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Integration of personality constructs: The role of traits and motivation in the willingness to exert effort in academic and social life domains ☆

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ABSTRACT

There has been growing interest in recent years in exploring different types of personality constructs and the nature of inter-relationships between personality variables in predicting outcomes in different life domains. The present study explores how personality traits and autonomous goal motivation predict the willingness to invest effort in academic and social life domains. Using a sample of 4133 upper secondary school students in Germany, multilevel regression analyses yielded three main results. First, both personality traits and motivation were substantially related to the willingness to exert effort. Second, the mediation effect compared to the direct effect was relatively small. Third, the pattern of predictive effects of both autonomous motivation and personality traits showed substantial domain specificity.

1. Introduction

The willingness to exert effort in pursuing important life goals enhances goal attainment and achievement (e.g., Locke & Latham, 2002; Sheldon & Elliot, 1998). Individuals invest effort in a number of arenas. As such, they need to make choices and decisions about how much effort to put into a particular goal and consider how to divide their "effort budgets" across multiple life domains (Heckhausen, Wrosch, & Schulz, 2010; Salmela-Aro, 2009). During the transition to adulthood, appropriate engagement in academic and in social domains, in particular, is known to be critical for successful development (see for a review Dietrich, Parker, & Salmela-Aro, 2012; Parker, Ludtke, Trautwein, & Roberts, 2012; Zarrett & Eccles, 2006). The choice of how much effort to channel into these key life goals is affected not only by opportunities and constraints in an adolescent's social environment but also by personal resources (Arnett, 2000; Nurmi, 2004; Roberts, O'Donnell, & Robins, 2004).

Both personality traits and motivation have been identified as key predictors of human behavior in a variety of settings (Fleeson, 2001; Little, 2007; McAdams & Olson, 2010; McAdams & Pals, 2006; McCrae & Costa, 2008) and with variables associated with effortful striving to meet long-term life goals (Trautwein, Lüdtke, Roberts, Schnyder, & Niggli, 2009; Turban, Tan, Brown, & Sheldon, 2007). Although recent theoretical work has considered the interrelationship between different groups of personality variables (e.g., Bleidorn, 2009; Little, 2007; McCabe & Fleeson, 2012; McAdams & Pals, 2006; McCrae & Costa, 2008), personality trait and motivation research have largely progressed in isolation. Personality trait research has typically focused on constructing traits as domain-general predictors of behavior (Cantor, 1990; McAdams & Pals, 2006; McCrae & Costa, 2008), whereas motivation research has progressed by exploring goals and goal motivation within particular domains of human interest (Little, 2007; McAdams & Pals, 2006; Nurmi, 2004). Both sets of constructs are part of a spectrum of personality constructs that have been found to be important predictors of outcomes, including effort and goal striving (e.g., Trautwein et al., 2009). Many of the assumptions of integrative models of personality are poorly tested with empirical research. The current study considered several assumptions about the role of traits and motivational personality variables in predicting willingness to exert effort in academic and social life domains. It explored the juxtaposition of these variables in predicting willingness to exert effort to obtain important goals and clarified whether basic personality traits and motivation are independent (independent effects model) predictors of willingness to exert effort or whether motivation mediates the effects of personality traits on effort (the mediated effects model). It also compared and contrasted the domain specificity of personality traits and motivation constructs as predictors of willingness to exert effort

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in different life domains to clarify the nature of their predictive effect.

1.1. Personality: Conscientiousness and agreeableness as predictors of effort

The Big Five framework is the most widely used taxonomy of personality (Digman, 1990; Goldberg, 1993). The framework organizes broad individual dispositions in social and emotional life into five factor analytically derived traits, most commonly labeled extroversion, conscientiousness, neuroticism, agreeableness, and openness to experience (McAdams & Olson, 2010; McAdams & Pals, 2006; McCrae & Costa, 2008; McCrae & John, 1992). In some personality theories, traits have been described as basic tendencies, which describe broad dispositional patterns of behaviors, cognitions, and emotions across a range of life domains (e.g., McCrae & Costa, 2008), whereas in other theories they have defined as concepts that can change by context (e.g., Roberts & DelVecchio, 2000). Conscientiousness and agreeableness are of specific relevance to academic and social life domains, respectively.

Conscientiousness is known to be associated with task completion and goal-directed behavioral tendencies, such as thinking before acting, following norms and rules, planning, organizing, and prioritizing tasks (John, Naumann, & Soto, 2008; Roberts, Jackson, Fayard, Edmonds, & Meints, 2009). As such, conscientiousness is often used as a predictor of greater effort and success in school and work life domains (Barrick & Mount, 1991; Bleidorn, 2012; Corker, Oswald, & Donnellan, 2012; Digman 1989; Noftle & Robins, 2007; Shiner, 2000). Conscientiousness has been shown, for example, to foster effort investment in class and homework (Trautwein & Lüdtke 2007; Trautwein, Lüdtke, Kastens, & Köller, 2006), facilitate high academic achievement (Digman, 1989; Marsh, Trautwein, Lüdtke, Köller, & Baumert, 2006; Mervielde, Buyst, & De Fruyt, 1995; Noftle & Robins, 2007), and predict job performance (Barrick & Mount, 1991). Agreeableness includes tendencies such as altruism and trust (John et al., 2008). As such, it is often used as a predictor of outcomes in social relationships (Digman, 1989; Little, Lecci, & Watkinson, 1992; McCrae & Costa, 1989; Parker et al., 2012). It has been shown, for example, to foster intimate relationships (Hogan, 1996) and to facilitate family relationships and parental investment (MacDonald, 1995).

1.2. Motivation: Do reasons for pursuing goals predict effort?

Personality traits are potent predictors of behavior, but they may not fully address the complexity of human goal striving. To better understand personality and behavior, motivational research over the past two decades has studied so-called goal units (Pervin, 1989). These units, conceptualized, for example, as *personal action constructs* (Little, 1989) are associated with what people do in their daily lives (Cantor, 1990) and are believed to signify human agency through an individual's choices. Relative to traits, goal units have been conceptualized as *middle-level units of analysis* (Little, 1989, 2007) or part of *characteristic adaptations* (McAdams & Olson, 2010; McAdams & Pals, 2006), which are thought to be narrower than personality traits and are hypothesized to be more sensitive to contextual features than traits (Little, 2007; McAdams & Pals, 2006).

Goal units are often conceptualized as consisting of two aspects (Cantor, Norem, Niedenthal, Langston, & Brower, 1987; Nuttin, 1984). The first is the goal content or the objectives people mention as their personal goals (Cantor et al., 1987; Little, 1983). This focuses on the "what" aspect of goal setting (i.e., what does this specific person consider an important goal?). Young adults' goals are often focused on life domains, such as education, employment, family, or peer relationships (e.g., Blais, Vallerand, Briére, Gagnon, & Pelletier, 1990; Salmela-Aro & Nurmi, 1997). The second involves appraisals of the goal and characteristics of goal striving (see Little, 1983). This focuses on the "how" aspect of goal setting (i.e., how do people work cognitively, emotionally, and behaviorally toward their goals?). These approaches typically investigate the appraisals people make concerning goals within different life domains, such as those focusing on career and education (Harlow & Cantor, 1994; Nurmi, Salmela-Aro, & Koivisto, 2002) or social relationships (Cantor, Acker, & Cook-Flannagan, 1992; Salmela-Aro & Nurmi, 1996).

In one of the most influential motivation theories, self-determination theory (SDT), Deci and Ryan (1985), Deci and Ryan (2000) emphasized the importance of inner resources for working toward important life goals in domains such as academic life (Black & Deci, 2000) and in social relationships (Kim, Carver, Deci, & Kasser, 2008). According to SDT, individuals have their own reasons for specific goals (i.e., the perceived locus of causality), and these have implications for the type, quality, and quantity of effort someone is likely to invest in meeting those goals (Ryan & Deci, 2000; Sheldon & Elliot, 1998). More autonomously motivated goals are pursued as a result of the expression of personal choices (Sheldon & Elliot, 1999). In contrast, goals that are motivated by control (i.e., *controlled motivation*) are pursued because of the person feels controlled by external pressures or contingencies (Deci & Ryan, 1985; Sheldon & Kasser, 1998) or is stimulated by guilt, anxiety, or ego (e.g., pride) (Ryan & Deci, 2000). This type of controlled motivation produces pressure to think, feel, or behave in a particular way (Deci & Ryan, 2000).

Previous studies have suggested that those whose goals are autonomously motivated not only invest more sustained effort into achieving those goals but also the quality of their effort is higher (Sheldon, 2002; Sheldon & Elliot, 1998; Sheldon & Elliot, 1999; Trautwein, Lüdtke, Schnyder, & Niggli, 2006; Turban et al., 2007; Vasalampi, Salmela-Aro, & Nurmi, 2009). For example, Turban et al. (2007) showed that the perceived locus of causality (i.e., autonomous motivation) of students with respect to school courses strongly influenced the effort they put into their studies. Controlled motivation is often considered problematic because it leads to individuals not satisfying their own psychological needs (Deci & Ryan, 2000; Sheldon, 2002) and disengaging (i.e., reducing effort) when confronted with obstacles (Judge, Bono, Erez, & Locke, 2005; Sheldon & Elliot, 1998; Sheldon & Elliot, 1999; Sheldon & Houser-Marko, 2001).

1.3. Associations among personality traits, goal motivation, and invested effort

There is an abundance of theoretical models that delineate personality traits and personal goal relationships, and studies have shown that both personality traits and goal motivation are associated with invested effort. However, few studies (e.g., Corker et al., 2012; Trautwein et al., 2009) have explored these factors simultaneously. The current paper extends previous research by testing two competing hypotheses (mediated and independent effects) by which personality traits and autonomous goal regulation affect effort expenditure in two domains (academic and social). In both the mediated effects model and the independent effects model, basic traits and intermediate constructs, such as motivation, are conceptualized as a hierarchy of personality. However, the two models differ in their expectations about how these traits and intermediate constructs predict outcomes, such as effort.

1.3.1. Mediated effects hypothesis

The best-known paradigm, referred to by Trautwein et al. (2009) as the mediated effects hypothesis, has been used by a