Investigating student motivation at the confluence of multiple effectiveness strivings: A study of promotion, prevention, locomotion, assessment, and their interrelationships

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ABSTRACT

A recent theory of motivation (Higgins, 2012b) proposed that examining individuals' concomitant strivings to be effective in (a) achieving valued outcomes, (b) exerting control over the means they employ during goal pursuits, and (c) having accurate understandings of themselves and their experiences is critical for mapping interindividual differences in motivation effects. To investigate this proposition, we collected data from two independent samples of secondary-school students and conducted latent profile analyses. The results indicate that six motivation profiles, which accounted for the complex interrelationships among motivation orientations measuring these key effectiveness strivings, were consistently identified in the two samples. The analysis of between-profile differences in a set of outcomes that reflect motivation in learning and achievement settings highlighted how multiple motivations interact to shape specific cognitive and affective manifestations.

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1. Introduction

Human motivation is a complex process that influences individuals' behaviors (e.g., task engagement), cognitions (e.g., representations of goals), and emotions (e.g., affective reactions triggered by goal success/failure) (Higgins, 2012b). Being effective at obtaining desired outcomes and avoiding unwanted ones, that is, having value effectiveness, is a key driver of motivated undertakings. Nevertheless, as Higgins' (2012b) theory articulated, strivings for (i.e., efforts to achieve) value effectiveness are not the only determinant of human motivation. Specifically, people also have strategic preferences about the means they prefer to use when pursuing valued goals (Pintrich, 2003). These preferences, which reflect individuals' strivings to be effective in having control over their actions, influence essential cognitive processes (e.g.,

differential weighting of speed vs. accuracy in information processing) and interact with outcome preferences (Higgins, 2012b; Molden, 2012).

Seeking to achieve valued outcomes in preferred ways interacts with people's desires to find out the truth about themselves and their experiences (Higgins, 2012b; Higgins, Pierro, & Kruglanski, 2008). Having truth effectiveness, that is, being effective at establishing what is correct or real (Higgins, Cornwell, & Franks, 2014), is essential for human well-being; its absence is associated with confusion and bewilderment (Higgins & Scholer, 2015). Additionally, strivings for truth effectiveness affect motivation to process information (Erb et al., 2003). Moreover, "treating something as real recruits resources to deal with it" (Sehnert, Franks, Yap, & Higgins, 2014, p. 828). Hence, beliefs regarding the truth (vs. falsity) of pivotal aspects characterizing goal pursuits have key motivational implications. In particular, motivation to attain any goal is influenced not only by the attendant benefits of succeeding and costs of failing but also by how likely (i.e., real vs. imaginary) success is perceived to be and how realistic the envisioned benefits and costs of achieving the goal appear (Higgins et al., 2014).

This research explores three key theoretical propositions articulated in Higgins (2012b) and Higgins et al. (2014); the implications of these propositions are yet to be examined in depth. First, we investigate whether the complex interrelationships among strivings for value, control, and truth effectiveness could be mapped by means of a set of typologies (i.e., motivation profiles). Second, we assess whether there are

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significant differences among profiles with regard to cognitive and emotional factors that play important roles in learning and achievement settings. Third, we examine whether empirical findings provide support for Higgins' (2012b) tripartite conceptualization of motivation, which includes not only value effectiveness but also control and truth effectiveness.

2. Theoretical framework

Contemporary motivation research has proposed that effective strivings for value, control, and truth effectiveness underpin appropriate self-regulation (Franks & Higgins, 2012; Higgins, 2012b; Higgins et al., 2014). In addition, individual well-being requires that all "three ways of being effective work together, that is, support and constrain each other to create *organizational effectiveness*" (Franks & Higgins, 2012, p. 286; emphasis in original). Therefore, understanding the motivational consequences of individuals' conjoint strivings for value, control, and truth effectiveness requires mapping their complex patterns of interrelationships. One potentially fruitful strategy in this sense involves employing person-centered data analytic techniques (e.g., latent profile analyses; details follow).

People's quest for value, control, and truth effectiveness can be studied by means of four motivation constructs that serve important survival needs (Higgins, 2012b; Higgins & Scholer, 2015). More specifically, taken together, promotion and prevention (Higgins, 1997) relate to value effectiveness; locomotion (Kruglanski et al., 2000) relates to control effectiveness; assessment (Kruglanski et al., 2000) relates to truth effectiveness. Importantly, although this research evaluated these four orientations as chronic interindividual differences, they can also be situationally activated and made accessible by priming (Higgins, 2012a, 2012b; Higgins, Kruglanski, & Pierro, 2003). The following sections describe each of these constructs. As the target population in this research consists of secondary school students, this overview highlights primarily key features of these constructs that are most consequential in learning and achievement settings.

2.1. Regulatory focus, promotion, and prevention

Regulatory focus theory (Higgins, 1997, 2012b) provides the framework for research on promotion and prevention. This theory draws from the self-discrepancy theory (Higgins, 1987) and proposes that the early socialization of children influences the type of self-guide they develop. Self-guides are "self-directive standards" (Higgins, 1987, p. 321) that guide a person's self-regulation. In turn, accessibility theory argues that mental representations encoded in memory are accessible and, thus, could be activated for use when they are relevant to current self-regulatory processes (Higgins, 2012a). Thus, self-guides are accessible in mind and influence children's actions, judgments, and emotional reactions (Dweck, Higgins, & Grant-Pillow, 2003; Higgins, 1997, 2012b). In particular, children whose early socialization focuses on ideals and aspirations have easily accessible an ideal self-guide and are likely to develop a promotion orientation. In contrast, children whose socialization centers on being safe and fulfilling duties, obligations, and responsibilities have readily accessible an ought self-guide and are likely to develop a prevention orientation (Higgins, 1997, 2012b). Although individuals differ with respect to the self-guide (and, thus, the motivation orientation) that is chronically accessible to them, they use both types of self-guides and can activate both promotion and prevention (Dweck et al., 2003; Higgins, 2012b).

Individuals with a predominant promotion orientation strive to attain high value effectiveness with respect to taking advantage of opportunities for gains, growth, and advancement (Higgins, 2012b; Malaviya & Brendl, 2014). As a consequence, they prefer to use eager means and strategies during goal pursuits; in turn, this strategic predilection maximizes opportunities for gains even at the cost of increasing the likelihood of committing errors and sustaining losses. Consistent with their

growth-related goals and aspirations, individuals having a strong promotion orientation generally rely on associative and flexible thinking for information processing (Miele & Wigfield, 2014). Additionally, they are likely to be sensitive to positive feedback, rewards, and positive role models. Moreover, individuals who have a strong promotion focus connect readily their interests with information presented in learning settings (Crowe & Higgins, 1997; Lockwood, Jordan, & Kunda, 2002; Lockwood, Sadler, Fyman, & Tuck, 2004; Molden & Miele, 2008).

Individuals who are predominantly prevention oriented strive to achieve high value effectiveness with regard to fulfilling important obligations, responsibilities, and duties. Moreover, they prefer to pursue the attainment of "these ought end states by being vigilant and engaging in safe and secure actions to successfully prevent anything that might get in the way of fulfilling" them (Malaviya & Brendl, 2014, p. 2). In addition, people who have a strong prevention focus are likely to be preoccupied with interdependence and social connectivity, to follow closely social norms, and to behave in line with significant others' expectations of them (Aaker & Lee, 2001; Florack, Keller, & Palcu, 2013). For as long as they are in a satisfactory state, prevention-oriented individuals aim to preserve the *status quo* and are ready to forsake opportunities to gain rather than risk a loss (Molden, 2012). Consistent with their preoccupation to protect against losses, these individuals are also likely to engage in sequential and analytic processing of information (Miele & Wigfield, 2014). In addition, having a strong prevention orientation has been linked to being sensitive to negative feedback/role models and making relatively narrow connections between topics of interest and information presented in learning settings (Crowe & Higgins, 1997; Higgins, 2012b; Lockwood et al., 2002, 2004; Molden & Miele, 2008).

Regulatory focus influences a range of motivation factors, such as the types of goals individuals adopt and their expectancies of success in given courses or academic domains (Higgins, 1997, 2012b; Hodis & Hodis, 2015). These factors, in turn, shape how individuals learn and achieve in school (Eccles, 2005; Eccles & Wigfield, 2002; Wigfield & Eccles, 2000). For example, Förster, Grant, Idson, and Higgins (2001) showed that, in a success feedback condition, participants' expectancies of future success increased more for promotion- than for prevention-oriented individuals. In contrast, in the failure feedback condition, respondents' expectancies decreased more for prevention- than for promotion-oriented participants. Recent findings reported by Hodis and Hodis (2015) provide further evidence of the links between regulatory focus and expectancy of success. Specifically, these authors found that a promotion orientation related positively to expectancies of success whereas a prevention orientation had a non-significant relationship with this construct.

2.2. Regulatory mode, locomotion, and assessment

Regulatory mode theory posits that locomotion and assessment are independent motivation orientations that can be emphasized to different degrees by different individuals (Higgins, 2012b; Higgins et al., 2003; Kruglanski et al., 2000). These two orientations play complementary and equally important roles in self-regulatory processes. Specifically, "locomotion constitutes the aspect of self-regulation that is concerned with movement from state to state" (Higgins et al., 2003, p. 295). In turn, assessment is responsible for the evaluative aspect involved in self-regulation, which involves making comparisons and selecting optimal end-states and facilitating means (Higgins, 2012b; Higgins et al., 2003). Given these characteristics, locomotion and assessment index strivings for control and truth effectiveness, respectively (Higgins, 2012b). Following, we overview some key features of these two constructs.

Locomotion is the self-regulation aspect that pertains to "committing the psychological resources that will initiate and maintain goal-directed progress in a straightforward manner, without undue distractions or delays" (Kruglanski et al., 2000, p. 794). In line with this conceptualization, individuals having high levels of locomotion