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Optimal motivation in Peruvian high schools: Should learners pursue and teachers promote mastery goals, performance-approach goals or both?

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ABSTRACT

Achievement goal theory is an important framework to understand students' achievement goals, motivation, and engagement in academic situations and to study teachers' instructional practices. There has been a debate about whether optimal motivation involves the pursuit of mastery goals only (i.e., mastery goal perspective) or the combined pursuit of mastery and performance-approach goals (i.e., multiple goal perspective; Barron & Harackiewicz, 2001, 2003). In the present correlational research we tested these two goal perspectives in two Peruvian samples of high school students (Sample 1: $N = 1505$; Sample 2: $N = 551$) and further examined whether students in classes, in which teachers were perceived to promote mastery goals only or performance-approach goals, would display the most optimal learning pattern. After controlling for learners' performance-avoidance goal pursuit, results provided only slim evidence for the additive goal perspective, as the effects of students' pursuit of mastery goals were more robust and consistent across both samples and outcomes (i.e., learning strategies and math grades). Along similar lines, at the class level, perceived teacher-promoted mastery goals positively predicted deep-level learning strategies, while class-level perceived teacher-promoted performance-avoidance goals related to lower academic achievement.

1. Introduction

Achievement goal theory has been extensively used to study students' motivation and achievement (Midgley, Kaplan, & Middleton, 2001; Pajares & Cheong, 2003). According to this theory, the intensity and quality of students' academic engagement is a function of the different purposes, or goals, students endorse when they engage in a specific learning task (Ames, 1992a, b; Anderman & Maehr, 1994; Dweck, 1986; Dweck & Leggett, 1988). Initially, two types of achievement goals were distinguished, that is, mastery goals (i.e., focusing on the development of competence and understanding), and performance goals (i.e., focusing on the demonstration of competence relative to others). Because both types of goals can be framed either as positive outcomes that can be approached or as negative outcomes that need to be avoided, Elliot and McGregor (2001) developed a 2×2 goal framework.[2]

In achievement goal theory, there has been a controversy regarding which type of achievement goal should be pursued by students and promoted by teachers in their class. Whereas some researchers suggest that students might better exclusively focus on the pursuit of mastery goals (i.e., mastery goal perspective; Midgley et al., 2001), others maintain that the additional pursuit of performance-approach goals is likely to yield incremental learning benefits (i.e., multiple goal perspective; Barron & Harackiewicz, 2001).

The present research extends previous work in four significant ways. First, by considering the teacher-promoted achievement goals (i.e., goal structures), we were able to examine possible interactions between personally pursued and contextually promoted goals (Murayama & Elliot, 2009). Contrary to what it may be expected, only few studies

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[2] Recently, Elliot, Murayama, and Pekrun (2011) proposed a 3×2 model of achievement goals and they work around: task (approach/avoidance), self (approach/avoidance), and other (approach/avoidance). However, in this paper, we will focus in mastery (approach) goals and performance-approach and avoidance goals.

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have investigated the interplay between personally pursued and contextually promoted goals (Lau & Nie, 2008; Murayama & Elliot, 2009) and this is particularly true for the case of performance-avoidance goals (i.e., avoiding to perform more poorly than others). Therefore – and this is the second point - the present research extends previous work also by considering performance-avoidance goals, both at the personal and at the classroom level. Third, in addressing these questions, we adopted a methodologically more advanced method, that is, multilevel analysis. This approach allowed us to separate the unique contribution of learners' personally endorsed achievement goals at the between-student level and the achievement goals as perceived to prevail in their classroom (i.e., teacher-promoted) at the between-class level. Finally, this research extends previous work by examining different goal perspectives in two independent samples of Peruvian high school students, whereas most previous studies sampled white, middle class North American students (Kaplan, Middleton, Urdan, & Midgley, 2002).

In sum, the present study examines the unique and interactive associations of personally endorsed and contextually promoted mastery and performance goals in the prediction of students' use of surface and deep-level learning strategies and achievement in a Mathematics course. Data from two independent samples were collected to test the consistency and replicability of the findings.

1.1. Achievement goals: mastery and performance goals

Students pursuing *mastery goals* are focused on improving their competencies and gaining knowledge and understanding (Covington, 2000; Dweck, 1986; Heyman & Dweck, 1992; Zimmerman, 1994); to do so they use self-referential or task-based standards to evaluate their competence (Elliot, 2005; Senko & Harackiewicz, 2005). In contrast, students pursuing performance goals are focused on comparing favorably to others, either by demonstrating their superiority or by avoiding negative judgments about their competencies relative to others (Covington, 2000; Dweck, 1986; Heyman & Dweck, 1992; Maehr & Midgley, 1996; Zimmerman, 1994). When students adopt performance goals, they make use of normative or interpersonal standards to evaluate their competencies (Elliot, 2005; Senko & Harackiewicz, 2005).

Because of the rather inconsistent effects of performance goals, Elliot and Harackiewicz (1996) suggested breaking down the traditional performance goals into two subtypes, that is, performance-approach goals in which the person aims to outperform others and to be among the best in the classroom and performance-avoidance goals in which the person tries to avoid bad judgments and protects oneself from being among the worst. Previous research found this bifurcation useful as it helped clarifying some of the observed inconsistent findings associated with the omnibus construct of performance goals (Harackiewicz, Barron, Tauer, Carter, & Elliot, 2000; Pintrich, 2000a, b, c). Indeed, there exists general agreement regarding the negative effects associated with the pursuit of performance-avoidance goals, which relate to higher test anxiety (Middleton & Midgley, 1997), greater use of self-handicapping strategies (Midgley & Urdan, 2001), and lower grades (Elliot & Church, 1997).

Further, there is also general agreement regarding the positive effects of pursuing mastery goals (Kaplan & Maehr, 2007; Linnenbrink & Pintrich, 2002; Pintrich & Schunk, 2002). Mastery goals have been found to relate positively to intrinsic motivation (Elliot & Church, 1997), use of deep-level learning strategies (Meece, Blumenfeld, & Hoyle, 1988), cognitive engagement (Pintrich & Schrauben, 1992), higher levels of self-efficacy (Roeser, Midgley, & Urdan, 1996), and better academic achievement (Botsas & Padeliadu, 2003; Paulick, Watermann, & Nückles, 2013; Van Yperen, Blaga, & Postmes, 2014). These results were observed among both Western and non-western students (e.g., Matos, Lens, & Vansteenkiste, 2007). This line of research has shown an opposite pattern of associations for performance-avoidance goals.

In contrast to the clear-cut findings concerning performance-avoidance and mastery goals, performance-approach goals yielded a more mixed pattern. Although performance-approach goals have been found to relate positively to achievement in college students (Harackiewicz, Barron, Carter, Lehto, & Elliot, 1997; Harackiewicz, Barron, & Elliot, 1998), this was not necessarily the case for younger students (Paulick et al., 2013; Wolters, 2004). Further, performance-approach goals were found to be unrelated to deep-level learning in some studies (Elliot, McGregor, & Gable, 1999; Middleton & Midgley, 1997), but not in others (Al-Emadi, 2001; Pintrich, 2000a, b, c; Wolters, Yu, & Pintrich, 1996). Finally, performance-approach goals have been mostly predictive of superficial learning (Midgley et al., 2001), whereas they were unrelated to enjoyment and intrinsic motivation for learning (see Elliot, 2005). Achievement goal researchers have proposed different explanations for these mixed or inconsistent findings (see also Hulleman, Schrager, Bodmann, & Harackiewicz, 2010).

1.2. Multiple goal perspectives: making sense of inconsistent findings

To address the question whether the pursuit of performance-approach goals yields learning benefits and if so under which circumstances, four different types of multiple goal perspectives have been proposed (Barron & Harackiewicz, 2001, 2003). These four multiple goal perspectives were contrasted with the mastery goal perspective, which suggests that the pursuit of mastery goals only promotes optimal learning.

First, the *additive* goal hypothesis suggests that both mastery and performance-approach goals have a positive main effect on the same adaptive outcomes (e.g., Wolters et al., 1996). Second, the *specialized* goal hypothesis suggests that different types of achievement goals have different effects on different outcomes. While mastery goals would predict one type of outcomes (e.g., intrinsic motivation), performance-approach goals would relate to a different set of outcomes (e.g., achievement; Harackiewicz et al., 1997). Such specialized effects have not been systematically observed. For instance, some scholars have reported evidence for a positive (e.g., Linnenbrink, 2005; Vansteenkiste et al., 2004; Wolters et al., 1996) instead of a null-relation between mastery goals and achievement. In other instances, both performance-approach (e.g., Al-Emadi, 2001; Pintrich, 2000a, b, c) and mastery goals (e.g., Nelson, McInerney, & Craven, 2004) have been found to relate positively to the use of both surface and deep-level learning strategies. These rather inconsistent findings call for additional research.

Third, the *interactive* goal hypothesis proposes that the combined pursuit of both mastery and performance-approach goals yields an additional positive effect on optimal learning that cannot be accounted for by the main effects of both achievement goals (i.e., the additive goal hypothesis). The studies by Bouffard, Boisvert, Vezeau, and Larouche (1995) and Pintrich (2000b) have been cited in this context, as these scholars found that students who simultaneously pursue both types of achievement goals obtained the highest scores on both academic achievement and learning strategies.

Finally, the *selective* goal hypothesis suggests that the effects of achievement goals would depend on the type of goals that are salient in one's learning environment (e.g., match hypothesis). Classroom goal structures refer to the instructional practices, attitudes, values, and messages given by the teacher in the learning context (Urdan, 2007). Goal structures in classrooms would have an effect on students' cognitive engagement and academic achievement (Ames & Archer, 1988; Wolters, 2004), possibly in combination with learners' personally held achievement goals. For example, if the teacher emphasizes the pursuit of performance-approach goals, it would be more adaptive to pursue performance-approach goals, as a 'match' is created in this case. The matching hypothesis may explain why Harackiewicz et al. (1997, 1998) found performance-approach goals to predict achievement among college students, that is, because colleges are more competitive. However, in these studies, no measure of promoted achievement goals