Journal of the Scholarship of Teaching and Learning, Vol. 8, No. 3, October 2008, pp. 1 – 19.

Will I do as well on the final exam as I expect? An examination of students' expectations

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Abstract: Immediately prior to an exam, it is common to hear students commenting on whether they anticipate doing as well on the exam as they expect (or, in other words, whether they anticipate performing as well on the exam as the standard at which they believe they should be performing). These anticipations have received little past research attention. In this study, students' performance anticipations are related to their past exam performances in the course, their performance expectations, several issues hypothesized to affect academic performance, and their actual performance on the final exam and for the course. The results, which were mixed, are discussed.

Keywords: student expectations, student performance, test anxiety, absences, self handicapping, exam preparation

One of the most enduring components of the education process is evaluation, and business education is no exception. Evaluation allows an assessment of students' comprehension of material in their courses of study. Although varying methods of evaluation are utilized, tests are the most commonly employed method (Bacon 2003; Keogh and French 2001). Indeed, grades in introductory courses are often based to a great extent on students' performances on a limited number of exams. In fact, Kelley, Conant, and Smart (1989) regard testing as an integral component of quality teaching.

Given the importance of the testing process in many courses, numerous studies have examined the form, validity, and rigor of testing. However, surprisingly little research has examined students' expectations (Anderson and Sauser 1995). For example, immediately prior to an important exam, it is common to hear students commenting on whether they "anticipate doing as well on the exam as they expect." At first glance, these statements by students appear confusing – since expectations are essentially anticipations, it appears that students are commenting on whether they "anticipate doing as well as they anticipate." Instead, these statements indicate that students anticipate the quality of their performance on an exam before they actually take the exam. Furthermore, these anticipations are relative to some individual standard (what students refer to as "expectations"). So, the actual issue appears to be whether students anticipate performing as well on the exam as the standard at which they believe they should be performing.

The objective of this study is to attempt to gain insight into students' anticipations of whether they will do as well on a final exam in a business course as the standard at which they believe they should be performing. This appears to be an important area of study since students' anticipations may affect how much time and effort they spend preparing for the exam. In this study, students' anticipations at the time of the final exam are related to 1) their subsequent performance on the final exam and in the course, 2) their grade expectations for the course, 3) their past exam performances in the course, and 4) issues which are often regarded as affecting exam performance (self-handicapping tendencies, anxiety at the time of the exam, number of absences during the course, and self-reported amount of time spent studying for the final exam). First, given the role played by attribution in students'

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performance expectations, attribution theory will be discussed.

I. Attribution Theory.

Attribution theory provides a basis for examining students' expectations of their performances on academic activities, including their performances on their final exams. According to attribution theory, individuals try to understand the causes of the outcomes of their behavior – understandings which affect their subsequent motivation (Hong, Chui, Dweck, Lin and Wan 1999) and, consequently, their behavior (Amichai-Hamburger, Mikulincer and Zalts 2003; Cemalcilar, Canbeyli and Sunar 2003). Similarly, in an academic context, students often attempt to develop reasons for their performances on exams (Ahles and Contento 2006; Graham and Folkes 1990). These attributions are typically viewed within a context of three dimensions: locus of causality (internal or external), personal controllability (controllable or uncontrollable), and stability (stable or temporary) (Weiner 1985). Students who attribute poor outcomes to external, controllable, and unstable causes (an optimistic attributional style) tend to experience positive motivational consequences leading to increased persistence in the presence of negative consequences. Students who attribute poor outcomes to internal, uncontrollable, and stable causes (a pessimistic attributional style), however, tend to experience negative motivational consequences leading to less persistence in the presence of negative consequences, and possibly a withdrawal of effort (Le Foll, Rascle and Higgins 2008). These relationships particularly hold when student's emphases are on performance (grades) as opposed to learning (Grant and Dweck 2003).

Weiner (1974) suggests that of the three dimensions of attribution, the locus of causality and stability factors are particularly important to the level of achievement experienced in education. The two dimensions lead to four factors (ability (internal and stable), task difficulty (external and stable), effort (internal and temporary), and luck (external and temporary) (Figure 1). The relative strengths of these four factors ultimately determine the level of success experienced in the academic environment. Specifically, students who experience high success will approach evaluation opportunities rather than avoid them because they believe success results from their ability and effort. Failure is regarded as resulting from bad luck or a poorly constructed exam. Students who experience low success, however, avoid evaluation opportunities because they either doubt their abilities, or regard success as resulting from luck or other factors beyond their control (e.g., the difficulty of the exam). The primary focus of attribution theory, therefore, is on how individuals attribute successes and failures – how a person attributes successes or failures determines subsequent behavior by affecting the amount of effort the person will expend on that activity in the future.

II. Performance Expectations.

Students' expectations of exam performance appear to an important area of concern – "accuracy affords predictability that may help persons cope with their social and physical environments" (Kruglanski 1989, p. 395). "Self-perceptions that are out of touch with reality not only reveal a lack of self-knowledge, but may also impede effective self-regulation and goal setting in academic, professional, and interpersonal situations" (Beyer 1999, p. 280). Relatively limited research attention, however, has been placed on the performance expectations of students (e.g., Beyer 1998, 1990). Furthermore, the value of much of the past research which has examined students' performance expectations is limited since most of the research is restricted to laboratory settings or to asking questions concerning generic, non-

course-specific knowledge (Hacker, Bol, Horgan and Rakow 2000).

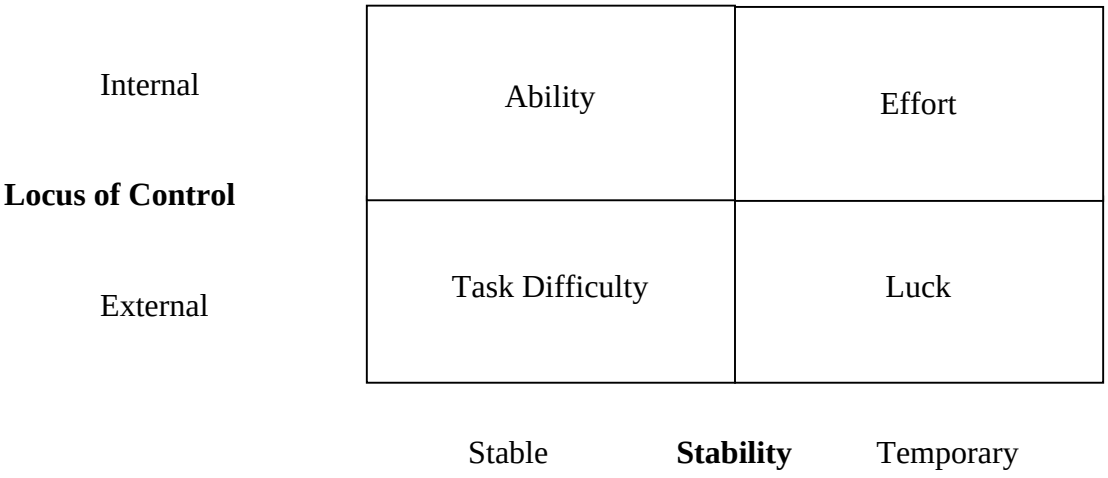

Figure 1. Attribution Factors.

The primary objective of most of the research which has examined students' performance expectations is assessing the accuracy with which students are able to predict the grades they will receive on exams. Research indicates that although students' performance expectations tend to be relatively accurate (Fitzgerald, Gruppen, White and Davis 1997), predictions of grades tend to be consistently overly optimistic (Burns 2007). Past research also suggests that students who are better able to predict their exam performances experience higher degrees of success in academia (Zlokovich, et al., 2003).

Although accuracy of prediction is an important issue of concern, it does not totally address the issue of performance expectations of each student – that is, it does not address whether students anticipate performing as well on an exam as the standard at which they believe they should be performing. Students possess individual standards for the exams which they encounter. Students' anticipations, then, are based on their expected performances relative to their own standards. Specifically, reflecting either a realization that exams are not perfect measures of assessment, that self-perceived preparation (effort)/knowledge (ability) for an exam is not a perfect measure, and/or a lack of luck (external locus of control), students often recognize that their exam performances will differ from what they perceive the performance would be if they possessed increased control over the situation (internal locus of control). Consequently, whether students perceive that they "anticipate doing as well as they expect" can be more precisely viewed as the degree to which they anticipate that their exam performances will accurately reflect their preparation (effort) and knowledge (ability). Therefore, the focus of this study is students' perceptions of how well the final exam reflects their preparation/knowledge.

Since students who are better able to predict their exam performance experience higher degrees of success in academia (as mentioned earlier), students who believe that their performance on the exam will accurately reflect their preparation/knowledge can also be expected to perform better by receiving higher grades on the final exam and for the entire course than those who do not.

H1: At the time of the final exam, students who "anticipate performing as well on the final exam as expected" (are more likely to expect that their performance on the final exam will accurately reflect their self-perceived level of knowledge and preparation) will perform better on the final exam and for the course than will students who do not anticipate that they will perform "as well as on the final exam as expected."

III. Expected Course Grades.

Students enter courses with an expectation of the grade they will ultimately receive. At the beginning of a course, however, students possess limited information to accurately form such expectations. This is especially true for an introductory course since students possess little history taking courses in the topic. They also have not yet taken any exams in the course, and as a result, possess little experience onto which to base their anticipated performance in the course, particularly as it relates to the extent to which the final exam will ultimately reflect their preparation and knowledge at that time. (Although there is likely some degree of transfer of experience from other courses taken in other subject areas, the idiosyncrasies of each subject area and of individual faculty members will likely minimize the effectiveness of such transfer). There is little basis, therefore, to expect to find a relationship between students' course grade expectations at the start of an introductory course and their anticipation of whether their performance on the final exam will accurately reflect their self-perceived level of knowledge and preparation at the time of the final exam.

H2a: No relationship exists between students' grade expectations at the start of an introductory course and whether they "anticipate performing as well as on the final exam as expected" (believe that the final exam accurately reflects their preparation/knowledge) at the time of the final exam.

The situation, however, can be expected to differ when grade expectations at the time of the final exam are examined. Students with higher grade expectations for the course at the time of the final exam can be expected to be more likely to "anticipate performing as well as expected" on the final exam. By the time of the final exam, students have already taken midterm exam(s) and are acquainted with the form and the coverage of exams in the course. Through their experience with previous exam(s) in the course, students will likely possess an idea of the extent to which their performance on the final exam will accurately reflect their preparation and knowledge. Consequently, students who anticipate achieving a higher grade on the final exam at the time of the final exam will more likely believe that the exam will accurately reflect their preparation and knowledge than will students who anticipate receiving a lower grade.

H2b: Students who possess higher performance expectations at the time of the final exam are more likely to "anticipate performing as well as on the final exam as expected" (believe that the final exam accurately reflects their preparation/knowledge) than are students who possess lower performance expectations at the time of the final exam.

IV. Past Exam Performances.

It is logical to expect that the accuracy of students' exam performance expectations will improve as a course progresses. Each successive examination provides students with the opportunity to compare their exam performance expectations with actual outcomes, providing them with the feedback necessary to improve the accuracy of future exam performance expectations (Beyer 1999). Whether the accuracy of future exam performance expectations actually increase, however, has not been unequivocally established – empirical research provides mixed results. Several (e.g., Radhakrishnan, Arrow and Sniezek 1996; Sheppard, Ouellette and Fernandez 1996) have observed that the accuracy of students' exam performance expectations improve with each successive exam in a course, whereas Gordon (1991) and Powell and Gray (1995) did not. Interestingly, in a study involving students enrolled in several differing courses (two upper division courses and an introductory course), Beyer (1999) observed that the accuracy of students' exam performance expectations

improved only in the introductory course. Gilovich, Kerr and Medvec (1993) observed similar improvement in exam performance expectations in an introductory course including both lower- and upper-division students, suggesting that improvement in exam performance expectations may be characteristic of introductory courses, regardless of the level (upper-division or lower-division) of the students attending the course. In an introductory course, therefore, it would seem that performances on past exams may affect students' performance expectations on the final exam. Specifically, students who have performed well on the midterm exams in the course can be expected to anticipate performing similarly on the final exam. These students have a history of success on previous exams and can expect to experience continued success on the final exam.

Successful exam performances also typically provide students with a validation of their exam preparation activities and indicate to them that the exams were as expected and "accurately" assess their preparation and knowledge. Hence, these students would seem to be more likely to expect that their performance on the final exam will also accurately reflect their self-perceived level of preparation and knowledge, or that they will "anticipate performing as well as they expect" on the final exam. Similarly, students who performed poorly on the midterm exams can be expected to be less likely to believe that their performance on the final exam will accurately reflect their self-perceived level of preparation and knowledge. Hence, they will be more likely not to "anticipate performing as well as they expect" on the final exam.

H3: Students who perform better on the midterm exams in an introductory course are more likely to "anticipate performing as well as on the final exam as expected" (believe that the final exam accurately reflects their preparation/knowledge) at the time of the final exam than are students who perform relatively worse on the midterm exams.

V. Performance Hindrances.

Hindrances encountered in the preparation for the final exam, such as self-handicapping tendencies, anxiety at the time of the exam, limited amount of time spent studying, and a large number of absences, can be expected to adversely affect students' understanding of the degree to which they are prepared to take an exam. Consequently, it is logical to expect that the presence of these hindrances will prompt students to be less likely to believe that their performance on the final exam will reflect their preparation/knowledge for the exam.

A. Self-Handicapping.

Self-handicapping involves the use of excuses given prior to a possible negative performance (Baumeister and Scher 1988). These anticipatory excuses are given with the goal of shielding one from the negativity which could be associated with a deficient performance (Snyder 1990).

> The self-handicapper, we are suggesting, reaches out for impediments, exaggerates handicaps, embraces any factor reducing personal responsibility for mediocrity and enhancing personal responsibility for success. One does this to shape the implications of performance feedback both in one's own eyes and in the eye's of others (Jones and Berglas 1978, p. 202).

Self-handicapping, therefore, involves protecting one's image of competence by proactively arranging for adversity (Higgins 1990). If a poor performance does occur, a ready excuse already exists (Martin, Debus and Marsh 2003).

Self-handicapping involves impression management, a specific aspect of attribution theory which involves individuals' attempts to maintain a favorable image to one's self and to others (Schlenker and Pontari 2000). Individuals' levels of self-esteem are directly connected to their behavior by a responsibility linkage (Snyder, Higgins and Stucky 1983). Self-handicapping acts to sever the linkage between an individual and a poor performance before the performance has been experienced by alluding to temporary issues, often through appeals to factors which supposedly have hindered preparation (effort) or poor fortune (bad luck). In the event of a poor exam performance then, self-handicapping can be used by a student as an attempt to absolve oneself of connections with and/or responsibility for this negative event in order to maintain self esteem (Martin, Marsh, Williamson and Debus 2003). The use of self-handicapping strategies in academia appears to be widespread (Midgley, Arunkumar and Urdan 1996; Urdan and Midgley 2001).

Substantial empirical exists attesting to success of self-handicapping in sheltering one's self from poor performances. Thompson and Richardson (2001), for instance, observed that individuals with low tendencies to self-handicap are more likely to internalize their success (internal locus of control) than individuals with high tendencies to self-handicap. Feick and Rhodewalt (1998) and Rhodewalt and Hill (1995) observed similar findings. These observations suggest that while self-handicapping succeeds in sheltering individuals with high tendencies to self-handicap from the negative effects of poor performances, it also suggests that individuals with high tendencies to self-handicap may shield themselves from the positive effects of successful performances. Murray and Warden (1990) suggest that, consequently, individuals with high tendencies to self-handicap may remain unsure of their true ability. Individuals with high tendencies to self-handicap do not appear to possess a fear of failure per se since their primary concern is not to avoid poor performance, but instead to avoid negative attribution resulting from a poor performance (Riggs 1992). Indeed, self-handicapping activity is thought to increase the likelihood of poor performances (Jones and Berglas 1978).

Although it seems that proclivity to self-handicap should be inversely related to academic achievement, the results of empirical testing have been mixed. Among competitive athletes, Rhodewalt, Saltzman and Wittmer (1984) observed such a relationship between proclivity to use self-handicapping and an index based on the individuals' GPA and SAT scores. Similarly, Rhodewalt (1990) observed a significant inverse relationship between proclivity to use self-handicapping and an index based on the individuals' GPA and ACT scores, as did Zuckerman, Kieffer and Knee (1998) and Urdan, Midgley and Anderman (1998). These findings, however, have not been found to be universal across the academic setting. Several studies (e.g., Feick and Rhodewalt 1997; Harris and Snyder 1986; Jung 1988; Rhodewalt and Davison 1986) reported that high self-handicappers generally perform as well as do low self-handicappers.

Since, within the realm of academia, the objective of self-handicapping is to sever or lessen the responsibility connection between one's self and a possible forthcoming poor performance, and given the evaluative nature of the testing process, it would seem likely that individuals displaying a high proclivity to self-handicap will be less likely to anticipate success. Indeed, by holding lower expectations, students will be less likely not fulfill their expectations – they will be more likely to experience success as measured by surpassing expectations. Individuals with a high propensity to self-handicap, therefore, will be less likely to express to themselves or to others that the final exam will accurately depict their preparation and knowledge, than will individuals with a lower propensity to self handicap. By believing that they "anticipate performing more poorly on the exam than expected," individuals with a high propensity to self handicap provide for an "out" or an account if their performance is less than desired.

H4a: Students with higher tendencies toward self-handicapping are less likely to "anticipate performing as well as on the final exam as expected" (believe that the final exam accurately reflects their preparation/knowledge) than are students with lesser tendencies toward self-handicapping.

B. Test Anxiety.

In a testing environment, one's performances potentially have far-reaching effects (Speilberger and Vagg 1995). Within the academic environment, for instance, one's performance on exams can affect several issues, such as whether there is a need to retake a course, whether graduation will occur, whether admittance to graduate school will be obtained, and future employment (McKeachie 1951). It is not surprising, therefore, that anxiety about a testing situation (test anxiety) is viewed by many as a pervasive problem (e.g., Schwarzer and Jerusalem 1992; Tobias 1992).

The relationship between test anxiety and test performance was first examined by Sarason (1958, 1960) who reported observing negative relationships between them. Sarason also observed that highly test-anxious individuals are more self-critical and more likely to experience performance-interfering worry during examinations than are individuals who were observed to be low in test anxiety (1975, 1984). More recent research appears to support these contentions. Meta-analyses of research by Hembree (1988) and Seipp (1991), for instance, come to the same conclusions. Students experiencing high levels of anxiety at the time of an exam are apprehensive about their forthcoming exam performance. The apprehension that they feel involves the probability that their performance on the exam will be unsatisfactory. Individuals experiencing higher levels of anxiety at the time of the exam, therefore, will be less likely to "anticipate doing as well as expected" on the final exam than will students experiencing lesser levels of anxiety. In other words, students experiencing higher levels of test anxiety will be less likely to believe that their performance on the exam will accurately reflect their level of preparation/knowledge.

H4b: Students experiencing greater anxiety at the time of the final exam are less likely to "anticipate performing as well on the final exam as expected" (believe that the final exam accurately reflects their preparation/knowledge) than are students experiencing lesser anxiety at the time of the final exam.

C. Time Spent Studying.

Most classroom instructors and students alike assume that a strong positive relationship exists between time spent studying and performances on tests. Increased time spent studying would seem to allow students to better understand course material and to improve their memory of key concepts. Surprisingly little research exists, however, which would support this line of thought. Past research suggests that a weak, if any, relationship exists between time spent studying and exam performance (e.g, Gortner-Lahmers and Zulauf 2000; Michaels and Miethe 1989; Schuman, Walsh, Olson and Etheridge 1985). In a series of studies employing a variety of methodologies, Schuman, Walsh, Olson and Etheridge (1985) could not find a reliable relationship between time spent studying and exam performance. Rau and Durand (2000) observed that test performance may actually be more related to when students study and what they do when they are not studying than to the actual time spent studying. Michaels and Miethe (1989) and Plant, Ericsson, Hill and Asberg (2005) observed that the quality of the study environment affects student performance. Plant, Ericsson, Hill and Asberg report "it appears that the quantity of study time may only emerge as a reliable factor that determines performance when the quality of study time and the student's SAT

scores are also taken into consideration" (2005, p. 112).

Regardless of reality, students widely believe that a strong and direct relationship exists between time spent studying and test performance – a belief that likely affects students' performance expectations. Students who perceive they have spent less time studying for an exam will likely perceive that they are less aware of what is needed to succeed on the exam. This uncertainty will likely affect how they view the upcoming exam – they likely perceive that they are less able to accurately gauge the adequacy of their preparation/knowledge. Consequently, it is logical to expect that students who perceive that they have studied relatively less for an exam will be less likely to believe that their performance on the exam will accurately reflect their preparation/knowledge.

H4c: Students who spent less time studying for the final exam are less likely to "anticipate performing as well on the final exam as expected" (believe that the final exam accurately reflects their preparation/knowledge) than are students who spent greater amounts of time studying for the final exam.

D. Absences.

Similar to time spent studying for the final exam, most classroom instructors and students alike believe that a strong relationship exists between attendance and exam performance – by attending class, students will gain greater exposure to course material and gain a better insight into what the instructor deems as important (and most likely to appear on exams). Unlike the issue of time spent studying, past research on the relationship of attendance, or number of absences, supports the general assumptions. For instance, Devadoss and Foltz (1996), Durden and Ellis (1995), Hammen and Kelland (1994), Plant, Ericsson, Hill and Asberg (2005), and Williams and Worth (2002) observed direct negative relationships between number of absences and academic performance. Shimoff and Catania (2001) observed that students with higher attendance rates received higher grades even on material not covered in class.

Similarly, it is logical to expect that a direct relationship exists between performance anticipations on the final exam and the number of classes missed. Students who have experienced a greater number of absences will be less aware of what is needed to succeed on the final exam. Consequently, it is logical to expect that students who have missed a greater number of classes will be less likely to believe that their performance on the final exam will accurately reflect their preparation/knowledge.

H4d: Students who missed a greater number of class meetings are less likely to "anticipate performing as well on the final exam as expected" (believe that the final exam accurately reflects their preparation/knowledge) than are students who missed a lesser number of classes during the course.

VI. Methodology.

The sample was comprised of students enrolled in Principles of Marketing classes at a medium-sized university located in the Midwest. The Principles of Marketing course was chosen since it is an introductory course to discipline of marketing – the focus of the class is to introduce a field of study to students to which they have not previously been exposed. To minimize bias resulting from differing teaching and/or testing styles, all of the classes were sections of a single course taught by a single instructor. Students' grades were determined in the course primarily by their performances on two midterm exams (exam 1 and exam 2) and a final exam. The resulting sample was comprised of 353 students.

Students were asked to complete two short questionnaires during the course. The first

questionnaire was administered at the beginning of the course and included the Self-Handicapping Scale (SHS) (Rhodewalt 1990). Students were also asked to report their expected grade in the course through a simple question, similar to the method used by Campbell and Henry (1999). The second questionnaire was administered at the end of the course immediately prior to the start of the final exam. The students were asked to evaluate their anticipated performance on the final (also through a simple question similar to the method used by Campbell and Henry (1999) and to report the amount of time spent studying for the final exam. Furthermore, students' anxiety levels were assessed at that time. In addition, students were asked whether they "anticipated performing as well as they expect" on the final exam. In an attempt to minimize possible bias, students were expressly guaranteed anonymity as far as the course instructor was concerned. Finally, students' grades on the exams and actual number of absences were gathered from course records by an individual other than the course instructor.

The Self-Handicapping Scale is comprised of 25 statements designed to assess an individual's proclivity to display self-handicapping behavior. For each statement, students were asked to indicate their level of agreement on a six-point scale. Large group testing sessions indicate that the scale exhibits acceptable internal consistency (Cronbach's alpha = 0.79) and test-retest reliability r = 0.74 after one month) (Rhodewalt 1990). The predictive ability of the scale is confirmed by a number of studies (e.g., Rhodewalt 1990, 1994; Strube 1986).

Students' expected and actual performance on the final exam and for the course, and their actual performances on the first two exams in the course were measured on a five-point scale based on letter grade (A, B, C, D, F) (Wong 2000). The exams were primarily multiple choice. Multiple-choice exams were used given the predominance of the use of this type of exam in the Principles of Marketing course (Aiken 1987; Weaver 1982).

To determine students' anticipation of performance, they were simply asked whether they anticipated performing as well on the final exam as expected.

Students' anxiety level at the time of the final exam is not an easy concept to measure (Ebel 1972). Initial attempts at measuring test anxiety relied on physiological measurements with the hope of developing an unbiased measure. Physiological measurements, however, have proven to be inadequate. When testing various types of physiological measures used to measure anxiety, Hopkins and Chambers observed "the physiological measures are essentially unrelated, and do not provide the basis for the identification of a preferred measure of anxiety" (1966, p 189).

Several attempts have been made to measure test anxiety via self-administered scales designed to specifically measure test anxiety. Several questions concerning the validity of such scales exist, however (Anderson and Sauser 1995; Bedell and Marlowe 1995; Hopkins and Chambers 1966). Tobias and Hedl (1972) suggest that test anxiety is actually a manifestation of general anxiety, and should be conceptualized and measured in that fashion. Evidence supporting this contention has been observed (Bedell and Marlowe 1995).

For this study, a general anxiety scale comprised of seven items was used (Table 1). Since the scale was administered immediately prior to the final exam, it was essential that the scale could be completed quickly and easily. The scale items were drawn from the State-Trait Anxiety Inventory (Spielberger 1983). For this study, items chosen included those scoring high on the anxiety-absent and state-anxiety-present factors of the state-trait Anxiety Inventory (Iwata, et al. 1998) and which would easily understood by a student sample. For each item, students were asked to indicate their level of agreement on a four-point scale. After accounting for reversed-scored items, respondents' answers were summed. An acceptable Cronbach's alpha was observed (0.865).

Table 1. General Anxiety Scale.

1. I feel calm.
2. I am tense
3. I feel upset.
4. I feel nervous.
5. I am jittery.
6. I feel content.
7. I feel over-excited and rattled.

VII. Results.

A series of one-way ANOVAS was used to test the hypotheses. The results are displayed in Table 2.

Table 2. Results.

Number of Cases by Anticipated Performance

Anticipated doing as good as expected	209
Anticipated not doing as good as expected	144

		F-Statistic	Level of Significance
H1	Actual final exam grade	2.870	0.091
	Actual course grade	1.059	0.304
H2a	Expected course grade at the start of the course	1.143	0.286
H2b	Expected course grade at the time of the final exam	15.246	0.000*
H3	Exam 1 performance	0.103	0.748
	Exam 2 performance	6.935	0.009*
H4a	Self-handicapping	5.292	0.022*
H4b	Anxiety at the time of the final exam	15.221	0.000*
H4c	Amount of time spent studying	0.046	0.830
H4d	Number of absences	0.230	0.632

*$p < 0.05$

No evidence was observed in support of Hypothesis 1. Students who "anticipated performing up to their expectations" on the final exam did not perform significantly (at the 0.05 level) better on the final exam nor in the course than did students who did not "anticipate performing up to their expectations."

Support was observed Hypothesis 2. Students possessing higher grade expectations for the course at the time of the final exam were found to be significantly (at the 0.05 level) more likely to "anticipate performing up to these expectations" on the final exam than were students expecting lower grades for the course (Hypothesis 2b). Students with higher grade expectations for the course at the start of the course, however, were not found to be significantly (at the 0.05 level) more likely to "anticipate performing up to these expectations" on the final exam than were students expecting lower grades for the course (Hypothesis 2a). The results indicate that a relationship involving grade expectations exists only for the grade expectations with the greatest temporal proximity. No evidence was observed which would suggest that grade expectations at the start of the course are related to whether students "anticipate performing up to their expectations" on the final exam.

Partial support was observed for Hypothesis 3. Students scoring higher on exam 2 were found to be significantly (at the 0.05 level) more likely to "anticipate performing up to their expectations" on the final exam than students scoring lower on exam 2. The same result, however, was not observed when the scores received on exam 1 were examined. Support for Hypothesis 3 was observed, therefore, solely for the midterm exam with the greatest temporal proximity. No evidence was observed which would suggest that performance on exam 1 is related to whether students "anticipate performing up to their expectations" on the final exam.

Finally, support was observed for a portion of Hypothesis 4. Students possessing higher self-handicapping tendencies were found to be significantly (at the 0.05 level) less likely to "anticipate performing up to their expectations" on the final exam than were students possessing lesser self-handicapping tendencies, providing support to Hypothesis 4A. Similarly, students possessing higher levels of anxiety were found to be significantly (at the 0.05 level) less likely to "anticipate performing up to their expectations" on the final exam than were students possessing lesser anxiety supporting Hypothesis 4B. No significant relationships were observed, however, with amount of time spent studying nor number of absences (Hypotheses 4C and 4D).

VIII. Discussion.

Several conclusions can be drawn. First, it appears that temporal proximity has an effect on relationships involving whether students "anticipate performing as well as expected" on the final exam at the time of the final exam. For instance, performance on the second exam, which occurred roughly 50 percent closer in time to the final exam than the first exam, was observed to be significantly (at a 0.05 level) related to whether students anticipated performing as well on the final exam as expected, while such a relationship was not observed for exam 1. A closer examination appears warranted.

A visual examination of the grades received on exam 1 and exam 2 indicates that although students' grades on exam 1 and exam 2 were significantly (at the 0.05 level) correlated $r = 0.543$ as would be expected, a substantial amount of "movement" occurred in the grades between the two exams (students either performing significantly better or significantly worse on exam 2 than on exam 1). Although exam 1 and exam 2 were identical in their construction (as indicated by the number, type, and source of questions included) and level of difficulty (virtually identical average grades implying that students' performances should differ little), the fluctuation noted in grades from exam 1 to exam 2 is not atypical for the course.

The fact that a significant relationship was observed only between whether students "anticipated performing as well as expected" on the final exam and grades received on exam 2 suggests two possible courses of action for instructors who wish to increase the percentage of students who "anticipate performing as well as expected" on the final exam. First, it appears that they should focus attention on students who perform more poorly on exam 2. Efforts such as explaining to students the source and the rationale behind the questions which were missed on the exam may increase the likelihood that these students will "anticipate performing as well as expected" on the final exam. Second, given the lack of a relationship involving the first exam and the existence of a sizable degree of "movement" in grades from exam 1 to exam 2, instructors may also need to focus on students who perform well on exam 1 by stressing the need to approach exam 2 in the same fashion as they approached exam 1 with the objective of minimizing negative "movement" and improving performance anticipations on the final exam.

Similarly, course grade expectations at the time of the final exam were observed to be

significantly (at a 0.05 level) related to whether students "anticipated performing as well on the final exam as expected," while such a relationship was not observed for grade expectations at the beginning of the course. This finding suggests that the relationships between grade expectations and whether students "anticipate performing as well as expected" on the final exam are more likely a result of experience during the course than an individually based phenomenon.

The results also suggest whether students "anticipate performing as well as expected" on the final exam at the time of the final exam is affected more by their mental states than their activities. Specifically, self-handicapping and anxiety were both found to be significantly (at a 0.05 level) related to students' expectations whereas time spent studying and number of absences in the course were not. Although instructors can expect to have a larger effect on students' activities than on their mental states, they can still affect the level of anxiety experienced by students and their self-handicapping tendencies. Specifically, the literature is full of recommendations that instructors can use to attempt to reduce the anxiety felt by students at the time of an exam. Furthermore, by reducing the level of anxiety perceived by students at the time of the final exam by lowering the perceived threat that it poses for a student's self-esteem, the self-handicapping tendencies of students may also be minimized (Burns 2005).

Finally and surprisingly, no relationships were observed between students' "anticipations of whether they will perform as well as expected" on the final exam at the time of the final exam and their actual performance on the final exam or in the course. These findings suggest that students' performance anticipations may not be of great importance to instructors. If students' anticipations have little relationship to actual exam performances, they would appear not to be issues of great concern.

A possible alternative explanation, however, is that students who do not "anticipate performing as well as expected" on the final exam may actually possess the ability to perform better than those who "anticipate performing as well as expected" on the final exam, but are constrained from doing so. Evidence that suggests this possibility includes the higher anxiety experienced by students who do not "anticipate performing as well as expected" on the final exam experience – a factor which has unequivocally been shown to negatively affect exam performance. Furthermore, the higher levels of self-handicapping they experience may also negatively affect exam performance. Moreover, students who do not "anticipate performing as well as expected" may consequently be less motivated to prepare for the exam. (Although the results suggest no difference in time spent studying, past research shows that the time students spend studying is not related to exam performance but instead, the quality of the studying activity is the important issue. Students who are less motivated to study will likely engage in lower quality studying activity). Although additional research appears warranted, this possibility suggests that instructors may want to place additional attention on reducing the anxiety experienced by students at the times of exams and may also want to pursue avenues to repress the manifestation of students' self-handicapping tendencies.

A second alternative explanation is that not all students strive to obtain top grades, but that some will merely strive to receive a grade of "C" or whatever is the minimum required to pass the course and/or to obtain a degree. Hence, such a student can "anticipate performing to their expectations" even if that includes anticipate performing at a "C" level. As discussed earlier, however, students' predictions of their grades tend to be consistently significantly overly optimistic. Indeed, surprisingly few students express that they expect a "C" grade. Moreover, at least some of the relatively few students who may choose to suffice with a lower grade may do so due to learned helplessness – where students withhold effort since the prospect of success from investing significant effort into academic undertakings is perceived to be minimal. Although learned helplessness has ties to a pessimistic attribution style

(attributing failure to ability) (Burhans and Dweck 1995), the desire to project a positive image to one's self and to others (impression management) can be expected to affect students' anticipations of whether their exam performances will accurately reflect the standards at which they believe they should be performing.

A number of limitations exist which may limit the generalizability of the results. First, to increase the likelihood that students would respond truthfully to the items on the questionnaires, no attempts were made to capture demographic information from the sample. Past research on test anxiety, however, suggests that a gender difference may exist. Second, to control for extraneous variables, only students attending sections of a single course employing an identical lecture/testing/grading style at a single university were included in the sample. The generalizability of the findings to courses in other disciplines, courses employing alternative teaching or testing styles, or to other university settings, therefore, has not been examined. Finally, the general anxiety scale has not yet undergone significant validity testing.

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