

College Students' Goal Orientations and Achievement

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Theorists in the area of academic motivation have distinguished between mastery goals (develop understanding) and performance goals (demonstrate ability). Numerous research studies have empirically examined the implications these "constructs" have for understanding students' performance in the classroom. Traditionally, mastery goals have been associated with adaptive learning outcomes while performance goals have been associated with maladaptive learning outcomes. Recently, however, theorists have suggested that students might hold both mastery and performance goals and that both goals can be beneficial. This study compared the achievement patterns of students who held both goals simultaneously to students who held either mastery or performance goals only. Data was collected within a foundational teacher education course from 143 students, a portion of whom were found to hold high mastery goals (mastery oriented), high performance-approach goals (performance-approach oriented), and high mastery and high performance goals (multiple goal orientation). Using course grades as an indicator of achievement, a one-way ANOVA showed no significant difference between the multiple goal group and the single goal groups. However, a significant difference was found between the high mastery group and the high performance group.

As college educators, we may wonder why some students seem to work harder in their studies than others. For instance, we may ask ourselves, why do some of the students do the required readings while others never open the textbook? Why do some students use superficial learning strategies, such as rote memorization, while others use more sophisticated strategies, such as elaboration? Why do some students ask for help while others do not? The answers to these questions have a great deal to do with students' motivation and have consequences for their current and future academic achievement. For example, students who want to understand course material will most likely read the assigned readings, use sophisticated learning strategies, and ask for help when they are confused which will lead to higher academic achievement.

One of the most applicable and predominant theories used to understand students' academic motivation is achievement goal theory (Pintrich & Schunk, 1996). Achievement goal theory posits that individuals engage in academic activities to fulfill different goals. Some students are motivated to do well because they want to earn an "A" in the course, thus demonstrating to themselves, their peers, professors, and even parents that they are smart (performance-approach goal). Some students may strive to avoid exposing to others their inability to do something (performance-avoidance goal). Still other students are less concerned with demonstrating their ability and more concerned with understanding the course material and developing their ability in a given domain (mastery goal). In the early conception of achievement goal theory the distinction between performance-approach and performance-avoidance goals was not made and therefore researchers viewed performance goals in general as being associated with avoiding challenges,

not asking for help, and the use of superficial learning strategies. However, recently researchers in the area of motivation have found that performance-approach goals are associated with higher grades (Church, Elliot, & Gable, 2001; Harackiewicz, Barron, Elliot, Carter, & Thrash, 1997; Harackiewicz, Barron, Tauer, Carter, & Elliot, 2000) and are not associated with use of superficial learning strategies (Archer, 1994; Pintrich & Garcia, 1991) and therefore should not be considered as maladaptive to student learning. The argument in this paper, as in others (Midgely, Kaplan, & Middleton, 2001), is that more studies should be done to determine if these performance-approach goals are actually beneficial to all students in all situations. Are performance-approach goals a better predictor of achieving high grades than mastery goals, trying to develop understanding and ability over time? Furthermore, if performance-approach goals predict achievement and mastery goals predict interest, is it more beneficial for college students to hold mastery and performance-approach goals (multiple goal orientation) rather than just mastery goals (single goal orientation) or just performance-approach goals (single goal orientation)? The purpose of this study was to determine whether having a multiple goal orientation or a single goal orientation is more beneficial to college students' achievement.

Review of the Literature

From a cognitive perspective, "motivation is the process whereby goal-directed activity is instigated and sustained" (Pintrich & Schunk, 1996, p. 4). To know what motivates students, researchers and educators must observe their behavior and make inferences about their motivation. One type of inference that can be

made about students' motivation is the goals they adopt. Goals provide students with direction and a purpose to engage in an activity (Pintrich & Schunk, 1996). Some educational psychologists think that motivation to achieve in school can be understood in terms of the different goals students bring to the situation (Ames, 1992; Dweck & Legget, 1988; Elliot & Dweck, 1988). The theory posits that students can have either *performance* goals or *mastery* goals. The two goals are seen as generating two distinct frameworks for processing information. Mastery goals allow individuals to seek opportunities to increase their competence and master new challenges (Dweck, 2000). Students who pursue mastery goals are concerned with developing their ability over time and acquiring the skills needed to master a particular task. When individuals with mastery goals experience failure they interpret the event as providing information regarding their effort in that particular situation and attribute failure to a lack of effort or ineffective strategy use (Dweck, 2000; Elliot & Dweck, 1988).

Previous research has shown that those who pursue mastery goals tend to seek more challenges, have higher reported use of effective learning strategies, including metacognitive strategies, report more positive attitudes towards school, and have a higher level of self-efficacy (belief in one's ability to succeed in a given situation) than those individuals who pursue performance goals (Ames, 1992; Ames & Archer, 1988; Elliot & Dweck, 1988; Middletown & Midgley, 1997; Pintrich, 2000; Wolters, 2004).

Performance goals encourage individuals to seek and maintain a positive image of their ability. Students achieve this end by pursuing one of two types of performance goals. Initially performance goals (as a whole) were seen as being maladaptive for learning. However, recent researchers have posited that the outcomes related to performance goals categorized as being approach (demonstrating ability) are different than outcomes related to performance goals categorized as being avoidance (avoidance demonstrating lack of ability) (Church, Elliot, & Gable, 2001; Elliot & Harackiewicz, 1996). For example, performance-approach goals are related to more positive outcomes, such as use of cognitive strategies (Pintrich, 2000; Wolters, Yu, & Pintrich, 1996), and course achievement (Church, et al., 2001; Elliot & Church, 1997; Harackiewicz, et al., 2000) while performance-avoidance goals are related to negative outcomes (superficial learning strategies, lower performance, self-handicapping behavior, undermined intrinsic motivation).

If performance-approach goals actually help students obtain high achievement then perhaps pursuing both mastery and performance-approach goals simultaneously (a multiple goal orientation) is the most

adaptive goal orientation for students to adopt (Barron & Harackiewicz, 2001). Research has shown that a multiple goal orientation can promote positive learning outcomes for students (Harackiewicz, et al., 2000; Harackiewicz, Barron, Tauer, & Elliot, 2002; Pintrich 2000). While mastery goals help promote interest, performance-approach goals work to promote higher levels of performance. When mastery goals are coupled with performance-approach goals students not only have a desire to increase their competence, but also to demonstrate their ability and thus perform well in evaluative situations (Barron & Harackiewicz, 2001). Pintrich (2000) found that students who reported having both high mastery and high performance-approach goals were not more anxious, did not experience more negative affect, and did not engage in more self-handicapping behavior than the students with predominately-high mastery/low performance-approach goals. However, the positive outcomes associated with performance-approach goals were found only when paired with mastery goals; therefore, mastery goals are a necessary part of the equation (Pintrich, 2000).

Midgley et al. (2001) suggested that more studies need to be done to explore the effects of adopting performance-approach goals before confirming that they are related to positive learning behaviors and beliefs, and thus achievement. Research on the positive effects of performance-approach goals is mixed. These goals seem to be beneficial for certain types of individuals (e.g., boys, older students), under certain types of conditions (e.g., competitive environments, situations where mastery goals are also present), and come at some cost (e.g., cheating, reluctance to cooperate with others, use of avoidance strategies) (Midgley, et al., 2001).

Given that the context of some college classrooms can be competitive with students feeling the need to earn high GPAs while other college instructors stress the importance of understanding the material, the college classroom seemed like a relevant context in which to test the multiple goal orientation. Indeed, the competitive nature of the college classroom along with the population of older (i.e., traditional college aged compared to elementary and middle school children) students provided a context in which performance-approach goals have been purported to be associated with high level of achievement (Harackiewicz, et al., 2000; Harackiewicz, et al., 2002). The purpose of this study was to determine whether students who identified themselves as having a multiple goal orientation (those who endorsed both mastery and performance-approach goals) outperformed their peers who identified themselves as having a single goal approach (i.e. those who endorsed only mastery goals or only performance-approach goals).

Method

Participants

The participants were 143 undergraduate students, 134 females and 9 males, enrolled in a Human Development course at a public university. Data were collected in the Human Development course taught in the Spring and Fall semester by the same professor. All of the participants identified themselves as either Elementary Education majors or majors in the College of Human Services Education and Public Policy. Of the 143 participants there were 108 freshman, 24 sophomores, 9 juniors, and 2 seniors.

Setting

The Human Development course was a required course for education majors. The course has approximately 80-90 students enrolled each semester and consists mostly of lectures with about seven opportunities for students to engage in cooperative learning. Students were also individually required to complete seven tutoring sessions in the local elementary schools and write a report on their experience towards the end of the semester. Achievement in the course was based on a point system with students having the opportunity to earn a total of 200 points. One hundred and thirty-five of those points came from three multiple choice, non-cumulative 45-point exams. The tutoring report consisted of 50 points while group work contributed 15 points towards the total.

Measures

The Motivation Strategies for Learning Questionnaire (MSLQ; Pintrich, Smith, Garcia, & McKeachie, 1991) is a two-part questionnaire designed to assess college students' motivational orientations and learning strategies for a particular college course (Pintrich, et al., 1991). The MSLQ was chosen in part because it was a well-established measure for mastery and performance goals and because it was a short measure that would not take students long to complete and therefore did not take time away from the instructor's teaching. For the purposes of this study, students completed the 8-item section of the MSLQ that assessed motivational orientations. Four of the items assessed the degree to which the students endorsed mastery goals and four items assessed the degree to which the students endorsed performance-approach goals. The MSLQ only measures performance-approach goals and because these were the type of performance-goals in question, students' performance-avoidance goals were not measured. Participants rated how much

they agreed or disagreed with each statement on a 7-point likert scale. Their responses to the four mastery and the four performance-approach statements were summed individually to form a total mastery and a total performance-approach goal score. From these scores, median splits were used to categorize participants into achievement goal groups. The maximum score on both the mastery and performance goal orientation was 28. The internal consistency reliabilities, based on Cronbach's alpha, were .77 for the mastery items and .66 for the performance-approach items.

Students who scored at or above 20 on mastery were classified as having high-mastery goals and those who scored below 20 were classified as low-mastery goals. Students who scored at or above 22 on performance-approach were classified as high-performance goals while students who scored below 22 were classified as low-performance-approach goals. This procedure resulted in approximately 28% (n = 40) of the students being classified as being high mastery/high performance-approach (multiple goal orientation), 27% (n = 39) as being high mastery/low performance-approach (mastery orientation), 24% (n = 35) as being low mastery/high performance-approach (performance-approach orientation), and 20% (n = 29) as being low mastery/low performance-approach.

Procedure

Students enrolled in the course were asked to read and sign a consent form if they agreed to participate in the study. After giving their informed consent, students completed a portion of the MSLQ during one of their regular class sessions at approximately three weeks into the semester. The 8-item questionnaire took students approximately 10 minutes to complete. At the end of the semester, students' final course grades were collected. A final course grade of an A was coded as 4.0, A- as 3.76, B+ as 3.33, B as 3.0, B- as 2.76, C+ as 2.33, C as 2.0, C- as 1.76, D+ as 1.33, D as 1.0 and D- as .76.

Results

Table 1 shows that all achievement goal groups did quite well in the course. The high mastery/low performance-approach group (mastery goal orientation) performed the best, followed by the high mastery/ high performance-approach group (mastery/performance-approach group), and the low mastery/low performance-approach group, with low mastery/high performance-approach group (performance-approach group) performing the worst. A one-way analysis of variance was performed on the data to determine which achievement goal group attained higher academic achievement. Results revealed a main effect for

achievement group ($F(3,139) = 3.28, p < 0.05$). A Tukey post-hoc analysis revealed that the mastery goal group achieved higher course grades than the performance-approach goal group. There was no statistically significant difference between the mastery/performance-approach goal orientation and the mastery goal orientation with respect to course grades.

TABLE 1
Mean Course Grade by Achievement Goal Group¹

Mastery Goal	Performance-Approach Goal	
	Low	High
Low	3.2 (0.71)	3.0 (0.75)
High	3.5 (0.54)	3.3 (0.65)

Note. The higher the score, the higher the course grade.

¹ Standard deviations are in parentheses.

Discussion

The purpose of this study was to determine if students who had both mastery and performance-approach goals (multiple goal orientation) outperformed their peers who had only performance-approach goals (single goal orientation) or only mastery goals (single goal orientation). The results suggest that college students with multiple goals (high mastery and high performance-approach) did not perform significantly better than students with only high mastery or high performance-approach goals. However, students who adopted a mastery single goal orientation (high mastery/low performance-approach goals) demonstrated higher levels of academic achievement than students with a performance-approach single goal orientation (low mastery/high performance goals).

In explaining the difference in the mastery goal group from the performance-approach goal group with respect to academic achievement it must first be pointed out that the findings of this study are contrary to numerous studies that have found college students' endorsement of mastery goals to be unrelated to their grades (Barron & Harackiewicz, 2001; Elliot & Church, 1997, Elliot, McGregor, & Gable, 1999; Harackiewicz, et al., 2000). Furthermore, similar studies have found college students' endorsement of performance-approach goals to be positively related to their course grades (Church, et al., 2001; Elliot & Church, 1997; Harackiewicz, et al., 2000).

The results of this study did not find performance-approach goals to be significantly related to course grades. Without knowing what other variables (e.g. test anxiety, learning strategies, self-efficacy) may have played a role in the lower performance of the performance-approach group, one can only speculate as to why this relationship failed to exist.

Limitations and Future Directions

Further studies should be done to determine whether the results of this study are representative. In the current study, surveys were used to measure students' achievement goals. Surveys may not be the best way to determine what goals college students actually hold. Students may have answered the questions on the survey with socially desirable responses. Perhaps interviews with students would have allowed for more contextual and thus more honest responses. For example, students could be probed to think about certain academic situations (i.e., studying for the last exam they took) and asked about their reason(s) for engaging in that particular task. It is also important to recognize that an 8-item questionnaire might not provide a sufficiently robust measure of goal orientations. Perhaps a different questionnaire with more questions could increase the reliability and validity of such a measure.

Lastly, it should be noted that no prior measure of student achievement was taken before the MSLQ was administered. It is conceivable to think that students who held high mastery goals had a higher ability level than students holding other types of goals; therefore, their grades would be higher regardless of their achievement goals. However, because of the lack of variability in grades, one could assume that the students in this sample were fairly similar with respect to ability. Future studies should include a measure of achievement, such as GPA, to control for the possible effects of prior achievement.

Conclusion

To understand the academic behaviors of college students that consequently affect their achievement researchers and educators must begin by understanding what motivates college students to engage in such behaviors in the first place. Many students are motivated in courses by mastery goals, performance-approach goals, or a combination of both. For college educators, the important question is what goals are related to developing an understanding of course material, as well as good grades. The findings of this study suggest that mastery goals are related to the attainment of good grades. The findings of this study coupled with the large body of research that has found mastery goals to be related to understanding, interest, and the use of sophisticated learning strategies provides evidence that mastery goals are more beneficial to students than performance-approach goals. Thus, college educators should first, and foremost, encourage the endorsement of such goals.

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