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ABSTRACT

An achievement goal theory framework was used to examine the relations among goals and a number of other motivational constructs in a sample of middle school students. Participants were 189 eighth graders from a public school in the south. In one session students completed the attitude measures and in another session they completed a mathematics performance measure. The attitude instrument consisted of 15 items assessing task and ability goals. Results indicate that task and ability goals were moderately related. In this sample, task goals were moderately to strongly related with the performance and motivation variables in favorable ways. They were positively related to self-efficacy, self-concept, grade point average, persistence, importance, and self-efficacy for self-regulated learning. They were negatively related to anxiety. Ability goals did not have a negative pattern of relationship with other variables, but were unrelated or weakly positively correlated with the motivation and performance variables. When gender, grade point average, and task goals were controlled, ability goals had little or no effect on motivation or performance outcomes. Results suggest that for students strong in their pursuit of task goals, the simultaneous pursuit of ability goals is not helpful. This study does support previous results indicating a beneficial relationship between task goals and a variety of motivational and performance outcomes. (Contains 2 tables and 15 references.) (SLD)

Achievement Goals, Motivation, and Performance: A Closer Look

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Objectives and Theoretical Framework

Student motivation is an issue that has long interested educators and researchers. As theories of motivation moved from internal drive and need theories to a more cognitive orientation, the number of theories have proliferated. In an attempt to better understand student motivation in schools, self perceptions (self-efficacy, self-concept), anxiety, value, self-regulation, persistence, and goals are some of the cognitive factors that have been examined. In the present study, we used an achievement goal theory framework to examine the relations among goals and a number of other motivational constructs in a sample of middle school students.

Achievement Goals

A large and growing body of research has examined students' achievement goals, typically contrasting the effects of pursuing either task or ability goals. Task goals represent a concern with mastering material and concepts, improvement, challenge-seeking, and learning as an end in itself. Ability goals represent a concern with social comparison, doing better than others, appearing smart, and avoiding appearing unable. Research has demonstrated that task goals are positively related to perceived ability (Roeser, Midgley, & Urdan, 1996), the use of deep processing strategies (Graham & Golan, 1991), task engagement (Meece, Blumenfeld & Hoyle, 1988), attributions of success to effort (Nicholls, Patashnick & Nolen, 1985), and persistence in the face of difficulty (Dweck & Leggett, 1988). Ability goals have been shown related to lack of persistence, the use of shallow cognitive strategies, and attributions of failure to lack of ability (see Ames, 1992; Midgley, 1993 for reviews). Although these results suggest clear benefits of pursing task goals and risks of pursuing ability goals, most research finds these two types of goals to be positively related or orthogonal. Little research has examined the joint and interactive effects of pursuing both goals simultaneously. The few studies that have examined this issue have been inconclusive. Ainley (1993), for example, found benefits of pursuing task and ability goals simultaneously, whereas Meece and Holt (1993) found that students were better off when they were high in task goal orientation but low in ability goal orientation than when they were high in both. Wolters, Yu, and Pintrich (1996) found negative interactions between task and ability goals on some variables (e.g., task valuing, self-efficacy) such that the positive relationship between task goals and these variables was tempered slightly by simultaneous ability goal pursuit. For other variables (e.g., anxiety, self-regulation, performance) they found no such interactions.

In the present study we continue to use a multiple goals perspective to examine the relations among goals, other motivational constructs, and achievement. That is, in addition to examining task and ability goals individually, we also examine their interactive effects. In addition, we attempt to extend previous research that has attempted to link various motivational constructs (i.e., self-efficacy, anxiety, self-concept, self-efficacy for self-regulated learning using,

and importance). What has been lacking in research on achievement goals is the integration of constructs that are measured in ways consistent with the definitions provided by framers of the constructs. For example, self-efficacy has been incorporated into some studies examining achievement goals, but in these self-efficacy has not been defined or used in ways that match the construct definition provided by Bandura, the framer of the theory (cf. Pajares, 1996). Consequently, we used measures that were developed and validated by the proponents of these motivational constructs.

Methods and Data Source

Participants

The participants in this study were 189 8th grade students from a public school in the South. Instruments were group administered in individual math classes during two periods. During the first, students were asked to complete the attitude measures. During the second, students completed the math performance measure.

Measures

Goals: The instrument consisted of 15 items assessing task and ability goals. These items were adapted from the Patterns of Adaptive Learning Survey (PALS; Midgley et al., 1996). The task goals scale (Cronbach's α=.77, 3 items) included such items as "An important reason I do my math work is because I like to learn new things." The ability goals scale (α=.90, 9 items) included a combination of approach (e.g., "Doing better than other students in my math class is important to me" and avoidance items (e.g., "I don't want to look worse in math than other students in my class." Recent examinations of goals have suggested that ability goals involve both an approach (i.e., wanting to appear able) and an avoidant (i.e., wanting to avoid appearing unable) component (Elliot & Harackiewicz, 1996; Middleton & Midgley, 1997; Skaalvik, in press). In the present study, however, factor analysis indicated that these two types of items were not distinct. Therefore, both types of ability goal items were merged into a single scale.

Outcome variables: (a) The math self-efficacy instrument asked students to express their confidence to successfully solve 20 algebra problems in an end-of-unit, high-stakes performance test prepared by the math department chair and the teaching team; (b) to measure anxiety we used the Mathematics Anxiety Scale was created by Betz (1978); (d) we used the math scale of the Self Description Questionnaire III, developed to assess self-concept of adolescents (Marsh, 1992); (e) The Self-efficacy for Self-regulated Learning scale is a subscale from Bandura's Children's Multidimensional Self-Efficacy Scales that assesses students' judgments of their capability to use various self-regulated learning strategies such as finishing homework assignments by deadlines and planning and organizing schoolwork; and (f) the mathematics performance test was an end-of-unit test, and students had previously been informed that results would count as part of their math grade for that term. To help ensure that correlated specifics would not artificially inflate the correlation between self-efficacy and performance, the problems on which performance was assessed were similar, but not identical, to those on which confidence was measured. All items were measured using an 8-point, Likert type scale.

Results

Correlations and descriptive statistics for all of the variables in the study are presented in Table 1. Task and ability goals are moderately, positively related ($r = .26$). The pattern of correlations for the two types of goals indicates that task goals are moderately to strongly related with the performance and motivation variables in favorable way (i.e., positively related to self-efficacy, self-concept, GPA, effort, persistence, importance, and self-efficacy for self-regulated learning, negatively related to anxiety). Interestingly, ability goals did not have a negative pattern of relations with the other variables. Rather, ability goals were either unrelated or weakly, positively correlated with the motivation and performance variables. Although these relationships were not as strongly positive as those found with task goals, they were not negative.

To further examine these relationships, multiple regression analyses were conducted with the motivation and performance variables as outcomes, GPA and sex as covariates, task and ability goals as predictors, and a task X ability goals interaction term added to the regression model. The results of these analyses, summarized in Table 2, indicate that when controlling for GPA, gender, and ability goals, task goals maintained the pattern of relationships found in the correlation analysis. Namely, having a task goal orientation was a significant, positive predictor of GPA (GPA was not used as a covariate in this analysis), self-efficacy, self-concept, self-efficacy for self-regulation, effort, and perseverance and negatively predictive of anxiety in math. With these same controls, an ability goal orientation emerged as a negative predictor of GPA and was unrelated to any of the other outcomes. The task X ability goals interaction was significant and negative in the models predicting self-efficacy for self-regulation and effort. In both of these analyses the interaction indicates that the positive relationship between task goals and these outcomes was weakened when students were high in their pursuit of ability goals.

Discussion and Significance

On the basis of research examining the effects of different goal orientations, some achievement goal theorists have suggested that classroom and school environments should emphasize task goals while de-emphasizing ability goals (Ames, 1992; Maehr & Midgley, 1991). Ainley's (1993) results suggested that there are benefits to pursuing ability goals along with task goals, casting some doubt on the recommendations that ability goals be de-emphasized in classrooms and schools. The results of the present study indicate that ability goals have little effect on motivation and performance outcomes when gender, GPA, and task goals are controlled. When ability goals were related to outcomes, the effect was negative. The negative relationship between ability goals and outcomes was observed both directly (the negative relationship with GPA) and more indirectly as they interacted with task goals to weaken the positive task goal-perseverance relationship and the relationship between task goals and self-efficacy for self-regulated learning. The negative, moderating effect of ability goals on the relationships between task goals and some outcomes mirrors the results found by others (Meece & Holt, 1993; Wolters, Yu, & Pintrich, 1996). These results suggest that, for students strong in their pursuit of task goals, the simultaneous pursuit of ability goals is not helpful.

Perhaps the strongest message regarding the effect of ability goals on motivation and performance is that, whether examining main or interaction effects, ability goals are weakly related to these outcomes. Several other studies have found weaker relationships between ability

goals and outcomes than between task goals and outcomes. One reason may be that in this study, as in other studies, the two dimensions of ability goals (approach and avoidance) have not been clearly separated. Recent work examining both of these components of ability goals is shedding light on this issue (e.g., Elliot & Harackiewicz, 1996). On a broader note, this study lends additional support to previous results demonstrating a beneficial relationship between task goals and a variety of motivational and performance outcomes. Using measures developed using definitions consistent with those of the framers of the constructs, our results indicate that students feel more efficacious, have higher self-concepts, are less anxious, exert greater effort and persistence, and are more confident in their self-regulating skills in math when they are task goal oriented. Taken together, these results suggest that intervention efforts should focus their attention on increasing the emphasis on task goals in the learning environment and concentrate less on decreasing the emphasis on ability goals.

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Table 1: Correlations and Descriptive Statistics

	Task Goals	Ability Goals	M	SD
		Correlations		
Task Goals	--	.26	4.91	1.65
Ability Goals	.26	--	5.60	1.57
GPA	.28	-.11	85.53	9.65
Self Efficacy	.33	.13	6.65	1.32
Self Concept	.40	.13	5.97	1.31
Anxiety	-.29	.04	4.00	1.60
Self Efficacy for Self Regulation	.55	.21	5.46	1.44
Effort	.58	.19	5.52	1.84
Perseverence	.49	.12	5.04	1.77
Sex	-.03	.01	--	--

Note: Gender coded girls = 0, boys = 1. All correlations over .15 significant at $p < .05$.

Table 2: Standardized Regression Coefficients, Intercepts, F-Values, and Adjusted R^2 for Multiple Regression Analyses.

	GPA	Self Efficacy	Self Concept	Anxiety	Self Efficacy for Self Regulation	Effort	Perseverence
Predictors							
Task Goals	.32***	.19**	.23***	-.23**	.40***	.52***	.46***
Ability Goals	-.20**	.11	.10	.08	.09	.04	-.02
GPA	--	.43***	.44***	-.24**	.27***	.10	.09
Sex	-.24***	.11	.17**	-.23**	-.03	.05	.14*
Task x Ability	-.03	-.01	-.10	.07	-.18**	-.15*	-.09
Intercept	87.80	1.62	.55	7.78	2.15	3.92	3.51
F-value	8.79***	12.76***	17.49***	7.42***	22.09***	20.64***	12.43***
Adjusted R^2	.15	.25	.32	.15	.37	.36	.25

Note: Gender coded girls = 0, boys = 1. GPA was not a predictor in the analysis when GPA was the dependent variable. It was entered in all other analyses, along with gender, as a covariate.

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