

ATTRIBUTIONAL DIFFERENCES BETWEEN
SUCCESSFUL AND UNSUCCESSFUL
COLLEGE STUDENTS ON
ACADEMIC PROBATION

By

TINA D. WINN

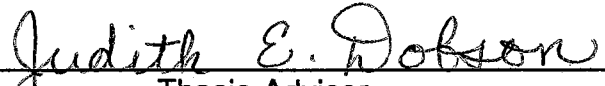
Bachelor of Science in Education
Oklahoma Christian College
Oklahoma City, Oklahoma
1982

Master of Education
Northwestern Oklahoma State University
Alva, Oklahoma
1987


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Thesis Advisor











Dean of the Graduate College

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CHAPTER I

THE RESEARCH PROBLEM

Introduction

When substandard academic performance prevents college students from reaching their graduation goal, a chorus of why questions echoes from the students, their parents, the faculty, and academic advisors. They all seek a basic explanation that will make some sense of this experience. Heider (1958) suggests that basic to human nature is the need to understand the events one experiences. Social psychologists have labeled this search for an understanding of the cause of events *attributing cause* or as making *attributions* (Antaki & Brewin, 1982). Harvey and Weary (1981) define *attribution* as an inference about why an event occurred. Perhaps as important as the actual reasons for students' success or failure is the process by which they arrive at explanations for it. Understanding this attribution process could provide important insights into the academic performance of college students.

The stakes are extremely high for college students as they seek to understand their successes and failures in academic endeavors. The payoff for acquiring a higher education in today's society can be great, and, conversely, the

negative consequences of failure in the college setting can have such detrimental effects as limiting career opportunities and lowering earning potential (Wegmann, Chapman, & Johnson, 1985; Oklahoma State Regents for Higher Education, 1995). Therefore, the need for a meaningful answer to the central question of why some students succeed in college while others fail is imperative. This research addresses that question through the lens of attribution theory for the broad purpose of improving intervention strategies used by counselors and administrators who deal with students who experience academic difficulties. More specifically, this study attempts to discover if there are consistent and significant differences in the attributional styles of students on academic probation who subsequently fail academically and those who subsequently succeed.

Weiner (1979, 1985a) has linked attributional styles with achievement motivation, persistence, goal setting behaviors, and expectancy for change. He also notes that individuals are more likely to seek explanations for both unexpected events and for failures than for expected events and successful endeavors. Russell (1982) and Weiner (1979, 1985a, 1985b) found that attributions following a failure experience differ from attributions that follow a success experience. Since students being placed on academic probation have experienced an unsuccessful semester that may have been unexpected, they are

likely to be heavily involved in the process of attribution. Thus, they provide an excellent opportunity to gain insight into that process.

Theoretical Foundations

Attributional analyses have been applied to a variety of psychological and social phenomena. For example, relationships have been examined between attributions and learned helplessness (Abramson, Seligman, & Teasdale, 1978), depression (Seligman, Abramson, Semmel, & Von Baeyer, 1979), and emotions (Weiner, 1985a). However, there has been no field in which attributional theory has received more attention than in the field of achievement motivation (Weiner, 1990).

A number of theorists in the field of achievement motivation theory credit Heider (1944, 1958) with providing the foundation for their understanding of the role attributions play in motivation (Antaki & Brewin, 1982; Harvey & Weary, 1981; Weiner, Frieze, Kukla, Reed, Rest, & Rosenbaum, 1971). Heider (1958) examined events that occur in everyday life and how individuals understand and explain these events. He suggested that individuals tend to operate like quasi-scientists by inferring cause and effect for everyday occurrences. While individuals tend to go about this process in a systematic fashion, attributions often are based on incomplete information and are always filtered through their own subjective reality. Therefore, people may differ in the attributions they make for the same event. Heider (1958) identified two primary explanations that

individuals might give for the outcome of an event, personal (internal) attributions and situational (external) attributions.

This internal-external dimension became the focus of much subsequent research in the field of attribution theory. The internal-external dimension of causality was popularized by Rotter (1954) and forms the basic construct in his locus of control theory. Rotter (1966) developed an instrument known as the internal-external control scale which is used as a measure of individuals general propensity to view themselves as being in control (internal locus) or external factors being in control (external locus). Rotter's concept of internal versus external control refers to the degree of control that individuals believe they have over their environments. Internal refers to factors such as ability and effort, while external refers to environmental or situational factors such as luck and difficulty of the task.

While Rotter (1954, 1966) viewed locus of control as being a stable, general trait, others have conceptualized it as a more transient trait subject to change in response to situational variables (Leftcourt, Von Baeyer, Ware, & Cox, 1979; Weiner et al., 1971; Weiner, Nerenberg, & Goldstein, 1976). To account for the propensity for some causes to be attributed to factors that are likely to change, Weiner et al. (1971) proposed that a second dimension, stability, be added to the model. The stability dimension refers to an individual's perception of the likelihood of a condition changing. For example, even though both ability and effort would be considered internal with regard to locus, ability would be

considered a stable condition, not likely to change. And, conversely, effort would be considered an unstable condition that is subject to change. Adding the concept of stability yields divisions of internal-stable factors, internal-unstable factors, external-stable factors, and external-unstable factors as dimensions of causal attribution. Leftcourt et al. (1979) developed a goal-specific assessment, the Multidimensional Multiattributonal Causality Scale (MMCS), that measured attributions along the dimensions of both locus of control and stability.

After observing a confounding of the locus of control attribution, Weiner (1979) further revised his theory and proposed a three-dimensional approach to classifying causality. He suggested that the locus of control classification be separated into two dimensions, locus (referring to the internal-external dimension) and control (referring to the degree of perceived volitional control). This revision yields three causal dimensions; stability, locus, and control. Locus refers to the location of a cause (internal or external), stability refers to the temporal nature of a cause (stable or unstable), and controllability refers to the degree of volitional control that is perceived as possible (controllable or uncontrollable). These dimensions can be divided into a 2 x 2 x 2 matrix (2 levels of locus x 2 levels of stability x 2 levels of control).

Wiener's model of achievement attributions (1979, 1985a) suggests that four common causal attributions made for academic achievement (i.e. ability, effort, luck, and task difficulty) can be categorized along the three dimensions of locus, stability, and control. Weiner (1979) classifies ability, effort, luck, and task

difficulty along the following dimensions: (a) ability -- internal, stable, controllable; (b) effort -- internal, unstable trait, uncontrollable; (c) luck -- external, unstable, uncontrollable; and (d) task difficulty -- external, stable, controllable. Support for utilizing ability, effort, luck, and task difficulty as salient causal attributions for academic achievement can be found in studies by DeBoer (1983, 1985b), Platt (1988) and Yan and Gaier (1994).

Harvey and Weary (1981) identified the work of Weiner and associates (Weiner et al., 1971, Weiner 1979) as leading the field in theory development linking attributions, as well as other perceptions and behaviors, to academic achievement. Weiner (1985a) examined how the three dimensions of causality affect emotions and how differences in attributions of success and failure could be used to predict future academic behavior. He suggested that the stability of an attribution influences one's expectations of future success or failure. For example, if failure is attributed to a stable factor such as ability, there would be a greater expectation of future failure than if the failure had been attributed to an unstable factor such as luck or effort. The locus of the attribution (e.g. internal or external) is believed to influence self-esteem and affect. A failure attributed to an internal cause, such as ability, will likely have a greater negative impact on self-esteem than a failure that can be attributed to an external cause, such as poor instructional quality. Finally, the attribution of control seems to affect one's interactions with others. If failure seems to be the result of uncontrollable events, such as an illness, others are more likely to offer assistance. However, failure

that is believed to be the result of factors that can be controlled by the individual, such as one's effort, will be less likely to elicit help from others.

While much of the research has focused on defining the nature of attributing causality, other studies have explored the motivation for and frequency of spontaneous attributions. Individuals engage in attributing causality to events in an attempt to understand, organize, and give meaning to the events that happen in their lives and in an attempt to predict and control those events (Harvey & Weary, 1981). While it was believed initially that individuals ascribe causality to virtually all events in their everyday lives, recent findings indicate that some events are more likely to be attributed consciously to a cause than are other events. For example, individuals are more likely to seek out a causal explanation after an unexpected event or when events have serious consequences (Weiner, 1985b; Burger, 1992). Also, failure at a task is more likely to result in an individual looking for a cause than does success (Schoeneman, Uchelen, Stonebrink, & Cheek, 1986; Weiner, 1985b).

Another area of theory development in attributional research focuses on differences in the way males and females explain events. While a parsimonious model has not yet emerged to explain the complex nature of gender differences in attributional style (Frieze, Whitley, Hanusa, and McHugh, 1982), three models have been used as the basis for many gender studies.

One early model proposed that females were generally more external than males in their attributions for both success and failure in achievement situations

(Feather & Simon, 1973). This model suggests that females tend to withdraw from achievement situations because of an underlying fear of both success and failure. According to Feather and Simon, external attributions of luck or task ease act to maintain this fear by diminishing females' feelings of pride for success and shame for failure.

A second model of female attributional style was proposed by Nicholls (1975). This model asserts that females attribute their successes to external causes but their failures to internal causes. Nicholls postulated that people tend to operate in a manner that is consistent with their self-esteem. Therefore, since females have a low self-esteem with regard to academic achievement, this attributional pattern would allow them to accept negative information about themselves and reject positive information.

A third view of gender differences in achievement attributions proposes that females have generally low expectations about their performance in achievement situations, and therefore, tend to attribute their failure to stable causes and their success to unstable causes (Deaux & Farris, 1977). This pattern would act to decrease expectations for future success when females succeed and maintain low expectations for future success after failure.

The field of attributional theory as it relates to achievement behavior is still evolving. As a better understanding is achieved of factors such as when attributions are made, how those attributions influence future behavior, and when

and how attributions change, interventions may be suggested that may help individuals tap their potential and reach their goals.

Statement of the Problem

Students voluntarily drop out of college for a number of academic and non-academic reasons, but the majority of students who are dismissed from college are suspended because of academic problems (Stoecker, Pascarella, & Wolfe, 1988). Through longitudinal studies, Tinto (1975) concluded that persistence in higher education is related directly to the level of integration that is achieved by students into the academic and social system of the institution. Stoecker et al. (1988) supported Tinto's model of the impact that academic and social integration have on persistence and further identified academic integration (i.e. undergraduate grades and membership in scholastic honor societies) as having the strongest direct effect on persistence.

Because of the importance of academic integration to persistence in higher education, students who have been placed on academic notice or academic probation are considered at risk for not completing a degree program. Concern to academic counselors and higher education administrators is magnified because of recent changes in policy that have resulted in increasing numbers of college and university students being identified as out of compliance with academic standards. In Oklahoma, the point at which students were required to meet minimum cumulative grade point standards was gradually

increased beginning in the fall of 1991 and culminating in 1993 (Oklahoma State Regents, 1993). The policy revision eliminated a 12 credit hour period during which students were not subject to academic notice or probation and applied a minimum GPA standard of 2.0 to students who had completed 30 or more hours of course work. The previous policy gave students 60 credit hours, approximately the first two years, before requiring the "C" average standard. Subsequently, the number of students placed on academic notice, probation and suspension almost doubled (from 106 in 1990 to 200 in 1993) at one regional university in northwest Oklahoma (Northwestern Oklahoma State University Internal Report, 1993).

Students who have experienced an unsuccessful semester are likely to seek an understanding of their performance that includes attributing it to a perceived cause or causes. After experiencing failure, some students will turn things around and have a subsequent successful semester while others will experience a second semester of academic failure. Researchers in the field of attributional theory suggest that the reasons students give for their failure experience may have an impact on their future success or failure (Russell, 1982; Weiner, 1979, 1985b, Weiner et al., 1971). Therefore, a better understanding of this relationship between attributional style and ultimate academic success or failure has significant implications for professionals who counsel these students and those who make policy decisions on retention issues.

This study addresses the following question: Following an academic failure experience, do the attributions of students who subsequently succeed differ from the attributions of students who continue to fail academically?

Significance of the Study

Students who have been placed on academic notice or academic probation have been identified as having deficiencies in academic performance that will result in dismissal unless that performance improves to meet established standards. Weiner's (1979, 1985a) attribution-based model of achievement motivation identifies the causal attribution process as a primary influence in achievement behavior. Further, attributions for success and failure have been shown to influence persistence in achievement tasks and to influence expectations about future success or failure (Weiner, 1985b).

Gaining a better understanding of students who are having academic difficulties, such as those who are on academic notice or academic probation, can lead to identifying better strategies for helping these students. Identifying the differences between the attributional styles of successful students and unsuccessful students and identifying the changes in attributions that lead to more successful outcomes can point the way to improved strategies to help turn failure experiences around so that a greater percentage of those who begin college can achieve their goals.

Furthermore, retention of students is a growing concern for many higher education officials because the pool of traditional-aged college students (18-24 year olds) is shrinking (Wegmann et al., 1985), costs of running higher education systems are increasing (U.S. Department of Education, 1993b), and public funding for higher education is declining (U.S. Department of Education, 1993a). Another matter of concern from both an economic and academic perspective is that too many students who enter college are failing to attain their initial objectives. Recent figures indicate that only about one-half of the students who enroll in institutions of higher learning graduate within six years (U.S. Department of Education, 1993b).

While the link between attributions and academic performance has been well established, two weaknesses have been identified in the research conducted to date. First, Russell (1982) and Weiner (1985a) suggest that since the majority of attributional research has been conducted in laboratory and contrived settings, the generalizability of that research is questionable. They suggest that further research should address assessing causal attributions outside of laboratory or contrived settings. Also, Harvey and Weary (1981), as well as Weiner (1985a), have questioned the method of assigning attributions such as ability and effort to specific realms within the causal dimensions of locus, stability and control. (These will be discussed extensively in the instrumentation section of this report.) For example, while many may view ability as an internal stable factor, others may view ability as subject to change with additional effort and information. Likewise,

effort may be generally viewed as internal and unstable, yet some may view effort as a stable factor, "I am a lazy person." These pioneers of attribution research now recommend a more sophisticated, subject-sensitive approach to assigning attributions to causal categories. Employing the advice of Weiner (1985a), Harvey and Weary (1981), and Russell (1982), this study was designed to control or eliminate these two major criticisms of attribution research.

The first criticism, that of observing subjects only in contrived settings, was eliminated by assessing attributions of students who have experienced an actual academic failure (students who have been placed on academic notice or academic probation because of unsatisfactory academic performance). This study has the advantage of examining the attributions of these students in a real-world situation to determine if differences in attributional style exist between students who improve their academic performance and get off of academic notice or academic probation and those who experience continued failure in the academic setting. Additionally, attributions at the beginning of the semester were compared with those at the end of the semester to determine if attributions change and if this is related to subsequent success or failure.

The second criticism, that of assuming objective assignments of attributions to causal categories, was addressed by using the Revised Causal Dimension Scale (CDSII) (McAuley, Duncan & Russell, 1992) to assign attributions to causal categories. This instrument allowed the subjects to give non-forced assessments of their academic performance and then rate the factor

or factors they perceive as having influenced that performance along a continuum on four causal dimensions. Therefore, the subjects categorized their own responses into causal dimensions rather than the researcher assuming that a specific cause (e.g. ability) was perceived as falling into pre-set causal dimensions (e.g. internal, stable, uncontrollable).

Definition of Terms

For the purpose of this study, the following section provides an operational definition of terms.

Attribution

According to Burger and Hemans (1988) an attribution refers to the way people explain why things happen. Attributions in this study will be measured by the Revised Causal Dimension Scale (CDSII) (McAuley, Duncan, & Russell, 1992). The CDSII is an instrument that assesses how the attributor perceives his or her own attributions along four dimensions of causality; (a) locus of causality, (b) stability, (c) personal control, and (d) external control (see Appendix A).

Locus of causality subscale. The locus of causality subscale of the CDSII assesses the attributor's perception of the cause of an event along an internal-external dimension. Internal attributions indicate that the cause is from something within the attributor, while an external attribution indicates that the cause is something outside of the attributor. A high score (range of 16-27) on the

locus of causality subscale reflects an internal locus, while a low score (range of 3-14) reflects an external locus. A midrange score of 15 does not reflect a direction on locus of causality.

Stability subscale. The stability subscale of the CDSII assesses the attributor's perception of the cause of an event along the dimension of stability (the cause is not likely to change) to instability (the cause is something that could change over time). A high score (range of 16-27) on the stability subscale reflects attribution to a stable cause, while a low score (range of 3-14) reflects attribution to an unstable cause. A midrange score of 15 does not reflect a direction on the stable versus unstable dimension.

Personal control subscale. The personal control subscale of the CDSII assesses the attributor's perception of the amount of personal control he or she has over the cause of an event along the dimension of much personal control to little personal control. A high score (range of 16-27) on the personal control subscale reflects a high degree of personal control, while a low score (range of 3-14) reflects a low degree of personal control. A midrange score of 15 does not reflect a direction on the personal control dimension.

External control subscale. The external control subscale of the CDSII assesses the attributor's perception of the amount of control that other people have over the cause of an event along the dimension of high external control (others have a large amount of control over the cause) to low external control

(others have little control over the cause). A high score (range of 16-27) on the external control subscale reflects a high degree of external control, while a low score (range of 3-14) reflects a low degree of external control. A midrange score of 15 does not reflect a direction on the external control dimension.

Probationary status

Probationary status refers to the group of subjects under examination in this study. These include students on academic notice, academic probation, and those who have been suspended and reinstated on academic probation.

Academic notice. Academic notice refers to the status of freshman students (30 or fewer credit hours) who have a cumulative GPA of 1.7 to less than 2.0.

Academic Probation. Academic probation refers to the status of students with 0 to 30 semester credit hours who have a cumulative GPA of less than 1.7 or students with more than 30 semester hours who have a cumulative GPA of less than 2.0.

Academic Suspension. Academic suspension refers to the status of students who were on academic probation the previous semester and who failed to raise their GPA to the required cumulative level or to achieve a 2.0 GPA or better the next semester in regularly-graded course work.

Statement of Hypotheses

For each of the null hypotheses below *students* refers to students at a small, regional university in a southwestern state. Each null hypothesis was tested at the .05 level of significance.

The hypotheses were:

1. There are no significant differences in attributions, as measured by the four subscales of the CDSII (McAuley et al., 1992), between students who are successful during their probationary semester and those who are unsuccessful.
2. There are no significant differences in attributions, as measured by the four subscales of the CDSII, from the beginning of the semester to the end of the semester, for the students who are successful during their probationary semester.
3. There are no significant differences in attributions, as measured by the four subscales of the CDSII, from the beginning of the semester to the end of the semester, for the students who are not successful during their probationary semester.

In addition to the primary hypotheses, analyses were performed to determine if gender or ACT scores were related to success or failure during the probationary semester. Also, differences in attributions and attributional change were examined based on gender and ACT scores.

Limitations

The following limitations are recognized as inherent in this study.

1. This study includes students from one regional university who have experienced an academically unsuccessful semester. The results, therefore, can not be generalized to all unsuccessful students at all college and university settings.

2. Since this is a causal comparative study, differences in attributions between groups can be identified. However, a cause-and-effect relationship between the independent and dependent variables can not be determined.

3. In spite of preliminary support of the reliability and validity of CDSII for use in academic settings (McAuley et al., 1992), it is a new instrument that has been used in a limited number of studies. Additional use in various settings is needed to provide more data to support the reliability and validity of the instrument.

Organization of the Study

This chapter presented the reader with an introduction to attribution theory as it relates to achievement motivation. The theoretical foundation, statement of the problem, significance of the study, definition of terms, hypotheses, and limitations were stated. A review literature in attribution theory as it relates to academic achievement among college students is presented in Chapter II. The method and instrumentation used in this study is described in Chapter III.

Chapter IV reports the results and Chapter V includes a summary, conclusions, and recommendations for research.

CHAPTER II

REVIEW OF LITERATURE

The review of literature in this study focuses on attribution theory primarily as it relates to achievement in higher education settings. Two main sections comprise this chapter. The first section describes the historical development of attribution theory, while the second section examines attributional research in the field of achievement motivation

Within the second section, research dealing with the dimensions of stability and control are examined. Also, literature addressing the differences in attributional styles of males and females is presented, and research addressing the interaction of attributions and varied achievement behaviors is discussed. Literature examining the self-serving bias is also examined, as are studies addressing the effectiveness of attributional retraining. Finally, a review of interventions designed to improve retention of students on academic probation is presented. The chapter ends with a summary.

Historical Development of Attribution Theory

Attribution theory is a relatively new research area in the social and psychological fields (Harvey & Weary, 1981). Weiner (1990) identifies the 1930s as the period in history in which motivational research, the umbrella under which attribution theory falls, split from learning theory. He indicates that, while learning theory and motivation theory have large areas of overlap, motivation theory tends to be more concerned with the use of knowledge rather than the development of new knowledge. Early motivation theory was mechanistic in nature, and much of the research used non-human subjects for which the results would then be generalized to humans (Young, 1950). During the 1960s, however, there was a shift toward examining the role that cognitive processes play in influencing motivational behaviors. As the emphasis shifted from conceptualizing motivation through an external, reward and punishment framework to viewing motivation as largely an internal, cognitive process, the type of research being conducted also shifted from non-human to human research (Weiner, 1990). Attribution theory, which focuses on examining the reasons that people give for their successes and failures, emerged as a salient construct within the cognitive framework. Since the emergence of attribution theory in the mid-1960s, publication of research in attributional processes exploded. Pleban and Richardson (1979) determined that 11% of all social-psychological research published between 1973 and 1977 dealt with attributions. In a review of literature by Kelley and Michela (1980), more

than 900 relevant references to attributional theory were identified in published research over a 10-year period.

According to Weiner (1990), during the 1960s "issues associated with success and failure and achievement strivings formed the heart of the empirical study of motivation...motivational research became almost synonymous with achievement motivation research" (pp. 618-619). Weiner further describes the shift in focus to examining individual differences in traits such as need for achievement, anxiety, and internal control during the 1960s and 1970s. Also, during the 1970s, the concept of self-efficacy was popularized by Bandura (1977). This began a trend that continues to be an active area of research today, examining how perceptions of the self (e.g. self-esteem, self-efficacy, self-determination, etc.) impact future expectations of success and failure (Weiner, 1990).

Academic Achievement and Attributions

A number of studies have examined the role of attributions as motivators toward academic achievement. Within Weiner's (1979, 1985a) model, three features of attributional style have been identified as salient in influencing academic achievement, locus of causality, stability and control. While some of the research focuses on the specific attributions (stability, control, etc.), other research looks at the how attributions and various individual differences (e.g. need for achievement, need for control, and other personality variables) interact.

Stability

Stability of attributions has been identified as a factor that impacts individuals' expectations of future success or failure (Weiner, 1985a). Research by Weiner, Nierenberg, and Goldstein (1976) provides support for the role that stability plays in influencing change in expectations of future success or failure. Weiner et al. used a block design task with 126 male undergraduates. After some successful experiences at the task, subjects were asked to predict their likely success on subsequent block design tasks. To assess attributions, subjects completed four rating scales that assessed their perception of causality for their success. The scales were designed to separate locus and stability. For each question of causality, two choices of explanation were available. Each set of explanations provided a common causal explanation on one dimension and an opposite causal explanation on the other. For example, subjects could attribute their success to (a) always being good at that type of task or (b) trying hard on the task. These are both internal attributions, but they differ on the dimension of stability. Always being good at a task would be a stable factor (not likely to change), while trying hard on this task would be unstable (subject to change in the future). Results indicated that within the internal and external dimensions, attributions to stable factors led to greater expectations of the same outcome in the future (either success or failure) and attributions to unstable factors led to greater expectations of change in outcome for future attempts at the task.

Wambach's (1993) study supports Weiner's (1985a) inclusion of stability, as well as controllability, as distinct dimensions in attributing causality. Wambach used Weiner's (1985a) attributional theory of motivation to analyze responses from 19 students (10 female and 9 male) who entered college as high-risk students, yet achieved at a level that placed them on the Dean's list after their first quarter. Wambach found that the successful students were more likely to attribute their previous academic difficulties to lack of effort, rather than lack of ability. While these are both internal factors, they differ with regard to stability and controllability. Lack of ability is generally viewed as a stable, uncontrollable factor and lack of effort as an unstable, controllable factor.

While stability has been shown to influence expectations of future success and failure, Mikulincer (1990) determined that situational cues were more powerful than personal attributional styles. In a study using 120 (81 female and 39 male) undergraduates in Israel, Mikulincer found that only when situational cues were ambiguous were subjects more likely to attribute successful events in a manner consistent with their own personal attributional style. When situational cues suggested that a cause was stable or unstable, subjects were more likely to make attributions consistent with the situational data, rather than with their own personal attributional style.

Control

The impact that control has on performance has been the focus of much research in the field of achievement motivation (Burger, 1992). Rotter (1954, 1966) examined control, within the context of locus of control, as an internal-external dimension. However, Weiner (1979) proposed separating locus of control into two dimensions, locus (the internal-external dimension) and control (referring to the degree of volitional control that one perceives having over the outcome of an event). Weiner (1985a) suggested that control affects how one interacts with others. He proposed that failures perceived as being uncontrollable would evoke assistance from others to a greater extent than would failures attributed to a controllable cause. Burger (1985, 1992), however, proposed a more direct relationship between control and achievement behaviors. He suggested that while perceiving control in a situation generally improves performance, individuals differ in their levels of need for control. According to Burger, individuals who have a high need for control will take more responsibility for and expend more effort toward an achievement goal than will individuals who are low in need for control.

The impact that control plays in motivation and learning was examined by Monty and Perlmutter (1975). They studied the effect of control on the rate that 32 male and female volunteer subjects learned pairs of words. Subjects in the "control condition" who were allowed to choose a response word to pair with a stimulus word learned a list of 12 word pairs significantly faster than subjects in

the "force condition" who had no control over the pairings. This effect held constant for performance 24 hours after the list was learned.

In a similar study, Perlmutter and Monty (1977) found that merely creating an illusion of control significantly improved achievement motivation and subsequent success. They also determined that perceived control enhances performance most when choices are available between two viable options, rather than when the choice is between a desirable and an undesirable option.

However, if choice is given and then taken away, the effect may be performance that is below the level that would have been achieved if no initial control had been given. This was demonstrated in a study by Perlmutter, Monty and Cross (1974). Subjects ($n=40$) were assigned randomly to one of two groups. One group was given a choice of response words in a word pairing task and the other group was given no choice over the pairings of words they were to memorize. Those who were initially given a choice (control available) were subsequently required to memorize a list with a new response word (control taken away). In this situation, the subjects not initially given an opportunity to choose a response word learned their list significantly faster than those who had been given an initial choice that was later eliminated. Even when the subjects given initial control were allowed to learn the response sets they had originally chosen, they did not exhibit the expected increase in learning as compared to the subjects who had never been given a choice.

Burger (1985) hypothesized that individuals differ in their need for control and that difference will have an impact on achievement behaviors. In a series of six experiments, Burger examined the role that individuals' need for control plays in influencing four different achievement behaviors; aspiration level, response to challenge, persistence, and attributions for success and failure. In two of the experiments that dealt directly with the relationship between desire for control (DC) and attributions for success and failure, Burger found support for the general pattern of attributions that Weiner et al. (1971) described. Using 60 male and female undergraduate students as subjects, Burger found that under success conditions, high-DC subjects were more likely to attribute their success to the internal, stable dimension of ability. However, this finding did not hold up for the low-DC subjects. In a different experiment using 61 male and female undergraduates as subjects, only modest support was found for the tendency for individuals with a high desire for control to make more internal, stable, and global attributions for events with positive outcomes.

In a series of three studies, Burger and Hemans (1988) examined how differences in individuals' desire for control affected their individual attributional processes. In the first experiment, subjects who were high in desire for control (high-DC) were more likely to attend to and use relevant information when making attributions about other people than were students who were low in desire for control (low-DC). A total of 72 undergraduates (30 males, 42 females) were identified as being either high-DC or low-DC. The subjects were given an

essay to read along with information about the author. Half of the subjects were told that the author had been given \$2,500 to write an article from which the essay was taken, while the other subjects read that the essay was taken from a private journal and was not originally intended for publication. High-DC subjects tended to make better use of the attributional information than did the low-DC students. Their responses were significantly more consistent with the relevant information provided them regarding the likely intentions of the author in writing the essay. Low-DC students did not appear to use the relevant information at all in making their attributions. This study provides support for the hypothesis that having a strong need for control (high-DC) may influence a more active use of attributional processes.

A second experiment by Burger and Hemans (1988) examined the role that positive and negative consequences, as well as need for control (high-DC versus low-DC), play in influencing attributions. The subjects, 87 undergraduates (36 male, 51 female), were divided into high-DC and low-DC groups and given scenarios to read that had a possible positive or negative outcome. The subjects were told to imagine themselves in that scenario and to write down all the questions, if any, that they would ask themselves in that situation. One academic and one social situation was used. There was no difference in the number of attributions that were made for the academic or the social situation. However, the high-DC subjects produced significantly more attribution questions than did the low-DC group, and the negative situation prompted significantly more

attribution questions than did the positive situation. Wong and Weiner (1981) obtained similar results, finding that negative situations prompted individuals to engage more readily in attributional processes.

The third experiment described by Burger and Hemans (1988) extended the findings of the previous study to a less contrived experimental situation. In that study, 62 undergraduates (30 males, 32 females) were placed in what they believed to be a real testing situation. Half of the subjects were provided feedback that they had performed well on the exam, and the other half were given feedback indicating that they had failed. Again, subjects were asked to list as many reasons as possible for their performance on the exam. In this study, the high-DC subjects who had been given positive feedback believed that they had performed better on the exams than did the low-DC subjects, even though they had received identical feedback. Also, as is consistent with the previously described studies, the high-DC subjects provided more causes (attributions) for their performance than did the low-DC subjects, regardless of the feedback.

The three studies by Burger and Hemans (1988) support the hypothesis that need for control is positively associated with engaging in attributional processes. Knowing the causes or reasons why something occurred provides individuals with frameworks for predicting future outcomes, and, therefore, returns some control to individuals. Also, the hypothesis that negative or unexpected outcomes will prompt more causal attributions than will positive or expected outcomes is supported by the work of Burger and Hemans. Since

negative or unexpected outcomes disrupt one's sense of control, it would follow that in an attempt to understand and regain control, individuals try to determine the causes of the outcome to avoid the negative outcome in the future. The interaction of attributions, perceptions of control, instructional methods, and individual characteristics has been examined in a number of studies (Perry & Magnusson, 1987; Magnusson & Perry, 1989). When individuals perceive that they have little control in an academic situation, whether as a result of environmental factors or because of internal feelings, performance suffers. Also, interventions aimed at improving performance are less effective for individuals who perceive little control.

In a study examining the effects of loss of control, Perry and Tunna (1988) found that loss of control had more detrimental effects on the performance of students who have a Type B (less goal-oriented, easy-going) personality than on students with a Type A (ambitious, aggressive, impatient) personality. The subjects in this study were 159 college students who were enrolled in introductory psychology. Results of this study indicated that Type B students who had experienced loss of control through failure feedback on an aptitude test performed no better with an expressive instructor than with an unexpressive instructor. However, when Type A students experienced loss of control it appears that in an effort to maintain control these students intensified their achievement efforts and continued to benefit from the expressive instructor.

Also, Type A subjects made similar ratings of their control, success, and effort regardless of the quality of instruction.

Magnusson & Perry (1989) examined the role that teacher expressiveness and feedback for performance had on students who were either internal or external in their locus of control. Using 340 male and female subjects, Magnusson and Perry determined that modifying the external-locus students' perception of control by providing accurate feedback about performance enabled those students to benefit from positive teaching techniques. Also, emphasizing ability and de-emphasizing luck was shown to increase academic performance.

Gender Differences in Attributional Style

The attributional model of achievement proposed by Weiner (1971, 1979, 1985a) has been used in a number of studies as a basic model to explore gender differences in achievement behavior (Feather & Simon, 1973; Nicholls, 1975; Deaux, & Farris, 1977; Bar-Tal & Frieze, 1977). However, a consistent model for explaining gender differences in attributional style has yet to emerge (Frieze, Whitley, Hartman, Hanusa, McHugh, 1982). A meta-analysis of independent studies found no consistent pattern of differences between males' and females' attributions for success and failure in achievement situations (Frieze et al. 1982). The only marginally consistent finding among the studies analyzed by Frieze et al. was that females seem to have a tendency to attribute failure to luck more than males do.

Several studies have found no differences in males' and females' attributional styles (Travis, Phillippi, & Henley, 1991; DeBoer, 1985a), while others have reported conflicting results (Chandler, Shama, & Wolf, 1983; Basow & Medcalf, 1988). McHugh, Frieze, and Hanusa (1982) suggest that the inconsistent findings in research examining the gender differences in attributional style may be due to methodological problems in much of the research. They suggest that males and females may differ in their preference for certain types of achievement settings.

Placing individuals in constructed task settings in which the researcher defines or manipulates the outcome may have been an appropriate starting point of investigating the attributional model. However, our understanding of achievement behavior, including sex differences, now appears to require (1) the study of achievement behavior in multiple contexts, (2) attention to which tasks or domains are selected or preferred by participants, and (3) consideration of the individual's definition of both the task and the outcome. (McHugh et al., p. 476)

While most of the research has focused on gender differences, Baslow and Medcalf (1988) suggest that differences in attributional style may relate more to sex-typed characteristics (masculinity and femininity) than to gender classifications.

DeBoer (1985a) found no significant difference in the attributions of males and females in an examination of the correlates of success and failure for 91 female and male college students in their first college science course. Likewise, Travis, Phillippi, and Henley (1991) found no gender differences in attributions for success or failure in two studies that examined the types of events that males and females identified as significant achievements in their lives. In the first study, 192 female and 186 male undergraduates wrote a description of a success or failure event and then rated the role that ability, effort, task difficulty and luck played in impacting the outcome of the event. In the second study, 89 females and 84 males wrote descriptions of a success experience in one of three randomly assigned areas: mastery, personal, or interpersonal. Causal attributions, as well as other correlates of achievement, were then assessed, but no difference between the males' and females' attributional styles was found.

In a study using procedures similar to Travis et al. (1992) Travis, Burnett-Doering, and Reid, (1982) found only minimal differences in attributional styles related to gender. The subjects (84 female, 59 male) wrote brief accounts of a past success and a past failure, then provided causal attributions for each event. While females and males were more alike than different in their overall attributional styles, Travis et al. (1982) found that under success conditions, there was a tendency for females to rely more strongly on unstable attributions than did the males.

Farmer and Vispoel (1990) also found little support for differences between achievement attributions of males and females in response to failure. This study assessed attributions of 697 male and 765 female high school students. While gender differences were identified with regard to the types of achievement events the subjects recalled, females were not more likely to attribute their failures to lack of ability, as was postulated.

In a multi-national study of gender differences in attributional style Chandler, Shama and Wolf (1983) identified differences in male and female attributions, but not necessarily in ways consistent with the models of attributional differences. The study assessed attributions to ability, effort, luck, and task difficulty for both achievement attributions and affiliation attributions among university students (314 males, 370 females) from India, Japan, South Africa, the United States, and Yugoslavia. Chandler et al. found that overall, males and females were much more similar than different in their achievement attributions. However, one of the differences they identified was that females were significantly more internal than males, with males attributing achievement to task difficulty significantly more than did females. This difference was largely attributable to Indian women who have a longer history of support for academic achievement among females pursuing higher education than do women from some of the other nations in the study. This finding is opposite of what would be expected using the general externality model of Feather and Simon (1973). One finding of the study did lend support to the low expectation of achievement model

(Deaux & Farris, 1977). Females attributed achievement success more to unstable causes than did males, with an opposite pattern for failures; males attributed failure more to unstable causes. Similarly, DeBoer (1983) found that female college freshmen (n=81) rated both effort and persistence (unstable factors) as more important for success in college than did males (n=80).

Basow and Medcalf (1988) proposed that personality characteristics, rather than gender, may be a stronger predictor of attributional differences. In a study with 85 male and 52 female college students, Basow and Medcalf found that both gender (male, female) and sex-typed categorizing (masculine, feminine, androgynous, undifferentiated) of the subjects yielded differences in attributions. Considered by gender, female subjects indicated that both effort and task difficulty were more important than did male subjects prior to an exam, but after an exam males rated the importance of class convenience and previous training higher than did females. This observation suggests that females endorsed more external attributions than did males preceding an exam. When groups were compared based on sex-typed characteristics, differences were observed among masculine and androgynous subjects after a failure experience but not following a success experience. Masculine and androgynous individuals attributed success more than failure to effort and teacher performance when compared with feminine and undifferentiated individuals. No differences based on failure and success were noted among feminine and undifferentiated.

Interaction of Attributions and Achievement Behaviors

Several studies have examined the complex nature of the impact that attributions have on a variety of achievement processes such as expectations of future success, emotional response to success or failure, and achievement motivation. Platt (1988) examined the complex interaction of attributions, their impact on academic self-concept, expectation of change, predicted effort, and the impact and interaction of all of those factors on grade point averages of first-time college students. Results of a goodness-of-fit analysis to a structural model of the consequences of success attributions that was formulated by Weiner (1979, 1985a), provided support for Weiner's theory with some modification of concepts. A sample of 208 first-term freshman in a college of engineering completed questionnaires assessing their (a) perception of their high school performance, (b) attributions in response to their high school performance, (c) expectations of success in college, (d) predicted effort, and (d) their academic self-concept. The subjects' aptitude was assessed using scores from the Mathematics and Composite scales on their college aptitude tests. As has been shown in other studies of attributions related to success, the data revealed that ability was the most frequently chosen attribution and effort was the second highest. Attributions of task ease and luck were much less frequently indicated. The ability attributions for high school success were shown to have a positive effect on expectation of success in college and on academic self-concept. Effort attributions had a positive effect on both academic self-concept and predicted

effort in college. The intervening variables of expectation for success and predicted effort were shown to predict first-term college performance.

Another study of attributions of college freshmen examined the students' attributional responses to receiving their first semester grades and the impact those attributions had on their expectations for future performance, emotions, and persistence (DeBoer, 1985b). The participants in this study included 216 freshmen who responded to a survey that was mailed to them immediately after they received their first semester grades. The questionnaire asked them if their performance in each course was as good as or better than they had expected (perceived success) or if their performance was lower than they had expected (perceived failure). Based on their response to the initial question, participants completed a survey of attributions related to their performance in the course and responded to three other items in which they (a) rated their emotional reaction to their performance, (b) indicated whether they planned to take another course in that area, and (c) indicated what grade they would expect to receive if they took another course in that area. As is predicted by Weiner (1979), ability and effort attributions were more commonly given for success, while task difficulty and bad luck were more common attributions for failure. The best indicator of whether a participant expected to take another course in the same area was the grade received in the course. Also, expectations for future performance were related to attributing success or failure to the stable cause of ability. Students did not expect future performance to differ when it was viewed as a function of ability.

Emotional reactions were also related to attributions. Attributions of success to internal factors (ability, effort) were related to positive affect, while attributions of failure to task difficulty lessened negative affect. The study's results did not provide clear support for the relationship of attributions and persistence.

Scapinello (1989) examined the difference in causal attributions among subjects who were either high or low in achievement motivation and who believed that they had either (a) failed, along with most of the other students; (b) failed, while most other students had succeeded; (c) succeeded, along with most of the other students; or (d) succeeded, while most other students failed. The subjects in this study were a randomly selected sample of 192 male undergraduates. Results indicated that subjects attributed success more to their own ability and effort and failure less to their own ability and effort. Compared with those who were told they were unsuccessful at the task, those who believed they succeeded attributed their success more to task difficulty than luck. Both high and low motivation groups associated effort with differences in outcome. An unexpected result of this study was the reversal of attributions for low- and high-motivation subjects based on the subjects' beliefs about the conditions of their success. Low-motivation subjects attributed success more to effort only when they believed that others had also succeeded. This pattern was reversed for the high ability group whose attributions to effort were greater for success than for failure only when they believed they had succeeded while most others failed.

Self-Serving Bias

Self-serving bias in attributions theory refers to the tendency to take credit for success but not accept responsibility for failure. The self-serving bias (attribution of success to internal, stable and controllable causes) was supported in a study by Schoeneman et al. (1986) for academic events but not for interpersonal events. The study utilized 104 undergraduates from introductory psychology courses who volunteered to participate in the study. The subjects were asked to describe critical events in their lives that were either personal or academic, expected or unexpected, and in which they experienced success or failure. Subjects were then asked to list what questions, if any, they asked themselves after the event they had written about. Subjects also indicated what they believed to be the main cause of their event and then completed the Causal Dimension Scale (Russell, 1982) which assesses the dimensions of locus, stability, and controllability. In addition to supporting the self-serving bias, results of this study indicated that subjects were more active in seeking the cause of failure events than of success events.

A study by Furst (1989) supported the self-serving bias for success in athletic events. Eight female cross-country athletes and 8 male cross-country athletes rated each performance during a season on a 9-point Likert-type scale that indicated how the athletes perceived their performances. The athletes then gave a causal attribution for their performance and rated that attribution on the dimensions of locus of causality, stability, personal control, and external control,

using the CDSII (McAuley et al., 1992). The results indicated that the subjects attributed success more to internal causes and to stable causes than they did their unsuccessful performances. Both groups of athletes reported high personal control and low external control.

Results of a study by Vallerand and Richer (1988) also confirm the self-serving bias. A total of 260 male and female college students in an introductory social psychology course completed a measure of causal attributions immediately after receiving their mid-term exam grades. The findings revealed that students who perceived their performance on the exam as successful, attributed the cause as being more stable, controllable, and somewhat more internal than those who perceived their performance as unsuccessful.

In a cross-cultural study by Yan and Gaier (1994), the self-serving bias was supported only for the factor of ability. A total of 358 American and Asian undergraduates ranked the relative importance of ability, effort, luck, and task difficulty for success or failure events. In both success and failure conditions, attributions were made to effort-ability-task-luck respectively. However, subjects used stronger ability attributions for successes than they did for failures.

Attribution Retraining

The previously cited studies have established a link between causal attributions and academic success. Subsequent studies have examined the effectiveness of techniques that attempt to modify attributions for the purpose of

improving academic performance. These attempts have met with some success and some failure.

One of the earliest studies demonstrating the effectiveness of attribution retraining was conducted with elementary students who believed they had little control over their school performance (Dweck, 1975). Twelve students were identified as exhibiting "learned helplessness" behaviors. That is, they expected to fail at academic tasks, which was marked by a deterioration of performance in the face of failure. The "helpless" students were compared with persistent children on measures of the degree to which they accept responsibility for their performance, level of anxiety, and likelihood in choosing to try again on a failed task. The helpless children differed significantly from the persistent children on all measures. The helpless children were assigned randomly to two treatment groups, attribution retraining and success only. In the attribution retraining group students were taught to attribute failure to lack of effort rather than lack of ability. The subjects in the success only group were given tasks in which they could easily achieve success and were provided positive reinforcement for their success. The treatments were administered for 25 daily sessions. Following the treatment, subjects in the attribution retraining group had significantly altered their behaviors following a failure so that they had negligible impairment or improvement on tasks following a failure experience. This pattern was not manifest by the success only group. Also, the attribution retraining group selected lack of effort rather than lack of ability as important in determining failure

at a significantly higher level than did the success only group. Significant changes in the measures of anxiety were not evident for either group, nor were there significant changes in either of the groups responses to the repetition task.

This study supports the hypothesis that changes in attributions for failure experiences to a pattern more consistent with those that successful individuals make can be affected by attribution retraining and that those changes in attributions correspond to more persistent efforts in the face of failure. Other studies also have supported the effectiveness of attribution retraining for younger children (Borkowski, Weyhing, & Carr, 1988; Ho & McMurtrie, 1991). However, fewer studies have focused on the effectiveness of attributional retraining for college students, and the studies that are available have yielded mixed results.

Attribution retraining did not appear to have a positive effect on GPA in a study conducted by Jesse and Gregory (1987). They compared the effects of three interventions on the GPA of first year college students (n=92). The three interventions were: (a) GPA information, subjects were provided with the information that GPA generally increases after the first year of college; (b) imagined scenarios, subjects were taught to visualize themselves performing activities that would likely lead to academic success; and (c) attribution retraining, subjects were taught to attribute academic performance to effort which is an internal, unstable attribution rather than ability which internal and stable or to external factors such as luck or task difficulty. The only intervention that had an effect on performance was the GPA information intervention. Among subjects in

this group, second semester GPAs remained stable. In the other two intervention groups, second semester GPAs were significantly lower than first semester GPAs. The attribution retraining group did make fewer attributions to stable factors after the intervention, but this did not have an impact on improving first or second semester GPAs.

Perry and Penner (1990) examined the effectiveness of attribution retraining in improving academic performance in college students who ranked high on the external locus dimension. They hypothesized that the academic achievement of high-risk students could be increased by increasing students' perceived control through attribution retraining techniques. The subjects in this study consisted of 198 female and male students enrolled in introductory psychology. The subjects were divided by a median split into external and internal locus of control groups. Students who attributed their failure more to effort were identified as having an internal locus (controllable by the individual), while those who attributed failure more to lack of ability were considered to have an external locus (uncontrollable by the individual). While this concept of external locus differs from Rotter's (1966) concept of external locus of control and from Weiner's (1985a) concept of internal locus of causality, Perry's and Penner's (1990) classification of a low ability cause as external does fit nicely into Weiner's separation of the concept of locus of control into two dimensions, locus of causality and control, where ability would be considered as having an internal locus of causality yet be uncontrollable.

In the Perry and Penner (1990) study, external control subjects who received attribution retraining performed better on tests over lecture material and written study material than externals who received no training. These benefits were not evident for internal-control subjects. Also, teacher expressiveness affected the internal and external-control students differently. External-control students performed better on both the test over lecture material and the test over study material, while no significant improvement on the lecture test was noted for the internal-control students. Interestingly, the internal-control subjects who were in the high-expressive instruction group had a significantly lower performance on the homework test than did those who received low-expressive instruction. The researchers postulated that the lower performance on the homework test for internal-control students who had received high-expressive instruction may have been a result of the internal-control students who received lower quality instruction working harder on mastering the homework material as a means of regaining control.

Another study that supports the effectiveness of attribution retraining among college students was conducted by Green-Emrich and Altmaier (1991). They reported successful results using attribution retraining as a structured group counseling intervention. Three groups were formed from an original pool of 83 undergraduates (61 female, 22 male) who were enrolled in an educational psychology course. The groups were formed as follows based the subjects' scores on an attributional style questionnaire: Adaptive Group (n=14; 11 female,

3 male), Nonadaptive Group (n=15, 14 female, 1 male), and Treatment Group (n=12; 11 female, 1 male). All the groups participated in a problem-solving session. One week prior to the problem-solving session, the treatment group also participated in structured group counseling that focused on attribution retraining. Among the subjects who originally used nonadaptive attributions but were retrained through the group counseling intervention, significant changes were noted in the frequency of more adaptive attributions (external, unstable, specific) for an uncontrollable failure experience as compared to a control group of subjects who had used a similar original attributional style.

Retention of Students on Academic Probation

As the pool of traditional-aged college students (18-24 years old) is shrinking (U.S. Department of Education, 1993b, Wegmann et al., 1985), many colleges and universities have focused on retaining students who are already enrolled as a means of maintaining enrollment. While rates vary from institution to institution, recent figures indicate that even though the majority of students meet entrance requirements, only about one-half of students who enroll in institutions of higher learning graduate within six years (U.S. Department of Education, 1993). In spite of the desirability of retaining students, virtually all institutions have established minimum academic standards that must be maintained for a student to continue enrolling. Generally, students who do not meet minimum standards are first warned that they must meet the standards to continue at that institution and are then given a probationary period to raise their

grades to a satisfactory level or be dismissed from the institution (Boulard, 1994). Therefore, the academic personnel responsible for trying to increase retention rates often are faced with the dilemma of notifying a sizable number of students that they will not be allowed to continue their higher education unless academic standards are met. A variety of strategies and services have been developed to help probationary students meet and maintain those minimum standards (Garnett, 1990; Heerman & Maleki, 1994; Newton, 1990; Ramirez & Evans, 1988; & Walter, 1988).

Intrusive advising is one intervention that has demonstrated its effectiveness in increasing retention rates of students on academic probation. Garnett (1990) describes an intrusive advising program at Henderson State University in which mandatory visits with the Counseling Center, instructors, and the student's academic adviser are required, as well as are supervised weekly study sessions. Garnett reports that, over four years, the probation rates fell from 10.2% to 8.2% and gives significant credit in an overall increase enrollment figures over a five year period to the intrusive advising program. Walter (1988) also reports successful results using intrusive interventions with second semester freshmen on probation. Probationary students in an intrusive advising treatment group had significantly higher grades and were retained at a significantly higher rate than were the control sample in comparisons of the two groups immediately following the intervention and three semesters later.

Ramirez and Evans (1988) report success with a multi-faceted, long-term intervention program designed to address the needs of probationary students on a variety of levels. Students sign a contract to continue the intervention program until they either leave the university or are no longer on academic probation. Students attend workshops to help them understand the gravity of their situation and work with their academic advisor on a regular basis. Two mid-term grade checks are made in which the students academic progress is evaluated and recommendations for remediation or other assistance is made. Compared to other students on academic probation who do not participate in the intervention, the treatment group had lower continued probation rates. Also, a correlation between the number and frequency of adviser contacts and the gains in grade points was determined. The more regularly and closely an adviser and student worked together, the greater the gains in grade point.

Heerman & Maleki (1994) describe using a study skills portfolio approach with students on academic probation. This intervention focuses heavily on teaching students to examine their academic record, identify the causes for their substandard performance, and establish a plan of action for re-establishing a satisfactory academic record. A five step approach includes the student writing an initial problem statement, conducting a transcript grade analysis, a time and money analysis, evaluating their academic major and career goals, and assessing their reading writing and text processing skills. Following the analysis phase, the students plan interventions that will address their specific problems.

The interventions are unique for each individual and require the students to accept responsibility for the restoration of their academic record.

Newton (1990) describes a 10-week seminar for students on academic probation. This intervention uses an organized support group format where students explore personal issues, peer influences, methods for behavior change, and skill building techniques. This approach encourages students to evaluate themselves, examine their options, and make changes in a supportive, non-threatening environment. Newton reports that when compared with students of similar background and academic standing, the students who completed the seminars got off probation at a higher rate, withdrew from the university at a lower rate, graduated at a higher rate and changed majors at a lower rate. Additionally, many groups continued to meet beyond the 10-week period because they believed that the supportive group environment was instrumental in their continued success.

While a specific study of the attributional process of students on academic probation or attributional retraining of probationary students was not found, the interventions described above lend support for the viability of such an intervention. The successful interventions described above had components within their designs which addressed the attributional process. Several of the interventions required the students to identify the cause of their substandard performance (making attributions) and then provided interventions designed to encourage the student to accept responsibility for their past academic

performance and for improved future performance. A better understanding of the attributional process of students on academic probation and of those who successfully get off probation can be of benefit to those in a position to develop effective interventions.

Summary

A review of the literature on attributions as they relate to academic behavior in a higher education setting was presented in this chapter. Specific research examining attributions of stability and control was examined. Differences in attributions related to gender were examined, as were studies examining the complex interaction of attributions, various personality variables, and success and failure experience. Also, research on the self-serving bias of attributions and the effectiveness of attributional retraining was examined.

The research to date generally supports a three-dimensional attributional model with stability and control considered as distinct from the locus dimension. Additionally, the research reviewed supports the theoretical implications of Weiner (1979) that attributing cause to stable or controllable factors affects academic achievement. Research focusing on gender differences has yet to establish a strong case for major differences between males' and females' attributional styles within the context of achievement attributions. Because attributions are influenced environmentally, the varied findings could be indicative of changes in opportunities for females in achievement settings. Studies that

examined the complex interaction of causal dimensions with various achievement behaviors demonstrated relationships with factors such as emotions, personality type, expectation of future success, and persistence.

The literature also offers consistent support for the existence of a self-serving bias in achievement attributions. In response to success, individuals generally make more internal, stable, and controllable attributions than they do in response to failure. Finally, studies addressing the effectiveness of attributional retraining provide mixed results. A more comprehensive understanding of the best methods for retraining attributions in such a way that achievement behaviors will be affected is needed.

CHAPTER III

METHOD

The method and procedures used for this study are presented in this chapter. The chapter is divided into the following sections: (a) subjects, (b) ethical considerations, (c) instrumentation, (d) procedure, and (e) research design and statistical analyses.

Subjects

The subjects for this study consisted of 76 college students on probationary status at a small, regional university in a southwestern state. Three of the subjects failed to complete enrollment, therefore their initial responses were not tabulated. Data were analyzed on 73 (21 female, 52 male) subjects. End of the semester data was completed by 34 of the subjects.

A demographic analysis based on responses to the demographic data sheet (see Appendix B) revealed that the average ACT score of the subjects was a 19, which is the minimum score required for regular admission to the university. Twenty-eight (44%) subjects reported a score of 18 or below on their ACT tests,

35 reported scores of 19 or above, and 10 subjects had either not taken the ACT or failed to report a score.

The majority of the subjects were of traditional age with 69 (95%) being 24 years of age or below. Analysis of the ethnic-racial composition of the subjects revealed that 61 (84%) of the subjects were White/Caucasian, 4 Hispanic, 3 Black/African American, 2 Asian/Asian American, 1 Indian/Native American, and 1 preferred not to respond.

Most of the subjects reported graduating from high school with a class of 100 students or less. Thirty-one (43%) subjects reported graduating with class of 50 or fewer students, 13 (18%) reported graduating in classes of 51-100 students, while 28 (40%) reported graduating in classes with 101 or more students.

The majority of the subjects were undergraduates; 42 (58 %) reported freshmen status and 19 (26%) reported sophomore status. The remaining 12 subjects reported their status as juniors, seniors, or did not respond. All of the academic schools at the regional university were represented with (a) 16 (22%) subjects reporting a major in the school of education, psychology and health and physical education, (b) 13 (18%) a major in the social sciences, (c) 11 (15%) a major in practical arts, (d) 10 (14%) a major in the school of math and science, (e) 6 (8%) a major in the school of fine arts, (f) 3 (4%) a major in nursing, (g) 11 undecided, and (h) the remaining 3 subjects not responding to that item.

The majority of the subjects, 67 (92%) reported single as their marital status, with 4 reporting being married and 2 separated. Only 10 (14%) subjects reported having children. Twenty-eight (38%) subjects reported living alone, 30 (41%) with a roommate and 15 (21%) with parents or family. Of the 73 respondents, 66 reported family incomes; 7 reported an income under \$5,000, 15 reported an income of \$5,001-15,000, 13 reported an income of \$15,001-25,000, 14 reported an income of \$25,001-35,000, and 17 reported an income of \$35,000 or more. Forty-three (59%) subjects reported that they worked while in college, with 24 hours per week being reported as the average number of hours worked. Thirty-two (44%) of the subjects reported that they had attended a different college prior to their current semester.

The subjects were divided into two groups based on their performance during the semester that they were on academic probation or academic notice. The successful group (24 males, 11 females) was identified as those who achieved a GPA of 2.0 or better during their probationary semester. The unsuccessful group (27 males, 9 females) was comprised of students who achieved a GPA of less than 2.0 during their probationary semester.

Ethical Considerations

Participation in this study was voluntary. Subjects signed an informed consent form (see Appendix C) that explained the study and informed the subjects that their responses were confidential and that they could withdraw at

any time without penalty. The Oklahoma State University Institutional Review Board evaluated this study and determined that subjects were at no risk for harm (see Appendix D).

Instrumentation

The instrument used in this study was the Revised Causal Dimension Scale (CDSII) (McAuley et al., 1992) (see Appendix A). The authors granted written permission for use of the instrument in this study (see Appendix E). The CDSII is a revised version of Russell's (1982) Causal Dimension Scale. The CDSII is a 12 item scale that yields scores on four dimensions of causality: (a) locus of causality, (b) stability, (c) personal control, and (d) external control. Subjects were asked to give a reason or reasons for their failure to meet minimum academic standards in their previous semester. Subjects then responded to 12 questions that assessed how they perceived the causal attribution(s) they gave. Following is an example of one of the items assessing the stability dimension: "Is the cause(s) something manageable by you - not manageable by you?" Subjects responded to the item by circling a number from 1 to 9 indicating the strength of agreement along the continuum from manageable by the subject to not manageable by the subject.

Using the CDSII for assessing attributions avoids what Russell (1982) identifies as the "fundamental attribution researcher error" (p. 1137). Russell points out that previous assessment of attributions has depended upon the

researcher attempting to categorize subjects' attributional statements into theoretically derived causal dimensions. However, the researcher and the subject may not agree on the meaning (e.g. internal-external or stable-unstable) given a causal attribution (Russell, 1982; Russell, McAuley, & Tarico, 1987). Weiner (1979, 1983) notes that both individual differences and situational differences influence the meaning that is given to causal attributions. One person may view luck as an unstable factor, "I was lucky that time;" however, someone else may view luck as a stable factor, "I am always lucky on multiple choice tests." In fact, Russell (1982) found that in an achievement setting the specific attributions made for success or failure were actually viewed differently following success than they were following failure. For example, ability was viewed as more internal, stable, and controllable following success than following failure.

Weiner (1983) suggests that it is preferable to allow subjects to indicate the degree to which they perceive a cause to be stable, internal and controllable rather than assume all attributions to ability, effort, luck, or task difficulty would be perceived the same. By allowing subjects to both identify the reason they believe a particular success or failure event occurred and indicate the extent they believe each of the four dimensions (locus of causality, stability, personal control, and external control) influenced the causal explanation given, a more precise indication of the influence of those dimensions can be obtained (McAuley et al., 1992; Russell, 1982; Russell et al., 1987).

Reliability

Reliability and validity of the CDSII (McAuley et al., 1992) has been shown through use of this instrument in various research situations. McAuley, et al. (1992) assessed the reliability of the CDSII in four studies. Two of the studies were conducted in a laboratory setting and two were carried out in a natural environment where the outcome of the subjects' performance impacted their final grades. Each of the four studies utilized college students as subjects.

Internal reliability for the CDSII fell within an acceptable range in all four studies, with values ranging from .60 to .92. Reliability figures in the four studies for the four dimensions measured by the CDSII are as follows: The locus of causality scale ranged from .60 to .71; the stability scale ranged from .65 to .68; the personal control scale ranged from .72 to .90; and the external control scale ranged from .71 to .92 across the four studies.

Validity

The construct validity of the CDSII has been assessed by McAuley et al. (1992) using factor analysis. The factor analysis indicated that while personal control, external control, stability, and locus of causality scales are highly correlated, they also measure distinct constructs. To determine if the four-factor model provided the best fit for the data, analyses of the model were performed that collapsed the various dimensions into two- and three-factor models. Results indicated that the four-factor model provided a better fit to the data than any of

the models that combined two or more of the causal dimensions into a single dimension.

While no other validity studies are available on the CDSII, other studies found that the locus of causality and stability subscales on the original Causal Dimension Scale (CDS) (Russell, 1982) had adequate convergent and discriminant validity (Russell, 1982; Russell et al, 1987). These two scales were unchanged on the CDSII. However, because of reliability and validity problems with the controllability scale, that scale was reformulated into two dimensions of control (personal control and external control). This reformulation was shown to improve the validity and reliability of the control dimension (McAuley et al., 1992). Additionally, McAuley and Shaffer (1993) examined the correlation between the personal control and external control subscales of the CDSII. Their analysis revealed that, while the two dimensions are highly related, the two subscales do measure distinctly different constructs. For example, individuals can attribute causality to factors that are both externally controllable and personally controllable.

Scoring

Scoring of the CDSII is achieved by tabulating the values of subjects' responses to a 9-point Likert-type scale. The CDSII consists of 12 questions with 3 questions assessing each of the dimensions; (a) locus of causality, (b) stability, (c) personal control, (d) external control. The possible range of scores on each

dimension is 3 at the low end and 27 at the high end. For each dimension a low score is indicated by scores in a range of 3 to 14 and a high score is indicated by scores in a range of 16 to 27. Midrange scores of 15 would not indicate a direction of causal attribution for that dimension. The total score for each dimension is obtained by summing items as follows: (a) 1, 6, 9 = locus of causality; (b) 5, 8, 12 = external control; (c) 3, 7, 11 = stability; and (d) 2, 4, 10 = personal control.

Procedure

This study was carried out at a small, regional university in a southwestern state. The original population consisted of 229 students on the academic deficiency list in the fall of 1994 (n=90) and spring of 1995 (n=139). However, of the 229 students notified of their academic deficiency, only 121 (36 in the fall, 85 in the spring) enrolled during their probationary semester. Prior to the beginning of each semester, letters were mailed from the Vice-President of Student Affairs to each student on the academic deficiency list requesting their attendance at an information session (see Appendix F) scheduled during the first few days of classes. At the information session, the Vice-President for Student Affairs discussed the academic probationary process with the students and informed them of the consequences if they had a subsequent unsatisfactory semester. Also, staff of the Student Services division described services available to assist the students in meeting academic standards. Services that were described included academic assistance, career counseling, and personal counseling.

Following the meeting with the Student Services division, the students were invited to become part of this study. The researcher briefly described the study and distributed folders containing an informed consent (see Appendix C), a demographic data sheet (see Appendix B), and a Revised Causal Dimension Scale (CDSII) (McAuley et al., 1992) (see Appendix A). Students who agreed to participate in the study completed the information at that time and again at the end of their probationary semester. Of the 121 students who enrolled under academic probation, 76 students (22 fall, 54 spring) completed information, however three of those failed to complete the enrollment process and were dropped from the study. Therefore, 73 (21 female, 52 male) students became subjects in this study.

The subjects granted the researcher access, via their signed informed consent, for their probationary semester grade point averages to be used for analysis purposes. These were obtained and used to group the students into two groups, successful and unsuccessful. A total of 35 students achieved a 2.0 or better grade point average for their probationary semester and comprised the successful group, while 37 students achieved a grade point average below a 2.0, which placed them in the unsuccessful group.

Student responses to the CDSII (McAuley et al., 1992) were tabulated yielding separate subscale scores on the four causal dimensions (i.e. locus of causality, stability, personal control, and external control). Data were analyzed to compare the students who were successful during their probationary semester

with those who were unsuccessful. The successful and unsuccessful students' CDSII subscale scores were compared to determine if there was a significant difference between the causal attributions of the successful group and the unsuccessful group.

A second analysis was performed on data from the students who were successful during their probationary semester. CDSII responses from the beginning of the probationary semester were compared with responses from the end of the semester to determine if there was any significant difference in attributions for failure and attributions for success.

A third set of analyses were performed on data from the students who were not successful during their probationary semester to compare their CDSII responses at the beginning of their probationary semester with their responses at the end of the semester. This analysis yielded data to determine if the unsuccessful students' attributions for failure changed significantly from the beginning of the semester to the end of the semester.

Finally, analyses were performed on two demographic variables, gender and ACT. Males' and females' responses to the CDSII were analyzed to determine if attributional styles differed as a function of gender. CDSII responses also were analyzed to determine if attributional style differed as a function of the subject's ACT score.

Research Design and Statistical Analyses

A causal comparative research design was used to examine the difference between (a) successful students' and unsuccessful students' attributions for failure, (b) beginning and end-of-semester attributions of the successful subjects, and (c) beginning and end-of-semester attributions of the unsuccessful subjects. A causal comparative design was selected because the successful and unsuccessful groups were formed on the basis of their performance during their probationary semester rather than being formed by random selection. Because of this lack of control over the independent variables, findings could not be interpreted as indicating a causal relationship, rather differences between independent variables on the four dimensions of causality were identified through statistical analyses.

The statistical analyses involved performing independent t -tests on the between-subjects independent variables and repeated measures t -tests on the within-subjects independent variables. T -tests, rather than analysis of variance (ANOVA) were selected because with two groups F is equal to t^2 (Maxwell and Delaney, 1990). No adjustments were made for family wise error because comparisons were made between only two groups on different dependent variables, rather than conducting planned comparisons of multiple groups in which a Bonferroni post hoc adjustment would be called for (Keppel, 1991). Additionally, small cell sizes in two of the comparisons made t -test comparisons a better choice (Maxwell & Delaney, 1990). For each of the analyses, the four

subscales of the CDSII served as the dependent variables. Hypotheses were tested at the $p < .05$ level of significance for all analyses.

Independent t -tests were performed on the independent variables of (a) performance during the probationary semester (successful and unsuccessful), (b) gender (male and female), and (c) ACT score (below 19 and 19 and above). Each analysis yielded separate t -values for each the four dependent variables (locus of causality, stability, personal control, and external control).

Repeated measures t -tests were performed using the pretest, posttest scores on the subscales of the CDSII for each of the following groups: (a) Students who were successful during their probationary semester, (b) students who were not successful during their probationary semester, (c) males who were successful during their probationary semester, (d) males who were not successful during their probationary semester, (e) females who were successful during their probationary semester, (f) females who were not successful during their probationary semester. Time of testing served as the independent variable (beginning of semester and end of semester) for each of the within-groups analyses and scores on the four subscales of the CDSII served as the dependent variable. Each analysis yielded separate t -values for each of the four dependent variables (locus of causality, stability, personal control, and external control).

CHAPTER IV

RESULTS

Statistical analyses were used to test three main hypotheses concerning the attributional differences between probationary students who subsequently succeeded and those who subsequently failed. The data were further analyzed to examine any attributional differences associated with the subjects' gender or scores on standardized college aptitude exams (ACT).

A between-subjects analysis with independent t tests was used to identify differences in the attributions of probationary students who subsequently experienced success and those who subsequently experienced failure during their probationary semester. Within-subjects analyses using repeated-measures t tests examined change in attributions from the beginning of the probationary semester to the end of the semester. The dependent variables were the four subscales on the Revised Causal Dimension Scale (CDSII) (i.e. locus of causality, stability, personal control, and external control) (McAuley et al, 1992). Three main hypotheses were evaluated at the .05 level of significance.

Table 1 summarizes all means, t values, and probability levels for the between-subjects analyses. Table 2 summarizes all means, t values, and probability levels for the within-subjects analyses.

Between-Subjects Analyses

Hypothesis One postulated that there is no significant difference in attributions, as measured by the four subscales of the CDSII (McAuley et al., 1992), between subjects who were successful during their probationary semester and those who were unsuccessful. Because scoring of the CDSII yields four separate subscale scores, a t -test for independent samples was performed on each subscale. No significant differences were found between the successful subjects' ($n=35$) mean scores on the four subscales and the unsuccessful subjects' ($n=37$) mean scores. Therefore, the independent t -test resulted in failure to reject the null hypothesis as it related to all four subscales (see Table 1).

Within-Subjects Analyses

Hypothesis Two postulated that there are no significant changes, from the beginning of the semester to the end of the semester, in the successful subjects' attributions, as measured by the four subscales of the CDSII. Paired sample t -tests were used to test this hypothesis but could be performed only for the subjects who returned their data at the end of their probationary semester ($n=23$). These analyses of attributional change for the successful subjects indicated a significant change on the stability subscale and no significant changes on the locus, personal control or external control subscales. Among those subjects who succeeded, the mean score of the stability subscale increased from 9.64 to

Table 1
Independent t-test values of CDSII subscales

Comparison	M ₁	M ₂	t	p
Successful (M ₁) vs. unsuccessful (M ₁)				
Locus of causality	17.80	16.03	1.34(69)	.186
Stability	10.51	12.57	-1.74(69)	.086
Personal control	19.51	17.92	- 1.13(70)	.263
External control	12.40	12.86	- .33(61)	.743
Successful female (M ₁) vs. successful male (M ₁)				
Locus of causality	17.36	18.00	- .29(17)	.773
Stability	8.82	11.29	-1.46(24)	.158
Personal control	19.63	19.45	.10(31)	.920
External control	10.45	13.29	-1.20(22)	.243
Unsuccessful female (M ₁) vs. unsuccessful male (M ₁)				
Locus of causality	13.00	17.19	-2.79(26)	.010**
Stability	12.11	12.81	- .43(19)	.673
Personal control	16.44	18.56	-1.01(19)	.326
External control	12.22	13.04	- .49(18)	.631
ACT ≥ 19 (M ₁) vs. ACT <19 (M ₁)				
Locus of causality	17.34	17.41	- .05(51)	.963
Stability	10.43	12.43	-1.68(58)	.099
Personal control	20.03	18.96	.73(51)	.470
External control	11.66	13.21	-1.04(52)	.304
GPA				
ACT ≥ 19 (M ₁) vs. ACT <19 (M ₁)	2.13	1.54	2.04(54)	.046*

*p < .05. **p < .01.

Table 2
Paired sample t-test values for beginning and ending semester CDSII scales

	M ₁	M ₂	t	p
All successful				
Locus of causality	17.55	19.73	-1.14(21)	.268
Stability	9.86	15.86	-3.71(21)	.001***
Personal Control	19.26	20.43	-.83(22)	.417
External Control	12.35	12.43	.05(22)	.963
All unsuccessful				
Locus of causality	16.10	16.40	-.19(9)	.857
Stability	11.27	13.27	-1.00(10)	.341
Personal Control	17.36	15.73	.53(10)	.606
External Control	12.91	13.00	-.05(10)	.959
Female successful				
Locus of causality	16.90	23.50	-2.74(9)	.023*
Stability	9.20	18.30	-3.29(9)	.009**
Personal Control	18.90	22.70	-2.12(9)	.063
External Control	11.30	11.60	-.09(9)	.931
Female unsuccessful				
Locus of causality	15.67	16.33	-.33(2)	.774
Stability	11.00	15.33	-.76(2)	.524
Personal Control	16.33	18.33	-.57(2)	.626
External Control	13.33	17.00	-2.52(2)	.128
Male successful				
Locus of causality	18.08	16.58	.60(11)	.558
Stability	10.00	13.83	-2.05(11)	.065
Personal Control	19.54	18.69	.43(12)	.675
External Control	13.31	12.92	.18(12)	.861
Male unsuccessful				
Locus of causality	16.29	16.43	-.06(6)	.951
Stability	11.38	12.50	-.56(7)	.592
Personal Control	17.75	14.75	.74(7)	.481
External Control	12.75	11.50	.57(7)	.584

Note. M1 refers to mean subscale scores for the beginning of the probationary semester and M2 refers to mean subscale scores for the end of the probationary semester.

*p < .05. **p < .01. ***p < .001

15.86; $t(21) = -3.71, p = .001$. This increase indicated a shift from unstable attributions after academic failure to stable attributions after a successful academic experience. Therefore, paired-sample analyses of the successful subjects' responses resulted in rejection of the null hypothesis for the stability subscale and failure to reject the null hypothesis for the locus of causality, personal control, and external control subscales (see Table 2).

Hypothesis Three postulated that there are no significant changes, from the beginning of the semester to the end of the semester, in unsuccessful students' attributions, as measured by the four subscales of the CDSII. Paired sample t -tests performed on the responses of 11 subjects who returned their end-of-semester data indicated no significant changes in attributions from the beginning to the end of the probationary semester. Therefore, paired-sample analyses of the unsuccessful subjects' scores resulted in failure to reject the null hypotheses for the four subscales (see Table 2).

Additional Findings

In addition to the primary hypotheses, analyses were performed to determine if gender or ACT scores were related to differences in attributions. Also, attributional change was examined with the data sorted on the basis of gender and ACT scores.

Gender

Males and females were compared to determine if they differed with regard to success or failure during the probationary semester. Also, changes in attributions were examined within the male and female groups to determine if change occurred as a factor of gender. Independent t -tests comparing successful males ($n=23$) and successful females ($n=12$) yielded no significant difference in attributions which were assessed at the beginning of the probationary semester. However, between the unsuccessful males and unsuccessful females, a significant difference in locus of causality attributions was indicated. An independent t -test comparing locus of causality attributions of unsuccessful males ($n=28$) and unsuccessful females ($n=9$) indicated a significant difference between males ($M=17.19$) and females ($M=13.00$), $t(26) = -2.79$, $p = .01$, suggesting that unsuccessful males attributed their failed semester to internal causes significantly more than did the unsuccessful females. This finding should be interpreted with caution, however, in light of the small number of females in the comparison group. No significant differences were indicated between males and females in the unsuccessful group on the other three subscales (see Table 1).

Paired-sample t tests were performed to examine gender differences in attributional change from the beginning of the semester to the end of the semester for both the successful and the unsuccessful groups. Analyses could be performed for only subjects who completed their data at the end of the

semester (n=34). Analyses of males in the successful group (n=12) indicated no significant changes in attributions. Likewise, analyses of males in the unsuccessful group (n=8) yielded no significant changes in attributions from the beginning to the end of the probationary semester (see Table 2).

Changes in the females' attributions from the beginning of the semester to the end of the semester could be analyzed for only those who returned their surveys at the end of the semester (n=13). Significant changes in attributions were identified for the successful females (n=10). However, valid analyses of the females' scores in the unsuccessful group could not be obtained because of an inadequate sample size (n=3). Within the successful group of females, attributional change was noted on both the locus of causality and stability subscales. Subjects in this group were significantly more internal in their attributions for success than they were in their attributions for failure, $t(9) = -2.74$, $p = .023$. This is indicated by an increase in the mean locus of causality subscale score of the successful females from a 16.9 for the failed semester to a mean score of 23.5 for their successful semester. Also, the females in the successful group attributed their successful performance to significantly more stable causes than their unsuccessful performance ($t(9) = -3.29$, $p = .009$), which is indicated by an increase in the mean stability subscale score from 9.2 for the unsuccessful performance to a 18.3 for the successful semester (see Table 2).

ACT

The impact that ACT had on performance was analyzed using t -tests for independent samples. A score of 19 was used as the division point, since that represents the minimum score necessary for regular admission to the university. No significant differences were found between those who scored a 19 or above on their ACT ($n=35$) and those who scored less than a 19 ($n=28$) for any of the four measures of attributions. However, those who scored a 19 or above on the ACT did achieve a significantly higher grade point average than those who scored below a 19, $t(54.43) = 2.04$, $p = .046$. The mean grade point average for those with a 19 or above on the ACT was a 2.12, while those who scored below a 19 achieved a mean GPA of 1.54 (see Table 1).

Summary

This chapter presents the results of an investigation and statistical analyses of the attributions of probationary students. First, differences in the attributions of successful and unsuccessful probationary students were examined. Results indicated that the successful probationary students did not differ significantly from the unsuccessful students on any of the measures of attributions (i.e. locus, stability, personal control, or external control). The only significant difference in attributions noted was between unsuccessful males and unsuccessful females, with males attributing their failure to internal causes significantly more than did the females. However, this analyses should be

interpreted with caution because of the small number of females in the comparison group. In the examination of ACT scores, no significant differences in attributions were identified on the four subscales between those who scored a 19 and above and those who scored below a 19 on the ACT. However, those who scored a 19 or better did achieve a significantly higher grade point average than did those who scored below a 19 on the ACT.

Another set of analyses examined attributional change from the beginning of the probationary semester to the end of the probationary semester. A significant change in stability attributions was noted among subjects in the successful group, with further analysis indicating that females within the group accounted for most of that difference. Attributions of these groups shifted toward attributing performance to more stable causes at the end semester. Another significant finding indicated a shift toward more internal attributions for the successful females. No significant changes in attributions were noted for the males as a whole, the successful males, or the unsuccessful males.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The purpose of this study was to examine attributions of students achieving at an unsatisfactory level to determine; (a) if the attributions of students who achieve at a satisfactory level during their probationary semester differ from those who are not successful during their probationary semester, (b) if the attributions of successful students change from the beginning of the semester to the end of the semester, and (c) if the attributions of unsuccessful students change from the beginning of the semester to the end of the semester. Additionally, differences in attributions and attributional change were examined based on the subjects' ACT scores and gender.

The subjects for this study were volunteers at a small, regional university in a southwestern state who were on the academic deficiency list during the Fall 1994 or Spring 1995 semester. A total of 73 students, 52 male and 21 female, participated in the study. Subjects completed a Demographic Data Sheet and the CDSII (McAuley et al, 1992) at the beginning of their probationary semester and

again at the end of the semester. Subjects were divided into two groups based on their performance during their probationary semester, successful (2.0 or better GPA) or unsuccessful (GPA below 2.0).

Independent t -tests were used to compare the successful and unsuccessful students on the four dimensions of the CDSII and repeated-measures t -tests were used to compare attributions from the beginning of the probationary semester with attributions from the end of the semester. Subjects also were compared based on their gender and on their ACT scores.

Results of the independent t -tests indicated that the successful probationary students did not differ significantly from the unsuccessful students on attributions of locus, stability, personal control, or external control. One significant difference, which should be interpreted with caution because of the small number of females in the unsuccessful group, was noted between unsuccessful males and unsuccessful females. Unsuccessful males attributed their failure to internal causes significantly more than did the unsuccessful females. One significant finding was noted in the examination of ACT scores. Those who scored a 19 or better did achieve a significantly higher grade point average than did those who scored below a 19 on the ACT. However, no significant differences in attributions were identified on the four subscales of the CDSII based on the ACT scores.

Repeated measures t -tests indicated a significant change in stability attributions from the beginning of the probationary semester to the end of the

semester for three groups. Attributions of three groups (all successful, all females, and successful females) shifted toward ascribing performance to more stable causes at the end semester. Another significant finding indicated a shift toward more internal attributions for the successful females. No significant changes in attributions were noted for the successful males, or the unsuccessful males.

Conclusions

A general theme of the results seems to be that there are greater attributional differences among females than among males, when comparing successful groups with unsuccessful groups. Overall, both successful and unsuccessful males tended to respond in a similar manner on the CDSII. However, the unsuccessful females differed from the successful females, as well as the successful and unsuccessful males, in their responses on the CDSII. This observation was a factor in the formulation of three of this study's four conclusions. The fourth conclusion discusses the relationship between ACT scores and grade point averages.

1. Among the unsuccessful group there is a significant difference in locus of causality attributions between males and females that is not evident among the successful group. Unsuccessful females attributed their academic failure to external causes more than did the unsuccessful males. While this finding should be interpreted with caution because of the small number in the unsuccessful

female group, these results may indicate that successful females tend to be more similar to the males in attributional style than are the unsuccessful females. As was suggested by Chandler, Shama, and Wolf (1983) as females increase in their successful achievement behaviors, there is a corresponding decrease in differences between males and females in their attributions for achievement. Therefore, this finding may indicate that the unsuccessful females are lagging behind the successful females in making the transition to attributing academic performance to internal causes. Females who have developed the skills necessary for success in college may have developed an attributional pattern more consistent with males than have the females who have not developed the skills necessary for success in college.

2. There is a significant change in the stable versus unstable attributions for both successful subjects as a whole and for successful females. However, the probability level fell slightly short of significance for the successful males on the stability measure, indicating that the significance for all successful subjects was largely attributable to the successful females. This finding, that successful students are more likely to attribute their successes to stable factors and their failures to unstable factors, is consistent with Weiner's (1979, 1985) model of achievement attributions for success and failure. In these studies, Weiner notes that when individuals attribute failure to an unstable cause such as effort, there is a greater expectation for future success than if the failure is attributed to a cause that is not likely to change such as ability.

When females and males were examined separately, the pattern for attributing success to stable causes and failure to unstable causes was more evident among the successful females. This may indicate a greater tendency among females to attend to and accommodate new information and modify their attributions accordingly.

3. Successful females were significantly more likely to attribute their successful semester to internal causes and their failed semester to external causes. This finding is also consistent with Weiner's (1979, 1985a) model of achievement attributions and the notion of a self-serving bias found in much of the attribution literature. Weiner (1979, 1985a) suggests that attributing failure to external causes and success to internal causes acts to protect individuals' self-esteem and thus increases achievement motivation. The reason that the successful males in this study did not conform to this pattern is not clear. Based on the link established between attributions for locus and self-esteem, this finding might indicate that females, as a group, evaluate themselves in light of their academic achievement to a greater extent than do males, and therefore conform to this pattern to a greater degree.

4. Subjects who scored a 19 or better on their ACT exam did achieve a significantly higher GPA than did those who scored below a 19 on the ACT. While the focus of this study was not to examine the relationship between ACT and GPA, this finding is interesting since the regional universities in this state use a score of 19 as the minimum score for regular admission to the university. This

finding, therefore, does provide some support for this practice. However, examination of the relationship between ACT scores and grade point averages of the entire student body over a period of time would be necessary before any broad conclusions could be drawn.

Recommendations for Research

The following recommendations for future research are based upon the results of this study.

1. No significant differences were identified in the comparison of successful and unsuccessful probationary students. This finding may be attributable to the use of objective measures to define success and failure. Subjects achieving a 2.0 or better GPA were categorized as successful, while subjects achieving below a 2.0 GPA were identified as unsuccessful. However, subjects may have differed in their own subjective evaluation of their performance. Future research might focus on utilizing individuals' subjective evaluation of their performance to differentiate successful and unsuccessful performance.

2. This study employed a quantitative approach to examine differences in attributions of successful and unsuccessful probationary students. This methodology limits the questions that can be addressed. Further research using a qualitative methodology could be used to examine behaviors and attributions in a naturalistic setting. Using qualitative methods may allow the researcher to evaluate the accuracy of subjects' perceptions of causality in the context of the

subjects' behaviors and other observable environmental information. The qualitative approach also would allow for a broader view of attributions that could identify new areas for research.

3. One limitation identified in this study is the use of a new instrument, the CDSII (McAuley et al., 1992). Additional research using the CDSII in varied settings, with varied populations, could improve confidence in the reliability and validity of the instrument, and thus the generalizability of findings.

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APPENDIXES

APPENDIX A
REVISED CAUSAL DIMENSION SCALE

Revised Causal Dimension Scale (CDSII)

List one or more causes that you believe influenced your academic performance during the most recent semester in which your performance was below satisfactory academic standards.

Instructions: Think about the reason or reasons you have written above. The items below concern your impressions or opinions of this cause or causes of your performance. Circle one number for each of the following questions.

Is the cause(s) something:

1. That reflects an aspect of yourself.....reflects an aspect of the situation

9 8 7 6 5 4 3 2 1

2. Manageable by you.....not manageable by you

9 8 7 6 5 4 3 2 1

3. Permanent.....temporary

9 8 7 6 5 4 3 2 1

4. You can regulate.....you cannot regulate

9 8 7 6 5 4 3 2 1

5. Over which others have control.....over which others have no control

9 8 7 6 5 4 3 2 1

6. Inside of you.....outside of you

9 8 7 6 5 4 3 2 1

7. Stable over time.....variable over time

9 8 7 6 5 4 3 2 1

8. Under the power of other people.....not under the power of other people

9 8 7 6 5 4 3 2 1

9. Something about you.....something about others

9 8 7 6 5 4 3 2 1

10. Over which you have power.....over which you have no power

9 8 7 6 5 4 3 2 1

11. Unchangeable.....changeable

9 8 7 6 5 4 3 2 1

12. Other people can regulate.....other people cannot regulate

9 8 7 6 5 4 3 2 1

APPENDIX B
DEMOGRAPHIC DATA SHEET

DEMOGRAPHIC DATA SHEET

Please complete the following information based on your status during the semester that you did not achieve satisfactory academic progress.

Age: _____

Gender: Female Male

Ethnic Origin: Asian/Asian American Black/African American Hispanic
 White/Caucasian Indian/Native American Other
 I prefer not to answer

Classification: Freshman Sophomore Junior Senior Other

Major: _____

Size of high school graduating class: GED Under 50 51 - 100
 101-150 151-200 201 or more

What is your composite ACT score? _____

Marital Status: Single Married Separated Widowed

Do you have children: No Yes
 If yes, how many children? _____

Family Annual Income for 1993: under \$5,000 \$5,001-15,000 \$15,001-25,000
 \$25,001-35,000 \$35,001 or above

Do you work while you are a student? No Yes
 If yes, approximately how many hours per week? _____

Was NWOSU the first college you attended? No Yes
 If no, how many semesters did you attend college? _____
 What was the year of your last enrollment? _____

Where did you live while attending NWOSU?
 Alva: Dormitory House, apartment, room (off-campus)
 Outside Alva: 1-15 miles 16-30 miles 31-45 miles
 46-60 miles 61-75 miles 76 or more miles

Did you live:
 alone with a roommate with parents/family

Number of college organizations to which you belonged?
 0 1 2 3 or more

APPENDIX C
INFORMED CONSENT

Informed Consent

I, _____, hereby authorize or direct Tina Winn, Assistant Professor of Psychology, or associates or assistants of her choosing, to perform the following treatment or procedure:

Collect and analyze information from me with regard to my perception of the cause(s) of my academic performance.

Collect and analyze data on my performance during the Fall 1994 semester, specifically my 1994 Fall semester GPA.

I understand that I will be asked to complete a demographic data sheet and a 12 item survey at the beginning of the Fall 1994 semester and again during the last week of classes in the Fall 1994 semester. The survey will take approximately 15 minutes to complete.

I understand that all data, with the noted exception of information in which a subject admits to engaging in illegal activity, will be kept confidential and any reporting of data will be done in an aggregate form so that my data cannot be identified.

I understand that my participation in this study is voluntary and that there is no penalty for refusal to participate, and that I am free to withdraw from this study at any time without penalty after notifying the project director.

I may contact Tina Winn by phone at 405-327-1700 ext. 376 or in person in Fine Arts, Room 231, at Northwestern Oklahoma State University, should I wish further information about the research. I may also contact Ms. Jennifer Moore, University Research Services, 001 Life Sciences East, Oklahoma State University, Stillwater, OK 74078; Telephone: 405-744-5700.

This data will be used as part of a study entitled, "Attributional Differences Between Successful and Unsuccessful College Students on Academic Probation." The purpose of collecting the data is to better understand how the perception of the causes of success and failure differ with regard to successful and unsuccessful academic experiences.

I have read and fully understand the consent form. I sign it freely and voluntarily. A copy has been given to me.

Date: _____ Time: _____ (a.m./p.m.)

Signed _____
(Signature of Subject)

Campus Address (will be used to contact subjects for follow-up)

Address _____ City, State Zip _____

I certify that I have personally explained all elements of this form to the subject before requesting the subject to sign it.

Signed _____ Date _____
(Project Director)

APPENDIX D
INSTITUTIONAL REVIEW BOARD APPROVAL

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
HUMAN SUBJECTS REVIEW

Date: 07-27-94

IRB#: ED-95-006

Proposal Title: ATTRIBUTIONAL DIFFERENCES AFFECTING SUCCESS AND FAILURE AMONG AT-RISK COLLEGE STUDENTS

Principal Investigator(s): Judith Dobson, Tina Winn

Reviewed and Processed as: Expedited

Approval Status Recommended by Reviewer(s): Approved

APPROVAL STATUS SUBJECT TO REVIEW BY FULL INSTITUTIONAL REVIEW BOARD AT NEXT MEETING.

APPROVAL STATUS PERIOD VALID FOR ONE CALENDAR YEAR AFTER WHICH A CONTINUATION OR RENEWAL REQUEST IS REQUIRED TO BE SUBMITTED FOR BOARD APPROVAL.

ANY MODIFICATIONS TO APPROVED PROJECT MUST ALSO BE SUBMITTED FOR APPROVAL.

Comments, Modifications/Conditions for Approval or Reasons for Deferral or Disapproval are as follows:

Revisions received and approved.

Signature:


Chair of Institutional Review Board

Date: August 22, 1994

APPENDIX E

AUTHOR'S PERMISSION LETTER TO USE CDSII

University of Illinois
at Urbana-Champaign

Department of Kinesiology

Louise Freer Hall
906 South Goodwin Avenue
Urbana, IL 61801

217 333-2461
217 244-7322 *fax*

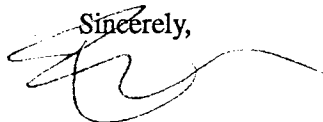
August 16, 1994

Dear Ms. Winn:

The CDSII (McAuley, Duncan, & Russell, 1992) is in the public domain and you are free to use it for research purposes. I enclose a reprint of the paper plus a reprint of a recent article that supports the psychometric properties of the scale. To my knowledge the CDSII has been used in several recent dissertations and continues to demonstrate acceptable reliability and validity.

Good luck with your dissertation.

Sincerely,



Edward McAuley Ph.D.
Professor

APPENDIX F

SUBJECTS' INFORMATIONAL SESSION INVITATION



VICE PRESIDENT
FOR STUDENT AFFAIRS
(405) 327-1700 Ext. 293

Alva, OK 73717

TO: All Students on Academic Probation or Academic Notice

FROM: Dr. John Jones, Vice President for Student Affairs

SUBJECT: Information Session Regarding Academic Support Services

DATE: August 10, 1994

All students who have been placed either on academic probation or academic notice are required to attend one of two sessions to provide them with critical information regarding their academic standing and information about services that can help improve their prospects for academic success. These sessions will be conducted at 1 p.m. Wednesday, August 24, and 1 p.m. Thursday, August 25, in Room 200 of the Fine Arts Building.

These meetings will be brief (45 minutes or less), during which several members of the Northwestern staff will present to you information regarding the university's tutoring programs and other academic support services. Any student whose schedule will not permit attendance at one of these sessions must contact university counselor Linda Wallace by August 24.



VITA

Tina Dawn Winn

Candidate for Degree of

Doctor of Education

Thesis: ATTRIBUTIONAL DIFFERENCES BETWEEN SUCCESSFUL AND UNSUCCESSFUL COLLEGE STUDENTS ON ACADEMIC PROBATION

Major Field: Counseling and Student Personnel

Biographical:

Education: Graduated from Lindsay High School, Lindsay, Oklahoma in May 1979; received Bachelor of Science degree in Education from Oklahoma Christian College, Oklahoma City, Oklahoma in April 1982; received a Master of Education degree in Guidance and Counseling from Northwestern Oklahoma State University, Alva, Oklahoma in July 1987. Completed requirements for Doctor of Education degree at Oklahoma State University in December 1995.

Professional Experience: Taught elementary physical education and coached at Lindsay Public Schools, Lindsay, Oklahoma from 1982-1984; Taught elementary physical education and coached at Alva Public Schools, Alva, Oklahoma from 1984-1986; Head Resident at South Hall at Northwestern Oklahoma State University in Alva, Oklahoma from 1986-1987; Director of Career Services at Northwestern Oklahoma State University from 1987-1992; Assistant Professor of Psychology at Northwestern Oklahoma State University from 1992 to present.

Professional Affiliations: American Counseling Association, Association for Counselor Education and Supervision, American College Counseling Association, Oklahoma Counseling Association, Oklahoma Association for Counselor Education and Supervision, Oklahoma Association of Colleges of Teacher Education