

*The relationship between attributions, affect and the
achievement in English of standard 8 students in the
Sebokeng/Evaton circuits*

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DECLARATION

I declare that the relationship between attributions, affect and their influence on achievement in English of standard 8 students in the Sebokeng/Evaton circuits, is my own work. It is being submitted for the MAGISTER EDUCATIONIS degree to the Potchefstroom University for Christian Higher Education, Potchefstroom. It has not been submitted before, for any degree or examination to any other university.

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The opinions that are expressed in this study and the conclusions that were reached, are those of the author and are not to be ascribed to the Department of Educational Psychology, Guidance and Orthopedagogics of the Potchefstroom University for Christian Higher Education

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OPSOMMING

Die doel met hierdie studie was om:

- i. die aard van attribusies en affek, en die interaktiewe verband tussen die twee veranderlikes en akademiese prestasie, vanuit die literatuur te beskryf,
- ii. die verband tussen sosio-ekonomiese status, ouderdom en geslag en prestasie in Engels van standerd 8-leerlinge empiries te bepaal, en
- iii. die verband tussen attribusies, affek en prestasie in Engels van standerd 8-leerlinge empiries te bepaal.

Vanuit die literatuurstudie het dit geblyk dat die oorsake (d.i. attribusies) waaraan leerlinge hulle prestasie (veral swak prestasie) in spesifieke vakke of leertake toeskryf, en veral hulle siening van die lokus, stabiliteit en beheer (d.i. attribusionele dimensies, oftewel attribusiestyl) van sodanige attribusies, affek, as aspek van gemotiveerde gedrag, en ook prestasie beïnvloed. Leerlinge wat hulle sukses in spesifieke take aan interne, stabiele (d.i. vermoë) of onstabiele maar beheerbare oorsake (d.i. inset) toeskryf, toon 'n hoë mate van selfdoeltreffendheid en trots en hoë verwagtings dat die sukses herhaal kan word. Mislukking wat aan interne (of eksterne), maar onstabiele en beheerbare oorsake (soos inset) toegeskryf word, lei tot skuldgevoelens en beïnvloed nie selfdoeltreffendheid negatief nie. Mislukking wat aan stabiele en onbeheerbare oorsake (soos vermoë of onderrigmetodes) toegeskryf word, lei egter tot skaamte of 'n gevoel van hopeloosheid en lae selfdoeltreffendheid. Daar bestaan ook 'n sterk verband tussen werklike prestasie en die tipe waarde wat aan prestasie geheg word (bemeestering of leer, teenoor prestasie of sosiale goedkeuring).

Die volgende gevolgtrekkings het uit die literatuurstudie voorgespruit:

- attribusiestyl beïnvloed emosionele reaksie, verwagtings ten opsigte van sukses of mislukking en akademiese prestasie;
- emosionele reaksie verhoog of verlaag die motivering om in verdere leerpogings betrokke te raak, en

- daar bestaan 'n sterk verband tussen prestasiewaardes, attribusiestyl en affek, wat uiteindelik die leerling se wil om 'n leertaak te inisieer en vol te hou, beïnvloed.
- leermotivering word deur intra-, asook inter-individuele verskille tussen leerlinge (onder andere, ouderdom, sosio-ekonomiese status en geslag), en verskeie klaskamerveranderlikes (onder andere, onderrigstrategieë, evalueringstegnieke en taakveranderlikes), beïnvloed.

Uit die empiriese studie het die volgende geblyk:

- daar bestaan geen verband tussen die sosio-ekonomiese status van die skool, die ouderdom en geslag en die prestasie in Engels van die leerlinge wat in hierdie studie gebruik is nie;
- daar bestaan geen verband tussen die attribusiestyl, affek en prestasie in Engels van die leerlinge wat in hierdie studie gebruik is nie, dog
- daar bestaan wel 'n verband tussen affek en die prestasie van die leerlinge in die begripstoets wat 'n deel van die motiveringsvraelys van die studie gevorm het.

Die resultate moet egter oordeelkundig interpreteer word, as gevolg van die klassifikasie wat gebruik is ten opsigte van sosio-ekonomiese status, die aard van die vraelys en die redelike hoë gemiddelde prestasie in Engels van die leerlinge wat die steekproef verteenwoordig.

SYNOPSIS

The aims of this study were:

- i. to determine the nature of attributions and affect, and the interactive relationships between these two composite variables and academic achievement, from a literature review;
- ii. to empirically determine the relationship between socio-economic status, age and sex and achievement in English of Standard 8 students; and
- iii. to empirically determine the relationship between attributions, affect and achievement in English of Standard 8 students.

From the literature review it was evident that the causes (i.e. attributions) to which students ascribe their achievement (especially poor achievement) in specific subjects or learning tasks, and their perceptions of the locus, stability and control (i.e. attributional dimensions, or attributional style) of such attributions, influence their affect, as aspect of motivated behaviour, as well as their achievement. Students who ascribe their success to internal, stable (i.e. ability) or variable but controllable causes (i.e. effort), experience a high level of self-efficacy and pride and high expectancies of future success. Failure which is ascribed to internal (or external), but variable and controllable causes (such as effort), leads to feelings of guilt and does not affect self-efficacy detrimentally. Failure which is ascribed to stable and uncontrollable causes (such as ability or teaching methods), however, results in shame or hopelessness and decreased self-efficacy. A strong relationship was also evident between achievement and the type of value attached to achievement (mastery or learning values versus achievement or social recognition values).

The empirical study led to the following conclusions:

- there is no relationship between the socio-economic status of the school, the age and sex and the achievement in English of the students of this study;
- there is no relationship between the attributional style, affect and achievement in English of the students who were used in this study, yet

- there is a relationship between the students' affect and their achievement in the comprehension test that formed a part of the motivational questionnaire used in this study.

The results must, however, be interpreted with care, due to the classification used for SES, the nature of the questionnaire and the rather high average achievement in English of the students who formed the sample.

CHAPTER ONE

1. STATEMENT OF THE PROBLEM AND ITS BACKGROUND

1.1 INTRODUCTION AND STATEMENT OF THE PROBLEM

The failure rate in the matriculation examinations among Black students in the Republic of South Africa has been unacceptably high over the years (averaging 56% in 1992). One of the many factors that has contributed to or caused this high failure rate the past decade or more, is the plausible assumption that students experience little self-confidence when they have to learn through the medium of English - a language they not always understand well (Cummings, 1986:19). This assumption identifies two related problems, namely an inability to learn due to poor understanding of learning content and lack of self-confidence. These problems can both be addressed by enhancing students' *motivation* to master the language by giving more attention to the subject English and thus through attaining success, gain the necessary self-confidence to study not only English but also other subjects taught through the medium of English. Few students, however, consider feelings (of self-confidence, self-worth, etc.) as a determinant of learning success. Winograd (1988:39, citing Weiner, 1980) states that affect mediates achievement through effort expenditure and the cognitive search for the causes of success or failure. The cognitive attributions, in turn, influence subsequent affect, expectancies of success and effort - in other words, the motivation to learn.

According to Weiner, Russell and Lerman (1978, 1979, quoted by Ames, 1984:29) emotions are discriminably related to particular attributions. Whereas failure attributed to lack of ability evokes feelings of hopelessness and low self-worth, an attribution of lack of effort will result in guilt with little effect on self-worth. Försterling and Rudolph (1988:225) contends, furthermore, that if attributions are to lead to functional emotions and behaviours, they need to be realistic.

The central tenet of this study is that cognitions (in the form of attributions) and emotions, resulting from attributions, interactionally influence students' motivation to learn (Covington, 1981:797-798), as both play a role in the

value students attach to learning and their expectancies of attaining success (Pintrich, 1988:75). According to Pintrich (1988:75) expectancy is related to how competent students perceive themselves to be, their level of anxiety, perceptions of task difficulty and beliefs and feelings about self-efficacy, control and outcomes. It can be inferred that students with high expectancy of success for a certain task, will become more involved in such a task and persevere even when faced with difficulty, than will students with low expectancy of success. Task value, on the other hand, includes goal-attainment value, interest value and utility value (Scott, 1991:2).

Thus, it is essential that schools empower and equip students to develop the ability, confidence and motivation to succeed academically (Cummings, 1986:23). Students need to value the tasks they embark upon, and should expect to succeed in such engagements. Directly related to these values and expectations are causal ascriptions students attribute to the causes of their failure or success in any task. These attributions evoke certain feelings which either motivate or demotivate students to embark on or abandon academic tasks. Izard, Kagan and Zajonc (1984:5) contend that cognitive factors are present as sufficient conditions in the generation of emotions, and participate as necessary processes in the symbolization and labeling of the emotion and, thus, influence emotion expression.

The purpose of this study is to identify the relationship between attributions and affect (as two components of motivation) and to determine their combined influence on achievement in the subject English.

The merit of the study is to be found in the possibility of enhancing students' feelings of self-confidence and self-worth in the subject English. Such feelings may also improve learning in other subjects taught through the medium of English.

Bar-Tal (1978:262) defines an attribution as the deduction that is made or the conclusion that is reached by an observer concerning the causes of either his own behaviour, or the behaviour of others. This leads to an understanding of one's environment and oneself (Heider, cited by Harvey and Weary, 1984:428). It is not the actual attribution, however, that determines affect, but rather how the individual interprets the attribution. Weiner (1979:7,

1985:551) has identified three causal dimensions in attributions, namely locus, stability and control.

The *locus dimension* entails the generalized expectations between causes located within a person, such as intelligence, physical beauty and personality; and causes considered to be outside the person (environmental factors), such as objective difficulty of the task (Ames (b), 1984:20). The *stability dimension* differentiates causes on the basis of temporal consistency (Ames(b), 1984:21). Luck and mood, for instance, are temporary and can vary, while physical beauty or mathematics aptitude is regarded as enduring. This entails that outcomes ascribed to ability are more predictive of the future than outcomes ascribed to effort. Ames (b) (1984:22, citing Hamilton, 1980) posits that the *concept of control* implies that the actor "could have done otherwise". This entails that the student can control the action. Effort, therefore, is subject to volitional control, and the student is held responsible for effort expenditure, while the converse is true about inherited characteristics such as aptitude.

Research has provided consistent evidence of relationships between causal attributions and achievement expectancies, task persistence, task outcomes and academic achievement. For instance, students decide to reduce their effort because they view this strategy as minimizing their losses in self-worth (Covington and Beery, 1976).

Usually, students who feel threatened by the possibility of failure in an activity, will reduce effort expenditure to protect their perceived ability and thereby their self-esteem (Jagacinski and Nicholls, 1991:15). Thus, fear of failure appears to determine students' subsequent activities with regard to effort expenditure.

Adolescents have already developed a differentiated concept of ability, in which the concepts of effort and ability are differentiated from one another in a context of social comparison (Jagacinski and Nicholls, 1987:107, citing Nicholls, 1984). Therefore, older children differentiate between effort and ability.

The research studies cited clearly indicate that there is a relationship between attributions, affect and achievement, and that although independent, they interact.

1.2 THE AIM OF THE RESEARCH

The aim of the research was:

- to determine the nature of attributions and affect - and their interactive relationship on academic achievement from a literature review;
- to empirically determine whether socio-economic status, age and gender influence the achievement in English of Standard 8 students, and
- to empirically determine the relationship between attributions, affect and achievement in English of Standard 8 students.

1.3 HYPOTHESES

Primary hypothesis:

There is a relationship between attributions, affect and achievement in English of Standard 8 students.

Secondary hypotheses:

The socio-economic status of the school influences achievement in English of Standard 8 students.

Gender influences achievement in English of Standard 8 students.

Age influences achievement in English of Standard 8 students.

1.4 METHOD OF RESEARCH

The method of research consisted of a literature review and an empirical study.

1.4.1 Literature review

A literature study was undertaken to determine the nature of attributions and affect and their combined influence on academic achievement. A DIALOG-search was conducted, based on the following key words: attribution, attribution style, affect, emotion, attributional dimensions, academic achievement.

1.4.2 The empirical research

1.4.2.1 Experimental design

An *ex post facto* research design was used.

1.4.2.2 Population and sample

The target population was Standard 8 students in 19 secondary schools with approximately 7 600 students, in the Sebokeng/Evaton circuits.

A sample of 5 schools was first drawn by means of random cluster sampling after which one class from each of the 5 schools was drawn by means of random sampling. The sample constituted 103 boys and 92 girls (5 students did not specify their sex) with ages varying between 13 - 26 years. The socio-economic status of the sample ranged from very low to high.

1.4.2.3 Variables

- The independent variables:
 - a. Control variables: Sex, age and socio-economic status (SES)
 - b. Experimental variables: Attributions and affect

- The dependent variables:

The promotion scores of students in English, consisting of the year-mark plus the examination mark of students for the fourth term.

1.4.2.4 Instrumentation

A questionnaire consisting of the *Mathematics Attribution Scale*, as adapted to English in accordance with the prescriptions of the authors, and an adaptation of the *Russell Attribution Dimensional Scale*, was used.

1.4.2.5 Statistical techniques

Correlation analyses, analyses of variance and frequency analyses were used to analyse the data.

1.5 PROGRAM OF RESEARCH

A questionnaire was constructed and tested in a pilot study to determine its comprehensibility. After drawing the random sample, the students completed the questionnaire and the data were analysed by means of the specified statistical techniques. After obtaining and analysing the results, certain conclusions were drawn and recommendations were made.

1.6 CONCEPT CLARIFICATION OF MOTIVATIONAL VARIABLES

Since motivation, as described from a social cognitive perspective, deals mainly with three constructs, namely self-efficacy, goal-orientation and attributions, these three constructs will each be described briefly.

1.6.1 Self-efficacy

Self-efficacy is construed as the result of personal judgements of performance capabilities in a given domain of activity (Schunk, 1985:219). The judgements include a students' confidence in his cognitive skills to perform an academic task (Pintrich and Schrauben, 1991:154). A student will feel efficacious if he judges himself capable of organizing and executing courses of actions that are required to attain stipulated types of performance.

Self-efficacy, therefore, is not based on knowing what to do, but on whether a student feels capable of doing what he knows (Scott, 1991:34). Schunk (1985:209) posits that a student infers efficacy knowledge by evaluating and

interpreting his own performances, that of similar others, feedback of significant others and physiological reactions. High self-efficacy stimulates students' effort expenditure, and persistence when encountering problems, while low self-efficacy leads to doubts, avoidance techniques and lack of effort (Schunk, 1991:122).

1.6.2 Goal-orientation

Goal-orientation is conceived as "... a set of behavioural intentions that determine **how** students pursue different achievement goals" (Meece and Blumenfeld, 1988:515). How a student approaches a task entails his *modus operandi* in attaining a set goal, which in turn, is directly related to the specific value a student attaches to a learning task.

Dweck (1986:1040) contends that goal orientation entails two classes, viz. learning and performance goals. In the first case, students' goal is to increase their competence, to understand, to master new material, while the second case entails students seeking to gain favourable judgments of their competence or avoid negative judgements of their competence.

1.6.3 Attributions

Weiner (1985:548) defines attributions as "... the students' interpretation of the causes of success or failure, in his endeavour to understand the environment and himself". This understanding leads to the perception that the causes can either be controlled by the student, or not. The controllability, in turn, influences emotions, such as self-efficacy.

1.7 SUMMARY

Research was necessary to determine whether there is a relationship between attributions and affect in student academic achievement in the subject English. A literature study and empirical research were undertaken to test this hypothesis. The findings of this research might offer reasons why there is such a high failure rate in the matriculation examinations among Black students in the Republic of South Africa.

CHAPTER TWO

2. COGNITION AND EMOTION: AN ATTRIBUTIONAL PERSPECTIVE

2.1 INTRODUCTION

In the context of the school classroom, a student's motivation to learn (i.e. achievement motivation) is determined by a composite of his personal characteristics, social environment of his class, and the characteristics of the task he has to learn. Of these three composite variables, the students' personal characteristics are the most influential, since volitional and motivated action is instigated and sustained by self-evaluative thoughts and the students' resultant feelings (Pintrich and Schrauben, 1991:151; Weiner, 1984:17).

Students rarely engage actively in purposeful learning unless they expect to gain something they value from such learning, whether this "something" be new skills and competence, knowledge or positive grade ratings (Pintrich, 1988:67-69; Schunk, 1991:2). Student values and expectancies develop through a process of repeated experiences from which they gradually interpret the causes that determine success or failure and thus form perceptions about their own competence (McCombs, 1988:144). These self-perceived causes are, however, not only cognitive in nature, but also engender specific cause-related emotions (Weiner, 1985:548). According to Weiner (1988:100 and 1986:234) cognitive self-evaluation of the causes of results (so-called attributions) is directly related to values, expectancies of success or failure and emotional reactions, and eventually motivates the student to become involved in further learning endeavours. Farmer, Vispoel and Maehr (1991:31) also found a strong relationship between achievement values and attributions.

Expectancies and values directly influence how the student directs his will (that is, the volitional aspect of motivation). Will-direction (or conation) plays an important role in motivation in general, and in achievement motivation in particular, as it mediates between motivation and the attainment of a set goal (Feather, 1988:381). A student may have a goal set and be motivated to attain the goal, but the actual action taken to attain the goal is determined by his

will-direction at a given time. Thus a student may set himself the goal of mastering a mathematical task, be really motivated to do so, but then simply not direct his will at initiating learning and will thereby forego the chance of realising his goal.

Motivation and achievement motivation will first be described (par. 2.2), after which the main components of motivation, viz. cognition, emotion and conation, and their relationships to goal-orientation, self-efficacy and attributions will be clarified (par. 2.3).

In order to understand the attributional theory within which the empirical study is conducted, attention will next be given to the value x expectancy framework (viz. par. 2.4). The next paragraph will be devoted to an exposition of the attributional theory (viz. par. 2.5).

The relationship between cognition and emotion does not only result in self-efficacy, goal-orientation and attributional style, but also leads to positive or negative affect, which influences a students' motivation to learn. How a student thinks and feels is, in turn, influenced by intra- as well as inter-individual student characteristics, and various classroom variables, such as teaching strategies, evaluation techniques, feedback and task characteristics (Pintrich and Schrauben, 1991:152; De Charms, 1984:275), of which age, sex, socio-economic status and classroom structures are pertinent to this study. These variables will be discussed in paragraph 2.6.

2.2 ACHIEVEMENT MOTIVATION

Since achievement motivation is a broad construct pertaining to all behaviour, whether in the areas of sport, social relationships or learning, it will first be described in general, after which achievement motivation will be placed within the context of the classroom.

Motivation can be seen as an affective process that impels or drives a person (also a student) toward active, integrated and directed behaviour. The term is used to account for behaviour either in terms of energy expended in goal-seeking or in relation to the factors, both internal or external, which help as well as maintain organized effort (Halsey and Friedmann, 1985:629). Vernon (1969:1) defines motivation as "... behaviour in which the individual is clearly

conscious of a definite end or goal towards the attainment of which his actions are consistently, persistently and forcefully directed". According to Wolman (1977:193), motivation refers to the interaction between personality variables and the immediate environment as "contemporary determinants of aspiration, of effort and persistence when an individual expects that performance will be evaluated as success or failure in relation to some standard of excellence".

In summary, motivation is thus an affective and cognitively conscious process during which personal and environmental variables are evaluated in order to initiate, direct and sustain active behaviour. This behaviour is characterized by:

- organized and integrated effort;
- consistency and persistence, and
- goal-seeking personifying a standard of excellence.

The standard of excellence is determined by:

- personal aspirations (values);
- the realisation that the behaviour will be evaluated, and
- expectancies of attaining, success or failure.

Common to all these definitions are the key concepts of emotions, cognitions, expectancy and utility value of the task, that will eventually lead to the attainment of the desired goal. The person is both internally and externally instigated to engage in organised effort to attain desired end states. Included in these end states are the concepts of competence and self-control. According to McCombs (1988:148) the more competence and self-control a person experiences, the more self-determined or self-motivated he/she becomes.

When placed within the classroom context, achievement motivation becomes even more complex since various factors within the classroom - and family environment can influence it. *Classroom* variables influencing achievement motivation include: (i) the personality of the teacher, his teaching-, feedback- and evaluation strategies; (ii) the type of learning task the students are to perform, which can differ according to the subject, conceptual level and

difficulty level, and (iii) the personality of each individual student, his learning approach, style and strategies and his cognitive, conative and emotional reactions to his behaviour and that of others. Achievement (or learning) motivation entails "striving to increase or to keep as high as possible, one's own ability in all activities in which a standard of excellence is thought to apply and when execution of such activities can, therefore, either succeed or fail" (Russell, 1972:40). "Striving" implies active achievement, as well as a high level of personal control over both personal and environmental factors affecting learning tasks. "Own ability" alludes to the endeavour to gain competence and self-efficacy by mastering the skills inherent to the specific learning task, while "standard of excellence" can refer to a personal internalized standard, or an external norm. According to McCombs (1988:143) perceived control influences the actual achievement level which, when evaluated in terms of cognitive competence, stimulates an affective reaction and the motivation, either to engage in further mastery attempts, or to avoid such attempts. Control and competence are thus closely related and influence each other reciprocally.

Therefore, according to McCombs (1988:143), students need to feel competent before they will become motivated to engage in learning tasks. This competence is based on past, and present success, and will engender self-confidence, responsibility and the need to engage in similar and probably more challenging tasks in future.

Control and competence are, however, not the only prerequisites for becoming motivated to learn. According to Weiner (1974:189) the need to achieve, also called the motive to achieve, also influences motivation. Therefore, students in high motive groups are more likely to initiate achievement activities, work with greater intensity, persist longer even in the face of failure, and choose more tasks of an intermediate and high level of difficulty than individuals low in achievement needs. Achievement motivation thus also includes intensity, perseverance, the ability to overcome failures and a predilection for tasks of a certain difficulty level.

According to Maehr (1974:888) achievement motivation constitutes three elements, namely a *standard of excellence* (entailing cognitive engagement) implying that the behaviour can be evaluated in terms of success or failure; personal *responsibility* (emotional involvement), and some level of *challenge*

involving some sense of uncertainty. Self-determination and self-regulation underpin Maehr's assertion about achievement motivation where elements of independence, competence, and responsibility are inherent characteristics.

In the context of this study, these definitions of achievement motivation fit in with the learning-goal (mastery) paradigm which in turn incorporates self-regulated learning strategies (SRL), whereby affective (cognitive and emotional) activities are used, including deliberate planning, monitoring, and attributions that students use when they encounter and attempt to solve some academic tasks (Good and Tom, 1985:310).

Since motivation is such a complex construct, the need to differentiate different components arises in order to try to simplify the construct and make it more suitable for classroom application.

2.3 THE COMPONENTS OF MOTIVATION

The two main components of motivation, namely cognition and emotion, will be described first and their influence on self-efficacy, attributions and goal-orientation discussed, after which conation, or will-direction and its relationship to self-efficacy, attributions and goal-orientation will be described.

2.3.1 Cognition

According to Weiner (1986:7) cognitions entail a broad array of mental processes such as information search and retrieval, short- and long-term memory, categorization, judgement and decision-making, while Thomas and Page (1977:70) conceive of cognitions as "... an umbrella term for the mental processes of perception, discovery, recognition, imagining, judging, memorizing, learning and thinking, through which the individual obtains knowledge and conceptual understanding or explanation". Cognitions thus entail the conscious mental processes of seeking and gaining knowledge. The student, however, has to initiate and sustain these cognitive processes if he is to make progress with a learning task, and for this he needs to be motivated. Cognition functions in a motivational context in the form of, among others, goal-setting. The extent of the discrepancy between the set goal and the

competence and skills the student has before starting the learning task, determines whether he will become motivated to initiate the task or not. Goal-setting, in turn, is mediated by the expectancy of success and the value a student attaches to both the goal and the task (see par. 2.4 for a discussion of these aspects of motivation). Expectancies and value clarification are both the results of self-evaluation (a cognitive process), as are attributions (Scott, 1991:39).

Self-evaluation of expectancies, values and attributions and goal-setting as cognitive tasks or processes, can only be formed when individuals consciously engage the skills of self-regulated learning. These skills invariably include cognitive engagements students put to use to learn in classrooms, that is, efforts expended by students to "deepen and manipulate the associative work in a particular area" (Corno and Rohrkemper, 1985:60). Cognitive engagement thus refers to processes used by students to acquire information and transform information to knowledge, and to sustain motivation to learn.

Such students can also be typified as self-regulated learners, meaning that they regulate (and motivate) their learning personally. According to Corno and Rohrkemper (1985:60) a student can cognitively engage in learning in three ways, namely by:

- i. engaging in more transformation than acquisition of information (i.e. information processing), leading to deep understanding;
- ii. managing the available resources through weighing personal resources against available environmental resources, and
- iii. recipience which, although characterized by lower levels of both acquisition and transformation, still leads to learning or remembering learning content.

In this context transformation entails synthesizing and incorporating acquired information into one's cognitive structure; while acquisition entails the selective incorporation of available information, and recipience entails incorporating information rarely, without even understanding what it means.

Achievement motivation is thus associated with a particular pattern of cognitive functioning, aiding students to have realistic yet positive expectations

of success (Weiner, 1988:154). Cognitive functions, therefore, form the basis of students' expectancy for success and the utility value of a task.

Cognitions, however, are not sufficient to motivate students, as any individual is as much emotionally as well as cognitively involved in learning, and cognitions result in specific emotions which play a crucial role in achievement motivation.

2.3.2 Emotions

According to Baldwin (1960:316) an emotion is a total state of consciousness considered as involving a distinctive feeling and a characteristic trend of activity aroused by a certain situation which is either perceived or ideally represented. Weiner (1974:52) posits that emotions are a function of an individual's perception of his immediate stimulus situation, and that expectations are determined by the value he attaches to the attainment of success in any given situation. For instance, a student may as a result of a successful outcome in an academic task, experience joy which will make him proud of his success and confident that he will succeed in similar tasks in future.

Emotions mediate between cognition and motivation as they prompt and direct task initiation, and sustain task performance. Emotions, therefore, are characterized by the awareness of certain distinct feelings aroused by certain situations, that invariably lead to a variety of actions. In learning contexts, students are aroused to awareness of certain situations in their learning environment, (for instance, success or failure in a test), which will in turn result in certain feelings, such as pride or sadness, which will lead to certain actions, such as expending more effort in a task or an outright withdrawal. This example concurs with Weiner's (1986:119) assertion that emotions are presumed to have positive or negative qualities of a certain intensity that are frequently preceded by an appraisal of a situation and give rise to a variety of actions. The question of intensity and direction of emotion relates emotion to motivation, as intensity and direction are two of the main characteristics of motivation.

It is, therefore, evident that emotions play a crucial role in achievement motivation, as they determine whether and how a student will continue and

persist in a task even in the face of failure. Both emotions and cognition play an interactive role in achievement motivation, and this role has a direct bearing on students' self-efficacy.

2.3.3 *The relationship between cognition and emotions and their influence on self-efficacy, attributions and goal-orientation*

Covington and Omelich (1981:797) asserts that although cognitive, emotional and motivational components are independent, they also interact and while cognitions and emotions are inseparable, their effects are not the same.

As cognitive factors contribute heavily to every aspect of the emotional process, emotional development motivates and facilitates cognitive development (Izard, Kagan and Zajonc, 1984:5). Cognitive factors also provide a guiding function for emotional expression by labelling (identifying) the experienced arousal, and guiding the appropriate emotional feeling (Weiner, 1972:282). Cognitions thus assist in the expression of appropriate emotions. In learning contexts, students need to understand the various factors affecting their success or failure so as to adjust or readjust their learning strategies with the hope of attaining success with such adjustments. Weiner (1974:21) states that cognitive processes determine the quality and intensity of an emotional reaction; and that such processes underlie coping activities which, in turn shape the emotional reactions by changing the continuous relationship between the person and the environment in a variety of ways.

The relationship between cognition and emotion (the two constitute affect), centres around students' *perceived competence* and *perceived control* (McCombs, 1988:143). The former entails a multidimensional construct that involves one's perceptions in cognitive, social, and physical domains. The latter entails a dynamic cognitive variable that refers to one's understanding of who is responsible for task outcomes (McCombs, 1988:143-144). Self-perceptions and understanding are the results of self-evaluation of what Bandura (1986:390) calls self-reflective or self-referent thought which mediates the relationship between knowledge and action. There is therefore, a reciprocal relationship between self-efficacy (as an affective variable) and cognitive engagements on the one hand, and internal control beliefs and cognitive and self-regulatory skills on the other. Students who believe that

their behaviour and effort influence their performance are likely to use effective self-regulatory strategies like comprehension monitoring; and those who believe that they have internal control would effectively manage their study time, study environment and effort expended on tasks even if these are difficult, or boring. They are likely to persevere and persist.

Students' goal-orientations (see par. 2.3.3) are presumed to be important mediators and determinants of behavioural, cognitive, and emotional patterns in achievement motivation (Meece and Blumenfeld, 1988:515). Students react differentially to learning, and performance goal-orientations. The former goal is characterized by intrinsic rationales such as task mastery, challenge, learning, and curiosity, while the latter is characterized by extrinsic rationales such as obtaining grades, rewards, and external approval (Pintrich and Schrauben, 1991:156). Learning goals enhance students' perceptions of self-control and expectancies of success, while judging success or failure from the context of effort expenditure and strategies. Performance oriented students, on the other hand refer expectancies to ability, subjective social standards, or environmental factors (such as parents, teachers or resources) (Dweck, 1986:1040, 1042).

Meece and Blumenfeld (1988:515) assert that students focusing on task mastery persist longer, exhibit adaptive attributional patterns, express positive affect toward the task, and use a set of strategies likely to result in conceptual understanding. The obverse is true with students whose goals are to demonstrate high ability and to gain social approval. They exhibit a lower form of cognitive engagement in classroom activities, thus protecting their self-image from negative evaluation (Ames and Archer, 1988:260).

Affects are thus important cues that guide the attribution process, which in turn has an influence on students' goal-orientations, and their self-efficacy and have therefore motivational significance.

2.3.4 The conative component of motivation and its relationship to goal-orientation, self-efficacy and attributions

Positive affect, an adaptive attributional pattern, positive and realistic self-efficacy together with a learning or mastery oriented goal-orientation, are not sufficient to influence motivation. Students, in addition, need to direct their

will (a volitional act), thereby manifesting their ability to mobilize and maintain self-regulating strategies when need be. Corno (1986:335) defines conation (will-direction) as "... action control processes, that is, post decisional, self-regulatory processes that energize the maintenance and enactment of intended actions".

Conation processes come into play after a decision has been made to engage in a particular task. Conation or will-direction protects the commitment to engage with concentration in a task from a variety of competing action tendencies and from other potential distractions. Thus a student who has consciously decided to direct his will at solving a mathematical problem, will be less easily distracted by his peers than one who has not directed his will at the task. This "protective" act is characterized by purposive striving, and learning is its goal rather than performance (McCombs, 1988:148; Corno, 1986:335; Graham and Golan, 1991:187). Conation thus results from students' perceptions of themselves and their perceptions of control over learning (McCombs, 1988:148). Such students have what Schmeck (1988:326) calls a meaning-orientation, and are inclined to learn out of interest and not for the sake of social recognition. This intention to learn and to understand, in spite of personal and environmental distractions, is linked to subsequent learning processes necessitated by that intention.

The implications of these orientations are that students with learning orientations are more willing to invest cognitively and behaviourally in a task than students with a performance orientation, who will focus attention on obtaining good grades, but might be less willing to make an investment in learning. This could be prompted by low self-efficacy, maladaptive attributions, resulting in negative success expectancy and a low task utility value, plus negative affect (Pintrich and Schrauben, 1991:155).

The three components, as manifested in goal-orientation, self-efficacy, attributions and control, can be structured in what is generally known as the value x expectancy paradigm or framework.

2.4 THE VALUE-EXPECTANCY FRAMEWORK

The value-expectancy framework relates the motivation to act to the perceived attractiveness and aversiveness of the task and its expected outcomes and to

the subjective value the student attributes to tasks and outcomes of performances (Berndt and Miller, 1990:320; Feather, 1988:381). Students who attach value to certain subjects expend more effort, and spend more time in learning these subjects. They have confidence of succeeding (i.e. high expectancies) in their attempts and would, therefore, persist in these subjects even when they meet obstacles. The obverse obtains when they attach no value, and expect no successful outcomes to result from task engagements (Berndt and Miller, 1990:320).

2.4.1 *The value component*

The value component refers students' goals to the importance, utility, or interest of a task (Pintrich and Schrauben, 1991:155), and two general aspects of value beliefs can be discerned, viz. *goal-orientation* and *task value*.

Goal orientation

Pintrich and Schrauben (1991:155) posit that goals can be seen as affective representations of different purposes why students learn relating to different achievement situations, while goal-orientation refers to the students' general goals for learning a specific course or subject. Affective implies that differentiating the purpose of learning evokes an emotional reaction that forms a part of the value-system. Meece and Blumenfeld (1988:515) conceive of goal-orientations as a set of behavioural intentions that determine how students approach and engage in learning activities, and further contend that students pursue different achievement goals depending on their individual needs and competencies or on the demands of the situation.

Goal-orientations are generally classified into performance versus mastery goals. A student with a mastery goal-orientation attaches importance to developing new skills, while valuing the process of learning, and the attainment of mastery is seen to depend on effort. Conversely, with a performance goal-orientation the student is concerned with being judged able, being a success by showing evidence of ability, by outperforming others and by achieving success with little effort (Ames and Archer, 1988:260). The former goal is intrinsically (generated from within the self) instigated, while the latter is extrinsically (motivated by external factors) instigated. Mastery

goals entail a willingness to invest cognitively in the task, using *deeper* processing strategies like summarizing, and paraphrasing, while the latter goal entails focusing on obtaining good grades, thereby being praised for manifesting ability. Students in this case tend to use more *surface* processing strategies like rehearsal (Pintrich and Schrauben, 1991:157).

Task value beliefs

Task value entails students' beliefs in the importance and interest of the content of the course, or subject in school settings (Pintrich and Schrauben, 1991:158). The students' perceptions of the importance of the task, the utility value of the task for future goals (e.g., will passing a subject or subjects enable a student to qualify for university admission), and an intrinsic interest in a task, constitute three components of task value. The more importance the student attaches to the task or subject, and the more he believes that the task/subject is useful, the more motivated he will become, not to obtain high grades, but to master the skills and competencies constituted by the task.

2.4.2 *The expectancy component*

According to Pintrich and Schrauben (1991:154) the expectancy component includes students' beliefs about their ability to perform a task, their judgements of self-efficacy and control, and their expectancy of attaining success. Expectancy of success thus focuses on three types of motivational beliefs, viz. beliefs about self-efficacy, control beliefs, and attributional beliefs.

Students are more willing to exert effort and become cognitively engaged in a task if they feel efficacious about learning and believe they can control their learning. Such self-efficacy is domain-specific in that students' beliefs about how efficacious they are, differ from one course (such as maths) to another, (such as English) (Schunk, 1991:14). Students may judge themselves efficacious in one or more subjects, in certain domains of functioning or across a wide range of activities or situations (e.g., in different subjects, sport and cultural activities) (Bandura, 1986:396). Self-efficacy in English in the context of this study is important, because if students do not feel efficacious in

the language, they will not be motivated to learn, not only English, but also other subjects taught through the medium of English.

Control beliefs form a key component of self-efficacy and refer to how students judge their ability to influence the environment and their own actions and thus also learning outcomes (Pintrich and Schrauben, 1991:154). Students should thus believe that their own efforts to learn will result in positive outcomes, in particular, that outcomes in the classroom are contingent on their own effort.

Attributions entail students' understanding of the causes of their success or failure in specific tasks. Related to these ascriptions are three attributional dimensions, viz. (i) locus of control (internal or external); (ii) stability, and (iii) controllability. These attributional dimensions determine whether a student values and expects success or failure in a task, or will persist or withdraw from a task. For instance, if success is attributed to a stable, internal and controllable variable such as ability, a student would experience pride, and have high expectancies of success in future.

As the attributional theory deals with, not only the causes of results, but also with the whole question of control, this theory will be used to relate the cognitive aspects of motivation, to the affective aspects, and specifically to self-efficacy.

2.5 THE THEORY OF ATTRIBUTIONS

2.5.1 The attributional process

Weiner (1972:310) contends that "... attribution theory concerns the process by which an individual interprets events as being caused by a particular part of a relatively stable environment".

"Process" alludes to cognitive processes, among others metacognition and self-evaluation, whereby a student in his/her own unique way interprets the most possible causes for manifested events, by evaluatively thinking about the various causes. In learning contexts, "events" refer to performance and performance outcomes, whether successful or unsuccessful. Evaluative thinking seeks to answer the questions depicted in figure 2.1:

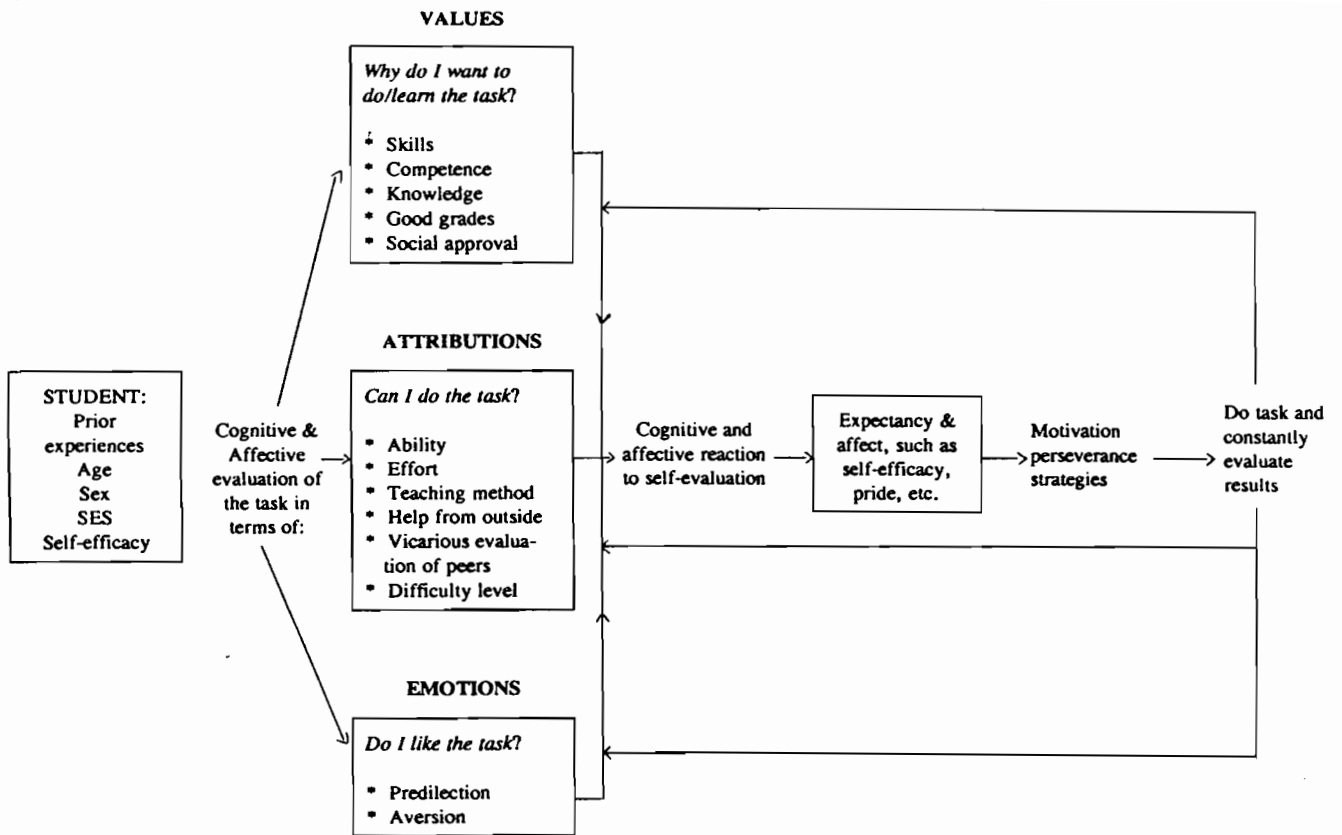


FIGURE 2.1: Motivational self-evaluation.

Any event, like academic success or failure, in a school setting, must have a reason for its occurrence. The evaluative process identifies the cause and attributes its occurrence to something which, when identified, is called a causal attribution (Weiner, 1988:99).

In lay terms causal attributions can be described as influential aspects of a situation within which a particular event occurs (see figure 2.2). Within the classroom context learning results are, according to Van Overwalle (1989:400) mostly ascribed to teaching methods, peer pressure, own effort, intelligence and personal state of health (Scott, 1991:32-33). The choice of attribution depends, to a great extent, on which properties the student perceives each attribution to have. These properties are described by Weiner (1985:548), as its locus, stability and controllability, and determine a students' affective

reaction and state of expectancy more than the actual choice of attribution does (Weiner, 1988:100).

A hierarchy of cognitive awareness thus exists which begins with the more stimulus-bound recognition of "facts", and this awareness gradually goes deeper into the underlying causes of these facts (Weiner, 1972:312). The cognitive awareness is instigated by prior outcomes (see figure 2.2) that resulted in positive- or negative affect. Thus, prior experiences determine whether events are interpreted as successes or failures. The individual will then impose ascriptions to responsible causes for the results. The ascriptions as such will inevitably lead to a change in thinking, which will in turn lead to a change in affect and action.

Affect thus not only directs the causal search, but is also a result of the outcome of the causal search.

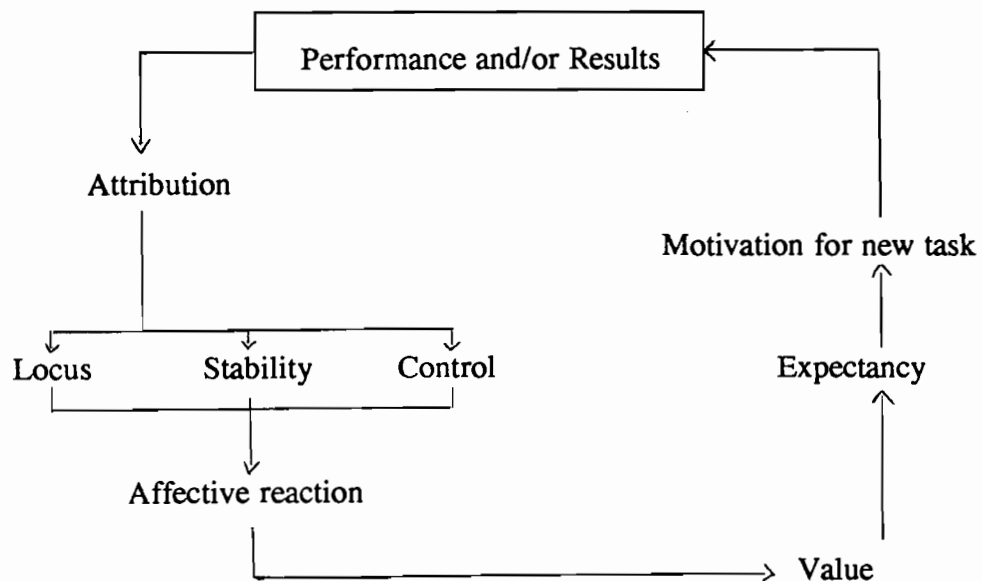


FIGURE 2.2: The attributional process.

Festinger (1954:117) posits that each human being has the drive to evaluate his opinions and abilities. His cognitions (his opinions and beliefs) about the situation in which he exists and his appraisals of what he is capable of doing (his evaluation of his capabilities), will have a bearing on his behaviour.

2.5.2 Attributional dimensions

TABLE 2.1: Attributions within the three-dimensional space.

LOCUS				
Internal			External	
Stability	Controllability		Controllability	
	Controllable	Uncontrollable	Controllable	Uncontrollable
Stable		Ability	Task difficulty	Teaching method
Variable	Effort Learning strategies	Health	Help from peers	Luck

According to Scott (1991:4) attributions, in themselves, do not influence motivation as much as does students' attributional style (which refers to their interpretation of the locus, stability and control of attributions); (see table 2.1). Locus entails those variables that are either internal or external to the perceiver, while stability refers to those variables that are consistent or variable over time, and controllability to those that are within or beyond an individual's control (Winograd, 1988:39). Once a cause for success or failure has been identified, it is interpreted (as indicated above) within a dimensional space.

The attribution dimensional locations evoke various affects from one person to another. For instance causes of failure attributed to ability may lower a persons' self-esteem and success expectancy, because ability is regarded as internal, invariable and uncontrollable. Effort on the other hand is perceived as internal, variable but controllable. Lack of ability will give rise to low expectation of future success (which is produced by a stable attribution for non-attainment of a goal) (Weiner, 1988:99).

Causal ascriptions and attributional dimensions interactionally influence affect in motivated behaviour. The linkages between attributions and affect will be dealt with next, followed by the role causal ascriptions and dimensions play in student expectations.

2.5.3 *The role attributional dimensions play in affect and expectations*

2.5.3.1 *The relationship between attributional dimensions and affect*

In learning contexts students search for causes to explain why their efforts expended were successful or not. These attributions invariably influence subsequent affect and efforts (Winograd, 1988:39). These attributions will further dictate a person's (student's) feelings about an experience and consequently his/her motivation with regard to future experiences.

Student motivation is primarily centered on their perceptions of ability and effort as attributions. Ames and Ames (1984:5) contend that, "... while attributions to ability may inhibit or enhance motivation, depending on the situational context, an attribution to effort is seen as the cognitive element leading to proactive intentional action". Weiner (1984:27) posits that ascriptions of failure to lack of effort or to poor strategy are adaptive as these factors are unstable and subject to volitional control. Covington and Omelich (1979:446), however, contend that effort attribution is a "two-edged sword" which may lead to what they call a "failure-avoiding-", and "failure - accepting" mode for coping with achievement demands. The authors purport that students experience greater shame at failure under high effort conditions, in contrast to Weiner's (1984:17,18) assertion that increased shame is experienced in low-effort expenditure. Students can either refrain from exerting effort to protect their sense of worth, or adapt the perception that their ability is stable, internal, and is not affected by effort or hard work. Hopelessness results in the latter case. Farmer *et al.* (1991:128) concur by stating that feelings of learned helplessness are experienced when one believes that failure is insurmountable and inevitable, resulting in impaired performance, and decreased persistence on an achievement task.

Weiner (1985:560) posits that affect can be categorized into three groups, viz. outcome-dependent, attribution-dependent, and dimension-linked affects. The latter forms the main part of the empirical study.

Outcome-dependent emotions entail the less cognitively differentiated reactions to success or failure outcomes which are determined by the assignment of causal responsibility, like pride and gratitude. The emotion expressed is determined by the outcome of an action regardless of the cause of

that outcome (Weiner, 1985:560). For instance, a student may, in a less differentiated cognitive sense, feel a sense of pride at academic success, even if such success is due to an easy task, or perhaps due to pure luck, where no ability or effort expenditure is involved.

Attribution-dependent emotions are those feelings that are determined by the perceived cause of prior outcome. In this case there is therefore an increased cognitive involvement that generates more differentiated emotional experiences. Students' successes or failures are among other things either attributed to low/high ability, sufficient or insufficient effort; luck/ill-luck, or task difficulty. In each of these ascriptions, negative or positive feelings that raise or lower a person's self-esteem or self-worth are evinced.

In *dimension-linked* emotions, differential emotions are evoked when causes of success or failure are attributed to stable/unstable, internal/external, or controllable/uncontrollable factors (Weiner and Graham, 1984:178; Weiner, 1985:561). Feelings of pity are evoked when a person's failure is due to stable and uncontrollable factors, such as a lack of requisite ability, but feelings of anger are evoked when such failure is attributed to lack of effort expenditure. To a person experiencing such failure, feelings of helplessness for lack of requisite capability, and feelings of guilt will be experienced for not expending the required effort on a given task, because this is a variable but controllable factor (Weiner, 1985:561).

2.5.3.2 The relationship between attributional dimensions and student expectations

Students who perceive success to be due to high ability know that they have the required competence in a specific task, and therefore, have higher expectancies for future success (Zaleski, 1988:563), than when ascriptions are made to a less stable factor like effort.

The ascription of success to unstable and controllable factors results in higher expectancy of future success following a failure (Weiner, 1984:27). The high expectancy of success then has a positive motivational influence in terms of goal-orientations (discussed in par. 2.4.1), and the intensity, quality, and persistence of behaviour. Winograd (1988:39) concurs with this view when he asserts that causal attributions dictate a student's expectation for event outcomes. For instance: a student who attributes his failure at a certain task

to bad luck (usually classified as an external and unstable factor), may not expect to fail in future. The obverse is true, when failure is attributed to low ability (usually classified as an internal and stable factor), as he will expect to fail in future.

2.5.3.3 *Students' control beliefs in motivation*

According to Hierbert, Winograd and Dauner (1984:1139) high achieving children attribute their success to ability and effort, while failure is attributed to lack of effort or external factors. Low-achieving children, more often than not, attribute success to factors beyond their control such as luck or task difficulty while failure is attributed to lack of ability (internal, yet mostly viewed as uncontrollable).

The latter group internalizes failure and externalizes success. These students feel that no matter how hard they try, they are not going to attain any success since they lack the requisite capability of performing the task. The situation, therefore, is perceived as beyond their scope of control.

Skinner, Wellborn and Connel (1990:24) posit that students who believe that academic achievement outcomes are under their personal control would be more engaged in school and earn better grades and achievement scores. The converse is true with those students who believe that success or failure in school is beyond their control. This belief has detrimental motivational effects in that students' engagement in school-related tasks is undermined, thus negatively influencing their actual cognitive performance. Students' active engagements in learning activities is a mediator between perceived control and actual accomplishments (Skinner *et al.*, 1990:24). There seems, therefore, no way of assessing students' accomplishments without warranting their initiation of directed action, effort and persistence in school work.

Johnston and Winograd (1985:282) contend that high achieving students in success situations attribute task accomplishment to internal and controllable factors (e.g. effort), suggesting that such successes were replicable. On the contrary, low achieving students attribute success to external factors (e.g. luck, easy task or teacher skill), suggesting that performances are not replicable.

The impact of detrimental control beliefs can be categorized into three domains, viz. cognitive, emotional, and motivational areas. Failure in the cognitive domain would have the following effects: students will have difficulties in identifying relationships between elements in tasks, perform badly even in problems solved earlier, and will underestimate or overestimate the frequency of success and failure respectively. Students will further fail to use task-appropriate strategies effectively and will fail to monitor their own performance (Johnston and Winograd, 1985:283).

In the emotional area students tend to suffer from low self-esteem and low self-efficacy, resignation, apathy and depressed affect; make many negative affective statements, and few positive ones while performing learning tasks, and are inclined to be performance-oriented and not mastery-oriented (see par. 2.3.3).

In the motivational area students tend to attribute the cause of response-outcome independence to low ability, believing that ability is fixed; have low expectancy of success, externalise success, and do not persist in the face of failure (Bandura, 1986:392).

2.5.4 *The relationship between achievement values and attributions*

Farmer, Vispoel and Maehr (1991:28,31) found a strong relationship between achievement values and achievement attributions, and identified two categories of achievement values, viz. mastery or learning values, and performance or social approval values.

Mastery values are intrinsically instigated while performance values are extrinsically instigated (see par. 2.3.3.2). In the former case, students engage in a task for its own sake, enjoy exerting effort, seek challenges and persist in the face of obstacles. In social approval values, however, students tend to display negative affect such as anxiety and avoid/withdraw from challenge (Dweck, 1986:1041).

Mastery values are then associated with attributing success to effort more than to ability. The converse is true with performance values where success is associated with ability attributions rather than with effort (Farmer *et al.*, 1991:31). The strongest relationship was found between achievement values

and achievement attributions, which included ability, effort, task difficulty and luck.

The implications for education would be that students who believe that ability (like intelligence) is a fixed trait, opt for performance values where they would gain favourable judgements; whereas students who believe intelligence is a flexible quality tend to opt for mastery values, which emphasize personal competence (Dweck, 1986:1041). The former group is extrinsically motivated, while the latter group is intrinsically instigated to engage in academic tasks.

From the review of the literature pertaining to the relationships between values, expectancies and the attributional model, the following conclusions can be drawn:

- i. attributions influence expectancies for success or failure and emotional reactions;
- ii. the affective reactions either enhance or inhibit the motivation to become involved in further learning attempts, and
- iii. there is a strong relationship between achievement values and attributions which eventually determine and underpin a student's will to engage in academic tasks.

Student motivation is interactionally influenced by intra-, as well as interpersonal-, and environmental variables. The variables age, sex, socio-economic status and classroom structures in motivation are discussed.

2.6 THE INFLUENCE OF AGE, SEX, ENVIRONMENTAL VARIABLES AND TASK CHARACTERISTICS ON MOTIVATION

Intra-, as well as inter-individual student characteristics, and various classroom variables, viz. teaching strategies, evaluation techniques, feedback and task characteristics, influence student motivation. Weiner (1984:16) contends that "... a theory of motivation is responsible for examining the experiential state of the organism and the meaning of an action; hence, the theory must embrace phenomenology and accept that one acts on the perceived, rather than the real, world".

In learning context, the issue of students' self-perceptions play a crucial role in learning motivation. These perceptions are manifested in students' efficacy feelings, attribution patterns and goal-orientation, which in turn determine and influence their success expectancies and task utility value.

The interactive influence of environmental variables (age, sex) and task characteristics can either enhance or inhibit students' self-perceptions and either raise or lower students' level of achievement motivation.

2.6.1 *The students' age and attributions in motivation*

Weiner and Graham (1984:173) posit that causal thoughts precede or change the experience and understanding of emotions, and further contend that "... the experience and understanding of these emotions are due to age-related changes in linkages between causal ascriptions and affective experiences.

Emotional experiences follow a sequence in which cognitions of higher complexity enter into the emotion process to further refine and differentiate experience. The contention is that older children (from the 12th grade up), would react differently than younger children (from lower primary schools up to the 9th grade children), would do in a similar outcome situation (Weiner, 1985:560). Younger children's conception of ability is self-referenced rather than social-norm referenced. To these children, success implies expending more effort. They have not as yet developed the differentiated conception of ability that evaluates people's capacity of performing well compared to others (Nicholls, 1979:95).

Whitley and Frieze (1985:608) posits that children beyond primary school (including students in junior and senior secondary school, age group \pm 13 year old to \pm 21 years), adopt egotism attributions. The latter refers to a self-enhancing motive that attributes success to internal factors, such as ability and effort, and failure to external factors such as luck and level of task difficulty. Wigfield (1988:79) concurs when asserting that this group of older children attributes success more to internal causes (in the self-focusing condition), than do children in the task-focus condition.

These self-focus and task-focus conditions have a direct influence on students' goal-orientations (see par. 2.3.3). A self-focus condition occurs when a

person is made aware of himself, as happens in evaluative situations. A task-focus condition occurs when a person directs his attention to the task at hand. It can be deduced that students adopting the former mode would be characterized by maladaptive motivational patterns that could result in negative self-evaluations. A task-focused (mastery-focused) student is intrinsically instigated to perform a task for purposes of gaining competence.

Newman and Stevenson (1990:197) contends that children's causal schemata concerning effort and ability undergo a change during elementary school years. It is, therefore, postulated that meaning and importance of academic achievement for children vary with age. Farmer *et al.* (1991:34) found that younger students (9th grade) compared with older students (12th grade) preferred school achievement contexts (e.g. getting good grade) significantly more than work achievement (mastery of work) contexts. This may be due to the younger children's undifferentiated causal ascriptions to effort and ability.

2.6.2 *Students' gender and attributions in motivation*

Sex differences in attributions have been found in a number of domains, such as differences pertaining to attributions related to expectancies, and attributions related to success or failure.

Research findings (Newman and Stevenson, 1990:199), indicate that girls are *less likely* than boys to attribute success to ability; are *more likely* to attribute success to luck or task ease; and are further *less likely* to attribute failure to lack of effort and are *more likely* to attribute failure to lack of ability.

On domain-specific attributions girls are relatively more maladaptive in mathematics yet relatively more adaptive in languages and arts, and show less perseverance when faced with obstacles than boys (Newman and Stevenson, 1990:199; Bandura, 1986:350; Dweck, 1986:1044). Consequently, girls would tend to have low self-esteem and would tend to become helpless when exposed to or facing continued failure.

2.6.3 *Students' socio-economic status and attributions in motivation*

Cooper and Tom (1984:213) reviewed various research results and literature on students' socio-economic status and how it affects achievement motivation.

On the whole achievement motivation was found to be the strongest in middle - to high SES children. The reason could be that parents with a high SES endowed their children with and fostered early self-reliance and mastery in their children. Consequently these students learn to be independent, and self-confident, and possess a high sense of self-esteem. Invariably their goal-orientations would be more mastery-oriented, aimed at acquiring and using appropriate learning skills that increase competence.

On the contrary, students from low SES families prefer to adopt a performance goal-orientation, seeking to gain approval for their performance. External rewards are regarded as more important. Farmer *et al.* (1991:35) found that students from low SES homes preferred work achievement contexts significantly more than school achievement contexts. The content of work in the former contexts entail an external reward structure where a task is performed to receive approval from powerful others. In contrast, the school achievement context entails student mastery of subject content and acquisition of mastery skills that indicate that a student is competent for a specific task.

2.6.4 Classroom structures in motivation

Student satisfaction or enjoyment of learning is greater when classroom environments are perceived as encouraging student involvement (Ames and Archer, 1988:261). Zimmerman (1989:336) concurs when stating that learning (and motivation) is highly dependent on the social (and classroom) environment from which it sprang. Students' task values are attached to their learning orientations, and success expectancies in future. The classroom variables then determine and shape these task values. Goal structures such as competitive, individualistic, and cooperative structures determine and influence learning motivation in the classroom (Ames, 1984:179).

A competitive structure entails a situation of negative interdependence among students, students compare their own performance with that of others. This act inevitably forces students into a situation of forced social comparison (Ames, 1984:179).

In individualized settings, the emphasis is on individual mastery of learning content. Realistic goal setting and expectancies are dependent on one's prior performance. This trend could then either have a positive or negative

motivational influence, depending on whether it was a success or failure. One's present level of performance is compared with one's previous achievement and not with that of others. Each student attains rewards in equal terms across the board (Ames, 1984:179).

Cooperative structures foster a positive interdependence among students who jointly work on a task as a group. Students share rewards and punishments of this combined group performance. A students' sense of self-worth and self-efficacy is reflected by that of the group (Ames and Archer, 1988:261).

Teaching strategies, evaluation techniques, and feedback form part of the environmental variables of classroom motivation. For instance, in competitive goal structures rewards are reserved for those students who get the answers right; the emphasis is on outperforming another person. This invariably leads to students adopting a performance goal-orientation, with the resultant self-directed negativism when failure occurs (Ames, 1984:179). In contrast, in individualistic goal structure, the emphasis is on mastery of the subject content, resulting in positive self-perceptions even if success is not attained (Ames and Archer, 1988:261).

2.6.5 *Task characteristics*

Task characteristics are important in determining students' reactions to and cognitions for school tasks (Pintrich, 1989:136). The tasks that students do are assumed to:

- * have a potent influence on student learning;
- * serve as a means by which the curriculum is enacted by the teacher and the student;
- * engender the use of different cognitive and metacognitive strategies by students; and
- * engage different motivational orientations of students (Pintrich, 1989:136).

Thomas (1988:5) contends that the degree of engagement in learning activities depend to a large measure on the demands placed on students by task features of a course or subject.

Task characteristics could be distinguished by two general aspects, viz. *content* and *form* (Pintrich, 1989:137; Pintrich and Schrauben, 1991:154).

2.6.5.1 Task content

Content of the task refers to the nature of the actual material that students have to learn. From a motivational perspective, the nature of the material will either enhance or inhibit students' motivation to learn a particular task. The *complexity* and *difficulty* of the material to be learned influence students' use of strategies, while the *difficulty level* and *familiarity* of the material will influence students' perceptions of efficacy and expectancy, and the *interest level* of the material will evoke students' interest or value for the task (Pintrich, 1989:137).

2.6.5.2 Task form

Pintrich (1989:138) has identified three form dimensions of task aspects, viz. the product, available resources, and the social organisation of the task.

The *product* dimension of a task involves the actual production of some response to the task, entailing that students need to use a variety of learning strategies, employing certain types of cognitive and metacognitive strategies in completing a task. For instance, students required to write essays require more metacognitive strategies, while those required to respond to multiple-choice questions basically have their recall tapped more than it does in questions related to application, analysis, or synthesis of material (Pintrich, 1989:138).

Available *resources* entail the different types, and amounts of material students need to perform and complete a task, while the *social organisation* of a task entails a particular classroom context that defines how a task is experienced by students.

Task characteristics thus determine the nature of students' requirements, influence students' efficacy and expectancy and the value to the task.

2.6 SUMMARY

The motivation of pupils to learn is determined by personal learning characteristics, environmental variables and task characteristics.

Motivation is, therefore, instigated by the relationship between emotions and cognitions. The role of cognition is found to be mediating between affects and motivation in learning situations. Affect has a crucial and direct influence on achievement motivation.

Students' causal ascriptions and attributional style interactionally influence student achievement motivation. Other variables such as students' characteristics, social and environmental factors need to be taken into consideration in learning and teaching situations. The classroom structures affect students' attributions and consequently their affective reactions and future expectancies.

CHAPTER THREE

3. EMPIRICAL STUDY

3.1 INTRODUCTION

In the previous chapter the nature of attributions and affect and their relationship with each other, and with academic achievement were discussed from a literature review.

This chapter is devoted to a description of the empirical investigation of the same topic. The aim of the study is stated in paragraph 3.2, the hypotheses are given in paragraph 3.3 and the population and sample are described in paragraph 3.4. In paragraph 3.5 the questionnaire that was used is described; followed by the variables (par. 3.6) and experimental design (par. 3.7). Finally attention is given to the procedure for collecting the data (par. 3.9) and the statistical techniques used to analyse the data (par. 3.8).

3.2 THE AIM OF THE RESEARCH

The main aim of the research (see par. 1.2) was to determine whether there is a relationship between attributional style and affect and academic achievement in English of Standard 8 students in the Sebokeng/Evaton circuits.

3.3 RESEARCH HYPOTHESES

To attain the aim specified in paragraph 3.2 the following hypothesis was tested: *There is a relationship between attributions, affect and the achievement in English of Standard 8 students in the Sebokeng/Evaton circuits.*

Since socio-economic status (see par. 3.4), age and sex have repeatedly been found to influence achievement (Hanck and Finch, 1993:74-75), three secondary hypotheses were stated:

1. The socio-economic status of the school influences the achievement in English of Standard 8 students in the Sebokeng/Evaton circuits.

2. Gender influences achievement in English of Standard 8 students in the Sebokeng/Evaton circuits.
3. Age influences achievement in English of Standard 8 students in the Sebokeng/Evaton circuits.

3.4 **POPULATION AND SAMPLING**

The population of this research constituted nineteen (19) secondary schools in the Sebokeng/Evaton circuits. The schools are located in an urban industrial area representing all socio-economic levels of society, from very low to relatively high. Almost 65% of the languages in South Africa are represented, viz. South Sotho, Tswana, Zulu, Xhosa, North Sotho, and a few Tsonga-speaking people. Venda, Swati and Ndebele, though spoken in some families, are not formally taught as school subjects in this area. The population can be said to be representative of South African African language groups that use English, although a second language, as a medium of instruction in secondary schools.

Most of the schools have an average of 1 290, or more, students per school, of which approximately 400 per school are in Standard 8.

A random cluster sample of five schools was drawn from the 19 schools. After the sample had been drawn, it was found that the five schools differed in socio-economic status. Three of the schools were situated in areas consisting of families with a very low to average income level, while two schools were situated in more affluent parts of Sebokeng, where more of the parents owned, or were partners, in businesses, or had jobs of a more professional nature. Upon further inquiry, it was found that the school fees paid at the two more affluent schools were somewhat higher than those paid at the other three schools. It was decided to classify the schools according to socio-economic status, by using the following three indices:

- the geographical location of the school;
- the amount of school fees paid at the school, and
- the type of school.

Socio-economic status was thus determined in an *ex post facto* manner, and inserted as a control variable after the sampling of schools was done.

One Standard 8 class per school was randomly selected from each one of the five schools, giving a total of 273 students. These were then the students who completed the motivational questionnaire. Since not all the students completed the questionnaire satisfactorily, the data of some of the students had to be ignored when the analyses were done. The data of the 200 students with the most completed items, therefore, were included in the analyses. The SES of each of the five schools, as well as the numbers of students are given in table 3.1:

TABLE 3.1: Number of students tested in accordance with the SES of schools.

School No.	SES	No. tested	No. selected	No. excluded
1	Aver. to high	61	60	1
2	Aver. to low	56	41	15
3	Aver. to low	54	35	19
4	Aver. to high	45	26	19
5	Aver. to low	57	38	19
TOTALS		273	200	73

Although the responses of seventy-three students were excluded, the data of the two hundred (200) remaining students can still be accepted as representative of the Standard 8 students of the selected area, since the whole spectrum of control variables (viz. SES, table 3.1; age range, table 3.2 and sex, table 3.3) is still represented. Of the 200 students 86 attended schools of an average to high SES, whereas 114 were from schools of an average to low SES (see table 3.1).

The age frequencies of students varied between 13 and 26 years (see table 3.2). Seven of the students (3,5%) were very young to be in Standard 8, since the average Standard 8 student is mostly older than 15 years. One hundred and sixty-three students (81,5%) were of an average age (thus between 15 and 18 years), while the ages of 30 students (15%) ranged between 19 and 26 years. These latter students mostly have a history of failure, or started school at a very late age.

TABLE 3.2: Age frequency of students tested.

Age	Frequency	Percent	Cumulative Frequency	Cumulative Percentage
13	1	0,5	1	0,5
14	6	3,0	7	3,5
15	25	12,5	32	16,0
16	65	32,5	97	48,5
17	41	20,5	138	69,0
18	32	16,0	170	85,0
19	15	7,5	185	92,5
20	4	2,0	189	94,5
21	5	2,5	194	97,0
22	3	1,5	197	98,5
23	2	1,0	199	99,5
26	1	0,5	200	100,00

TABLE 3.3: Number of students tested according to their gender or sex.

Sex	Frequency	Percent	Cumulative Frequency	Cumulative Percentage
0	5	2,5	5	2,5
Male	103	51,5	108	54,0
Female	92	46,0	200	100,0

Of the 200 students, five failed to indicate their sex (see table 3.3). It is evident that both males and females were very well represented in the sample.

3.5 *INSTRUMENTATION*

The experimental variables, namely attributions and affect were measured by means of a motivational questionnaire (see par. 3.5.1), while the dependent variable (English mark; see par. 3.5.2) was obtained from the cumulative record of each student.

3.5.1 Description of the motivational questionnaire

A two-part questionnaire was developed to assess the attributional style of students (part one), and their level of self-efficacy and emotional responses (part two).

Part one

Part 1 consisted of two aspects, namely attributional choice (identified by the question indicated by (a) and attributional style (identified by the questions indicated by (b) and (c)).

Attributional choice was measured by means of an adaptation (according to the instructions of the authors) of the Mathematics Attribution Scale (MAS) constructed by Fennema, Wolleat and Pedro (1979), for measuring subject specific attributions for success and failure. It consisted of eight events, of which four depicted successful performance of a learning task and four unsuccessful performance. Each of the eight events were followed by four items or possible causes for success or failure.

The MAS and its adaptation were thus composed of eight subscales with success and failure events paired with each of the four attribution categories (task, environment, effort and ability) (Fennema *et al.*, 1979:4). The subscales were thus classified as:

Success - Task; Failure - Task; Success - Environment; Failure - Environment; Success - Effort; Failure - Effort; Success - Ability; and Failure - Ability.

Ability subscales included attributions related to having inherent skill, talent, or the capability to understand an idea. Task subscales pertained to attributions stated in terms of ease, or difficulty of the task. Attributions that denoted effort comprised the amount of time spent on an academic task by students as well as learning strategies, while environment subscales included attributions related to teacher and peers.

In answer to (a), namely: Rate each item as a possible cause for your success or failure, the students had to indicate (yes or no) on the answer sheet (see

appendix) whether they viewed each of the four items as a possible cause of success (where applicable) or failure (where applicable).

In Example 1 a success event and its four items are depicted, while in Example 2 a failure event with its four items are depicted.

Example 1 - Event A (Success)

You got the semester mark you wanted for English, because:

1. the lessons and tests were easy
2. you spent a lot of time learning and working on English each day
3. the teacher explained the work very well
4. you have a talent for learning English

Example 2 - Event B (Failure)

You had trouble doing some parts of your English homework, because:

1. you didn't have time to get help from others
2. you never think logically when doing English
3. you didn't even try to get answers from the textbook
4. the troublesome parts were more difficult than the rest

The attributional style of students (i.e. a predilection for viewing the causes of success or failure as internal vs. external, stable vs. variable, and controllable vs. uncontrollable) was measured by means of an adaptation of the Russell Attributional Dimension Scale (see Van Overwalle, 1989). Under question (b) students first had to indicate (by crossing the number of the item on the answer sheet) which one of the items, given as possible causes for the results of each of the events, they saw as the most possible (or salient) one. Under question (c) the students had to indicate their perceptions of the locus, stability and controllability of the attribution they perceived to be the most salient for each event depicting success or failure. This was done by crossing either internal or external, stable or variable and controllable or uncontrollable on the answer sheet for the attribution chosen for each of the eight events.

The three questions students thus had to answer in part 1 were:

- (a) Rate each item as a possible cause for your failure.

- (b) With which ONE of the causes do you AGREE MOST?
- (c) Is the cause *internal* or *external*, *stable* or *unstable*, and *controllable* or *uncontrollable*?

The validity and reliability of the adapted MAS can be deduced from the figures quoted by Fennema *et al.* (1979:6-7) for secondary schools in the USA (see tables 3.4, for the means and standard deviations and 3.5, for the subscale reliability coefficients), and Scott (1991:138-140) for tertiary students in the RSA (see table 3.6 for means, standard deviations and reliability coefficients). The means out of a possible 20 of tables 3.4 (ranging from 10,81 to 13,91) and 3.6 (ranging from 9,61 to 15,19) indicate that all four the attributions were seen to be possible causes of success and failure. The reliability coefficients quoted for the Fennema *et al.* (1979) study vary between 0,39 to 0,79, and are not very high. In the Scott (1991) study, however, all the reliability coefficients are acceptable, except for that of environment, as a possible cause of failure (0,38).

TABLE 3.4: Mathematics Attribution Subscales: Means and standard deviations.

Subscale	Female*		Male**	
	\bar{X}	SD	\bar{X}	SD
Success				
Ability	12,07	3,31	13,20	3,14
Effort	13,54	3,49	12,22	3,41
Task	13,36	2,46	13,03	2,47
Environment	13,91	3,04	13,70	2,91
Failure				
Ability	12,34	3,02	11,49	3,00
Effort	12,98	3,30	13,08	3,08
Task	13,85	2,73	13,35	2,72
Environment	10,89	3,04	10,81	2,80

* Female n = 647

** Male n = 577

TABLE 3.5: MAS Subscale reliability coefficients.

Subscale	Female	Male	Total
Success			
Ability	0,78	0,76	0,77
Effort	0,79	0,77	0,79
Task	0,42	0,36	0,39
Environment	0,51	0,45	0,48
Failure			
Ability	0,64	0,61	0,63
Effort	0,70	0,62	0,66
Task	0,51	0,45	0,48
Environment	0,51	0,45	0,48

TABLE 3.6: Attribution subscales: Means, standard deviations and reliability coefficients (Scott).

Subscale	Means	SD	r
Success			
Ability	15,19	2,63	0,76
Effort	14,31	3,42	0,89
Task	12,79	2,79	0,67
Environment	11,72	2,92	0,74
Failure			
Ability	09,61	2,88	0,67
Effort	11,76	2,94	0,74
Task	12,34	2,91	0,67
Environment	10,59	2,73	0,38

Part two

Part two of the questionnaire consisted of 12 comprehension passages, of which two were used as sample passages to orientate students to correctly

complete this part of the questionnaire. All the passages were selected in accordance with the criterion that they describe events similar to the culture of the subjects (Schunk and Rice, 1991:355; Mathebula, 1992:55). The first six passages (on which questions 1 to 13 were based) (excluding the sample passages) were evaluated as of a less difficult level than the last four passages (on which questions 14 to 25 were based).

This second part of the questionnaire measured comprehension of English, self-efficacy level and the resultant affect and consisted of three sections, namely:

- (a) comprehension of English;
- (b) self-efficacy perceptions, and
- (c) the resultant affect for either successful or unsuccessful performance.

Comprehension of English (a) were tested by means of two to three questions with multiple choice answers set on each passage. Students had to choose the correct answer and indicate their choice by crossing it on the answer sheet. Self-efficacy (b) was tested by having students indicate (by crossing 1 for "CERTAIN" or 2 for "UNCERTAIN" on the answer sheet) how confident they were about getting the answer right or wrong. Hereafter students had to indicate their affect (c) by crossing (on the answer sheet) one emotion from the list of emotions supplied on the questionnaire. Both parts of the questionnaire are given in the appendix.

3.5.2 *English marks*

Marks obtained for English in the end-of-year (4th term) examination, consisting of the year mark and examination mark, were used as the dependent variable in this study. The mark obtained for the comprehension test included in the questionnaire was later added as a second dependent variable.

3.6 *VARIABLES USED*

Independent (i.e. experimental and control) variables

Attributional choice

Attributional dimensions

Affect (including self-efficacy)

Sex (gender)*

Age*

SES*

Dependent variables

Marks in English

Marks for comprehension test included in the self-efficacy questionnaire (see appendix)

3.7 EXPERIMENTAL DESIGN

An *ex post facto* design with analysis of variance was used to determine the interaction between attributions, affect and achievement in English.

3.8 STATISTICAL ANALYSES

The data was computed with the mainframe computer of the Potchefstroom University for Christian Higher Education.

A series of univariate distribution analyses, using PROC UNIVARIATE of SAS (SAS Institute, Inc., 1985) were performed on the dependent variable (marks in English) to determine whether the marks for all students, and for schools separately, were evenly distributed, thus indicating a normal standard.

A series of frequency analyses (PROC FREQ, SAS Institute, Inc., 1985) were performed to determine the most salient attributions for success and failure, as well as the dimensionality (locus, stability and controllability) of the attributions for all students, as well as for each school separately.

In order to determine whether age distribution and sex have any influence on English marks, Pearson Product Moment Correlation Coefficients (r), means and standard deviations were computed (PROC CORR of SAS, SAS Institute, Inc., 1985).

* Age, sex and SES are control variables

The relationship (here indicating interaction) between attributions (i.e. attributional style), affect and achievement in English for success and failure separately was determined by means of two series of analyses of variance, using PROC GLM (SAS Institute, Inc. 1985). The effect size of the interaction was also determined.

3.9 PROCEDURE

Standard 8 students were selected for the empirical research because they have already completed one academic year at a secondary school (except for the three at an intermediate school).

The empirical research was scheduled to take place per school during three (3) days in the last week of August 1992. The testing took place as scheduled except for school no. 5. Problems were encountered at this school, situated in the very low socio-economic environment, and testing had to be postponed twice, due to shooting incidents in the vicinity of the school. Only a handful of students turned up for the second testing session, and testing had to be postponed again, but eventually took place the following day. Although 57 students of this school were tested initially, only 38 responses could be used, probably due to the incident described. Since this school is also on the platoon system, and starts its classes at 12h00, fatigue crept in sooner than in previous groups, and quite a high number of errors therefore occurred.

The researcher went through the whole questionnaire together with each of the five groups of students. The students were not allowed to discuss questions or answers with each other, to make sure that opinions expressed were their own. The students initially had problems interpreting the questionnaire and the answer sheet which were both novel to them. These problems were eliminated, however, after the researcher had treated the examples.

Most of the students were able to interpret the first part of the questionnaire dealing with attributional choice and attributional style, after the concepts internal-external, stable-unstable, and controllable-uncontrollable had been explained in context.

After completion of the first part of the questionnaire, the two example passages (E1 and E2) of the second part of the questionnaire were completed

under the guidance of the researcher. Before starting on passages 1-10, it was impressed upon students once again that they had to work independently and were not to enlist any assistance in answering the questions. They were to read each comprehension passage, then turn the page and answer the questions pertaining to the passage without turning back to the passage again. After indicating whether they were certain, or not, of their answers, the researcher read the correct answers to the comprehension questions, after which students selected how they felt about getting the answers right or wrong, and turned the page to continue with the next passage in the same manner.

The duration of the testing time varied between 2 hours 21 minutes for the first school tested to 2 hours 45 minutes for school number 05.

3.10 SUMMARY

The aim of the study was to determine the nature of attributions and affect and their relationship with each other, and with academic achievement. The chapter was devoted to a description of the empirical investigation of this topic. The population and sample were discussed first after which the motivational questionnaire, statistical analyses, and procedure were discussed.

CHAPTER FOUR

4. STATISTICAL ANALYSES AND INTERPRETATION OF THE RESULTS

4.1 INTRODUCTION

The main aim of this study was to determine the relationship between attributions (i.e. attributional style for the purpose of this study), affect and achievement in English of Standard 8 students in the Sebokeng/Evaton circuits (see par. 1.3).

To achieve this aim, and also to control for the influence of socio-economic status, age and gender, the following three secondary hypotheses were first tested:

- * The socio-economic status of the school influences achievement in English of Standard 8 students.
- * Age influences achievement in English of Standard 8 students.
- * Sex (gender) influences achievement in English of Standard 8 students.

The distribution of marks for English (the dependent variable) for all students (see table 4.1), and each school separately (see graphs 4.1 and 4.2) was first calculated by means of the PROC UNIVARIATE of SAS (SAS Institute, Inc., 1985). This was to determine whether SES, as constituted by the fees, and areas in which the schools are situated (see par. 3.4.1 for a description of the criteria used to classify schools), had any influence on achievement in English. The correlation coefficients between academic achievement and the age groups, and the two sexes were next calculated (see table 4.2) to determine whether these two control variables had any influence on academic achievement in English.

In order to gain a holistic view of the most salient attributions for success and failure (see table 4.3), the attributional dimensions of each (see tables 4.4 and 4.6), and the frequencies of the different affects chosen for success and failure

(see tables 4.5 and 4.6), a series of frequency analyses were next performed. The interactions between attributions (i.e. attributional style), affect and achievement in English (primary hypothesis) (see tables 4.7, 4.8 and 4.9) and achievement in the comprehension passages included in the questionnaire (see table 4.10, 4.11 and 4.12), were lastly calculated by means of a series of analysis of variance.

4.2 THE RELATIONSHIP BETWEEN SES AND ACHIEVEMENT IN ENGLISH

Very few differences were found between the means and medians, or minimum and maximum marks, of the two schools classified as of an average to high SES (schools 01 and 04), as contrasted to those of the three schools (02, 03 and 05) classified as of an average to low SES (see table 4.1). Although the means of two of the average to low SES schools (viz. 02:58% and 05:60%) were somewhat lower than those of the average to high SES schools (viz. 01:66% and 04:63%), the mean of the third average to low SES school, 03, was much higher at 70%. The range of mark distribution was generally, despite SES, very wide, and varied from 34 - 96 for school 05 to 53 - 87 for school 04.

The normality of the distribution of marks is indicated by the difference between the mean and the median (the nearer they are, the more normal is the distribution), as well as by the indices of skewness and curtosis (the nearer to 0, the more normal is the distribution).

The difference between the mean (63,46) and the median (62) of the marks of the full sample (i.e overall) (see table 4.1), was negligible (a difference of 1,46), as were the indices of skewness and curtosis, thus indicating a normal distribution of the marks.

When the data on the distribution of marks of each of the schools were analysed separately, it became evident that the distribution of the marks of the two schools classified as of an average to high SES was negatively skew in favour of low marks (curtosis respectively -1,189 for school 01 and 2,892 for school 04). The skewness is also evident in the difference between the means and medians of each of the two schools, as well as in the percentage of students from each of the two schools who performed below the average. The

skewness index of school 05 (0,595), as well as the difference between its mean and median (3,90) indicate a skew distribution in favour of low marks. Since schools 01 and 04 have been classified as of an average to high SES and school 05 as of an average to low SES, the conclusion can be reached that SES does not differentiate between achievement in this study. The mean of school 03 (70,30), however, was well above the overall mean of all the schools together, indicating that, in the context of the mean of the full sample, its marks were positively skew. It thus appears as though only school 02 showed a realistic mark distribution.

What is noteworthy is that no student obtained marks below 33,3% set as a minimum requirement for passing this subject, in any of the schools.

The general picture obtained from this analysis, was that no significant difference in achievement could be determined based on differences between the SES of the five schools.

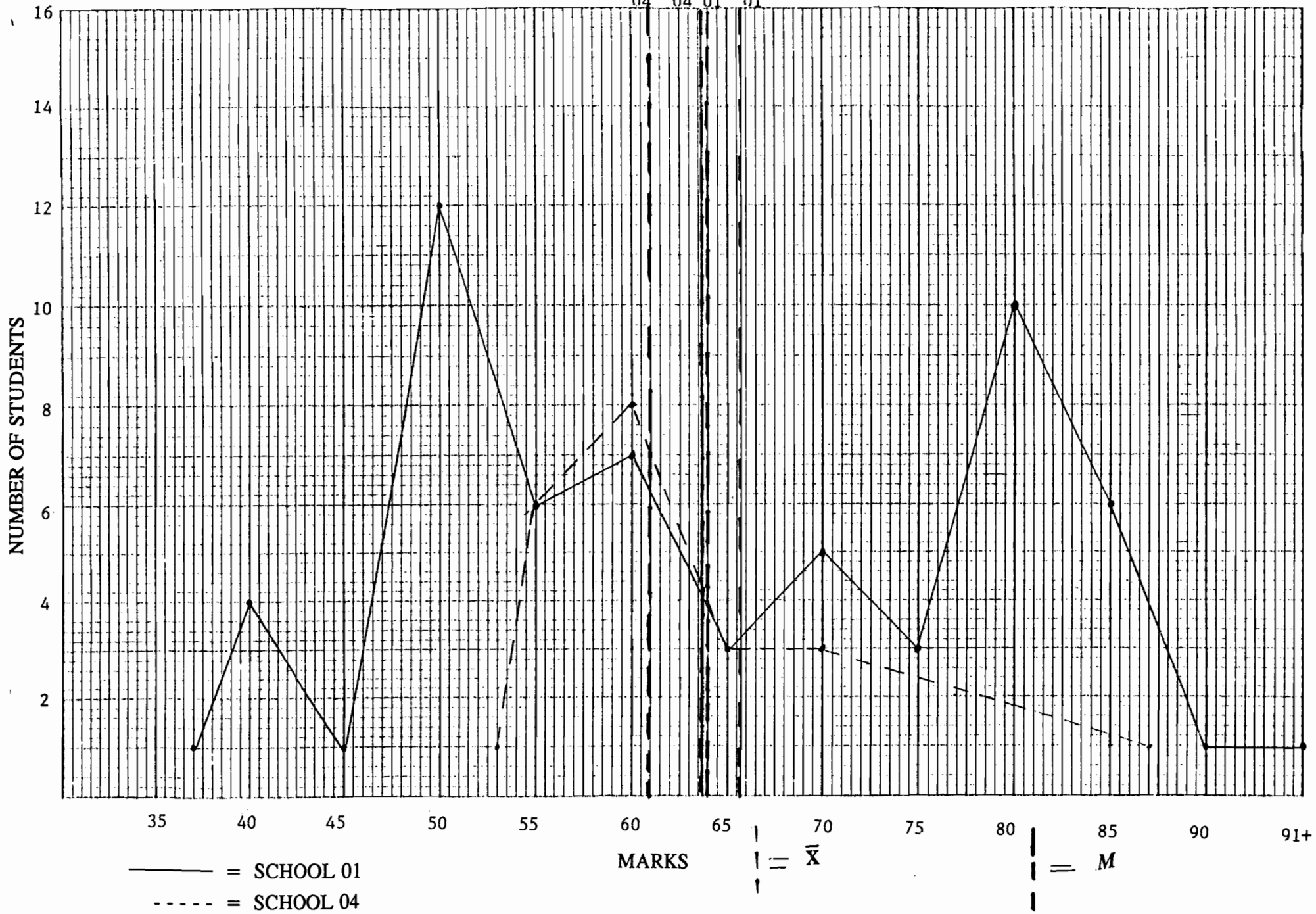
SES (as classified in this study) thus did not influence achievement and was consequently not used as a control variable in any further analyses.

TABLE 4.1: Analysis of distribution of marks in English for each school.

SES of school	Min.	Max.	X	Median	Difference between X & median	SD	Skewness	Kurtosis	% students above X	% students below X
School 01	37	96	65,78	64	1,78	15,65	0,071	-1,189	46,67	53,33
School 04	53	87	63,30	61	2,30	7,61	1,347	2,892	47,83	52,17
School 02	42	75	57,61	58	0,39	7,75	0,017	-0,201	54,77	45,23
School 03	46	94	70,30	70	0,30	12,61	-0,231	-0,397	52,80	47,20
School 05	34	96	59,94	56	3,90	14,31	0,595	0,108	46,16	53,84
Overall	34	96	63,46	62	1,46	13,35	0,356	-0,463	46,50	53,50

GRAPH 4.1: Mark distribution of students from average to high SES schools.

M \bar{X} M \bar{X}
 04 04 01 01



15

— = SCHOOL 01
 - - - = SCHOOL 04

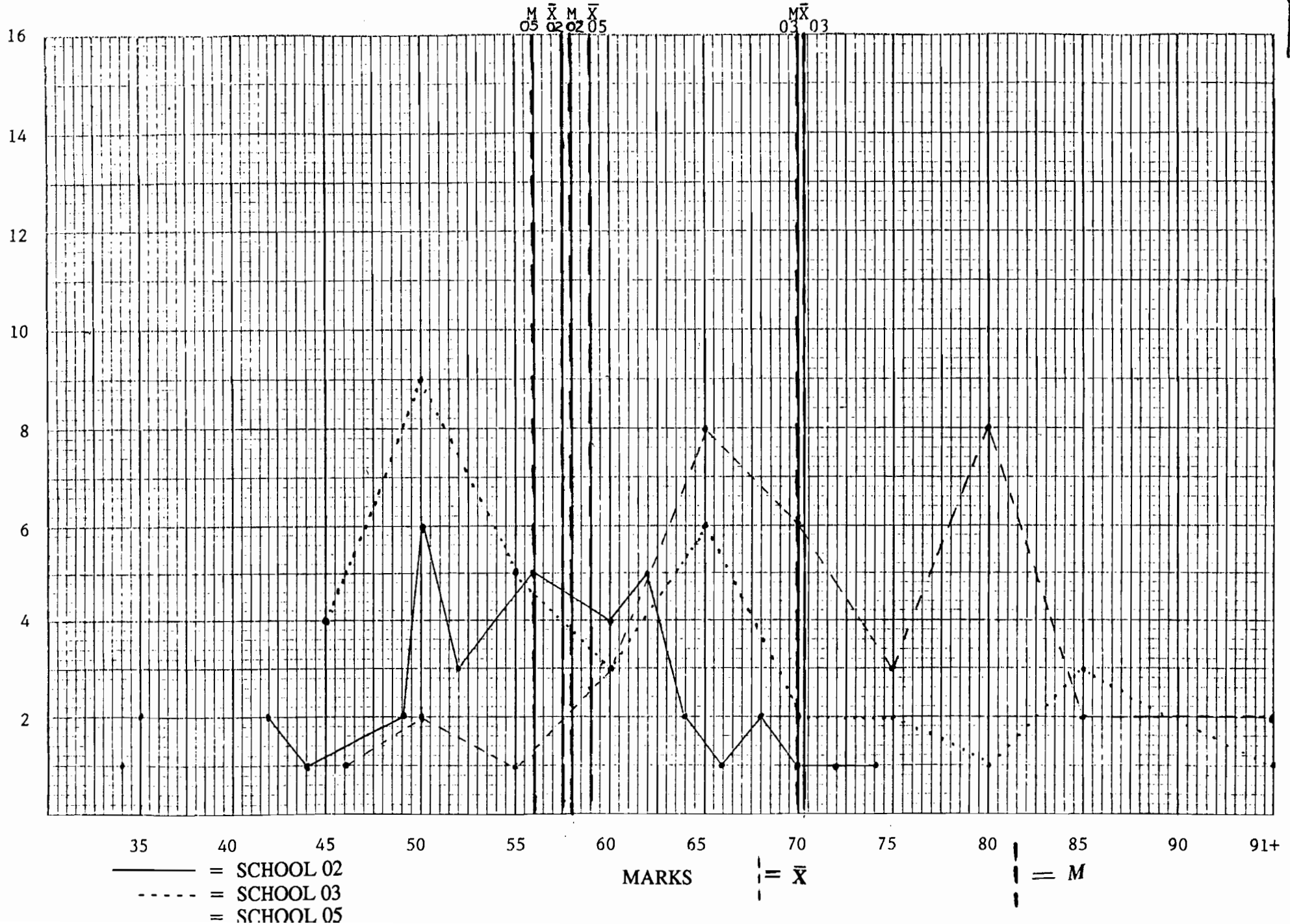
MARKS

\bar{X}

M

GRAPH 4.2: Mark distribution of students from average to low SES schools.

52



4.3 *THE RELATIONSHIP BETWEEN AGE AND SEX, AND ACHIEVEMENT IN ENGLISH*

TABLE 4.2: Pearson correlation coefficients for age, sex and achievement in English.

Control variables	N	SD	r with mark for English
Age	200	1,84	- 0,03296
Sex	200	0,55	- 0,05869

* 5% level of significance = 0,138

The correlation coefficients (see table 4.2) were both not significant ($r = < 0,138$). Since neither of the correlation coefficients were significant, it was deduced that there was no relationship between age, sex and the achievement in English of the subjects used in this study, despite the fact that both these variables have previously been found to be significant determinants of academic achievement (Feather, 1988:381; Nicholls, 1984:40; Farmer, Vispoel and Maehr, 1991:26; Harter, Whitesell and Kowalski, 1992:777-779).

As all three control variables (viz. SES, age and sex) showed no relationship with achievement in English, these variables were not used when the primary hypothesis was tested.

4.4 *THE RELATIONSHIP BETWEEN ATTRIBUTIONAL STYLE, AFFECT AND ACHIEVEMENT IN ENGLISH*

Before the hypothesis could be tested, an initial analysis of the attributional choice, attributional dimensions (denoting attributional style) and responses on affect of the students were made by means of a series of frequency analyses (PROC FREQ, SAS Institute, Inc., 1985).

A summary of the students' responses to the choice of the most salient attribution for each event is given in table 4.3.

TABLE 4.3: Analysis of self-evaluated attributional choice.

			Attributional choice variables			
A. Success events		n	Environment	Effort	Task	Ability
Event A	You got the semester mark you wanted for English	200	46%	33%	10%	8%
Event D	You completed the last few homework assignments quite easily	200	28%	32%	27%	13%
Event F	Unlike some other students, you've passed the last few tests with no trouble	200	45%	32%	10%	13%
Event G	You were able to understand a difficult part/unit	200	25%	27%	30%	18%
	Overall scaling for success	200	36%	32%	20%	12%
B. Failure events						
Event B	You had trouble doing some parts of your English homework	200	29%	17%	35%	18%
Event C	You have been unable to keep up with most of the other students in the class in English	200	38%	36%	11%	15%
Event E	You received a very low mark on the monthly English test	200	19%	44%	27%	10%
Event H	There were times when you just couldn't get to work out grammar questions	200	27%	31%	23%	19%
	Overall scaling for failure	200	28,2%	32%	24%	15,5%

It can be concluded that for the 4 success events environmental variables and effort seemed to be the most salient attributions (respectively 36% and 32%), followed by task variables (20%) and lastly ability (12%). It would appear that students were very dependent on the teacher for success and would, therefore, manifest performance goal-orientations.

For the 4 failure events effort and environmental variables seemed to be the most salient variables (respectively 32% and 28,2%), followed by task variables (24%) and lastly ability (15,5%). Students seemed to accept responsibility for their failure, although external factors also play a prominent role. As Weiner (1988:560-561) states, locus relates to pride and self-efficacy, and control to guilt, shame and hopelessness or self-helplessness. The aim of the study being to determine the relationship between attributions, affect and achievement, only locus was used as the denominator for attributional style for success, and control for failure. A summary of the students' responses for attributional style is given in table 4.4.

TABLE 4.4: Analysis of self-evaluated attributional style.

Success	Ability	Effort	Environment	Task
Internal	84%	83%	34%	46%
External	16%	17%	66%	54%
Stable	64%	64%	55%	38%
Unstable	36%	36%	45%	62%
Controllable	67%	84%	67%	60%
Uncontrollable	33%	16%	33%	40%
Failure	Ability	Effort	Environment	Task
Internal	60%	62%	30%	46%
External	40%	38%	70%	54%
Stable	44%	36%	32%	38%
Unstable	56%	64%	68%	62%
Controllable	53%	69%	53%	50%
Uncontrollable	47%	31%	47%	50%

Since students rated environmental variables and effort as the most salient attributions for success (see table 4.3), the dimensional properties attributed to these variables were important when the attributional styles of the students for success were determined. The majority of students (83%) viewed effort as internal, while only 17% of the students saw effort as external (see table 4.4). Sixty-six percent of the students viewed environmental variables as external, in contrast to 34% who viewed them as internal. Although environmental variables (i.e. teacher- and peer-related causes) were perceived as external, 67% of the students viewed these variables as controllable, thereby manifesting a more adaptive attributional style for success than that of the 33% who viewed these variables as uncontrollable.

Students rated environmental (32%, see table 4.3) and effort (28,2%) variables as the most salient causes for failure as well. Whereas 69% (see table 4.4) saw effort as controllable, only 53% saw environmental variables for failure as controllable, contrasted to 47% who rated them as uncontrollable. This latter percentage of students would thus tend to become helpless when faced with failure.

The analysis of the students' responses to self-efficacy and affect is tabulated in table 4.5.

TABLE 4.5: Analysis of self-evaluated self-efficacy and affect.

Types of affect	Difficulty level				All questions	
	Low (1-12)		Average (13-24)		Certain	Uncertain
	Certain	Uncertain	Certain	Uncertain		
Happy	28,35%	2,42%	25,01%	4,75%	26,26%	3,88%
Proud	52,55%	7,05%	48,55%	7,55%	50,05%	7,36%*
Guilty	1,51%	1,02%	0,84%	0,84%	0,92%	0,91%
Ashamed	2,51%	1,72%	2,60%	0,81%	2,56%	1,15%
Angry	0,69%	0,38%	1,10%	0,15%	0,95%	0,24%
Hopeless	1,05%	0,24%	1,03%	0,38%	1,04%	0,32%
Self-efficacy					81,78%	13,86%

* 4,36% of the students gave no response.

From table 4.5 it can be concluded that 2,42% *felt happy*, although *uncertain*, about getting the answers to questions 1-12 right, compared to 4,75% who felt *happy*, although *uncertain*, about getting the answers to questions 13-24 right. 28,35% felt *certain* and *happy* about getting the answers to question 1-12 right, compared to 25,01% for the answers to questions 13-24. One can thus deduce that a smaller percentage of students who were uncertain (2,42%) felt happy about getting the answers to questions 1-12 right as against an almost doubled percentage of students (4,75%) who were uncertain but felt happy about getting the answers to questions 13-24 right. More students felt happy, although uncertain, about getting answers to questions 13-24 right as against a smaller percentage (25,01%) of those who felt certain that their answers were right, as compared to 28,35% who were certain that their answers were right for questions 1-12.

A similar pattern obtains for those who felt proud, with almost no difference between those who were uncertain of the correctness of their answers, viz. 7,05% and 7,55% for questions 1-12 and 13-24 respectively.

Those who were certain, 52,55% felt proud for getting answers to questions 1-12 correct, while 48,55% felt proud about getting answers to questions 13-24 right.

What is disturbing, however, is that many students felt proud of getting answers correct, viz. an average of 50,05% (certain) against 26,26% (certain) who felt happy. Perhaps students did not understand the difference between the concepts happy and being proud.

It can be safely concluded that on the whole the students tested have a very high sense of self-efficacy, 81,78% as against 13,86% who manifested a low sense of self-efficacy.

In both groups of questions students felt more proud about getting the answers right than feeling happy, even though the questions were easy (this is evidenced by the large percentage of correct answers received by students). This appears to be discrepant with the view that people usually feel proud of successful outcomes when the task is perceived as difficult. The results would be congruent if the feelings of pride applied to questions 13-24 which were slightly more difficult.

In order to test the primary hypothesis concerning the relationship between attributional style, affect and achievement in English, students were divided (by means of a series of frequency analyses [PROC FREQ of SAS Institute, Inc., 1985]) into various groups in accordance with their attributional style (see table 4.6). Students were also grouped for affect (see table 4.6.). The groupings on affect were based on the marks obtained for affect after the comprehension test was marked.

TABLE 4.6: Frequency of students for attributional style and affect.

Attributional style	N	%
1. Adaptive for success (internal locus)	87	43,5
2. Adaptive for failure (controllable)	95	47,5
3. Adaptive for success and failure (internal/success and controllable/failure)	43	21,5
4. Maladaptive for success (external locus)	54	27,0
5. Maladaptive for failure (uncontrollable)	55	27,5
6. Maladaptive for success and failure (external/success and uncontrollable/failure)	16	08,00
Affect	N	%
1. Positive and realistic for success (16-22)	70	35,0
2. Positive, but unrealistic for success (8-15)	81	40,5
1. Negative, but acceptable for failure (23-29)	26	13,0
2. Negative, but unacceptable for failure (30+)	19	09,5

With reference to attributional style (see table 4.6), a small percentage of students (21,5%) manifested an adaptive attributional style (i.e. internal locus for success and control for failure) for both success and failure, compared to a much smaller percentage of students ($16/200 = 8\%$) who showed a generally maladaptive or selfhelpless attributional style (i.e. external locus for success and no control over failure). Of all the students, 47,5% (95/200) had an adaptive style for failure, while 27% (54/200) of the students were uncertain as to whether they have control over factors causing failure. Of all the

students, 27,5% (55/200) could thus be classified as risk cases (i.e students with a maladaptive style for failure who are apt to become selfhelpless).

With reference to affect, Weiner (1985:548; 1986:240) states that affective reactions are dependent on whether students are able to evaluate the difficulty level of the learning task realistically or not. Students experience pride (a more cognitively differentiated emotion) after performing a difficult task successfully, but only happy (a less cognitively differentiated emotion) after performing an easy task successfully. For failure, feelings of shame, anger or hopelessness are experienced when students perceive that they have no control over factors that cause their failure. On the other hand, a perception of control over such causal factors leads to feelings of guilt which motivate students to strive to control failure causes so as to attain success in successive tasks.

The following came to light from the analyses of the students' affective reactions:

Of the students who manifested positive affect, 35% were able to evaluate the difficulty level of the comprehension passages realistically, while 40,5% (81/200) showed an inability to evaluate the level of difficulty realistically (see par. 3.5 for a classification of the difficulty levels of the comprehension passages).

Thirteen percent of the students showed an adaptive motivational pattern for failure, despite having performed poorly in the comprehension test and experiencing negative affect (viz. feeling guilty). Of the students, 9,5% experienced maladaptive affect (anger, shame and hopelessness) after failure, implying that they internalize failure.

With reference to the primary hypothesis, two-way analysis of variance (ANOVA) was used as a technique to determine the effect of attributional style and affect on academic achievement. Using PROC GLM (SAS Institute, Inc., 1985), a series of two-way analysis of variance were done for success and failure, with the English mark as the dependent variable (see tables 4.7, 4.8 and 4.9), followed by the mark students obtained for the comprehension test in the questionnaire as a second dependent variable (see tables 4.10, 4.11 and 4.12). The comprehension test mark was used as a second dependent variable

to test whether marks obtained on a learning task just completed, would show a different interaction with attributional style and affect than would marks that had been obtained some time previously.

TABLE 4.7: Cell distribution of the two-way ANOVA with attributional style and affect x English mark for success.

Affect	Success					
	Attributional style					
	Adaptive			Maladaptive		
	N	\bar{X}	SD	N	\bar{X}	SD
Positive, realistic	32	63,5	14,51	22	66,41	15,17
Positive, unrealistic	38	66,37	12,74	21	60,29	13,75

TABLE 4.8: Cell distribution of the two-way ANOVA with attributional style and affect x English mark for failure.

Affect	Failure					
	Attributional style					
	Adaptive			Maladaptive		
	N	\bar{X}	SD	N	\bar{X}	SD
Negative, but acceptable	11	64,00	8,28	6	55,66	14,89
Negative, but unacceptable	7	60,71	10,93	7	64,71	18,75

Although the achievement means differed with 6,12% for success (see table 4.7) and with 9,05% for failure (see table 4.8) between the lowest and the highest percentages obtained in the four cells, these differences were not significant, since the effect sizes of both attributional style and affect on English marks, for success and failure (see table 4.9), were bigger than 0,05 (p-values at a 5% level of significance).

TABLE 4.9: Results of the two-way ANOVA with attributional style and affect x English mark.

Source	DF	Type III SS	F Value	P > F
Success	1	66,860	0,34	0,558
Affect - (P)	1	70,331	0,36	0,548
Success x affect	1	536,728	2,76	0,099
Failure	1	279,981	1,63	0,211
Affect - N	1	34,563	0,20	0,656
Failure x affect - N	1	61,108	0,36	0,555

TABLE 4.10: Cell distribution of the two-way ANOVA with attributional style and affect x comprehension test mark for success.

Affect	Success Attributional style					
	Adaptive			Maladaptive		
	N	\bar{X}	SD	N	\bar{X}	SD
Positive, realistic	32	20,71	1,32	22	20,63	2,03
Positive, unrealistic	38	22,65	1,32	21	21,42	1,80

TABLE 4.11: Cell distribution of the two-way ANOVA with attributional style and affect x comprehension test mark for failure.

Affect	Failure Attributional style					
	Adaptive			Maladaptive		
	N	\bar{X}	SD	N	\bar{X}	SD
Negative, realistic	11	19,45	2,97	7	19,42	2,81
Negative, but unrealistic	7	18,00	2,51	6	20,16	2,31

Although the highest and lowest achievement means for the comprehension test mark (out of a possible 24) for failure differed with 2,16 (see table 4.11), this difference was not significant (see table 4.12) and no interactions were found between attributional style, affect and achievement (all p-values being higher than 0,05). These results, however, have to be interpreted in the light of the fact that very few students achieved poorly on the comprehension test included in the questionnaire.

A significant relationship was found, however, between affect and the comprehension test mark ($p = 0,0002$; see table 4.12). It thus appears as though affect is more closely related to tasks that have just been performed, than to tasks that have been performed some time previously. As attributional style was only tested in accordance with hypothetical situations (see par. 3.5.1 for a description of the attributional style aspect of the questionnaire), this supposition could not be tested for attributional style.

TABLE 4.12: Results of the two-way ANOVA with attributional style and affect x comprehension test mark.

Source	DF	Type III SS	F Value	P > F
Success	1	11,421	3,54	0,062
Affect - (P)	1	49,524	15,37	0,0002*
Success x affect P	1	8,732	2,71	0,102
Failure	1	0,944	0,13	0,724
Affect - N	1	8,434	1,13	0,296
Failure x affect - N	1	8,849	1,19	0,285

4.5 DISCUSSION OF RESULTS

The main aim of this study was to determine the nature of attributions and affect and their relationship with each other, and with academic achievement. Attention will first be given, however, to a discussion of the results of the three control variables (viz. socio-economic status, par. 4.5.1; sex, par. 4.5.2;

and age, par. 4.5.3) on achievement in English, since research studies have repeatedly shown that these variables, among others, influence not only academic achievement, but also motivation (Hanck and Finch, 1993:74-75), and more specifically, students' attributional styles, affect, goal-orientations, expectancies, and task value.

The relationship between attributional style, affect and academic achievement, the primary hypothesis, will be discussed in paragraph 4.5.4.

4.5.1 *The influence of SES on academic achievement*

Socio-economic status was included in the empirical study as a control variable, as various research studies in America, including that of Ames and Ames (1984:7), have found SES to be an important determinant of achievement and achievement motivation. Various American studies, among others those of Patterson, Kupersmidt and Vaden (1990), Farmer, Vispoel and Maehr (1991) and Graham and Golan (1991), will be used in this discussion of the results of this empirical study, since there are similarities between low SES families of American origin and those of a black South African origin. According to Patterson *et al.* (1991:485) most families of a low SES are black, with a single parent (mostly a mother) and live below the poverty line. It can therefore be accepted that the results of research studies dealing with SES done in the USA, can be used, though with care, to contextualise the results of this study.

It needs to be reiterated, however, that the students of this study were not individually grouped on SES, but were grouped according to the area in which the sampling was done (see par. 3.4). No relationship was found between this measure of SES and the achievement of students in English as a second language (see par. 4.2). These results are in direct contrast to those of Patterson *et al.* (1991) and Farmer *et al.* (1991).

According to Patterson *et al.* (1991:485-494) income level is a very good predictor of academic achievement and motivation, since low SES does not only affect achievement detrimentally, but also feelings and beliefs of competence or self-efficacy (important motivational variables). Farmer *et al.* (1991) also found a significant difference between the academic achievement of students from low and those from high SES backgrounds. These authors

(i.e. Patterson et al. 1991 and Farmer et al. 1991) argue that poor achievement and low self-efficacy are directly related to reduced parental involvement in the schooling of their children, which is probably the result of economic hardship and stress, which can be viewed as stable and uncontrollable variables. Graham and Golan's (1986:6-10) results indicate that students from a low SES background perceive the causes of failure as stable and consequently suffer negative expectations of future results, leading to a maladaptive attributional style and self-helplessness.

The difference between the results of this study and the three studies mentioned above may be due to:

- * the unsophisticated measure that was used in this study to classify students on SES; or
- * more differences existing between black families of a low SES in South Africa and those in America, than this study gave credit for.

The difference between this study and the three mentioned above is not only limited to the fact that no relationship was found between SES and achievement. From the results of the achievement scores given in table 4.1, it is clear that most of the students from low SES schools used in this study (viz. schools no. 02, 03 and 05) not only achieved well, with means varying between 58% for school no. 02, 60% for school no. 05 and 70% for school no. 03, despite socio-economic level, but also manifested high levels of self-efficacy (see table 4.5). Since these three schools are situated in average to low SES areas, one would have expected the average achievement, as well as the self-efficacy level of the students to be lower. Students, however, almost uniformly manifested high levels of self-efficacy despite differences in SES. The high levels of self-efficacy are explained, however, by the fact that only 1 of the 200 students used in the sample, failed (a pass-mark being 33,33%), only 21 (10%) obtained a mark of less than 50%, while 61 (31%) had a mark of 70% or more - once again irrespective of SES.

The above results lead to some concern when considered in the context of the very poor pass rate of black matriculants in South Africa the past few years. One can interpret the results in two ways, namely, that the sample tested is, despite the random sampling, not representative of the average black students,

or, the standard set in Standard 8, on which students' self-efficacy levels are based, is vastly discrepant with what students are expected to attain in matric.

4.5.2 *The influence of sex on achievement*

Sex, or gender, was included in the empirical study as an additional control variable, besides SES, since Wagner, Spratt, Gal and Paris (1989:29) found that sex differences in academic achievement are related to the different attributional styles manifested by boys and girls, which, stem from their differential socialization, processes. Rijkman and Peckham (1987:120) concur when stating that girls are more helpless than boys in achievement situations, while Lichet and Dweck (1984) found that boys and girls of the same academic ability achieved differently due to differences in motivational patterns.

This study, however, found no relationship between the academic achievement of boys and girls (see par. 4.3), and this is more in line with the results of Newman and Stevenson (1990). Newman and Stevenson (1990:199) examined the interaction between sex, achievement and motivational pattern, and found no evidence that girls are more maladaptive in causal reasoning than boys. These results are supported by those of Wagner *et al.* (1989) who found no differences in causal attributions, academic achievement or reading performance between boys and girls, despite major differences in gender socialization in Morocco.

According to Newman and Stevenson (1990) differences in attributional style and academic achievement are domain-specific and related to age rather than sex.

The domain-specificity of the relationship between sex, motivational variables (in this instance values) and academic achievement was tested by Feather (1988) with regard to mathematics and English. The results indicated that females assigned higher value to English, in contrast to males who valued mathematics more. Females also obtained higher scores in English than males, whereas males achieved better in mathematics than females. One would thus have expected the female students of this study to perform better than the males. This was not the case, however. The difference in results can be due to the fact that Feather's (1988) study was conducted on tertiary

students, in contrast to the other mentioned studies that were conducted on secondary school students - age could thus also have been a determining factor in the Feather-study.

Overall, it seems as though sex is less of a significant determinant of academic achievement at secondary school level, irrespective of diverse forms of socialization, than age. This assertion is shared by Patterson *et al.* (1990:486) who state that the predictive value of any one or more variables (viz. SES, sex and age) regarding achievement, is often mediated by another, in this instance age. According to Patterson *et al.* (1990:486) sex is a better predictor of competence in conduct, while SES is the better predictor of competence in achievement. Age and sex, however, interact in the prediction of adaptation since boys show more adjustment problems during childhood, than girls, but less than girls during adolescence. Sex differences thus fade with age.

4.5.3 *The relationship between age and achievement*

There was no significant correlation between age and academic achievement in this study (see table 4.2). The last secondary hypothesis could, therefore, not be accepted as well. These findings seem to contrast with the results of a study done in the RSA by Mathebula (1992:65) who found age to be an important variable as far as academic achievement was concerned. Although 85% of the students in this study fall in more or less the same age range as those of the Mathebula-study, the results vary a lot. Mathebula (1992:62) found that older students did generally worse than younger students. Their performances were found to deteriorate progressively in accordance with the number of years they failed or missed schooling. The constant failure could be attributed to either the debilitating effect failure has on students resulting in resignation and lack of effort or to academic "rusting".

According to Harter, Whitesell and Kowalski (1992:778) changes in attributional patterns (and also achievement) are often the result of transitions from primary to secondary school. Thus, changes in student motivation, and academic achievement, are probably influenced more by the interaction between school environment and individual differences, than by age. The interaction as such has an influence on students' perceived competence and

motivation. Students used in this study, showed high competence beliefs, despite vast variations in age (13 years - 26 years). This phenomenon can be explained if one follows the Harter *et al.* (1992:778) argument on the interaction between environment and individual differences, rather than age, and academic achievement, since many of the students used in this study progressed from primary school (up to Standard 4), to intermediary school (up to Standard 7), and then to secondary school (Standard 8 to 10). According to Harter *et al.* (1992:778) older students (8th grade) are more likely to adopt an extrinsic orientation toward school work. Consistent with this finding, students in this study showed a similar pattern of extrinsic orientation by attributing achievement to environmental factors mainly.

Newman and Stevenson (1990:208) also found that low achievers at high school level (10th graders) seemed to be more likely to acknowledge the importance of external assistance, than high achievers. In contrast high achievers among younger children are relatively more likely to acknowledge the importance of help, particularly when poor performance is the outcome.

According to Farmer *et al.* (1991:199) younger children do not discriminate between effort and ability attributions for achievement, whereas senior high school students do. The latter group has a tendency to adopt domain-specific attributions, which invariably influence and determine students' expectancies, task value, and their goal-orientation (Dweck, 1986:1040). Wagner *et al.* (1989:292) found, for instance, that beliefs about the influence of personal effort on reading performance increased with age. These authors purport that students' belief systems progress from general to specific types of skilled cognitive activity.

The research studies cited reveal that the attributional styles, and also general motivation and academic achievement, of students differentially and progressively change over the years; that their belief systems, expectancies and goal-orientations are differentially influenced by age. With older children the effects of socialization and achievement history invariably lead to attitudes, values and causal beliefs that apply to specific academic subjects (Newman and Stevenson, 1990:198).

The results of this study, however, did not implicate age as a determining factor for achievement.

4.5.4 *The relationship between attributions, affect and achievement in English*

This study was based on the hypothesis that there is a relationship between cognition (manifested in attributions) and affect, and that these two constructs interactionally influence achievement in English of Standard 8 students.

It was further hypothesized that the influence of attributional style (i.e. the dimensions of locus, stability and control) on achievement is mediated by affective reactions, since the feelings of self-efficacy, self-worth and self-confidence in a particular subject will have an effect on effort and perseverance when studying.

The results obtained in this study (see par. 4.4), however, only partly corroborated these hypotheses. No interactions were found between attributional style, affect and achievement in English (i.e. the average mark obtained for English). An interaction was found, however, between affect and the mark obtained on a comprehension test that formed part of the questionnaire - thus a more task-specific denominator of achievement in English (see par. 4.7). No interaction was found between attributional style and the comprehension test mark.

The lack of a relationship between *attributional style and the two achievement variables* can firstly be interpreted from the viewpoint propagated by Schuster, Försterling and Weiner (1989:193). Schuster *et al.* (1989:193) contend that locus and the controllability of a cause are related to affect rather than to the expectancy of success. Thus, the influence of attributional style on achievement is mediated by the feelings resulting from how students interpret the causes to which results are attributed. There is this not a direct relationship between attributions, or attributional style, and academic achievement. The effect of attributional style manifests in the emotional responses which, in turn, influence the effort students will expend on the same kind of learning tasks in future.

A second possible explanation for the lack of interaction between attributional style and achievement can be that achievement is not only determined by amount of effort, but also by the learning strategies students use when studying (Weinstein and Mayer, 1986:322). One can, thus, conclude that the type of strategies students use will interact with motivational variables to

influence achievement. This study, however, did not aim at identifying this relationship.

A third possible explanation for the lack of any interaction between attributional style and the achievement of the students used in this study, can be based on the premise that these students are so accustomed to having their learning externally controlled that they attach no value to the locus of control concept.

An adaptive attributional style refers to the perception that the cause of success is internal and controllable and that of failure is variable but controllable (Scott, 1991:106). Students who do not manifest this style, are regarded as maladaptive. Almost 50% of the students tested in this study (see table 4.6) manifested this maladaptive pattern, despite high achievement. A much smaller percentage of students (8%) fell in the extreme category of helplessness.

According to Mickelson (1990:47) the more internal a person's locus of control, the higher his achievement is likely to be. Newman and Stevenson (1990:199) also found in their study that high achievers are relatively more likely to attribute success (and not failure) to stable causes, and are relatively more likely to attribute failure (and not success) to unstable causes. It can thus be concluded that attributions for success to stable causes (such as ability) and for failure to unstable and variable causes (such as effort) are associated with a high expectancy for future successful task performance that results in school achievement. These conclusions are further supported by Gigliotti, Foster and Buchtel (1990:4) who found that success is attributed to internal causes if expectancy is fulfilled, but is attributed to external causes if it is not fulfilled.

In contrast to the above findings, most of the subjects in this study attributed their success primarily to environmental variables (which are generally perceived as uncontrollable and external) and then to effort (generally perceived as internal and controllable). As stated, this tendency may be caused by the fact that most of the teachers of the sample might be using the competitive learning approach that emphasizes outperforming others. In such a case it is obvious that students would rely on their teachers (external help) for success.

Louw and Louw-Potgieter (1986:279) conducted a cross-cultural study on the differences occurring between the three dimensions (stability, control and locus) among students of different ethnic groups. It was found that Black students ascribed success, more than failure, to the prejudice of the lecturer and help from others. In contrast, White students perceived themselves to be in control of their environment as well as their achievement. Black students were thus more likely to attribute their scores (performance outcomes) to external factors than White or Indian students.

It thus seems as though Black students, whether at secondary or tertiary level, are in need of a retraining programme to change their attributional styles. Such a programme could result in changing students' goal-orientations, so that high ability, trying hard (effort) and use of appropriate strategies would rate as more internal, stable and personally controllable, than would good luck, help from others, or task ease (Graham and Golan, 1991:6; Graham, 1988:13).

With reference to the *interaction between attributions and affect*, the results of this study indicated that, although students' attributional styles were mostly maladaptive (see table 4.6) for success (external locus), meaning that success was due to external factors, yet many experienced positive but unrealistic affect for success (i.e. felt proud at attaining success even if the task was easy) and a high self-efficacy level. Students could thus either not differentiate between easy and difficult tasks, or were unable to discriminate between being *proud* and being *happy*.

A possible explanation for the discrepancy between attributional choice and affect could be that schools over-emphasize the competitive learning approach that leads to a performance-orientation and thus to attributions related to external control and social recognition. This also relates to the relationship between affect and academic achievement and could explain why no relationship was found between affect and achievement in English.

4.5.5 *General conclusion concerning the attributional style and level of self-efficacy in comparison to achievement and matric results*

From the results of this study it can be concluded that the discrepancy between the scores obtained for English in Standard 8, and the poor matriculation results of Black students over the past few years, might be attributed to,

among others, maladaptive motivational patterns. Students become accustomed to achieving well in the lower standards of the secondary school, and consequently develop high self-efficacy beliefs. They also develop externally-oriented attributional styles, however, counting overmuch on the support of the teacher for success, and thus fail to learn to control their own efforts and learning strategies. This has a detrimental effect on achievement in situations, such as the matric examination, where they have to support their learning by means of personal effort.

CHAPTER FIVE

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

The main aim of this study was to empirically determine the relationship between attributions and affect, and their interactive influence on achievement in English. To attain this aim, a literature review was first undertaken by means of which the nature of the above mentioned constructs and the relationship to one another, were determined. Attention was also given to the influence the two constructs have on achievement in a wide range of subjects.

The study is reported in the form of a mini-dissertation consisting of five chapters, of which the first deals with the introduction to the problem, the second with the literature review, the third with the exposition of the research method and the fourth with the results and discussion of the results.

In this last chapter a summary of the literature study and conclusions drawn from this review are first given (viz. par. 5.2), followed by a summary of the empirical research and results (viz. par. 5.3). The limitations of the study are stated in paragraph 5.4, and recommendations for further research are made in paragraph 5.5.

5.2 SUMMARY OF AND CONCLUSIONS DRAWN FROM THE LITERATURE STUDY

The components of motivation are cognition, affect (emotion) and conation, and the value x expectancy framework was used to place the components in context. Since age, sex and SES were found to influence the above components, attention was also given to these variables.

A general description of motivations was given (par. 2.2.1) after which motivation was described in the context of learning (achievement motivation).

After an exposition of these concepts it was found that achievement motivation constitutes three elements, viz.:

- * a standard of excellence;
- * personal responsibility, and
- * challenge, which, in turn, influences students' goal-orientations.

These three elements fit into the learning goal (mastery) paradigm which in turn, incorporates self-regulated learning strategies.

Two components of motivation (viz. cognition and emotion) were discussed in paragraphs 2.3.1 and 2.3.2, and their interactive influence on self-efficacy, attributions and goal-orientations was indicated. It was found that the relationship between cognition and emotion in achievement motivation centres around:

- * students' perceived competence, and
- * perceived control (an aspect of attributions).

A reciprocal relationship was found to exist between self-efficacy (as an affective variable) and cognitive engagements on one hand, and internal control beliefs and cognitive and self-regulatory skills on the other. Further it was found that students react differentially to learning- and performance goal-orientations, and that the two learning orientations have motivational significance.

5.2.2 The conative component of motivation and its relationship to goal-orientation, self-efficacy and attributions

Conation or will-direction was found to be characterized by:

- * a "protective" act which
- * energizes the maintenance and enactment of intended actions, which in turn resulted in
- * mastery learning as its goal rather than performance.

The influence of conation, therefore, is manifested when students with a positive affect, an adaptive attributional style, positive and realistic self-efficacy coupled with a mastery (learning) goal-orientation, direct their will to mobilize and maintain self-regulating strategies.

The educational implications of the role played by conation on achievement motivation are the following:

- * students with learning orientations are more willing to invest cognitively and behaviourally in a task than students with a performance orientation,
- * the latter group is characterized by low self-efficacy, negative success expectancy, negative affect and low task utility value.

5.2.3 The value - expectancy framework

This framework relates students' motivation to act to the attractiveness or aversiveness of the task and the expected outcomes and to the subjective value they attach to the task and outcomes of performances.

It was found that task values and expectancies influence students' self-efficacy, control, and attributional beliefs.

5.2.4 The attributional process

It was found that: (i) causal ascriptions and attributional dimensions interactionally influence affect in motivated behaviour, (ii) student motivation is primarily centred on their perceptions of ability and effort as attributions, and (iii) that students' expectancies for future success and control beliefs are influenced by their perceptions of the locus and controllability of tasks and academic outcomes.

The following conclusions can be drawn from the literature review:

- * attributions and affect interact, and affect can be categorized into three groups, viz. outcome-dependent-, attribution-dependent, and attribution-linked affects;

- * students' control beliefs influence their level of self-efficacy and achievement values;
- * students who believe that ability (like intelligence) is a fixed trait, opt for performance values, in order to gain favourable judgements (they are extrinsically motivated), whereas intrinsically motivated students emphasize personal competence; and
- * the affective reactions can either enhance or inhibit the motivation to become involved in further learning attempts.

5.2.5 Students' age and attributions in motivation

It was postulated that the meaning and importance of academic achievement varies with age. The contention was that children's causal schemata undergo a change during elementary schooling years up to secondary schooling. The educational implications of students' age and attributions in motivation can be deduced from the following conclusions:

- * older children would react emotionally different than would younger children in a similar outcome situation;
- * younger children's conception of ability is self-referenced rather than social-norm referenced; and
- * children beyond primary schooling adopt egotism attributions, i.e. attribute success to internal factors, and failure to external factors.

5.2.6 Students' gender and attributions in motivation

Sex differences in attributions have been found to pertain to:

- * attributions related to expectancies; and
- * attributions related to success or failure (par. 2.6.2).

The educational implications of students' gender and attributions in motivation can be deduced from the following conclusions:

- * Girls attribute success less to ability than boys do;

- * girls attribute success to task ease or luck;
- * girls attribute failure to lack of ability and not to lack of effort;
- * girls show less perseverance when faced with obstacles compared to boys; and
- * girls tend to have lower self-esteem than boys, and are prone to become helpless when exposed to continued failure.

5.2.7 Students' SES and attributions in motivation

Achievement motivation was found to be the strongest in middle- to high SES children. This has the following educational implications:

Children from middle to high SES:

- * develop self-reliance and mastery at an early age;
- * learn to be independent at an earlier age than those from low SES homes;
- * are more self-confident than those from low SES homes, and possess a higher sense of self-esteem; and
- * have a more mastery-oriented than self-oriented learning goal.

5.2.8 The influence of student- and task characteristics on student achievement

It was found that individual characteristics interact with the classroom-, and general social environment. The interaction as such has the following educational implications:

- * individual characteristics determine students' reaction to situations;
- * certain individual characteristics and educational programmes interact to produce student achievement;
- * tasks characteristics have a potent influence on students' learning; and

- * different features of the task will engender the use of different cognitive and metacognitive strategies by the student.

5.3 SUMMARY AND CONCLUSIONS OF THE EMPIRICAL RESEARCH

5.3.1 Summary of the method of research

Two hundred (N = 200) students from five (5) secondary schools formed the sample used in the empirical research (par. 3.4). A questionnaire was constructed to measure students' attributional choice, attributional style, self-efficacy and affect. The aim of which was to determine the relationship between attribution and affect, and their interactional influence on achievement in English of Standard 8 students. Students' socio-economic status, age and gender were used as control variables. The end-of-the-year mark was used as the dependent variable.

Correlational, frequency and analyses of variance were used to analyse the data.

5.3.2 Summary and conclusions of results

The results and conclusions are given in accordance with the three secondary hypotheses and the one primary hypothesis.

5.3.2.1 The socio-economic status of the school influences achievement in English of Standard 8 students

Correlational scores between the SES of schools and the English marks of students indicated no significant differences in achievement of the students from the five schools. SES could, therefore, not serve as a distinguishing factor with regard to the distribution of marks in English.

The implications of these results, contrary to other research findings (par. 4.5.3) is that SES appeared not to have an influence achievement. Further research still needs to be conducted in this regard using more refined instruments that will:

- * measure students' SES on an individual basis; and
- * measure these students' cumulative achievement over long periods to ascertain consistency in achievement, especially at matric level.

5.3.2.2 Age influences achievement in English of Standard 8 students

There were no differences between the age groups in relation to marks in English i.e. no differences in the mean percentages nor any differences with regard to students' minimum and maximum values.

Research studies indicated differences in age x achievement in children from different grades (standards), whereas this study was concentrating on age x achievement in the same grade (standard). Differences in achievement could, therefore, not be assessed since all students obtained a pass mark in both the English examination and the comprehension test included in the questionnaire, which was assumed to be relatively easy.

5.3.2.3 Sex (gender) influences achievement in English of Standard 8 students

There were no differences in the mean percentages with regard to achievement in English between the sexes, nor any differences with regard to their minimum and maximum values.

According to research findings (par. 2.6.2; 4.5.2) girls would be expected to perform better than boys in languages and arts.

5.3.2.4 The relationship between attributions, affect and their influence on achievement in English

This study found no interactions between attributional style, affect and the English marks either for success or failure. A significant relationship existed between affect and the comprehension test mark included in the self-efficacy test.

All students, except one, obtained a pass mark for both English as subject and the comprehension test.

This had the following impact on the results:

- * most students experienced positive affect;
- * all students showed a high level of self-efficacy; and
- * no clear distinctions could, therefore, be made about the achievement scores of students who had adaptive vs maladaptive attributional styles, and realistic vs unrealistic affects.

No educationally significant effects were found.

5.3.3 *General overview of the research results*

From the various studies conducted on the relationship between SES x achievement, sex x achievement, and age x achievement, it is noted that the combination of these variables by the various authors did not always support the hypotheses. There are distinct instances, however, where the influence of these variables visibly impacted on students' achievement. For instance, results have shown that students from low SES homes, who are exposed to negative environmental factors, are inevitably predisposed to poor academic achievement. Further, because of differing socialization different attributional styles are found to exist between the sexes, albeit minimal.

The influence of the three variables (viz. SES, age and sex) was found to overlap in certain instances. For instance, the influence of students' SES and gender interactionally and differentially impinge on academic achievement. A boy from a low SES family is most likely to engage in bad conduct, perform poorly at school and, therefore, attain low scores in academic tasks.

5.4 *LIMITATIONS OF THE EMPIRICAL RESEARCH*

The limitations of the empirical research relate to the following:

- * the measuring instrument; and
- * classification of the SES.

A measuring instrument (questionnaire) had to be constructed because of the novelty of research of this nature within Black schools. The measuring instrument had the following limitations:

- * Section/part one dealing with attributional style appeared to be either too difficult to be interpreted sensibly or expected of students to evaluate concepts, that is, locus, stability and control, that they were not familiar with.
- * Section/part two dealing with self-efficacy and affect, did not yield reliable results, as could be deduced from the high mean. This was probably due to the fact that the comprehension passages were too easy.

5.5 RECOMMENDATIONS FOR FURTHER RESEARCH

The research was aimed at exploring the influence attributions and affect have on achievement motivation, and to identify the relationship with achievement. It is recommended that further research be conducted in:

- * constructing a measuring instrument to measure all aspects of motivation in the context of Southern Africa.
- * teaching approaches in order to identify the practices that lead to poor, maladaptive motivational patterns.
- * developing programmes to teach students to evaluate their skills and ability in the context of the standard of work.

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ADDENDUM A

MOTIVATIONAL QUESTIONNAIRE

1992

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The following questionnaire is aimed at determining how you feel about learning English as a school subject. The questions have no right or wrong answers, but only answers with which you can agree or disagree. Please use the *ANSWER SHEET* to answer each question as truthfully as possible and do *NOT* make any marks on the questionnaire itself. Use a *PEN* when answering the questions.

PART ONE: ATTRIBUTIONAL STYLE

INSTRUCTIONS

You are going to read about an event that could have happened to you. In addition, four possible causes for the event are given. See the example, Event X.

EVENT X: A part of your English homework was wrong.

Causes: Your homework was wrong because

1. you just couldn't remember how to do the homework.
2. you were careless when doing the homework.
3. the part that was wrong included sentences that were more difficult.
4. you were simply unlucky.

- (a) Event X says: "A part of your English homework was wrong." Numbers 1, 2, 3 and 4 are possible causes or reasons why your homework was partly wrong. Look at number 1. Think whether part of your homework was wrong because you just couldn't seem to remember how to do the work. Use the answer sheet to respond to cause number 1, by crossing 1 for YES or 2 for NO. Do the same for causes 2, 3 and 4.
- (b) Now look at *ALL* four causes given for event X. Decide which *ONE* of the four causes is the *MOST POSSIBLE* cause, in other words the cause that explains best why part of your English homework was wrong. Mark the cause by crossing the number of your choice next to (b) on the answer sheet.
- (c) Now think about the cause you have chosen as the most possible one to explain event X and answer the following questions by crossing the number of your choice on the answer sheet for each of the following three questions:
 - (i) Is the cause *INTERNAL* (1) (i.e. inside yourself, generated by yourself or part of yourself) or *EXTERNAL* (2) (i.e. outside yourself, not generated by you or not part of yourself)?
 - (ii) Is the cause *STABLE* (1) (i.e. it never changes, but always stays the same and is invariable) or *UNSTABLE* (2) (i.e. it can vary or change and is not always the same)?
 - (iii) Is the cause *CONTROLLABLE* by you (1) (i.e. you can control, influence or change the cause if you want to) or *UNCONTROLLABLE* (2) (i.e. you can't do anything about it, can't change or influence it)?

Do the same for events A-H.

EVENT A: You got the semester mark you wanted for English, because:

- (a)
 1. The lessons and tests were easy.
 2. You spent a lot of time learning and working on English each day.
 3. The teacher explained the work very well.
 4. You have a talent for learning English.
- (b) With which *ONE* of the four causes do you *AGREE MOST*?
- (c) Is this cause *internal* or *external*, *stable* or *unstable*, and *controllable* or *uncontrollable*?

EVENT B: You had trouble doing some parts of your English homework, because:

- (a)
 1. You didn't have time to get help from others.
 2. You never think logically when doing English.
 3. You didn't even try to get answers from the text book.
 4. The troublesome parts were more difficult than the rest.
- (b) With which *ONE* of the four causes do you *AGREE MOST*?
- (c) Is this cause *internal* or *external*, *stable* or *unstable*, and *controllable* or *uncontrollable*?

EVENT C: You've been unable to keep up with most of the other pupils in the class in English, because:

- (a)
 1. The pupils who were sitting around you didn't pay attention.
 2. You never spend enough time working at English.
 3. English is such a difficult subject!
 4. You've always had a difficult time in English classes.
- (b) With which ONE of the four causes do you AGREE MOST?
- (c) Is this cause *internal* or *external*, *stable* or *unstable*, and *controllable* or *uncontrollable*?

EVENT D: You completed the last few homework assignments quite easily, because:

- (a)
 1. The homework assignments were more interesting than usual.
 2. You put a lot of effort into these assignments.
 3. You are actually a very able English pupil.
 4. You were lucky to work with a very helpful group of other students.
- (b) With which ONE of the four causes do you AGREE MOST?
- (c) Is this cause *internal* or *external*, *stable* or *unstable*, and *controllable* or *uncontrollable*?

EVENT E: You've received a very low mark on the monthly English test, because:

- (a)
 1. You are obviously not the best pupil in English.
 2. You studied, but not hard enough!
 3. Some of the questions were unbelievably difficult!
 4. The teacher spent too little time on the work in class.
- (b) With which ONE of the four causes do you AGREE MOST?
- (c) Is this cause *internal* or *external*, *stable* or *unstable*, and *controllable* or *uncontrollable*?

EVENT F: Unlike some other students, you've passed the last few tests with no trouble because:

- (a)
 1. The teacher made learning English interesting and easy.
 2. Like everyone says, you are really talented in English!
 3. But, you spent hours of extra time studying English.
 4. The units on which most of the tests were based, were easy.
- (b) With which ONE of the four causes do you AGREE MOST?
- (c) Is this cause *internal* or *external*, *stable* or *unstable*, and *controllable* or *uncontrollable*?

EVENT G: You were able to understand a difficult unit/part of English, because:

- (a)
 1. The way the teacher presented the unit/part helped.
 2. Your ability is more obvious when you are challenged.
 3. You put hours of extra study time into it.
 4. The work was easy because it was covered before.
- (b) With which ONE of the four causes do you AGREE MOST?
- (c) Is this cause *internal* or *external*, *stable* or *unstable*, and *controllable* or *uncontrollable*?

EVENT H: There were times when you just couldn't get to work out grammar questions, because:

- (a)
 1. It was a task that didn't interest you.
 2. Despite studying you didn't understand it well enough.
 3. Your friends' lack of attention in class was part of the problem.
 4. But then you didn't spend enough time doing English grammar.
- (b) With which ONE of the four causes do you AGREE MOST?
- (c) Is this cause *internal* or *external*, *stable* or *unstable*, and *controllable* or *uncontrollable*?

PART TWO: SELF-EFFICACY AND AFFECT

INSTRUCTIONS

You are now going to read 10 short passages. Each of these passages is followed by two to three questions with multiple choice answers. Take a look at the first example passage (E1) and read it attentively without looking at the questions.

EXAMPLE PASSAGE (E1)

Sangura the Rabbit went one day to call on his friend the Cock and found him asleep with his head under his wing. The Rabbit had never seen the cock in this position before, but the hens informed him (as previously instructed) that their husband was in the habit of taking off his head and giving it to his sons the herd-boys to carry with them to the pasture.

"Never!" said the Rabbit. "But when the herd-boys come back, will he get up again?"

And the hens said, "Just wait and see!"

At last when the herd-boys arrived their mother said, "Just rouse your father there where he is sleeping".

The Cock's head at once reappeared. He welcome his guest, and they sat talking till dinner was ready, and went on conversing during the meal. The Rabbit was anxious to know how it was done, and the Cock told him it was quite easy. "If you think you would like to do it", he said, "why don't you try?".

Do not turn the page. Wait for further instructions.

1. Now turn the page and answer the following question (E1.1) by crossing on the answer sheet the number of the answer you choose. **DO NOT** look at the passage when answering the questions. Make sure of your answer before answering the question. Use a pen to cross the answer. **DO NOT CROSS MORE THAN ONE ANSWER PER QUESTION.**

E1. What is the most important idea in this passage?

The most important idea is:

1. The stupidity of the Rabbit.
 2. The danger of having bad friends.
 3. The death of the stupid Rabbit.
 4. The cleverness of the Cock that killed the Rabbit.
2. Now, after answering the question indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain), on the answer sheet.
 3. Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong. Use the following:

I feel:

1. happy, because I was able to answer the EASY questions.
2. proud, because, although the questions were rather difficult, I could answer them.
3. ashamed, because I didn't have the ability to answer the questions correctly.
4. guilty, because I didn't try hard enough.
5. angry, because the questions were so difficult.
6. hopeless, because I'll never understand English.

WAIT FOR FURTHER INSTRUCTIONS

Now complete example (E2) in the same way.

EXAMPLE PASSAGE (E2)

"Yes, Wise one. My story is short, but painful. It will not take long to tell. It is a story of love."

"Love and pain. Those two are inseparable twins, my son. A story of love is always a story of pain, of tears. But we of our profession make it our business to decrease the pain and tears, and increase the love and happiness. Speak on, Ntabeni Mlilo. I am all ears."

"She's eighteen years of age. She accepted me in spite of the difference in our age. Uphoselwe, she is bewitched. That's the trouble."

"My job is to give satisfaction to the people who appeal to me" said the Wise one. "If you are willing to take the risk, I can prepare a strong potion for you, the strongest I have, which I call Velabahleka, Appear-and-they-laugh, stronger than the more popular Vamna, Feel-me."

E2.1 What is the first paragraph about?

1. The passage is about "love and pain".
2. Vamna, Feel-me is all that is in the first passage.
3. Uphoselwe is bewitched.

E2.2 What strong potion would the Wise one like to prepare for Ntabeni Mlilo?

1. Velabahleka, Appear-and-they-laugh.
2. The popular Vamna, Feel-me, the strongest of them all.
3. Both Velabahleka and Vamna.
4. Not one strong-potion.

1.

One afternoon, Lily Rose came home early from School. The front door was shut and locked, so evidently her mother and the two youngest children were out. She found the key in its usual place under a broken brick on the second step, and went in.

It was ironing day, and piles of ironed and unironed garments lay about. The brilliant thought occurred to her that it would be a good idea if she finished off the ironing by the time her mother returned. Without further hesitation she seized one of the irons heating on the stove and put it down on the ironing-table. Immediately a rich smell of burning blanket filled the room. Lily Rose hastily, put the iron on its stand and waited patiently for it to cool, testing the heat at intervals by the professional method of spitting on her finger and dabbing it quickly on the iron.

After some minutes of this she decided the iron was ready, and set to work on a baby's overall.

Do not turn the page. Wait for further instructions.

Answer question 1.1 by crossing the number of your choice on the answer sheet.

1.1 Where was Lily Rose coming from in the afternoon?

1. From the river to fetch water.
2. From school that afternoon.
3. From the forest to collect wood.
4. No, she was at home the whole day.

1.1.1 Now indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain).

1.1.2 Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong.

Answer question 1.2 by crossing the number of your choice on the answer sheet.

1.2 What did she do at home that afternoon?

1. She was busy with her school-work.
2. Lily Rose was finishing off the ironing.
3. She was sleeping from morning to sunset.
4. Lily Rose visited the friends next door.

1.2.1 Now indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain).

1.2.2 Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong.

2.

This was a new terror. The lions became expert at scraping them out like winkles from the shell. Many men returned to the trees and the cages. Some, of whom Natha Singh was the first, took loaded rifles into the tanks.

This was a mistake. One night Singh, alarmed by an unusually persistent lion and the claw which hooked and swung in the blackness of the tank, pushed the rifle through the opening and pulled the trigger. Only those who have fired a rifle inside a metal tank can appreciate the appalling nature of the explosion. The lion fled. Singh was later sent home, and taking his shattered eardrums to Korachi, spent the remainder of his days in blessed silence.

On that same night, a certain Amam Din lowered himself into his chosen tank and found that he had shut himself up with a spitting-cobra. In the morning no amount of effort could extract the corpse, and Patterson was presented with a difficult burial problem.

Do not turn the page. Wait for further instructions.

Answer question 2.1 by crossing the number of your choice on the answer sheet.

2.1 Who was the first to take loaded rifles into the tanks?

1. Korachi.
2. Natha Singh.
3. Amam Din.
4. All of them.

2.1.1 Now indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain).

2.1.2 Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong.

Answer question 2.2 by crossing the number of your choice on the answer sheet.

2.2 What happened to Amam Din that same night?

1. Amam Din ran away and was never seen again.
2. He shut himself up with a spitting-cobra.
3. Amam Din spent the remainder of his days in silence.
4. Nothing happened to Amam Din.

2.2.1 Now indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain).

2.2.2 Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong.

3.

White, is regarded as the colour of love, purity, or vision. In the case of red, the exact shade woven into a necklace is all important. Opaque red beads represent blood and tears, but transparent bright-red beads stand for love - "the great love that burns like a fire". Another shade of red signifies anger.

Green, the colour of gall, represents either love-sickness or jealousy. Beads of different blues all have different meanings. One shade means the sky, another the sea; dark blue represents faithfulness, a lighter blue talkativeness - "Do not go around gossiping about me".

Yellow generally means wealth, and sometimes a succession of yellow beads tells the number of cattle necessary for the lobola. Black stands for unhappiness, disappointment or misfortune, but it can also mean reassurance - "Nevermind the dark clouds: I will be on your side, and together we will pull through."

Do not turn the page. Wait for further instructions.

Answer question 3.1 by crossing the number of your choice on the answer sheet.

3.1 What is this story mainly about?

This story is about:

1. The meanings of colours.
2. Colours for love and unhappiness.
3. All the different meanings.
4. Cattle necessary for the lobola.

3.1.1 Now indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain).

3.1.2 Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong.

Answer question 3.2 by crossing the number of your choice on the answer sheet.

3.2 What is the best title for this passage?

1. The meanings of colours.
2. Gossiping about someone you love most.
3. Number of cattle for lobola.
4. "The great love that burns like a fire."

3.2.1 Now indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain).

3.2.2 Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong.

4.

A woman was brought into the clerk's office. She had been fined five pounds for fighting with another woman. She had come to court well prepared and as soon as she got into the room, she untied the edges of her cloth and brought out five red pound notes out of many. If only I had her dough!

I watched the clerk through half-closed eyes as he counted the woman's money and pulled out his drawer to give her a receipt. He searched through the drawer several times but without success.

Then remembrance came into his eyes and he hit his palm hard on the table and said: "Oh, yes" and got up and made for the door that led to the courtroom. The effort of remembering where the receipt-book was had been so much for him that he had apparently forgotten all about me.

I seized the chance and within a tenth of a second, I had bounded up from my chair and crossed over to stand behind the door.

Do not turn the page. Wait for further instructions.

Answer question 4.1 by crossing the number of your choice on the answer sheet.

4.1 Why had the woman been fined?

1. She untied the edges of her cloth.
2. For fighting with another woman.
3. She brought out five red pounds.
4. She got into the clerk's office, and was fined.

4.1.1 Now indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain).

4.1.2 Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong.

Answer question 4.2 by crossing the number of your choice on the answer sheet.

4.2 Did she have money?

1. No, the woman had no money at all.
2. The woman had five red pound notes.
3. She had only her cloth, and nothing else.
4. The woman brought out five red pound notes out of many.

4.2.1 Now indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain).

4.2.2 Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong.

5.

At a glance, Soweto looks dull and lifeless. Almost all the houses are built to the same pattern - thousand upon thousand of small match-box cottages separated from each other by wire fencing. Yet there are few places I know which are as lively as this enormous township.

There are people, no doubt, who grumble that Soweto is too far from town and the factories where everybody works; that many of the houses are still without electricity although Africa's biggest power-station lies next door. Yet, in spite of this, Soweto lives. It lives insecurely, sometimes dangerously, but with a determined will to survive.

Not many people earn much money here. There are people, thousands of them, who don't eat three meals a day. There are homes where husbands give instructions that visitors are not to be served with tea, however long they may stay. That is the more depressing face of this place. But then Soweto has many faces.

Do not turn the page. Wait for further instructions.

Answer question 5.1 by crossing the number of your choice on the answer sheet.

5.1 What does Soweto look like?

1. Almost all the houses are built to the same pattern.
2. There are no schools, because there is no electricity.
3. Blacks and whites are fighting for electricity.
4. There is only a small power-station that lies next door.

5.1.1 Now indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain).

5.1.2 Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong.

Answer question 5.2 by crossing the number of your choice on the answer sheet.

5.2 What is the writer's problem in this passage?

1. That Soweto is too far from town.
2. His house is well electrified, but he is not working.
3. He wants to serve his visitors with tea daily.
4. He does not know how long they may stay in the house.

5.2.1 Now indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain).

5.2.2 Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong.

6.

At midnight Chaka went alone to the grave of his father Senzangakona, and when he came there Isanusi the Diviner appeared through the darkness with his companions, Ndlebe and Malunga. And there at the grave at midnight Isanusi doctored Chaka with many medicines, smearing most of them on his body, and when he had finished he placed charms on the grave and made a small hole in it over which he sat. And then he spat and began to speak in a tongue not known to Chaka. He seemed to be in pain and very sorrowful, and the sound of his voice inspired pity. He was not speaking to Chaka, but to the spirits in the grave.

While he spoke thus, the earth on top of the grave moved and was shaken. Ndlebe stood up at once and ran round and round the grave. Malunga struck the ground repeatedly with Chaka's spear, then raised it up, aimed it towards the east, and struck the ground with it again.

Do not turn the page. Wait for further instructions.

Answer question 6.1 by crossing the number of your choice on the answer sheet.

6.1 To whom was Isanusi the Diviner Speaking?

Isanusi was speaking to

1. Everybody at the grave.
2. His companions, Ndlebe and Malunga.
3. The spirits in the grave.
4. Chaka's father, Senzangakona.

6.1.1 Now indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain).

6.1.2 Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong.

Answer question 6.2 by crossing the number of your choice on the answer sheet.

6.2 What was Isanusi doing at the grave?

1. He was doctoring Senzangakona, the old man.
2. He was smearing Chaka's body with his medicines.
3. Isanusi was having a traditional party with friends.
4. He was moving up and down as if he was mad.

6.2.1 Now indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain).

6.2.2 Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong.

Answer question 6.3 by crossing the number of your choice on the answer sheet.

6.3 What happened when the earth on top of the grave moved?

1. Malunga ran home to seek for help.
2. Ndlebe stood up at once and ran round and round the grave.
3. Chaka was happy and danced around the grave.

6.3.1 Now indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain).

6.3.2 Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong.

7.

The locust swarms hummed closer and closer leaving an area of destruction behind them. They devoured every blade of green grass and every leaf on the tall trees. Millions settled and laid eggs, soon to hatch young to join in the destruction. They dropped in their millions as they came against the unbroken wall of smoke. They dropped until the ground was a struggling mass of crawling insects. Men and women - those who were not engaged in tending the fires - waded knee-deep into the vast mass, armed with skin bags, cooking-pots, and all sorts of other vessels, scooping up great bowlfuls of locusts and emptying them into large grain-baskets. Ox-sleds carried these baskets to the kraals, where the old women were busy cooking the vast piles of locusts.

For five days the desperate battle raged. Finally the locusts broke through the wall of smoke. It was impossible to maintain the defence against them any longer. Entire fields, whole mopani forests were set on fire, destroying millions and millions of the invaders. But millions more came, bred, and passed on.

Do not turn the page. Wait for further instructions.

Answer question 7.1 by crossing the number of your choice on the answer sheet.

7.1 What happened in this passage?

1. Locusts devoured every blade of green grass.
2. People were becoming mad all over the country.
3. Men and women started dancing when the sun rose.
4. People had no place to cook the locusts.

7.1.1 Now indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain).

7.1.2 Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong.

Answer question 7.2 by crossing the number of your choice on the answer sheet.

7.2 What were the people doing about these locusts?

1. People were scooping up great bowlfuls of locusts.
2. Women were fighting for the locusts.
3. The locusts were too big to carry home.
4. They cooked the locusts in the forest.

7.2.1 Now indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain).

7.2.2 Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong.

Answer question 7.3 by crossing the number of your choice on the answer sheet.

7.3 For how many days were people scooping up the locusts?

1. For only one day.
2. The desperate battle raged for five days.
3. For two days only, and then everything returned to normal.
4. This battle lasted for almost a year.

7.3.1 Now indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain).

7.3.2 Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong.

8.

"I am sure I have not offended him in any way. If I had offended him, I would render an apology easily. I have not even quarrelled with him for not eating my food. For a long time now we have not lived as husband and wife. If he wants to marry a second wife I shall be perfectly happy. In fact, I have been thinking of it for some time for I have not had a second baby, and now I wonder whether a second one will ever come."

"Have patience, my daughter. Don't be in a hurry. Everything will be all right. Don't mind my daughter. It is only youth that is worrying him and nothing else. He will soon realize what a fool he has been, and will come crawling back to you. Look after your daughter and your trade. Your husband will come back to you after all his wanderings. Men are always like that."

When Efurú went away her mother-in-law was very sorrowful. "The son of a gorilla must dance like the father gorilla. Our elders were quite right when they said this. Adizua is every inch like his father. God, please don't let him be like his father."

Do not turn the page. Wait for further instructions.

Answer question 8.1 by crossing the number of your choice on the answer sheet.

8.1 Who is speaking in this passage?

1. Efurú's husband.
2. Efurú's grandmother.
3. Efurú's younger sister.
4. Efurú and her mother-in-law

8.1.1 Now indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain).

8.1.2 Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong.

Answer question 8.2 by crossing the number of your choice on the answer sheet.

8.2 What is this paragraph about?

1. Efurú wants to divorce her husband.
2. They are not living as husband and wife.
3. The husband is beating her every day.
4. Efurú does not give birth.

8.2.1 Now indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain).

8.2.2 Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong.

Answer question 8.3 by crossing the number of your choice on the answer sheet.

8.3 What did Efurú's mother-in-law tell her?

1. To pack all her belongings and go back home.
2. That her husband will soon realize what a fool he has been and will come back to her.
3. To render apology to her husband.
4. That she must stop quarrelling with her husband.

8.3.1 Now indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain).

8.3.2 Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong.

9.

" I have promised marriage to a sweet young girl of the Bhele clan down at our village, a girl as bright and beautiful as the clear waters of Xesi river, and as warm as sunshine in Spring. She accepted me, and her family gave consent to my family, all according to custom, as you know. Suddenly I learnt that a Thembu boy had corrupted my girl when she visited her malume* at the Thembu village. Then my girl rejected me. Can you believe it, wise one? My sweet Zusiwe rejected me for a wild, uncircumcised boy. The boy used a love-potion, I am sure of that. Please help me, Gabulamehlo! Give me the strongest potion in your stock so that I may win back my girl."

"What makes you certain that the boy has used a love-potion? I must be careful, you see. If I give you a strong potion for a girl who has never taken one before, she will become mad."

"He must have used a love-potion, wise one. What other explanation can there be for her rejection of me?"

* *Uncle on the mother's side.*

Do not turn the page. Wait for further instructions.

Answer question 9.1 by crossing the number of your choice on the answer sheet.

9.1 What is the first paragraph mostly about?

The first paragraph is about:

1. The boy who uses a love-potion.
2. Gabulamehlo the wise man in the village.
3. A sweet young girl who rejected the speaker.
4. The custom marriage of the black people.

9.1.1 Now indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain).

9.1.2 Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong.

Answer question 9.2 by crossing the number of your choice on the answer sheet.

9.2 What does the speaker want Gabulamehlo to do for him?

1. The speaker wants Gabulamehlo to give him a strong-potion.
2. That Gabulamehlo must kill the Thembu boy.
3. Gabulamehlo must bewitch Zusiwe, the sweet girl.
4. The two families must meet and discuss marriage.

9.2.1 Now indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain).

9.2.2 Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong.

Answer question 9.3 by crossing the number of your choice on the answer sheet.

9.3 Why did Zusiwe reject the speaker?

1. The speaker was not fit to marry her.
2. Because Zusiwe was corrupted by a Thembu boy.
3. Zusiwe's family hated the speaker's family.
4. The speaker was very unlucky.

9.3.1 Now indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain).

9.3.2 Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong.

10.

Lusu felt his shaky courage evaporating fast. He had depended on his club because he was quite skilled with it. He wept openly with fear and the villagers howled with laughter. Cries of "shame" and "coward" filled his ears and his nerve collapsed altogether. He turned and tried to run, but one of his own advisers kicked him in the buttocks, slapped him soundly and pushed him back into the clearing. Mutengu tore into him with the violence of a thunderstorm.

Violent clouds of dust were stirred by the feet of the fighting men and for a long time the only sounds were those of blows well and truly landed. Then finally a loud scream was torn from the throat of the coward Lusu and he turned and ran like a madman. He bowled men over in his great hurry to escape the wrath of Mutengu. He leapt a high fence and thudded to the ground beyond like a hippopotamus. He got to his feet again and sped into the forest with Mutengu and all the villagers in hot pursuit. When he noticed his pursuers were gaining on him he urged his short fat legs to increase their effort.

Do not turn the page. Wait for further instructions.

Answer question 10.1 by crossing the number of your choice on the answer sheet.

10.1 What made everybody laugh?

Everybody laughed because

1. Lusu wept openly with fear.
2. Lusu turned and tried to run.
3. His adviser kicked him in the buttocks.
4. Mutengu tore into him.

10.1.1 Now indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain).

10.1.2 Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong.

Answer question 10.2 by crossing the number of your choice on the answer sheet.

10.2 What did Lusu do to save his life?

1. Lusu screamed aloud to save his life.
2. He ran like a madman to save his life.
3. Lusu stood very quietly behind the hippopotamus.
4. He fell down because he did not know what to do.

10.2.1 Now indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain).

10.2.2 Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong.

Answer question 10.3 by crossing the number of your choice on the answer sheet.

10.3 Where was Lusu running to when the villagers were chasing him?

1. He got to his feet again and sped into the forest.
2. Lusu never ran, instead he stood up and fought.
3. He quickly ran into the river where there were crocodiles.
4. He did not know where to run to.

10.3.1 Now indicate whether you are certain that your answer is correct by crossing 1 (certain) or 2 (uncertain).

10.3.2 Compare your answer with the correct one given. Now cross the number that explains best the feeling you experience about getting the answer right or wrong.

ADDENDUM B

MOTIVATIONAL QUESTIONNAIRE ANSWER SHEET. PART 1 : ATTRIBUTIONAL STYLE

Number

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 (2-4)
Sex

M	F	
---	---	--

 (7)

Age

--	--

 Years (5,6)
English Mark

--	--

 % (8,9)

Event X A	YES	NO	(b)	(c)
(a) 1	1	2	1 2 3 4	internal 1 external 2
2	1	2		stable 1 unstable 2
3	1	2		controllable 1 uncontrollable 2
4	1	2		
Event : B	YES	NO		
(a) 1	1	2	(10) (b) 1 2 3 4 (14)	internal 1 external 2 (15)
2	1	2	(11) (c)	stable 1 unstable 2 (16)
3	1	2	(12)	controllable 1 uncontrollable 2 (17)
4	1	2	(13)	
Event : C	YES	NO		
(a) 1	1	2	(18) (b) 1 2 3 4 (22)	internal 1 external 2 (23)
2	1	2	(19) (c)	stable 1 unstable 2 (24)
3	1	2	(20)	controllable 1 uncontrollable 2 (25)
4	1	2	(21)	
Event : D	YES	NO		
(a) 1	1	2	(26) (b) 1 2 3 4 (30)	internal 1 external 2 (31)
2	1	2	(27) (c)	stable 1 unstable 2 (32)
3	1	2	(28)	controllable 1 uncontrollable 2 (33)
4	1	2	(29)	
Event : E	YES	NO		
(a) 1	1	2	(34) (b) 1 2 3 4 (38)	internal 1 external 2 (39)
2	1	2	(35) (c)	stable 1 unstable 2 (40)
3	1	2	(36)	controllable 1 uncontrollable 2 (41)
4	1	2	(37)	
Event : F	YES	NO		
(a) 1	1	2	(42) (b) 1 2 3 4 (46)	internal 1 external 2 (47)
2	1	2	(43) (c)	stable 1 unstable 2 (48)
3	1	2	(44)	controllable 1 uncontrollable 2 (49)
4	1	2	(45)	
Event : G	YES	NO		
(a) 1	1	2	(50) (b) 1 2 3 4 (54)	internal 1 external 2 (55)
2	1	2	(51) (c)	stable 1 unstable 2 (56)
3	1	2	(52)	controllable 1 uncontrollable 2 (57)
4	1	2	(53)	
Event : H	YES	NO		
(a) 1	1	2	(58) (b) 1 2 3 4 (62)	internal 1 external 2 (63)
2	1	2	(59) (c)	stable 1 unstable 2 (64)
3	1	2	(60)	controllable 1 uncontrollable 2 (65)
4	1	2	(61)	
Event : I	YES	NO		
(a) 1	1	2	(66) (b) 1 2 3 4 (70)	internal 1 external 2 (71)
2	1	2	(67) (c)	stable 1 unstable 2 (72)
3	1	2	(68)	controllable 1 uncontrollable 2 (73)
4	1	2	(69)	

ANSWER SHEET TO PART 2 : SELF-EFFICACY AND AFFECT

E 1.1	1	2	3	4	E 1.2	1	2	E 1.3	1	2	3	4	5	6	
E 1.2.1	1	2	3	4	E 1.2.2	1	2	E 1.2.3	1	2	3	4	5	6	
E 2.1	1	2	3	4	E 2.2	1	2	E 2.3	1	2	3	4	5	6	
1.1	1	2	3	4	1.1.1	1	2	1.1.2	1	2	3	4	5	6	(2-4)
2.1	1	2	3	4	2.1.1.	1	2	2.1.2	1	2	3	4	5	6	(5-7)
2.2	1	2	3	4	2.2.1	1	2	2.2.2	1	2	3	4	5	6	(8-10)
3.1	1	2	3	4	3.1.1	1	2	3.1.2	1	2	3	4	5	6	(11-13)
3.2	1	2	3	4	3.2.1	1	2	3.2.2	1	2	3	4	5	6	(14-16)
4.1	1	2	3	4	4.1.1	1	2	4.1.2	1	2	3	4	5	6	(17-19)
4.2	1	2	3	4	4.2.1	1	2	4.2.2	1	2	3	4	5	6	(20-22)
5.1	1	2	3	4	5.1.1	1	2	5.1.2	1	2	3	4	5	6	(23-25)
5.2	1	2	3	4	5.2.1	1	2	5.2.2	1	2	3	4	5	6	(26-28)
6.1	1	2	3	4	6.1.1	1	2	6.1.2	1	2	3	4	5	6	(29-31)
6.2	1	2	3	4	6.2.1.	1	2	6.2.2	1	2	3	4	5	6	(32-34)
6.3	1	2	3		6.3.1	1	2	6.3.2	1	2	3	4	5	6	(35-37)
7.1	1	2	3	4	7.1.1	1	2	7.1.2	1	2	3	4	5	6	(38-40)
7.2	1	2	3	4	7.2.1	1	2	7.2.2	1	2	3	4	5	6	(41-43)
7.3	1	2	3	4	7.3.1	1	2	7.3.2	1	2	3	4	5	6	(44-46)

8.1	1	2	3	4	8.1.1	1	2	8.1.2	1	2	3	4	5	6	(47-49)
8.2	1	2	3	4	8.2.1	1	2	8.2.2	1	2	3	4	5	6	(50-52)
8.3	1	2	3	4	8.3.1	1	2	8.3.2	1	2	3	4	5	6	(53-55)
9.1	1	2	3	4	9.1.1	1	2	9.1.2	1	2	3	4	5	6	(56-58)
9.2	1	2	3	4	9.2.1	1	2	9.2.2	1	2	3	4	5	6	(59-61)
9.3	1	2	3	4	9.3.1	1	2	9.3.2	1	2	3	4	5	6	(62-64)
10.1	1	2	3	4	10.1.1	1	2	10.1.2	1	2	3	4	5	6	(65-67)
10.2	1	2	3	4	10.2.1	1	2	10.2.2	1	2	3	4	5	6	(68-70)
10.3	1	2	3	4	10.3.1	1	2	10.3.2	1	2	3	4	5	6	(71-73)