working and persistent in the face of obstacles (Roberts et al., 2014). Developmental precursors of Conscientiousness, such as childhood impulsivity and delay of gratification, further support the conceptualization of Conscientiousness as a self-regulation trait (Roberts et al., 2014).

Conscientiousness is most commonly assessed using self-report inventories that ask about typical or average behavioral tendencies and preferences (e.g., tendency to be generally reliable and hard-working, liking order; John et al., 2008). Different personality inventories are based on different theoretical perspectives and thus assess a range of facets, but no single inventory assesses the whole breadth of the Conscientiousness domain (Roberts et al., 2014). Despite the imperfect correspondence in the facets measured by the various Big Five inventories, there is very strong convergence between Conscientiousness domain scores across measures (John et al., 2008), suggesting that these inventories adequately estimate a person's position on the broad trait domain.

Conscientiousness is correlated with a variety of behaviors that require planning and self-control of behavior, such as smoking, excessive alcohol use, drug use, and violence (Roberts, Chernyshenko, et al., 2005; Roberts, Walton, et al., 2005). Furthermore, Conscientiousness is consistently related to school success across age and level of schooling, and largely independent of general intelligence (Poropat, 2009). Conscientiousness predicts school success across cultures (e.g., U.S.: Noftle & Robins, 2007; Estonia: Laidra, Pullmann, & Allik, 2007; Croatia: Bratko, Chamorro-Premuzic, & Saks, 2006) and it predicts achievement over tutors' expectations of performance (Chamorro-Premuzic & Furnham, 2003) and prior achievement (Noftle & Robins, 2007).

Research suggests that both broad and lower-level traits predict important outcomes and that lower-level traits can be even more powerful predictors than broad traits (O'Connor and Paunonen, 2007). Roberts, Chernyshenko, et al. (2005) found that lower-level Conscientiousness facets had differential relationship with important criteria, such as work dedication and drug use, and that using these lower-level scales improved criterion validity over the use of broad trait measures. Similarly, when predicting academic achievement, several studies found the Achievement Striving facet of Conscientiousness to be more highly correlated with academic achievement than the broad trait of Conscientiousness (Chamorro-Premuzic & Furnham, 2003; Paunonen, 1998; Paunonen & Ashton, 2001).

In this study we test whether the most recently proposed lower-level Conscientiousness trait of Grit improves criterion validity in relation to school success outcomes over the broad Conscientiousness domain. Grit was proposed as a Conscientiousness-related trait that combines consistency of interests and persistence in pursuit of long-term goals (Duckworth et al., 2007). The conceptualization of Grit as a lower-level trait in the Conscientiousness domain is supported both conceptually – with persistence being a component of Grit and emerging as a facet of Conscientiousness in some analyses (e.g., Hough & Ones, 2001; MacCann et al., 2009) – and also based on measurement overlap. A self-report scale assessing Grit asks questions about typical everyday behavior in relation to achievement goals (e.g., "I am a hard worker" and "New ideas and projects sometimes distract me from previous ones"; Duckworth & Quinn, 2009; Duckworth et al., 2007), similar to assessment of Conscientiousness (e.g., "Tends to be lazy", reversed, and "Perseveres until the task is finished" on the Big Five Inventory Conscientiousness scale; John et al., 2008).

Grit predicted achievement-related outcomes, such as GPA and retention in the United States Military Academy (Duckworth et al., 2007), and it predicted academic success after controlling for educational aspirations and prior achievement (Strayhorn, 2013). In spite of its high correlation with Conscientiousness (*r*s between .70 and .77), Grit was a unique predictor of highest educational degree obtained and rankings in the National Spelling Bee (Duckworth & Quinn, 2009). The present paper contributes to the understanding of this newly proposed self-regulation trait by examining its predictive validity in relation to outcomes of high school success, as well as testing its discriminant and incremental validity in relation to the broad trait of Conscientiousness.

1.2. Emotion Regulation Ability in prediction of school success

In addition to willingness to work hard, school success requires the ability to regulate emotions associated with social interactions and achievement-related experiences. Emotion regulation involves processes of monitoring and modifying emotional reactions in order to reach a goal, which can happen at any point in the emotion process, from selecting situations, changing situation appraisals, to modulating physiological and behavior reactions (Gross, 1998). Emotion regulation is necessary when one's experienced emotions are distressing (e.g., when test anxiety can interfere with performance) or when they are positive, but distracting or overwhelming (e.g., when one cannot focus in class anticipating an exciting weekend trip). Successful emotion regulation involves understanding the consequences of different reactions in emotion-laden situations and having knowledge of effective strategies (Brackett et al., 2011).

Emotion regulation can be conceptualized in terms of typical behavior – people's tendency to use different emotion regulation strategies on a daily basis – and also in terms of maximal performance – people's capacity to reason about and identify effective strategies for influencing emotions. This distinction between typical and maximal performance is often made when comparing personality traits (defined as typical performance, how people generally behave) and intelligence (defined as maximal performance on ability tests; Goff & Ackerman, 1992). An example of emotion regulation conceptualized in terms of typical performance is the Emotion Regulation Questionnaire (Gross & John, 2003), which measures people's tendency to engage in cognitive reappraisal and expressive suppression on a daily basis. The questionnaire items are similar to those on personality trait inventories and ask how much respondents agree with statement like: "When I want to feel less negative emotion, I change the way I am thinking about the situation" (reappraisal) or "When I am feeling negative emotions, I make sure not to express them" (expressive suppression).

In this paper, we conceptualize ERA as maximal performance by measuring it with an ability test that describes hypothetical emotion-laden situations and asks respondents to evaluate the efficacy of different strategies in reaching a specified goal (Brackett et al., 2011). Defined as maximal performance, ERA is a component of emotional intelligence and distinct from personality traits (Brackett & Mayer, 2003; Day & Carroll, 2004). Across studies,