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Achievement Goal Pursuit: Are Different Goals Activated and More Beneficial  
in Different Types of Academic Situations?

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### Achievement Goal Pursuit: Are Different Goals Activated and More Beneficial in Different Types of Academic Situations?

Achievement goal theory has emerged as a predominant framework for understanding students' achievement motivation (Midgley et al., 1998; Pintrich & Schunk, 1996), however much debate still surrounds how many types of achievement goals exist and which types of achievement goals are advantageous to pursue. Initially achievement goal theorists (e.g., Dweck, 1986; Nicholls, 1984) proposed a dichotomous model that distinguished between two types of goals: mastery and performance. Although early research generally revealed that adaptive outcomes were linked to mastery goals and less adaptive outcomes were linked with performance goals (Ames, 1992), current theorizing notes another dimension of achievement goal pursuit that distinguishes between approach and avoidance strivings (e.g., Elliot & Harackiewicz, 1996). This distinction was first used to separate out two types of performance goals, resulting in a trichotomous achievement goal model involving mastery, performance-approach, and performance-avoidance goals. Adding this distinction helped clarify a number of discrepancies on when performance goals were most likely to have adaptive or maladaptive consequences (Rawsthorne & Elliot, 1999). It also led many theorists to rethink whether more adaptive outcomes were associated with a sole mastery goal pursuit or a combination of mastery and performance-approach goals (Harackiewicz, Barron, Pintrich, Elliot, & Thrash, 2002). Recently this distinction was extended to separate out two types of mastery goals, resulting in a 2 (mastery vs. performance) x 2 (approach vs. avoidance) model of achievement goals (Elliot & McGregor, 2001).

As we continue to refine the different types of achievement goals that students may pursue, it is essential that we also carefully evaluate how these different goals may work in concert to promote or undermine students' motivation. For example, Barron and Harackiewicz (2000; 2001) recently discussed how to test for potential multiple goal benefits and identified four patterns of findings that would reveal an advantage of multiple goal pursuit. First, multiple goals could contribute independent, positive effects for achieving a particular educational outcome (producing an additive goal advantage). Second, multiple goals could interact, such that students who strongly endorse both goals are notably advantaged in achieving a particular educational outcome (producing an interactive goal advantage). Third, rather than promoting the same educational outcomes, different goals could have independent effects on different outcomes (producing a specialized goal advantage). For example, pursuing mastery goals may promote one important educational outcome and pursuing performance goals may promote another. Finally, different achievement goals may be better suited for different types of situations, and students who can selectively shift between goals depending on the situation may be particularly advantaged (producing a selective goal advantage). For example, students may be benefited by pursuing mastery goals in courses that they are interested in (e.g., courses in their major) and pursuing performance goals in courses that they are required to take but lack interest in (e.g., general education courses).

The purpose of the current research was therefore twofold. First, we wanted to evaluate whether the recently proposed 2 x 2 achievement goal model could be replicated. Second, we wanted to evaluate whether students were more advantaged by pursuing one particular type of goal or a combination of goals. We also were interested in extending prior research on multiple goal benefits by testing for possible selective goal advantages. We set out to do this by taking advantage of naturally occurring coursework at our university in which students' initial motivation for taking these classes often differs markedly. Specifically, to meet part of the

general education requirements, all students must either take a General Psychology course or a Lifespan and Human Development course (both of which are taught in the psychology department). However, for many students these courses can also serve as an introductory course for their chosen major. Therefore, students' initial motivation to take one of these courses can vary from completely extrinsic (to simply fulfill their general education requirements) to completely intrinsic (to begin coursework in one's chosen discipline and future career). As a result, we predicted that different goals are likely to be activated, and that different achievement goals may be linked to success in the class depending on students' reason for taking the class.

## Methods

### *Overview*

For the current study, we tracked students at three different time points of a semester. First, for all participants, we measured students' achievement goals and reasons for taking their class two to three weeks into the semester. Second, for a subset of participants, we returned to their classes and measured students' interest in psychology and enjoyment of lectures at the end of the semester. Finally, for all participants, we obtained students' final course grades after their semester was completed, as well as their SAT scores from university records.

### *Participants*

We surveyed the achievement goals and graded performance of 1213 undergraduate students at a mid-sized, Southeastern university who were enrolled in one of two psychology courses that also fulfilled requirements for the university's general education program. Our sample was 67% female and was 88% Caucasian, 3% African American, 3% Asian, 2% Hispanic, and 4% other ethnicities. In addition, 577 of the original 1213 participated in an additional assessment of students' interest and enjoyment in their class.

### *Measures*

*Achievement Goals.* We measured students' achievement goals for the psychology course that they were enrolled in, using a modified version of the Achievement Goal Questionnaire (AGQ; Elliot & McGregor, 2001). The AGQ contains 12 items, with 3 items used to assess each of the 4 separate goal orientations reflected in the 2 x 2 model. Students were instructed to simply indicate how true each item was for them using a 1 (not at all true of me) to 7 (very true of me) scale.

*Reason for Taking the Course.* We measured students' academic reason for taking the current psychology course. Specifically, we asked students to distinguish between three major reasons: to fulfill their general education requirements, to fulfill psychology major requirements, or to fulfill requirements for another major on campus.

*Interest and Valuation.* We measured students' interest using modified versions of questions collected previously by Harackiewicz and colleagues (Harackiewicz, Barron, Tauer, Carter, and Elliot, 2000; Harackiewicz, Barron, Tauer, and Elliot, 2002). Specifically, we collected a 3-item measure of students' specific enjoyment of lecture (e.g., I really enjoy coming to lecture, I have found lecture to be a waste of time (reverse scored)), as well as a 4-item measure of students' general interest in the field of psychology (e.g., I find the field of psychology fascinating, I'm really excited about psychology). In addition, we collected a 4-item measure of students' valuation of the course and its content (e.g., I think what we are learning in this course is important, I think was a beneficial and useful class to take). These measures reflect recent theorizing regarding the importance of distinguishing between situational versus individual distinctions for the basis of one's interest, and help better distinguish between the

types of interest that “catch” interest versus “hold” interest over time (Hidi & Harackiewicz, 2000). Students were instructed to simply indicate the extent to which they agreed with each item using a 1 (strongly disagree) to 7 (strongly agree) scale.

*Academic Performance.* Upon completion of the course, we obtained students' final grade for the course as a measure of academic performance. Grades were assigned on a standard 0 to 4 scale (where A = 4.0, A- = 3.7, B+ = 3.3, B = 3.0, B- = 2.7, C+ = 2.3, C = 2.0, C- = 1.7, D = 1, F = 0).

## Results

First, we conducted confirmatory factor analyses to verify the 2 x 2 factor structure proposed by Elliot and McGregor (2001). Not only did the 2 x 2 model demonstrate adequate fit, but it also fit better than any competing model. Zero-order relationships, descriptive statistics, and Cronbach's alphas for each of the 4 achievement goal sub-scales are reported in Table 1. In addition, descriptive statistics for each of our academic outcome measures are reported in Table 2 (as well as Cronbach's alphas when appropriate).

Second, we conducted a series of ANOVA analyses to compare how the goal adoption of students taking a class that was required for their general education requirements differed from students taking the class because it fulfilled requirements for a psychology major or for another major on campus. Descriptive statistics of goal adoption for each group and significant differences between groups are summarized in Table 3. In addition, we conducted a series of ANOVA analyses to compare how our outcome measures differed depending on students' reason for taking the class, summarized in Table 4.

Finally, we conducted multiple regression analyses to examine the independent and interactive effects of different achievement goal variables on each of our outcome measures. We also included a series of dummy codes to represent students' reasons for taking the course and to evaluate whether their reason would interact and moderate any goal effects. Specifically, because reasons for taking the class had three levels, we created two dummy codes (with taking the class to fulfill general education requirements-only serving as the dummy group). All possible 2-way and 3-way interactions were tested among our goal items and reasons for taking the class. In particular, this permitted a test of the selective goal pattern and whether different goals would be more advantageous for students having different reasons for taking the class. Because of our sample size and number of effects being tested, we adopted  $p < .01$  as a more stringent criterion (Cohen, 1992). All significant effects on final graded performance are summarized in a path diagram in Figure 1. All significant effects on interest outcomes are summarized in a path diagram in Figure 2.

## Discussion

To address the continued debate about how many unique types of achievement goals exist, we evaluated the 2 (mastery vs. performance) x 2 (approach vs. avoidance) model of achievement goals recently proposed by Elliot & McGregor (2001). Our results confirmed that 4 distinct goals could be reliably obtained and that the 2 x 2 model fit better than any other competing model (e.g., comparing a 4 factor model to a 2 factor, mastery vs. performance model).

Then using the 2 x 2 goal model, we evaluated whether different types of goals would be more activated when students faced a general education course that varied in how intrinsic or extrinsically motivated they were to take it. ANOVA's revealed that two of the four goals were

indeed adopted differently depending on students' reason for taking the course. Interestingly, both goals that resulted in significant group differences were approach goals; there were no differences across groups on avoidance goals. Mastery-approach goals were the highest for students who were taking the course to complete requirements for a major in psychology and were the lowest for students who were taking the course to only complete general education requirements. In contrast, performance-approach goals were the highest for students who were taking the course to complete general education requirements and lowest for students who were taking the course to complete requirements for their major in psychology or a major in another field.

With these differences in goal adoption noted, we were then interested to see which goals would be most associated with promoting interest and performance in the class, and if different types of goals would prove advantageous depending on students' reasons for taking the course. In other words, we were interested in formally evaluating selective goal advantages, and hypothesized that students taking a course for more of an extrinsic reason (e.g., to fulfill a general education requirement) might find it advantageous to adopt performance-approach goals. In contrast, students taking the course to start introductory coursework in their chosen major may be more advantaged by adopting mastery-approach goals or a combination of mastery-approach and performance-approach goals. However, regression analyses revealed no interactive effects between goals or between goals and reasons for taking the class. Instead, a simple pattern of main effects occurred.

On academic performance, students who were higher in performance-approach goals earned higher final grades in their course. No other goal type or combination of goal types were linked to final grades. Reasons for taking the class did exert a main effect on final grade. Students who were taking the class to start their psychology major did in fact perform better in the course than students just taking the class to fulfill their general education requirements. Similarly, students who were taking the class to start another major in which this class was a pre-requisite performed better than students just taking the class to fulfill their general education requirements. More analysis will be needed to better understand why this effect occurs (e.g., Are students putting in more effort, prioritizing studying for courses in their major, or do they have more aptitude for coursework?). However, reasons for taking the course did not interact with students' achievement goals that adopting a particular goal for a course in your major vs. for general education would be more beneficial. Thus no support for a selective goal benefit was found for students' academic performance.

On end-of-the-semester interest outcomes, a consistent pattern of effects occurred for each of the three outcomes. Students who were higher in mastery-approach goals were more likely to indicate greater enjoyment of lecture, interest in the field of psychology, and valuation of course material. But once again, no other goal type or combination of goal types were linked to any of the outcomes. Reasons for taking the class did exert a main effect on two of the three outcomes. Students who were taking the class to start their psychology major reported more interest in psychology and valuation of course material. And once again, reasons for taking the course did not interact with students' achievement goals that adopting a particular goal for a course in your major vs. for general education would be more beneficial. Thus, no support for a selective goal benefit was found on students' interest.

In sum, the only goals positively linked to academic outcomes in the class were performance-approach goals and mastery-approach goals, which replicates numerous other studies that have been conducted on college students to date (e.g., Elliot & Church, 1997;

Harackiewicz, Barron, Tauer, Carter, & Elliot, 2000). However, no additional benefits were uncovered for adopting a particular type of goal depending on students' motivation for taking a class. Thus support for the selective goal hypothesis was not obtained. However, when looking across both outcomes, support for the specialized goal hypothesis was obtained. In other words, performance-approach goals were associated with one positive course outcome (i.e., academic performance) and mastery-approach goals were associated with another (i.e., interest). Interestingly, in the current study, we failed to document any negative effects that been associated with adopting avoidance goals (e.g., Elliot & McGregor, 2001).

When returning to the title of our paper ("Achievement goal pursuit: Are different goals activated and more beneficial in different types of academic situations?"), the answer to our first question is yes. We found support that different goals are in fact activated. However, the answer to our second question is no; there appear to be no benefits of pursuing different types of goals based on reason for taking the class. Instead, we found continued support for specialized goal benefits of adopting multiple "approach" goals for the class. But before eliminating selective goal benefits as a possible advantage of multiple goal pursuit, future work should continue to identify, operationalize, and test alternative situations, types of students, or "times" that may show selective benefits of adopting one goal over another. The current naturalistic distinction of taking the class for you major versus for general education may not have been sensitive enough.

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Table 1

*Zero-order Correlations, Descriptive Statistics, and Cronbach's Alpha for Each of the Achievement Goal Orientation Sub-scales*

Goal Type	Possible Range	M (SD)	Cronbach's Alpha	1	2	3	4
1. Mastery-Approach	1-7	5.37 (1.10)	.84	-			
2. Mastery-Avoidance	1-7	3.61 (1.34)	.82	.16**	-		
3. Performance-Approach	1-7	4.92 (1.47)	.89	.18**	.05	-	
4. Performance-Avoidance	1-7	4.12 (1.43)	.70	-.02	.33**	.45**	-

Note: M=Mean and SD=Standard deviation; \*p<.01, \*\*p<.001; N=1213

Table 2

*Descriptive Statistics and Cronbach's Alpha for Each of the Academic Outcome Measures*

Academic Outcome	Possible Range	M (SD)	Cronbach's Alpha
1. Enjoyment of Lecture	1-7	4.41 (1.35)	.80
2. Interest in Psychology	1-7	4.55 (1.50)	.90
3. Valuation of Course	1-7	4.95 (1.28)	.90
4. Final Grade in Course	0-4	2.76 (0.88)	N/A

Note: M=Mean and SD=Standard deviation, and N/A=Not Applicable because Final Grade in Course was a single item measured on a 0 to 4.0 scale.

Table 3

*Mean Differences in Achievement Goal Adoption Depending on Students' Reason for Taking the Course*

Type of Goal	<u>Reason for Taking Course</u>			<i>F</i> (2,1210)
	For General Education (n=606)	For Psychology Major (n=227)	For Other Major (n=380)	
Mastery-Approach	5.16 <sub>a</sub>	5.97 <sub>b</sub>	5.34 <sub>a</sub>	48.20**
Mastery-Avoidance	3.58 <sub>a</sub>	3.64 <sub>a</sub>	3.64 <sub>a</sub>	0.28
Performance-Approach	5.09 <sub>a</sub>	4.66 <sub>b</sub>	4.81 <sub>b</sub>	8.63**
Performance-Avoidance	4.20 <sub>a</sub>	3.95 <sub>a</sub>	4.10 <sub>a</sub>	2.88

Note. \* $p < .01$ , \*\* $p < .001$ ; Means in the same row that do not share subscripts differ at  $p < .01$  in Tukey HSD post hoc comparisons.

Table 4

*Mean Differences in Interest and Academic Performance Outcome Measures Depending on Students' Reason for Taking the Course*

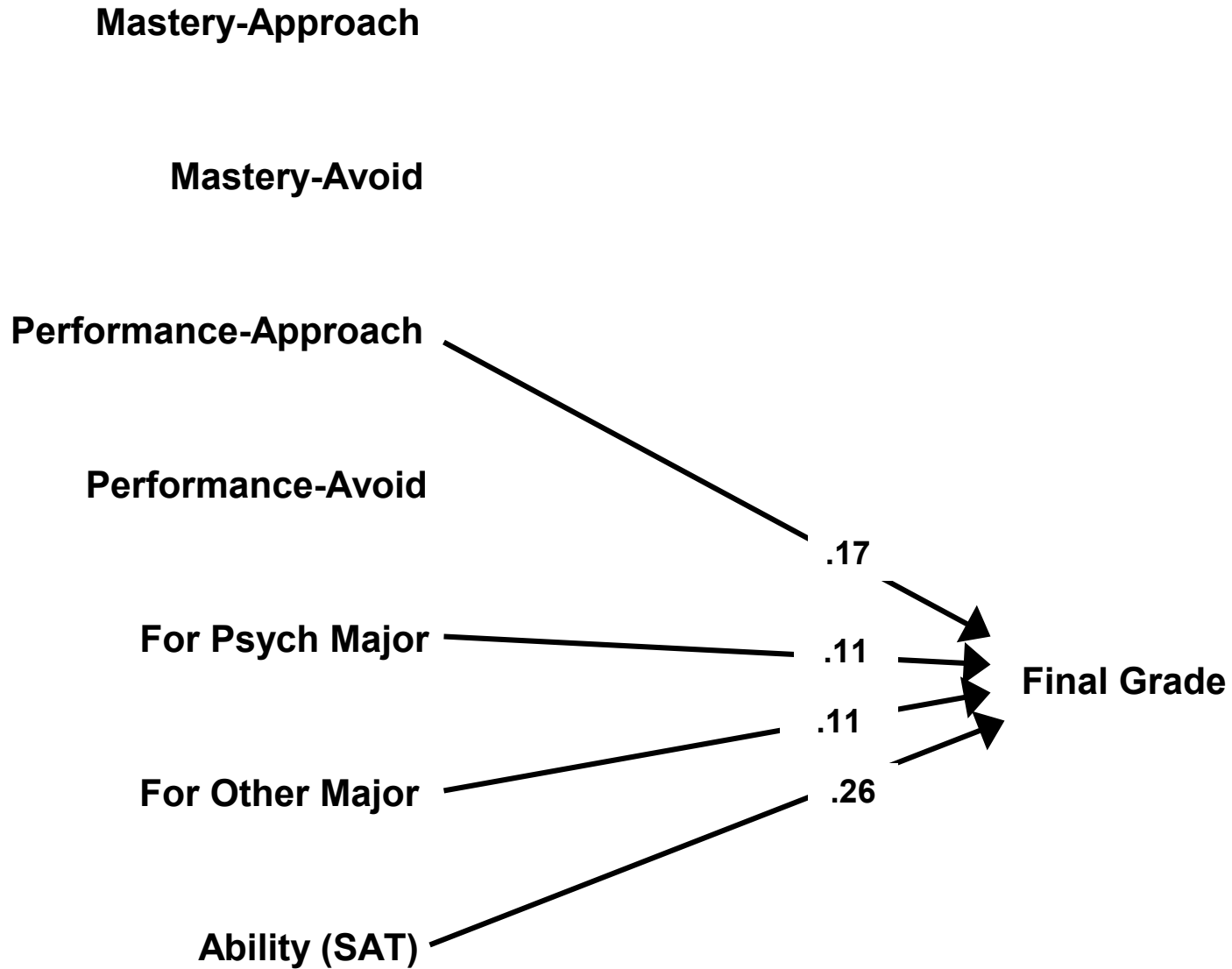
Interest Outcomes	<u>Reason for Taking Course</u>			<i>F</i> (2,574)
	For General Education (n=220)	For Psychology Major (n=90)	For Other Major (n=264)	
Enjoyment of Lecture	4.27 <sub>a</sub>	4.76 <sub>b</sub>	4.39 <sub>ab</sub>	4.28*
Interest in Psychology	4.10 <sub>a</sub>	5.93 <sub>b</sub>	4.43 <sub>a</sub>	60.38**
Valuation of Course	4.72 <sub>a</sub>	5.53 <sub>b</sub>	4.94 <sub>a</sub>	13.68**
Academic Performance Outcome	For General Education (n=606)	For Psychology Major (n=227)	For Other Major (n=380)	<i>F</i> (2,1210)
Final Grade in Course	2.68 <sub>a</sub>	2.82 <sub>b</sub>	2.87 <sub>b</sub>	6.20*

Note. \* $p < .01$ , \*\* $p < .001$ ; Means in the same row that do not share subscripts differ at  $p < .01$  in Tukey HSD post hoc comparisons.

Figure 1: Path model summarizing effects of achievement goals, reasons for taking the class, and ability (SAT score) on final grade in the course. Path coefficients are standardized regression coefficients, and only significant paths at  $p < .01$  are represented. Because "reasons for taking the class" was a categorical variable, two dummy codes needed to be created to enter the variable in the model. For Psych Major pits taking the class for General Education (scored as a 0) versus Majoring in Psychology (scored as a 1). For Other Major pits taking the class for General Education (scored as a 0) versus a requirement for another Major (scored as a 1). Therefore, the positive path coefficient for Psych Major indicates that students taking the class for their psychology major achieved higher grades than students taking the class for general education. Similarly, the positive path coefficient for Other Major indicates that students taking the class for a requirement in another major achieved higher grades than students taking the class for general education.  $N = 1213$ .

Figure 2: Path model summarizing effects of achievement goals, reasons for taking the class, and ability (SAT score) on the interest outcomes of enjoyment of lecture, interest in psychology, and valuation of course. Path coefficients are standardized regression coefficients, and only significant paths at  $p < .01$  are represented. As in Figure 1, because "reasons for taking the class" was a categorical variable, two dummy codes needed to be created to enter the variable in the model. For Psych Major pits taking the class for General Education (scored as a 0) versus Majoring in Psychology (scored as a 1). For Other Major pits taking the class for General Education (scored as a 0) versus a requirement for another Major (scored as a 1). The positive path coefficient for Psych Major indicates that students taking the class for their psychology major reported more interest in psychology and valuation of the course than those taking it for general education.  $N = 577$ .

**Figure 1: Academic Performance**



**Figure 2: Interest Outcomes**

