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Approach–avoidance motivation and metacognitive self-regulation: The role of need for achievement and fear of failure

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ABSTRACT

Previous research has indicated that approach–avoidance motivation at the achievement goal level influences the quality of self-regulated learning. Additionally, research indicates that approach–avoidance motivation at the dispositional level is associated with cognitive self-regulated learning strategy use. The present investigation sought to extend this research by examining the relationship between approach–avoidance motivation at the dispositional level and metacognitive self-regulation, as well as the mediational potential of approach–avoidance achievement goals among a sample of undergraduate students ($N = 145$). Results indicated that need for achievement was significantly related to metacognitive self-regulation and mastery-approach goals partially mediated this relationship. Fear of failure was negatively associated with metacognitive self-regulation; however, performance-avoidance goals did not mediate this relationship. The significance of such individual differences in metacognitive self-regulation is discussed.

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1. Introduction

Self-regulated learning (SRL) involves the use of strategies (i.e., rehearsal, elaboration, organization, and critical thinking strategies), aimed at facilitating the encoding of to-be-learned material, strategies aimed at motivational and affective regulation, as well as those aimed at monitoring one's comprehension (Pintrich, 1999; Weinstein & Mayer, 1986). The latter, referred to as metacognitive strategies, reflect an awareness or knowledge of one's thinking as well as the regulation of one's cognition (Sterling, Howard, Staley, & DuBois, 2004; Zimmerman, 2002). Such strategies are used by the learner to gauge his/her progress in meeting a learning goal, and upon the absence of progress, subsequently adjust or modify learning strategies (Paris & Paris, 2001; Pintrich, 2002; Pintrich, Smith, Garcia, & McKeachie, 1993).

Research indicates that metacognitive strategies are positively associated with a host of motivational constructs (for a review see Schunk & Ertmer, 2000) including, for example, self-efficacy and intrinsic motivation (e.g., Bembenutty, 2007; Pintrich & De Groot, 1990). Additionally, research suggests the use of metacognitive strategies fosters the use of other SRL strategies (e.g., environmental structuring; Lan, 1996), enhances academic performance (Bembenutty, 2007; Lan, 1996; Pintrich & De Groot, 1990; Pintrich et al., 1993; Pokay & Blumenfeld, 1990; Vrugt & Oort, 2008; cf. Justice & Dornan, 2001), and may serve as a bulwark against procrastination (Wolters, 2003). Research further suggests that achievement goals, those aimed at mastering academic tasks (i.e., mastery-approach) and to a lesser extent demonstrating normative-defined competence (i.e., performance-approach), are positively associated with metacognitive strategy use among college students (Bouffard, Boisvert, Vezeau, & Larouche, 1995; Bråten, Samuelstuen, & Strømsø, 2004; Vrugt & Oort, 2008).

While the majority of SRL research has focused on motivation at the achievement goal level, research by Elliot and colleagues (e.g., Elliot & Church, 1997; Elliot & McGregor, 1999; Elliot & McGregor, 2001) has indicated that achievement goals are "energized" by need for achievement and fear of failure, respectively. Need for achievement represents an approach-valenced motivational disposition to experience pride upon the demonstration of competence (McClelland, Atkinson, Clark, & Lowell, 1953), while fear of failure, an avoidance motive, is defined as a disposition to "avoid failure in achievement settings because one feels shame on failure" (Elliot & Thrash, 2004, p. 958). Students high in need for achievement are more apt to adopt mastery-approach and performance-approach goals, while students high in fear of failure are prone to adopt goals aimed at avoiding task-defined and normative-defined incompetence or mastery-avoidance and performance-avoidance goals, respectively (Conroy, 2004; Conroy & Elliot, 2004; Elliot & Church, 1997; Elliot & McGregor, 1999, 2001; Elliot & Sheldon, 1997; Schmalt, 2005; Thrash & Elliot, 2002; Van Yperen, 2006).

Despite the aforementioned research explaining the role of dispositional approach–avoidance motivation and acknowledgment of the potential for substantive individual differences in SRL (e.g., Boekaerts, 1995; Elliot & Church, 2003; Paris & Paris, 2001; Samuelstuen & Bråten, 2007), the relationship between need for achievement/fear of failure

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and metacognitive strategies has not been explored. A recent study by Bartels (2008), however, suggests that approach–avoidance motivation at the dispositional level influences the cognitive strategies that college students use. Specifically, the author found need for achievement and fear of failure to be positively and negatively associated with adaptive cognitive strategies, respectively. The purpose of the present investigation is to add to the extant literature by examining individual differences in metacognitive strategy use at the dispositional motive level. Specifically, we address the question of whether need for achievement and fear of failure predict metacognitive strategy use and whether achievement goals mediate this relationship. It is hypothesized that need for achievement will positively predict, and fear of failure negatively predict metacognitive strategies. Additionally, in light of the relationship between dispositional motivation and goals (Elliot & Church, 1997), it is hypothesized that mastery-approach goals and performance-avoidance goals will mediate the relationship between need for achievement and metacognitive strategies and fear of failure and metacognitive strategies, respectively.

2. Method

2.1. Materials

2.1.1. Dispositional achievement motivation

Need for achievement and fear of failure were assessed using the Success/Failure Questionnaire II (SFQ II), an updated version of the SFQ (Herman, 1990). The 14-item measure asks respondents to indicate their level of agreement, using a 5-point scale (i.e., 1 = strongly disagree; 5 = strongly agree), with statements regarding attitudes towards success and failure (e.g., When I start doing poorly on a task, I feel like giving up; fear of failure). The initial subscales failed to met conventional standards of reliability (i.e., $\alpha = .70$; Nunnally, 1978). Exploratory factor analysis was conducted to examine factor loadings and identify unreliable items. With these items removed (1 item from the need for achievement and fear of failure subscales) internal consistency of the need for achievement (Cronbach's $\alpha = .63$) and fear of failure ($\alpha = .56$) more adequately approximated the conventional standard. However, while not precluding use of the measure, such reliability results in the underestimation of "true" relationships (Schmitt, 1996).

2.1.2. Achievement goals

Achievement goals were assessed using the Academic Goal Questionnaire (AGQ; Elliot & McGregor, 2001). The AGQ assesses goals within a 2×2 framework or both approach and avoidance valenced mastery and performance goals. The 12-item measure asks participants to indicate, using a 7-point Likert scale, how true items (i.e., 1 = not at all true; 7 = very true of me) reflecting the adoption of mastery-approach goals (e.g., It is important for me to understand the content of this course as thoroughly as possible), performance-approach goals (e.g., My goal in this class is to get a better grade than most of the other students), mastery-avoidance goals (e.g., Sometimes I'm afraid that I may not understand the content of this class as thoroughly as I'd like), and performance-avoidance goals (e.g., My goal in this class is to avoid performing poorly) are of them. Cronbach reliability coefficients among the present sample were as follows: mastery-approach (.68), mastery-avoidance (.84), performance-approach (.91), and performance-avoidance (.70). An item from the performance-avoidance subscale was removed to improve reliability.

2.1.3. Social desirability

The need to control for socially desirable response bias has been noted within the dispositional achievement motivation (Fineman, 1977) and SRL literature (Samuelstuen & Bråten, 2007). Therefore, in order to account for this potential bias, an 11-item short form of The Social Desirability Scale (Crowne & Marlowe, 1960), offered by Reynolds (1982), was utilized in the present study. Reynolds (1982) reports a Kuder–Richardson reliability of .74 and a correlation of .91 with the original measure (Reynolds, 1982). The higher the score on the scale, the greater one's socially desirable response bias. Cronbach's alpha for the scale among the present sample was .69.

2.1.4. Metacognitive strategies

Metacognitive strategies were assessed using the metacognitive subscale of the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich, Smith, Garcia, & McKeachie, 1991). The MSLQ assesses a broad range of motivation and self-regulated learning components including metacognitive strategies. The metacognitive strategies subscale consists of 12 items tapping one's "awareness, knowledge, and control of cognition" (Pintrich et al., 1991, p. 23). The Cronbach alpha coefficient for the subscale among the present sample was .79.

2.1.5. Ability

Self-reported Grade Point Average (GPA) served as a proxy for academic ability. Research has found college GPA to be a better proxy of academic ability relative to SAT and ACT scores, high school GPA, and high school rank (Grove, Wasserman, & Grodner, 2006). Grove et al. (2006), however, suggest the use of instititutional GPA data as opposed to the less reliable self-reported GPA utilized in the present study.

2.2. Participants

With cases with missing data deleted, participants were 145 undergraduate students (freshmen $n = 21$; sophomore $n = 63$; junior $n = 43$; senior $n = 18$) from a large urban University located in the Mid-Southern United States. Participants were volunteers from courses within the College of Education at the University. The average age of the present sample was 22.3. Gender and race were as follows: males $n = 17$; females $n = 128$; African American $n = 52$; Caucasian $n = 89$; Hispanic $n = 1$; Asian $n = 1$; Other $n = 2$. Data from the current study was part of a more comprehensive study of self-regulated learning.

2.3. Procedure

Participants were solicited from College of Education courses in which instructors had given permission. Students agreeing to participate were informed that they were not required to participate and would not receive course credit for participation. Students who chose to volunteer completed an informed consent and all measures (with the exception of the MSLQ) as a group (20–30 students) early in the semester. The measure of metacognitive self-regulation was completed in class approximately one week later.

2.4. Analyses

Separate multiple regression analyses were conducted with need for achievement and fear of failure (with ability and social desirability

Table 1
Means and standard deviations of measures.

Measures	*M*	*SD*
Need for achievement	3.99	.46
Fear of failure	2.71	.59
MAP goals	6.12	.60
MAV goals	4.00	1.75
PAP goals	4.13	1.77
PAV goals	6.31	.72
Metacognitive SRL	4.51	.92
Social desirability	6.02	2.59
GPA	2.97	.52

Note. MAP = Mastery-approach, MAV = Mastery-avoidance, PAP = Performance-approach, PAV = Performance-avoidance, GPA = Grade Point Average.

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