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Academic casual attributions and course performance for college students

Lloyd E. Clark

To the Graduate Council:

I am submitting herewith a dissertation written by Lloyd E. Clark entitled "Academic casual attributions and course performance for college students." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Education.

Robert L. Williams, Major Professor

We have read this dissertation and recommend its acceptance:

Accepted for the Council:
Dixie L. Thompson

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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ACADEMIC CAUSAL ATTRIBUTIONS AND COURSE PERFORMANCE FOR COLLEGE STUDENTS

A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Lloyd E. Clark
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Dedication

This dissertation is dedicated to my parents, Bobby and Janie Elliott, and my grandparents, Ken and Dana Higgins and Nathan and Kitty Elliott. Each of these persons aided my studies not only financially but also emotionally. This dissertation is also dedicated to my husband, Rick Clark, and my daughter, Addie Clark, who gave me tremendous encouragement and emotional support. They also exhibited extreme patience and unconditional love through out this entire process.

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Lastly, I would like to thank my family and friends who have provided much encouragement throughout this process.

Abstract

The purpose of the study was to compare student perceptions of the role of the teacher with that of ability, effort, and luck in accounting for student successes and failures. An attribution questionnaire addressing attributional style as it relates to success and failure outcomes in a college course was designed for this study. The College Academic Attribution Scale (CAAS) was designed, because previous attributional scales such as the Multidimensional-Multiattributional Causality Scale and the Attributional Style Questionnaire did not adequately reflect the perceived influence of teacher actions on students' success and failure experiences. The CAAS includes the common attributional areas of effort, ability and luck, but it also addresses the area of teacher input rather than the common area of task difficulty.

The CAAS addresses both positive and negative outcomes related to course performance. The CAAS was administered on the first day of class to a large group of undergraduate students enrolled in an introductory human development course. Students took either a forced-choice or Likert version of the CAAS. The information gathered from the CAAS was used to determine general attributional style as it relates to different aspects of course performance.

The students also responded to a brief rating scale of possible contributors to specific exam performance the day after receiving feedback on each of five unit exams. The brief exam rating scale addressed the attributional areas of effort, ability, and teacher input as they related specifically to performance on the exams.

The participants of the study consisted of undergraduate students enrolled in a human development course at a large state university. A total of 306 students

participated in some phase of the study. The participants consisted of more females than males, with the majority of the students being sophomores and juniors.

The course was offered through the College of Education under the title of Psychoeducational Issues in Human Development. Developmental themes provided the framework for five course units. The five class sessions in each unit followed a standard sequence: session one involved viewing and discussing a videotape; sessions two and three consisted on an instructor overview; session four began with a brief essay quiz and then continued with the instructor overview; and session five included a multiple-choice exam and feedback regarding their score on the essay quiz and the exam.

Results from different dimensions and versions of the CAAS indicated that students perceived personal effort as the primary contributor to academic successes and failures, with teacher input, personal ability, and luck following in order. In contrast, the exam ratings ranked both teacher input and student ability more highly than student effort. The Likert dimensions of the attributional questionnaire correlated more strongly with the performance measures than did the forced-choice dimensions, and all three of the exam rating dimensions (effort, ability, and teacher input) generally correlated with exam performance.

Students' perception of their ability was most strongly linked to exam performance. Students scoring high and low on the exams did not differ significantly on their perceived effort in preparing for the exams, but they consistently differed in their ratings of exam-related ability and teacher input. High performers consistently rated their ability to master course content and the teacher's management of instructional and assessment procedures more highly than did the low-performing students.

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LITERATURE REVIEW

Introduction to Attribution Theory

Attribution theory is a general psychological term used to describe the relationship between certain events and the perceived reasons behind these events (Weiner, 1972). Therefore, attribution theory provides a framework for determining the perceived causes of success and failure (Weiner, 1974). Fritz Heider (1958) and Julian Rotter (1954) are two initial developers of attribution theory. They helped articulate the framework for determining how a person perceives the causation for successful and failure events (Weiner, 1974).

Rotter (1954) developed a one-dimensional explanation for perception of control, which he labeled locus of control. Either events are attributable to internal control, within the person, or to external control, outside of the person (Weiner, 1974). For example, a person who has an internal locus of control would attribute his or her promotion at work to the extra time he or she spent doing work-related activities beyond designated office hours. This person has an internal locus of control about the promotion because he or she believes that the event of receiving a promotion is a consequence of something within his or her control, the extra hours of work. A person with an external locus of control with respect to the same outcome might attribute the promotion to luck. Therefore, the promotion is attributed to an external event outside of the person's control, luck.

Heider (1958), like Rotter, determined that perceived causes of events can be attributed to both personal control as well as environmental control. However, Heider did

not describe a dichotomous variable, such as internal verses external, to clarify the perceived causes of certain events. Rather, Heider identified personal factors, as well as environmental factors, that are embedded in a person's perceived causes of events. These factors include ability, effort, task difficulty, and luck. According to Heider, a person's ability, the amount of effort, the difficulty of the event, and the amount and direction of luck all can be advanced as perceived causes for outcome events.

Bernard Weiner (1972, 1974) is another major contributor to attribution theory. His research has combined the contributions of both Rotter and Heider. Weiner and his colleagues labeled ability and effort as properties internal to the person and task difficulty and luck as factors external to the person (Weiner, 1974). Weiner also labeled ability and task difficulty as stable factors, whereas luck and effort were labeled as unstable. These four causal attributions are used to explain the success or failure of an achievement-related event. A person makes judgments about his or her own ability level, the amount of effort expended for the event, the difficulty of the particular task, and the amount and direction of luck experienced during this task. The person can then attribute the outcome of this task to one of these four factors. Most likely, the person will also attribute future expectations of success and failure to one of these four attributions (Weiner, 1974).

College Students' Causal Attributions for Academic Outcomes

Attribution theory is often used to categorize the causal inferences of college students' regarding academic performance. According to Weiner (1974), motivation for academic achievement largely depends upon the types of causal attributions students make about their academic performance. Weiner further explained that students are likely to reduce their own academic standards if they believe that their classroom failures

are due to lack of ability and their successes are due to luck or other environmental factors, such as difficulty of class assignments.

DeBoer (1983) explained how a student might use faulty attributions, which in turn affect his or her future academic success. He presented the idea of how a student might habitually attribute poor academic performance to bad luck, when it might truly be due to a lack of effort. Therefore, the motivation to improve is undermined because the student has no control over luck. According to Perry and Dickens (1984), a student's perceived control over an event increases when he or she makes attributions that are internal. The notion of perceived control is especially important in the college classroom because college students are expected to take more responsibility for their own academic achievement. A student who attributes his or her successes to the amount of effort spent studying will likely have continued success.

There is a wide body of research suggesting that people tend to make attributions that reflect positively on their own behavior (Rogharr & Vangelisti, 1996). According to the theory presented by Weiner (1974), it can be assumed that most people attribute their successes to internal factors such as ability and effort and their failures to external factors such as task difficulty and luck. This pattern is referred to as the self-serving bias. The self-serving bias is the idea of taking credit for success but denying responsibility for failure (Yan & Gaier, 1994). However, a study by Yan and Gaier (1994) offered the following analysis of the differential weighting of attributional explanations: "Subjects attributed success first to their effort, then to ability, task difficulty, and finally to luck. For achievement failures, lack of effort again was the strongest attribution followed by lack of ability, task difficulty, and then bad luck" (p. 153).

In Weiner's (1974) terms, the self-serving bias is in effect when a person claims success because of his or her own ability but attributes failure to outside factors such as task difficulty or luck. This self-serving bias allows a person to shelter himself or herself from personal responsibility for failure. DeBoer (1983) found that both men and women were more likely to attribute their success to effort and ability, and their failure to difficulty of the task. Another study by Roghaar and Vangelisti (1996) supported this idea of self-serving bias. These researchers found that young adults frequently used a justification response in an "A" situation and made excuses in an "F" situation. Another study (El Hindi, Amelia, & Childers, 1996) suggested that students attributed academic success to note-taking and attending class but did not attribute academic failure to a lack of these activities. This finding supports the notion that students propose internal causes for success (effort) and deny internal causes for failure.

Yan and Gaier (1994) have found considerable cross-cultural consistency in the way college students rate causal contributors to academic successes and failures. American, Chinese, Japanese, Korean, and Southeast-Asian students attributed their successes and failures first to personal effort and then to ability, task difficulty, and luck in that order. However, American students attributed success more often to ability than did Asian students. Tsui (1998) also conducted a cross cultural study among American, Chinese-American, and Taiwanese college students. The results from this study indicated that the Taiwanese students demonstrated significantly higher internal attributions than the Chinese-American students and the American students.

The high ranking of effort across ethnic groups reinforces the common notion that effort attributions, both for success and failure experiences, provide an adaptive

framework for future success. Because students have direct control over personal effort, even a failure experience can alert them to necessary and manageable changes in their effort. Students who deal with failure by acknowledging that they must work harder or differently presumably have a better chance for future success than those who attribute failure to lack of ability, task difficulty, or bad luck. Unfortunately, students may be more inclined to attribute successes than failures to personal actions.

Although some studies (e.g., Platt, 1988; Tominey, 1996) have reported a relationship between causal attributions and academic performance at the college level, a number of variables may moderate that relationship. For example, when instruction is high-quality, causal attributions predict academic achievement less well than when instructional quality is lower (Perry & Magnusson, 1989). Factors that directly affect causal attributions may moderate the relationships of these attributions with performance. Pascarella, Edison, Hagedorn, Nora, and Terezini (1996) identified a number of factors linked to internal attributions (effort and ability) at the end of the first year in college. These factors included both personal factors (such as credit hours taken, hours studied per week, hours worked per week, and participation in intercollegiate athletics) and instructional variables (such as course organization, instructional clarity, and instructor support). The instructional variables proved more predictive of end-of-the-year internal attributions for academic success than did the personal factors. Not addressed in the Pascarella et al. study is whether the instructional or personal variables moderated the relationship between internal attributions and academic performance.

Perceived Instructor Contributors to Academic Outcomes

One area that appears to be lacking in the research on attribution theory is the perceived contributions of the course instructor to students' academic performance. A study by Wyatt and Medway (1984) had undergraduate college students complete a pre- and post-questionnaire prior to and immediately after a unit exam. The questionnaires were intended to measure student attitudes regarding performance on an exam. The students answered seven questions on a 5-point Likert scale. Subjects were asked to rate (1) the ability of the student to answer questions on test material, (2) the difficulty of the test for most class students, (3) the test preparation of the student, (4) their confidence that the student would pass the test, (5) the ability of the proctor to teach test material, (6) the effort of the proctor in helping the student learn the material and (7) the knowledge of the proctor in the area of psychology covered on the test. The results of this study suggest that before and after taking the exam, students weighed the personal characteristics of their exam proctors as more important and viewed their own personal characteristics as less important in determining the outcome of their exam.

Another study by Perry, Schonwetter, Magnusson, and Struthers (1994) elaborated on the importance of the instructor's role in accounting for performance in college courses. This study was conducted with college students in an introductory psychology class. The students evaluated their performance in terms of unmotivated/motivated, discouraged/encouraged, and helpless/confident following feedback on an achievement test. The students also were shown a videotaped lecture coded either high lecturer expressiveness or low expressiveness. Expressiveness was defined as physical movement, voice inflection, eye contact, and humor. The results of

this study indicated that high-expressive instructors appeared to elevate academic achievement in students who use a variety of explanations within an attributional category for success and failure. These results suggest that students need to have a diversity of explanations for success and failure incidents. By flexibly using explanations for success and failure, students were able to make attributions that would aid them in becoming more successful in the future. This study illustrated the interaction between the teacher's style and student flexibility in attributional explanations. Those students who are more flexible in their attributional style were positively influenced by an expressive teacher.

Previously cited studies indicated that having effective teachers, those who are described as expressive and organized, can contribute to being more successful in college courses. However, a study by Perry (1991) indicated that students who have a low internal locus of control were unable to benefit from the effective teacher. The results for low internal control students were the same whether the students had an effective or ineffective teacher. In contrast to Perry's findings, a study by Pascarella, Edison, Hagesdorn, Nora, and Terenzini (1996) found that "students who reported that the overall teaching they received was characterized by high levels of teacher organization and preparation, teacher instructional skill and clarity, and teacher support demonstrated greater movement toward internal attribution for academic success during the first year of college than other students" (p. 750). The latter information could be helpful in increasing academic success among low internal students.

Magnusson and Perry (1989) also found that instructor expressiveness is effective for internal- but not external-locus of control students. Despite this discouraging outcome

for external-locus of control students, this study also found that altering the perceptions of the external-locus of control students through contingent feedback helped the students benefit from the expressive teaching style. An aptitude test conveyed the contingent feedback. On this aptitude test a c (correct) or an x (incorrect) was invisibly printed next to the four response alternatives. By marking over this with a special pen, feedback was immediately visible to the subject. It appears that contingent feedback was the key to helping external-locus of control students benefit from an expressive teacher.

Perry and Dickens (1984) reported that not only did a high-expressive instructor increase achievement for contingent-feedback and no-training students, but also increased their internal locus of control and confidence. This finding also highlights the contribution of effective teaching to performance in college courses. Thus, the perceived contributions of the teacher to student successes and failures need to be included in analyses of college students' causal attributions for academic outcomes.

Academic Causal Attribution Measures

The two major attributional scales, the Multidimensional-Multiattributional Causality Scale (Lefcourt, von Baeyer, Ware, & Cox, 1979) and the Attributional Style Questionnaire (Peterson et al., 1982), have been used to assess causal attributions for academic outcomes at the college level. Despite their popularity, these scales do not adequately represent student perceptions of the instructor's role in accounting for academic successes and failures.

The Multidimensional-Multiattributional Causality Scale (MMCS) (Lefcourt, von Baeyer, Ware And Cox, 1979) is a 24-item Likert type instrument with two scales, one related to achievement and the other to affiliation. It is the achievement scale of the

MMCS that has direct relevance to the current study. This scale has 12 items that concern success and 12 items that concern failure experiences. The 24 items are divided equally across four attributions, 6 stable internal items focusing upon abilities and skills, 6 unstable internal items involving effort and motivation, 6 stable external items focusing upon contextual characteristics, and 6 unstable external items that focus on fortuitous events. Measures of internal consistency for the MMCS have ranged from .58 to .80 for the achievement scale. Internal consistency for achievement internality (ability and effort) has ranged between .50 and .77, whereas achievement externality (context and luck) has ranged between .66 and .88. Corrected Spearman-Brown split-half correlations have ranged from .67 to .76 for the achievement scale. Test-retest correlations for achievement locus of control have ranged between .51 and .62. Research (Lefcourt et al., 1979) shows that the MMCS was able to predict discomfort during an achievement task presented in a way that was assumed to be highly disruptive to persons with internal-control expectancies. A study by Powers and Rossman (1983) researched the reliability and validity of the MMCS with a group of community college students. The findings supported the reliability and factorial validity of the MMCS and indicate that the MMCS could "yield useful information on achievement as a function of locus of control among community college students" (p. 1231).

The Attributional Style Questionnaire (Peterson et al., 1982) is described as a self-report measure of patterns of selecting certain causal explanations for good and bad events. The Attributional Style Questionnaire (ASQ) describes 12 hypothetical events, half of which are good events and half of which are bad events. The subjects are asked to imagine that they are in each situation and write an outcome for that situation. After

writing the outcome, the subjects then rate the response on three seven-point scales (1) whether the outcome was due to something about them or other people or circumstances (Locus), (2) whether this cause will be present again (Stability) and (3) whether the cause influences just this situation or other areas of their life (Globality). The ASQ reports internal consistency in the three scales (Locus, Stability, Globality) as ranging from .44 to .69. Test-restest reliability assessment indicated that ASQ scores are temporally consistent over a period of four to five weeks. The ASQ has produced a range of correlations from .19 ($p < .10$) to .41 ($p < .001$) with criterion scores related to written statements from college students pertaining to the two worst events that happened to them within the last year. These correlations were replicated using a patient population of depressed individuals. The validity of the ASQ was addressed in a study by Higgins, Zumbo, and Hay (1999) in which the ASQ was administered to 1,346 volunteers just prior to entering their freshman year in college. The ASQ was then matched with four models of depressive attributional style revealing that the ASQ provided an adequate fit with a three-factor (locus, stability, globality) attributional style that included context-dependent item sets. The results of this study provided some evidence of validity for the ASQ, but the conclusions from the ASQ are limited by the fact that some participants may never have encountered some of the hypothetical events on the ASQ.

The closest match to an instructor category in these instruments is the context dimension in the achievement portion of the MMCA. However, the context dimension of the MMCA mainly targets teacher standards and does not include such issues as teacher preparation for class, clarity of instructions for course activities, and amount of assistance provided students. Nonetheless, these are the kinds of instructional issues students often

invoke in accounting for their performance. For example, Wyatt and Medway (1984) reported that undergraduate psychology students attributed exam outcome more to proctors who assisted them than to their own actions. Conversely, the proctors viewed this attributional perspective as diminishing the students' chances for success on the exams.

As in most domains of psychometric assessment, the specificity of a measuring instrument likely affects its predictive potential. Generalized measures of causal attributions may predict performance less well than do measures of attributions linked to a particular outcome, such as a grade on a specific exam. For example, Jesse and Gregory (1986-1987) reported that encouraging students to attribute academic performance to effort did not improve their academic performance. In contrast, had students attributed their performance on the final exam to their preparation for the exam, a stronger linkage between effort attributions and exam performance might have emerged. General and specific causal attributions also may differ with respect to the weightings assigned to differ causes. Students may attribute their overall performance in a course primarily to personal effort, but see their grade on a particular exam as resulting more from teacher actions.

Despite their popularity and moderate psychometric development, the MMCA and the ASQ do not adequately assess attributional causation for course performance in an undergraduate class. These scales do not take into account specific outcomes related to performance in a class. These scales also overlook the various roles the instructor can play in affecting students' course performance.

Differences in High- and Low-Performing Students' Academic Causal Attributions

The results of various studies support the attribution theory hypothesis of academic success among college students. A majority of the studies indicate that college students who attribute success to internal factors such as ability and effort are more academically successful than students who do not. A study by DeBoer (1983) reported that positive affective responses to college academic achievement are highly correlated with internal attributions. This finding suggests that students who take responsibility for their successes not only tend to be more successful but to have more positive feelings about academics.

A study conducted by Boutsen and Colbry (1991) suggested that single-parent college students who are academically successful less frequently report that poor study habits or inability to work hard contributed to their GPA. In this particular situation, academic success was related to strong effort and ability. Elliott (1990) found that older female college students had better math achievement when they did not attribute their successes in math to luck. These women were more successful in math because they did not rely on an external, unstable factor such as luck for academic success.

In comparing high (honor students) and low achievers (students on academic probation) in college courses, Park and Kim (1998) found that the high achievers were more likely than low achievers to attribute success to effort and the influence of other people. This study highlighted the differences in the causal attributions of high and low achievers, suggesting that low achievers might have a faulty explanation for successful events. For example, the high achievers were likely to attribute their success to the amount of effort they put forth studying or the quality of help they received from the

instructor, whereas the low achievers were less likely to attribute their failure to lack of effort.

Purpose of Study

Attribution theory provides a framework for determining the causal attributions students assign to academic successes and failures. According to related research, a variety of factors influence attributions in an academic setting. Students are influenced by their peers as well as the instructor in the course. Much of this research has targeted ability, effort, task difficulty, and luck as potential explanations for student successes and failures. Under-represented in the research is the perceived role of the teacher in accounting for student successes and failures.

Attribution theory also provides a framework for investigating causal attribution patterns that would contribute to student success in college courses. Some causal perspectives not only may represent poor fits with reality, those perspectives (e.g., the requirements were too high, the test was unclear) may block actions (e.g., requesting instructor assistance, studying differently) that could help students improve their performance. In other words, some causal perspectives appear to be dead ends in terms of corrective actions, whereas others point to things students can do to improve their performance.

Fundamental gaps in the literature on academic attributions at the college level prompted the following research questions: (a) What weighting do college students assign to personal effort, personal ability, teacher input, and luck as general explanations for success and failure experiences in college courses? (b) How highly do they evaluate effort, ability, and teacher input as potential contributors to specific exam performance?

(c) How are the different causal categories empirically related to one another? (d) Do general attribution measures and ratings of exam contributors differentially predict performance measures in college courses? (e) Do high- and low-performing students explain their course performance differently?

Chapter 2

METHOD

Participants

Students in five sections of a large undergraduate college course in human development participated in various phases of the study ($N = 306$). The sample included more females than males, with a majority of the students being sophomores and juniors. The ratio of females to males was approximately 3:1. Sophomores and juniors made up slightly more than two-thirds of the sample. Students earned a small amount of credit for participating in the research activities, but equivalent credit was available for non-research activities. One hundred percent of the students participated in some phases of the study. To permit subgroup comparisons on attributional dimensions, high performers (students earning an A on selected performance measures) and low performers (students making a D or F on the same performance measures) were identified for the combined sections.

Course Description

The course was offered through the College of Education under the title of Psychoeducational Issues in Human Development. This course was considered a prerequisite for the teacher preparation major in the College of Education. Developmental themes provided the framework for five course units: physical, cognitive, psychological, social, and character development. The five class sessions in each unit followed a standard sequence: session one involved viewing and discussing a videotape related to the unit; sessions two and three consisted of an instructor overview, or lecture, of pivotal issues in the unit; session four began with a brief essay quiz related to selected issues in

the reading materials and then continued with the instructor overview; and session five included the multiple-choice exam and feedback to students regarding their essay quiz and multiple-choice exam performance. Students signed a class roster each day they attended but received no credit for attendance. Close to 100% of the students attended on quiz and exam days.

The reading materials for the course consisted of a custom-designed text, *Developmental Issues in Teaching* (Rothstein, 1997), and a set of journal articles compiled by the instructional supervisor. In addition, students obtained a detailed study guide (100+ pages) that included questions over the readings, the videotapes, and the instructor overviews. Questions in the study guide followed the same sequence of issues as addressed in the readings, videotapes, and instructor overviews.

Course-Performance Measures

The study targeted five course-performance measures: essay quiz scores, unit exam scores, final exam scores, project scores, and total credit (which subsumed all of the other measures). Typically, graduate teaching assistants (GTAs) gave students performance feedback either the same day as an activity (multiple-choice exams) or the day following the activity (essay quizzes).

Essay quizzes. At the beginning of the next-to-last class session in each unit, students provided written answers to one of two instructor-selected questions from the readings section of the study guide. Students could take up to 5 minutes to respond to the question they chose. Graduate teaching assistants rated student responses on a 0 to 5 basis: 0 = *no answer or totally inaccurate answer* and 5 = *complete and accurate answer.* Inter-rater reliabilities for multiple raters of quizzes across different sections of the course

have consistently been above .9. Credit for the quizzes amounted to approximately 6% of the course credit.

Multiple-choice exams. Students took a 40-item multiple-choice exam with four possible choices per item at the end of each unit. A 75-item multiple-choice final exam covering issues from all five units concluded the course. The combined scores on the unit and final exams approximated 70% of the course credit. The instructional supervisor initially developed all the exam items, which GTAs later took and edited for clarity of wording. A majority of the items, as determined by the instructional team, required higher order reasoning involving synthesis of course information and evaluation of possible conclusions from that information.

Course project. Each student chose a project topic from a master list of 50 research questions. Students collected information regarding their question mainly from professional journals and used explicit instructor guidelines in preparing their projects. The project was described as a written research paper concerning the chosen topic. The most heavily weighted guidelines included supportive evidence for the project's conclusion, documentation of sources, quality of sources, and variety of sources. Scores could range from 0 to 50 points, representing about 13% of the possible course credit. Inter-rater agreements for GTA ratings of the projects in past semesters have typically been above .8.

Attributional Measures

Two formats for the College Academic Attribution Scale (CAAS) were developed for this study: forced-choice and Likert. Students in each section of the course took one of the two formats at the beginning of the course. This instrument describes 15 positive-

negative pairs of academic outcomes (e.g., I make a high grade on an essay test, I make a low grade on an essay test), with each member of a pair randomly placed within the scale. The outcomes related to a variety of student products (e.g., essay tests, multiple-choice tests, course projects, homework, group assignments) and student classroom events (e.g., class presentation, explanation of a concept, answer to a teacher question, summary of the day's discussion).

Each item first identified an outcome (e.g., I get a poor grade on a course project) and then posed four possible explanations for that outcome. One explanation represented student effort (I didn't work hard on the project), a second targeted student ability (I am poor at doing projects), a third specified teacher input (the project instructions were unclear), and a fourth underscored chance or luck (I was unlucky). For the forced-choice format, students ranked the explanations for each outcome from 1 to 4, with 1 representing the highest ranking and 4 the lowest (see Appendix A for a copy of the forced-choice format). Cronbach's alphas for the four attributional scales on the forced-choice format were .85 for effort, .68 for ability, .75 for teacher input, and .88 for chance. Because the average covariance for the combined items on the forced-choice CAAS proved negative, internal consistency could not be computed for the total scale.

For the Likert format, students rated how frequently (seldom, sometimes, often) each explanation applied to a particular outcome. Scoring for the Likert scale was on a 1 (seldom) to 3 (often) basis (see Appendix B for a copy of the Likert instrument). In contrast to the scoring procedure for the forced-choice format where low scores for a causal category represented a high ranking for that category, high scores on a Likert category represented a high rating for that causal category. Stated differently, low scores

on the forced-choice format corresponded to high scores on the Likert format. For both formats, students obtained separate positive and negative scores for effort, ability, teacher, and luck scores. Cronbach's alphas for the four attributional dimensions of the Likert format were .88 for effort, .64 for ability, .80 for teacher input, and .91 for luck. The composite internal consistency for the Likert scale was .88.

Following feedback regarding their scores on each unit exam (occurring the day of the exam) and teacher explanation of the four most missed items (occurring the class session following the exam), students rated factors that might have affected their exam performance. The 15-item rating scale included three dimensions: (a) student effort (e.g., amount of time I spent studying for the exam, my level of reading in this unit, my level of class attendance in this unit), (b) student ability (my ability to take this type of exam, my ability to master the type of subject matter addressed in this unit), and (c) teacher input (e.g., level of clarity in instructor presentations in this unit, degree of match between instructor presentations and exam content, clarity of wording on the exam). Six items reflected student effort, two student ability, and six teacher input (see Appendix C for a copy of this instrument and the scoring form). One item (match between what I studied and content of the exam) that potentially overlapped categories constituted a separate variable in the database.

Although included on the CAAS, the dimension of luck was not addressed on the exam-rating scale. The dimension of luck was not included on the latter scale because it would have resulted in limited items (perhaps one for lucky and one for unlucky). Also the exam-rating scale measured the concepts of student effort, student ability and teacher input in terms of magnitude, such as how much time I spent studying for the exam. The

dimension of luck would have been more difficult to represent in terms of magnitude than the existing exam-rating dimensions.

Each potential contributor to exam performance was rated on a 1 to 3 basis: 1 = low, 2 = medium, and 3 = high. For example, a 1 rating for exam clarity meant that the student regarded the exam as quite unclear, whereas a 3 rating indicated that the student perceived the exam as highly clear. Table 1 presents the Cronbach's alphas across unit exams for the three rating dimensions and composite scale items. Although most of these measures were low to marginal, they were consistently higher for ability and teacher input rating than for personal effort.

Table 1

Cronbach's Alphas for Exam-Rating Dimensions Across Unit Exams

	Unit exams					
Rating dimensions	Exam A	Exam B	Exam C	Exam D	Exam E	Average
Effort	.37	.43	.47	.43	.39	.39
Ability	.50	.61	.65	.67	.63	.61
Teacher input	.64	.48	.69	.66	.75	.64
Composite	.56	.52	.66	.63	.48	.57

Note. The *n*s for the various exam ratings were 272 for Unit A, 243 for Unit B, 248 for Unit C, 245 for Unit D, and 249 for Unit E.

Chapter 3

RESULTS

This chapter presents findings in the following sequence: (a) ranking of generalized causal attributions for academic outcomes, (b) ratings of potential contributors to specific exam performance, (c) relationships of generalized attributions and specific exam ratings to course performance measures, (d) distinctions between attributional and exam rating patterns of high- and low-performing students. Data analysis included descriptive statistics, correlations, stepwise regression, *t* tests, and mixed designs.

Attributional Rankings of Total Sample

The rank order of attributional categories for the two general attributional questionnaires was assessed to determine if the different response formats (forced choice and Likert) yielded different rank-order results. The first step was to compute the means for all attributional categories (effort, teacher, ability, luck) on the forced choice and Likert attributional questionnaire. The means were determined for both positively and negatively worded items. The means were then placed in ascending or descending rank-order. The means were put in descending order for the forced choice format (higher numbers represented lower ranks) and ascending order for the Likert format (higher numbers represented higher ranks).

Table 2 indicates that both the positive and negative items within the forced choice and Likert versions of the CAAS yielded the following rank order for the attributions: (1) effort, (2) teacher, (3) ability, and (4) luck. A repeated measures design with Bonferroni pairwise comparisons was used to compare the means of the causal

Table 2

Means and Rankings for CAAS Attributional Dimensions

	Means and rankings for attributional categories			
Scale	Effort	Ability	Teacher	Luck
CAASFCP[a]	21.63 (1)[e]	40.33 (3)	32.95 (2)	54.91 (4)
CAASFCN[b]	23.04 (1)	38.38 (3) =	37.93 (2)	50.26 (4)
CAASLIKP[c]	39.96 (1)	34.25 (3)	37.62 (2)	24.32 (4)
CAASLIKN[d]	29.29 (1)	24.66 (3)	26.69 (2)	21.28 (4)

Note. Lower scores on the forced-choice version of the CAAS represent higher rankings, whereas higher scores on the Likert represent higher rankings. Except for the difference between the ability and teacher means for the CAASFCN, all differences proved significant at the .005 level. The *n* for the forced-choice scales was 184 and the *n* for the Likert scales was 98.

[a]CAASFCP = College Academic Attribution Scale forced choice positive. [b]CAASFCN = College Academic Attribution Scale forced choice negative. [c]CAASLIKP = College Academic Attribution Scale Likert positive. [d]CAASLIKN = College Academic Attribution Scale Likert negative. [e]Numbers in parentheses represent the rankings of means for the various attributional categories.

categories to determine whether significant differences emerged between the four attributional dimensions (effort, teacher, luck, and ability). Effort ranked significantly higher ($p < .005$) than the other dimensions, whereas luck ranked significantly lower on both CAAS formats. Although the teacher means consistently ranked higher than the ability means, the difference between these two categories on the forced-choice negative items proved nonsignificant.

The means on the positive and negative questions also were compared. Matched pairs t-tests showed that students generally assigned stronger attributional ratings for positive than negative outcomes ($p < .001$) on the Likert Scales. However, no significant differences between responses to the positive and negative items were found for the forced-choice scale.

The results for the CAAS suggest that when given a range of successful and unsuccessful events related to performance in college courses, students tend to attribute these events more to effort than any other causal category. This is true for both positive events, such as making a high grade on an essay test, and negative events, such as getting a poor grade on a course project. Students were least likely to attribute academic events to luck. This finding suggests that students tend to have an internal attributional style, which research has shown to be favorable to achieving positive outcomes.

Exam-Contributor Ratings for Total Sample

The categories for the exam ratings related to student effort, student ability, and teacher input. Overall, ratings evidenced a high degree of consistency across exams. Table 3 shows that correlations between individual exam ratings and composite exam ratings remained high for each rating dimension across all exams. For example, the effort

Table 3

Correlations Between Individual Exam Ratings and Composite Exam Ratings for Each Rating Dimension (n = 167)

	Correlations between individual and composite exam ratings				
Rating dimension	Exam A	Exam B	Exam C	Exam D	Exam E
Effort	.70	.69	.70	.74	.75
Ability	.67	.80	.80	.84	.81
Teacher	.60	.74	.76	.72	.73

Note. All correlations were significant at the .001 level.

category had a correlation range from .69 to .75 across all five exams. For the ability category, the correlations ranged from .67 to .84. For the teacher category, the correlations ranged from .60 to .76. Thus, the exam-rating totals for each explanatory category (student effort, student ability and teacher input) was significantly correlated with the companion ratings for each of the 5 exams.

Table 4 indicates considerable consistency in the differences between the ratings categories across exams, with teacher input rated most highly, student ability second, and personal effort last. These factors (teacher input, student ability, and student effort) were assessed in terms of how much each factor was perceived as contributing to the student's performance on the exams. The average exam ratings on a 1 to 3 scale were 2.09 for student effort, 2.35 for student ability, and 2.38 for teacher-input. These mean ratings indicated that the students perceived the teacher's input as the greatest contributor to their

Table 4

Mean Exam Ratings Per Dimension and Exam

	Mean exam ratings					
Rating dimension	Exam A	Exam B	Exam C	Exam D	Exam E	Combined
Effort	2.09(.26)	2.04(.29)	2.05(.29)	2.07(.28)	2.01(.34)	2.09(.19)
Ability	2.41(.48)	2.33(.54)	2.32(.52)	2.31(.54)	2.22(.55)	2.35(.41)
Teacher	2.44(.34)	2.35(.40)	2.37(.37)	2.33(.38)	2.21(.41)	2.38(.27)

Note. The number of students who rated contributors to each exam varied across exams: A = 273, B= 245, C = 250, D = 244, E = 254, and Combined = 167. Standard deviations are in parentheses.

performance on the exam, with student ability and student effort following in order. However, the average teacher-input and student-ability ratings did not differ significantly, although both were significantly ($p < .001$) higher than the student-effort ratings. Thus, on the average, students assigned a medium rating to their effort and medium to high ratings to their ability and teacher input as potential contributors to exam performance.

Relationships Between Explanatory Categories

The relationships between positive and negative scores for each of the attributional categories on the CAAS were first determined and then the relationships across attributional categories within the positive and negative items were determined. The two scales of the forced-choice version of the CAAS that manifested the strongest correlations between the positive and negative scores for the same attributional category were effort ($r = .48, p < .001$) and luck ($r = .59, p < .001$). In addition, positive/negative items correlated -.14 (ns) for ability and .22 ($p < .001$) for teacher input. The only significant positive/negative correlations for the Likert scale were obtained for ability ($r = -.33, p < .001$) and luck ($r = .75, p < .001$). The positive/negative correlations for effort ($r = .13$) and teacher input ($r = .08$) on the Likert scale were negligible. Thus, across the two response formats, luck was rated most similarly for positive and negative outcomes.

Correlational analysis across attributional categories for the positive and negative items on the forced-choice CAAS produced several significant correlations (see Table 5). However, the strongest correlations across attributional categories for both the positive and negative items were between effort and luck. The positive effort ratings were highly correlated with the luck measure ($r = -.73, p < .001$) and also correlated with the

Table 5

Relationships Between CAAS Forced-Choice Scales

Scales	Ability	Teacher	Luck
Positive measures			
Effort	-.18*	.02	-.73**
Ability		-.51**	-.15
Teacher			-.34**
Negative measures			
Effort	-.16*	-.22**	-.57**
Ability		-.29**	-.11
Teacher			-.11

Note. Because high rankings on one scale forced lower rankings on other scales, the correlations between scales tended to be negative.

*$p < .01$. **$p < .001$.

ability measure (r = -.18, p < .01). The negative effort ratings were most strongly correlated with luck (r = -.57, p < .001), and also correlated with teacher input (r = -.22, p < .001) and ability (r = -.16, p < .01). The Likert positive scales produced significant correlations between effort and the remaining attributional categories (see Table 6). On the positive measures of the Likert version, effort was significantly correlated with ability (r = .40, p < .001) and teacher input (r = .37, p < .001). For negative outcomes on the Likert version, both ability and teacher input significantly (p <.001) correlated with luck. Ability and teacher input also significantly correlated with each other (r = .37). For the positive measures on the Likert version, effort was significantly correlated with each scale (ability, teacher, and luck). On the negative measures of the Likert version, ability and teacher were significantly correlated with teacher and luck.

For the exam rating categories, Table 7 indicates that only the correlation between ability and teacher input proved significant (r = .43, p < .001). This linkage between ability and teacher input ratings also was evident on the CAAS. As previously noted, ability and teacher input were significantly correlated for both positive and negative items of the two CAAS versions. On both the positive and negative items of the CAAS Likert version, ability significantly correlated with teacher input (r = .27, p < .001). Ability also was significantly correlated with teacher input for both the positive (r = -.51, p < .001) and the negative measures (r = -.29, p < .001) of the CAAS forced-choice version. Thus, ability and teacher input were significantly correlated across all attributional scales designed for this course.

Table 6

Relationship Between CAAS Likert Scales

Scales	Ability	Teacher	Luck
Positive measures			
Effort	.40**	.37**	-.36**
Ability		.27**	.01
Teacher			-.15
Negative measures			
Effort	.05	.08	-.14
Ability		.27**	.38**
Teacher			.33**

Note. Because the Likert format permitted equivalent ratings across attributional categories, students scoring high on one attributional category could score equally high on the other attributional categories.

*$p < .01$. **$p < .001$.

Table 7

Relationships Between Exam Rating Categories

Scales	Ability	Teacher
Effort	.15	.15
Ability		.43**

**$p < .001$.

Relationship Between Attributional Categories and Performance Measures

The two versions of the CAAS did not produce strong and consistent relationships with the performance measures. All attributional scores for both the positive and negativeitems of the forced-choice CAAS negligibly correlated with performance measures (r = -.17 to .16, see Table 8). In contrast, the positive dimensions on the Likert version of the CAAS correlated significantly with several performance measures (see Table 9). For example, both effort and luck correlated significantly with four of five performance measures ($p < .01$). All four of the positive Likert scales significantly correlated with composite exam scores ($p < .01$). Although most of the attributional dimensions for the negative Likert items minimally correlated with performance measures, ability explanations significantly and negatively correlated ($p < .01$) with both exam scores and total course credit. Thus, the more students attributed failure to lack of ability, the poorer their course performance. Though several Likert scales correlated significantly with performance measures, most of these correlations (ranging from -.32 to

Table 8

Correlations Between CAAS Forced-Choice Measures and Performance Outcomes (n = 184)

	Performance outcomes				
	Quizzes	Project	Unit exams	Final exam	Total
Positive Scales					
Effort	-.09	-.01	-.06	-.11	-.08
Ability	.16*	-.06	-.08	-.06	-.10
Teacher	.09	.01	-.03	.01	.00
Luck	.07	.03	.12	.12	.11
Negative Scales					
Effort	-.03	-.02	-.03	-.05	-.04
Ability	.08	.07	-.10	.14	.12
Teacher	-.08	-.11	-.16*	-.16*	-17*
Luck	-.03	-.02	.03	.03	.01

Note. Negative correlations indicate that the higher the ranking score on a particular rating dimension, the higher the performance score associated with that rating level.

*$p < .01$.

Table 9

Correlations Between CAAS Likert Measures and Performance Outcomes (n = 98)

	Performance outcomes				
	Quizzes	Project	Unit exams	Final exam	Total
Positive scales					
Effort	.10	.24*	.37**	.26*	.34*
Ability	.02	.06	.20*	.20*	.19
Teacher	.05	.40*	.09	.23*	.19
Luck	-.05	-.21*	-.32*	-.24*	-.29*
Negative scales					
Effort	-.20*	.03	.03	-.06	-.02
Ability	.02	-.12	-.24*	-.19	-.21*
Teacher	.06	.13	.07	.12	.11
Luck	.09	-.01	-.08	.01	-.03

*$p < .01$. **$p < .001$.

.40) would be considered weak according to Cohen and Holliday (1982).

Exam ratings consistently and significantly correlated with unit exam performance (see Table 10). Application of Cohen and Holliday's standards would place most of these correlations in the weak to moderate range, with the correlations ranging from .14 to .43. The correlations involving effort evaluations proved weaker than those involving ability or teacher-input evaluations. Furthermore, the correlations between ability ratings and exam performance tended to be somewhat higher than the correlations between teacher input ratings and exam performance. The correlations between composite exam ratings and composite unit exam scores were .14 (*n*s) for effort, .41 ($p <$ .001) for ability, and .34 for teacher ($p < .001$).

As mentioned earlier, one exam rating item ("match between what I studied and content of the exam") was not included in the exam rating scales because of possible

Table 10

Correlations Between Exam Ratings and Exam Performance

	Unit exam scores				
Rating scales	Exam A	Exam B	Exam C	Exam D	Exam E
Effort	.07	.26**	.25**	.14*	.24**
Ability	.37**	.39**	.36**	.31**	.43**
Teacher	.29**	.43**	.30**	.34**	.26**

Note. The *n*s for the unit exam correlations were the following: A = 273, B = 245, C = 250, D = 244, E = 254.

*$p < .01$. **$p < .001$.

overlap of categories. The degree of match-mismatch could be a function of either student or teacher action. However, because this item represents a potentially important link to exam performance, the item was scored and analyzed as a separate variable. Its correlation with composite unit exam scores proved surprisingly strong ($r = .48$, $p < .001$). The correlation between this item and the exam-rating totals painted a revealing picture of how students saw the responsibility for the match between what they studied and the content of the exams. The correlations between this item score and the exam rating dimensions were .14 for effort (ns), .44 for ability ($p < .001$), and .66 for teacher input ($p < .001$). Although this correlational pattern implicates student judgment in the match between what one studied and the content of the exam, the pattern more strongly points to teacher judgment as responsible for the match or mismatch.

Stepwise regression analyses further clarified the relationships between student ratings and course performance. All of the CAAS combinations (i.e., forced-choice positive, forced-choice negative, Likert positive, Likert negative) negligibly predicted total course performance. On the other hand, exam ratings dimensions moderately predicted exam performance. Ability ratings emerged as the primary predictor of exam scores, accounting for 17% of the variance. The addition of teacher input ratings brought the explained variance up to 20%. Both levels of prediction proved significant at the .001 level.

Explanatory Scores for High- and Low-Performing Students

A repeated measures mixed design and a series of independent samples *t* tests showed that high and low performers on total course credit did not differ on any attributional dimension for any version of the CAAS (see Table 11). The order of ranking

Table 11

CAAS Means for High and Low Performers on Total Course Credit

	Forced-choice positive means			
	Effort	Ability	Teacher	Luck
High performers (n = 20)	22.20	40.45	31.05	55.50
Low performers (n = 30)	22.67	41.60	31.93	53.73
	Forced-choice negative means			
High performers (n = 20)	20.80	39.55	36.35	49.55
Low performers (n = 30)	23.57	38.70	38.90	49.73
	Likert positive means			
High performers (n = 18)	41.17	35.67	37.44	22.56
Low performers (n = 17)	38.18	34.47	37.06	26.88
	Likert negative means			
High performers (n = 18)	26.17	22.83	28.78	21.33
Low performers (n = 17)	30.06	26.12	26.35	21.71

Note. High performers earned an A (90% or above) on total course credit, whereas low performers made a D or F (69% or below) on total course credit. Neither a repeated measures mixed design nor a series of independent samples t tests produced significant (p <.05) differences for any of the performance group comparisons.

for the four causal dimensions was the same for both groups on both versions of the CAAS. Consistent with the pattern for the total sample, both performance groups rated effort highest and luck lowest. The combined performance groups' assigned equivalent ratings for ability and teacher input, with these attributions differing significantly only for the forced-choice positive items.

Table 12 shows that the exam ratings for high and low performers on the exams differed significantly for most exams and explanatory categories, based on independent samples *t* tests. However, comparisons of composite explanatory means yielded no difference between the high and low performers on perceived effort (ns) but significant differences on both perceived ability ($p < .001$) and teacher input ($p < .01$). High and low performers' means on the explanatory categories were the following: effort (high mean = 2.12 and low mean = 2.08), ability (high mean = 2.59 and low mean = 2.15), and teacher input (high mean = 2.51 and low mean = 2.30). Exam group comparisons also indicated that high-performing students rated the match between what they studied and the content of the exam significantly higher ($p < .001$) than did low-performing students, with their mean ratings on this item being 2.66 and 2.15 respectively.

Table 12

Exam Rating Means for High and Low Performers on Unit Exams

Performance level	Exam A	Exam B	Exam C	Exam D	Exam E
	Mean effort ratings per exam				
High performers	2.08 (107)[a]	2.12 (84)	2.12 (90)	2.13 (77)	2.11(70)
Low performers	2.02 (41)	1.92 (46)	1.99 (38)	2.07 (39)	1.90(76)
	Mean ability ratings per exam				
High performers	2.57 (107)	2.59 (84)	2.53 (90)	2.49 (77)	2.49(70)
Low performers	2.10 (41)	2.01 (46)	2.05 (38)	2.14 (39)	1.94(76)
	Mean teacher ratings per exam				
High performers	2.56 (107)	2.55 (84)	2.51 (90)	2.51 (77)	2.40(70)
Low performers	2.28 (41)	2.06 (46)	2.22 (38)	2.18 (39)	2.12(74)

Note. Independent samples *t* tests for the high-low comparisons in the various cells of the table showed that all comparisons except the effort dimension for exams A and D yielded significant differences (most at .001 level).

[a]Numbers in parentheses following means represent *n*s for the various cells in the table.

Chapter 4

DISCUSSION

Overall, students perceived their own effort as the principal explanation for a cross-section of hypothetical positive and negative course outcomes. Not surprisingly, they were least likely to attribute outcomes to luck. Personal effort, teacher input, and student ability all clearly ranked ahead of luck as an explanation for both positive and negative academic outcomes. For exam ratings, both perceived teacher input and student ability were rated more highly as explanations for student performance than was student effort.

Major Conclusions

Although the rankings across the attributional scales were the same, the Likert scale revealed stronger attributional ratings for positive than negative outcomes. Thus, students appeared to have stronger convictions about what accounts for positive than negative events. This might be the case because students are less likely to acknowledge the possibility of failure outcomes. Perhaps, students can more easily imagine a successful outcome than an unsuccessful one. This might be the reason that stronger ratings were found for the positive than negative outcomes on the Likert version of the CAAS.

The two highest ranking attributions, student effort and teacher input, probably represent the most tangible explanations for academic outcomes. Realistically, both are likely to affect academic outcomes and both are modifiable. Students have direct control over their effort and perhaps some indirect control over teacher input. Examining the

extent and nature of one's efforts after a negative outcome seems especially adaptive. A good first question following a poor result is "What can I do differently to achieve better results next time?" In addition, if the student believes that the teacher's instructional and assessment procedures contributed to the poor result, complaining to the teacher may influence the teacher's instructional style and assessment procedures. Thus, seeing personal effort and teacher input as major contributors to academic performance seems to be a realistic and adaptive approach for dealing with classroom successes and failures. Nonetheless, some teachers afford students minimal control over events in their courses. Thus, to improve performance students may have to acquiesce to teacher demands.

Although the positive and negative portions of the two CAAS versions yielded equivalent rankings for the attributional categories, the positive and negative outcomes within scales were not consistently correlated. The strongest and most consistent positive/negative correlations were for the luck category. In addition, the positive/negative correlations were significant for effort and teacher input on the forced-choice version and ability on the Likert version. A particularly unusual relationship was the significant negative correlation between the positive and negative scores on the Likert ability scale. Apparently, students see a different role for ability in accounting for success and failure experiences.

Correlations among the attributional scales showed that effort and luck tended to be most consistently linked, being significantly and negatively correlated for the positive and negative forced-choice responses and the positive Likert responses. For the forced-choice negative items and the Likert positive items, effort was significantly correlated with all of the other attributional categories. A relationship that proved consistently

significant across the positive and negative items of both CAAS versions and the exam rating scales was the correlation between ability and teacher input. That linkage perhaps could be explained in two ways: (a) students perceived both ability and teacher input as outside of their personal control; (b) students who rated their ability highest were most perceptive of teacher contributions to the course.

Both formats (forced choice and Likert) of the general attributional measure, the CAAS, yielded adequate internal consistency for most of the attributional scales and similar rankings of the attributional categories; however, the Likert format showed greater potential for predicting course-performance measures. The forced-choice format produced virtually no significant relationships with outcome variables, but the Likert positive scales (especially effort and luck) correlated significantly with most performance measures. Allowing students to rate each explanation independently for each outcome may provide more accurate ratings than forcing a choice between explanations. The Likert scale permitted students to give equivalent ratings to explanations that seemed equally plausible to them. Although the author had feared that the Likert scale would blur the distinctions between student responses to causal explanations, the greater freedom in the response format led to better prediction of performance outcomes.

Ratings of potential contributors to exam performance yielded a causal pattern quite different from that obtained for the more general attributional scale. The exam ratings showed that students perceived teacher input and their own ability more important than their own effort in preparing for exams. This pattern is quite different from student input frequently heard following poor test performance. When students expressed concern about a low test grade, they often asserted that they studied hard and did

everything the instructor asked in preparing for the exam. Their more frequent explanation for poor performance is that the test was unclear and unrepresentative of the course content. Thus, it was refreshing to learn that students in general rated the instructor's contribution to their test preparation more highly than their own effort.

Exam ratings also evidenced stronger relationships with performance measures than did the CAAS attributional dimensions. Nonetheless, the three exam ratings dimensions did not yield equivalent correlations with exam performance. For all exams, effort ratings correlated less strongly with exam performance than did ability and teacher ratings. For the latter variables, student-ability ratings tended to be correlated more strongly with exam scores than did teacher-input ratings. Thus, how students evaluated their own actions proved less predictive of exam performance than how they regarded their ability and teacher input, dimensions that would be less controllable by the student.

The linkage of attributional and exam ratings to course performance was expected to be most definitive in the comparisons of high and low performers. Thus, the general attributional scores on the CAAS were compared for students who earned an A on total course credit and those who earned a D or F. Although the raw scores attributional means generally conformed to expected distinctions between high and low performers, none of these differences proved statistically significant. Thus, high and low performers on total course credit did not differ in their general explanations of academic outcomes.

In contrast, high and low performers on the unit exams differed significantly on their exam ratings of personal ability and teacher input. High performers manifested greater self-efficacy with respect to their ability to master the course content and do well

on multiple-choice exams. They also perceived the teacher as more effective in managing instructional and assessment procedures related to the unit exam. Thus, the high performers appeared to have greater confidence in their ability to do well on the exams and a higher regard for the teacher's contribution to their exam preparation than did the low performers. Although not perceiving themselves as working harder in preparing for the exams, high performers may have been more efficient than the low performers in capitalizing on teacher input in their exam preparation.

Limitations of the Study

Several features of the study limit the generalizability of the findings. For example, all the rating scales were developed specifically for the current study and consequently were not highly developed psychometrically. This was the first time both the CAAS Forced-Choice and Likert, as well as the exam rating scale, were administered. Beyond the internal consistency coefficients and the relationships between the rating dimensions and the performance measures in this study, no additional psychometric information (e.g., test-retest reliability, factor structure) is currently available for these instruments. The internal consistency of the ability scale proved marginal for both versions of the CAAS instrument, suggesting a more specific self-efficacy than a generic self-concept perspective of one's ability to effect particular outcomes. The matching of some positive-negative pairs on the CAAS also needs to be more precise, for example, "fortunate" versus "unlucky" in items 1 and 21 needs to be changed to lucky versus unlucky. The brevity of the exam-rating form and its low internal consistency make it particularly vulnerable to psychometric challenges. Although all the items that make up the exam-rating scales are important, they may not elicit consistent responses across

items because of the inherent diversity of targets represented in the items (e.g., clarity of instructor presentations versus clarity of exam wording). Whatever the psychometric limitations of our instruments, their development was necessitated by the absence of well-established psychometric instruments that included a broadly based instructor category.

Although the exam-rating dimensions yielded stronger relationships with performance measures than did the more general attribution scales, the former relationships might have been even stronger had students done the exam ratings immediately after receiving personal feedback on their exam performance. Students did these ratings near the beginning of the class session following the exam, after the instructor discussed the four most missed items on the exam. One problem with this arrangement was that low-performing students were less inclined than high-performing to be present on that day, thus reducing the rating *n* and possibly the rating distinctions between high and low performers. Also, some of the passion regarding one's exam score may have dissipated by the next class period, possibly affecting the nature of the student's ratings.

Perhaps the most pervasive limitation of the study relates to the magnitude of the various findings. A number of expected relationships proved non-significant, and even the significant relationships often were in the weak to moderate range. One expected relationship that proved nonsignificant was the difference between high and low performers on the CAAS. It was expected that there would be a difference between attributional style among high- and low-performers, with high-performers exhibiting a more internal attributional style; however, this was not the case. Overall, the findings

temper claims regarding the strength of the linkage between causal attribution and academic performance. Although the exam ratings were linked to exam performance, even these relationships left considerable variance unexplained.

In accounting for a particular course outcome (such as performance on an exam), college students regard their ability and teacher input more favorably than their own effort. High- and low-performing students are especially distinguishable in their ratings of ability and teacher input. However, linkages between these ratings and achievement may be less substantial than relationships of actual student actions (e.g., class attendance, notetaking) and student ability (e.g., ACT scores, critical thinking) to performance.

Perceived teacher input emerged as an important correlate of academic outcomes, particularly for recently occurring specific outcomes. Although low performers did not rate teacher input as highly as did the high performers, both performance groups rated teacher input more highly than their own effort. This finding is clearly counter to the informal input typically received from students who do poorly on exams in the target course. The official nature of the rating scale may have created a social desirability effect not usually apparent when students informally complain about exams. Hallway conversations between students who do poorly on exams might reveal a different picture than that portrayed by the official ratings.

Also, the conclusions based on the teacher input variable are limited by the fact that there were no objective measures of teacher input. The teacher-input variable was based strictly on the students' perception of the teacher's input. Observation of the teacher's presentations and examination of all course materials (e.g., exams, syllabi) by

supervisory experts might produce a different assessment of teacher input than that derived from student ratings. Thus, more direct methods of assessing teacher input by academic experts might provide more valid indication of needed improvement in instructional strategies than would student ratings.

Another area not addressed in this study was the difference between female and male students. Gender differences has been a common area researched in relationship to attributional style. However, gender differences were not focal issues in the current study.

Practical Applications

One of the major purposes of determining the role of attribution theory in predicting academic success is to provide a framework for helping college students perform at a higher level. Better academic performance may necessitate some adjustments in students' causal analyses, pointing to the need for attributional retraining. According to Perry and Penner (1990), attributional retraining can help at-risk students have a more internal locus of control. They conducted a study that attempted to teach external-locus students to learn more during lectures and use study materials more efficiently. The results of Perry and Penner's study supported the effectiveness of attributional training. For at least one week after lecture and homework assignments were given, the attributional training appeared to facilitate retention of information and better performance. Furthermore, the attributional training appeared to give the external locus of control students more self-motivation.

A study by Perry, Hechter, Menec, and Weinberg (1993) also suggested the importance of attributional retraining in the college classroom. They suggested that college professors facilitate more internal locus of control within their students and

provided examples of how professors might do this. For example, when a student makes such statements as "I'm not smart enough to pass," the professor could respond with such statements as "You do have the ability, or otherwise you would not be here." Wilson and Linville (1982; 1985) found that briefly exposing college freshman to the idea that academic problems during their freshman year were temporary and unstable appeared to help improve grade point average and reduce college attrition. These findings were replicated by a study conducted by Jesse and Gregory (1986-1987). Encouraging statements from the professor (such as "attending every class, asking questions about what you don't understand, and taking detailed notes over instructor comments are strategies that often help students achieve better grades") could help students reassess their faulty attributions.

Menec, Perry, Struthers, and Schonwetter (1994) found that providing attributional retraining to college students was successful in producing a more internal profile for those with an external locus and increased expectations for future success in both internal-locus and external-locus students. However, these findings were true only when effective instruction was received.

The results of the current study suggest that low-performing students could benefit from attributional retraining. The low performers in this study perceived themselves as benefiting less from the instructors' input than did the high performers. Perhaps, the low-performing students could benefit from gaining more self-confidence in approaching the instructor and asking for clarification from the instructor. Also, attributional retraining can emphasize the importance of amount and type of effort in accounting for performance on an academic event.

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LIST OF APPENDICES

Appendix A

College Academic Attribution Scale (CAAS): Forced-Choice Format

Instructions: Although doing well in college is important to most students, many students have a range of successful and unsuccessful experiences. This scale describes a variety of both kinds of experiences. For each experience, a range of possible explanations are presented. Even though you may not have had some of these experiences, imagine that each experience does occur. Then rank the explanations from 1 to 4 (most likely to least likely) for each experience. Put your ranking of each explanation in the parentheses to the right of that explanation for that item. Before you begin, put your four-digit ID number in the designated space at the top of this page.

			Rank
1.	I make a high grade on an essay test.		
	a.	I studied hard for the test.	( )
	b.	The teacher prepared me well for the test	( )
	c.	I was fortunate to make a high grade.	( )
	d.	I am good at taking essay tests.	( )
2.	I get a poor grade on a course project.		
	a.	The project instructions were unclear.	( )
	b.	I didn't work hard on the project.	( )
	c.	I am poor at doing projects.	( )
	d.	I was unlucky.	( )

Rank

3. The teacher compliments my explanation of a concept discussed in class.

   a. The teacher provided the background for me to understand the concept. ( )

   b. I worked hard at being able to explain concepts in the course. ( )

   c. I have a natural ability to explain things well. ( )

   d. I was unlucky. ( )

4. A classmate I assisted with a homework assignment subsequently gets a good grade on the assignment.

   a. I am good at assisting others with homework assignments. ( )

   b. The teacher had prepared me well for helping with the homework assignment. ( )

   c. I tried hard to assist the student. ( )

   d. I was fortunate to be able to help. ( )

5. I make a high score on a multiple-choice exam.

   a. I am good at taking multiple-choice exams. ( )

   b. I studied hard for the exam. ( )

   c. The teacher had prepared me well for the exam. ( )

   d. I just happened to get a high score. ( )

Rank

6. My grades in a course go down from the beginning to the end of the semester.

   a. I was unlucky in how my grades turned out. ( )

   b. I have difficulty figuring out how to do well in a course. ( )

   c. I worked less on the course as the semester progressed. ( )

   d. The teacher didn't provide enough assistance later in the course. ( )

7. I do not follow the written instructions on a quiz.

   a. I have difficulty understanding written instructions. ( )

   b. I didn't bother to read the instructions carefully. ( )

   c. The teacher's instructions were unclear. ( )

   d. I had bad luck with the instructions. ( )

8. No one invites me to join them in working on a group assignment.

   a. I am bad at group assignments. ( )

   b. I didn't work hard on the last group assignment. ( )

   c. The teacher didn't prepare me well for the group work. ( )

   d. I got overlooked by mistake. ( )

9. I mess up in taking notes for a sick classmate.

   a. I was careless in taking the notes. ( )

   b. I am not skilled in taking notes. ( )

   c. The teacher's presentation was unclear. ( )

   d. I was unlucky in my notetaking. ( )

Rank

10. I get a good grade in one of my primary courses.

    a. I was lucky to get the good grade. ( )

    b. I have a lot of ability in my primary area. ( )

    c. I worked hard at doing well in the course. ( )

    d. The teacher helped me get a good grade. ( )

11. I make a major mistake in a class presentation.

    a. I didn't prepare well for the presentation. ( )

    b. I don't have much talent in making presentations. ( )

    c. My mistake was just a matter of bad luck. ( )

    d. The teacher didn't prepare me well for the presentation. ( )

12. The teacher assigns a professional article to be read for the next class meeting, but I don't understand the article.

    a. I am not good at understanding professional articles. ( )

    b. The assigned article was too difficult. ( )

    c. I didn't spend much time with the article. ( )

    d. This particular article was an unlucky selection. ( )

13. I answer a teacher's question correctly in class.

    a. The teacher's instruction helped me to give a good answer. ( )

    b. I have a knack for knowing the right answers. ( )

    c. I was lucky to know the answer. ( )

    d. I worked hard in preparing for the teacher's questions. ( )

Rank

14. I make a low grade on a pop quiz.

    a. The teacher didn't prepare me well for the quiz. ( )

    b. I didn't take the time to review for class that day. ( )

    c. I am poor at figuring out answers on pop quizzes. ( )

    d. I was unlucky to get the low grade. ( )

15. The teacher asks me to summarize the main points of today's discussion. Following my summary, the teacher says that I had accurately stated all the main points.

    a. I had listened closely and taken detailed notes. ( )

    b. I have a good memory and organize my thoughts well. ( )

    c. I just happened to remember the main points. ( )

    d. The teacher had explained the main points really well. ( )

16. The teacher criticizes my explanation of a concept addressed in class discussion.

    a. I was unlucky in my explanation. ( )

    b. I didn't try that hard to explain the concept. ( )

    c. I am not good in explaining concepts. ( )

    d. The teacher didn't provide enough background for me to explain the concept. ( )

17. I make a low score on a multiple-choice exam.

    a. The teacher didn't prepare me well for the exam. ( )

    b. I am just not good in taking multiple-choice tests. ( )

    c. I just happened to get a low score. ( )

    d. I didn't study much for the exam. ( )

Rank

18. I am invited by several classmates to join them in working on a group assignment.

    a. I worked hard in past groups. ( )

    b. The teacher prepared me well for the group work. ( )

    c. I was lucky to be asked. ( )

    d. I am good at group assignments. ( )

19. I make a flawless class presentation.

    a. The teacher prepared me well for the presentation. ( )

    b. I prepared well for the presentation. ( )

    c. I was lucky that the presentation went so well. ( )

    d. I am good at making class presentations. ( )

20. I answer a teacher's question incorrectly in class.

    a. My answer was unlucky. ( )

    b. The teacher didn't provide enough background for me to answer the question correctly. ( )

    c. I am not good at answering teachers' questions. ( )

    d. I didn't try hard to answer the teacher's question. ( )

21. I make a low grade on an essay test.

    a. The teacher didn't prepare me well for the test. ( )

    b. My low grade was just an unlucky thing. ( )

    c. I am poor at taking essay tests. ( )

    d. I didn't study much for the test. ( )

Rank

22. I precisely follow written instructions on a quiz.

    a. I am good at understanding written instructions. ( )

    b. I was lucky to understand the instructions. ( )

    c. I read the instructions very carefully. ( )

    d. The instructions were very clear. ( )

23. I take detailed and well-organized notes for a sick classmate.

    a. I just happened to jot down the right things. ( )

    b. The teacher's presentation highlighted the points to record. ( )

    c. I was careful to take good notes. ( )

    d. I am skilled in taking notes. ( )

24. The teacher asks me to summarize the main points of a class discussion. Following my summary, the teacher says that I left out several points and incorrectly stated some other points.

    a. I didn't happen to remember the main points. ( )

    b. The teacher's points were very poorly explained. ( )

    c. I didn't listen closely to the teacher's discussion. ( )

    d. I am not good at remembering what a teacher says in class. ( )

25. I get a good grade on a course project.

    a. I worked hard on the project. ( )

    b. The teacher clearly explained how to do the project. ( )

    c. I was lucky to get the good grade. ( )

    d. I am good at doing projects. ( )

Rank

26. When classmates are given a chance to ask others to help them With their homework assignments, no one asks me to help them.

    a. I am not skilled is assisting other with homework assignments. ( )

    b. The teacher didn't prepare me well to help with homework assignments. ( )

    c. My being overlooked was purely coincidental. ( )

    d. I didn't try hard the last time I helped someone with a homework assignment. ( )

27. I get a poor grade in one of my primary courses.

    a. I didn't work hard in the course. ( )

    b. The teacher provided little help in the course. ( )

    c. The poor grade was just bad luck. ( )

    d. I don't have a lot of ability in my primary areas. ( )

28. The teacher assigns a professional article to read for the next class meeting, and I fully understand the article.

    a. I worked hard at understanding the article. ( )

    b. The assigned article was very understandable. ( )

    c. I am good at understanding professional articles. ( )

    d. This particular article was a lucky selection for me. ( )

Rank

29. I make a good grade on a pop quiz.

    a. I am good at figuring out answers on pop quizzes. ( )

    b. I was lucky to get the good grade. ( )

    c. I reviewed extensively for the class that day. ( )

    d. The teacher kept the students up to date. ( )

30. My grades in a course improve from the beginning to the end of the semester.

    a. I worked harder on the course as is progressed. ( )

    b. I am good at figuring out how to do well in a course. ( )

    c. The teacher provided a lot of assistance as the course progressed. ( )

    d. I was lucky in how my grades turned out in the course. ( )

Appendix B

College Academic Attribution Scale (CAAS): Likert Format

Instructions: Although doing well in college is important to most students, many students have a range of successful and unsuccessful experiences. This scale describes a variety of both kinds of experiences. For each experience, a range of possible explanations or that experience are presented. Even though you may not have had some of these experiences, imagine that each experience does occur. Rate how often each explanation would apply to you in accounting for each experience. Indicate your rating of each explanation by putting a check mark in the appropriate blank to the right of that explanation. Before you begin, put your four-digit ID number in the designated space at the top of this page.

		Often	**Sometimes**	**Seldom**
1.	I make a high grade on an essay test.			
	a. I studied hard for the test.	____	____	____
	b. The teacher prepared me well for the test.	____	____	____
	c. I was fortunate to make a high grade.	____	____	____
	d. I am good at taking essay tests.	____	____	____
2.	I get a poor grade on a course project.			
	a. The project instructions were unclear.	____	____	____
	b. I didn't work hard on the project.	____	____	____
	c. I am poor at doing projects.	____	____	____
	d. I was unlucky.	____	____	____

		Often	Sometimes	Seldom
3.	The teacher compliments my explanation of a concept discussed in class.			
	a. The teacher provided the background for me to understand the concept.	____	____	____
	b. I worked hard at being able to explain concepts in the course.	____	____	____
	c. I have a natural ability to explain things well.	____	____	____
	d. I was unlucky.	____	____	____
4.	A classmate I assisted with a homework assignment subsequently gets a good grade on the assignment.			
	a. I am good at assisting others with homework assignments.	____	____	____
	b. The teacher had prepared me well for helping with the homework assignment.	____	____	____
	c. I tried hard to assist the student.	____	____	____
	d. I was fortunate to be able to help.	____	____	____
5.	I make a high score on a multiple-choice exam.			
	a. I am good at taking multiple-choice exams.	____	____	____
	b. I studied hard for the exam.	____	____	____
	c. The teacher had prepared me well for the exam.	____	____	____
	d. I just happened to get a high score.	____	____	____

		Often	Sometimes	Seldom
6.	My grades in a course go down from the beginning to the end of the semester.			
	a. I was unlucky in how may grades turned out.	_____	_____	_____
	b. I have difficulty figuring out how to do well in a course.	_____	_____	_____
	c. I worked less on the course as the semester progressed.	_____	_____	_____
	d. The teacher didn't provide enough assistance later in the course.	_____	_____	_____
7.	I do not follow the written instructions on a quiz.			
	a. I have difficulty understanding written instructions.	_____	_____	_____
	b. I didn't bother to read the instructions carefully.	_____	_____	_____
	c. The teacher's instructions were unclear.	_____	_____	_____
	d. I had bad luck with the instructions.	_____	_____	_____
8.	No one invites me to join them in working on a group assignment.			
	a. I am bad at group assignments.	_____	_____	_____
	b. I didn't work hard on the last group assignment.	_____	_____	_____
	c. The teacher didn't prepare me well for the group work.	_____	_____	_____
	d. I got overlooked by mistake.	_____	_____	_____

		Often	Sometimes	Seldom
9.	I mess up in taking notes for a sick classmate.			
	a. I was careless in taking the notes.	____	____	____
	b. I am not skilled in taking notes.	____	____	____
	c. The teacher's presentation was unclear.	____	____	____
	d. I was unlucky in my notetaking.	____	____	____
10.	I get a good grade in one of my primary courses.			
	a. I was lucky to get the good grade.	____	____	____
	b. I have a lot of ability in my primary area.	____	____	____
	c. I worked hard at doing well in the course.	____	____	____
	d. The teacher helped me get a good grade.	____	____	____
11.	I make a major mistake in a class presentation.			
	a. I didn't prepare well for the presentation.	____	____	____
	b. I don't have much talent in making presentations.	____	____	____
	c. My mistake was just a matter of bad luck.	____	____	____
	d. The teacher didn't prepare me well for the presentation.	____	____	____

		Often	Sometimes	Seldom
12.	The teacher assigns a professional article to be read for the next class meeting, but I don't understand the article.			
	a. I am not good at understanding professional articles.	____	____	____
	b. The assigned article was too difficult.	____	____	____
	c. I didn't spend much time with the article.	____	____	____
	d. This particular article was an unlucky selection.	____	____	____
13.	I answer a teacher's question correctly in class.			
	a. The teacher's instruction helped me to give a good answer.	____	____	____
	b. I have a knack for knowing the right answers.	____	____	____
	c. I was lucky to know the answer.	____	____	____
	d. I worked hard in preparing for the teacher's questions.	____	____	____
14.	I make a low grade on a pop quiz.			
	a. The teacher didn't prepare me well for the quiz.	____	____	____
	b. I didn't take the time to review for class that day.	____	____	____
	c. I am poor at figuring out answers on pop quizzes.	____	____	____
	d. I was unlucky to get the low grade.	____	____	____

		Often	Sometimes	Seldom
15.	The teacher asks me to summarize the main points of today's discussion. Following my summary, the teacher says that I had accurately stated all the main points.			
	a. I had listened closely and taken detailed notes.	____	____	____
	b. I have a good memory and organize my thoughts well.	____	____	____
	c. I just happened to remember the main points.	____	____	____
	d. The teacher had explained the main points really well.	____	____	____
16.	The teacher criticizes my explanation of a concept addressed in class discussion.			
	a. I was unlucky in my explanation.	____	____	____
	b. I didn't try that hard to explain the concept.	____	____	____
	c. I am not good in explaining concepts.	____	____	____
	d. The teacher didn't provide enough background for me to explain the concept.	____	____	____
17.	I make a low score on a multiple-choice exam.			
	a. The teacher didn't prepare me well for the exam.	____	____	____
	b. I am just not good in taking multiple-choice tests.	____	____	____
	c. I just happened to get a low score.	____	____	____
	d. I didn't study much for the exam.	____	____	____

		Often	Sometimes	Often
18.	I am invited by several classmates to join them in working on a group assignment.			
	a. I worked hard in past groups.	____	____	____
	b. The teacher prepared me well for the group work.	____	____	____
	c. I was lucky to be asked.	____	____	____
	d. I am good at group assignments.	____	____	____
19.	I make a flawless class presentation.			
	a. The teacher prepared me well for the presentation.	____	____	____
	b. I prepared well for the presentation.	____	____	____
	c. I was lucky that the presentation went so well.	____	____	____
	d. I am good at making class presentations.	____	____	____
20.	I answer a teacher's question incorrectly in class.			
	a. My answer was unlucky.	____	____	____
	b. The teacher didn't provide enough background for me to answer the question correctly.	____	____	____
	c. I am not good at answering teachers' questions.	____	____	____
	d. I didn't try hard to answer the teacher's question.	____	____	____
21.	I make a low grade on an essay test.			
	a. The teacher didn't prepare me well for the test.	____	____	____
	b. My low grade was just an unlucky thing.	____	____	____
	c. I am poor at taking essay tests.	____	____	____
	d. I didn't study much for the test.	____	____	____

		Often	Sometimes	Seldom
22.	I precisely follow written instructions on a quiz.			
	a. I am good at understanding written instructions.	____	____	____
	b. I was lucky to understand the instructions.	____	____	____
	c. I read the instructions very carefully.	____	____	____
	d. The instructions were very clear.	____	____	____
23.	I take detailed and well-organized notes for a sick classmate.			
	a. I just happened to jot down the right things.	____	____	____
	b. The teacher's presentation highlighted the points to record.	____	____	____
	c. I was careful to take good notes.	____	____	____
	d. I am skilled in taking notes.	____	____	____
24.	The teacher asks me to summarize the main points of a class discussion. Following my summary, the teacher says that I left out several points and incorrectly stated some other points.			
	a. I didn't happen to remember the main points.	____	____	____
	b. The teacher's points were very poorly explained.	____	____	____
	c. I didn't listen closely to the teacher's discussion.	____	____	____
	d. I am not good at remembering what a teacher says in class.	____	____	____

		Often	Sometimes	Seldom
25.	I get a good grade on a course project.			
	a. I worked hard on the project.	____	____	____
	b. The teacher clearly explained how to do the project.	____	____	____
	c. I was lucky to get the good grade.	____	____	____
	d. I am good at doing projects.	____	____	____
26.	When classmates are given a chance to ask others to help them with their homework assignments, no one asks me to help them.			
	a. I am not skilled is assisting other with homework assignments.	____	____	____
	b. The teacher didn't prepare me well to help with homework assignments.	____	____	____
	c. My being overlooked was purely coincidental.	____	____	____
	d. I didn't try hard the last time I helped someone with a homework assignment.	____	____	____
27.	I get a poor grade in one of my primary courses.			
	a. I didn't work hard in the course.	____	____	____
	b. The teacher provided little help in the course.	____	____	____
	c. The poor grade was just bad luck.	____	____	____
	d. I don't have a lot of ability in my primary areas.	____	____	____

		Often	Sometimes	Seldom
28.	The teacher assigns a professional article to read for the next class meeting, and I fully understand the article.			
	a. I worked hard at understanding the article.	_____	_____	_____
	b. The assigned article was very understandable.	_____	_____	_____
	c. I am good at understanding professional articles.	_____	_____	_____
	d. This particular article was a lucky selection for me.	_____	_____	_____
29.	I make a good grade on a pop quiz.			
	a. I am good at figuring out answers on pop quizzes.	_____	_____	_____
	b. I was lucky to get the good grade.	_____	_____	_____
	c. I reviewed extensively for the class that day.	_____	_____	_____
	d. The teacher kept the students up to date.	_____	_____	_____
30.	My grades in a course improve from the beginning to the end of the semester.			
	a. I worked harder on the course as is progressed.	_____	_____	_____
	b. I am good at figuring out how to do well in a course.	_____	_____	_____
	c. The teacher provided a lot of assistance as The course progressed.	_____	_____	_____
	d. I was lucky in how my grades turned out in the course.	_____	_____	_____

Appendix C

210 Exam Rating Form

Unit _____ Class Time _____ ID Number _____ Name _____

Instructions: First rate the factors listed below in terms of their magnitude. Rate each dimension as low, medium, or high by putting a check in the appropriate column. After finishing with this rating, circle the five factors that you believe were the most important in accounting for your exam performance.

	Low	Medium	High
1. Amount of time I spent studying for the exam	____	____	____
2. Match between what I studied and content of the exam	____	____	____
3. My level of reading in this unit	____	____	____
4. My level of notetaking in this unit	____	____	____
5. Amount of time I spent listening to course tapes outside of class	____	____	____
6. My level of class attendance in this unit	____	____	____
7. My individual consultation with GTAs	____	____	____
8. Level of clarity of instructor presentations in this unit	____	____	____
9. Degree of match between instructor presentations and exam content	____	____	____
10. Degree of match between study questions and exam content	____	____	____
11. Degree of balance in exam coverage between reading materials and class presentations	____	____	____
12. Clarity of wording on the exam	____	____	____

13. Emphasis on higher order thinking in taking the exam ____ ____ ____

14. My ability to take this type of exam ____ ____ ____

15. My ability to master the type of subject matter addressed in this unit ____ ____ ____

210 EXAM RATING SCORING FORM

Unit____ Class Time_____ ID Number_____ Name_____

Instructions: For the following sets of items, record low as a 1, medium as a 2, and high as a 3 for each item. After filling in the score for each item, total each column and compute the average item score for each column.

Effort	**Ability**	**Teacher**
1.____	14.____	8.____
3.____	15.____	9.____
4.____		10.___
5.____		11.___
6.____		12.___
7.____		13.___
Total____	Total____	Total____
Average____	Average____	Average____

Vita

Lloyd Elliott Clark was born in Lexington, KY on January 7, 1976. She was raised in Lexington and went to Cassidy Elementary, Morton Junior High, and Henry Clay High School, all in Lexington. From Lexington, Lloyd attended Rhodes College in Memphis, TN and received a B.A. in psychology in 1998.

Lloyd is currently pursuing her doctorate in school psychology at the University of Tennessee, Knoxville, TN.