Self- regulation of motivation: Contributing to students' learning in middle school

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Abstract

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The self-regulation of motivation (SRM) implies that students can regulate their motivation to learn, a process that has a positive impact on academic achievement. SRM regulates students' behavior through strategies that are influenced by motivational beliefs (e.g., expectations, goals, and values). The self-regulation of motivation allows students to motivate themselves and guides their behavior, and thus, becomes part of the self-regulatory process. In this paper our goal was to identify beliefs regarding motivation to learn, more specifically those that promote students´ use of self-regulation of motivation strategies. The Self-Regulation of Motivation for Learning Scales (SRMLS) is an inventory developed to assess the SRM process in two major dimensions: motivational beliefs and SRM strategies. In order to achieve our goals 550 students from 7th to 9th grades responded to SRMLS. Self-efficacy expectations, task value and achievement goals are good predictors of self-regulation of motivation strategies. Results suggest that self-efficacy expectations, task value and achievement goals may be important in promoting student´s regulation of motivation for learning. Future implications for research and education are discussed.

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Keywords: Self-regulated learning, regulation of motivation, achievement goals, self-efficacy, task value, motivational regulation strategies, students.

1. Introduction

Educational psychology research highlights the importance of self-regulated learning skills (SRL) for successful learning (e.g., Lopes da Silva et al., 2004; Montalvo & Torres, 2004; Pintrich, 2003; Zimmerman & Schunk, 2001). While students' competence to manage metacognitive components has been the subject of several studies in the past, the competence to regulate school motivation has not

received the same attention from research on learning and performance (Paulino & Lopes da Silva, 2012; Wolters, 2003, 2011). However, students' lack of motivation and self-regulation to learn seem to be critical issues which need to be addressed (Paulino & Lopes da Silva, 2011; Wolters, 2003; Zimmerman, 2008).

Several authors have claimed for a better understanding of how students can monitor, control, and regulate their own motivation (e.g., Boekaerts & Corno, 2005; Wolters et al., 2011). Self-regulation of motivation (SRM) has been regarded as a key concept in the field of self-regulated learning (Wolters, 2003). Specifically, SRM concerns students' acts to maintain motivation and persistence in school tasks, presuming students' intentional action, and competency to self-motivate. More specifically, SRM can be described as the actions through which individuals intentionally initiate, maintain or increase their level of motivation to engage in a given task, complete it and/or reach a goal. Therefore, it becomes essential to understand the reasons why students engage in such actions.

In the present study, it is assumed that the regulation of motivation requires an intentional involvement of the student on the selection of specific strategies and their effective use. Therefore, it becomes essential to study self-variables such as expectancies, values, and goals that can determine the use of particular strategies. Such self-referent variables have been described as motivational beliefs. Moreover, motivational beliefs involve students 'opinions, values, and judgments used to assign meaning to learning events. Concurrently, motivational beliefs may refer to the value students attribute to a domain, to their opinion about the efficiency of learning, to teaching strategies, or to self-efficacy beliefs. Overall, such beliefs act as a framework that guides students' thoughts, feelings, and behaviors in a particular area (Boekaerts, 2002). Following this theoretical framework, the current study was designed to examine the relationship among students' knowledge about effective motivational regulation strategies and their motivational beliefs.

2. Method

2.1. Participants

The sample was composed of 550 students from two public schools, 259 boys (47.3%) and 289 girls (52.7%), with ages between 12 and 18 years (M = 13.19; SD = 1.16). The distribution of the sample was as follows: 7th grade, n = 261; 8th grade, n = 162; and 9th grade, n = 121. The majority of the students had no grade retentions (76.7%), 14.2% had one grade retention and 8.4% had two or more grade retentions.

2.2 Procedure

The scales were administered by the researcher in classrooms during the daily school schedule. The application was collective and participants were told that their cooperation was voluntary and anonymous. The participants were informed that our interest was to understand how they thought about school. They were then asked to indicate how much they agreed with the statements presented on a five point scale. As the participants were underage, parents' and carers' consent was obtained. The scales

had the prior approval of the Ministry of Education and was in line with the rules of the host institution of the undergoing investigation. Data was collected between October 2012 and December 2012.

2.3 Instrument

Self-Regulation of Motivation for Learning Scales (SRMLS). This instrument is an inventory composed of 38 items divided into two self-report scales developed to assess the self-regulation of motivation process in two major dimensions: motivational beliefs and SRM strategies (Paulino et al., *in press*-a). The following statement introduced the strategies dimension: "When I'm studying or doing school work and I find it difficult to continue…...". Students rated with a 5-point Likert scale (1 Never to 5 Always) how frequently they think about or do the several statements presented.

3. Results

3.1. Descriptive and bivariate analysis

Motivational beliefs. Post hoc comparisons using the Tukey HSD test indicated significant differences in how often each type of motivational belief was reported [$F(1, 549) = 220.45$, $p < .001$, $\eta^2 = .29$, $\pi = 1.00$]. The highest mean value corresponded to task value - utility ($M = 4.20$, $SD = 0.71$) and the factor with the lowest mean was performance-approach goals ($M = 3.25$, $SD = 0.98$) (Table 1).

The values obtained from correlations between factors indicated weak correlations ($.23 \leq r \leq .29$) revealing sensibility of the instrument to various areas within the conceptual field of motivational beliefs (Field, 2009). Table 8 shows that the factors were all correlated, with higher correlations between factor 2 and 3, more specifically, items that assess beliefs regarding self-efficacy and task value ($r = . 29$, $p \leq .01$) and lower correlations between factors 2 and 4, self-efficacy and performance-avoidance goals ($r = .23$, $p \leq .01$).

Motivational regulation strategies. A global evaluation of the means indicated some variability in how often each type of motivational regulation strategy was reported. Tukey HSD post hoc tests indicated significant differences in how often each type of strategy was reported [$F(1, 549) = 213.75$, $p < .001$, $\eta^2 = .28$, $\pi = 1.00$]. The highest mean value corresponded to the regulation of performance-avoidance goals ($M = 4. 02$, $SD = 1.02$), whereas the factor with the lowest mean was regulation of situational interest ($M = 2.90$, $SD = 0.95$) (Table 1). The values obtained from correlations between factors indicated weak to moderate correlations ($.15 \leq r \leq .49$), revealing sensibility of the instrument to various areas within the conceptual field of motivational regulation strategies (Field, 2009). Table 1shows that the factors are all correlated, with higher correlations between factor 5 and 8, more specifically, items that assess strategies based on value and mastery and those related to performance ($r = . 49$, $p \leq .01$) and lower correlation between factors 7 and 8, regulation of situational interest, and strategies based on reminding performance goals ($r = .15$, $p \leq .01$).

Table 1. *Descriptive Statistics and Bivariate Correlations for Variables in the Study*

	M	S D	Alp ha	1	2	3	4	5	6	7	8	9
1.	3.2	.9	.81	--								

	M	SD	α	1	2	3	4	5	6	7	8	9
Performance-Approach Goals	5	8										
2. Self-efficacy	3.99	.58	.71	.26**	--							
3. Task Value-Utility	4.20	.71	.76	.24**	.29**	--						
4.Performance-Avoidance Goals	4.09	.79	.65	.24**	.23**	.29**	--					
5. Regulation of Value and Mastery Goals	3.73	.79	.79	.29**	.39**	.57**	.39*	--				
6. Self-consequating	3.55	.95	.74	.26**	.14**	.25**	.25*	.40*	--			
7. Regulation of Situational Interest	2.90	.95	.71	.27**	.11**	.19**	.16*	.26*	.39**	--		
8. Regulation of Performance-Avoidance Goals	4.02	1.02	.78	.13**	.07	.25**	.38*	.49*	.32**	.35**	--	
9. Prior grade retention	1.31	.62	-	-.13**	-.18**	-.15**	-.19**	-.19**	.08	.04	.06	--

Note: *** p ≤ .001. ** p ≤ .01. *p ≤ .05.

4. Discussion

In this paper our goal was to identify beliefs regarding motivation to learn, more specifically those that promote students´ use of self-regulation of motivation strategies in middle school students. Participants responded to the Self-Regulation of Motivation for Learning Scales (SRMLS). Means analyses showed task value beliefs to be the most frequently reported, suggesting a greater importance attributed by students to the value and utility of school contents and tasks. This result is coherent with research highlighting the relevant role of school task value beliefs in structuring students' motivation to learn (Eccles & Wigfield, 2002; Pintrich & De Groot, 1990; Wolters et al., 1996; Wolters & Rosenthal, 2000; Wolters & Benzon, 2010). Furthermore, empirical research in this field has constantly found a relation between students' value for the material they are learning, and their behavior - namely through the use of cognitive and self-regulatory strategies (Pintrich & De Groot, 1990; Wolters & Pintrich, 1998).

Performance-approach goals were less mentioned by the students. It is important to consider that performance goals have been conceptualised in both the approach (aiming to demonstrate high levels of skills relative to others), and avoidance perspective (avoiding the demonstration of the lack of skills) (Elliot, 1997, 1999). Similar results were found other, and in another national study (Paixão & Borges, 2005; Paulino et al., *in press*-a), which might support a cultural justification for these differences. Therefore, apart from the approach or avoidance nature of the goals, Portuguese students seem to be more focused on this type of target, rather than on mastery goals. Also, regarding performance goals, results showed a weak correlation between performance-avoidance goals and self-efficacy beliefs, which is consistent with previous work (e.g., Elliott & Dweck 1988). Schunk and Zimmerman (1994) discussed how self-efficacy could be influenced by learning and performance goal types, and claimed that self-efficacy should be higher under learning than under performance goals.

These findings deserve special attention in terms of educational intervention, since the literature highlights the positive contribution of learning goals for academic success (e.g., Linnenbrink & Pintrinch, 2002). It is crucial to explore this result in future research, in students' and teachers' conceptions about achievement goals, and their effects on motivation and learning. Qualitative studies

conducted by interviews or focus groups might offer a more comprehensive understanding of this issue.

The strategy most consistently reported was the regulation of performance goals, which follows previous studies (Wolters, 1999; Wolters & Benzon, 2010). However, in this study, it concerns a specific dimension of performance goals which is avoidance. This implies that students reported that they would remind themselves about their desire to avoid getting poor grades as a way of getting themselves to continue working on school assignments more often than any of the other strategies assessed. Also, performance-avoidance goals were the beliefs most often reported by students, as discussed earlier. The combination of such results suggests a pattern in students' answers about their beliefs, values and goals, as well as the strategies they believe to be useful for self-regulation of motivation.

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