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ATTRIBUTION STYLES OF HIGH SCHOOL STUDENTS
AND HIGH SCHOOL DROPOUTS

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By

Larry Balkema

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ABSTRACT

ATTRIBUTION STYLES OF HIGH SCHOOL STUDENTS
AND HIGH SCHOOL DROPOUTS

By

Larry Balkema

This study was designed to investigate the relationship between achievement behavior and attributional style of high school students and high school dropouts. The research was aimed at determining whether a student's level of performance is related to his/her attributional style.

The population included students enrolled in grades 10 to 12 in school systems with community education programs with high school completion programs. High school dropouts not enrolled in community education programs were selected from a population of prison inmates.

The instrument used for data collection was the Multidimensional-Multiattributional Causality Scale. Descriptive statistics were used as the primary analytical tool. T-tests with a .05 significance level were applied in some cases.

The central findings of the study were as follows:

1. High school dropouts in community education programs and dropouts in prison reported a more positive attributional pattern than students who had not dropped out of school.

2. There was no significant difference in the attributional patterns of male and female students.

3. There was no significant difference in the attributional patterns of 10th-, 11th-, and 12th-grade students.

4. Black students reported a significantly more positive attributional pattern than white students.

5. Students enrolled in high school reported a slightly more positive attributional pattern as academic performance improved, as measured by grade point average.

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CHAPTER I

INTRODUCTION

The dropout rate of students from American high schools is an alarming 26%, 50% if the schools are located in urban areas. Almost one out of every two high school students from big inner-city schools drops out before graduation (Maurer, 1982). In the New York City school system, that amounts to about 40,000 children a year (New York Times Educational Supplement, 1980). In Michigan and other states, there is a concern about the increasing number of youths dropping out of high school. California illustrates the recent trend of increasing dropout rates. In 1967, only 12% of the students left school before graduation. By 1970, that rate had increased to 17%, then 20% in 1972, and finally 22% in 1976 (Camp, 1980). Enrollment data for Ohio show that the number of dropouts increased 15% from the 1975-76 school year to the 1978-79 school year (Kaser, 1980). Peng (1982) reported that the high school dropout rate for pupils entering the fifth grade has been 25% since 1958. The Michigan Department of Education studies for the academic year 1983-84, the latest year for which statistics are available, showed that 22% of the freshman class studied never did finish school. The consistency of the dropout rates as reported by Peng and the increasing rate reported by Camp bring into question the

effectiveness of current interventions being used to decrease the dropout rate.

When discussing the problems of the high school dropout, we must take a much closer look at whom we are talking about. We need to focus our attention on the complexity of the problem. There is the voluntary dropout who has decided not to continue school for reasons that are under his control, and there is the involuntary dropout who is forced to leave by the school system or forces outside his control. Those students who have left the traditional school system can be further divided into those who are working and out of school, those who are not working and out of school, and those who are either working or not and have returned to some form of schooling other than the traditional high school. Some would also include in the dropout population those students who are still in school in body but in reality have academically dropped out.

Many research studies have been conducted to identify the characteristics of dropouts and those factors contributing to the students' voluntary leaving or being forced to leave. The reasons given by students for dropping out can be seen in Table 1.1. Data analysis by Ekstrom, Goetz, Pollack, and Rock (1986) revealed some of the major underlying home factors found to be associated with dropouts. Dropouts tended to come from homes with a weaker educational support system when compared with students who complete high school. Dropouts (a) had fewer study aids present in their homes, (b) had less opportunity for non-school-related learning, (c) were less likely to have both natural parents living at home, (d)

had mothers with lower levels of formal education, (e) had mothers who were more likely to be working, and (f) had parents who were less likely to be interested in or to monitor both in-school and out-of-school activities (Ekstrom et al., 1986).

Table 1.1.--Primary reasons high school dropouts 14 to 21 years old left school, by race and gender.[a]

Reasons for Leaving School	Females				Males				Total
	B	H	W	T	B	H	W	T	
School Related	29	21	36	32	56	36	55	53	44
Poor performance	5	4	5	5	9	4	9	9	7
Dislike school	10	15	27	24	29	26	36	33	29
Expelled/suspended	5	1	2	2	18	6	9	10	7
School too dangerous	1	1	2	1	0	0	1	1	0
Economic	15	24	14	15	23	38	22	24	20
Desired to work	4	7	5	5	12	16	15	14	10
Financial difficulties	3	9	3	4	7	9	3	5	4
Home responsibilities	8	8	6	6	4	13	4	5	6
Personal	45	30	31	33	0	3	3	2	17
Pregnancy	41	30	31	33	0	0	0	0	9
Marriage	4	15	17	14	0	3	3	2	8
Other	11	25	19	20	21	23	20	21	19
Total %	100	- - - - - - - - - - - - - - - -							100

Source: National Longitudinal Survey of Youth Labor Market Experiences.

[a]Distributions are percentages.

Increased attention is being focused on the many reasons children leave school. There is an equity issue. Those individuals who leave school before graduation do not receive the maximum benefit of the educational opportunity that is theoretically available. The number of students who leave school early are disproportionately from low-socioeconomic-status (SES) families and racial/ethnic minority groups. As can be seen in Table 1.2, the proportion of black/Hispanic students who drop out of school is significantly higher than that of white students. Blacks are suspended from high school three times as often as whites (Howe & Edelman, 1985). These data suggest a question of equity. Are all of the subgroups of American society receiving an equal opportunity to participate in the American educational system? As society becomes more complicated in structure, the social problems encountered are becoming more complex. To develop solutions to the many critical social problems facing society, there must be a resource of well-educated, well-trained citizens of all ethnic backgrounds who are willing to commit themselves to helping solve these problems. The technological orientation of society also creates an increasing demand for individuals having received better training before entering the labor market. A further complicating factor is the population shift from rural to urban areas, which has created metropolitan centers of population density, poverty, unemployment, and social unrest. In addition, structural changes in the composition of the work force have made it more difficult for the uneducated to find employment because a shorter work week and

more leisure time have stimulated the growth of the service industries in which workers need both social and verbal ease. Females and minorities suffered the most with respect to unrealized achievement gains if they dropped out of school. These unrealized achievement gains for women and minorities were largest in the language-development areas of vocabulary, reading, and math (Ekstrom et al., 1986).

Table 1.2.--High school dropout rates[a] for youths 14 to 21 years of age, by age, race, and gender--1979.

Gender/Race	Age				Total
	14-15	16-17	18-19	20-21	
Black	2%	10%	24%	25%	15%
Female	2	8	22	20	14
Male	1	12	25	30	17
Hispanic	2	17	36	35	23
Female	2	17	39	33	24
Male	3	18	32	38	22
White	2	8	16	12	10
Female	1	9	14	11	9
Male	2	8	17	13	10
Total %	2	9	18	15	11

Source: National Longitudinal Survey of Youth Labor Market Experience.

[a]Percentage of the civilian population who are high school dropouts.

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There is evidence showing that the problems of school dropouts (including repeated failure, lack of basic educational skills, and personality problems) contribute to the development of an individual who finds it difficult, if not impossible, to compete adequately in society, both on a personal level and in the labor market where he must compete for the means to sustain himself. Without the essential skill for coping in society and burdened with the failure syndrome that often becomes a part of the personality of the school dropout, youngsters too often become alienated, disillusioned, and frustrated, contributing to what Conant in the 1960s termed "social dynamite."

Public policy has moved in a direction that stresses that equal options shall be open for all citizens in order that they may become equipped to enter the mainstream of society and reap the maximum benefits of that society. Civil rights legislation intended to provide these options to minority groups is one example of this policy. Public Law 94-142 (education of the handicapped) is intended to extend the benefit of education to the handicapped population. Federally supported manpower and education programs to meet the needs of the socially and economically disadvantaged exhibit additional concern about high school dropouts. Further federal support is exemplified by the federal allocation of funds designed to retrain those who have left school and to promote dropout-prevention programs. The Manpower Development and Training Act of 1963, as amended, and the Economic Opportunity Act of 1964, as amended, are examples of this effort. Such allocations are based

on the assumption that education, including vocational training, will improve the individual's employability so that he may compete more realistically in the labor market.

Follow-up studies have shown that "dropping out" can prove costly to both the individual dropout and society as a whole. A 1978 Department of Labor report noted that the unemployment rate for dropouts is more than double that of high school graduates. According to a Missouri Division of Corrections report, 95% of the individuals who are incarcerated in Missouri correctional institutions are high school dropouts (Long, 1981). These two facts alone emphasize the need to deal more effectively with the dropout problem and to provide workable solutions and viable alternatives for these young adults.

High school students live in a complex social environment. Individual students within the large social and academic setting of the school seek to understand their position and the salient factors responsible. Students seek to gain an understanding of their environment with the constant pursuit of the question "Why." Students seek to understand why they did not get the date, why they did not make the team, why they got in trouble, and why they passed or failed a particular class or assignment. Students want to understand the environment in which they find themselves, or they may wish to gain an understanding of how the environment impinges upon them. The individual student is looking for the cause or causes of important life events. Once a cause or causes are

assigned as an explanation for an event, effective management of that type of event may then be possible, and a prediction of future outcomes in similar situations may be made. The process of assigning causation begins to give the individual predictive power concerning future occurrences of similar events. This predictive power enables one to take a more active part in controlling one's significant life events. At this point it is possible to control specific events in order to secure a more predictable future.

Attribution theory (Kelly, 1967) is concerned with how the individual ascribes causation. Individuals experience either a positive or negative event in their environment (the student fails an important examination); the student now is faced with explaining to himself, and possibly others, why this event occurred. The attribution the student uses to explain why this failure occurred can have a significant effect on his gaining control over the future occurrence of similar events.

High school students who are doing poorly in school or those who have already dropped out have been looked at in many different contexts by researchers. Often the researcher has focused on their home environment and community support systems, concluding that environmental and social factors led to poor performance in educational settings. The problem with this type of research is that it does not provide the student with a workable plan or realistic process by which he can begin to make effective changes to reverse the poor academic performance. Attribution theory looks at the manner in which the student ascribes success and failure. If

the student is making self-defeating attributions and is made aware of this, he then may be able to take corrective action. The student may begin to attribute success and failure in a manner that would provide him with a better ability to control future events. An attribution for failure of "I lack the ability" may be changed to "I did not work hard." In the future, the student can choose to put forth more effort toward the learning task.

High-school-age individuals make attributions concerning their success or failure in achievement settings. The accuracy of their attribution is not the critical factor. The critical issue is whether the attribution gives the individual the hope of influencing future events. If a student makes a failure attribution to internal, stable causes (lack of ability), there is little hope for him to see a different future outcome. The reason for his past and present failure is not perceived as changeable. The student lacks the means by which to alter future events. In contrast, if the same student makes a failure attribution to unstable, internal or external factors (lack of effort), he could well expect the future to be quite different. He may alter his behavior in a positive manner. He may begin attending classes or studying; he may also change environmental factors that have had a negative influence on his achievement. The critical factor is the type of attribution made and the effect it may have on future expectations for success or failure.

Purpose of the Study

The purpose of this study was to investigate the relationship between achievement behavior and attributional style of high school students and high school dropouts. Do students attribute their success and failure differently as their level of success in school changes? This research was aimed at determining whether a student's level of academic performance is related to his attributional style. Does a student who is more successful in achievement situations exhibit a different attributional style?

A strong interest in the study of cognitive motivational variables has continued since the Coleman report on Equality of Educational Opportunity identified a student's sense of control over his environment as the best single predictor of school achievement (Coleman et al., 1966). The present study dealt with attributions given by an individual for performance in an achievement situation. An attributional model of achievement motivation assumes that achievement behavior is cognitively mediated by three pairs of attribution factors: internal/external, stable/unstable, and controllable/uncontrollable. After any experience with a success or failure, the attributions given to explain performance will differentially affect expectancies for outcomes in future achievement settings.

Attributions have a powerful effect on a student's total educational and life experiences. Studies in the area of learned helplessness in children have linked deterioration in performance

following failure to learned helplessness, the perceived inability to surmount failure (Dweck, 1978; Dweck & Bush, 1976; Dweck & Reppucci, 1973). This perception is associated with attributions to uncontrollable, stable, internal factors such as lack of ability, rather than to controllable factors such as effort. In these children, success is attributed to external, uncontrollable, unstable factors such as "the teacher likes me," "the test was easy," "everyone did well," or "I was lucky," never to their own effort or ability. Failure, on the other hand, is attributed to internal, stable, uncontrollable factors such as "I'm dumb" or "I never do well," and not the attributes of lack of effort, "I was ill and not performing at my best," or "I just had a bad day; I'll do better on the next test."

It appears that this differential pattern of attributional choice could impair or improve the long-term achievement of students. Individuals attributing failure to their own ability instead of their effort will likely continue to experience future failure in similar situations. Individuals who attribute failure to their lack of effort instead of their ability may be able to experience improved performance in similar situations in the future. Failure attributions to internal stable factors (ability) or external stable factors (material is too difficult) give rise to expectations that the future will remain constant. The reasons the individual has failed are out of his control. Success attributions to unstable internal factors (luck) or external factors ("teacher likes me") do not prompt a positive causal link between success and

individual ability or action; therefore, the expectancy for future success is not enhanced. The reason for the present success is out of the individual's control.

Conversely, the student making failure attributions to unstable internal factors (lack of effort) or external factors (poor test-taking conditions) may expect the situation to change in the future. The reasons for the present failure can be modified by the individual. He can study harder or work to change the poor environmental conditions. This ability to affect the causal reason for present failure provides the grounds for the individual to hope for future success. This same individual making success attributions to internal stable factors (ability) or external factors (easy material) can expect the same conditions that produced his present success to repeat themselves and experience continued future success.

If students divided by class ranking and those who have dropped out do differentially attribute success and failure as predicted, it would indicate that educational programs that are being implemented to help the low achiever and school dropout would need to consider adding an attributional retraining component to their program.

Definition of Terms

The following definitions of terms are presented to aid in the interpretation and clarification of this study and to aid any future replications of this study that may be conducted.

Attributional style. Refers to an individual's tendencies in ascribing causality for positive and negative events to some factors differentially. Within the attribution framework, individuals will vary in their ascription to measures of causality, stability, and internality (Abramson, Seligman, & Teasdale, 1978; Ickes & Layden, 1978; Weiner, 1979, 1980).

Dropout. According to Good (1973), the term

> . . . designates an elementary or secondary school pupil who has been in membership during the regular school term and who withdraws or is dropped from membership for any reason except death or transfer to another school, before graduation from secondary school (grade 12), or before completing an equivalent program of studies; such an individual is considered a dropout whether his/her dropping out occurs before or between regular school terms, whether it occurs before or after he/she has passed the compulsory school attendance age, and where applicable, whether or not he/she has completed a minimum required amount of school work. (p. 32)

Learned helplessness. Exhibited by individuals who believe they have no control over the outcome of certain events. In a school setting, students who curtail effort after experiencing failure are exhibiting a learned-helplessness response.

Stable. This dimension defines causes that are invariant. An attribution to a stable cause would be ability, which remains relatively consistent over time.

Unstable. This dimension defines causes that are variant. An attribution to an unstable cause would be luck or effort. These factors can change greatly over short periods of time.

Assumptions and Limitations

The validity of this study is affected by the following:

Assumptions

1. Grade point average (GPA) is an indication of academic success or failure.

2. Income levels reflect the SES of the responding students.

Limitations

1. This study was limited to the three school districts located in the Grand Rapids area of western Michigan. No attempt was made to generalize the results to other populations.

2. The collection of data regarding SES was dependent on the ability of participants to objectively determine their own or their parents' income.

Research Hypotheses

To determine the relationship that might have existed among the different groups in regard to the attribution for success and failure in achievement situations, the following null hypotheses were formulated:

Hypothesis 1: There is no statistically significant difference in Multidimensional-Multiattributional Causality Scale (MMCS) scores for ability, effort, context, and luck between students in the top one-third of their class and students in the middle one-third of their class.

Hypothesis 2: There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students in the top one-third of their class and students in the bottom one-third of their class.

Hypothesis 3: There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students in the top one-third of their class and students who have dropped out of high school and are enrolled in a community education program.

Hypothesis 4: There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students in the top one-third of their class and students who have dropped out of high school.

Hypothesis 5: There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students in the middle one-third of their class and students in the bottom one-third of their class.

Hypothesis 6: There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students in the middle one-third of their class and students who have dropped out of high school and are enrolled in a community education program.

Hypothesis 7: There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students in the middle one-third of their class and students who have dropped out of high school.

Hypothesis 8: There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students in the bottom one-third of their class and students who have dropped out of high school and are enrolled in a community education program.

Hypothesis 9: There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students in the bottom one-third of their class and students who have dropped out of high school.

Hypothesis 10: There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students who have dropped out of high school and enrolled in community education programs, and students who have dropped out of high school.

Hypothesis 11: There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between male and female students.

Hypothesis 12: There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between white and black students.

Research Questions

This study was designed to answer the following research questions:

1. Which of the attributional categories of ability, effort, context, and luck is viewed as the most important determinant of academic success and failure in achievement settings, as reported by race, gender, and class standings?

2. Do students as they progress through grades 10, 11, and 12 change their attributional pattern?

3. What effect does the income level of the student's family have on the student's attributional pattern?

4. Do students who experience greater academic success, as measured by GPA, attribute success and failure in a more productive pattern than students who are not as successful in achievement settings?

Overview of the Study

This dissertation consists of five chapters. Chapter I included the purpose of the study, significance of the problem, hypotheses and research questions, assumptions and limitations, and definitions of terms.

In Chapter II, literature related to high school dropouts, attribution theory, and learned helplessness is reviewed. Methods and procedures of the study are described and explained in Chapter III. An analysis of the data is presented in Chapter IV, and

Chapter V contains the findings and conclusions of the study, with recommendations for further research.

CHAPTER II

THEORY AND SUPPORTIVE RESEARCH

Introduction

Attribution theory postulates that behavior is strongly influenced by the perceived causes of past events. An attribution is the inference that an individual makes about the causes of his own or another person's behavior (Bar-Tal, 1978). The investigation into how people "attribute this consequence to that cause" is rooted in Heider's (1958) "common sense theory of action." "Common sense psychology" is the phrase used by Heider to explain the means by which individuals talk about and understand their daily experience. Individuals do this by developing cause-effect relationships between events and outcomes. This cause-effect relationship is then integrated into the view an individual has of himself as a person, which in turn influences the expectations for future behavior and outcomes.

Attribution theory, as defined by Kelly (1967), is concerned with the study of the process by which an individual interprets events as being caused by particular parts of the relatively stable environment. Kelly also postulated that the attributions one makes following success or failure are mediated by one's past experience and the social context, and that the expectancy for future success

or failure is a result of the type of attribution one makes. In this instance, the validity or accuracy of the attributions made is not the issue. This study was concerned with what types of attributions one makes and how these influence future behavior.

Cognitive Psychology

Cognitive psychology is attempting to understand how incoming information is acted upon and translated into a belief system that allows one to make sense of and give meaning to the external environment. Attribution theorists (Heider, 1958; Kelly, 1971; Weiner, 1974, 1976, 1980) have argued that the perceived causes of success and failure have an important influence on future behavior. Weiner (1979, 1980) further classified Heider's (1958) four causal elements into a tridimensional model: (a) locus of causality (internal-external), (b) degree of stability (stable-unstable), and (c) controllability (controllable-uncontrollable). In the present context, locus is conceived as a backward-looking belief as to the source of the event under question. Locus of causality is a term which implies that thte attributions individuals propose as reasons for events stress factors that are internal or originate within the person or are the result of environmental sources. Weiner (1972, 1978, 1980) proposed that individuals who attribute the cause of an event to ability or effort are making internal attributions, and those who attribute the cause to luck or task difficulty are making external attributions. Individuals who are internally oriented are

seen as self-directing, whereas externally oriented individuals believe they have little control over events in their lives.

The stability dimension (stable-unstable) reflects the magnitude or expectancy of change following success or failure. When an individual attributes the cause of an event to ability or task difficulty, which are seen as relatively enduring characteristics, one would expect little future change in behavior. However, if the individual attributes the cause to either effort or luck, which are seen as relatively unstable characteristics, one would realistically expect a wide variation from present to future performance.

Weiner's (1979, 1980) third dimension, controllability (controllable-uncontrollable), refers to whether individuals believe they have control over a particular outcome. This dimension is not completely independent of the locus of causality and stability dimensions. We find causes that are internal and stable, as well as uncontrollable (e.g., mood and fatigue), and other causes that are internal and unstable but are subject to volitional control (e.g., effort) (Weiner & Litman-Adizes, 1980). The perceived controllability of an outcome for a present event could have a significant effect on future expectancy of similar events.

Attribution theory (Weiner, 1979, 1980) suggests that the combination of attributions made upon the three dimensions will have a profound effect on future events. In an educational setting, the attributions one constructs could well dictate success or failure in an academic setting. In achievement situations, ability, effort,

task difficulty, and luck have been identified as the factors most influential in explaining behavior (Andrews & Debus, 1978; Dweck & Reppucci, 1973; Frieze, 1973; Weiner, 1971, 1979). An attributional analysis of achievement motivation assumes that behavior is cognitively mediated by attribution to one or more of these factors.

Learned Helplessness

Learned helplessness is the theoretical foundation that accounts for the consequences of experiencing uncontrollable events in both animals and humans. It is the aspect of controllability that links Weiner's attributional theory and Abramson et al.'s (1978) reformulation of learned-helplessness theory.

Overmier and Seligman (1967) and Seligman and Maier (1967) first used the term "learned helplessness" to explain the debilitating consequences of uncontrollable events experienced by dogs. During their research, naive dogs efficiently learned to escape shock by jumping over a barrier in a shuttle box, whereas dogs who received shocks they could not escape or avoid subsequently showed a marked deficit in acquiring the avoidance response when the barrier was removed. Their research proposed that when animals were presented with uncontrollable events, they developed and incorporated into their behavioral pattern a response tendency that suggested that all future situations would also be uncontrollable. This deficit in behavior was the direct result of the uncontrollability of the shock rather than the frequency, intensity, or duration because only the subjects that could not control the

shocks subsequently failed to learn to escape or avoid responses (Seligman, Maier, & Solomon, 1971).

Learned-helpless students, as identified by Dweck and Reppucci (1973), exhibit the same sense of lack of control over future events. These students have failed in the past, and they expect to fail again in the future. They have developed a behavior pattern that frequently leads to failure. Their response is one of helplessness. They cannot control the sequence of events leading to success or failure. They expect to fail, and they do. These students' peers were able to persist in the face of repeated noncontingent failure, whereas the helpless students were not. Dweck and Reppucci hypothesized that the negative feedback received by the learned-helpless students over the years has been so consistent that they no longer attempt to alter the failure patterns they experience.

The data analysis of Dweck's study showed that the helpless students generally ignored the role of motivation or effort and made attributions for failure to low ability (an internal-stable factor), those factors over which the student had no control, whereas students who persisted in spite of the failure feedback they received tended to attribute success to high effort and failure to low effort (failure to internal-unstable factors), those over which they had control. The data suggest that attributions to unstable factors, such as effort, allow for the continuation of instrumental responding in the face of failure, whereas attribution to stable

factors, such as low ability, produces a sense of noncontrol and a belief in an inability to bring about change.

In a follow-up study, Diener and Dweck (1978) gathered information about the comments children made to themselves when they were confronted with an insoluble task. More than half of the children described as "helpless" made statements about not being smart enough to solve the problem, whereas not one "persevering" child made such a comment. Almost half of the mastery-oriented, persevering children made self-instructional statements that guided them in their solution of the problem. It is clear that the helpless students expected to fail and believed that they were not smart enough to change this. In contrast, the persevering students, who associated failure with a lack of effort, acted on their belief that changes could be made that would lead to a more successful outcome.

The belief that outcomes are uncontrollable results in deficits of motivation, cognition, and emotion (Abramson, Garber, & Seligman, 1980). Hiroto and Seligman's (1974) studies suggested that learned-helpless individuals develop a unique response style that is characterized by a decrease in motivation to respond to a given situation in which they perceive they have control over the outcome. These students are also more likely to experience difficulty in learning a novel task.

Seligman et al. (1978) found inadequacies in the original learned-helplessness model when applied to humans. They discovered that the original model could not explain or account for human

differences. Persons could experience the same uncontrollable situation but would attribute the cause of the outcome differentially. Second, the original model failed to address the issues of the generality and chronicity of helplessness. Specifically, people could generalize the cause of an event to a new situation. Also, Seligman (1975) found that learned helplessness could not dissipate over time. Therefore, Seligman presented a reformulated model within the attribution framework. Individuals may attribute their performance in achievement situations to a variety of factors, including ability, effort, task difficulty, and luck (Weiner, 1972, 1974). In terms of the learned-helplessness model, a person may make an attribution for the perceived control or lack of control in a learning situation. For example, people may believe that they were unable to control the outcome of an event because they did not try hard enough (effort) or were not smart enough (lack of ability). The type of attribution will determine whether control or lack of control is to be expected in future situations.

The learned-helplessness model is cognitive in that it suggests that the mere exposure to uncontrollable events is not sufficient in and of itself to produce the helplessness deficits in humans. The individual must also view and come to expect that the outcomes are uncontrollable in order to exhibit helplessness behavior (Abramson et al., 1980). Abramson proposed a three-dimensional framework with which to study individual attributions. The three dimensions are

internality, stability, and globality. These are the same as Weiner's (1980), except Abramson replaced controllability with globality.

The dimension of globality implies that factors that have an influence over a great number or range of events are global, whereas factors that are limited in scope or affect only a particular event are specific. This dimension can affect the student in two major ways. For example, suppose a student is doing poorly in physics but has previously been successful in biology and chemistry. The student is likely to view his poor performance in physics as subject-specific. On the other hand, if the student has never been successful in science, he is more apt to view his difficulty as global because he is more likely to do poorly in science in any situation.

A second implication this dimension has is on the scope of future expectations for academic performance. For example, if a student has just taken the math part of the SAT and believes he has done poorly, he can make one of two globality attributions. First, he may attribute his poor performance to a specific cause, such as "I'm not very good at math problems." Here the student has recognized that his performance was not as good as he wished, and he has found a cause for his poor performance that reflects only on his math ability. This attribution should exert little influence on the verbal section to be taken later. The second attribution the student could make is to a global cause, such as "I always do poorly on tests; this test is no different." In this case, he has again

recognized his poor performance and has found a cause for his poor performance that reflects on his ability to take all tests. This attribution is likely to have a negative effect on future test taking. An attribution to global factors predicts that the expectation will recur even when the situation changes, whereas an attribution to specific factors predicts that the expectation need not recur when the situation changes (Abramson et al., 1978).

The internality dimension is based on the self-other dichotomy. When people believe that outcomes are more or less likely to happen to themselves than to relevant others, they attribute these outcomes to internal factors. Conversely, persons make external attributions for outcomes that they believe are as likely to happen to themselves as to relevant others. For example, if an individual is unable to perform a task that his/her peers can successfully accomplish, the individual is likely to attribute the outcome to personal inadequacy. Alternatively, if no one can perform the task, the individual is likely to attribute the outcome to an external cause: "The teacher gives dumb tests."

The third dimension, stability, explains the consistency of the attribution and its influence over time. The effect of the stability dimension is reflected in individual expectancies for future performance following success or failure outcomes. It was demonstrated that stable attributions made to factors such as ability led to expectancies of continued success or failure, whereas unstable attributions such as effort can lead to fluctuations in

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outcomes (McMahon, 1973; Valle & Frieze, 1976). For example, if a student is taking a test in math and receives a failing grade, he might make one of two stability attributions. First, he may make an attribution to a stable cause, such as ability: "I'm just dumb." This attribution will probably lead to future poor performance in academic situations. There is not much one can do for lack of mental ability. Or second, he may attribute the failure to an unstable cause, such as effort: "I didn't study for this test." This attribution leaves open the future possibility that he may study for and do well on the next test.

By examining the types of attributions students make when they encounter a success or failure in an academic situation, we can begin to predict the possibility of future performance. Continued success or failure is likely when an individual makes attributions that are internal, stable, and global. Alternatively, attributing success or failure to specific, unstable factors allows for the possibility of the individual making changes and having different expectancies for the future.

Attribution Style in Achievement Situations

Achievement standards and expectancies for success are related to students' achievement goals and anticipated future school performance. Weiner's (1971, 1974) early research on achievement motivation and achievement behavior set the stage for the examination of students' school performance. As previously stated, Weiner (1979) suggested that, in an achievement situation,

individuals attribute outcomes to causes that fall along the dimensions of locus of causality, stability, and controllability. Weiner also realized that there are a number of different subordinate or equally useful causal dimensions, including, perhaps, intentionality and globality as proposed by Abramson et al. (1980). Weiner (1979) linked these dimensions with expectancy change, self-esteem, and interpersonal judgments within an achievement context. There are also linkages between the three dimensions and psychological affects; stability relates to depression-type affects, and control is associated with particular feeling states and behaviors. The dimension-consequence linkages influence motivated behaviors, such as persistence and choice.

In school situations, students' locus orientations toward achievement events permeate their daily classroom performance. Rotter (1966) is credited with the original studies on locus of control. Rotter postulated that an individual's perception of the cause of an event could be attributed to dimension of locus of control (internal-external). Lefcourt (1976, 1981) suggested that the perceived internal control of achievement events was essential for the continued effort and continued confidence in one's abilities. A review of Lefcourt's work showed that children must believe that their own behaviors can effectively influence important outcomes and that they are competent to perform these activities in order for them to approach achievement situations with confidence and motivation for success.

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Weiner's (1972) and Kukla's (1972) work indicated that individuals who attribute causation to internal causes view themselves as mostly self-determining, whereas individuals who attribute causation to external factors believe that events in their lives are typically outside of their ability to control. Other researchers have clarified that individuals differ in the degree to which they believe they are able to influence the outcome of events (Crandall, Katkowsky, & Crandall, 1965; Gilmore, 1979; Johnson & Kanoy, 1980).

Gilmore and Reed (1979) identified internal and external college students and had them respond to positive and negative outcomes on a university examination. The internal and positive outcome students attributed responsibility of outcome to internal causal factors, whereas external and negative outcome students were more external in their causal attributions.

The most important function of the stability dimension is to mediate expectancies for future performance following success or failure. Specifically, unstable attributions to such factors as effort or luck lead to the expectancies for future change in outcomes. On the other hand, attributions to stable causes, such as adequate or inadequate ability, lead to expectancies for consistent future success or failure (McMahon, 1973; Valle & Frieze, 1976). Stated somewhat differently, if the conditions that lead to success or failure are perceived as remaining the same, one would anticipate with increased certainty similar future events. But if the conditions or reasons for success or failure are perceived as

temporary and likely to change, one would question whether the future outcomes will repeat the past.

Weiner (1979) and Fontaine (1974) implied that success or failure outcomes are predictive of attribution. Fontaine's data showed that, under success conditions, individuals have a high expectation and confidence for future success, whereas under a failure condition, individuals have a lower expectancy and confidence for success. Simon and Feather (1973), working with college students, found that individuals who passed the given exam saw ability as a more important cause of their outcome than did subjects who failed the exam. However, luck and task-difficulty attributions were greater following exam failure than success. Similar results for ability and task-difficulty attributions were reported by Fitch (1970), Frieze and Weiner (1971), McMahan (1971), and Weiner et al. (1971).

Students in an achievement setting must deal not only with their own expectations toward future outcomes, but also with the expectations of their teachers. Weiner (1972, 1976) found that students who are perceived by their teachers as having expended a great deal of effort are rewarded more when they succeed and punished less when they fail than are those students who are perceived as putting forth little effort. The interaction between ability and effort will affect students' achievement in school. Students with high ability who put forth little effort will receive the greatest amount of teacher punishment, whereas the greatest

amount of teacher praise and reward goes to the student with low ability who does well because of the great effort put forth.

Prawat, Byers, and Anderson (1983) found that teachers believed that hard work should be rewarded and lack of effort should be punished. Teachers were also found to take the greatest pride in low-ability students who became motivated and became angry with the consistently unmotivated child who did well. Teachers want students to be motivated and to work hard. They attribute success in their students to effort. This, however, could come into direct conflict with students' need to protect their self-esteem. Covington and Omelich (1979) found that many students attempt to avoid the implication that they lack ability by not trying.

Learned-Helplessness Achievement Patterns

Recently, researchers have begun to explore approaches to modify poor achievement behavior. They have been interested in understanding why children react differentially to achievement outcomes. Dweck and her colleagues (Dweck & Bush, 1976; Dweck & Dweck, 1978; Dweck & Goetz, 1978; Dweck & Reppucci, 1973) looked at the learned-helplessness phenomenon as a way to understand children's cognitions. Dweck and Reppucci (1973) found that some children's achievement performance deteriorated when they were exposed to noncontingent failure (unsolvable tasks), whereas other children became more persistent in their efforts (Roth & Bootzin, 1974; Thornton & Jacobs, 1972), even though all students were highly motivated and capable of academic success.

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Dweck and Reppucci (1973) used fifth-grade students. Each was asked to perform insoluble block-design problems. They were told they would be rewarded for correct solutions with prizes. Insoluble block-design problems were interspersed with soluble ones given by another experimenter. They found that children who showed the most performance decrements were those who took less personal responsibility for the outcomes of their actions. When they did take responsibility, they attributed the outcome to ability rather than effort. Students whose efforts escalated after failure used more effort attributions.

Race, Gender, and Income Levels

Race, gender, and income levels have been considered important variables in previous attributional research. To date, most research on minority motivation from an attributional perspective has focused on the particular attributions of blacks and whites following success or failure at achievement tasks (Friend & Neale, 1972; Willing, Harnisch, Hill, & Maeher, 1983). These studies commonly suggested that blacks tend to rate external factors of task difficulty (ease) and luck as the most important determinants of success and failure. Such reported findings are certainly compatible with the dominant view in the motivation literature of blacks as more externally oriented than whites (Battle & Rotter, 1963) and less sensitive to the value of effort as a cause of achievement (Katz, 1969). More recent studies have challenged this view by documenting no differences between blacks and whites in

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their causal preferences (Willing et al., 1983) or differences suggesting a more adaptive attributional pattern among blacks (Graham, 1984).

The literature on locus of control of Hispanic populations has reported mixed findings. Hispanics have been reported to be more external (Kagan, 1976; Pedhazur & Wheeler, 1971), less external (Cole & Cole, 1974, 1977), and equally external (Alvarez & Pader, 1978; Garza & Ames, 1974) in comparison with other groups.

Research on gender differences in attributional style in achievement situation has had mixed results. In a recent article by Frieze, Whitley, Hanusa, and McHugh (1982), three basic models of attributional gender differences were reviewed. These were general-externality, self-degradation, and low expectancy. The general-externality model posited that, in an achievement situation, women tend to be generally external in their attributions for success and failure (Feather, 1969; Simon & Feather, 1973). The self-degradation model posited that women attribute success to external factors and failure to internal factors (Nichols, 1975). This model was based on the assumption that people attempt to maintain a set of consistent beliefs about themselves (Aronson & Mater, 1968). The low-expectancy model suggested that women have a generally low expectation for success in achievement situations. According to this model, low expectations lead to unstable attributions for success and stable attributions for failure.

Frieze et al. (1982) analyzed 21 studies examining gender differences in success-failure attributions. The purpose of the

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research was to determine which of these three models had the most empirical support. Although none of the models was well-supported, Frieze et al. found that men make stronger ability attributions than women, regardless of the outcome (Dweck & Licht, 1980; Nichols, 1975). Furthermore, Frieze et al. pointed out the inconsistencies in gender-related attribution research. Specifically, it was found that men attribute success and failure less to luck, whereas women show a greater tendency to use the attribution of luck (Sohn, 1982).

Conversely, other researchers (McHugh, 1975; Wong & Weiner, 1981) have indicated that, in a free-response situation, luck is infrequently cited by both males and females (Elig & Frieze, 1979; Parsons, Meice, Adler, & Kaczala, 1982). Moreover, Wong (1982) interpreted his findings to conclude that males view internality and externality as opposing poles of a single dimension, whereas females may have a two-dimensional view as they see both internal and external causes operating jointly to determine an outcome.

Summary

The preceding section outlined the components of attribution theory and its relationship to the learned-helplessness phenomenon. Individuals tend to attribute the cause of events to the dimensions of internality, stability, and controllability. Individuals who are identified as learned helpless tend to perceive that they have no control over a failure outcome. They perceive failure as unchangeable, and they are unable to see the role effort can play in overcoming failure. Learned-helpless students tend to attribute

failure to lack-of-ability causes (internal, stable) and success to luck (external, unstable). Whereas mastery-oriented students believe they can influence the outcome of events, these students attribute failure to external, unstable causes, such as lack of effort, and success to internal, stable factors, such as ability.

CHAPTER III

DESIGN OF THE STUDY

Introduction

This research was designed to examine the effect of school standing on the attributional patterns of high school students and high school dropouts. The sites were representative of schools in urban, suburban, and rural areas of western Michigan. The study was intended to serve as preliminary research in unraveling the effects that class standing, gender, and race have on the attributional patterns of high-school-age students.

The literature reviewed for this study delineated the process by which individuals make attributions for success and failure experienced in achievement settings. The effects these attributions may have on the future expectation of repeated success or failure was explored. The phenomenon of learned helplessness and its effect on student performance was also discussed.

Presented in this chapter are the processes used to conduct this study. The population, sample, pertinent geographical data, and sampling techniques are presented first. The development and selection of instruments and an overview of the data-gathering procedures follow. Finally, the statistical treatment is discussed.

Population and Sampling Methods

The sample was drawn from a population of school systems with community education programs in the western Michigan area. Schools were judged to be urban, suburban, or rural in composition. One site was selected from each of the categories. High school dropouts not enrolled in community education programs were selected from a population of prison inmates housed in western Michigan correctional facilities.

The experimental design for this study included school class standing (top, middle, or bottom third), high school dropouts, high school dropouts who had returned to a community education program, gender, race, and level of income. The experiment was constructed so as to enable an examination of the interaction effect that each of the variables may have on the attributions of groups of individuals.

The high school students were ranked in order of class by present grade point average (GPA), as reported in school records. Students attending school were broken into three groups: top, middle, and bottom one-third of their class. Dropouts were selected from community education programs with an upper age limit of 25 years. High school dropouts were selected from inmates in western Michigan prisons. All students were randomly selected from each stratum.

Instrumentation

The Multidimensional-Multiattributional Causality Scale (MMCS) was developed to assess achievement attribution for achievement situations (Lefcourt, VonBaeyer, Ware, & Cox, 1979). The MMCS consists of 24 causal attribution statements (see Appendix A). The MMCS is made up of eight three-item subscales designed to measure (a) the attribution of school success to effort, ability, the favorable context of the event, and good luck; and (b) the attribution of school failure to lack of effort, lack of ability, an unfavorable context, and bad luck. Examples of the context of an event are the teacher's method of grading and the course materials. Responses were measured on a five-point Likert-type scale ranging from 4 (Agree) to 0 (Disagree). The five response alternatives presented for each item are "I agree," "I mildly agree," "I agree and disagree equally," "I mildly disagree," and "I disagree." The categories are listed below by question. Each subject was also requested to complete a biographical information sheet (see Appendix A).

1. Effort Failure. Poor grades are due to lack of study.
2. Ability Failure. Low marks will cause you to question academic ability.
3. Context Success. Good grades are due to teacher's easy grading system.
4. Luck Success. Doing well on exam depends on some luck.
5. Effort Success. Good grades are the direct result of effort.
6. Ability Success. Getting good grades requires academic ability.

7. Context Failure. Teacher's perception of student as a less able student will cause you to receive lower grades than if someone else handed in the same work.

8. Luck Failure. Low grades are due partially to bad luck.

9. Effort Failure. Low achievement is due to lack of effort.

10. Ability Failure. Failing a course indicates a lack of skill.

11. Context Success. Good grades may reflect an easier course.

12. Luck Success. Good grades depend on chance factors.

13. Effort Success. Good grades are always the result of hard study.

14. Ability Success. Good grades reflect directly on my academic ability.

15. Context Failure. Poor grades are due to the fact that the teacher makes the course too boring.

16. Luck Failure. My academic low points sometimes make me think I was just unlucky.

17. Effort Failure. Poor grades show that I haven't worked hard enough.

18. Ability Failure. Poor grades show that I'm unable to succeed in that course.

19. Context Success. Good grades are due to the fact that the material is easy to learn.

20. Luck Success. When I get good grades I consider myself lucky.

21. Effort Success. Hard work will overcome all obstacles.

22. Ability Success. Good grades are due to academic competence.

23. Context Failure. Low grades are due to teachers being stingy with marks.

24. Luck Failure. Bad grades may be a function of bad luck.

Data-Gathering Procedures

The researcher contacted each data-collection site and obtained permission to conduct the survey from each administrator in charge. Students' class rankings were determined for students by GPA. Students were randomly selected to fill the three categories of top, middle, and bottom one-third of their class. Upon selection to participate in the study, each subject's legal guardians were contacted and permission was obtained for each student's participation (see Appendix B).

All subjects completed the MMCS (Lefcourt et al., 1979). The development of the MMCS has been described elsewhere (Lefcourt, 1981). Its reliability and validity have appeared adequate in other studies (Powers, Douglas, & Choroszy, 1983; Powers & Rossman, 1983). Students attending high school or the community education programs were asked to fill out the questionnaire during class time. The high school students were dismissed from their study hall period and met in a central area where the questionnaire was completed, or the questionnaire was completed during their English class, depending on the high school. Community education attenders completed the questionnaire in their regular classroom. Prison inmates completed their questionnaire during scheduled activity time. A brief statement was read to all high school students and high school dropouts:

> You have been asked to participate in a research study on high school students. Your participation is entirely voluntary and anonymous, and you are free to withdraw from the study at any time.

> It is not possible to give you any additional information at this time as it may affect the outcome of the study. However, as soon as all questionnaires are completed, a meeting will be held and any questions you ask will be answered. When you are finished with the questionnaire, please leave them on the table and return to your next class. Again, thank you for your participation in the research project.

Several minutes were allowed for each subject to complete the biographical data sheet. The students were then directed to turn to page three of their packet, and the following directions were read to them:

> The statements in this booklet express opinions on a number of issues. You may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps feeling uncertain about others. Your reactions reflect your own opinions and obviously in a belief survey there are no right or wrong answers. Whether you agree or disagree with any statement you can be sure that there are many people who feel the same way you do.
>
> Indicate on the test booklet how much you agree or disagree with each statement by circling one of the letters in the following way.
>
> A = I Agree
> B = I Mildly Agree
> C = I Agree and Disagree Equally
> D = I Mildly Disagree
> E = I Disagree
>
> If you have mixed feelings about an item, decide whether you lean slightly more to one side than the other. Try to avoid the middle response. Remember that the best answer is whatever your personal opinion is, and this is usually best reflected in your first reaction to an item, rather than after long debates with yourself over particular experiences.

All students were given as much time as they needed to complete the questionnaire.

Statistical Treatment

This research was designed to assess the effects of a student's school performance (as measured by GPA) or dropping out on the attributions one makes in achievement settings for success and failure.

The respondents indicated their degree of agreement with each item in the MMCS, using a five-point Likert-type scale. The response choices for the questionnaire were weighted in the following manner:

Response Choice	Scoring Weight
I Agree	4
I Mildly Agree	3
I Agree and Disagree Equally	2
I Mildly Disagree	1
I Disagree	0

Responses were scored from 4 through 0, proceeding from left to right in the answer spaces. Scale scores were determined by summing the weights for the responses chosen for the items on each scale. The MMCS used 24 items (three from each of the eight scales), yielding a score ranging from 0 to 12 for the scales Ability Success, Ability Failure, Effort Success, Effort Failure, Context Success, Context Failure, Luck Success, and Luck Failure. Each of the eight scales was further paired to form the four scales of Ability, Effort, Context, and Luck, yielding a score ranging from 0 to 24. The Ability and Effort scales were combined to form an Internality scale, and the Context and Luck scales were combined to form an Externality scale, yielding a score ranging from 0 to 48.

The Internality and Externality scales were combined to yield a total score ranging from 0 to 48.

A t-test was used to establish whether a significant difference existed between the group means on the MMCS for students in the top, middle, and bottom one-third of their class and high school dropouts. A t-test was also used to establish whether a significant difference existed between the group means of subjects by gender or race. The level of rejection of the null hypotheses for this study was set at $p = .05$.

Summary

The samples for this study were drawn from school systems with community education programs in western Michigan. Three sites were selected, one from each of the urban, suburban, and rural areas. Inmates were selected from correctional facilities in western Michigan.

The instrument used in this study was the MMCS, as well as a biographical information sheet. The data were collected on-site by the researcher and subjected to calculations of descriptive statistics and t-tests. The scores for the MMCS were reported as weighted scores.

CHAPTER IV

ANALYSIS OF THE DATA

Introduction

Descriptive information about the means and standard deviations of the 17 dependent variables for the five groups of respondents is discussed in Chapter IV. These five groups are:

1. High school students in the top one-third of their class.
2. High school students in the middle one-third of their class.
3. High school students in the bottom one-third of their class.
4. High school dropouts enrolled in community education programs.
5. High school dropouts.

The results of testing the 12 hypotheses on each of the dependent variables are presented.

Instrument Analysis

Demographic Data

The demographic data are reported as relative frequencies and percentages in Tables 4.1 through 4.5. The data indicated that the majority of respondents were white (63.1%), followed by blacks (28.3%) (Table 4.1). There was a nearly equal distribution of males

(46.8%) and females (53.2%) for the sample (Table 4.2). The subjects' income was grouped into six levels, ranging from under $10,000 to $50,000 and above. The largest number of reports was for the $30,001 to $40,000 income level, with 26.3% of the responses. However, 110 subjects did not respond to this item (Table 4.3). The number of respondents for class level varied widely, with a high of 278 (43.4%) in the top one-third of their class to a low of 84 (13.1%) in the bottom one-third of their class (Table 4.4). The number of respondents by class standing, race, and gender is reported in Table 4.5.

Table 4.1.--Distribution of subjects by race.

Race	Frequency	Percent
White	404	63.1
Black	181	28.3
Hispanic	14	2.2
Native American	13	2.0
Asian	5	0.8

Table 4.2.--Distribution of subjects by gender.

Gender	Frequency	Percent
Female	340	53.2
Male	299	46.2

Table 4.3.--Distribution of subjects by income level.

Income Level	Frequency	Percent
Under $10,000	61	11.4
$10,001 to $20,000	56	10.4
$20,001 to $30,000	96	17.9
$30,001 to $40,000	141	26.3
$40,001 to $50,000	83	15.5
Above $50,001	100	18.6
Missing	110	

Table 4.4.--Distribution of subjects by class standing.

Class Standing	Frequency	Percent
Top one-third	278	43.4
Middle one-third	134	20.9
Bottom one-third	84	13.1
Dropout, community education	96	15.0

Table 4.5.--Distribution of subjects by class standing, race, and gender.

Class Standing	Males			Females			Total
	W	B	O	W	B	O	
Top one-third	95	18	15	105	37	7	277
Middle one-third	36	32	5	37	19	5	134
Bottom one-third	24	7	7	29	15	2	84
Dropout, community education	22	12	4	40	10	7	95
Total	177	69	31	211	81	21	590

Note: Total white males = 184, total black males = 82, total white females = 219, total black females = 99.

Findings Related to the Multidimensional-Multiattributional Causality Scale

The MMCS indicated the attributional choices for successes and failures in achievement situations. The MMCS consists of 24 questions. The frequencies of responses to each item are presented in Table 4.6.

Table 4.6.--Frequencies of responses to MMCS items.

Question/Attribute	Agree	Mildly Agree	Neutral	Mildly Disagree	Disagree
1. Effort failure	281	230	90	21	19
2. Ability failure	151	157	119	89	125
3. Context success	75	115	99	147	205
4. Luck success	93	155	144	121	128
5. Effort success	285	221	89	29	17
6. Ability success	227	194	124	56	40
7. Context failure	156	132	130	95	128
8. Luck failure	66	128	156	171	120
9. Effort failure	291	201	79	44	26
10. Ability failure	111	121	147	118	144
11. Context success	123	146	132	101	129
12. Luck success	80	134	173	135	118
13. Effort success	218	214	99	62	48
14. Ability success	227	207	135	36	36
15. Context failure	209	185	124	66	57
16. Luck failure	22	67	138	188	225
17. Effort failure	317	164	94	39	27
18. Ability failure	89	112	143	148	149
19. Context success	205	192	105	68	71
20. Luck success	112	126	124	124	155
21. Effort success	403	129	85	14	10
22. Ability success	234	225	132	32	18
23. Context failure	78	102	149	151	161
24. Luck failure	64	84	126	148	218

Findings

Tests of Significance

The group means were subjected to t-tests to determine whether there were any significant differences between the different levels of academic success, as measured by GPA. These t-tests and the resulting probability values (p-values) were used to indicate rejection or nonrejection of Hypotheses 1 through 8. A p-value of less than .05 resulted in rejecting the null hypothesis. A summary of the results for each of the hypotheses is presented in Table 4.7.

Hypothesis 1

> There is no statistically significant difference in Multidimensional-Multiattributional Causality Scale (MMCS) scores for ability, effort, context, and luck between students in the top one-third of their class and students in the middle one-third of their class.

Ability. The mean score on the Ability scale of the MMCS for students in the top one-third of their class was 14.5072, whereas the mean score for students in the middle one-third of their class was 14.2463. In the test of significance, the t-value was .56, which was significant at the .574 level (Table 4.8).

Effort. The mean score on the Effort scale for the top one-third students was 18.5000, whereas for students in the middle one-third it was 18.4627. In the test of significance, the t-value was .09, which was significant at the .93 level (Table 4.8).

Context. The mean score on the Context scale for the top one-third students was 12.941, whereas for students in the middle one-third it was 13.3582. In the test of significance, the t-value was -.86, which was significant at the .391 level (Table 4.8).

Table 4.7.--Results of 12 hypothesis tests on the MMCS.

Hypothesis	Comparison Groups	Result	p-Value	
1	Top 1/3 v. middle 1/3	Not rejected		
2	Top 1/3 v. bottom 1/3	Rejected	Luck	p=.039
3	Top 1/3 v. community ed.	Rejected	Effort	p=.040*
4	Top 1/3 v. dropouts	Rejected	Ability	p=.012*
5	Middle 1/3 v. bottom 1/3	Not rejected		
6	Middle 1/3 v. community ed.	Rejected	Context	p=.050
7	Middle 1/3 v. dropouts	Rejected	Ability Context	p=.008* p=.046
8	Bottom 1/3 v. community ed.	Rejected	Ability	p=.030*
9	Bottom 1/3 v. dropouts	Rejected	Ability	p=.002*
10	Community ed. v. dropouts	Not rejected		
11	Male v. female	Not rejected		
12	White v. black	Rejected	Ability Effort Context Luck	p=.002* p=.001* p=.001* p=.039*

* The t-value was negative.

Luck. The mean score on the Luck scale for the top one-third students was 9.5018, whereas for students in the middle one-third it was 10.3609. In the test of significance, the t-value was -1.84, which was significant at the .067 level (Table 4.8).

These scores did not prove to be significant at the .05 level. Therefore, Hypothesis 1 could not be rejected.

Table 4.8.--T-ratios of students in the top one-third and middle one-third of their class on the MMCS.

Scale	Group	Mean	S.D.	T-Value	p
Ability	Top 1/3	14.5072	4.177	0.56	.574
	Middle 1/3	14.2463	4.521		
Effort	Top 1/3	18.5000	3.439	0.09	.930
	Middle 1/3	18.4627	4.290		
Context	Top 1/3	12.9410	4.290	-0.86	.391
	Middle 1/3	13.3582	4.685		
Luck	Top 1/3	9.5018	4.700	-1.84	.067
	Middle 1/3	10.3609	4.296		

Further analysis of the data revealed that the top one-third of high school students differed from the middle one-third only on the Ability Success scale.

Ability Success. The mean score for the top one-third students on the Ability Success scale was 9.0180, whereas for students in the middle one-third the score was 8.2910. In the test of significance, the t-value was 2.52, which was significant at the .013 level.

Luck Success. The difference among the two groups approached significance on the Luck Success scale. The mean score of the top one-third students was 5.3538, whereas for the middle one-third students it was 5.8657. In the test of significance, the t-value was -1.77, which was significant at the .07 level.

Hypothesis 2

> There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students in the top one-third of their class and students in the bottom one-third of their class.

Ability. The mean score on the Ability scale of the MMCS for students in the top one-third of their class was 14.5072, whereas for students in the bottom one-third of their class it was 13.7143. In the test of significance, the t-value was 1.44, which was significant at the .152 level (Table 4.9).

Effort. The mean score on the Effort scale for the top one-third students was 18.5000, whereas for students in the bottom one-third the score was 18.1190. In the test of significance, the t-value was 0.76, which was significant at the .45 level (Table 4.9).

Context. The mean score on the Context scale for the top one-third students was 12.9460, whereas for students in the bottom one-third it was 12.4167. In the test of significance, the t-value was 0.82, which was significant at the .41 level (Table 4.9).

Luck. The mean score on the Luck scale for the top one-third students was 9.5018, whereas for students in the bottom one-third it was 10.7143. In the test of significance, the t-value was -2.08, which was significant at the .039 level (Table 4.9). The

Luck scale was the only one on which a significant difference was found. Therefore, Hypothesis 2 was rejected.

Table 4.9.--T-ratios of students in the top one-third and bottom one-third of their class on the MMCS.

Scale	Group	Mean	S.D.	T-Value	p
Ability	Top 1/3	14.5072	4.177	1.44	.152
	Bottom 1/3	13.7143	4.487		
Effort	Top 1/3	18.5000	3.439	0.76	.450
	Bottom 1/3	18.1190	4.190		
Context	Top 1/3	12.9410	4.290	0.82	.410
	Bottom 1/3	12.4167	5.422		
Luck	Top 1/3	9.5018	4.700	-2.08	.039
	Bottom 1/3	10.7143	4.661		

Further analysis of the data revealed that the top one-third of high school students differed significantly from the bottom one-third on two different scales.

Ability Success. The mean score on the Ability Success scale of the MMCS for students in the top one-third of their class was 9.0180, whereas for students in the bottom one-third the score was 7.6786. In the test of significance, the t-value was 3.84, which was significant at the .001 level.

Luck Failure. The mean score on the Luck Failure scale for the top one-third students was 4.1480, whereas for students in the bottom one-third it was 4.9286. In the test of significance, the t-value was -2.32, which was significant at the .022 level.

Hypothesis 3

> There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students in the top one-third of their class and students who have dropped out of high school and are enrolled in a community education program.

Ability. The mean score on the Ability scale of the MMCS for students in the top one-third of their class was 14.5072, whereas for students who attended community education the score was 15.2707. In the test of significance, the t-value was -1.33, which was significant at the .186 level (Table 4.10).

Effort. The mean score on the Effort scale for the top one-third students was 18.500, whereas for students who attended community education the score was 19.4375. In the test of significance, the t-value was -2.07, which was significant at the .04 level (Table 4.10).

Context. The mean score on the Context scale for the top one-third students was 12.946, whereas for students who attended community education it was 11.9583. In the test of significance, the t-value was 1.55, which was significant at the .124 level (Table 4.10).

Luck. The mean score on the Luck scale for the top one-third students was 9.5018, whereas for students who attended community education the mean score was 11.0313. In the test of significance, the t-value was -2.39, which was significant at the .018 level (Table 4.10).

Significant differences were found on the Effort and Luck scales. Therefore, Hypothesis 3 was rejected.

Table 4.10.--T-ratios of students in the top one-third of their class and dropouts enrolled in community education on the MMCS.

Scale	Group	Mean	S.D.	T-Value	p
Ability	Top 1/3	14.5072	4.177	-1.33	.186
	Comm. ed.	15.2708	5.065		
Effort	Top 1/3	18.5000	3.439	-2.07	.040
	Comm. ed.	19.4375	3.936		
Context	Top 1/3	12.9410	4.290	1.55	.124
	Comm. ed.	11.9583	5.723		
Luck	Top 1/3	9.5018	4.700	-2.39	.018
	Comm. ed.	11.0313	5.626		

Further analysis of the data revealed that the top one-third of high school students differed significantly from dropouts attending community education on 6 of the 18 scales.

Ability Failure. The mean score on the Ability Failure scale of the MMCS for students in the top one-third of their class was 5.4892, whereas for students who attended community education the mean score was 6.5208. In the test of significance, the t-value was -2.66, which was significant at the .009 level.

Effort Success. The mean score on the Effort Success scale for the top one-third students was 9.2482, whereas for students who attended community education it was 10.0521. In the test of

significance, the t-value was -3.30, which was significant at the .001 level.

Context Failure. The mean score on the Context Failure scale for the top one-third students was 6.5683, whereas for students who attended community education the mean score was 5.6667. In the test of significance, the t-value was 2.29, which was significant at the .023 level.

Luck Success. The mean score on the Luck Success scale for the top one-third students was 5.3538, whereas for students who attended community education it was 6.4583. In the test of significance, the t-value was -2.97, which was significant at the .004 level.

Failure. The mean score on the Failure scale for the top one-third students was 19.9856, whereas for students who attended community education it was 18.3333. In the test of significance, the t-value was 2.41, which was significant at the .017 level.

Internal. The mean score on the Internal scale for the top one-third students was 33.0072, whereas for students who attended community education it was 34.0783. In the test of significance, the t-value was -1.99, which was significant at the .048 level.

Hypothesis 4

> There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students in the top one-third of their class and students who have dropped out of high school.

Ability. The mean score on the Ability scale of the MMCS for students in the top one-third of their class was 14.5072, whereas

for students who dropped out the mean score was 16.8276. In the test of significance, the t-value was -2.64, which was significant at the .012 level (Table 4.11).

Table 4.11.--T-ratios of students in the top one-third of their class and high school dropouts on the MMCS.

Scale	Group	Mean	S.D.	T-Value	p
Ability	Top 1/3	14.5072	4.177	-2.64	.012
	Dropouts	16.8276	4.528		
Effort	Top 1/3	18.5000	3.439	-1.60	.120
	Dropouts	19.7241	3.972		
Context	Top 1/3	12.9410	4.290	1.73	.093
	Dropouts	11.3448	4.790		
Luck	Top 1/3	9.5018	4.700	-0.73	.468
	Dropouts	10.1742	4.676		

Effort. The mean score on the Effort scale for the top one-third students was 18.500, whereas for students who dropped out it was 19.7241. In the test of significance, the t-value was -1.60, which was significant at the .120 level (Table 4.11).

Context. The mean score on the Context scale for the top one-third students was 12.9460, whereas for students who dropped out it was 11.3448. In the test of significance, the t-value was 1.73, which was significant at the .093 level (Table 4.11).

Luck. The mean score on the Luck scale for the top one-third students was 9.5018, whereas for students who dropped out the mean

score was 10.1724. In the test of significance, the t-value was -0.73, which was significant at the .468 level (Table 4.11).

There was a significant difference on the Ability scale. Therefore, Hypothesis 4 was rejected.

Further analysis of the data revealed that the top one-third of high school students differed significantly from high school dropouts on four other scales.

Ability Failure. The mean score for students in the top one-third on the Ability Failure scale was 5.4892, whereas for students who dropped out it was 7.2414. In the test of significance, the t-value was -2.69, which was significant at the .01 level.

Effort Success. The mean score on the Effort Success scale for the top one-third students was 9.2482, whereas for students who dropped out the mean score was 10.7241. In the test of significance, the t-value was -3.62, which was significant at the .001 level.

Context Failure. The mean score on the Context Failure scale for the top one-third students was 6.5683, whereas for students who dropped out the mean score was 4.0000. In the test of significance, the t-value was 3.90, which was significant at the .001 level.

Failure. The mean score on the Failure scale for the top one-third students was 19.9856, whereas for students who dropped out it was 15.3793. In the test of significance, the t-value was 2.72, which was significant at the .011 level.

Hypothesis 5

There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students in the middle one-third of their class and students in the bottom one-third of their class.

Ability. The mean score on the Ability scale of the MMCS for high school students in the middle one-third of their class was 14.2464, whereas for students in the bottom one-third the mean score was 13.7143. In the test of significance, the t-value was 0.85, which was significant at the .397 level (Table 4.12).

Table 4.12.--T-ratios of students in the middle one-third and bottom one-third of their class on the MMCS.

Scale	Group	Mean	S.D.	T-Value	p
Ability	Middle 1/3	14.2463	4.521	0.85	.397
	Bottom 1/3	13.7143	4.487		
Effort	Middle 1/3	18.4627	4.290	0.58	.560
	Bottom 1/3	18.1190	4.190		
Context	Middle 1/3	13.3582	4.685	1.31	.191
	Bottom 1/3	12.4167	5.422		
Luck	Middle 1/3	10.3609	4.296	-0.56	.576
	Bottom 1/3	10.7143	4.661		

Effort. The mean score on the Effort scale for the middle one-third students was 18.4627, whereas for the bottom one-third it was 18.1190. In the test of significance, the t-value was 0.56, which was significant at the .56 level (Table 4.12).

Context. The mean score on the Context scale for the middle one-third students was 13.3582, whereas for the bottom one-third it was 12.4167. In the test of significance, the t-value was 1.31, which was significant at the .191 level (Table 4.12).

Luck. The mean score on the Luck scale for students in the middle one-third was 10.3609, whereas for those in the bottom one-third it was 10.7143. In the test of significance, the t-value was -0.56, which was significant at the .576 level (Table 4.12).

These scores did not prove to be significant at the .05 level. Therefore, Hypothesis 5 could not be rejected.

Further analysis of the data revealed that the students who were in the middle one-third of their high school class did not differ significantly on any of the scales from students in the bottom one-third of their class.

Hypothesis 6

> There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students in the middle one-third of their class and students who have dropped out of high school and are enrolled in a community education program.

Ability. The mean score on the Ability scale of the MMCS for students in the middle one-third of their class was 14.2463, whereas for students who attended community education it was 15.2708. In the test of significance, the t-value was -1.58, which was significant at the .115 level (Table 4.13).

Effort. The mean score on the Effort scale for the middle one-third students was 18.4627, whereas for students who attended

community education it was 19.4375. In the test of significance, the t-value was -1.78, which was significant at the .076 level (Table 4.13).

Table 4.13.--T-ratios of students in the middle one-third of their class and high school dropouts enrolled in community education on the MMCS.

Scale	Group	Mean	S.D.	T-Value	p
Ability	Middle 1/3	14.2463	4.521	-1.58	.115
	Comm. ed.	15.2708	5.065		
Effort	Middle 1/3	18.4627	4.290	-1.78	.076
	Comm. ed.	19.4375	3.936		
Context	Middle 1/3	13.3582	4.685	1.97	.050
	Comm. ed.	11.9583	5.723		
Luck	Middle 1/3	10.3609	4.296	-0.98	.329
	Comm. ed.	11.0313	5.626		

Context. The mean score on the Context scale for the middle one-third students was 13.3582, whereas for students who attended community education the mean score was 11.9583. In the test of significance, the t-value was 1.97, which was significant at the .05 level (Table 4.13).

Luck. The mean score on the Luck scale for the middle one-third students was 10.3609, whereas for students who attended community education it was 11.0313. In the test of significance, the t-value was -0.98, which was significant at the .329 level (Table 4.13).

The Context scale was significant at the .05 level. This indicated a significant difference; therefore, Hypothesis 6 was rejected.

Further analysis of the data revealed that the middle one-third of high school students differed significantly from the dropouts enrolled in community education on four other scales.

Effort Success. The mean score on the Effort Success scale of the MMCS for students in the middle one-third of their class was 9.0373, whereas for students who attended community education it was 10.0521. In the test of significance, the t-value was -3.37, which was significant at the .001 level.

Context Failure. The mean score on the Context Failure scale for the middle one-third students was 7.0224, whereas for students who attended community education it was 5.6667. In the test of significance, the t-value was 3.13, which was significant at the .002 level.

Failure. The mean score on the Failure scale for the middle one-third students was 20.1654, whereas for students who attended community education the mean score was 18.333. In the test of significance, the t-value was 2.46, which was significant at the .015 level.

Internal. The mean score on the Internal scale for the middle one-third students was 32.7090, whereas for students who attended community education it was 34.7083. In the test of significance, the t-value was -2.03, which was significant at the .043 level.

Hypothesis 7

There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students in the middle one-third of their class and students who have dropped out of high school.

Ability. The mean score on the Ability scale of the MMCS for students in the middle one-third of their class was 14.2463, whereas for students who dropped out it was 16.8276. In the test of significance, the t-value was -2.78, which was significant at the .008 level (Table 4.14).

Table 4.14.--T-ratios of students in the middle one-third of their class and high school dropouts on the MMCS.

Scale	Group	Mean	S.D.	T-Value	p
Ability	Middle 1/3	14.2463	4.521	-2.79	.008
	Dropouts	16.8276	4.528		
Effort	Middle 1/3	18.4627	4.290	-1.45	.134
	Dropouts	19.7241	3.972		
Context	Middle 1/3	13.3582	4.685	2.09	.046
	Dropouts	11.3448	5.723		
Luck	Middle 1/3	10.3609	4.296	0.21	.843
	Dropouts	10.1724	4.676		

Effort. The mean score on the Effort scale for the middle one-third students was 18.4627, whereas for students who dropped out the mean score was 19.7241. In the test of significance, the t-value was -1.53, which was significant at the .134 level (Table 4.14).

Context. The mean score on the Context scale for the middle one-third students was 13.3582, whereas for students who dropped out it was 11.3448. In the test of significance, the t-value was 2.09, which was significant at the .046 level (Table 4.14).

Luck. The mean score on the Luck scale for the middle one-third students was 10.3609, whereas for students who dropped out it was 10.1724. In the test of significance, the t-value was 0.21, which was significant at the .843 level (Table 4.14).

The Ability and Context scales were both below the .05 level of significance. This indicated a significant difference; therefore, Hypothesis 7 was rejected.

Further analysis of the data revealed that the middle one-third of high school students differed significantly from the dropouts on five other scales.

Ability Success. The mean score on the Ability Success scale of the MMCS for students in the middle one-third of their class was 8.2910, whereas for students who dropped out the mean score was 9.5862. In the test of significance, the t-value was -2.15, which was significant at the .042 level.

Effort Success. The mean score on the Effort Success scale for the middle one-third students was 9.0373, whereas for students who dropped out it was 10.7241. In the test of significance, the t-value was -3.36, which was significant at the .001 level.

Context Failure. The mean score on the Context Failure scale for the middle one-third students was 7.0224, whereas for dropouts

it was 4.000. In the test of significance, the t-value was 5.20, which was significant at the .001 level.

Internal. The mean score on the Internal scale for the middle one-third students was 32.7090, whereas for students who dropped out it was 36.5517. In the test of significance, the t-value was -2.68, which was significant at the .007 level.

Failure. The mean score on the Failure scale for the middle one-third students was 20.1654, whereas for students who dropped out it was 15.3793. In the test of significance, the t-value was 2.72, which was significant at the .013 level.

Hypothesis 8

> There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students in the bottom one-third of their class and students who have dropped out of high school and are enrolled in a community education program.

Ability. The mean score on the Ability scale of the MMCS for students in the bottom one-third of their class was 13.7143, whereas for students who attended community education the mean score was 15.2700. In the test of significance, the t-value was -2.19, which was significant at the .03 level (Table 4.15).

Effort. The mean score on the Effort scale for the bottom one-third students was 18.1190, whereas for students who attended community education it was 19.4375. In the test of significance, the t-value was -2.17, which was significant at the .032 level (Table 4.15).

Table 4.15.--T-ratios of students in the bottom one-third of their class and high school dropouts enrolled in community education on the MMCS.

Scale	Group	Mean	S.D.	T-Value	p
Ability	Bottom 1/3	13.7143	4.870	-2.19	.030
	Comm. ed.	15.2708	5.065		
Effort	Bottom 1/3	18.1190	4.190	-2.17	.032
	Comm. ed.	19.4375	3.936		
Context	Bottom 1/3	12.4167	5.422	0.55	.582
	Comm. ed.	11.9583	5.723		
Luck	Bottom 1/3	10.7143	4.661	-0.41	.680
	Comm. ed.	11.0313	5.626		

Context. The mean score on the Context scale for the bottom one-third students was 12.4167, whereas for students who attended community education it was 11.9583. In the test of significance, the t-value was 0.55, which was significant at the .582 level (Table 4.15).

Luck. The mean score on the Luck scale for the bottom one-third students was 10.7143, whereas for students who attended community education it was 11.0313. In the test of significance, the t-value was -0.41, which was significant at the .68 level (Table 4.15).

The Ability and Effort scales were both below the .05 level of significance. This indicated a significant difference; therefore, Hypothesis 8 was rejected.

Further analysis of the data revealed that students in the bottom one-third of their class differed from high school dropouts enrolled in community education on three scales.

Ability Success. The mean score on the Ability Success scale of the MMCS for students in the bottom one-third of their class was 7.6786, whereas for high school dropouts who attended community education it was 8.7500. In the test of significance, the t-value was -2.54, which was significant at the .012 level.

Internal. The mean score on the Internal scale for students in the bottom one-third of their class was 31.8333, whereas for high school dropouts who attended community education the mean score was 34.7093. In the test of significance, the t-value was -2.65, which was significant at the .009 level.

Failure. The mean score on the Failure scale for students in the bottom one-third of their class was 20.1786, whereas for high school dropouts who attended community education it was 18.3330. In the test of significance, the t-value was -2.00, which was significant at the .047 level.

Hypothesis 9

> There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students in the bottom one-third of their class and students who have dropped out of high school.

Ability. The mean score on the Ability scale of the MMCS for students in the bottom one-third of their class was 13.7143, whereas for students who dropped out it was 16.8276. In the test of

significance, the t-value was -3.21, which was significant at the .002 level (Table 4.16).

Table 4.16.--T-ratios of students in the bottom one-third of their class and high school dropouts on the MMCS.

Scale	Group	Mean	S.D.	T-Value	p
Ability	Bottom 1/3	13.7143	4.870	-3.21	.002
	Dropouts	16.8271	4.528		
Effort	Bottom 1/3	18.1190	4.190	-1.80	.070
	Dropouts	19.7241	3.972		
Context	Bottom 1/3	12.4167	5.422	0.94	.320
	Dropouts	11.3448	4.972		
Luck	Bottom 1/3	10.7143	4.661	0.54	.590
	Dropouts	10.1724	4.676		

Effort. The mean score on the Effort scale for the bottom one-third students was 18.1190, whereas for students who dropped out it was 19.7241. In the test of significance, the t-value was -1.80, which was significant at the .07 level (Table 4.16).

Context. The mean score on the Context scale for the bottom one-third students was 12.4167, whereas for students who dropped out it was 11.3448. In the test of significance, the t-value was 0.94, which was significant at the .32 level (Table 4.16).

Luck. The mean score on the Luck scale for the bottom one-third students was 10.7143, whereas for students who dropped out it was 10.1724. In the test of significance, the t-value was 0.54, which was significant at the .59 level (Table 4.16).

The Ability scale was below the .05 level of significance. This indicated a significant difference; therefore, Hypothesis 9 was rejected.

Further analysis of the data revealed that students in the bottom one-third of their class differed from high school dropouts on five scales.

Ability Success. The mean score on the Ability Success scale of the MMCS for students in the bottom one-third of their class was 7.6786, whereas for students who dropped out it was 9.5862. In the test of significance, the t-value was -3.00, which was significant at the .005 level.

Effort Success. The mean score on the Effort Success scale for students in the bottom one-third of their class was 9.0595, whereas for students who dropped out it was 10.7241. In the test of significance, the t-value was -3.25, which was significant at the .001 level.

Context Failure. The mean score on the Context Failure scale for students in the bottom one-third of their class was 6.3452, whereas for students who dropped out it was 4.000. In the test of significance, the t-value was 3.27, which was significant at the .002 level.

Internal. The mean score on the Internal scale for the bottom one-third students was 31.8333, whereas for students who dropped out it was 36.5517. In the test of significance, the t-value was -3.18, which was significant at the .002 level.

Failure. The mean score on the Failure scale for the bottom one-third students was 20.1876, whereas for students who dropped out it was 15.3793. In the test of significance, the t-value was 3.07, which was significant at the .01 level.

Hypothesis 10

> There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students who have dropped out of high school and enrolled in community education programs, and students who have dropped out of high school.

Ability. The mean score on the Ability scale of the MMCS for students in community education was 15.2708, whereas for students who dropped out it was 16.8276. In the test of significance, the t-value was -1.48, which was significant at the .12 level (Table 4.17).

Table 4.17.--T-ratios of students in community education and high school dropouts on the MMCS.

Scale	Group	Mean	S.D.	T-Value	p
Ability	Comm. ed.	15.2708	5.065	-1.48	.120
	Dropouts	16.8276	4.528		
Effort	Comm. ed.	19.4375	3.936	-0.34	.730
	Dropouts	19.7241	3.972		
Context	Comm. ed.	11.9583	5.723	0.52	.560
	Dropouts	11.3448	4.790		
Luck	Comm. ed.	11.0313	5.626	0.75	.410
	Dropouts	10.1724	4.676		

Effort. The mean score on the Effort scale for community education students was 19.4375, whereas for students who dropped out the mean score was 19.7241. In the test of significance, the t-value was -0.34, which was significant at the .734 level (Table 4.17).

Context. The mean score on the Context scale for community education students was 11.9583, whereas for students who dropped out it was 11.3448. In the test of significance, the t-value was 0.52, which was significant at the .567 level (Table 4.17).

Luck. The mean score on the Luck scale for community education students was 11.0313, whereas for students who dropped out it was 10.1724. In the test of significance, the t-value was 0.75, which was significant at the .413 level (Table 4.17).

There were no significant differences on any of the scales. Therefore, Hypothesis 10 was not rejected.

Further analysis of the data revealed that students in community education programs differed significantly from high school dropouts on one scale.

Context Failure. The mean score on the Context Failure scale for community education students was 4.677, whereas for students who dropped out it was 4.0000. In the test of significance, the t-value was 2.26, which was significant at the .027 level.

Hypothesis 11

There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between male and female students.

Ability. The mean score on the Ability scale of the MMCS for male students was 14.3244; for female students the mean score was 14.6118. In the test of significance, the t-value was -0.82, which was significant at the .412 level (Table 4.18).

Table 4.18.--T-ratios of male and female students on the MMCS.

Scale	Group	Mean	S.D.	T-Value	p
Ability	Males	14.3224	4.472	-0.82	.412
	Females	14.6118	4.352		
Effort	Males	18.4849	3.849	-0.90	.369
	Females	18.7588	3.827		
Context	Males	13.0100	4.661	1.60	.110
	Females	12.4029	4.916		
Luck	Males	10.0671	4.721	0.20	.841
	Females	9.9912	4.804		

Effort. The mean score on the Effort scale for male students was 18.4849, whereas female students' mean score was 18.7588. In the test of significance, the t-value was -0.90, which was significant at the .369 level (Table 4.18).

Context. The mean score on the Context scale for male students was 13.0100, whereas the score for female students was 12.4029. In

the test of significance, the t-value was 1.60, which was significant at the .11 level (Table 4.18).

Luck. The mean score on the Luck scale for males was 10.0671, whereas the score for females was 9.9912. In the test of significance, the t-value was 0.20, which was significant at the .841 level (Table 4.18).

No significant difference was found on any of the scales. Therefore, Hypothesis 11 could not be rejected.

Further analysis of the data revealed that male and female students differed significantly on three of the attributional scales.

Ability Failure. The mean score on the Ability Failure scale of the MMCS for male students was 5.5619, whereas the score for female students was 6.0853. In the test of significance, the t-value was -2.15, which was significant at the .032 level.

Context Failure. The mean score on the Context Failure scale for males was 6.8060, whereas the score for females was 6.1558. In the test of significance, the t-value was -2.78, which was significant at the .006 level.

Failure. The mean score on the Failure scale for males was 20.5336, whereas the score for females was 18.8909. In the test of significance, the t-value was 3.438, which was significant at the .001 level.

Hypothesis 12

There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between white and black students.

Ability. The mean score on the Ability scale of the MMCS for white students was 14.1683, whereas the score for black students was 15.4033. In the test of significance, the t-value was -3.12, which was significant at the .002 level (Table 4.19).

Table 4.19.--T-ratios of white and black students on the MMCS.

Scale	Group	Mean	S.D.	T-Value	p
Ability	Whites	14.1683	4.235	-3.17	.002
	Blacks	15.4033	4.417		
Effort	Whites	18.2946	3.869	-3.80	.001
	Blacks	19.5525	3.618		
Context	Whites	13.5421	4.590	6.18	.001
	Blacks	10.8785	4.918		
Luck	Whites	10.3391	4.607	2.07	.039
	Blacks	9.4190	5.086		

Effort. The mean score on the Effort scale for white students was 18.2946, whereas the score for black students was 19.5525. In the test of significance, the t-value was -3.80, which was significant at the .001 level (Table 4.19).

Context. The mean score on the Context scale for white students was 13.5421, whereas the score for black students was

10.8785. In the test of significance, the t-value was 6.18, which was significant at the .001 level (Table 4.19).

Luck. The mean score on the Luck scale for white students was 10.3391, whereas the score for black students was 9.4190. In the test of significance, the t-value was 2.07, which was significant at the .039 level (Table 4.19).

A significant difference was found for each scale. Therefore, Hypothesis 12 was rejected.

Further data analysis revealed that white and black students differed significantly on 13 other scales. The mean scores, standard deviations, t-values, and probability levels are reported in Table 4.20.

The black students differed significantly from the white students in the basic underlying attributional pattern. Black students were much more likely to attribute their success to internal causes than were white students.

Research Question 1

> Which of the attributional categories of ability, effort, context, and luck is viewed as the most important determinant of academic success and failure in achievement settings, as reported by race, gender, and class standings?

The rank orderings of the mean scores for the four attributional categories (ability, effort, context, and luck), as shown in Tables 4.21 through 4.23, indicate the order of causal ascription by race, gender, and class standing, respectively.

Table 4.20.--T-ratios of white and black students on the attributional scales of the MMCS.

Scale	Group	Mean	S.D.	T-Value	p
Ability Success	White	8.5050	2.542	-2.62	.009
	Black	9.1215	2.674		
Ability Failure	White	5.6634	2.947	-2.24	.026
	Black	6.2818	3.152		
Effort Success	White	9.1287	2.392	-2.80	.005
	Black	9.6740	2.071		
Effort Failure	White	9.1658	2.266	-3.40	.001
	Black	9.8785	2.377		
Context Success	White	6.6287	2.999	-4.80	.001
	Black	5.2818	3.201		
Context Failure	White	6.9134	2.844	5.09	.001
	Black	5.5967	2.917		
Luck Failure	White	4.5099	2.646	2.19	.029
	Black	3.9721	2.775		
Internal	White	32.4629	6.578	-4.34	.001
	Black	34.9558	6.360		
External	White	23.8812	8.169	4.69	.001
	Black	20.2682	8.754		
Success	White	18.8243	7.450	4.61	.001
	Black	15.9722	6.645		
Failure	White	20.5941	5.658	6.13	.001
	Black	17.4022	5.865		
Total	White	39.4183	10.886	6.34	.001
	Black	33.3743	10.485		

Table 4.21.--Means and standard deviations of students' attributions on the Effort, Ability, Context, and Luck scales, by race.

Scale		Blacks	Whites	Others
Effort	Mean =	19.5525	18.2946	18.1455
	S.D. =	3.618	3.869	3.865
Ability	Mean =	15.4033	14.1683	13.8634
	S.D. =	4.417	4.235	5.263
Context	Mean =	10.8785	13.5421	12.5273
	S.D. =	4.918	4.590	4.472
Luck	Mean =	9.4190	10.3391	9.9091
	S.D. =	5.086	4.607	4.862

Table 4.22.--Means and standard deviations of students' attributions on the Effort, Ability, Context, and Luck scales, by gender.

Scale		Males	Females
Effort	Mean =	18.4849	18.7588
	S.D. =	3.849	3.827
Ability	Mean =	14.3244	14.6118
	S.D. =	4.427	4.352
Context	Mean =	13.0100	12.4092
	S.D. =	4.661	4.916
Luck	Mean =	10.0671	9.9912
	S.D. =	4.721	4.804

Table 4.23.--Means and standard deviations of students' attributions on the Effort, Ability, Context, and Luck scales, by class standing.

Scale		Top 1/3	Middle 1/3	Bottom 1/3	Comm. Educ.	Drop-outs
Effort	Mean =	18.50	18.46	18.12	19.44	19.70
	S.D. =	3.49	4.29	4.19	3.94	3.97
Ability	Mean =	14.51	14.25	13.71	15.27	16.80
	S.D. =	4.18	4.52	4.49	5.07	4.52
Context	Mean =	12.95	13.36	12.42	11.96	11.30
	S.D. =	4.29	4.69	5.42	5.72	4.79
Luck	Mean =	9.50	10.36	10.71	11.03	10.20
	S.D. =	4.70	4.30	4.66	5.63	4.67

These findings corroborate those of Lefcourt et al. (1979) and Douglas and Powers (1983), who reported the same rank ordering among university undergraduates and precollege students. High school students and high school dropouts in community education programs clearly considered effort as the most important determinant of academic success and failure. Further, the smaller standard deviation of the effort scores indicated a greater consensus among students.

Research Question 2

Do students as they progress through grades 10, 11, and 12 change their attributional pattern?

The mean scores of high school students in the three grade levels--10th, 11th, or 12th grade--showed no significant differences. Students in grade 10 made similar attributional

responses to those of students in grades 11 and 12. Table 24 shows the mean scores and standard deviations for each of the grades.

Table 4.24.--Means and standard deviations of students' attributions on the Effort, Ability, Context, and Luck scales, by grade level.

Grade		Ability	Effort	Context	Luck
10	Mean =	14.3282	18.3795	12.4718	9.6995
	S.D. =	4.352	4.174	4.702	4.782
11	Mean =	14.4525	18.2123	13.2849	10.1844
	S.D. =	4.275	3.600	4.296	4.302
12	Mean =	14.0410	18.8115	13.2951	9.9590
	S.D. =	4.383	3.524	4.854	4.733

Research Question 3

What effect does the income level of the student's family have on the student's attributional pattern?

Socioeconomic status (SES) plays an important role in shaping a student's developmental process. This researcher was concerned with the students' SES level and its effect on their attributional pattern. For the purpose of this study, parents' income or students' own income if they were living independently was used as a measure of SES.

Analysis of variance was used to determine whether income played a role in explaining the variance on the Ability, Effort, Context, and Luck scales for the four class standings: top one-third, middle one-third, bottom one-third, and high school

dropouts. Students' income level did not play a significant role in explaining the variance on the Ability scale (F = .508, significant at the .770 level) (Table 4.25). Income did account for some of the variance on the Effort scale (F = 2.422, significant at the .035 level). The Context and Luck scales were not significantly affected by students' income level (Context: F = .649, significant at the .662 level; Luck: F = 1.245, significant at the .287 level).

Table 4.25.--Effect of attributions on educational achievement: analysis of Ability, Effort, Context, and Luck scale scores by class standing and income level.

Source of Variation	Sum of Squares	df	Mean Square	F	Signif. of F
Ability					
Main effects	217.457	8	27.182	1.331	.226
Class standing	122.552	3	40.851	2.000	.113
Income	51.906	5	10.381	0.508	.770
Effort					
Main effects	268.670	8	33.584	2.238	.024
Class standing	179.585	3	59.862	3.990	.008
Income	181.699	5	36.340	2.422	.035
Context					
Main effects	128.072	8	16.009	0.663	.724
Class standing	10.837	3	3.612	0.150	.930
Income	78.365	5	15.673	0.649	.662
Luck					
Main effects	432.904	8	54.113	2.244	.023
Class standing	157.489	3	52.496	2.177	.090
Income	150.098	5	30.020	1.245	.287

Research Question 4

> Do students who experience greater academic success, as measured by GPA, attribute success and failure in a more productive pattern than students who are not as successful in achievement settings?

Significant differences were found among the five class-standing groups on seven of the attributional scales. Analysis of variance indicated a difference on the Ability Success, Ability Failure, Effort Success, Context Failure, Luck Success, Luck, and Internal scales. Results of the analysis of variance for the significant scales are shown in Table 4.26.

Summary

The statistical and descriptive analyses of the data were presented in this chapter. The data that were generated by the MMCS were presented. The tests of significance and their resulting probability values were discussed for each research hypothesis. Data concerning important research questions were reported, along with tests of significance. Eight of the 12 stated hypotheses were rejected. Significant differences in attributional patterns were found between the following groups: students in the top one-third of their class and students in the bottom one-third, community education, and dropouts; students in the middle one-third of their class and those in community education and dropouts; students in the bottom one-third of their class and those in community education and dropouts; and black and white students.

Table 4.26.--Effect of attributions on educational achievement: analysis of Ability, Effort, Context, and Luck scale scores by class standing.

Source of Variation	Sum of Squares	df	Mean Square	F	Signif. of F
Ability Success					
Between groups	134.6040	3	44.8680	6.4776	.0003
Within groups	4072.8808	588	6.9267		
Ability Failure					
Between groups	83.7049	3	27.9016	2.9507	.0322
Within groups	5560.0502	588	9.4559		
Effort Success					
Between groups	69.1408	3	23.0469	4.5873	.0035
Within groups	2954.1295	588	5.0240		
Context Failure					
Between groups	106.5173	3	35.5058	4.0638	.0071
Within groups	5137.4557	588	8.7372		
Luck Success					
Between groups	92.6360	3	30.8787	3.6332	.0128
Within groups	4988.8868	588	8.4990		
Luck					
Between groups	222.9556	3	74.3185	3.2637	.0211
Within groups	13343.9749	586	22.7713		
Internal					
Between groups	404.4445	3	134.8148	2.9566	.0319
Within groups	26811.1349	588	45.5972		

CHAPTER V

SUMMARY AND CONCLUSIONS

This chapter includes a summary of the study, a discussion of the findings as they apply to the research hypotheses and the research questions, conclusions, and recommendations for future research.

Summary

The purpose of this study was to investigate the different attributional styles of high school students and high school dropouts in achievement situations. In preparation for the study, an extensive literature search was undertaken. Attribution research has been conducted extensively for the past ten years. The search was narrowed to focus on how students attribute success or failure in academic settings. Research was supplemented by pertinent literature from related fields: the psychology of motivation and reward, learned helplessness, and cognitive psychology.

The Multidimensional-Multiattributional Causality Scale (MMCS) was used. This indicates the type of attribution one makes for success and failure in achievement settings.

The subjects came from three school systems with community education programs in the western Michigan area, and western

Michigan prison inmates. An inner-city, a suburban, and a rural setting were selected.

The data were gathered on-site by the researcher and submitted to statistical analysis. The computer program used to tabulate the scores was the Statistical Package for the Social Sciences (SPSS-X) on the Michigan State University IBM mainframe computer.

Findings

The findings of the data analyses that were presented in Chapter IV are discussed here in two parts. Part one is a discussion of the results of the t-tests that were applied to the research hypotheses. In part two, the research questions are restated, and the findings from the data pertinent to the questions are discussed.

Hypothesis 1

> There is no statistically significant difference in Multidimensional-Multiattributional Causality Scale (MMCS) scores for ability, effort, context, and luck between students in the top one-third of their class and students in the middle one-third of their class.

Although the two groups did not differ on the test of significance, the students in the top one-third of their class did rate both ability and effort as more important in determining success and failure, whereas students in the middle one-third of their class rated luck and context as more important in determining success and failure than the students in the top one-third of their class. These differences indicate a more positive trend in the

attributional pattern for students in the top one-third of their class over those in the middle one-third of their class.

Hypothesis 2

> There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students in the top one-third of their class and students in the bottom one-third of their class.

A comparison of means from the composite scores on the MMCS between students in the top one-third of their class and those in the bottom one-third of their class revealed a statistically significant difference of less than .05 on the Ability Success, Luck Failure, and Luck scales. Students who were in the bottom one-third of their class believed that luck was a more important component in determining success and failure than did students in the top one-third of their class. This attributional pattern of attributing success and failure to luck will hinder the students who perform more poorly. Since luck was the reason for past performance, the students saw little reason for making the changes necessary to become more successful in academic situations. The reasons they failed were outside of their control. Students in the top one-third of their class attributed their success more to their ability than did students in the bottom one-third of their class. The top one-third students rated effort as a more important factor in determining success and failure than did students in the bottom one-third of their class. The attributional pattern exhibited by the top one-third students tended to be more positive and productive for academic success than that exhibited by those in the bottom

one-third of their class. The top one-third students believed that their ability caused the success, that their effort was the reason for their success, and that lack of effort caused their failure.

Hypothesis 3

> There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students in the top one-third of their class and students who have dropped out of high school and are enrolled in a community education program.

The data showed that high school dropouts attending community education programs were more likely to attribute their failure to lack of effort and their success to their effort than were students in the top one-third of their class. Along with this, dropouts in community education were more likely to attribute both their successes and failures to internal causes. Community education students reported that the locus of control was more internal than did high school students. Their performance was controlled more by those things occurring within themselves than by the environment. High school students in the top one-third of their class were more likely to attribute failure to external factors. The context of the event was often seen as the reason they failed; it was not something within themselves that caused the failure.

These differences might show that community education students were more realistic in assessing their actual strengths and weaknesses than were high school students. Dropouts in community education have been out of school and have now returned of their own accord, bringing with them new insights about themselves and the

learning situation. The attributions for failure to ability may be a more accurate assessment of specific weaknesses they perceive in themselves. The attribution of success to effort may reflect their greater understanding that they must work harder to achieve in a learning situation than a student who has had a fairly successful school experience up to this point. If students perceive they lack ability to be successful, it follows that they would view effort as being very important for success. These individuals know they must work harder than others to be successful. If community education students transfer their effort attributions to actual practice, they will enhance their chances of being successful.

Community education students also rated luck as more important in determining success and failure. This attribution does not enhance the expectations for future success. When one attributes success or failure to luck, one is placing the control of events outside of oneself. The student cannot expect to change the cause of failure or to repeat the cause of success.

The community education students present a mixed picture. Their attributional pattern in some areas predicts that they can make the changes necessary to be more successful, whereas other patterns predict that altering their response style is outside of their control.

Hypothesis 4

> There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students in the top one-third of their class and students who have dropped out of high school.

A comparison of means from the composite scores on the MMCS between students in the top one-third of their class and those who had dropped out of high school revealed a statistically significant difference of less than .05 on one scale. Students who had dropped out of high school and were in prison viewed lack of ability as more important in determining failure than did students in the top one-third of their class. This greater emphasis on ability might reflect a more realistic assessment of their own strengths and weaknesses. Prison inmates also viewed that their effort was more important in determining success. These two attributes complement each other; if one believes he lacks the ability to do well in school, then in order to be successful one must work harder. The prison inmates were more internal looking than the top one-third students. Prisoners reported that those attributes which came from or were controlled by themselves were important in determining the outcomes for themselves in academic situations. These individuals had dropped out of school and were now housed in prison. The greater number of life experiences available to them might have effectively shown them the things in which they did well and those that were problem areas for them. To this point, prisoners had failed at school and had been removed from society for some criminal behavior. While housed in prison, these individuals had had time to

reflect on those life events that had affected them in positive and negative ways. Prison inmates presented an attributional pattern that could be predictive of possible future success in academic settings. If these individuals transferred this increased awareness to their decision-making process, they could expect to perform better in the future.

Hypothesis 5

> There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students in the middle one-third of their class and students in the bottom one-third of their class.

Students in the middle one-third of their class rated effort, ability, and context as slightly more important than did students in the bottom one-third of their class, who rated luck as slightly more important in contributing to success and failure. The direction of the attributional pattern was slightly more positive for students in the middle one-third of their class. Both groups viewed effort as the most important attribute for success and failure. If they transferred these attributions into action, they could expect to make some of the changes necessary to continue success or remediate the causes of failure.

Hypothesis 6

> There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students in the middle one-third of their class and students who have dropped out of high school and are enrolled in a community education program.

Students in the middle one-third of their class ranked the context of the situation as a more important contributor to failure than did community education students. This difference indicated that the middle one-third students were more likely to look at the environment as a cause for their failure, thus enabling them to make some changes in their environment that might lead to future success. This attribution would allow students to begin to exercise some control over future outcomes. The community education students rated effort as more important in determining success than did students in the middle one-third of their class. This might be because students in community education had experienced previous failure in school and realized that their failure might have been due to lack of effort. The present attribution for effort-success implies that community education students understood that effort played an important part in determining whether they would succeed in an academic setting. Community education students were more internal in their attributions than students in the middle one-third of their class. The community education students reported that the locus of control was within themselves and that the outcome of events was more dependent on factors within themselves than the middle one-third students. The greater emphasis on effort might have been a result of the self-selecting process of who voluntarily returns to a community education program.

Hypothesis 7

> There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students in the middle one-third of their class and students who have dropped out of high school.

Students in the middle one-third of their class did not see ability as being as important an attribution of success or failure as did the dropouts. The dropouts reported that their performance was influenced by their ability or lack of ability in determining both success and failure. The dropouts reported that their effort was important in determining success. This attribution dovetails with the ability failure attribution; if one lacks the ability, he then must work harder to achieve success. This difference may have been caused by the dropouts being older and having had more experience by which to judge their ability. The dropouts were removed from the school setting and might have been taking a more realistic look at their abilities, realizing that they had abilities in specific areas and not in others.

The students in the middle one-third of their class differed significantly from the dropouts on the Context Failure and Failure scales. The high school students saw their environment as playing a more important part in their failure than did the dropouts. If the students attribute this failure to events in the environment that they can control, they might then take corrective action to change the environmental conditions that have contributed to their failure. However, if they attribute the cause of failure to uncontrollable events, they will be unable to change the environmental conditions

and will continue to repeat their past performance. In this study, the high school dropouts were more internal than students in the middle one-third of their class. The dropouts reported that the locus of control was more within themselves and that the outcome of events was more dependent on factors from within themselves than did students in the middle one-third of their class.

Hypothesis 8

> There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students in the bottom one-third of their class and students who have dropped out of high school and are enrolled in a community education program.

Students in the bottom one-third of their class reported that the context of the situation played a larger role in determining failure than did community education students. The high school students looked more to the environment to explain why they failed at a given task. If the students attribute their failure to events in the environment that they can control, they may then take corrective action to change the environmental conditions that have contributed to their failure. If, however, they attribute the cause of failure to uncontrollable events, they will be unable to change the cause of failure and will continue to repeat their past performance.

Students in community education attributed their success and failure more to their own ability and effort than did students in the bottom one-third of their class. Community education students attributed the cause of their success and failure more internally

than did students in the bottom one-third of their class. These students reported that they were responsible for both their successes and failures; the causal factors came from within themselves. The community education students reported a more positive attributional pattern than did the students in the bottom one-third of their class. The community education student is in the position to make some of the necessary changes that are needed to become or continue to be successful in academic settings. These data for the community education student may be shifted in the positive direction on account of the self-selecting process of who has returned to school on their own.

Hypothesis 9

> There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students in the bottom one-third of their class and students who have dropped out of high school.

High school dropouts who were housed in prison attributed their success and failure more to effort and ability. They saw that their success was more dependent on themselves than did students in the bottom one-third of their class. High school dropouts were more internal looking than bottom one-third students. The high school dropouts reported that the locus of control was more internal, and that the outcome of events was more dependent on factors from within themselves. This may be because the dropouts were older and had experienced some significant problems in the past. This increased opportunity to assess one's strengths and weaknesses may have

accounted for the greater emphasis on personal responsibility for their success and failure attributions.

Students in the bottom one-third of their class looked more to the context of the situation and environmental factors to explain failure. This difference might have been because the prison inmates lived in a very controlled environment and could exert little control over it; thus, they reported that the environment was not as important a factor as high school students said it was.

Hypothesis 10

> There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between students who have dropped out of high school and enrolled in community education programs, and students who have dropped out of high school.

Community education students were more likely to report that the context of an event was more responsible for failure than were prison inmates. This may have been due, in large part, to the prisoners living in a very controlled environment on which they could have little effect. This view of not being able to affect the environment and its not playing a role in attributing to either success or failure was reflected in their neutral score of 4.0. Both groups showed a positive attributional style. Effort was the most important factor in determining success and failure, followed by ability, context, and luck. Both groups reported an attributional pattern that should allow them to continue those activities that lead to success in academic settings and to make those changes that would improve their chances for future success.

The piece of information that needs to be explored is whether these individuals were putting into action and effect the responses that would be expected from their attributional pattern.

Hypothesis 11

> There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between male and female students.

Males were more likely to attribute their failure to the environment and context of the situation than were females. They tended to look outside of themselves to explain why they did not perform well. Females were more likely to view lack of ability as a causal factor for failure. The reason they did not perform well was because they lacked ability.

These two responses are consistent with earlier research, which has reported that males are more likely to attribute success to ability and failure to external factors, whereas females are more likely to view failure as due to internal factors.

Hypothesis 12

> There is no statistically significant difference in MMCS scores for ability, effort, context, and luck between white and black students.

The reported differences between black and white students were significant. The attributional patterns reported by the black students emphasized effort and ability as more important than those of white students. These results are contrary to earlier attributional research, which found blacks to be more external in their attributions for success and failure. The pattern of

attributional choices shown here predicts that black students would expect to continue to experience success in the future. They attributed their present success to the internal stable factor of ability, to the internal unstable factor of effort--they can work hard again and do well, and their lack of success to effort--they didn't try hard enough but that can change in the future. The attribution of failure to ability is not consistent with the other attributions made by typical standards. However, it may be viewed that the attribution of failure to ability is a more realistic assessment of one's failure in a particular subject area. Then the pattern would remain consistent.

White students in this study showed an attributional pattern that was not as positive as that reported by black students. White students still showed an attributional pattern that emphasized ability and effort as being the most important components in their academic success or failure. For both groups of students, hard work was the most important factor in success, and lack of effort was the largest contributor to their failure. Effort was followed by ability, context, and luck as reasons given for academic success or failure. This pattern would be predictive of a student who would expect to experience success in the future. Success was attributed to an internal stable cause--ability, and to an internal unstable cause--effort, whereas failure was attributed to internal unstable causes such as lack of effort and external causes such as poor environment.

Black and white students differed to a significant extent in this study. Still, both reported a fairly positive attributional pattern. The overall positive pattern, however, must be viewed in light of the larger number of academically successful students completing the survey. This situation might have shifted the results in a more positive direction.

Research Question 1

> Which of the attributional categories of ability, effort, context, and luck is viewed as the most important determinant of academic success and failure in achievement settings, as reported by race, gender, and class standings?

Each of the subject groups (male, female, black, white, and class standing) reported that effort was the most important factor in determining success or failure. High school dropouts rated effort more important than did any other school group. This greater emphasis on effort may have been a more realistic evaluation of their own strengths and weaknesses. Dropouts may have viewed themselves as less able on specific school-related tasks and hence thought they must work harder to be successful. The students who were still in school showed a natural progression from the top to the bottom in their ratings of the importance of effort; the more successful students rated effort as more important than did those who were not performing as well. This decreased emphasis on effort as students performed less well followed the predicted pattern, with students taking less and less responsibility for their own success or failure as their academic success decreased. Students who did not view effort as important in success or failure gave up an aspect

of control over the future. If they did not believe that hard work would influence future outcomes, they would not be likely to change poor study or work habits that had led to the present failure, or they might not repeat the effort that had led to success.

Females rated effort higher than males, but the differences were not significant. Blacks rated effort more important than did whites and other minorities. There was a significant difference between black and white respondents, and between black and other minority respondents.

Research Question 2

> Do students as they progress through grades 10, 11, and 12 change their attributional pattern?

The data indicated that the attributional patterns of students were fixed by the time they entered the tenth grade and did not change during the next three years. There were no significant differences on any of the attributional scales among students in any of the grades. The consistency of the responses among grades 10, 11, and 12 reveals that, by high school, a student's attributional pattern is well established. This indicates that, without intervention, students will continue to make the same attributions for success and failure in the future as they presently make. For students making positive attributional responses, this enhances their chance for continued success and provides the framework within which to mitigate the effects of failure; their future looks bright. Students with an attributional pattern that hinders them from being

successful in school have much to worry about. The data suggest that their attributional patterns will remain relatively constant over time, and they can expect to continue to fail and be unable to make the changes necessary to become more successful students.

Students in each grade viewed effort as the most important component in determining success or failure, followed in order by ability, context, and luck. The data suggest that, if students have an attributional pattern that inhibits them from taking action to become more successful, an intervention must take place at an earlier date. The students must be taught how their negative attributional pattern is affecting their performance and how to change their attributions to be more productive.

Research Question 3

> What effect does the income level of the student's family have on the student's attributional pattern?

Examining the four attributional scales for the effects of income revealed that the only scale affected was the Effort scale. Looking more closely at the data for the Effort scale's two component parts showed that income did not affect the attributions for effort success but did contribute to the differences on the Effort Failure scale.

Research Question 4

> Do students who experience greater academic success, as measured by GPA, attribute success and failure in a more productive pattern than students who are not as successful in achievement settings?

Effort was reported as the most important determinant of success or failure. High school dropouts did not differ on the Effort Failure scale from any of the in-school groups, and there were no significant differences between any of the groups on the Effort Failure scale. Effort success was highly significant for the high school dropouts when compared to the other four groups. This finding indicates that, for the dropouts, effort played an important role in attaining success. Students in school rated effort important, with community education students giving it the highest rating of the four, followed by the top one-third students, then the low one-third and the middle one-third, with virtually no differences between them. The high school dropouts had come to view effort as an important component to be successful in academic settings. The question, however, is whether the conception that effort is important for success had led to the individual taking action in that direction.

Ability was the second most important determinant of academic success or failure. Again, the high school dropouts rated ability the highest, with the community education students second, followed by the top one-third, the middle one-third, and the bottom one-third students. This pattern of the high school dropouts rating ability more important than in-school students may be explained if one finds that the dropouts were making a much more realistic judgment of their actual abilities. After spending time out of school, these individuals had the opportunity to more objectively reflect on and draw conclusions about why they did well or poorly in school.

Closer examination of the data showed that high school dropouts viewed ability as a key determinant in contributing to both their success and their failure. The attributions for ability success were ordered as follows: dropouts, top one-third students, community education, middle one-third, and bottom one-third. The Ability Failure scale revealed a different pattern, with the scores arranged as follows: dropouts, community education, bottom one-third, middle one-third, and top one-third. The Ability Failure scale followed the predicted pattern, with students who had experienced more success in school believing that ability played less of a role in their failure than did students who had experienced little success in school. The dropouts identified that their ability in specific situations would help them be successful or contribute to the learning task being more difficult and failure more likely. The pattern of the more successful students viewing ability as more important than the poorer students also followed the predicted pattern of responses.

Students who have experienced success are more likely to believe that they can do the task required of them and will expect to do well in the future. Students who have experienced failure or poor results tend to view themselves as less able and expect to see the same poor performance in the future. Ability is an internal stable factor that is unlikely to change over time. The attribution of their success or failure to ability predicts future performance to repeat that of the past. This pattern of attribution bodes well

for the successful student. However, for the poorer student, the future in school is viewed as holding more of the same frustration and experiencing continued failure because their ability is unlikely to change.

The context of the academic experience decreased in importance for determining success or failure. The sequence of importance follows: middle one-third students, top one-third, bottom one-third, community education students, and high school dropouts. The context variable is complex and needs to be analyzed in two parts: context for success and context for failure. The data indicated virtually no difference among the four groups on the Context Success scale. The groups believed that the context of an event contributed little to their success. The attribution of context for failure showed that students in the middle and top one-third of their class viewed this as a more important determinant of failure than did students in the bottom one-third of their class, community education students, or high school dropouts. High school dropouts viewed the context of the situation as having the least effect on success. The score indicates that, the more difficulty a student had in an academic setting, the less likely he was to view the setting as important in determining failure. This attribution does not encourage these students to look at their environment to see whether it may be contributing to their failure. This precludes them from making the structural changes that may be necessary to become successful. Students probably will not change a poor work or study environment to a more positive one if their failure is not seen as

attributable to the environment. By attributing failure to the context of the event, individuals can hope for a different set of circumstances the next time around, which will enable them to be successful. This attribution also allows students to protect their self-image as good students. They were not responsible for the failure. It was the environment, and it is possible to change that in the future.

Least important in determining success or failure in this study was the attribution of luck. The use of luck as an attribution plays an important part in future expectations for success or failure to be repeated. Luck is an external unstable factor; if students attribute success to luck, they cannot count on being successful in the future. If failure is attributed to luck, students will be able to view the future as changeable; they may be able to influence future events. The sequence of attribution for luck as important was as follows: community education students, bottom one-third, middle one-third, dropouts, and top one-third. These findings indicate that, the more successful students were in school, the less likely they were to use luck to explain success or failure (except for the dropouts, which may have been the result of a smaller sample size). This pattern indicates that successful students believed they had a more active role in academic performance and could alter future outcomes. Students who had not been successful in school believed that luck was the cause of an

outcome and gave up the idea of changes affecting the event in the future.

Conclusions

In this section, the conclusions drawn from the findings regarding the hypotheses and research questions are presented.

Hypotheses 1 through 10 and Research Question 4 explored the relationship of high school students, by class standing, and high school dropouts. The data showed that, for students in school, the more successful the student was in achievement situations, the more productive were his attributional patterns. Conversely, the less successful the student was, the more counterproductive was his attributional pattern.

High school dropouts who had enrolled in community education had begun to make a more positive attributional pattern for school success. Dropouts presently in prison demonstrated an even further shift in making attributions that would help them become more successful in academic settings. Both groups of dropouts appeared to have made a realistic assessment of their strengths and weaknesses and reflected this in their patterns of attributions. Students in each group still need to alter their attributions for success and failure if they wish to improve their chances for being successful in academic settings.

The attributional pattern that one expresses does not, however, predict success or failure. One's attributional pattern gives an indication of whether one will take the steps necessary to enhance

the possibility for future success and limit the potential for failure. The individual must still act.

Regarding Hypothesis 11, no difference in attributional patterns was found between males and females. However, examining the data from the subscales indicated that males were more likely to attribute failure to the context of the situation, whereas females attributed failure to ability. This attribution of failure by females to ability could be a detriment to future success. Why should one try if she is not able? The attribution of failure by males to the context of the event could have a positive effect on future expectations for success; after all, the academic environment can be altered, removing the causes of past failures.

The findings regarding Hypothesis 12 revealed that there was a significant difference between white and black students. In this study, the black students were found to make much more constructive and positive attributional causal links than the white students. These attributional patterns should be helpful for the black students in future academic settings. They viewed effort as an important component of success and lack of effort as a contributor to failure. Even though the white students were significantly lower than their black counterparts, the attributional pattern for them also exhibited the necessary components for future success.

High-school-age students reported that effort was the most important determinant of academic success or failure, followed by ability. The generality of this belief among the population is significant. It indicates that the students had developed a

positive work attitude. They believed that the harder one works the better one will do. The majority of the students were taking a proactive role in determining their academic success. The causal links between effort and success had been formed.

Ability was rated as the second most important determinant of success. Students were making realistic assessments of the components that go into producing a successful outcome. If students can and do make realistic assessments of specific strengths and weaknesses, one would then expect the individuals to develop realistic goals for their performance and allocate their effort to those areas that require the greatest amount of work.

The consistency of the attributional patterns from the tenth grade to the twelfth grade indicates that students had developed a consistent attributional pattern by that time. Individuals who have developed a positive productive pattern by this time will continue to benefit from it. However, students with a negative, counterproductive pattern will continue to be hindered by it in the future. The long-term outlook is for individuals to maintain their present attributional style unless some significant intervention or experience takes place.

The income level of the students themselves or their family had little effect on attributional style. The only area affected was the attribution to effort/failure. Here it was found that income caused part of the variation in responses between low-income and high-income students by class standing; it did not affect

students in the middle income levels. The tenuous nature of the data provided and the slight differences reported cause one to view these findings with reservation.

Recommendations

Overall, it was found that students did attribute success and failure differently, depending on their success in school. These differences can be used to identify students who have the mental ability to perform well in school but may be experiencing academic difficulty. If the student has a counterproductive attributional style, one that attributes success to luck and the context and failure to ability, he may be a candidate for attributional retraining, where one learns to attribute success to effort and ability and failure to lack of effort and the context of the learning situation.

In school, students often experience success and failure. By using attributional theory, educators can develop programs to maximize the effect of the success by helping the student realistically identify the causes behind such success: ability and effort. Failure can also be used to help the student identify its causal link, such as lack of effort or poor context. However, not all students have the ability to do well in all areas of school. If lack of ability is the reason for failure, attribution theory would enable the student to make specific failure causal links that are subject or situation specific, allowing for success in all other areas.

Suggestions for Further Research

In this study the researcher analyzed the attributional styles of high school students and high school dropouts. The study was intended to serve as preliminary research in unraveling the relationship between academic success and attributional patterns. The following suggestions are offered as areas in which further research could be conducted.

1. Because attributional patterns did not change between grades 10 and 12, a longitudinal study could provide a more detailed account of the acquisition and maintenance of attributional patterns.

2. Western Michigan is a small socioeconomic environment. A replication of this study in an area with a more diverse population might provide different but comparable conclusions.

3. In this study, a significant difference was found between black and white students, contrary to past findings. This set of students warrants further study to find those factors that have set them apart.

4. A study might be conducted in which individuals with counterproductive attributional styles undergo attributional retraining to ascertain the effects retraining has on school performance.

APPENDICES

APPENDIX A

THE MULTIDIMENSIONAL-MULTIATTRIBUTIONAL CAUSALITY SCALE AND THE BIOGRAPHICAL DATA SHEET

The statements in this booklet express opinions on a number of issues. You may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others and perhaps feeling uncertain about others. Your reactions reflect your own opinions and obviously in a belief survey there are no right or wrong answers. Whether you agree or disagree with any statement you can be sure that there are many people who feel the same way you do.

Indicate on the test booklet how much you agree or disagree with each statement by circling one of the letters in the following way.

A = I AGREE
B = I MILDLY AGREE
C = I AGREE AND DISAGREE EQUALLY
D = I MILDLY DISAGREE
E = I DISAGREE

If you have mixed feelings about an item, decide whether you lean slightly more to one side than the other. Try to avoid the middle response. Remember that the best answer is whatever your personal opinion is and this is usually best reflected in your first reaction to an item, rather than after long debates with yourself over a particular experience.

Before you begin, please fill in the information requested on the top of the separate data sheet.

BIOGRAPHICAL DATA SHEET

Name (optional) _____

Age: Years_____ month(s)_____

Last grade completed: _____

Sex: Male_____ Female_____

Race:

Black_____

Asian_____

Hispanic_____

Native American_____

White (Anglo)_____

Other_____

Parental Income (if living at home); own income if living independently:

Under $10,000_____

$10,001 to $20,000_____

$20,001 to $30,000_____

$30,001 to $40,000_____

$40,001 to $50,000_____

Above $50,000_____

Grade point average, if known: _____

MULTIDIMENSIONAL-MULTIATTRIBUTIONAL CAUSALITY SCALE

1. When I receive a poor grade, I usually feel that the main reason is that I haven't studied enough for that course.

A B C D E

AGREE DISAGREE

2. If I were to receive low marks it would cause me to question my academic ability.

A B C D E

AGREE DISAGREE

3. Some of the times that I have gotten a good grade in a course, it was due to the teacher's easy grading scheme.

A B C D E

AGREE DISAGREE

4. Sometimes my success on exams depends on some luck.

A B C D E

AGREE DISAGREE

5. In my case, the good grades I receive are always the direct result of my efforts.

A B C D E

AGREE DISAGREE

6. The most important ingredient in getting good grades is my academic ability.

A B C D E

AGREE DISAGREE

7. In my experience, once a teacher gets the idea you're a poor student, your work is much more likely to receive poor grades than if someone else handed it in.

A B C D E

AGREE DISAGREE

8. Some of my lower grades have seemed to be partially due to bad breaks.

A B C D E

AGREE DISAGREE

9. When I fail to do as well as expected in school, it is often due to a lack of effort on my part.

A B C D E

AGREE DISAGREE

10. If I were to fail a course it would probably be because I lacked skill in that area.

A B C D E

AGREE DISAGREE

11. Some of my good grades may simply reflect that these were easier courses than most.

A B C D E

AGREE DISAGREE

12. I feel that some of my good grades depend to a considerable extent on chance factors, such as having the right questions show up on the exam.

A B C D E

AGREE DISAGREE

13. Whenever I receive good grades it is always because I have studied hard for that course.

A B C D E

AGREE DISAGREE

14. I feel that my good grades reflect directly on my academic ability.

A B C D E

AGREE DISAGREE

15. Often my poorer grades are obtained in courses that the teacher has failed to make interesting.

A B C D E

AGREE DISAGREE

16. My academic low points sometimes make me think I was just unlucky.

A B C D E

AGREE DISAGREE

17. Poor grades inform me that I haven't worked hard enough.

A B C D E

AGREE DISAGREE

18. If I were to get poor grades I would assume that I lacked ability to succeed in those courses.

A B C D E

AGREE DISAGREE

19. Sometimes I get good grades only because the course material was easy to learn.

A B C D E

AGREE DISAGREE

20. Sometimes I feel that I have to consider myself lucky for the good grades I get.

A B C D E

AGREE DISAGREE

21. I can overcome all obstacles in the path of academic success if I work hard enough.

A B C D E

AGREE DISAGREE

22. When I get good grades, it is because of my academic competence.

A B C D E

AGREE DISAGREE

23. Some low grades I've received seem to me to reflect the fact that some teachers are just stingy with marks.

A B C D E

AGREE DISAGREE

24. Some of my bad grades may have been a function of bad luck, being in the wrong course at the wrong time.

A B C D E

AGREE DISAGREE

APPENDIX B

PERMISSION LETTERS

Dear Parent:

I am writing to ask permission for your child to participate in a research project directed toward finding out more about how children see themselves as learners. The purpose of the study, being conducted to fulfill the research requirement for the completion of my doctoral degree, is to learn more about the attributions children make for their performance, and how this relates to their successes and failures in achievement settings. All students' participation is entirely voluntary and anonymous, and students will be able to withdraw at any time if they feel it is necessary. The administration has reviewed and approved this research project.

Previous research has indicated that a child's interpretation of the reason for past performance, in a large part, determines his or her reaction to a future task. For example, if a student believes he did well because he studied, it is probable that he will study before his next test. If he believes he did well because it was an easy test, he is less likely to put forth good effort next time.

It is my hope that the findings of this study will contribute to our understanding of how to motivate students, and how to help them realize that they can influence their level of achievement. Upon its completion, the results of this study will be made available to you. I plan to hold several meetings to share the results and discuss the implications of the findings with you.

In order to increase the validity of the results, the teachers have very little information about the study at this time and probably will not be able to answer your questions. Please call me and leave a message at 457-1402 ex. 250 if you have any questions or concerns.

Thank you.

Larry Balkema

My son/daughter, _____, has permission to participate in the research project being conducted by Mr. Balkema.

TO: LARRY BALKEMA DATE: 5/12/89

MICHIGAN DEPARTMENT OF CORRECTIONS

FROM: Warden Martin Makel,
Dunes Correctional Facility

SUBJECT: RESEARCH REQUEST

MEMORANDUM

I have received approval from the Research Division of the Corrections Department Program Bureau of your proposal to gather information from state prisoners.

The approval, which is attached, outlines the guidelines to which we must adhere. I have also contacted Warden H. Gary Wells at the Muskegon Correctional Facility; and he has given approval for you to meet with their School Principal, Bruce Corim, for gathering further data. You are to contact Mr. Corim at 616/773-3201 to establish a date and time.

The Department of Corrections and this facility are always interested in assisting professional research. Good luck in your project.

cc: Warden H. Gary Wells, MCF
file

MICHIGAN DEPARTMENT OF CORRECTIONS

RESEARCH DIVISION

M E M O R A N D U M

TO: Warden Martin Makel
Dunes Correctional Facility

DATE: May 5, 1989

FROM: Terry Murphy, Chief
Research Division

SUBJECT: Mr. Balkema's Proposal

We have reviewed Mr. Balkema's proposal to conduct research at your institution. We further understand that the proposed research is being conducted for purposes of completing an academic degree, and hereby grant approval for him to proceed, subject to the following conditions:

1. It is our understanding that no analysis of the unique characteristics of prisoners or the effectiveness of correctional programs will be made. If it is Mr. Balkema's intention to perform such analyses, he must advise the Department of that fact, at which time a more extensive review of the proposed research will be undertaken prior to approval.

2. All study subjects must be advised that participation is voluntary, and must sign a consent form.

3. Mr. Balkema must submit a statement releasing the Department of Corrections from any liability occurring during face to face contact with prisoners or resulting from the nature of the questionnaire.

4. Mr. Balkema must submit a statement guaranteeing the anonymity of all study subjects. The statement should indicate what measures will be taken to ensure that there is no reasonable possibility of responses and results being attributed to any individual or specific group of study subjects.

5. The warden of each institution at which Mr. Balkema wishes to conduct research must submit a letter giving their consent, and specifying that any

staff involvement, e.g. providing security during interviews, will not interfere with normal job duties and will not jeopardize the routine and safe operations of the institution.

Please note that all of the above conditions must be met before actual research begins. Finally, the Department of Corrections, through the Bureau of Programs, reserves the right to review the final report for factual accuracy, and to submit written responses or corrections, as appropriate.

If you or Mr. Balkema have any further questions, please feel free to contact me. I wish Mr. Balkema well in his future academic endeavors.

THM:sh

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