

# Academic Achievement Goal Orientation: Taking Another Look

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## Abstract

**Introduction:** The distinction between mastery and performance goals has been the dominant theoretical approach to goal orientation study for the past three decades. Recent investigations have begun to provide evidence that further distinctions are necessary. It has also been implied that students' beliefs about the nature of intelligence play a role in the types of goals students set.

**Method:** Using confirmatory factor analysis, the current study attempted to include self-implicit theories of intelligence in a measure designed to capture the basic distinctions between mastery, performance-approach, performance-avoidant and work-avoidant goal orientations.

**Results:** Results support these basic distinctions and inclusion of intelligence items, yet indicate directions in which further research is warranted.

**Conclusion:** The current study does provide evidence that further examination of the role of implicit self-theories of intelligence in achievement goal orientation is a necessary line of research. These perceptions may be fundamental to the way students approach achievement tasks in academic settings. The current study also provides evidence that work-avoidant goals may be more than just an absence of achievement goal instead they may indeed entail an achievement goal orientation worthy of further examination.

**Keywords:** goal orientation, motivation, performance orientation, mastery orientation, work-avoidance, implicit self-theories

## Introduction

A prominent feature in motivation theory is the role of goals. Goals are defined as the end toward which effort is directed. Stated another way, goals are that which an individual attempts to accomplish. Goal orientation theory (also referred to as *Achievement Goal Theory*) has been the focus of a great deal of research in education due to the impact that goals are hypothesized to have on student performance. Goal orientation theorists have defined achievement goals as the reason which one engages in an achievement task. De la Fuente (2004) defines academic goals as "...motives of an academic nature that students use for guiding their classroom behavior" (p. 38). The specific type of goals one sets determines the personal experience one has following success or failure of the task in which one engages. Goal orientation theorists have engaged in attempts to determine the types of goals that are most productive for students and what types of goals result in the cognitive strategies, affective responses, and behaviors which lead to student success.

Goal orientation theory states that students have distinctive orientations towards certain types of goals. The dominant theoretical approach to goal orientation in academic settings is one that distinguishes between mastery and performance orientations. The simple distinction between these goal orientations contends that students who set mastery goals focus on learning the material and mastering the tasks at hand. Students who set performance goals are concerned with demonstrating their ability and performance as measured by their relative standing to others' achievements. The distinction between these two different goal orientations has been a major focus in previous research regarding achievement motivation (e.g., Ames, 1992; Ames & Archer, 1988; Harackiewicz & Elliot, 1993; Nicholls, 1983; Maehr, 1984).

### *Mastery Goal Orientation*

In the literature of more than the past 25 years mastery goals have been hypothesized to be the appropriate approach to enhancing learning, increasing self-efficacy, effort, and persistence as well as the goal orientation, which encourages the use of more effective metacognitive and cognitive strategies. Researchers have also used terms such as learning goals (Dweck, 1986) and task-involved goals (Nicholls, 1984) to describe mastery goal orientation. Nicholls and Miller (1984) referred to task-involved learners as students who focus on mastering the task at hand, not in performing compared to others. Students attuned to learning or

mastery goals persist longer on difficult tasks and are more likely to attribute success and failure to internal controllable causes. Students who set learning goals are also more likely to show preference for challenge and academic risk taking (Ames, 1992). These findings are not limited to k-12 students, but hold true for college students and adult populations as well. Dupeyrat and Marine (2005) found that when adults in continuing education courses displayed mastery goals, there was positive impact on learning outcomes, while adults who displayed performance goals had negative learning outcomes.

When a student is attuned to mastery goals, effort is seen as contributing to success and not as a measure of ability (Middleton and Midgley, 1997). When oriented toward mastery or learning goals students see achievement (success) as learning something new or mastering the task at hand. Elliot (1999) discussed the separation of mastery orientation into approach and avoidance categories. *Mastery Approach* orientation leads one to attempt to complete the task in order to increase knowledge and *Mastery Avoidance* orientation causes one to avoid an achievement task due to the sense that one is not capable of successfully completing the task. Brophy (2005) stated that students with a mastery-avoidance orientation “share an emphasis on mastery [with the mastery-approach oriented student], but engage in the task with an emphasis on avoiding mistakes, failures, or diminution of existing skills” (p. 167). There is very little empirical evidence regarding the impact of mastery-avoidant goals and it may be difficult to distinguish this type of avoidance orientation from *Performance Avoidance* orientation which is discussed later in this manuscript.

A second distinction Elliot (1999) alluded to in mastery orientation is that of task-referential vs. past-referential orientation. Elliot did not go into great detail into his discussion of mastery past-referent orientation. What he does say is that the past-referent oriented student uses past performance as the measure of achievement, and as a scale by which to set new goals. Whereas mastery task-referential orientation refers to measuring one’s competence according to whether one has completed or fully understood the task at hand. Therefore, past-referential goals are measured by whether one has improved one’s performance or has further developed one’s skills or knowledge. One might interpret this orientation as intra-personal competition.

Many studies have demonstrated that mastery goals are related to effective cognitive strategies that involve rehearsal, elaboration, and organization, and meta-cognitive strategies that involve activities such as planning, monitoring, and regulating cognition. It is the assumption of the current study that students with a mastery task-referent orientation tend to use a great deal of elaboration and organization of ideas and the meta-cognitive strategies of monitoring and regulating. Students who set mastery past-referent goals also use these strategies, but the mastery past-referent student uses more rehearsal and planning in an attempt to better themselves in comparison to previous work. In the current study specific items were designed to tap into the two distinctions described above. However, data analyses of the applied measure will not attempt to distinguish the two as separate factors because it may be difficult to separate the two mastery factors due to the fact that items referring to a tendency to seek challenge, persist longer at challenging tasks, and trying to improve, relate to both past and task referent mastery. Therefore, in the current measure, a general mastery orientation is captured by one subscale within the larger measure.

Due to the lack of empirical evidence and the difficulty in separating mastery avoidance and performance avoidance, and the combining of the mastery-past referent and mastery-task referent orientations the current study focused on the trichotomous framework of achievement goals proposed by Elliot and colleagues (Elliot, 1999; Elliot & Church, 1997; Elliot & Harackiewicz, 1996). Elliot (1999) provides a review of the historical, theoretical, and empirical reasons to adopt this framework. The trichotomous framework focuses on the distinctions between mastery, performance-approach and performance avoidance goals.

### *Performance Goal Orientation*

Performance goals are based on measuring competence in comparison to others. Performance goals lead students to attempt appearing competent or to avoid appearing incompetent when compared to others (Dweck, 1986; Dweck & Elliot, 1983; Dweck and Leggett, 1988; Elliot & Dweck, 1988; Lepper, 1988). In contrast to students with a mastery orientation, students attuned to performance goals are more apt to become frustrated and defensive in the face of failure and attribute success and failure to more external factors such as luck, task difficulty, and an uncontrollable lack of ability (Dweck, 1986).

Several researchers have examined the circumstances in which performance goal orientation leads to higher achievement (see Brophy, 2005 for a review). This view of goal theory makes a distinction between performance-approach and performance-avoidance goals. Students who are performance-approach oriented view themselves as having a good deal of ability and wish to measure themselves against others performance hence, demonstrating their ability. Others have described a similar orientation and have labeled this orientation Ego-Social orientation (e.g., Somuncuoglo & Yildirim, 1999). Somuncuoglo & Yildirim stated that ego-social orientation leads to an emphasis on high grades and outperforming others to gain approval and enhance ones self-esteem. Nicholls (1984) stated that individuals who are ego-involved and have high self-efficacy seek to demonstrate their ability in comparison to others, while those who are ego-involved and have low self-efficacy avoid demonstrating their lack of ability relative to others. In designing the current measure, performance-approach orientation was operationalized as containing an ego-social component and therefore the subscale contains items that reflect a need to compare one's performance to others and to display success in a social context.

Performance avoidance orientation is grounded in one viewing them-self as lacking ability and therefore wishing to avoid public demonstrations of achievement that would confirm their lack of ability. When students view themselves as lacking ability and hold an entity view of intelligence (this will be discussed in further detail) they determine their self-worth based on their competence. These students often base their sense of competence on their last grade and never truly build a sense of self-efficacy. In order to protect their self-worth they begin to adopt failure-avoiding strategies. These strategies include weak efforts, avoiding academic risks, setting unrealistically high or low goals, claiming not to care and procrastination. Although these individuals adopt these self-handicapping goals, their ensuing failure is consequently attributed to a lack of ability. In the end the failure-avoiding strategies adopted to protect the student's sense of self-worth cause the very failures the student was attempting to avoid and eventually lead to failure-accepting behaviors. These students accept that their failures are due to a lack of ability and they can no longer avoid failure.

### Work-Avoidant Goal Orientation

Performance-avoidance differs from work-avoidance orientation, also referred to as academic alienation (Meece, Blumenfield, & Hoyle, 1988; Nicholls, Patashnick, & Nolen,

1985, Nolen, 1988), in which failure is avoided without hard work and achievement is viewed as completing the task with as little effort as possible (Brophy, 1983; Nicholls, 1989). Early psychologists presented animal research in which it was found that animals prefer to exert less effort than more effort to obtain a goal. Tolman (1932) described the relationship between effort and motivation in his *principle of least effort*. This principle stated that given two incentives of equal value an animal will choose the incentive which requires the least effort to obtain. Hull (1943) formulated a similar principle, the *law of less work*, when multiple behavioral sequences result in the same amount of reinforcement, the organism will gradually choose the behavior that requires the least amount of effort to obtain the reinforcement. There has not been as great a quantity of research in the area of work-avoidant behaviors in the academic goal orientation literature when compared to performance and mastery goals. However, the work that has been done provides evidence that work-avoidant goals are the most detrimental to learning and achievement outcomes (Archer, 1994; Duda & Nicholls, 1992; Meece, Blumenfield, & Hoyle, 1988). Wolters (2003), in the first of two studies, found that the work-avoidant orientation was the strongest predictor of academia procrastination over all other goal orientations. In the second study, Wolters found that negative self-efficacy and work-avoidant orientation were the strongest predictors of procrastination. Although Elliot (1999) stated that work-avoidance goals may actually represent the lack of an achievement goal in an academic setting the current study includes this distinction as an important part of the goal orientation model. In a qualitative study conducted with middle school students Dowson and McInerney (2001) determined that work-avoidance was an important facet of academic motivation. Particularly this orientation was associated with a great deal of effort minimization strategies. Unlike mastery oriented students, it is hypothesized that work-avoidant students do not value hard work and effort, and unlike performance-approach oriented students, these students do not have a need for ego-social displays of competence. The subscale in the current measure might be interpreted as a “pragmatic goal orientation.” In other words, the student who adopts this goal orientation just wants to complete the course or curriculum with minimal effort expenditure. To keep the terminology simple, this orientation is referred to as work-avoidant.

The study presented here attempted to distinguish achievement goal orientation as separated into three main categories: mastery goal orientation, performance goal orientation, and work avoidant orientation. It is important to note that many studies have reported positive relations between performance goals and mastery goals, whereas others have reported nega-

tive relations. In attempts to resolve this inconsistency, researchers have reliably discriminated between the two performance orientations previously discussed: performance-approach and performance avoidant (e.g., Elliot, 1999; Pintrich, 1999). Based on this previous research, the current study used the distinction between performance approach and performance avoidant orientation as described in the trichotomous framework (see Elliot, 1999).

### Implicit Self-Theories of Intelligence

Germane to the current study is the idea that students may hold one of two implicit theories of intelligence. In the motivation model proposed by Dweck and colleagues (Cain & Dweck, 1989; Dweck & Bempechat, 1983; Dweck & Elliot, 1983; Dweck & Leggett, 1988) the two implicit theories of intelligence create an emphasis on different goals, cognitive strategies, affect and behavior. Roedel and Schraw (1995) reported that beliefs about intelligence were related to students' goals and these goals were related to students' behavioral responses. Dweck's social-cognitive model of motivation describes differences in the way they individuals approach achievement task due to the implicit theories they retain regarding their own intelligence (Dweck, 1999). Dweck's model distinguishes between two views of intelligence: incremental and entity. Students, who hold an incremental theory of intelligence, see intelligence as a set of skills and knowledge that can be increased through practice (Dweck & Bempechat, 1983) and tend to adopt learning or mastery goals. Therefore, in the current study it is hypothesized that mastery oriented students view intelligence as incremental. That is, these students feel that intelligence is not fixed, but instead can be increased through effort, the acquisition of knowledge, and understanding. In turn, effort is seen as contributing to success and the amount of effort expended in success or failure is not viewed as a measure of ability (Middleton and Midgley, 1997).

The entity view of intelligence is one in which intelligence is seen as a stable trait. This view often accompanies the assumption that intelligence is unevenly distributed among individuals, and that this trait affects performance in a broad range of domains. From this definition it is clear that the student's theory of intelligence plays an important part of the performance orientation as well. It is the contention of the current study that performance-oriented students have an entity view of intelligence. That is, this student sees intelligence as a stable trait, and is driven to either display their ability or hide their lack of ability in comparison to their peers.



Nicholls (1978) found that four and five-year-olds see intelligence as an unlimited ability and that effort that leads to success increases ability. However, as early as second grade children's view of intelligence begins to change, and they begin to believe that intelligence is a fixed and limited capacity. Dweck (1999; Dweck and Leggett, 1988) also found that young children do not view intelligence in the same manner as adults. Young children believe that intelligence is a function of hard work – essentially they believe that “the harder I work the smarter I get.” This belief leads children to respond very differently to failure and creates a different mindset about the connection between effort and ability. Interestingly, it has been found that theories of intelligence are independent of one's ability. High ability individuals and low ability individuals are just as likely to adopt entity theories of intelligence (Green and Miller, 1996; Harackiewicz, Barron, Tauer, Carter, & Elliot, 2000; Kaplan & Maehr, 1999)

The intention of the current study was to incorporate implicit self-theories of intelligence within a psychometrically sound goal orientation measure. Two psychometrically well-designed scales were used for the foundation of the current scale. The first, published by Elliot, (1999)<sup>1</sup> focused on the differences between performance- approach and performance-avoidant goal orientations with only one category of mastery goals. The second designed by Harackiewicz, et al., (2000) focused on mastery vs. performance goals with work-avoidant goals as a third category. This study produced results similar to that of the Elliot and Church (1997) study in terms of distinguishing mastery vs. performance orientations and the achievement patterns of students. Both of these questionnaires focused on the difference between mastery and performance goals. It is the contention of the current study that combining elements of the two questionnaires and including questions regarding implicit self-theories will result in a more effective tool for measuring a broad range of student goal orientations.

An incorporated purpose of this study was to increase the knowledge regarding the relationship of goal orientation and self-implicit theory. It is hypothesized that the theory of intelligence questions will load significantly on distinct orientation factors. Specifically, items that were designed to measure an incremental view of intelligence will load significantly on the mastery orientation factor. Items created to measure an entity view of intelligence and describe performing well as compared to others will load on the performance-approach scale. Entity items concluding that failure after effort reflect low ability will load significantly on the

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<sup>1</sup> Adapted from Elliot and Church (1997).

performance-avoidant factor. A confirmatory factor analysis was employed to determine the validity of the overall measure and the subscales, as well as whether the implicit theory of intelligence items load on the factors as described.

In an effort to promote understanding of the relationships between the various achievement goal orientations the hypothesized model also tested for significant correlations between the predicted factors. Based on previous research it is believed that the mastery scale will have a negative correlation to the three other scales. Performance-approach and performance-avoidant oriented students have a concern for performance and grades that the mastery oriented student does not. Also, work-avoidant students do not share the mastery oriented students tendency to value effort, in fact the work-avoidant student has the opposite feeling regarding effort as we have seen.

The two performance orientation factors should highly correlate. Previous research has found that performance-approach orientation is predictive of performance avoidance orientation (Middleton, Kaplan, & Midgley, 1998, 2004, Senko & Harackiewicz, 2004). It is also evident that the two performance orientations share an ego-social aspect as well as other cognitive and affective components and therefore, a correlation between these orientations is highly predictable.

The work-avoidant factor is predicted to correlate with the two performance factors in a positive direction. This hypothesis is based on the work-avoidant students concern with grades. Although the student with a work-avoidant orientation is not concerned with performing well when compared to others, this student's intention is not to fail, but to complete the task (course, curriculum, etc.) with minimal effort, yet without failing.

## **Method**

### *Materials*

A 34 item questionnaire was designed to capture each of the four described goal orientations (mastery, performance approach, performance avoidant, work avoidant; Table 1). Six questions were designed to directly measure view of intelligence (entity vs. incremental). It was hypothesized that the view of intelligence items would load on the factors described above.

Response to the 34 items was based on a 6-point Likert scale. Responses choices ranged from: (1) very untrue; (2) mostly untrue; (3) somewhat untrue; (4) somewhat true; (5) mostly true or (6) very true.

**Table 1. Questionnaire Items.**

Mastery
1. I challenge myself with goals for a test based on my past exam results.
3. I am more concerned with improving form week to week than I am in doing better than others in the course
7. Even when I am doing well in this course I continue to work hard to improve my understanding of the material.
8. In this class I prefer material that arouses my curiosity, even if it is difficult to learn.
9. I feel that effort that leads to improvement increases my ability.
15. My goal in this course is to do my best, even if others are doing better.
19. I try to improve my test and assignment scores throughout the semester.
20. I feel that one can increase their mental abilities through effort.
27. I will try my best for every exam even if I know I do not need to try hard for a good grade.
28. Doing well on an exam or assignment encourages me to do even better the next time.
30. Understanding the content of this course is more important than just getting a good grade.
32. In this class I prefer material that challenges me.
33. I am more concerned with doing my best than doing better than others.
Performance Approach
2. I believe that if one does not try hard in a class, but still does well, they must be smart.
6. It is important for me to do well compared to others in this class.
12. I believe that intelligence is something you are born with.
13. I want to do well in this class so that my friends, family, instructor, and others will recognize my ability.
17. When exams or assignments are returned in this class I immediately want to compare my scores to others in this course.
25. I feel that if someone tries hard in class, but does poorly, they are not very intelligent.
26. My only goal for this course is to get the best grade in the class.
31. I am more interested in doing better than the other students in this class, than doing my best.
Performance Avoidant
4. I am afraid that if I ask the instructor for help they may not think I am very smart.
11. When others ask how I did on test or assignments in this course I often lie and say I did better than I actually did.
14. When test or assignments are returned in this course I do not want others to know how I did.
16. I often worry about doing poorly in this class.
18. I worry more about getting a bad grade than I do about understanding the material.
22. I like my classes best when there is not much to learn.
34. I feel that having to try hard to do well in a class is evidence of lack of ability.
Work Avoidant
5. I want to do as little work as I have to in this class.
21. If I know I am getting an A in a class without much effort I will slack off.
23. Getting a good grade in this course is more important than understanding the material covered.
24. I just want to do as much as I have to in order to get by in this class.
29. My primary goal in this course is to avoid getting a bad grade.

*Design and Procedure*

Participants were asked to provide information regarding year in school, approximate GPA, and expected grade in the given course. Participants were instructed to take their time and read each item carefully. Participants were also informed that all information gathered was strictly confidential and that even the researcher would not have the ability to determine how an individual answer the questionnaire.

*Subjects*

322 (156 males and 166 females) undergraduate students at a large state university within the United States of America were recruited through course instructors for participation in the study. Four instructors allowed this researcher to approach their classes and ask students to voluntarily complete the questionnaire. These classes included an introductory political science course, classical mythology, sport in American society and two sections of an introductory educational psychology course. The mean age of participants was 22.45 with a mode of 19, and 51.4% of participants were 21 years of age or younger.

*Statistical Analysis*

Table 2 presents the expected item scale distribution. Confirmatory factor analysis (CFA) was completed using Amos 5 software (Arbuckle, 2005). This allowed for direct testing of factor loadings of each item in the measure on its predicted subscale or factor. Although the chi-square test for the predicted model was significant,  $\chi^2(521) = 1465.51$ , the root mean square error approximation (RMSEA) which reflects an adequate fit of the data at values of less than .08 (Browne and Cudeck, 1992), was .075. Therefore, the significant parameter estimates of the predicted item loadings provided support for validity of the scales. Table 2 also displays the standardized parameter estimates for all 34 items arranged by the factor on which the items were predicted to load. Parameter estimates were greater than .30 for all items on the predicted factors, except item 14, and these values were significant for all items, including item 14. However, it must be noted that the factor loadings for each item were not as large as was expected.

**Table 2. Means, Standard Deviations and Standardized Regression Weights (Factor Loadings) for 34 items by Factor.**

Factor	Item	Mean	Stand. Dev	Loading
Mastery				
	1	4.43	1.17	.36
	3	4.35	1.32	.33
	7	4.19	1.16	.68
	8	4.59	1.17	.56
	9	5.04	.91	.48
	15	4.92	1.11	.48
	19	5.09	.88	.30
	20	5.26	.87	.35
	27	4.38	1.30	.46
	28	4.89	1.00	.51
	30	3.83	1.19	.56
	32	4.05	1.17	.60
	33	4.70	1.19	.48
Performance Approach				
	2	3.71	1.35	.32
	6	3.77	1.40	.37
	12	3.12	1.42	.35
	13	3.45	1.41	.40
	17	2.97	1.57	.53
	25	2.49	1.41	.42
	26	2.64	1.40	.56
	31	2.36	1.20	.69
Performance Avoidant				
	4	2.07	1.22	.42
	11	1.69	1.13	.39
	14	2.93	1.37	.25
	16	3.33	1.11	.41
	18	3.99	1.41	.50
	22	2.48	1.23	.54
	34	2.29	1.23	.50
Work Avoidant				
	5	3.72	1.40	.68
	21	4.06	1.42	.50
	23	3.70	1.38	.73
	24	3.24	1.41	.56
	29	3.99	1.43	.61

Inter-item correlations and Cronbach's alpha were calculated based on the predicted scales in Table 2. Table 3 displays Cronbach's Alpha for each factor as well as the factor correlations for the four predicted factors. Reliability analysis reveals that the above scales are of acceptable reliability Cronbach's Alpha estimates range from values of .64 to .81. However,

certain items did not correlate as highly with the predicted scale, or correlated highly with more than one scale. The correlations between factors are all in the significant range in the predicted direction.

**Table 3. Correlations between Achievement Goal Orientation Factors**

Factor	Correlations			
	1	2	3	4
1.Mastery	.81			
2.PAP	.16	.68		
3.PFA	-.37	.69	.64	
4.WA	-.65	.47	.69	.75

*Note.* Values on the diagonal represent Cronbach's Alpha for individual factors. All correlations greater than .10 are significant and the .05 level.

### Results

As discussed in the data analysis factor loadings occurred essentially as the model predicted. The first factor represents work avoidant orientation. This factor was created by adopting the three items from the Harackiewicz, et al., (2000) work avoidant scale and adding two items. The first added item, "my primary goal for this course is to avoid getting a bad grade," directly relates to doing the minimal amount of work necessary to avoid a negative outcome. Elliot (1999) included an item in his performance-avoidance scale similar to this item (*my goal for this course is to avoid performing badly*). It is clear that the difference lies in the item referring to the goal as performance in the Elliot item, and the item referring to receiving a bad grade in the current scale.

The second item added to the Harackiewicz et al., (2000) work-avoidant scale read as follows: "getting a good grade is more important than understanding the material covered." On the surface this item might easily be interpreted as a performance-approach goal. However, the key is that this student is *more* interested in getting a good grade than understanding the material. Understanding the material may require more effort dependent upon the course content. Based on the items that loaded on this factor, it could also be thought of as a pragmatic achievement orientation. In other words putting forward the minimal amount of effort to satisfactorily complete the task (course, curriculum, etc). It appears as though this factor represents the student looking for the path of least resistance for the grade. Jokingly, this factor could be referred to as the "Is this going to be on the test?" orientation. Based on the find-

ings of the current study, it may be necessary to reexamine the role of work-avoidance as an achievement orientation, not just a lack of achievement goals as Elliot (1999) suggests.

All of the items designed to represent the performance-approach factor reflect a need to be compared to others and to socially display the student's competence. This factor represents a need to boost one's self-esteem and ego through public performance of intellectual ability. Central to the design of this study is the finding that the three entity theory of intelligence questions designed to load on this factor did load significantly on this factor. Although the loadings were lower than expected (see Table 2) this is an important finding. The first item is a direct question regarding one's theory of intelligence (*I believe intelligence is something you are born with*). The second entity theory item reflects a view that if one performs well without effort, than that person is intelligent. The third reflects a view that effort that leads to failure is a reciprocal measure of intelligence (*I feel that if someone tries hard in class, but does poorly, they are not very intelligent*).

These findings are insightful in the light of the Middleton, Kaplan, & Midgley (1988, 2004) finding that performance-approach orientation in sixth grade predicted a performance-avoidant orientation in seventh grade. Students with a performance-approach orientation are likely to have a high self-efficacy. Dweck and Bempechat (1983) stated that individuals who feel competent in an achievement situation and have performance goals attempt to demonstrate their competence, whereas those who feel incompetent or less competent will avoid displays of competence in relation to others. As Elliot (1999) points out, Dweck and Bempechat did not formally make the distinction between performance-approach and performance-avoidant, one can see how the item described above would change one's perception of self-competence or self-efficacy after an encounter with failure. The item described above also may be an insight for educators who see students' effort decline after failure in which a great deal of effort was expended. This may have contributed to the correlation between the performance-approach and performance-avoidant factors being as high as it was ( $r = .69$ ).

The third factor represents a single mastery orientation factor. The items on this factor were designed to capture both mastery-past referent and mastery-task referent orientations. Each item is worded in a manner that reflects a focus on effort and improvement. Important to the current study is that the two incremental view of intelligence questions loaded positively on this factor as well. Both of the items are worded in a manner that reflects not only an in-

cremental view of intelligence, but holding effort high in value as well. This supports the hypothesis that students who set mastery or learning goals are likely to view intelligence as incremental, or at least value effort and seen continuous effort as a means to increase their skill.

The fourth factor contains positive loadings of items predicted to appear in the performance-avoidant scale. All of these items reflect a need to avoid competition, social comparison of achievement, and social displays of competence. One entity view of intelligence item was included in the performance-avoidant factor. This item, "I feel that having to try hard to do well in a class is evidence of lack of ability," appears on the surface that it could have been included in the performance-approach factor. The key in the design on this item was to include a statement regarding a lack of ability. Students who adopt a performance-avoidant orientation desire to minimize displays of ability and are likely low in self-efficacy in regards to academic achievement. This item supports the hypothesis that performance-avoidant students likely see intelligence as a stable trait and social displays of competence are a measure of intelligence.

Robins and Pals (2002) demonstrated that entity theorists adopted more performance goals, often displayed a helpless response pattern and declined in self-esteem as predicted from Dweck's (1999) model. Robins and Pals measured implicit self-theories of intelligence as a measure of entity theory not as a distinction between entity and incremental theory. As Harackiewicz and Elliot (1995) pointed out rejection of entity theory should not qualify one as an incremental theorist. In the current study the questions regarding views of intelligence were designed to measure both theories directly. The factor analysis confirms the hypothesis regarding theories of intelligence, yet leaves room for a great deal more research.

## **Conclusions**

Based on previous research attempting to measure students goal orientations (e.g., Elliot, 1999; Harackiewicz, et al., 2000) and the work regarding goal orientations and implicit theories of intelligence the following represents profiles of the four factors presented in this study. This is by no means an exhaustive list of the types of goal orientations students will adopt, nor does it include all components of the orientations presented. The *Work Avoidant* oriented student is unwilling to put forward a great deal of effort. This student is just as likely



to view themselves as capable of better work as the his/her teacher. However, this student does not see the task value in the subject matter or specific tasks at hand.

The *Performance Approach* oriented student is also ego involved and has an entity view of intelligence, but this student is willing to put forward the effort to ensure that others see this student as intelligent. These students see themselves as highly competent and have a need to display their competence in relation to others and may even have a high need for achievement. However, these students may not be task involved.

The *Mastery Oriented* student is task involved (wants to master the material) has an incremental view of intelligence and exerts a great deal of effort to improve their understanding and hence their ability. The mastery oriented student is persistent in the face of failure. It is important to note that the performance approach and mastery orientations are not mutually exclusive goal types.

Finally, the *Performance-Avoidant* student is ego involved, has an entity view of intelligence, but uses self-handicapping strategies to protect their ego. This student may in the end become a defensive pessimist, self-handicapping, or even a learned helpless student.

It is important to note that in the current study and in the descriptions above performance goal orientations, both approach and avoidant have a strong ego-social component. Recently Grant and Dweck (2003) have provided evidence that further distinction among performance goals may be necessary. These classifications include outcome goals, ability goals, and normative goals. Although these findings are preliminary, they support the contention that it may be necessary to distinguish between performance goals that contain a social component and those that do not. It also reminds one that goal orientation is a multifaceted aspect of how students approach achievement. The inclusion of implicit self-theories of intelligence in the current study strengthens the hypothesis that these views are related to how one sets achievement goals. However, many other factors were unaccounted for, such as self-efficacy, attributions, interest and past performance. De la Fuente (2004) provides an exhaustive review of recent research regarding goal orientation theory. In his review, De la Fuente covers topics such as self-regulation, personality, and gender. The conclusion of De la Fuente's review includes a call to further evaluate and investigate the inconsistencies in goal theory. The inclusion of implicit theories of intelligence is a step in that direction.

The current study does provide evidence that further examination of the role of implicit self-theories of intelligence in achievement goal orientation is a necessary line of research. These perceptions may be fundamental to the way students approach achievement tasks in academic settings. The current study also provides evidence that work-avoidant goals may be more than just an absence of achievement goal instead they may indeed entail an achievement goal orientation worthy of further examination.

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