The self-regulation of motivation: Motivational strategies as mediator between motivational beliefs and engagement for learning

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ABSTRACT

In this research we studied students’ use of motivational strategies as mediator between motivational beliefs and motivational engagement. Dutch students in pre-vocational secondary education (N = 3602, mean age 14) completed a self-report questionnaire on five motivational strategies (Environmental Control, Interest Enhancement, Self Consequating, Performance Self-talk, Mastery Self-talk); motivational beliefs (value attached to schoolwork, competence); and motivational engagement (pleasure, effort, persistence, achievement). A validation of the questionnaire showed a good fit. Structural equation modelling indicated that strategy-use partly mediates the relation between value, and effort and pleasure. Competence showed a weak direct relation with effort an pleasure. No result were found for achievement. Further implications of these findings for practical use and further research are discussed.

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1. Introduction

The aim of this research was to study students’ use of motivational strategies as mediators between students’ beliefs about the value of schoolwork and their competence, and motivational engagement, that is, effort and persistence, pleasure and interest in learning, and achievement. Being motivated is not self-evident. In the Netherlands, motivation is especially poor in pre-vocational secondary education. This is apparent from high absenteeism and drop-out rates (Central Bureau for Statistics, 2015). Motivation decreases during secondary education (Opdenakker, Maulana, & den Brok, 2012; Van der Veen & Peetsma, 2009), and, even if students are motivated, they can be distracted from learning (Boekaerts & Niemivirta, 2000; Fries, Schmid, Dietz, & Hofer, 2005; Lemos & Gonçalves, 2004). Researchers, therefore, have been interested in motivational strategies that help students to get started on schoolwork, to persist in the presence of motivational threats (Boekaerts & Corno, 2005; Kuhl, 1984; Wolters & Rosenthal, 2000; Wolters, 1998, 1999, 2003), or to shift their focus from non-learning to learning goals (Boekaerts & Niemivirta, 2000). Previous studies have shown that the use of these strategies can lead to more effort, and persistence (Bembenutty & Zimmerman, 2003; Boekaerts & Corno, 2005; Dignath & Büttner, 2008; Donker, De Boer, Kostons, Dignath van Ewijk, & Van der Werff, 2014; Vermeer, Boekaerts, & Seegers, 2001; Wolters, 2003). Results on

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relations between the use of strategies and achievement are less conclusive, but some studies suggest that the relation is mediated by effort (Schwinger, Steinmayr, & Spinath, 2009; Schwinger & Stiensmeier-Pelster, 2012).

Strategies are not used as a matter of fact: students first need to decide whether they want to execute schoolwork. Motivational beliefs are thought to be strong determinants in students’ decision to engage in learning (Ajzen, 1991; Bandura, 1991; De Brabander & Martens, 2014; Eccles & Wigfield, 2002; Gollwitzer, 2012; Pintrich & DeGroot, 1990; Pintrich 1999; Wolters & Benzon, 2013; Zimmerman & Schunk, 2008). In this study we focus on the beliefs students have about the value of schoolwork, and about their competence to execute schoolwork successfully (Eccles & Wigfield, 2002). The assumption is that students will be more inclined to use motivational strategies to protect their learning intentions against distractions and competing goals when they believe schoolwork is valuable and they believe they can perform schoolwork successfully (Wolters & Pintrich, 1998). The aim of this research was to study the use of motivational strategies by students from pre-vocational secondary education as a function of their motivational beliefs, in order to increase their motivational engagement and achievement. First, we tested the validity and usability of Wolters’s questionnaire on motivational strategies for this population.

2. Motivational strategies

Students are considered to be agents in their learning process, able to use motivational strategies purposefully in order to reach their learning goals (Pintrich & De Groot, 1990; Zimmerman, 2000, 2002; Zimmerman & Schunk, 2008). To assess students’ use of motivational strategies, Wolters (1998, 1999) designed a questionnaire containing five theoretically meaningful strategies. First, Interest Enhancement (IE), also described in by Sansone, Weir, Harpster, and Morgan (1992), concerns making a task more interesting and enjoyable by turning it into a game, or by relating schoolwork to one’s daily life, granting schoolwork a certain value. Second, Environmental Control (EC) is defined as ‘students’ efforts to arrange or control their surroundings or themselves, to make completing a task easier, or more likely to occur without interruption.’ (Wolters, 1999, p. 283). Examples include keeping a tidy desk, and working at a productive time of the day (Zimmerman & Martinez-Pons, 1990). Third, Self Consequating (SC), also studied by Zimmerman and Pons (1986), concerns linking consequences to the effort that is put into learning. Examples of SC are promising oneself something good to eat, or denying oneself the pleasure to hang out with friends. The fourth and fifth strategy concern Self-Talk, defined as ‘verbalizations that are addressed to oneself, which can serve both instructional and motivational functions’ (Hardy, Hall, & Hardy, 2005; p. 905).

Performance Self-Talk (PST) comprises telling oneself to start working and persist in order to get good grades, or to outperform others. Mastery Self-Talk (MST), finally, concerns telling oneself to start working in order to get a grasp on the learning material.

Different strategies have different effects on motivational engagement. Based on the self-determination continuum as described by e.g. Deci and Ryan (2000), Wolters distinguishes between extrinsic and intrinsic regulation of motivation (Wolters, 1998). Or, as Reeve (2012) states: “Students use autonomous guides to action while others rely on controlling and environmental guides.” (pg. 153). This distinction is important as the autonomous forms of regulation are more beneficial for motivational engagement than the controlling forms of regulation (Deci & Ryan, 1985, 2000; Reeve, 2012; Ryan & Deci, 2000). Controlling forms of regulation steer students’ behavior in the prospect of results that are separate from schoolwork itself: avoiding punishment, getting rewards, pleasing parents or teachers, outperforming others, or boosting one’s self-esteem. Autonomous forms of regulation steer students’ behavior in the prospect of results that are related to schoolwork itself: understanding the subject matter, recognizing the value of schoolwork, connecting schoolwork with one’s own goals and values. Following Wolters (1998), we consider PST and SC, to be typical controlling forms of motivation regulation, whereas MST and IE can be grouped under autonomous regulation of motivation. Although EC is not related to schoolwork itself, it does not exert any pressure as opposed to SC and PST. Therefore we did not classify EC as a controlling or autonomous form of motivation regulation.

3. Motivational beliefs and the relation with strategies and motivational outcome measures

Motivational strategies are not used as a matter of fact. Before acting, students weigh up and consider whether they believe themselves sufficiently competent to execute schoolwork successfully and whether the task is sufficiently valuable to them (Eccles & Wigfield, 2002; Gollwitzer, 2012; Heckhausen & Gollwitzer, 1987; Pintrich & De Groot, 1990; Zimmerman & Schunk, 2008). Once the choice is made to actually execute schoolwork, students will show more motivational engagement, and will be more inclined to use motivational strategies. The assumption, therefore, is that the relation between motivational beliefs and motivational engagement is mediated by the use of strategies.

Some empirical studies have been carried out on the mediation as a whole. Pintrich and DeGroot (1990) showed that strategy-use mediated the relation between both motivational beliefs and performance. In a study by Wolters and Pintrich (1998), the relation between value and performance was fully mediated, whereas the relation between competence and performance was partly mediated by strategy-use. For more findings, we turn to the individual paths of the mediation. Concerning the path between beliefs and strategies, studies by Bong (1999), Boekaerts (2002), Pintrich (1999) and Van der Veen and Peetsma (2009) show a positive relation between the value students ascribe to schoolwork and their intentions to act and self-regulate. Wolters and Rosenthal (2000) found positive relations between value and the use of strategies, except for PST; eighth graders who perceived more value in schoolwork were more inclined to use strategies, except for the strategy
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