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SELF-CONCEPT AND SOCIAL ENVIRONMENT AS CORRELATES OF ACADEMIC PERFORMANCE OF SECONADRY SCHOOL CHILDREN IN SIRERRA LEONE

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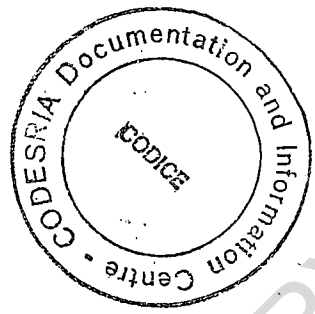

by

Murana M. Koroma

A RESEARCH THESIS SUBMITTED TO THE DEPARTMENT OF TEACHER EDUCATION, NJALA UNIVERSITY COLLEGE (THE UNIVERSITY OF SIERRA LEONE) IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER IN EDUCATION

MAY, 1989

DEDICATION

To the memory of my late parents,
Pa Mohamed Koroma and Mama Hawa Koker.

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Finally, perhaps the greatest tribute should go to my dear wife and children for their patience and forbearance during my absence from home.

M. B. K.

1989

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ABSTRACT

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MASTERS IN EDUCATION

SELF-CONCEPT AND SOCIAL ENVIRONMENT AS CORRELATES OF ACADEMIC PERFORMANCE OF SECONDARY SCHOOL CHILDREN IN SIERRA LEONE

SUPERVISOR: Dr. Charles M. Kaikai

CO-SUPERVISOR: Dr. Allieu I. Kamara

In this study, some of the pertinent research ideas relating to the conceptual frameworks of academic performance were examined and a number of general hypotheses that relate personality variables such as self-concept and certain social environmental factors to academic performance were advanced. An attempt was made to examine Students' academic performance from the perspective of the interaction between aspects of their personality, exemplified by their self-concept and their social environment, represented by the Physical Home Conditions, the Students' Attitudes Toward their school and the Parents' level of education.

Using a sample of 273 Form Three Students, comprised of 127 boys and 146 girls drawn from five secondary schools in the township of Kenema, data were obtained on a four-part questionnaire designed to elicit information on both the personality and the social environment variables.

Analysis of the data involved conceptualizing the dependent variable as a function of the independent variables and subjecting the derived, transformed scores on all the variables to statistical analysis via computer-processing. In addition, the responses to the

questionnaire items were subjectively interpreted with the aid of tables showing the proportions of responses to individual items as far as was possible.

The analyses led to the following findings:

(i) The self-concept of the sample children was found to be independent of their academic performance.

(ii) Only a small proportion of the sample children seemed to have what could be considered to be positive self-concept. The majority of them seemed to have non-classifiable self-concept i.e. neither positive nor negative, and even for those with developed self-concepts there still seemed to be no significant association with academic performance.

(iii) The children's academic performance was found to be independent of home conditions.

(iv) The association between academic performance and attitude toward school was found to be positive and significant i.e. children with positive school attitude performed better than those with negative school attitude.

(v) The children generally had positive attitudes toward school but even then, they generally intimated that they would like to see some positive changes in the school system.

(vi) The majority of the children had parents who were illiterate.

(vii) The academic performance of children was found to be independent of their parents' level of education.

(iii) The hypothesis that a significant difference existed between the self-concept of boys and that of girls was not confirmed. This suggests that no gender difference existed in the self-concept of the children in the sample.

(ix) The hypothesis that gender differences existed in the academic performance of the children in the sample was confirmed with the boys out-performing the girls.

(x) The attitude of the children toward school was found to be independent of their sex.

It was concluded from these findings that

(a) self-concept of children at this level was still developing and might in due course exert a strong influence on manifest behaviour such as academic performance. Such an influence might be found to be even more marked if the multidimensionality of the self-concept is taken into account by measuring academic self-concept rather than global self-concept.

(b) the most important factors in the social environment influencing academic performance were the children's attitudes toward their education and the quality of the physical home conditions.

CHAPTER I

INTRODUCTION

A central theme in the teaching-learning process which educators and educational planners of all countries have had to ponder and grapple with throughout the ages is the relative influence of nature and nurture on the abilities and skills of the learner. The nature - nurture controversy operates in many guises; one area where its basic tenets can be seen to apply most forcefully is in the prediction of academic performance. Although an average child's school performance is probably determined largely by his native intelligence, yet for optimal intellectual functioning, certain environmental and personality variables have to interact with his innate capabilities and skills. Research efforts continue in order to identify which of the numerous factors of the social environment actually have a causal role to play in the academic performance of children. In the present work, some of the nebulous determinants of academic achievement such as self-concept, physical home conditions, attitudes toward education and parents' educational level have been isolated for investigation.

The literature is replete with research studies of academic achievement and factors that are thought to bear upon it. Such works include, that by Khan (1969) dealing with the effects on academic achievement of motivation, study habits, academic interest and attitudes toward teachers. In another study of academic achievement at the high school level, Banreti-Fuchs, (1972) showed a relationship between academic achievement and attitudinal and situational variables such as attitudes towards authority and traditional social values, school behaviour and interests and attitudes toward enjoyment and relaxation.

Furthermore, in many British studies, attitudes toward school is a key factor which is clearly related to academic achievement.

Research effort in the realm of physical home conditions as determinants of academic achievement is also considerable, but the findings are often inconclusive in short-term studies, involving small groups of subjects. However, in longitudinal studies involving multi-stage stratified samples, findings are more conclusive, indicating a linear relationship between school performance and factors of the home environment. Such works include those by Fraser, (1959); Burt, (1937) and Douglas, (1966).

At the other end of the scale, the literature abounds in research studies that have been done using personality characteristics, dealing more directly with the cognitive level, as exemplified by the self-concept. The findings of many such works on the self-concept of children, dating back to Lecky, (1945), Coopersmith, (1959) and Fink, (1962) have shown positive relationship with academic performance. Others like Brooker, Thomas and Paterson, (1964) too, found a statistically significant, positive correlation between self-concept and perceived evaluations of significant persons in the child's life and his general performance in academic subjects.

Now, self-concept is briefly, the evaluation which the individual makes and constantly maintains with regard to himself. For us to fully understand the nature of self-concept theory and its implications for educational attainment, we need to trace its origin in the pre-school child. When a child enters kindergarten, he arrives in an impressionable state which is the result of the interaction of many previous experiences, some positive and others negative. His present concept of self and his relationship to the other children and to the teacher

is profoundly influenced by such factors as his social class origin, family background, religion and language spoken in the home. His self-concept can be thus described as developmental and flexible. It implies that the child knows that he may succeed at many of his endeavours, whilst at the same time, failing at others.

A child's feelings about himself are formed quite early in life and are modified by subsequent experiences. The fact that the significant people who influence the child's life are many and varied leads us to conclude that the basic factor in the development of self-image is flexibility. Thus the most important point for the educational practitioner to keep in mind is that the child's self-concept is not unalterably fixed, but is modified by every life experience both in and out of school, at least through the maturing years. Since teachers are among a number of significant others in a student's life, their role is to do all they can to help a child to develop a positive feeling toward himself.

In any consideration of the educational implications of self-concept, a relavant aspect is the student's concept of his ability to learn certain types of academic behaviours. Many school children have fixed images of themselves as people who are incapable of learning certain school subjects such as mathematics, physics or foreign languages.

These conceptions of an inability to learn appear to be self-fulfilling prophecies. Instead of gaining more practice in an area of weakness, the student avoids further experiences with the subject. The resultant effect is that low-ability level is perpetuated.

Social psychologists postulate that a person's self-concept is learned through interpersonal encounters with significant others such

as parents and teachers. This becomes a very important dimension of the teaching - learning process and affords the teacher an opportunity to have a significant influence on the life of the student. Whether planned or unplanned, the influence of the teacher and schooling in general, has a great deal to do with the developing self-concept of the learner. Such influence may be positive, negative or neutral. Exactly how influential a teacher can be in the life of a child is evidenced by the countless adults who can readily recall that the most significant person in their lives was their teacher. Of course, the converse is also true that there are untold numbers who were psychologically maimed by their teachers while they were in school.

In considering the influence of social environment on educational attainment, it was thought convenient in this study, to sift the vast array of variables embodied in the environment into just three, namely, the children's attitude toward school, the children's physical home conditions, and their parents' level of education. The rationale for this is that previous studies using these variables in developing countries have hardly produced definitive findings. Moreover, these variables are probably of relevance in a society with a low literacy level.

It is generally held in educational circles that an unstimulating environment adversely affects the academic achievement of students, (Anastasi, 1958). The child's performance and attitude towards school may be affected by such conditions as under-nourishment, lack of adequate clothing, effects of disease, lack of sleep, lack of school materials, and parents' indifference or lack of interest in the child's education. All of these factors may create in the child

(i) an inability to concentrate

(ii) loss of interest in school or

(iii) active hostility to school, which culminate in truancy and drop-out.

The overwhelming majority of teachers are convinced of the effects of the environment on the physical intellectual and moral development of pupils, but few would agree on which factors of the environment exert the greatest influence.

Many research studies have investigated the relationship between various factors of the environment and school performance. Works that may be cited in this regard include those by Griffiths, (1959), Ogunlade, (1973) and Heyneman and Jamison, (1980). However, the results of many of these works are inconclusive and at times conflicting.

In Third-World countries like Sierra Leone, there is no rigid stratification of society into classes as most families have an extended-family life style, in which socio-economic levels can be hardly discerned. With this in mind, it was considered that to better understand the complexities of the impact of social environment on educational attainment, the following variables would have to be investigated:

(i) child's attitude toward education,

(ii) physical home conditions and

(iii) parents' level of education.

Purpose of Study

In spite of an impressive accumulation of research work on correlates of academic performance, from the standpoint of a more comprehensive theory of academic achievement, still many questions remain unanswered. We would have to find out for example, to what extent a child's self-perception affects his adjustment to school, or what

specific factors in the multiplicity of factors in the social environment have the greatest influence on academic performance. The present study is an attempt to address these issues.

The broad aim of this study, therefore, is to investigate the nature of the relationship between school performance of certain school children and their self-concepts, and whether or not specific factors of the social environment also exert some influence on academic performance and self-concept.

The specific aims of this study can be stated as follows:

(a) To bring out any possible relationships between academic performance of pupils, their self-concept and their social environment.

(b) To find out whether there exist any sex differences in the levels of self-concepts associated with the academic performance of the subjects.

(c) To draw attention to any interactive influence of all the variables used and hence make suggestions for the improvement of classroom instruction.

(d) To determine the type of inter-relationships that exist among the different variables in this study.

(e) To determine the most important variable(s) - among those used in this study - affecting academic performance.

Statement of the Hypotheses

In order to achieve the specific aims of the study as outlined in the preceding paragraph, the following hypotheses were advanced:

1. That there is a significant relationship between the pupils' self-concept and their academic performance.

2. That there is a significant relationship between the pupils' attitudes toward school and their academic performance.
3. That there is a significant relationship between the parents' level of education and the academic performance of their children.
4. That there is a significant difference between the performance of children based on their physical home conditions.
5. That there is a significant difference between the self-concepts of boys and girls.
6. That there is a significant difference between the academic performance of boys and girls.
7. That there is a significant difference between the attitudes toward school of the boys and girls in the sample.

Justification of the Study

As pointed out earlier in the introduction, some of the less explored areas of attitudinal and situational variables affecting academic performance include, to what extent the child's self-perception contributes to his education as well as the influence of factors such as parents' level of education and physical home conditions. Assuming that these variables are significant, it is considered worthwhile to investigate whether or not there exist relationships between them per se or in combination with school achievement. If these variables can be shown to be positively correlated, then cause - effect relationships may be discerned which could serve as the basis for further research. Moreover, such a study might illuminate hitherto unknown dimensions of intelligence and its mediating factors in the African school child, and offer explanations for school problems such as under achievement and failure, truancy and drop-out. Additionally, findings

from such a study might lead to a better understanding of school achievement and motivation, and might suggest improved methods of classroom interaction and instruction.

Finally, it is hoped that this study will sensitize researchers to further investigation into factors mediating in scholastic achievement, with a view to helping growing children toward more meaningful and stimulating experiences within the educational system.

Organization of the Report

This research report has been organized into five major Chapters. Chapter II, which follows this Introduction presents a review of research literature relevant to the area under investigation. Chapter III is devoted to an account of how the research problem was conceptualized together with the main variables of the study. Chapter IV details the sample and sampling procedures utilized as well as the statistical tools used for data analysis. In Chapter V, analyses of data, results and discussion of the results in light of previous research are presented. Finally, in Chapter VI, summary and conclusions from the findings are presented, followed by a closing paragraph of suggestions for the course of future research.

CHAPTER II

REVIEW OF RELATED LITERATURE

Prediction of Academic Performance

Over the last few decades, many educational researchers have become interested in the prediction of academic performance. This has resulted in a proliferation on both sides of the Atlantic, of a large body of literature on the determinants of academic performance. Several reasons can be advanced for this renewed interest in academic performance.

First, improved health facilities have significantly lowered infant mortality rates in backward communities bringing about a phenomenal increase in the student population. Population increase has outstripped available educational facilities, to the extent that competition for school admission has been heightened by the sheer number of children of school-going age. Moreover, at the secondary and tertiary levels, the selection of students for admission is made even more difficult by the growing number of highly qualified candidates who have more than the basic entry requirements.

Second, in the technologically advanced countries of the world, the development of programmes of study designed to identify and provide training for students with outstanding talents has generated fresh interest in academic prediction. For example, in launching programmes in space and Atomic Energy research or in Computer Science, there is a national need to find out, through academic predictions, persons capable of absorbing and using high-level scientific and technical training.

Another reason for the upsurge of interest in the prediction of academic performance is the sociological implications of academic achievement. Social scientists are becoming increasingly aware of the role of the classroom as a testing ground for basic sociological theory and some practical problems of education such as drug abuse, alcoholism, hooliganism in the field of sports and causes of truancy and school dropout are now being investigated and solved using a sociological approach. For these and other reasons such as increasing financial support by government and private agencies for educational research, interest in this type of research is likely to continue to grow.

Early research in the realm of academic performance focused attention primarily on intellective and ability factors. Later, there were significant shifts in emphasis and in the conceptualization of the problem due to the gradual realization that students' performance was not always consistent with that predicted by ability tests. In order to identify the causes of these variations, researchers first considered personality characteristics as determinants of academic performance. More recently, the search for causes has revealed that the interaction between aspects of the student's personality and his social environment is important and worthy of close scrutiny.

The literature review which follows, discusses various works which provide a background against which the variables in this study will be conceptualized. In keeping with the multivariate nature of the problem under investigation, the review is organized into sections according to the variables that are being elucidated. Consequently, the first section deals with literature indigenous to self-concept in relation to academic achievement. The next section highlights research effort in the realm of academic achievement in relation to physical

home conditions. The third treats studies on the influence of parents' educational level on the academic performance of their children. Finally, relevant literature on the relationship between performance and children's school attitudes is cited. Such an organization, it is hoped, will serve to enhance not only clarity and coherence, but also inter-relatedness in the review.

Self-concept and Academic Performance

The concept of self-esteem has profound practical significance for teachers and social psychologists, and indeed, for all those involved in the socialization of the growing child, Coopersmith, (1967) defines self-concept as:

> 'the evaluation which the individual makes and customarily maintains with regard to himself - it expresses an attitude of approval or disapproval and indicates the extent to which an individual believes himself to be capable, significant, successful and worthy'.

Theoretical formulations of the self fall into two broad categories: phenomenological (the conscious self-concept) and non-phenomenological (the unconscious self-concept). The non-phenomenological theories, based as they are upon the Freudian concept of the sub-conscious are criticized as being philosophical and clinical rather than experimental and scientific, Kerlinger, (1966). As theories, they offer interesting hypotheses and pose many philosophical questions, but as yet, they are unable to withstand the scientific rigors of experimental psychology.

Phenomenological self-concepts, by definition, proclaim the self to be readily perceived by the individual and self-attitudes formed as a result of personal and social experiences are relatively constant (Mead, 1934; Brelin and Cohen, 1962) and communicable to others, Rogers, (1951).

Research effort in the area of self-concept has been accummulating since the 1940's. An important part of the field of self-concept theory is that of the development of self-regard in both adults and children and factors which influence its formation. However, there is a paucity of large-scale studies which attempt to chart, systematically, the development of self-esteem in relation to school experiences, sex role differences, peer group and so on. Historically, self-concept research has focused on a general or overall self-concept and specific facets such as academic self-concept have been relegated to a minor role. Thus Williams and Cole, (1969) found above average levels of self-esteem to be positively associated with better adjustment, more independent and less defensive behaviour (Fitts, 1972), greater social effectiveness (Shranger and Rosenberg, 1970) and greater acceptance of other people (Sunn and Geiger, 1965). However, within the school context, Lecky, (1945), one of the pioneers in self-concept psychology demonstrated that low academic achievement was often due to a child's definition of himself as a learner. Walsh, (1956) found that 'high ability low achievers' had a negative self-regard when matched with 'high ability, high achievers'. He drew the conclusion that, implicit in much of the maladjustment of the underachiever seemed to be the problem of a negative or inadequate self-concept. Other early works in the context of the school which showed that self-esteem was positively associated with school performance include those by Brookover (1964); Purkey, (1970); Simon, (1975). The review of Purkey (1970) and studies, by Lamy, (1965), Coopersmith, (1967), Caplin, (1969) and Cummings (1971) found a significant though generally weak relationship between self-concept and academic achievement, while others: Badwal (1969), La Belle, (1970), Beebe, (1972) and Chang, (1976) found no

significant difference.

More recently, research in self-concept theory has revealed its multidimensional nature, and empirical studies have clearly identified distinct facets of self-concept. (e.g. Bryne, 1984; Shavelson Hubner & Stanton 1976; Boersman and Chapman, 1979; Bryne and Shavelson, 1986; Fleming & Courtney, 1984, Harter, 1982; Marsh, 1986; Marsh, Barnes, Cairns & Tidman, 1984). In a review of this research, Marsh and Shavelson, (1985) concluded that: (a) external criteria will be more strongly correlated with the specific facets of self to which they are most logically and theoretically associated than to broad, general measures of self-concept, (b) the demonstration of such a pattern of results across a variety of external criteria provides support for the multidimensionality of self-concept and its construct validity, and (c) the relations between self-concept and other constructs cannot be adequately understood if this multidimensionality is ignored. In works by Bryne, (1984); Bryne & Shanelson, (1986), support for these contentions was strong, particularly for academic self-concept and its relation to academic achievement. Findings from other literature reviews are also generally consistent with the Marsh and Shavelson contentions. Wylies' (1979) review and Hansford & Hattie's, (1982) meta-analysis showed that academic achievement was substantially more correlated with academic self-concept than with general self-concept. Marsh (1986, 1987) reported that verbal and mathematical achievements were substantially correlated with other areas of academic self-concept, and nearly uncorrelated with non-academic facets of self-concept.

In order to demonstrate the effect of ability grouping on the academic self-concept and on academic performance Marsh (1987) described what he called the Big - Fish - Little pond effect on academic self-concept. The Big - Fish - Little Pond effect or (BFLPE) as described by Marsh is a condition whereby equally able students had lower academic self-concept in high ability schools than in low ability schools. In his study to examine the influence of the BFLPE on academic self-concept, Marsh (1987) observed that equally able student's earned higher grades in lower ability schools. In a longitudinal analysis of the same work he demonstrated that academic self-concept had a direct effect on subsequent school performance beyond the effects of academic ability and prior school performance.

Schwarzer, Jerusalem & Lange (1983) examined the self-concepts of West German students who moved from non-selective, heterogenous primary to secondary schools that were streamed on the basis of academic achievement. At the transition point, students selected to enter the high-ability schools had substantially higher academic self-concepts than those entering the lower ability schools, but the two groups did not differ in academic self-concept by the end of their first year in the new schools. Path analysis indicated that the direct influence of school type on academic self-concept was negative.

Strang, Smith and Rogers, (1978) tested the self-concepts of academically disadvantaged children who attended some classes with other disadvantaged children and other classes with non-disadvantaged children. These academically disadvantaged children were randomly assigned to experimental and control groups. Children in the experimental group were given a treatment to enhance saliency of their

membership in the regular class-rooms with the non-disadvantaged children; and these children reported lower self-concepts than their control group. Rogers, Smith and Coleman (1978) ranked a group of children in terms of their academic achievement across their total sample and then in terms of their academic achievement within their own classroom (i.e. relative to their classmates rather than to the large more representative sample). They found that the within class-room rankings were more highly correlated with self-concept.

In a meta-analysis of studies of the effect of homogenous ability grouping on self-concept, Kulik (1985); Kulik & Kulik, (1982); Marsh (1984C) found that high ability students tended to have lower self-concepts when placed in streamed classes of students with similar abilities than did ungrouped comparison groups. In contrast, low ability students tended to have higher self-concepts in streamed classes than in the ungrouped comparison groups.

In summarising the findings of each of these studies, it becomes clear that each provides support for the BFLPE in that one's own academic self-concept is negatively related to the average performance of classmates.

Another aspect of self-concept theory which researchers have focused attention upon in the teaching/learning situation is self-esteem enhancement. Although many workers argue that global self-esteem is stable and consistent, it is usually assumed that self-esteem is learned. Thus, while self-concept in older children and young adults should be subject to change, its enhancement will be more difficult to produce than in young children. Support for this view is found in several works. Coopersmith (1967) stated that it is difficult to effect rapid changes in self-esteem, while Engel (1959) posited that

self-attitudes of adolescents tend to remain stable, but Piers (1969) observed that stability may be less strong in early childhood.

Experiments on self-esteem enhancement are often targeted on areas of the curriculum, pupil behaviour and teacher - pupil relationships. The area of the curriculum which is most frequently a target for self-esteem enhancement studies is that of basic skills such as reading. McCormick (1974) studied achievement and self-esteem change in 152 students participating in the Upward Bound Programme for disadvantaged students. Analysis of variance showed that students who had completed more time in the programme had significantly higher self-concept. This study supports the general trend in the literature that remedial help in reading serves to enhance self-concept as a by product of such help. Eldridge (1977) as reported by Gurney (1987) conducted an investigation with 211 children aged between 8 - 12 years who had experienced a group guidance programme entitled 'Developing Understanding of Self and Others.' At the end of the experimental period, an improvement in self-esteem was noted relative to the control group, but it was not significantly different from that of a second treatment group where teachers had been allowed to develop their own approach to self-esteem enhancement, and self-esteem scores had also improved. Eldrige's work suggests that teachers' commitment to the process of self-esteem enhancement is an important factor and that the precise form of the curriculum package is less crucial since it appears that teacher-made materials can be equally effective.

Some researchers have successfully used behaviour modification in the classroom to enhance self-concept. Altmann and Firnez (1973) described a study which tried to enhance self-concept by making use of role-play in a counselling programme. 500 fourth-graders drawn from ten Canadian schools were used and each pupil was assessed for verbal self-esteem and behavioural self-esteem. The experimental pupils met for 45 minutes a week for over ten weeks and the post test analysis showed a significant difference between the experimental and control group pupils for behavioural but not for verbal self-esteem. In a similar experiment, Ammerman (1975) reported an attempt to enhance fourth grade children's self-esteem by means of a five week self-portrait photography project. The experimental group was selected from pupils with low scores on measures of both verbal self-report of self-esteem and of behaviours considered relevant to self-esteem. The experimental group pupils increased their behavioural self-esteem scores significantly over the control group but no change was observed in the verbal self-esteem scores. The findings of these two studies suggest that it is important to test for changes in behaviour in addition to differences in scores on a self-esteem measure. Many writers on self-concept development frequently draw attention to the role of significant others such as adults in influencing the developing self-concept of children. Few studies however, have investigated the role of the teacher in enhancing the child's self-concept. One such study by staines (1965) reported research concerned with pairs of primary school teachers, acting as experimental and control in which the former was given Q-sort data on his children's self-concepts, and given guidance to enhance them over a three - month period.

The experimental class children were significantly more 'certain and differentiating' on the Q-sort items at the re-test compared with the control children, but were significantly different in their level of their self-concept. Staines considered that the experimental effects indicated a greater maturity in the children's self-descriptions. Chadwick (1967) carried out a replication and extension of Staine's work using secondary school subjects, but failed to detect any significant differences over a period of two terms. This failure to replicate Staines findings may well be due to the fact that Chadwick's pupils (14-15 year olds) were in mid-adolescence and their self-concepts may have been naturally less stable.

The review so far suggests that generally, a positive self-concept is associated with higher academic performance although the findings of a number of studies in this area are inconclusive, conflicting and tenuous. Many studies have also been cited that point out the multi-dimensionality of self-concept which suggests that a given external criterion or variable will be more strongly associated with the specific dimension of the self-concept than to broad measures of the overall self-esteem. Finally, the review suggests ways in which self-esteem may be enhanced thereby improving academic achievement. These studies of self-concept that have been reviewed raise a number of issues requiring further research. The most important of these involves differences in measuring techniques and instruments. In order to arrive at reliable findings which may respond to wide applicability, the instruments used in any investigation of the causal role of self-concept on academic performance need to be refined and validated. A second issue concerns why certain facets of self-concepts are related to level of academic performance. To illustrate, Brims (1954) as cited by Lavin (1965) found that of persons with equivalent measured——

intelligence, those with the higher self-esteem will outshine those with the lower estimate. This could mean that the image of self is what is presented in interaction with others and what others respond to and make judgements about. Thus the student who thinks he is not very intelligent may participate less in class discussion, and may be inclined to give up sooner when working on difficult problems. If this is the case, other children as well as the teacher may respond to him as if he were less intelligent than he really is and this might result in a lower grade. This interpretation suggests the possibility of a relationship between the self-concept and achievement motivation. It also suggests that dimensions of the self-concept are related to other variables that are relevant to academic performance. To chart this would require further research. Finally, another important question arises when one examines the studies on self-esteem enhancement. It appears that providing remedial help serves to enhance self-esteem as well as to improve on academic achievement. An important question which arises from this review relates to which is the real causal agent. Does enhancing self-esteem really function to improve academic achievement or is the opposite true? Calsyn and Kenny (1977) analysed eight earlier studies to determine which effect preceded the other, and they considered that there was no evidence to show self-esteem enhancement to be predominant, but some evidence for academic achievement improvement preceding self-esteem enhancement was obtained. The results of later studies conflicted with their findings (e.g. Sweet and Burbach, 1977). Since these findings are tentative and there appears to be experimental evidence for both effects, further research might resolve the issue.

2. Physical Home Conditions and Academic Performance

The detrimental effects of unfavourable home conditions on the academic performance of children is extensively researched and documented in the literature. Under-achievement can be caused by a sterile environment. Though innate intelligence may well be the most powerful determinant of academic achievement, yet there is compelling evidence that extreme poverty of the home environment leads to a progressive deterioration in academic performance, Douglas (1966), quoting Jordan (1933). That this is so has been shown in studies using identical twins who have identical intellectual endowment or innate ability but are reared apart in environments of varying quality. Studies by Anastasi (1958), Sontag (1958) and others concerned with identical twins who had been separated and placed in significantly different environments revealed that differences in IQ Scores up to 24 points - the difference between average and superior functioning were not uncommon. In a more rigorous investigation of the influence of environment on intelligence, Burt (1955) as reported by Wiseman (1966) compared pairs of children of identical heredity brought up in different environments with those of different heredity reared in the same environment. He found six classes of pairs of children and obtained their IQ Scores: (i) identical twins reared together (ii) identical twins reared apart (iii) non-identical twins reared together (iv) Siblings reared together (v) Siblings reared apart and (vi) unrelated children reared together. The correlations for intelligence test scores obtained for the different categories of children were as shown in Table 3.1:

Table 3.1: Correlations between Intelligence Test Scores
(From Burt, 1955, Table 1)

Set of Children	N	r - Values
Identical twins reared together	83	.92
Identical twins reared apart	21	.88
Non-identical twins reared together	172	.55
Siblings reared together	853	.54
Siblings reared apart	131	.52
Unrelated children reared together	287	.27

The important correlation here from our point of view, is that for identical twins reared apart (.88) which is higher than that for non-identical twins reared together (.55) which, in turn, is slightly higher than that for siblings reared together. From these figures, the overriding influence of heredity on human intelligence is evident but the influence of the environment though small is significant. In order to determine the importance of heredity on human intelligence, Burt (1955) compared the correlations between identical twins reared together (.92) and non-identical or fraternal twins reared together (.55). He drew the conclusion that "human intelligence, like human stature is determined largely but not wholly by multi-factorial inheritance." This statement underlines the much greater influence of inherited factors without repudiating the influence of environment on measured intelligence. Burt's study shows that each individual is endowed with a potential for learning. It is the interaction of this innate potential with factors of the social environment which determines one's intellectual output. If a child is stimulated, encouraged and generally enriched by his physical environment, his intellectual functioning reveals it. If such positive stimulation is lacking, this likewise is reflected in his behaviour. A poor academic background as represented by over-crowded housing conditions and poor amenities tends not to permit or encourage the development of the basic skills and study habits i.e. reading skills, note-taking techniques and the general positive attitudes toward school, which are essential to adequate academic functioning.

In a study to establish the relationship, if any, between physical status of the home and school performance of children, Foster (1972) randomly selected 81 homes in an Indian Reservation in the United States of America. These were the homes of 54 children in grades 7 - 12 included in his sample. The school grades of the children were culled out and examined in relation to home status. Survey questions were:

1. How do the homes of the children who had dropped out differ from the homes of the rest of the children in high school?
2. Does the number of people in the home affect the performance of the child?
3. Is there a relationship between the evaluation of the home and performance in school?

The study sought to explore the relationship between housing conditions and academic performance as measured by Grade Point Average - GPA. The results showed no significant difference in home conditions between those who dropped out and those who did not. Also, the number of persons in a home bore little significant relationship with school performance. Nevertheless, Foster found a strong positive correlation of 0.605 between the home evaluation and school performance, showing that the better the home conditions, the better the school performance of the children, and vice versa. It can be inferred from this study that lack of basic amenities in the home, implied by poor home conditions may engender poor study habits and negative attitudes toward school which are reflected in poor school performance.

There are many other studies of the relationship between academic performance of children and measures of family social environment but findings from such studies remain largely inconclusive. For example, Fraser (1959) as reported by Wiseman (1966) investigated the home environment of 408 twelve-year old Aberdeen children by visiting their homes and interviewing their parents. Armed with a detailed interview schedule, Fraser gathered an impressive amount of information and correlated it with aggregated school examination marks which were scaled on IQ and used as measure of educational attainment. Nine variables of the home were used and from the correlations obtained, three factors yielded the biggest differences: parents' attitude, family income and living space. For example, there was a significant correlation of 0.45 between school performance and living - space facilities of the home. The conclusion one can drew from this finding is that if a home is over-crowded, this is likely to severely limit the privacy and quiet moments a child needs for home study. Accordingly, his academic interests might be stifled.

In another large-scale, longitudinal study of children in England, Douglas (1966) examined the influence of the home conditions on the academic performance of primary school children. The children were classified into those from 'satisfactory' homes and those from 'unsatisfactory' homes. The homes were evaluated on the basis of whether or not they were over-crowded, (determined by whether the survey children shared their beds or slept alone), and by whether there was running water, a kitchen and bathroom that were not shared with another family. Thus a 'satisfactory' home was one in which not more than one of these adverse ratings was recorded, and an 'unsatisfactory' home was one with more than one adverse rating. It was found that as they survey children

grew older, the performance of middle class children was less influenced, whereas that of manual middle class children was more influenced by the sort of homes they came from. Moreover, teacher ratings of their children suggested that the children from 'unsatisfactory' homes tended to be poor or lazy workers, and that the manual working class children from these homes had poor powers of concentration in school. It is probable that in over-crowded homes where children share their beds, they might sleep badly and through tiredness be unable to concentrate on their school work. Douglas (1966) suggested that the teachers' views of their children perhaps reflected the attitudes of the parents themselves who, when home conditions were unsatisfactory tended to have low educational ambitions for their children, to wish their children to leave school early so as to earn a living, and to expect them, in the case of manual working classes, to go to secondary modern rather than to grammer schools.

The actual physical conditions of the home and the quality of the intellectual stimulation from the family may create negative attitudes in the school child, and this, in turn may lead to poor academic performance. Burt (1937) as reported by Wiseman (1964) found that children from slums or broken homes are more likely to suffer from the effects of neglect to a greater degree than those from well-off homes. In a survey of backwardness in 29 London Boroughs, Burt (1937) found that the backward children were to be found in greatest numbers in poor, crowded areas. Wiseman (1964) for his part, reported that poor social environment was closely correlated with school attainment and with measured intelligence. Conclusions drawn from this survey were that children from poor homes were likely to show to a greater degree, the effects of undernourishment, illness and lack of sleep. There is also likely to be a negative attitude toward school which manifests itself in truancy.

Many studies have highlighted the importance of family and class in determining a child's success at school. Jackson and Marshden (1962) documented their study of 88 working class children in Hudderfield who had been educated at Grammar school, and found that how a child ultimately performed at school was influenced greatly by his home background. These workers showed that working class children started school disadvantaged and this disadvantage normally continued. The middle-class children, on the other hand, had advantages such as a greater concern with education on the part of the parents, the speech patterns at home and the availability of books, the parents having greater expectations of the child, and facilities for quiet, private study and perhaps, private lessons. Other works that illustrate the connection between poor environment and poor school performance include the British Government reports, 'Half Our Future' (1963) and the Plowden Report', 'Children and their primary school' (1967).

More recently, in developing countries such as Sierra Leone, studies concerned with the influence of home conditions on academic performance of children have been undertaken, but they reveal inconsistencies in their findings. Caulker (1980), using a small sample of 50 girls from a secondary school in Bo, Sierra Leone found a fairly positive relationship between school performance and physical home conditions. Stevens (1981), in a similar study involving 30 pupils in an all-girls secondary school in Moyamba, Sierra Leone drew the conclusion that the quality of the physical home conditions, to some extent, determined the academic performance of girls. In contrast, Yovla (1984) found no correlation between the physical conditions of the home, parents' attitudes toward education and parents' level of

education when related to academic achievement. He worked with 60 students selected from three secondary schools in Kinbo Town in the United Republic of Cameroon.

In attempting to explain the inconsistency in the results of these studies carried out in Africa, one might cite the tradition of some families of making the best use of their brains and lives which may depend more on methods of up-bringing than on favourable conditions in the home. In such families the children are encouraged in numerous ways to appreciate the value of education and are kept busy playing games that demand thought. Thus from their earliest years at school they acquire a totally positive attitude to learning. One important element emerging in nearly all of these studies is that the physical conditions of the home quite definitely have some impact on the child's academic efforts. But apparently, this impact is subsumed in the overall effects of the summarizing variable represented by the social environment. As a variable per se, its influence on academic performance can probably not be easily isolated. We can only conclude like Douglas (1966) that an impoverished home would have a cumulative effect, so that children exposed to it would become progressively more handicapped as they grow older.

Parents' Level of Education and Academic Performance of their Children

Research efforts in the area of the relationship between academic achievement of children and socio-economic status as reflected in parents' occupation and education are many and varied in their findings. Such studies were first undertaken mainly in Britain and the United States of America where society was stratified into urban and rural rich and poor.

Shaw (1943) using Stanford Achievement Tests in the USA found a significant relationship between socio-economic status and achievement test score. In a study of nearly 900 high school pupils from three income brackets, namely high, medium and low, Coster (1959) as reported by Wiseman (1964) found a positive relationship between this grouping and successful completion of courses, school and continued education. He was investigating the effect of social background of students on their academic performance in the United States.

In studies conducted in Britain, focusing on the connection between socio-economic level and educational attainment, similar findings were obtained. The study by Griffiths (1959) as quoted by Wiseman (1964) concentrated on 'academic deteriorators' in a Grammar school in London. It was found that 37 out of a total of 39 'deteriorators' belonged to the menial and unskilled occupational classes. Griffiths concluded from his results that, of the factors associated with deterioration, 64 percent where 'home background' factors, prominent among which were the level of the parents' education and the amount of parental encouragement.

However, not all investigations document significant and positive relationships: For example, French (1959) in a research covering 2,000 children in 41 schools in the United States found that father's occupation and education bore little or no relationship to test scores on the Stanford Achievement Tests. McIntosh (1959), in a study of Junior Secondary School children in England found that 'encouragement to study was by no means in direct proportion to the socio-economic status of parents.

In his longitudinal survey of children in Britain, Douglas (1966) considered the influence of the mother's education and social background vis-a-vis the father's on children's average test scores and performance in the secondary selection examinations (i.e. 11-plus examinations). He concluded that this influence which bore a positive relationship was just as strong as that of the father's education and social background. The rationale for this conclusion was that for many children, it was the early contacts with their mothers that were likely to have the greatest influence on learning. At later stages in their children's growth, too, the mother continued to show greater concern with school problems than the father, and was often in closer contact with the teachers. For this reason, it seemed that among the survey children the mothers' influence on school performance and in the tests transcended the fathers'. In reality, however, it exerted no more than the father's perhaps, because of the growing tendency for people to marry those with similar standards and ambitions. The same cannot be said of couples in developing countries like Sierra Leone where the majority of mothers are still largely illiterate housewives.

A number of studies of the effect of parents' level of education on academic performance of their children have been carried out in developing countries. Ogunlade (1973) studied the extent to which the education of parents affected the educational attainments of children in Nigeria. Using 120 school children enrolled in class Four of two primary schools in West Nigeria, he correlated their educational attainment (obtained by averaging their test scores for two successive years) with whether they came from literate or illiterate homes,

(determined by individual interviews). The results suggested that children from literate environments had better academic achievement than those from illiterate homes. Moreover, subjects from literate homes showed gender differences with boys scoring better than girls. In a similar study by Yovla, (1984) the academic achievement of 60 students selected from three secondary schools in Cameroon was related to their parents attitudes toward education, as well as their level of education. However the results showed no significant correlation between these variables and academic performance.

From the results of these studies conducted in widely separated geographical locations, it can be seen that children's academic achievement is generally well related to family social background. The parents' educational level seems to affect children's academic performance indirectly by inculcating a highly positive attitude toward education in parents of high educational level.

Children's Attitudes toward School and their Academic Performance

The extent to which a child's attitude toward school influences his or her academic achievement has been of considerable interest to educational researchers. The general finding is that a favourable or positive attitude leads to high school achievement, whilst an unfavourable or a negative attitude results in low achievement, dissatisfaction with school and truancy.

Jackson and Getzels (1967) as reported by Kaikai (1971) used a 60 - item student Opinion Pool designed to measure responses on some aspects of schooling, viz: peer group, the teacher, the curriculum, and general class procedure. The researchers administered the questionnaire to 531 adolescents in a Midwestern private school to find

out who were satisfied with their school experience, and those dissatisfied with it. The purpose of the study was to examine the psychological functioning and classroom effectiveness between the two groups of adolescents. The students who had scores of more than one-and-half standard deviations above the mean were classified as 'satisfied'. Those with less than one-and-half standard deviation scores below the mean were classified as 'dissatisfied'.

According to the researchers, the satisfied and dissatisfied groups did not differ significantly in either general ability or in scholastic achievement.

In another work by Cullen (1969) cited by Kaikai (1971) relationships among components of school satisfaction, school achievement, ability self-attitude, sex, race and socio-economic status among 400 eighth grade students in a Junior High school in a large Northwestern Ohio City were investigated. The instrument used was the Junior High School Student Opinion Poll developed by Auria, Cullen and Frankiewiez.

The results of this investigation showed that school achievement marks in academic subjects were consistently and significantly correlated with three components: (i) Teacher-student interaction (ii) Students' feelings about subject-matter difficulty and (iii) Subject-matter interest and acceptability. A second finding was that vocational subjects like art, music, industrial arts and physical education were generally significantly correlated with components (i) and (iii). From these findings the conclusion may be drawn that the more favourable the teachers attitude not only to his subject but to his pupils as well is, the more positive will be the pupil's attitude towards that subject and school in general. Moreover, these

positive relationships may manifest themselves in higher school performance.

Several studies have dealt with the relationship of attitudes toward school or toward a specific subject matter and academic performance, and have usually documented significant though small relationships. For example, Aiken and Dreger (1961); Brown and Holtzman, (1955); Garverick, (1964) Schultz and Green, (1933). It would appear as though attitude is an important variable in the prediction of achievement, but that no instruments have been developed which adequately measure it in relation to a specific learning behaviour. If such an instrument or new approach to assessment of attitude were developed, the affective domain in learning might be found to be of particular value in accounting for the error variance now present in the prediction of academic achievement.

Beelick (1973), in another investigation to establish a relationship between scholastic achievement and attitude toward school, randomly selected 217 Mid-western High school students in grades 10 - 12. The study was designed to identify factors related to student satisfaction and dissatisfaction with school. Beelick used the personal interview technique as well as a specially constructed questionnaire entitled, the Student Opinion II. The latter instrument consisted of a 47 - item multiple-choice test designed to elicit a general measure of student satisfaction and dissatisfaction with school when correlated with scores on reading levels, grade point average - GPAs and IQ.

The findings of the study revealed that achievement recognition, and the school work itself were most often mentioned by respondents as sources of satisfaction. The sources of school dissatisfaction most frequently mentioned by the students were the teachers' behaviour, school policy and administration, and interpersonal relations with peers. The relative effects of satisfaction and dissatisfaction with school on academic performance were correlated, and only on GPA was a significant though slight relationship established.

Measures of study habits and attitudes are commonly used in prediction studies. Often in such studies, both study habits and attitudes are surveyed in a single inventory. At the high school level, Carter (1959) as quoted by Lavin (1965) obtained a significant correlation between study habits and grades with ability controlled. In a similar work, again cited by Lavin, (1965), McGavran, (1953) found that a positive attitude toward school and the opinion that education is valuable had a slight positive relationship to academic performance in both high school and college students.

In summarising the body of research on attitudes toward school and academic performance, it has been revealed by these studies that positive or favourable attitudes toward school, such as beliefs in the value of intellectual pursuits and of education in general, are positively related to performance. However, a few inconsistencies exist in the findings of some works. More research is needed to assess the reasons for this variability. One possibility is that schools vary in their organizational structure and/or in the characteristics of the students, and that these factors interact in some way so as to effect the magnitude of the relations between interest, study habits, attitudes toward school and academic performance.

Summary and Evaluation

This review has discussed studies on self-concept which is a personality factor, and certain sociological determinants of academic performance namely, physical home conditions, parents' level of education and the attitudes of students toward education. The findings of the studies on academic performance using the variable, self-concept suggest that overall, there is a weak, though significant relationship between the two variables. However, some of the findings do not fit into this pattern and these are mainly in univariate studies, using self-concept as the only independent variable. In these studies, the findings suggest that higher achieving students tend to have more positive self-concepts; they tend to be more interested in subject areas in which they achieve best, their vocational interests are more clearly defined; and they are less defensive about revealing personal inadequacy.

In the studies involving the social environment factors, the findings indicate that there are positive correlations between physical home conditions and academic performance. Moreover, performance seems to be fairly well associated with attitudes toward education both of students and of their parents. On the whole however, the relationships are weak and quite often, the findings are inconsistent. However, this seemingly conflicting picture of the status of these variables should not be interpreted as an indication of their uselessness. Rather, it should be regarded as a reflection upon the way in which these variables have been used. That is to say that in most of the studies reviewed, academic performance is predicted in relation to personality variables separately, and in relation to sociological factors, also separately.

It might well be that personality characteristics are useful in predicting academic performance, but only when the social setting in which that performance takes place is conceptualized and included as a significant variable.

CHAPTER III

CONCEPTUALIZATION OF THE PROBLEM

A cursory glance through the literature would reveal that research on academic achievement takes two approaches. The first approach, frequently used by many of the early investigators, focusses attention upon personality characteristics as explanatory variables. These personality variables could be placed into five categories although such categorisation is not meant to imply that the literature is organized on the basis of a systematic personality theory.

The first category which might be called motivational states, comprises anxiety, achievement motivation, level of interest in different content areas, and the like. A second category which might be termed personality 'style' includes such factors as impulse control, extraversion and introversion. The third group involves the cognitive level and illustrative of this is the self-concept. The fourth type, pointing more directly to the behavioural level includes factors such as measures of attitudes. Lastly, some personality studies focus attention upon manifestations, of pathology such as neuroticism, to account for achievement.

The second approach to the study of academic achievement emphasizes that there are social environments that are more or less conducive to the attainment of high achievement levels.

From the research findings, neither approach has been strikingly successful. It seems that neither psychological nor sociological factors separately, are capable of substantially enhancing our understanding

of academic achievement. Therefore, in the present study, an attempt is made to examine the interaction between aspects of the student's personality and his social environment. Perhaps, such an approach might better explain the causes of the variations in academic performance of students. Attention will be focused upon three main variables. These are academic achievement, self-concept and social environment. Self-concept is a personality variable or construct while social environment is a sociological variable. The variables, academic performance, self-concept and social environment have been symbolized in this study as A_p, S_c and S_e respectively. The dependent variable, academic performance, and the independent variable, self-concept are both single factors, but social environment is a summarizing variable which in this study embodies Physical Home conditions (H_c), parents' level of education (E_l) and children's attitudes toward their education (A_e).

Academic performance, the dependent variable, will be conceptualized as a function of self-concept, and social environment which are both independent variables. Thus if we designate these three variables as A_p, S_c and S_e respectively, than the relationship is established by the following mathematical expressions:

$$A_p = f(S_c + S_e + \varepsilon)$$

Where A_p is Academic performance

S_c is Self-concept and

S_e is Social environment, and

ε is some error term.

As already stated earlier, social environment embodies physical Home conditions, (H_c), parents' Educational level (E_l) and children's Attitudes toward education (A_e). Consequently, the overall mathematical expression of the relationship between the dependent variable and the independent variables would be

$$A_p = f(S_c + H_c + E_l + A_e + \varepsilon)$$

Where H_c is Physical home conditions

E_l is Parents' educational level

A_e is children's Attitude toward their education and

ε is some error term.

In the remaining paragraphs of this chapter, a brief description with the rationale for the inclusion of each of the variables used in this study is given.

Main Variables of the Study

1. Academic Performance

In studies of academic achievement, the traditional yardstick of performance is the student's grades which are obtained by a variety of methods. By way of a definition, academic performance refers to a method of expressing a student's scholastic standing. This is usually represented by a grade for a course, an average for a group of courses in a subject area, or an average for all courses expressed as a percentage or some other quantitative scale. At some colleges, academic performance is assessed by first expressing the grade obtained nominally, using letter grades (A to E). These are then converted into numerical values so that a grade - point - average (GPA) for all courses can be

computed. The grade-point-average is then taken as an index of academic performance. At the elementary level especially in the lower, infant classes, performance may also be evaluated on a verbal scale ranging from 'excellent' to 'poor'. In large scale group testing, standardized tests are used to measure performance.

In this study, academic performance will be assessed by computing the average of two successive years' final grades for each student. (See Appendex C). The average grades thus obtained will then serve as the dependent variable. In the present study this variable serves as an index of performance in school work. The grading system, reports on a student's scholastic achievement and progress in meeting educational goals. Over and above this, a grade also serves as an external motivational force in children, and a means of communicating with both students and parents. Thus academic performance is included as a variable in this work in order to show the kinds of intellectual efforts students make in meeting scholastic goals.

2. Self-Concept

Historically, the behavioural sciences have devoted considerable effort, on a theoretical level, to the concept of the self, as exemplified in the works of Cooley, (1912), Mead, (1934), Coffrell, (1942) and Sullivan, (1953). During the last three decades some basic research has begun to accumulate, including many studies which have been concerned with the self-concept as a predictor of academic performance.

Self-concept is a psychological construct or an imaginary mechanism which helps the psychologist to draw valid inferences from observed behaviours. As generally used in the professional literature, self-concept is a group of feelings and cognitive processes which are inferred

from observed or manifest behaviour. By way of a formal definition, self-concept is the individual's total appraisal of his appearance, background and origins, abilities and resources, attitudes and feelings which culminate as a directing force in his behaviour.

Many researchers have reported findings which demonstrate that self-concept is of overriding importance in the teaching-learning process. Empirical and experimental data clearly indicate a direct relationship between a child's self-concept and his manifest behaviour, perceptions and academic performance. In the light of this, attention is being focused on self-concept in this study because of its central role in determining the quality of the socializing experiences the growing child goes through at school. Self-concept is developed through accumulated social contacts and experiences with other people. People learn their identity, who and what they are, from the kinds of experiences the growing up process provides. Sullivan (1953) as quoted by LaBenne and Greene (1969) called this development learning about self from the mirror of other people. What a person believes about himself is partly a function of his interpretation of how others see him. Since he really has no way of knowing precisely how others see him, he infers this from their behaviour towards him.

The most common means of obtaining a measure of self-concept is through self-reports. These require subjects to report their inner feelings and experiences. Although this method is somewhat weak in terms of external validity, yet no one has the continuity of exposure and opportunity to observe and evaluate his inner life and thought as the person himself. Rogers (1951) puts it succinctly this way: "the best vantage point for understanding behaviour is from the internal frame of reference of the individual himself."

3. Social Environment

In considering the influence of the self-concept on academic performance, we are concerned mainly with the general effects of the personality of the individual on academic achievement, and the individual is regarded as an isolated unit. When an attempt is made to predict academic performance based on the effects of various ecological and demographic characteristics as well as role relationships, we are concerned with the social environments in which individuals function. Such an approach is significant because it focuses on the effects of characteristics of social settings on performance regardless of the personality of the individual.

Social environment is a global term embodying such variables as physical home conditions, socio-economic status, parents educational level, attitudes towards education, and the like. These variables may be considered important in the prediction of academic performance because they symbolize certain uniformities of personality. That is, certain similarities in personality are to be found among people occupying similar positions in the social structure. For example, children of high socio-economic families tend to have more positive attitudes towards school than those of low socio-economic status. Some of these personality characteristics may be, in turn, related to academic achievement. In this way, studies emphasizing the effects of the social environment can be seen to be related to personality studies like that on self-concept.

In the present study, three factors of the social environment are given prominence as sub-variables so as to bring out their individual importance as they related to academic performance. These are physical home conditions, parents' level of education and pupils' attitudes toward their education.

(i) Physical Home Conditions

Studies dealing with the influence of demographic relationships upon student performance suggest that several characteristics of family life are relevant. Not the least of these characteristics are the physical home conditions of the school child and how they influence his academic performance at school. Physical home conditions symbolize a summarizing variable which includes living space in the home, study facilities and privacy, parental encouragement and support for child's education and the child's involvement in home routine work such as domestic chores. This sub-variable is significant because it reveals how school performance is influenced by factors such as parental encouragement, privacy in the home and the type and timing of domestic chores the child does at home. Another rationale for including this sub-variable in this study is that it illuminates what might be called the achievement syndrome. According to Rosen (1956), home conditions that are supportive of the student's intellectual efforts promote high achievement motivation which is directly related to the grades of students. This achievement syndrome, which is determined by the quality of the physical home conditions also gives rise to what might be called achievement values. They include, among others, beliefs that:

(a) it is possible to manipulate the environment,

(b) there is value in delaying immediate pleasure for the sake of long-term gratification, and

(c) there is value in shedding affective ties to the family of orientation if these will interfere with mobility. Students who adhere to these values tend to exhibit higher levels of career aspirations.

By investigating the factors operating in the physical home conditions of students, we might be in a better position to determine whether or not their present levels of academic achievement are influenced by the achievement syndrome.

(ii) Parents' Level of Education

The significance of this sub-variable may be seen in the fact that a parent's interest in and attitude toward his child's education are influenced, to a large extent, by his/her own level of educational attainment.

In this study, parents level of education was determined by the type of formal schooling he/she had. A parent is said to be literate if his or her educational attainment was Form Five and above, semi-literate if his or her education was from class 7 to Form Four, and illiterate if he or she either had no schooling at all or schooling never went beyond primary class six level.

These three types of parents differ markedly in their educational aspirations for their children. Literate parents would be most interested in their children's education and would provide the greatest encouragement and involvement in their children's school work. Such interest and encouragement would tend to vary with the level of literacy. Thus the performance of children of literate parents would also tend to have a direct positive relationship with parents' level of literacy. Semi-literate parents have relatively modest ambitions for their children and would want them to stay in school for a relatively shorter period of time. On the whole, encouragement and interest in their children's education would also be less than that of literate parents.

Most illiterate parents, for their part, show little or no interest in and encouragement for their children's education. These negative attitudes tend to profoundly influence the children's own attitudes toward their education and are reflected in their academic performance. Eventually the children's attitudes toward school are moulded on those of their parents and in turn, tend to become so negative that school is in most instances viewed with hostility which leads to truancy and drop-out.

Thus the importance of this sub-variable is that it illuminates the nature of the child's attitudes toward school. By considering parental level of education, we can determine whether the child's present level of performance is influenced by home background factors or by the social milliux of the school.

(iii) Attitudes Toward School

An attitude has been defined as 'an enduring organization of motives, perceptions and emotions with respect to some aspect of the individual's world! Students' attitudes that are focused on the school system itself include attitudes toward teachers, administration, schooling, the curriculum, particular educational processes, and the like. The schools' internal functioning relies heavily on its ability to inculcate positive attitudes on the part of the students toward the school system itself. Without such positive attitudes and the collaboration and trust they imply, the school becomes largely a coercive system, utilizing power and unilateral rules to engender student compliance with school policy. Thus the inculcation of positive attitudes and interests toward school forms

an important part of teaching and learning. Many studies have shown that positive attitudes toward school, such as beliefs in the value of intellectual pursuit and education in general are positively related to academic performance. Therefore, the importance of such a variable in a study of predictors of academic performance cannot be overstressed. The expression of attitudes, either in words or in actions, provides clues to personality and to needs, and makes possible the kind of understanding which is necessary for the formation of stable relationships. The attitude of students to their school work is deeply affected by the degree of encouragement they get from parents and their own level of emotional stability, (Douglas, 1966). It is therefore necessary in an investigation such as the present one, to examine the dynamics of the students' attitudes toward education so as to bring out their influence on achievement.

Summary

There are many factors which directly impinge on the academic performance of students. Depending on their nature, these factors may act to hamper or to enhance academic performance. Some of these factors have to do with the personality traits of the individual students, and they have been used per se in research studies in the prediction of academic performance. Others are concerned with the social setting both in the home and school in which the student pursues his or her education. The effects on academic performance of various factors of the social environment have also been extensively researched. However, it seems likely that because research in academic prediction has traditionally taken these two distinct approaches, the findings from such research have not been definitive enough.

The most logical and productive approach therefore, seems to be an interaction between the two lines of attack, if our understanding of the factors that interplay in academic prediction is to be enhanced. Consequently, the present work seeks to investigate the combined influence of both personality and sociological variables on the academic performance of secondary school children.

CHAPTER IV

RESEARCH DESIGN AND METHODOLOGY

The method of investigation adopted for this study and the rationale for its adoption form the main focus of this chapter. It starts by giving a brief description of the population from which the study sample was drawn, as well as a discussion of the sampling technique that was utilized. Next, a description of the research design is given, including the data gathering devices that were used and a detailed account of how the questionnaire was administered. Finally, all the statistical tools used in the analysis of the data are presented.

Study Area

This study was conducted in five secondary schools in Kenema town, Nongowa Chiefdom in the Eastern Province of Sierra Leone. The Kenema District comprises some fourteen Chiefdoms including Nongowa, Lower Bambara, Tunkia, Small Bo, Simbaru and Gorama-Mende and others. Of these chiefdoms, Nongowa is the largest with Kenema town serving not only as Headquarters of the district but also as the capital of the Eastern Province. Kenema is a sprawling, cosmopolitan town which serves as the hub of administrative, commercial and educational activities in the diamond - rich Eastern Province. Its population is estimated at over 60,000 and the predominant occupations of the people are diamond mining, forestry and timber industry, cash-crop farming and trading. (Sierra Leone Census figures, 1985). Approximately 55 percent of the adult population is engaged in mining activities, especially alluvial diamond mining; about 35 percent in agriculture

and commerce, and roughly ten percent in professional occupations such as civil service, nursing and teaching. Kenema has a dozen or so secondary schools which include two Boys' schools one of which has a sixth form, one Girls' school and the rest co-educational schools. In addition to these secondary schools, there are three vocational centres. These are (1) The Kenema Technical Institute, a government institution where adolescent boys and girls learn trades such as carpentry and joinery, auto mechanics, interior decoration, painting, etcetera. (2) Rural Training Institute, another government-run centre for the training of Farm Instructors, Weavers, etcetera and (3) Nongowa Typing Institute, a privately owned institute training mainly young women for secretarial duties.

The township itself is undergoing rapid urbanization, and this is followed by a steady influx of people who come to take advantage of the available social amenities. These include a growing number of schools, especially those established by muslim missions. These schools which are now mushrooming in Kenema and its environs are of particular attraction since the people are predominantly muslim. There are also a number of commercial banks and the only provincial branch of the Central Bank of Sierra Leone; a strong indication of the economic potential of the area. Other amenities include a branch of the Sierra Leone Library Board, timber industries, a number of agricultural produce buying companies and a hydroelectric power supply. These and many other amenities make Kenema one of the more modern towns in Sierra Leone.

The Sample and Sampling Method

The subjects used for this investigation were drawn from Form Three pupils in five secondary schools in Kenema town. There are twelve registered government recognized secondary schools in the township of Kenema. Of these, one is a government Sixth Form Boys' School except for a handful of girls admitted annually into the Sixth Form. Moreover, this school has a boarding department for a fraction of the boys on roll. There are also two single sex schools, one for boys and the other for girls both of which are run by the Roman Catholic Mission. The remaining nine schools are co-educational schools operated by various agencies such as the Protestant Church Missions, Muslim Missions and private citizens and communities. The community school, run by the Kenema Lebanese Community is a minority institution accommodating both primary and secondary Lebanese school children. Though some attempts are being made to harmonize their curriculum with that of the national school system, there is still a heavy emphasis on Arabic studies with two media of instruction;Arabic and English.

Against this background, the investigator decided to select his sample of schools by simple lottery. The Sixth Form Boarding School and the Lebanese School were excluded from the lottery because both were inappropriate in terms of the variations that must exist in the home conditions of the students. In the case of the boarding school, all the children would have uniform physical living conditions during term time, whilst in the case of the Lebanese children, they all come from families of comparable socio-economic status, capable of providing all their children's educational needs. The original plan was to

include both, single sex schools in the sample and then select the other three schools by lot from the remaining eight. However, after this was attempted some problem developed with the Boys' school. Owing to the deplorable state in which the school records had fallen in recent years, it was not possible to lay hands on examination grades for the prospective subjects for the period under review. Consequently, the decision had to be taken to eliminate this school from the sample. The girls' school was then automatically included in the sample, and it was decided to randomly select the other four schools by lottery from among the remaining eight schools that fulfilled the requirements.

A total of 273 Form Three students comprising 146 girls and 127 boys were selected as subjects for this study. The subjects comprised of pupils admitted into Form One in the 1985/86 academic year, and were now in Form Three in the 1987/88 academic year. All students who had transferred to the schools used for the investigation and who lacked examination records for either Form One or Form Two or both were excluded as subjects from the study. The criterion for the inclusion of any Form Three pupil in the sample was that he or she must have spent at least two years in his or her present school, and must have examination results for both forms one and two. This was necessary because the two successive years' average for each child was required to measure school performance. The rationale for considering Form Three students as the most appropriate group for this investigation was based on the following three factors:

(i) Pupils in Form Three have already completed two years of post-primary education. They therefore should have fairly well formed attitudes toward their respective secondary schools and reasonably well developed self-concepts.

(ii) Being in the middle school, Form Three pupils should have had sufficient educational background to enable them to respond intelligently to simple instructions and to express their opinions on the content of the questionnaire.

(iii) The investigator has a special interest in early adolescent children. They form a highly fluid group of children prone to spontaneity of behaviour and identify with both peers and adults.

There were more girls than boys in the sample because the all-girls' school included in the study had an enrollment of 72 girls in Form Three; when this figure was added to the number of girls in Form Three in the four mixed schools the totals came to 146.

Research Design

In order to accomplish the aims and objectives of this study, data that elucidated the type of relationships that exist between the independent and dependent variables was collected. Such data was gathered from the following sources:

1. From the subjects - by means of a four-part questionnaire and
2. From records of Examination Grades kept in the schools

1. Questionnaire and its Administration

A four-part questionnaire which comprised of 70 items was designed by the investigator and administered to the subjects. Each part consisted of a variable number of questions dealing with:

(i) Attitude toward school

(ii) Self-concept scale

(iii) Physical Home conditions, and

(iv) Parents' level of education (Appendix A).

Each questionnaire had a letter addressed to each respondent, outlining the purpose of the questionnaire, the procedure to be followed and a note on confidentiality, (See Appendix A).

Prior to the administration of the questionnaire, a letter was addressed and delivered to each principal, asking for permission to administer the questionnaire in the schools selected for the study. (See Appendix B). Afterwards, meetings were held with each principal during which the dates for the administration of the questionnaire were fixed and, time-tables were drawn up. Also the investigator obtained examination grades in respect of the prospective respondents as part of the school visits. The investigator had remarkable cooperation not only from the principals but also from the teachers whose lessons were interrupted on that day. The class teacher of each stream of Form Three was asked by the Principal to assist the investigator to ensure a successful questionnaire administration. In two of the schools it was possible to move all the eligible Form Three students into one large classroom in which the investigator could give clarifications to all respondents at the same time instead of having to shuttle from room to room. In the other three schools, the groups were larger

and teachers who had been briefed on the right procedure to follow assisted the investigator. Before the students started completing the questionnaires they were reassured that the information they were going to give would be used strictly for research purposes and would be treated in confidence. Each respondent was asked to write his school's and his sex. Even though the results would be anonymous, these particulars were necessary in order to ease identification and categorization. Each part of the questionnaire was designed to elicit information on a particular variable. On average, the whole exercise took about 90 minutes to complete.

2. Examination Grades from School Records

The annual average marks for two consecutive academic years' Examinations, 1985/86 and 1986/87 for all the subjects were culled from the school records and a final average was obtained and used to represent an index of academic performance. (See Appendix D).

As the grading systems differ from school to school and even from teacher to teacher within the same school, it was found necessary to transform the raw annual average scores into T-Scores to provide a common mean and standard deviation. This was done using the T-Score formula:

$$\text{T-Score} = 10\left(\frac{X - \bar{X}}{\sigma}\right) + 50$$

Where X is the raw score

$\bar{X}$ is the mean of the raw scores and

σ is the standard deviation.

In this way, a common basis for comparison of the annual averages of the different schools in the sample was established. The transformed scores of all the subjects are listed in Appendix E.

Statistical Techniques

The main objectives which this research set out to achieve were spelt out in the form of hypotheses in Chapter I. In order to test these hypotheses certain statistical tools were considered to be appropriate. The following table shows the sequence of analyses and the matching statistical tools employed. (See Table 4.1).

Table 4.1: Research Aims and Analytical Procedure

	SEQUENCE OF ANALYSIS	TECHNIQUE UTILIZED
1.	Subjective interpretation of Data gathered	Table of proportions in percentages
2.	Distinguishing respondents with above average from those with below average performances	Mean and standard deviation
3.	Distinguishing respondents with favourable home conditions from those with unfavourable home conditions	Mean and standard deviation
4.	Determining the relationship if any, between self-concept and academic performance of subjects	Pearson Product moment coefficient of correlation
5.	Determining the relationship if any, between respondents' attitudes toward school and their academic performance	Pearson Product moment coefficient of correlation
6.	Determining whether a relationship exists between the parent's level of education and the academic performance of their children	Pearson Product moment coefficient of correlation
7.	Determining if there is a significant difference in the academic performance of the children based on their physical home conditions	Chi-square Analysis
8.	Determining which of the variables are the best predictor(s) of academic performance	Stepwise Multiple Regression Analysis

CHAPTER V

ANALYSES OF DATA RESULTS AND DISCUSSION

In the last chapter, attempt was made, among other things, to highlight certain statistical techniques together with their relevance, that could be profitably used to unravel and illuminate some of the intricacies inherent in the data collected for this study. In the present chapter, an attempt has been made to assess the Predictive strengths of the independent variables in this study not only by means of inferential statistics, involving the use of the statistical tools described earlier, but also by means of subjective analyses involving tables where appropriate. Furthermore, the main findings of these analyses have been discussed and related to the broad and specific aims of the study as stated at the outset in Chapter 1.

In order to achieve these objectives therefore, this chapter has been divided into three sections. In the first section, the data gathered has been interpreted subjectively by using tables of percentage responses to items in the questionnaire. The items analysed in each table were designed to elicit information on specific variables and so, they have been used to support

arguments in respect of these variables. The second section has been devoted to statistical analyses involving the hypotheses advanced earlier in Chapter 1. Each hypothesis was first presented and the appropriate statistical computations utilized to process it. In all hypothesis testing, the 95 percent confidence level with the appropriate degrees of freedom was used. Finally, the third section has been devoted to a detailed discussion on the findings of the data analyses

1. Self-Concept and Academic Performance of Students

Self-concept, as it is generally used in the professional literature, is a psychological construct which is not directly observable.

In a bid therefore, to determine the level of self-concepts of the subjects in this study and the influence of such self-concepts on their academic performance, self-report items were included in the questionnaire, (see Appendix A) which were designed to elicit the inner feelings and experiences of the respondents.
To determine the proportions of respondents with positive and negative self-concepts, the percentage of ´yes´ and ´no´ responses was calculated and analysed. The

proportions of affirmative and negative answers to some of the questions are shown in Table 5.1.a

This table reveals that 86.9 per cent of the responses on question 1 were positive while 13.1 per cent were negative; the percentage of positive responses varies from 86.9 to 24.8, and the negative responses range from 75.2 to 13.1 per cent

With the exception of questions 5 and 9 the percentage of positive responses to the questions listed in Table 5.1a is well over 50 percent. Close examination of the individual questions would reveal that though the children say that they are pretty sure of themselves, many of them, at the same time would wish they were some one else, whilst believing that they are likeable persons. This pattern of responses seems to suggest that the self-concepts of the children are still developing and are subject to change or modification.

In question 6 which probes the way the respondents feel about their school work an overwhelming majority of 82.1 per cent say they feel proud of their school work. Nevertheless, in responses to the question,whether they are doing as well in school as they would like, the picture become blurred. The proportions of positive to

Table 5.1a: Respondents' Self-evaluations on their Self-concept

QUESTIONS	Respondents (N)	Responses in Percentages: Yes	No	
1. Are you usually pretty sure of yourself?	271	86.9	13.1	
2. Do you often wish you were some one else?	261	58.2	41.8	
3. Do you think you are some one who is easy to like?	270	86.7	13.3	
4 Do you and your parents have a lot of fun together?	262	69.8	30.2	
5. Do you often find it hard to talk in front of the class?	270	24.8	75.2	
6. Do you feel proud of your school work?	273	82.1	17.9	
9. Does some one else always have to tell you what to do?	248	27.0	73.0	
11. Do you ever feel unhappy	270	70.7	29.3	
13. Do you feel that you are not doing as well in school as you would like?	264	51.5	48.5	

negative responses to the question become more or less equal 51.5 to 48.5 percent. This might suggest a conflict between the children' self-evaluation and evaluations made by significant others such as the teacher. Such conflicts are likely to result in a depressed academic performance in some students.

To assess the respondents' self-confidence and ability to interact with peers and adults, question 9 was analysed. It was revealed that 27 percent of the students looked up to others to tell them what to do, while 73 percent did not. To further probe the level of their self-confidence, analysis of questions 5 revealed that 24.8 percent said they found it easy talk in front of their class while 75.2 percent said they did not.

The percentage of students prone to a low level of self-confidence as revealed by this analysis is quite substantial. It appears that certain things in the school environment create in some of the children feelings of insecurity aggravated by lack of understanding from significant others.

The analysis of the self-evaluation items was continued in Table 5.1b. As shown in this table, the

Table 5.1b: Self-evaluations of Respondents

QUESTIONS	Respondents (N)	Responses in Percentages: Yes	No	
14. Do you usually have a low opinion of yourself?	269	32.7	67.3	
15. Do you like to give up easily?	265	40.75	59.25	
16. Do you often feel ashamed of yourself?	269	47.6	52.4	
17. Do you often feel upset in school?	262	38.9	61.1	
18. Does your teacher sometimes make you feel that you are not good enough?	270	53.7	46.3	
19. Do you sometimes get the feeling that most people are better liked than you are?	268	35.1	64.9	
20. Do you often get discouraged in school?	270	50.0	50.0	

percentage of affirmative answers to the questions listed ranges from 32.7 to 53.7 while the negative responses range from 46.3 to67.3 per cent.

The first four questions in table 5.1b (Questions 14-17) were designed to probe the level of self-confidence in the children, and they are closely allied to questions 1 and 2 in table 5.1a. The responses to the question, 'Do you usually have a low opinion of yourself?' show 67.3 percent negative and 32.7 percent positive. The proportion of positive responses is quite substantial and suggests that many pupils in school may lack the self-confidence necessary for optimum output in school work.

Analysis of the next question shows 40.75 per cent of respondents easily give up in their academic strivings. This is likely associated with the proportion of respondents who hold a low opinion of themselves. By the same token , low self- confidence would lead to self-consciousness. Hence, the high proportion of 47.6 percent of respondents who said that they often felt ashamed of themselves. In question 17, the percentage of responses is 38.9 per cent, suggesting still further the harmful effects of a low self-opinion.

The influence of significant others in the development of self-concept in the children was probed by the last three questions in table 5.1b. In question 18., a substantial percentage of (53.7 per cent believe that their teacher makes them feel inadequate. This indicates the considerable influence of the teacher in shaping the self-concept of the children in his care. In response to question 19, which further probed how the children thought other people rated them the positive responses are 35.1 percent while the negative responses are 64.9 per cent. Finally, the last question tried to assess the possible psychological implication of the influence of school. The responses showed this to be very strong. Exactly half the number of respondents said they were easily discouraged in school, whilst the other half said they were not.

This situation indicates that many of the children may not be strongly motivated by the school environment to apply themselves in their studies.

From the analyses of the data so far, self-concept may b e an important determinant of school performance. Moreover, since a person's inner feelings and cognitive processes constitute the major components of his self-

concept, it was necessary in further analysis of the data, to categorizes the respondents in this study into those with strong positive self-concepts and those with strong negative self-concepts. To do this the questions on self-concept in the questionnaire (see Appendix A) were first scored to yield continuous data, and the mean and standard deviation (S.D.) were computed. The means and S.D.S. of all the variables of this study are shown in Table 5.2. Using 0.25 S.D. above and below the mean as cut-off points, a good spread of the sample was included in the analysis. Thus the respondents considered to have a positive self-concept were those with scores of more than +0.25 S.D. above the mean of 12.14. The total number of respondents in this range was 43. Those with scores of less than -0.5 S.D. below the mean were considered to have negative self-concepts, and they totalled 54. Those respondents within the band of +0.25 S.D. from the mean were discarded from the analysis as it is not unlikely to find in this zone some students who still have not quite made up their minds as to which stance to take with regard to the responses.

Of the 43 who were considered to possess positive self-concepts 18 were boys and 25 were girls. Of those

Table 5.2: Means and Standard Deviations of all Variables, in the Study

Variables	Mean	Standard Deviation
Academic Performance	50.047	10.306
Self-concept	12.140	6.792
Physical Home Conditions	27.645	5.746
Parents' Educational Level	3.656	3.637
Attitude Toward Education	29.945	8.250

with negative self-concept, 24 were girls and 20 were boys.

Summarizing the analyses thus far, it has been argued that the respondents vary widely in their experiences and in the way they are influenced by significant others such as parents, teachers and peer groups. It has also been revealed that self-concept is multi-dimensional and not unalterably fixed. Depending on how the child perceives himself and believes others perceive him, his self-concept may change accordingly. Finally, using the mean and standard deviation of the quantified individual scores of the respondents on the self-concept scale, and the explanation given above, it was possible to categorise the respondents into those with positive self-concept and those with negative self-concept.

2. Social Environment of Students

Generally, social environment is considered to enhance the kind of stimulus a child receive in terms of speech, books, encouragement and family aspirations. It includes facilities such as housing, privacy and monetary resources, the value system of the home, neighbourhood and local peer group. It may even include nutrition, for there is evidence that severe malnutrition during the

first few years of life affects the development of the brain.

As pointed out earlier in chapter one, social environment as used in this study included the child's physical home conditions, parents' level of education, and the child's attitude, toward his education. Each of these is discussed in the succeeding paragraphs.

(i) The Physical Home Conditions.

In this study, physical home conditions included among other things, the living space in the home and the type of lighting system used, the number of meals the child had per day, types and number of books available to the child in the home, routine for domestic chores and child's study habits. In order to ascertain the influence, if any, of the factors of the physical home conditions on the academic performance of the sample students, certain items in the questionnaire, designed to elicit information on the type of amenities available in the homes of the students were analysed. The proportion of respondents giving particular responses to specific questions were as indicated in Table 5.3. The first question in this table asked whether the respondent considered his home spacious. The responses revealed

Table 5.3: Percentage Responses to Items on Sleeping Conditions of Respondents.

QUESTIONS	Respondents (N)	Responses in Percentages										
		Yes	No	On the floor	On a bed	In a chair	Alone	Two of us	Three of us	More than 3 of us	Yes	No
9. Can you say your house is spacious?	263	65.8	34.2									
10. On what do you sleep at night?	273			10.6	88.6	0.8						
11. If you sleep on a bed, how many of you do sleep on it?	238						11.8	46.2	32.8	9.2		
12. Would you say that you sleep under comfortable conditions?	262										69.5	30.5

65.8 percent in the affirmative and 34.2 percent in the negative. The proportion of those respondents living in homes that are not spacious is considered substantial. This type of response may be suggesting that these respondents might be having problems of privacy and study facilities as may be discerned from their responses to later probing questions in this section. The next question listed in Table 5.3 required the respondents to say what they slept on at night. When the responses to this question were tabulated it was revealed that 10.6 per cent of respondents slept on the floor, 88.6 per cent slept on a bed while less than one percent slept either in a chair or some other available surface in the house. The next question probed further whether those who slept on a bed slept alone or shared their beds with other members of the household. It was revealed that 11.8 percent of respondents slept alone, 46.2 percent shared their bed with one person, 32.8 percent shared it with two other persons while 9.2 percent shared with more than two others.

It is probable from these results that the type of living space in the home may exert an influence on the school performance of the children for example, crowded or congested homes may interfere with the children's

learning by the lack of facility for home study or lack of adequate sleep which may reduce their attention span in class. To lend more weight to this argument a probing question was next analysed: 'Would you say that you sleep under comfortable conditions?' As can bee seen from Table 5.3, the responses revealed that 30.5 per cent slept under uncomfortable conditions. This percentage is considered substantial and included almost all of those who shared their beds with two or more other persons. This supports the view that many of the respondents may not be having sufficient privacy for home study.

More question eliciting information on the home conditions of respondents were analysed as listed in Table 5.4. The first question in this table asked whether there were many people living in the respondent's compound. The responses revealed that almost equal numbers of respondents belonged to small households as to crowed homes: 49.1 percent said there were too many people in their compound whilst 50.9 percent said their compounds were not crowded . The high percentage of respondents from crowded homes is further evidence that many students in the sample may lack privacy for quiet study or may not even have

Table 5.4: Physical Home Conditions of Respondents (cont'd.)

QUESTIONS	Respondents (N)	Responses in Percentages							
		Yes	No	One	Two	Three	More than Three	Yes	No
14. Would you say that there are too many people in your compound?	236	49.1	50.9						
19. Do you have to do much work before going to school?	268	52.6	47.4						
20. How many meals do you have a day?	258			32.6	38.7	24.8	3.9		
21. Do you study regularly at home?	270							67	33

developed good study habits in their congested home conditions. The next question in Table 5.4 asked whether the student had to do much work before going to school.

The responses revealed on analysis that 52.6 per cent had to do much work before going to school while 47.4 per cent said they did not have much to do. These percentages show that many of the respondents had a lot of morning chores to do and this might lead to lateness for school and eventual truancy. It might also cause them to be too tired to concentrate in school. Such conditions may culminate in a negative attitude towards school, which is reflected in deteriorating school performance of the students.

The next question listed in Table 5.4 was about the number of meals the respondents had per day. It can be seen from the table that 32.6 percent of respondents said they had one meal per day, and 38.7 percent said they had two meals. To further determine the importance of adequate meals for the enhancement of school performance, two follow-up questions were analysed. The first asked if the respondents studied regularly at home. The responses revealed that 67 percent studied regularly wile 33 percent did not. The latter is quite substantial and

the reasons for not studying regularly were probed in question 22 in Table 5.5. Analysis of the responses showed that most respondents gave several reasons, and one of the most frequently chosen options was that the respondent felt too tired and hungry to study. This may be suggesting that one of the factors contributing to a poor attitude toward school which tends to manifest itself in poor performance may be inadequate and irregular meals provided in the home of the student.

The second items analysed in Table 5.5. required the respondents to state how far away they lived from their schools. The responses revealed that the majority of the respondents (77.3 percent) lived about half a mile from their schools. When asked further whether they were ever late for school, an overwhelming majority of 84.2 percent said that they were sometimes late for school. This is an indication, that there may be a relationship between lateness and distance to school. The long-term effect of this is that it may result in negative, even hostile attitudes towards school culminating in poor performance and eventual drop out from school.

Like the self-concept variable, the items included

Table 5.5: Physical Home Conditions of Respondents (cont'd) in Percentages

QUESTIONS	Respondents (N)	Responses in Percentages											
		No study facilities	Feel too tired and hungry to study	None to assist	Parents do not want you to study	Not interested in studying	Close	Not very far	Far	Very far	Sometimes	Never	Very often
22. If you do not study regularly, is it because	89	57.7	64.4	62.2	22.2	6.6							
23. How far is your school from your house?	261						5.8	16.8	36.4	40.9			
24. Are you ever late for school?	272										84.2	12.5	3.3

* Percentage exceeds 100 because respondents could choose several options.

under the physical home conditions' section of the questionnaire were scored, to yield continuous data. Consequently it was possible to analyse the scores to give two categories of respondents, namely, those with favourable home conditions and those with unfavourable home conditions. To do this, the mean and standard deviation of this sub-variable were ~~a~~ used. (See Table 5.2). To differentiate between the number of respondents with favourable home conditions the mean (27.64) and 0,5 standard deviation (2.87) were used as cut-off points, as an appreciable number of respondents fell within this range. Thus 117 respondents obtained scores that were more than +0.5 S.D. above the mean. These students were considered to have favourable home conditions. Those considered to have unfavourable home condition (a total of 90 students) were those with scores less than 0.5 S.D. below the mean. Those within plus and minus 0.5. S.D. or +-0.5. S.D.) could not be classified as it is likely that this zone contains biased responses.

In summary, this section of the analysis has examined the characteristics of the respondents' homes and tried to relate them to their attitude toward school, and their academic performance. Those respondents whose homes are spacious, less crowded and who sleep in comfortable

conditions were considered to develop positive attitudes toward their education which would tend to be reflected in their academic performance. Domestic chores that would leave the child physically exhausted, inadequate meals as well as the child having to attend a school that is very far away from home, all tend to breed negative school attitudes, which may culminate in truancy and drop-out.

3. Parents' Level of Education

The educational level of parents, in terms of highest class attained in formal education, determines, to a significant degree, their occupational level and therefore, the socio-economic status of the family. The higher the socio-economic status of the family the greater the likelihood that the social environment of the children will be richer and therefore, the higher the educational aspirations of the family. In many developing countries such as Sierra Leone, the literacy level of families is extremely low, compared to developed nations like Britain. Consequently, the parents of most school children are either illiterate or semi-literate. This low level of education of the parents may tend to influence their attitude toward their children's education. If the parents hold a negative attitude, this tends to be inculcated by the children too.

In order to determine the influence of parental level of education on the academic performance of their children, the parents of respondents were placed into three categories based on their academic attainments: literate, with education from Form Five and above, semi-literate, with education from primary Class Seven to Form Four, and illiterate from no schooling to primary Class Six. On the basis of this categorisation, 50 respondents had literate parents, 76 had semi-literate parents and 147 respondents had illiterate parents.

It is surmised from this analysis that those respondents with literate parents are likely to receive more encouragement to work hard at school than those from illiterate homes. Semi-literate parents may, like literate parents recognise the value of education, and provide encouragement and support for their children to learn. Alternatively,

semi-literate parents might revert to the tendency found predominantly among illiterate parents, to be indifferent, and sometimes, because of financial constraints, diliberately cut short their children's education in order for them to earn a living.

It should be noted that, unlike items in the other sub-variables, educational level items cannot be meaningfully analysed on an item-by-item basis.

4. Attitudes of Students Toward Their Education

School experiences do not merely entail the learning of bodies of facts, but also the acquisition of modes of thinking and acting, attitudes, feelings and interests. Attitudes are of over-riding importance in the lives of individual people. They determine what a man will do or say in given situations, what he will enjoy or dislike, his approach to other people, and his reactions to events in his own life and the world around him. Like self-concept, attitude is a psychological construct which can only be indirectly assessed either through observed behavioural change or expressed opinions of the subjects. Since the former method is tedious and time-consuming, in order to determine the attitudes of students in the sample used in this study, questions about school were posed and respondents were required to express their opinions (see Appendix C). Their expressed opinions were scored. The aggregated scores were used to represent a measure of attitude toward school. To determine whether the attitudes of respondents are positive or negative, individual attitude items were analysed. The first three of these items analysed are listed in Table 5.6. The first item asked whether the respondents liked going to school. The responses revealed that all the respondents replied in the affirmative. The next question asked respondents to give reasons

Table 5.6: Respondents' Opinion Poll on their Education

QUESTIONS	Respondents (N)	Responses in Percentages							
		Yes	No	The teachers	The school compound	The other children	The types of subjects	Because I learn a lot	I just like school
4. Would you say that you like going to school?	267	100							
5*. If you like going to school, what are some of the things about school that you like?	267			43.4	22.1	29.2	64	64	8.6

* Percentages exceeds 100 because respondents had more than one option.

why they liked going to school. Several options were given as possible reasons: 43.4 per cent said it was because of their teachers; 22.1 mentioned the school compound; 29.2 per cent said it was because of other children in the school. But the two most frequently selected options were the subjects they did at school and the interesting things they learnt there. These two options were selected by 64 per cent of the respondents respectively. In addition, several respondents (68 students) stated games and sports as their personal reasons why they liked going to school (under the option 'Any other - See Appendix C). From this analysis, it can be seen that the respondents have varied interest in school and these interest determine to some extent, their attitude toward their respective schools.

Further analysis of the attitude scale is shown in Table 5.7. The first question listed in this table asked whether the respondents were usually happy to go to school in the morning. The responses revealed that 93.7 per cent answered in the affirmative. This suggests that a few of the respondents for one reason or the other, felt reluctant to go to school in the morning.

The overwhelming majority of the respondents said they were usually happy to go to school in the morning, indicating that the children in the sample probably had established good peer-group relationships in school. The next question asked whether the students liked their teachers. To this question, 97.4 per cent answered in the affirmative. To further probe the reasons for the dislike of few of the respondents for their teachers, question 14 in table 5.7 asked for the reasons for such dislike. Analysis of the responses revealed that 37.9 per cent of those who chose to answer the question said their teachers were unfriendly;

Table 5.7: Respondents opinion Poll on their Schools in Percentages

QUESTIONS	Respondents (N)	Responses in Percentages											
		Yes	No	They are unfriendly	They are very partial	They are never on time	They waste a lot of time	They cane us a lot	They showed interest in clever pupils	I like school much	I would like some changes	I feel school is a waste of time	I would like many changes
10. In the morning are you usually happy to go to school?	191	93.7	6.3										
11. Do you like your teacher?	192	97.4	2.6										
14. If you do not like your teachers, what is it about them that you do not like?	29			37.9	69.0	62.1	31.0	55.1	24.1				
15*. If a friend asks you to express your feelings about school, what would you say to him/her?	250									61.6	52.4	0.8	20.0

* Percentage exceeds 100 because respondents had several options.

69.0 per cent said they were very partial; 62.1 per cent said they were never on time for their classes; 31.0 per cent felt their teachers wasted a lot of their time 55.1 said their teachers frequently used orporal punishment; and 24.1 per cent felt their teachers showed more interest in the bright children, (another instance of partiality). The nature of these responses may be suggesting that there may be some animosity between some students and their teachers which might be reflected in their overall attitudes toward their education. Therefore, teachers must make every effort to deal fairly with all students in their class if they are not to nurse ill-feelings against them.

The last question analysed in Table 5.7 asked respondents to express their feelings about their school. The responses showed that 61.1 per cent liked school very much, 52.4 said they would like some changes, 0.8 per cent of respondents felt school was a waste of time, while 20.0 per cent would like to see drastic changes in their schools. These responses of the children suggest that on the whole the majority of them have positive attitudes toward school, but they would like to see some improvements in the school organization.

As was done with the other variables in this study, it was worthwhile to try to determine, on the basis of scores obtained in the attitude section of the questionnaire, how many respondents had real positive and real negative attitudes respectively, toward their education. To this end, the mean and standard deviation were utilised. For the attitude scale the mean was 29.94 and standard deviation 8.25. 0.5 S.D. was used as the cut-off point, thereby embracing most of the respondents. It was found that 106 respondents had scores on the attitude scale that were above +0.5 S.D. from the mean. These were the students considered to have real positive attitudes toward school. For those considered to

have negative attitudes 92 respondents were found to lie below -05 S.D. from the mean. The group falling within ± 0.5 S.D. of the mean was discarded as they were likely to have biased responses to the attitude scale.

To summarize this section of the analysis, it has been shown that the respondents generally liked going to school, and they gave various reasons for liking school, such as the interesting things they learned in school. Those students who tended not to like school blamed it mainly on the attitude of their teachers toward them, and the type of discipline enforced in the school. Furthermore, analysis revealed that many of the respondents expressed positive attitudes toward school although they would like to see some changes in the actual school environment. Of the 106 respondents considered on the basis of the mean and standard deviation, to have positive attitudes toward their school, 58 were, on further analysis of the performance scores, found to be above average. Of the 92 respondents that were categorised as having negative school attitudes, 31 were found to have above average performance scores. Finally, attitudes toward school were examined in relation to self-concept. It was revealed that of those with positive school attitudes (106 students) 22 had positive self-concept.

Statistical Analyses of the Data Collected

In Chapter I, certain hypotheses were advanced regarding the relationships between the variables used in this study. These hypotheses have been tested to determine the type of conclusions to be drawn from the data collected. To be able to do this, the data was first subjected to statistical manipulations involving all five variables used in the study. These included school performance (S_p) which served as the depen-

dent variable, and self-concept (S_c), physical Home conditions (H_c), Parents' Educational level (E_1) and Students' Attitudes Toward Education (A_e) which represented the independent variables. The four independent variables are also sub-variables embodied in the social environment (S_e), as stated earlier in Chapter III.

In order to establish a common and comparable basis for all the school performance grades obtained, they were transformed into T-scores. This treatment provided a common mean and standard deviation for the distribution. It was then possible to determine the inter-correlations between the dependent and independent variables by computer-processing the scores of the respondents on all five variables in the study. The inter-correlation matrix thus obtained is shown in Table 5.8.

For a clear and systematic presentation of the statistical analysis that was performed in this study each hypothesis will now be first restated and then followed by its analysis. Each hypothesis was tested at the 95 per cent confidence level with the appropriate degrees of freedom.

Hypothesis I:

That there is a significant relationship between the pupils' self-concept and their academic performance.

To be able to analyse the data pertinent to the above hypothesis the Pearson Product - Movement correlation coefficient, discussed earlier in Chapter IV was utilized. This correlation coefficient is represented by the following mathematical expression:

$$r = \frac{N\Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{\left[N\Sigma X^2 - (\Sigma X)^2\right]\left[N\Sigma Y^2 - (\Sigma Y)^2\right]}}$$

Where r = coefficient of correlation
X = scores on the dependent variable
Y = scores on the independent variable
N = the number of respondents.

From Table 5.8, it can be seen that the computation yielded an r-value of 0.0356. This r-value reveals a very weak but positive relationship between self-concept and school performance. This r-value was subjected to a Z-test of significance at the 95 per cent confidence level with N-1 degrees of freedom, using the following mathematical expression:

$$Z = \frac{r}{Sre}$$

Where r is the Pearson Correlation Coefficienct and,

Sre is the standard error of Z which is $\frac{1}{\sqrt{N-3}}$

N = number of observations.

It was found to be not significant. The very weak relationship revealed by the r-value was such that it could be considered as no relationship at all. This suggests therefore, that no true relationship exists between the two variables, self-concept and academic performance in the population from which the sample was drawn. Therefore, the hypothesis stated earlier that there is a significant relationship between the pupils' self-concept and their academic performance was rejected and the null hypothesis that there is no significant relationship between the two variables was accepted.

This finding suggests that the school performance of the sample children may be independent of their self-evaluations; that is, children with positive self-concepts may perform well or poorly and vice versa.

Table 5.8: Correlation Matrix for all Variables in the Study

	S_p	S_c	H_c	E_1	A_e
S_p	1.0000	.0356	-.0855	-.0025	.2601
S_c		1.0000	.1515	-.0479	.0543
H_c			1.0000	.3400	-.0476
E_1				1.0000	-.0016
A_e					1.0000

Hypothesis II:

> That there is a significant relationship between the pupils' attitude toward school and their academic performance.

The Pearson Product-Moment Coefficient of correlation method was again employed to determine the association between the two variables in this hypothesis. The r-value for this hypothesis, as computed was 0.2601 in the inter-correlation matrix in Table 5.8. This value signifies a fairly weak but positive relationship between pupils' attitudes toward their education and their academic performance. When subjected to a test of significance using the Z-test mentioned earlier, at the 95 per cent confidence level, it was found to be significant. (With N-2 degrees of freedom, Z = 4.33, and it is significant at the 95 per cent confidence level). It follows that there is a true relationship between these variables. It further suggests that the children with positive attitudes toward school are performing well while those with negative attitudes are performing poorly. Consequently the hypothesis which states that there is a significant relationship between school performance and the pupils' attitudes toward school is accepted.

Hypothesis III:

> That there is a significant relationship between the parents' level of education and the academic performance of their children.

The computed numerical value of the coefficient of correlation between parents' educational level and their children's academic performance can be read from Table 5.8 as -0.0025. This extremely low and negative r-value could be dismissed as no correlation at all, as

it could have been caused by chance or sampling error. The Z-test of significance comfirmed this. The hypothesis that there is a significant relationship between parents' educational level and their children's school performance was rejected and the null hypothesis of no relationship was accepted. This is suggesting that the performance of the students in the sample may be independent of whether or not their parents are educated.

Hypothesis IV:

> That there is a significant difference between the performance of children based on their physical home conditions.

In order to fully elucidate the status of this hypothesis, it was necessary to develop dichotomous categories for the physical home condition variables mentioned in the hypothesis: those with favourable home conditions and those with unfavourable home conditions, based on their scores on the physical home conditions sub-variable. To develop these categories, the mean and 0.5 standard deviation were used as cut-off points, as was described earlier in this chapter. When frequencies were counted, 117 respondents were found to have favourable home conditions while 90 had unfavourable home conditions.

The other variable in the hypothesis, school performance was divided into three categories: above average, average and below average. As before, the mean and 0.5 S.D. of this sub-variable were used as cut-off points to determine the frequencies in each category. By this means, it was found that of 117 students with favourable home conditions 27, 53 and 37 were above average, average and below average respectively, and of the 90 students with unfavourable home conditions, 29, 35 and 25 were above average, average and below average respectively.

Based on the foregoing information a 2 x 3 contingency table was developed as shown in Table 5.9. This table shows the observed values in all the six cells. From this contingency table of observed values, a similar table of expected values for each cell was developed (see Table 5.9b).

With both tables of observed and expected values completed, the X^2 value was then computed using the following mathematical expression:

$$X^2 = \sum \frac{(O-E)^2}{E}$$

Where O is the observed values, and
E is the expected values.

The computation yielded a chi-square value of 2.15 (see Appendix F). When this computed value was subjected to a test of significance at the 95 per cent confidence level with 2 degrees of freedom, it was found not to be significant. This result suggests that the null hypothesis of hypothesis IV that there is no significant difference between the students' performance and their physical home conditions was confirmed. Consequently, the hypothesis that there is a significant difference between the two variables was rejected. The result further suggests that the academic performance of the students in the sample may be independent of whether or not they have favourable home conditions.

Hypothesis V:

That there is a significant difference in self-concept between boys and girls.

In order to test the above hypothesis a dichotomous grouping of the respondents was done based on scores in the self-concept scale. Using the mean of the self-concept scale and 0.25 S.D. as cut-off points

Table 5.9: Relationship between School Performance and Physical Home Conditions of Respondents.

Performance

	Above Average	Average	Below Average	
Favourable Home Conditions	27	53	37	117
Unfavourable Home Conditions	29	36	25	90
	56	89	62	207

(a) Observed Values

	Above Average	Average	Below Average	
Favourable Home Conditions	31.65	50.31	35.04	117
Unfavourable Home Conditions	24.35	38.69	26.96	90
	56.00	89.00	62.00	207

(b) Expected Values

(see Table 5.2), a total of 74 respondents were found to have high self-concepts while 84 respondents represented those with low self-concepts. Of the 74 students considered to have high self-concepts, 48 were girls, while 40 out of the 84 students with low self-concept were girls. Based on the above findings a 2 x 2 contingency table was set up as shown in Table 5.10.

The contingency table thus constructed was used to construct another table, the table of expected values as shown. The mathematical expression used earlier, was again employed to compute the chi-square value. The computation yielded chi-square value of 4.72. When this value was subjected to a test of significance with 1 degree of freedom, at the 95 per cent confidence level it was found not to be significant. This suggests that there is no significant difference in the self-concepts of boys and girls in the sample. It further suggests that the children's self-concepts may be high or low irrespective of their sex. Thus the hypothesis of significant difference rejected.

Since the sample of students in the study comprised more or less, equal numbers of boys and girls, it was considered worthwhile to examine the sex variations in the variables used. Consequently, the following hypotheses were advanced and tested in the analyses:

Hypothesis VI:

> That there is a significant difference in academic performance between boys and girls.

To test the above hypothesis, the null hypothesis that there is no significant difference in academic performance between boys and girls in the sample was first declared (i.e. R = 0) at the 95 per cent confidence level.

Table 5.10: The Relationship between sex of children and their level of Self-Concept

Self-Concept

	High	Low	
Boys	26	44	70
Girls	48	40	88
	74	84	158

(a) Observed Values

Self-Concept

	High	Low	
Boys	32.78	37.22	70
Girls	41.22	46.78	88
	74	84	158

(b) Expected Values

The performance variable scores were then examined to find out the number of students in the three categories: above average, average and below average and the proportion of boys to girls corresponding to these categories. The 0.5 S.D. was once again utilised as cut-off points to determine the frequencies. The contingency table shown in Table 5.11 was developed after the frequencies were obtained.

The chi-square (X^2) was then computed using the two tables of observed and expected values by applying the usual mathematical expression.

The chi-square value derived was 16.29 (see Appendix F). This derived chi-square (X^2) value was subjected to a test of significance at the 95 per cent confidence level with 2 degrees of freedom and was found to be signficant. Thus the hypothesis which states that there is a significant difference in the academic performance between boys and girls in the sample was accepted. This result suggests that boys in the sample performed better than the girls.

Hypothesis VII:

> That there is a significant difference in the attitudes toward school between boys and girls in the sample.

Once again chi-square analysis was called into play so as to test the above hypothesis. The frequencies of boys and girls with positive and negative attitudes toward education were determined using the mean and 0.5 S.D. of this sub-variable. The mean and standard deviation of the attitude scale are 29.94 and 8.25 respectively. (see Table 5.2). Using these as cut-off points 106 students were found to have positive attitudes while 92 students had negative attitudes toward school.

Table 5.11: The Relationship between the Academic Performances of Boys and Girls in the Sample

Performance

	Above Average	Average	Below Average	
Boys	49	50	31	130
Girls	24	67	52	143
	73	117	83	273

(a) Observed Values

The Table of Expected Values was computed from the Table of observed Values, (See Table 5.11b).

	Above Average	Average	Below Average	
Boys	34.76	55.72	39.52	130.0
Girls	38.24	61.28	43.48	143.0
	73.0	117.0	83.0	273.0

(b) Expected Values

Of those with positive attitudes 51 were boys and 55 were girls. Of those with negative attitudes, 40 were boys and 52 were girls. Using these proportions, a 2 x 2 contingency table was developed as shown in Table 5.12a. The expected values from this table are shown in (b).

The chi-square was computed from the values in the above contingency tables by means of the usual mathematical expression.

The computation yielded a chi-square value of 0.43. A test of significance of this value at the 95 per cent confidence level with 1 degree of freedom revealed that it was not significant. This suggests that there is no significant difference in attitudes toward school between boys and girls in the sample. This result further suggests that the attitudes toward school of the children in the sample may be independent of their sex.

In a multivariate study such as this it was necessary to determine which of the four independent variables exerted the greatest influence on the academic performance of the children (the dependent variable) in the sample. Consequently the final analytical process was geared to this end, i.e. to find out which of the four independent variables used in this study is/are the most important predictor(s) of academic performance. To achieve this aim, the following mathematical model was used to run a step-wise multiple regression analysis:

$$S_p = f(S_c + H_c + E_l + A_e + \varepsilon)$$

Where

S_p = School performance

S_c = Self-concept

H_c = Physical Home Conditions

E_l = Parents' Educational level

A_e = Attitudes toward education

ε = Some error ter.

Table 5.12: The Relationship between and Attitudes toward Education of Boys and Girls

Attitude toward School

	Positive	Negative	
Boys	51	40	91
Girls	55	52	107
	106	92	198

(a) Observed Values

Attitude toward School

	Positive	Negative	
Boys	48.72	42.28	91
Girls	57.28	49.72	107
	106.0	92.0	198

(b) Expected Values

The computer analysis yielded the following expression:

$$\therefore \quad S_p = 43.98 + 0.6S_c - 0.16H_c + 0.09E_l + 0.32A_e$$

From the above equation, it can be seen that the most significant independent variable influencing school performance in this study is the children's attitudes toward their own education, followed by their physical home conditions. The r-values of both variables were significant at the 95 per cent confidence level.

Discussion

The main thrust of educational research was for many years in the realm of academic prediction and many variables have been isolated to find out which one best promotes learning in the classroom. Apart from identifying the most important determinants of academic performance, research still continues to find out other variables that may have a causal role in school performance. To this end, this study was designed. Analyses of the data obtained have highlighted some of the misconceptions that teachers, educational psychologists, social scientists and parents have held about learning in the classroom. The findings derived from the analyses presented in this chapter are now discussed in the following paragraphs to show how they relate to previous research.

Analyses of the data revealed that more pupils hold high opinions of themselves than those on the low side. When the self-concept variable was differentiated into those with strong positive self-concept and those with strong negative self-concept, it was revealed that, regardless of this, academic performance tended to be independent of the type of self-concept a child possessed. It was interesting to note that children performed well or poorly irrespective of the level of their self-concept. This finding is consistent with those of Badwal, (1969), La Belle, (1970) Bodbo, (1972) and Chang, (1976) who found no significant difference between self-concept and academic performance of high school students. Furthermore, this finding has shown that there are other variables that may account for a child with a high self-concept to perform poorly and one with a low self-concept to perform well. One might hasten to speculate that one such variable is likely to be innate intelligence which

could be an overriding factor in determining an individual child's potential for high academic achievement. Therefore, for the children in this study, one cannot be dogmatic in interpreting the influence of different levels of self-concept on their academic performance.

Notwithstanding the tenuous relationship between self-concept and academic performance, it was clear from the analyses that a substantial number of the children had an uneasy relationship with their teachers in that the latter gave them the feeling that they were not good enough. Such feelings in the students, once they develop into conceptions of an inability to learn certain school subjects become self-fulfilling prophecies. Thus if a child is labelled as stupid by the teacher, the former lives up to that image and makes no effort to improve. According to Lecky, (1945) such feelings lead to a negative self-regard which is reflected in depressed academic achievement. In view of this, the teacher as one of the significant others influencing the child's developing self-concept should avoid being insulting to his children as this tends to damage their self-concept. Every effort should be made by the teacher to enhance positive self-concepts in his pupils by avoiding biases in his perception of them.

In the analysis of the data on academic performance and the influence of physical home conditions, it was revealed that the majority of the children claimed to live in commodious homes, to sleep under comfortable conditions, and to have adequate meals as well as having adequate study facilities. Nevertheless, further statistical analysis revealed an extremely weak and negligible association between academic performance and physical home conditions.

This suggests that the academic performance of the children may be independent of the type of home they come from. As a result, it was noted that the children could perform well or badly regardless of their physical home conditions. Again, it can be speculated that other variables are possibly either acting together with or against the effect of physical home conditions to reveal this pattern of findings. Innate intelligence can again be assumed to play a dominant role. This conclusion is in accord with that drawn by Youla (1984) who found no correlation between academic performance and physical home conditions. However large-scale studies by Burt, (1937), Douglas (1966) and Fraser (1959) documented significant correlation between the two variables. The reason for this disparity in findings is simple. The works cited were longitudinal studies involving multi-stage, stratified sampling techniques, while the present work was a short-term, one-shot study involving a circumscribed student population. Naturally, there were differences in sample size, data collecting instruments utilized as well as differences in geographical locations.

It appears that the effects of home background factors on the academic achievement of children are cumulative and vary with the social mobility of families. This is in keeping with Douglas (1966) who noted that children who were perpetually exposed to impoverished home conditions would become progressively affected by these conditions as they grew older. The findings of the present study may be suggesting that the influence of the physical home conditions on academic performance may be one of degree. If the home conditions are extremely favourable, they may exert a marked positive influence on performance.

Alternatively, an extremely unfavourable set of home background factors may result in severe underachievement and eventual drop-out from school. A stimulating home environment enhances higher levels of academic output by promoting positive attitudes toward education in the learner.

The third set of analyses was on the relationship between academic performance of the children and their parents' level of education. Analysis of the data obtained revealed that there were far more illiterate parents than literate ones. Even when parents were differentiated into semi-literate and literate, illiterate parents outnumbered semi - and literate parents combined. Further statistical analysis revealed that there was no correlation between children's academic performance and their parents' level of education. This lends support to the view that children can do well or poorly at school regardless of whether their parents, too, went to school or not.

In Sierra Leone, there are many families in which only the children have the privilege of going to school. There may be no educated adults in the home that the children may emulate. Yet, these children turn out to be highly educated and inspire other children in the family to learn.

It appears from this finding that, irrespective of their level of education, a growing number of parents have a positive attitude toward the education of their children. Many parents seem to realize the value of education as an instrument of social mobility. Consequently, even though the majority of parents of the children in the study were reported to be illiterate, their children were not the worse for it, compared with the other children. This was probably due partly to the inculcation of a positive attitude toward education both by the parents and

their children. This finding is in accord with those of French (1959), McIntosh (1959) and Yowla (1984) who found that father's educational level and/or encouragement for their children's education bore little or no relationship with test scores. On the other hand, many other workers document better academic achievement for children from literate homes than those from illiterate homes. e.g. Griffiths (1959), Douglas (1966) and Ogunlade (1973). Nonetheless, it can be concluded from the findings in this study that a positive attitude toward education is a critical factor in the school progress of children.

The fourth and final analysis of relationships was that between the children's academic performance and their attitude toward their education. The analysis revealed that the majority of the children had favourable attitudes toward their education. Further statistical analysis showed that the hypothesis that there was a significant relationship between academic performance of the children and their attitudes toward learning was confirmed. This suggests that those children with a positive attitude toward school did better in performance tests than those with a negative attitude. This is to be expected, because without the right attitude and a desire to explore novel situations, nothing can be achieved in life. This conclusion is supported by various research works concerned with different dimensions of school attitudes. Notable among these works which have been already reviewed, include those by Arken and Dreger, (1961), Brown and Holtzman, (1955), Gauverick, (1964), Kaikai, (1971) and Beelick, (1973).

However, the children generally expressed a desire for some positive changes in the school system. This probably implies that there are certain aspects of school life, prevalent today, that give rise to dissatisfaction among school children. School administrators and educational planners are well advised to begin to reflect more seriously on the deteriorating conditions of the learning environment - inadequate school buildings and equipment and poor staff morale to name just two of the more glaring problems - with a view to improving upon them.

Having discussed some of the possible implications of the findings of the analyses of the data on the different variables used in this study, a logical follow-up to this would be to draw general conclusions and make recommendations for the direction of future research in this area. The next and final chapter addresses these issues.

CHAPTER VI

SUMMARY, CONCLUSION AND RECOMMENDATION

SUMMARY

This investigation set out to shed light on the relationships likely to exist between the academic performance of secondary school children and their self-concept as well as specific aspects of their social environment. According to the findings derived from the analyses of the data, academic performance the dependent variable was found to be influenced by the independent variables in a variety of ways. Furthermore, the findings revealed in some cases, new dimensions in the way some of the independent variables acted upon the dependent variable.

In summary, the findings of the study were as follows:

i) The academic performance of the children was found to be independent of their self-concept.

ii) The proportion of the children with a positive self-concept was higher than those with a negative self-concept. There was no significant association between academic performance and level of self-concept.

iii) The students' academic performance was independent of whether they came from favourable or unfavourable home conditions. Analysis showed that slightly more students had ~~u~~favourable home conditions.

iv) The association between academic performance and attitude toward school was found to be positive and significant (i.e. children with positive school attitude) performed better than those with a negative school attitude.

v) The children said that they would like to see some positive changes in the school system.

vi) The majority of the children had parents who were illiterate.

vii) The academic performance of the cyildren was found to be independent of their parents' level of education.

viii) The hypothesis that a significant difference existed between the self-concept of boys and girls was not confirmed. This suggests that no gender differences existed in the self-concept of the children in the sample.

ix) The hypothesis that a gender difference existed in the academic performance of the children was confirmed, with boys out-performing girls.

x) The attitude of the children toward their school was found to be independent of their sex, i.e. no gender difference existed in attitude toward school.

CONCLUSION AND SUGGESTIONS

In order to draw valid conclusions on the findings listed above, each one was examined in turn, and evaluated in the light of existing knowledge. As was revealed in this study, the academic performance and self-concept of the children in the sample bore no signifidant relationship to each other. However, the literature abounds in works which demonstrate significant, linear associations between these two variables, e.g. Purkey, (1970), Coopersmith, (1967) and Marsh, (1986). The lack of congruence between the findings of this and earlier studies might be attributed to the differences in geographical and cultural backgrounds of the subjects as well as differences in methodology. A significant short coming of the instrument used was that it was designed to measure the global self-concept. Nevertheless, the inferences drawn tend to indicate that although low or negative self-concept was not associated with low academic achievement, it is possible that, in so far as academic achievement is concerned, many of the sample children might perceive themselves as inadequate for a number of reasons. Such feelings may cause them to demonstrate depressed academic achievement. This hypothesis however, needs more investigation, especially using academic self-concept rather than global self-concept. On the other hand, if it is true that disadvantaged children do view themselves in a more positive light in practical aspects of life, and show greater independence, then these are qualities which the school should identify and exploit to enhance their self-concepts in other areas.

This study has established no significant association between the physical home conditions of the students and their academic performance. Nonetheless, many other studies have shown that if children lack adequate meals, adequate study facilities and are overworked with domestic chores, their academic output is bound to suffer. Again the disparity in findings might be due to differences in design, methodology and socio-economic factors. So as to make this aspect of the social environment of the learner as congenial as possible, the school authorities, through the forum of parent/teacher associations and periodical home visits, should take the onus of trying to align the child-rearing practices of the home with school regulations and expectations. Whilst economic constraints might prevent a parent from substantially improving the study facilities at home, such a parent may, at least, be urged to take greater interest in his child's school progress by ensuring the child's regular attendance at school. Greater supervision and surveillance of the child's routine engagements by both parties should enhance a much better academic output in the child, as well as help him develop into an emotionally stable individual. A child becomes deviant if, all the parent is interested in is to send him on frequent errands and give him scrappy meals with little or no encouragement in his education. Only an understanding teacher, who the child can confide in, and warm up to will be able to change that child's self-perception from being inadequate, helpless, worthless and inferior.

The attitude of students toward their education was found to be positively and significantly correlated with their academic performance in this study. This finding is consistent with the general findings of most works in this area of research. As long as children have a positive attitude toward their teachers and all that the school stands for, such as a democratic school organization, organized games and sports and the establishment of sound learning principles, they are bound to develop a healthy competitive spirit which will be reflected in high levels of academic achievement. The responses of the children in the sample revealed that their schools may not be offering them enough opportunities for optimum intelledtual and emotional growth. Consequently, they are demanding some changes in the school system. For example, indiscriminate use of corporal punishment by teachers should be reviewed in schools, more facilities for games and sports should be provided in schools to enable more students to engage in healthy, organized, play activities during free periods. Radical changes such as these would enrich the learning environment and help improve the attitudes of the school's clientelle toward itself. Likewise, the teachers' morale and dedication would be enhanced.

The parent's level of education was found to be independent of their children's academic performance. Thus students who had illiterate parents performed well and poorly alike.

It seems likely from this finding that developing a positive attitude toward education by parents does not depend on educational level. In fact, more important than the level of education seems to be the possession of an achievement motivation, i.e. the realization that education is valuable and worth investing in. If many more parents realize that the education of their children is a long-term investment requiring on-going financing and encouragement, then their children will be likely to attain higher levels of academic excellence.

In comparing the self-concepts of boys and girls, it was found that no significant gender difference existed for this variable in the study. However, teachers are urged to sharpen their sense of fair-play in dealing with their male and female pupils, as some children are hypersensitive or neurotic, and failure to mete out an impartial deal to them may be psychologically damaging to them.

The analyses revealed also that the boys in the sample out-performed the girls. Perhaps, this is due to the widespread practice in Sierra Leone of parents not stressing formal education for girls to the same extent as for boys. Some people, especially muslims believe that girls should be allowed only limited formal education as prolonged education may preclude an early marriage arranged by the parents. But for such prejudices, there is research evidence to show that girls are capable of higher intellectual output than boys.

Finally, by stepwise multiple regression analysis it was revealed that the most significant variables in this study influencing the academic performance of the children were first, their attitude toward education and then the physical home conditions.

RECOMMENDATIONS

As far as the influence of self-concept on academic performance is concerned in this study, the multidimensionality of the self-concept seems to have been borne out. The findings revealed that the global self-concept which this study sought to assess bore no significant relationship to academic performance. This finding merely confirmed Marsh and Shavelson's (1985) contention that the relations between self-concept and other constructs cannot be adequately understood if its multidimensionality is ignored. Consequently, in order to determine the causal role of self-concept, it seems expedient to relate the given external criterion to the specific dimension or facet of the self-concept, (in this case, academic self-concept) than to broad measures of the global self-concept.

Owing to financial constraints this investigation has been a one-shot study, involving a captive group of the student population. Inevitably, the findings have been for more limited and tentative in significance than similar studies using larger samples and a longitudinal approach. In order therefore to come up with findings that would be much more conclusive and widely applicable, the sample should be drawn by stratified or multi-stage random sampling.

BIBLIOGRAPHY

Altmann, H. and Firnesz, K. "A Role-Playing Approach to Influencing Behavioural Change and Self-Esteem", Elementary School Guidance and Conselling, 1973 7, 276-81

Ammerman, M.S. and Fryear, J.L., "Photographic Enhancement of Children's Self-Esteem". Psychology in the Schools, 12, 1975. 319-25.

Badwal, B.S. "A Study of the Relationship Between Attitude Toward School and Achievement: Sex and Grade Level". Dissertation Abstract 1969 6 - A 2366.

Banreti-Fuchs, R.M. "Attitudinal and Situational Correlates of Achievement in Young Adolescents". Canadian Journal of Behavioural Science. 1972, 4, 156-164.

Bartl, C.P. and Peltrer, G.L., "The Academic Underachiever in an Industrialized World". School & Society, 1971 Vol. 99, 2330.

Beebe, J.D. "Self-Concept and Achievement Among Elementary Students in an Experimental Program". Unpublished Doctoral Dissertation, University of North Dakota, 1972.

Benjamin, J. "Changes in Performance in Relation to Influences Upon Self-Conceptualization". Journal of Abnormal and Social Psychology, 1950, 45, 473-80.

Best, John, W. Research in Education. Prentice-Hall Inc. Englewood Cliffs, New Jersey, 1981.

Brookover, W.B. & Paterson, A. "Self-Concept of Ability and School Achievement", Sociology of Education 1964, 37, 271-8.

Bruck, M. & Bodwin, R.F. "The Relationship Between Self-Concept and the Presence and Absence of Scholastic Underachievement". Journal of Clinical Psychology, 1972, 18, 181-182.

Burroughs, G.E.R. Design and Analysis in Educational Research 2nd ed. Great Britain, Alden and Newbray Ltd. 1975.

Burt, C. "The Evidence for the Concept of Intelligence". British Journal of Educational Psychology, 1955, 25, 158-77.

Byrne, B.M. "Self-Concept/Academic Achievement Relations: An Investigation of Dimensionality, Stability and Causality". Canadian Journal of Behavioural Science, 1986, 18, 173-186.

Byrne, B.M. & Shavelson, R.J. On the Structure of Adolescent Self-Concept", Journal of Educational Psychology, 1986, 78, 474-481.

Calsyn, R.J. & Kenny, D.A. "Self-Concept of Ability and Perceived Evaluation of Others: Cause or Effect of Academic Achievement?" Journal of Educational Psychology, 1977, 69, 136-45.

Campbell, W.J. "The Influence of Home Environment on the Educational Progress of Selective Secondary School Children". British Journal of Educational Psychology, 1952, 22, 89-100.

Caplin, W.D. "The Relationship Between Self-Concept and Academic Achievement". Journal of Experimental Education, 1969, 37, 13-15.

Chadwick, J.A. "Some Effects of Increasing the Teachers' Knowledge of Their Pupils' Self-Pictures". British Journal of Educational Psychology, 1967, 37, 129-31.

Chang, T.S., "Self-Concept, Academic Achievement and Teacher Ratings". Psychology in Schools, 1976, 13, 111-113.

Coopersmith, S.. "A Method of Determining Types of Self-Esteem". Journal of Educational Psychology, 1959, 59, 87-94.

Coster, L. "Some Characteristics of High School Pupils from Three Income Groups". Journal of Educational Psychology, 1959, 50, 55-62.

Convington, M.V. & Beery, R.G. Self-Worth and School Learning. New York: Holt, 1976.

Cullen, R.J. "Achievement, Ability and Self-Attitude as Correlates of Components of School Satisfaction Among Eight Grade Students. Unpublished Doctoral Dissertation, Kent State University, 1969.

Danzig, L. "Teacher Use of Behaviour Modification Techniques to Improve the Self-Concept of Educable Mentally Retarded Pupils". Dissertation Abstracts International, 1978, 38, 7-A, 4089.

Douglas, J.W.B. The Home and the School. London, Macgibbon & Kee, 1964.

Dusek, J.B. & Flaherty, J.F. "The Development of Self-Concept During the Adolescent Years". Monographs of the Society for Research in Child Development, 1981, 46 (4, Serial No. 191).

Eldridge, M.S. et al. "The Effects of a Group Guidance Program on the Self-Concepts of Educable Mentally Retarded Children". Measurement and Evaluation in Guidance, 1977, 9, 184-91.

Ellerman, D.A. "Self-Regard of Some Primary School Children: Some Australian Data". The British Journal of Educational Psychology, 1980, Vol. 50 Part 1 114-122.

Fink, M.B. "Self-Concept as it Relates to Academic Underachievement". California Journal of Educational Research, 1962 13, 57-62.

Fleming, J.S. & Courtney, B.E. "The Dimensionality of Self-Esteem II Heirarchical Facet Model for Revised Measurement Scales". Journal of Personality and Social Psychology, 1984, 46, 404-421.

Foster, Ashley, "Home Environment and Performance in School". School & Society, 1971, 99, 2330.

Fraser, E.D. "Social Factors in School Progress". Ph.D. Thesis, Aberdeen University Library, 1958.

French, J.W. "The Relationships of Home and School Experiences to Scores on Achievement Tests". Journal of Educational Psychology, 1959, 50, 75-82.

Garverick, C.M. "Retention of School Learning as Influenced by Selected Affective Tone Variables". Journal of Educational Psychology, 1964, 55, 31-34.

Gough, H.G. "Factors Related to Academic Achievement of High School Students". Journal of Educational Psychology 1949, 40, 65-70.

Griffiths, S. "An Examination of the Causes of Deterioration in Academic Performance Among Pupils in a Grammar School". British Journal of Educational Psychology, 1959, 29, 167-9.

Gurney, Peter: "Self-Esteem Enhancement in Children: A Review of Research Findings". Educational Research: The Journal of the NFER, Vol. 29, 2. June 1987.

Hansford, B.C. & Hattie, J.A. "The Relationship Between Self and Achievement/Performance Measures". Review of Educational Research, 1982, 52, 123-142.

Hauserman, N. et al. "A Behaviour Approach to Changing Self-Concept in Elementary School Children." Psychological Record, 1976 26, 111-16.

Jackson, P.W. & Getzel, J.W. "Psychological Health and Classroom Functioning: A Study of Dissatisfaction with School Among Adolescents". Journal of Educational Psychology, 1959, 50, 295-300.

Jerusalem, M. "Reference Group, Learning Environment and Self-Evaluations: A Dynamic Multi-level Analysis with Latent Variables". In R. Schwarzer (Ed.) The Self in Anxiety, Stress and Depression (pp 61-73). Amsterdam. North-Holland Elsevier Science Publishers. 1984 pp. 61-73).

Kaikai, C.M. "The Relationship Among Children's School Attitudes, Moral Judgement Levels and School Achievement in the Seventh Grade". Unpublished Masters' Dissertation, Kent State University Graduate School, 1971.

Khan, S.B. "Affective Correlates of Academic Achievement" Journal of Educational Psychology, 1969, 60, 168-173.

Kulik, C.L. & Kulik, J.A. "Effects of Ability Grouping on Secondary School Students: A Meta-analysis of Evaluation Findings". American Educational Research. Journal, 1982. 21, 799-806.

Kulik, C.I. "Effects of Inter-Class Ability Grouping on Achievement and Self-Esteem". Paper presented at the Annual Meeting of the American Psychological Association, Los Angeles, 1985.

Lavin, D.E. The Prediction of Academic Performance. New York: Russel Sage Foundation, 1965.

La Benne, W.D. & Greene, D.I. Educational Implications of Self-Concept Theory. U.S.: Good Year Publishing Company, Inc. 1969.

Lecky, P. Self-Consistency: A Theory of Personality. New York: Island Press, 1945.

Marsh, H.W. "The Big-Fish-Little-Pond Effect on Academic Self-Concept". Journal of Educational Psychology, 1987. Vol. 29 No. 3 280-295.

Marsh, H.W. "Relations Among Dimensions of Self-Attribution Dimensions of Self-Concept and Academic Achievements". Journal of Educational Psychology, 1984a, 76, 1291-1308

Marsh, H.W. & Shavelson, R.J. Self-Concept: Its Multi-faceted, Hierarchical Structure. Educational Psychologist, 1985. 20, 107-125.

Marston, A.R. Self-Reinforcement: The Relevance of a Concept in Analogue Research to Psychotherapy. Theory, Research and Practice 1965, 2, 1-5.

McCornuck, M.K. & Williams, J.H. "Effects of a Compensatory Program on Self-Report, Achievement and Aspiration Level of Disadvantaged High School Students". Journal of Negro Education, 1974 43, 47-52.

McKeown, R.J. "Modifying Students' Perceptions of School Ability and Role Through Classroom Intervention". Journal of Experimental Education, 1976 45 27-32.

O'Donnell Gerard: Mastering Sociology. MacMillan Education Ltd. London, 1985.

Ogunlade, J.O. "Family Environment and Educational Attainment of Some School Children in Nigeria". West African Journal of Education, 1974, Vol. XVII No. 3 pp 429-32.

Oppeinheim, A.N. Questionnaire Design and Attitude Measurement. London, Heineman Educational Books Ltd, 1979.

Piers, E.V. & Harris, D.B. "Age and Other Correlates of Self-Concepts in Children". Journal of Educational Psychology 1964, 55, 91-95.

Purkey, W.W. Self-Concept and School Achievement: Englewood Cliffs. N.J. Prentice Hall, 1970.

Purkey, W.W. et al. "Self-Perceptions of Pupils in an Experimental Elementary School". Elementary School Journal, 1970. 71, 166-71.

Shrauger, J. & Rosenberg, S. "Self-Esteem and The Effects of Success and Failure Feedback on Performance. Journal of Personality, 1970, 23, 404-14.

Staines, J.W. "The Self-Picture as a Factor in The Classroom". In: Hamechek, D.E. (Ed.) The Self in Growth, Teaching and Learning: Selected Readings. Englewood Cliffs, N.J.: Prentice Hall.

Sweet, A.E. & Burbach, H.J. "Self-Esteem and Reading Achievement". Paper presented at the Annual

Wiseman, Stephen: Education and Environment. England, Manchester University Press, 1966.

Wylie, R.C. The Self-Concept (Rev. Ed. Vol. 2) Lincoln: University of Nebraska Press, United States, 1979.

Youngman, M.B. "Some Determinants of Early Secondary School Performance". British Journal of Educational Psychology 1980, 50, 43-52.

Youla, N.J. "The Relationship Between the Home Environment and the Academic Performance of Children in Kimbo, Cameroon. (1984) Unpublished B.A. Ed. Project, N.U.C. University of Sierra Leone.

Zeeman, R.D. "Creating Change in Academic Self-Concept and School Behaviour in Alienated Secondary School Students". School Psychology Review, 1982, 11, 459-61.

APPENDIX A

SPECIMEN QUESTIONNAIRE ADMINISTERED IN THE STUDY

APPENDIX A

SPECIMEN QUESTIONNAIRE ADMINISTERED IN THE STUDY SECONDARY SCHOOL STUDENTS' OPINION POOL

The aim of this Project is to make suggestions for the improvement of school life so that both secondary school children and their teachers may derive more benefit from their school work. We request you to help us with this investigation by giving your honest and frank opinion in answer to the following questions. The questions are about yourself, your present school and your teachers. It is not a test of your ability and there are no right or wrong answers. You should merely express your true opinion or feeling in answering every question. That is what we consider as the right answer.

The answers you give will be kept a complete secret by the investigator. Your principal, teachers or friends will know nothing about them. However, we shall require you to write your name in the appropriate place because we would like to group all the questionnaires according to similarity in answers.

All you have to do is to put a circle around the letter of an answer which you consider to be true for you. In some questions, there may be several answers that apply to you. You have to circle all of them. Please make sure that you read through all the possible answers given to each of the questions.

Remember that your own answers are the best. There is no point in discussing your answers with other students before writing them down.

If you have any questions or difficulty of any kind with the questionnaire, please feel free to ask the investigator.

Thank you for your co-operation.

_____

Investigator

NJALA UNIVERSITY COLLEGE

DEPARTMENT OF TEACHER EDUCATION

QUESTIONNAIRE

I. ATTITUDE TOWARD SCHOOL

1. My name is .....
2. The name of my school is ..... Form:.....
3. In what class were you admitted to this school?
   I was admitted to this school in Form:.....
4. Would you say that you like going to school?
   (a) Yes
   (b) No
5. If you like going to school, what are some of the things about school that you like? (Tick as many of these that are true to you)
   (a) the teachers
   (b) the children
   (c) the school compound
   (d) the type of subjects we have to do in school
   (e) because I learn a lot of interesting things in school
   (f) I just like to be in school
   (g) any other (please specify) .....
6. If you do not like going to school, what is it about school that you do not like? (Tick as many of these that are true to you)
   (a) the teachers who teach us
   (b) the subjects that we study
   (c) the children in the school
   (d) the type of discipline in the school
   (e) just everything about school
   (f) any other. (please specify).....
7. Do you come to school everyday?
   (a) Yes
   (b) No
8. If your answer to question (7) is Yes, do you always stay in school till the end of the last period?
   (a) Yes
   (b) No.

9. If you do not come to school every day, where do you usually go when you are absent?
(Tick as many of these as are true)

(a) I play games with my friends in the field
(b) I just stay at home
(c) I find things to do that are more interesting that going to school.
(d) Any other. (please specify).....

10. In the morning, are you usually happy to go to school?
(a) Yes
(b) No

11. Do you like your teachers?
(a) Yes
(b) No

12. Do your teachers seem to like you?
(a) Yes
(b) No

13. If you like your teachers, what is it about them that you like? (Tick as many of these that apply to you).
(a) they are friendly
(b) they are fair
(c) they help me understand the lessons they teach
(d) they know their subjects well
(e) they prepare their lessons well
(f) most of them show a special interest in us
(g) they do not care about us a lot
(h) Any other. (please specify).....

14. If you do not like your teachers, what is it about them that you do not like? (Tick as many of these that apply to you)
(a) they are unfriendly
(b) they are very partial
(c) they are never in class on time
(d) they waste a lot of our time
(e) they do show much interest in the clever pupils and not in us
(f) they are always caning us
(g) they are not helpful
(h) Any other. (please specify).....

15. If a friend asks you to express your feeling about school, what would you say to him/her?

(a) I like school very much
(b) I would like some changes in my school
(c) I often feel that school is a waste of time
(d) I would like many changes in my school

II. SELF-ESTEEM SCALE

If a question describes how you usually feel about yourself, put a circle around the letter of the correct answer.

1. Are you usually pretty sure of yourself?

(a) Yes
(b) No

2. Do you often wish you were some one else?

(a) Yes
(b) No

3. Do you think you are someone who is easy to like?

(a) Yes
(b) No

4. Do you and your parents have a lot of fun together?

(a) Yes
(b) No

5. Do you often find it very hard to talk in front of the class?

(a) Yes
(b) No

6. Do you think other people enjoy being in your company?

(a) Yes
(b) No

7. Would you say that you are always doing the right thing?

(a) Yes
(b) No

8. Do you feel proud of your school work?

(a) Yes
(b) No

9. Does some one else always have to tell you what to do?
   (a) Yes
   (b) No
10. Are you often sorry for the things that you do badly?
   (a) Yes
   (b) No
11. Do you ever feel unhappy?
   (a) Yes
   (b) No
12. Would you rather play with children younger than you?
   (a) Yes
   (b) No
13. Do you feel that you are not doing as well in school as you would like to?
   (a) Yes
   (b) No
14. Do you usually have a low opinion of yourself?
   (a) Yes
   (b) No
15. Do you like to give up easily?
   (a) Yes
   (b) No
16. Do you often feel ashamed of yourself?
   (a) Yes
   (b) No
17. Do you often feel upset in school?
   (a) Yes
   (b) No
18. Does your teacher sometimes make you feel that you are not good enough?
   (a) Yes
   (b) No
19. Do you sometimes get the feeling that most people are better liked than you are?
   (a) Yes
   (b) No
20. Do you often get discouraged in school?
   (a) Yes
   (b) No

III. PHYSICAL HOME CONDITIONS

1. With whom do you stay?
   (a) parent
   (b) grand parent
   (c) uncle
   (d) aunt
   (e) a friend of my father's
   (f) my friend
   (g) Any other. (please specify).....
2. Is your father alive?
   (a) Yes
   (b) No
3. Is your mother alive?
   (a) Yes
   (b) No
4. If your parents are alive, are they living together?
   (a) Yes
   (b) No
5. Have your parents ever been separated?
   (a) Yes
   (b) No
6. How many wives has your father?
   My father has ..... wife(ves)
7. How many people are there in your family, (that is, eating from the same pot?)
   .....
8. Apart from your father and mother, do you have other adults living with you in the same household?
   (a) Yes
   (b) No
9. Can you say your house is spacious?
   (a) Yes
   (b) No
10. On what do you sleep at night?
    (a) on the floor
    (b) on a bed
    (c) in a chair
    (d) Any other. (please specify).....

11. If you sleep on a bed, how many of you do sleep on it?
    (a) alone
    (b) two of us
    (c) three of us
    (d) more than three of us
12. Would you say that you sleep under comfortable conditions?
    (a) Yes
    (b) No
13. Are there other families apart from yours living in the same compound?
    (a) Yes
    (b) No
14. Would you say that there are too many people living in your compound?
    (a) Yes
    (b) No
15. What type of light do you use for studying?
    (a) Kerosene lamp
    (b) candle
    (c) oil or pan lamp
    (d) electric light
16. Do you have pipe-borne water supply in your house?
    (a) Yes
    (b) No
17. If your answer to question 16 is No, how far do you have to go to fetch water?
    (a) 50-100 yards
    (b) 100-400 yards
    (c) about half a mile
    (d) about a mile
    (e) more than one mile
18. What type of latrine facilities do you have?
    (a) pit latrine
    (b) bucket latrine
    (c) water closet (flush)
    (d) bush
19. Do you have to do much work before going to school?
    (a) Yes
    (b) No

20. How many meals do you have a day?

(a) one
(b) two
(c) three
(d) more than three

21. Do you study regularly at home?

(a) Yes
(b) No

22. If you do not study regularly, is it because (Tick as many of these that apply to you).

(a) you have no study facilities such as light, table, text books, etc.
(b) you feel too tired and hungry to study by the time you finish your house work.
(c) you have no one to assist you in your studies
(d) your parents or guardian do not want you to study
(e) you are not interested in studying
(f) Any other. (please specify).....

23. How far is your school from your home?

(a) close - 50-100 yards
(b) not very far - 100-400 yards
(c) far - about half a mile
(d) very far - over one mile

24. How do you go to school every day?

(a) on foot
(b) by poda-poda
(c) by bicycle

25. Are you ever late for school?

(a) sometimes
(b) never
(c) very often.

IV. PARENTS' LEVEL OF EDUCATION

1. Did your father ever go to school?
   (a) Yes
   (b) No
2. What school did he attend?
   (a) primary school
   (b) secondary school
   (c) teachers' college
   (d) university college
3. If your father attended only primary school, what class did he complete?
   (a) class three
   (b) class four
   (c) class five
   (d) class six
   (e) class seven
4. If your father attended secondary school, what form did he complete?
   (a) form one
   (b) form two
   (c) form three
   (d) form four
   (e) form five
   (f) form six
5. Is your father working?
   (a) Yes
   (b) No
6. If the answer to question (5) is Yes, what type of work does he do?
   My father is .....
7. Did your mother go to school?
   (a) Yes
   (b) No
8. What class or form did she attain?
   My mother completed class/form .....
9. Is your mother working
   (a) Yes
   (b) No
10. If the answer to question (9) is Yes, what type of work is she doing?
    My mother is a typist/bank clerk/secretary/teacher .....

APPENDIX B

LETTER ADDRESSED TO PRINCIPALS OF SCHOOLS INCLUDED IN THE SAMPLES

APPENDIX B

LETTER ADDRESSED TO PRINCIPALS OF SCHOOLS INCLUDED IN THE SAMPLE

Department of Teacher Education,
Njala University College,
University of Sierra Leone,

19th January, 1988.

Dear Sir/Madam,

I am a graduate student enrolled in the Teacher Education Department of the Njala University College, University of Sierra Leone. As part of the requirements of my programme of study, I am currently engaged in a research project designed to investigate whether there exist any relationships between the academic performances of Form Three pupils and their self-perception and certain environmental factors. I have chosen Kenema as my study area and your school has been included in the study sample.

I am writing to ask for your help in the data-gathering phase of my research project. Initially, I am requesting that you kindly arrange for me to have access to Final Examination Master Sheets for students currently in Form Three for the Academic Years 1985/86 and 1986/87. This is referring to grades for these students when they were in Forms One and Two respectively.

In addition, I should be deeply obliged if you could help me in whatever way you can to facilitate the administration of a Questionnaire on Attitude Toward self-concept, etc. to the students concerned. I shall inform you of the proposed date for the administration of the questionnaire as well as give relevant details on it when I come to the school to collect the examination grades.

I would like to assure you that all the information I gather will be treated in struck confidence and will be used solely for research purposes, and even then, with absolute annonymity.

I thank you very much and look forward eagerly to your kind co-operation.

Yours sincerely,

Murana M. Koroma

APPENDIX C

SCHOOL PERFORMANCE (ANNUAL AVERAGE GRADES) OF THE SUBJECTS

APPENDIX C

SCHOOL PERFORMANCE (ANNUAL AVERAGE GRADES)
OF THE SUBJECTS

Respondent	Raw Score	Respondent	Raw Score
1	51.8	31	54.3
2	46.7	32	48.4
3	59.0	33	47.2
4	55.2	34	45.1
5	64.2	35	57.5
6	57.8	36	53.3
7	50.7	37	60.6
8	55.5	38	55.9
9	55.7	39	64.8
10	53.6	40	56.1
11	48.3	41	56.7
12	52.1	42	73.5
13	48.6	43	48.6
14	48.5	44	73.2
15	52.2	45	58.4
16	48.8	46	51.6
17	50.1	47	55.0
18	66.2	48	61.3
19	66.8	49	54.7
20	46.1	50	49.5
21	47.4	51	51.8
22	54.5	52	56.0
23	49.1	53	46.8
24	49.7	54	55.4
25	49.9	55	55.3
26	49.4	56	56.2
27	63.7	57	56.4
28	66.1	58	50.7
29	47.2	59	72.9
30	57.7	60	67.9

Respondent	Raw Score	Respondent	Raw Score
61	53.2	92	48.8
62	48.1	93	51.7
63	66.5	94	70.3
64	53.5	95	65.4
65	49.2	96	54.6
66	57.8	97	35.4
67	77.5	98	60.6
68	79.7	99	56.6
69	76.9	100	66.2
70	55.2	101	49.4
71	42.0	102	57.7
72	40.3	103	59.3
73	68.4	104	50.9
74	57.8	105	54.1
75	53.3	106	53.8
76	66.5	107	54.4
77	41.8	108	42.3
78	72.2	109	72.4
79	67.7	110	50.8
80	73.0	111	56.7
81	61.3	112	53.8
82	44.6	113	71.2
83	57.4	114	40.9
84	54.1	115	58.3
85	59.0	116	39.7
86	32.3	117	51.9
87	50.5	118	51.5
88	51.1	119	43.9
89	36.0	120	60.5
90	36.5	121	53.3
91	50.0	122	53.9

Respondent	Raw Score	Respondent	Raw Score
123	63.2	154	50.1
124	49.4	155	49.8
125	58.8	156	58.1
126	68.8	157	44.5
127	63.9	158	47.6
128	52.4	159	40.3
129	47.7	160	52.0
130	48.8	161	49.5
131	50.0	162	43.4
132	50.2	163	72.4
133	52.0	164	72.8
134	65.3	165	68.6
135	53.2	166	47.9
136	54.2	167	41.2
137	75.6	168	65.9
138	62.9	169	53.5
139	58.3	170	48.3
140	43.6	171	70.1
141	47.6	172	62.6
142	56.5	173	61.8
143	49.4	174	74.0
144	57.4	175	55.0
145	30.9	176	38.9
146	39.4	177	38.5
147	38.7	178	52.9
148	53.7	179	60.0
149	46.6	180	55.5
150	54.8	181	57.8
151	50.9	182	62.5
152	47.5	183	56.1
153	51.7	184	57.0

Respondent	Raw Score	Respondent	Raw Score
185	44.5	216	57.1
186	64.5	217	50.9
187	58.9	218	56.3
188	62.2	219	84.6
189	45.6	220	70.4
190	52.8	221	57.3
191	62.1	222	56.8
192	46.1	223	71.0
193	52.1	224	63.8
194	57.3	225	72.6
195	52.2	226	72.2
196	50.4	227	50.3
197	50.3	228	59.1
198	62.0	229	54.8
199	52.1	230	52.2
200	53.8	231	51.7
201	63.6	232	57.0
202	54.7	233	53.5
203	52.3	234	61.0
204	65.4	235	59.7
205	55.2	236	49.2
206	45.5	237	41.6
207	48.0	238	60.7
208	52.2	239	63.9
209	46.3	240	43.4
210	74.4	241	48.2
211	53.7	242	47.7
212	59.0	243	59.1
213	50.9	244	63.4
214	65.5	245	52.0
215	55.1	246	48.4

Respondent	Raw Score	Respondent	Raw Score
247	63.3	261	54.1
248	56.3	262	74.4
249	43.9	263	55.8
250	51.8	264	54.1
251	56.2	265	60.6
252	49.7	266	53.6
253	48.1	267	52.9
254	58.4	268	62.1
255	59.4	269	63.4
256	45.5	270	55.6
257	58.3	271	40.5
258	49.8	272	48.5
259	62.5	273	40.0
260	57.2		

APPENDIX D

TRANSFORMED SCHOOL PERFORMANCE SCORES (ANNUAL AVERAGE GRADES) OF THE SUBJECTS)

APPENDIX D

TRANSFORMED SCHOOL PERFORMANCE SCORES (ANNUAL AVERAGE GRADES) OF THE SUBJECTS)

Respondent	T-Score	Respondent	T-Score
1	46.3	32	42.6
2	40.7	33	41.2
3	54.3	34	38.9
4	50.1	35	52.7
5	60.1	36	48.0
6	53.0	37	56.1
7	45.1	38	50.9
8	50.4	39	60.8
9	50.7	40	51.1
10	48.3	41	51.8
11	42.5	42	70.4
12	46.7	43	42.8
13	42.8	44	70.1
14	42.7	45	53.7
15	46.8	46	46.1
16	43.0	47	49.9
17	44.5	48	56.9
18	62.3	49	49.6
19	62.9	50	43.8
20	40.0	51	46.3
21	41.5	52	51.0
22	49.3	53	40.8
23	43.3	54	50.3
24	44.0	56	48.0
25	44.2	56	51.2
26	43.7	57	51.4
27	59.5	58	45.1
28	62.2	59	69.8
29	41.2	60	64.2
30	52.9	61	47.9
31	49.1	62	42.2

Respondent	T-Score	Respondent	T-Score
63	62.7	94	66.9
64	48.2	95	61.4
65	43.5	96	49.5
66	53.0	97	28.1
67	74.9	98	56.1
68	77.3	99	51.7
69	74.2	100	62.3
70	50.1	101	43.7
71	35.5	102	52.9
72	33.6	103	54.7
73	64.8	104	45.3
74	53.0	105	48.9
75	48.0	106	49.2
76	62.7	107	35.8
77	35.2	108	69.2
78	68.9	109	45.2
79	63.9	110	51.8
80	69.9	111	48.6
81	56.9	112	67.9
82	38.3	113	34.2
83	52.6	114	53.6
84	48.9	115	32.9
85	54.3	116	46.4
86	24.7	117	46.0
87	44.9	118	37.6
88	45.6	119	56.0
89	28.8	120	48.0
90	29.4	121	48.7
91	44.3	122	59.0
92	43.0	123	43.7
93	46.2	124	48.6

Respondent	T-Score	Respondent	T-Score
125	54.1	156	53.3
126	65.2	157	38.2
127	59.8	158	41.7
128	47.0	159	33.6
129	41.8	160	46.6
130	43.0	161	43.8
131	44.3	162	37.0
132	44.6	163	69.2
133	46.6	164	69.7
134	61.3	165	64.9
135	47.9	166	42.0
136	49.0	167	34.6
137	72.8	168	61.9
138	58.7	169	48.2
139	53.6	170	42.5
140	37.2	171	66.7
141	41.7	172	58.3
142	51.6	173	57.4
143	43.7	174	70.9
144	52.6	175	49.9
145	23.2	176	32.0
146	32.6	177	31.6
147	31.8	178	47.6
148	48.5	179	55.4
149	40.6	180	50.4
150	49.7	181	53.0
151	45.3	182	58.2
152	41.6	183	51.1
153	46.2	184	52.1
154	44.5	185	38.2
155	46.2	186	60.4

Respondent	T-Score	Respondent	T-Score
187	54.2	218	51.3
188	57.9	219	82.7
189	39.5	220	66.9
190	47.5	221	52.4
191	57.8	222	51.9
192	40.0	223	67.7
193	46.7	224	59.7
194	52.4	225	69.4
195	46.8	226	68.9
196	44.8	227	44.7
197	44.7	228	54.4
198	57.7	229	49.7
199	46.7	230	46.8
200	48.6	231	46.2
201	59.4	232	52.1
202	49.6	233	48.2
203	46.9	234	56.6
204	61.4	235	55.1
205	50.1	236	43.5
206	39.3	237	35.0
207	42.1	238	56.2
208	46.8	239	59.8
209	40.2	240	37.0
210	71.4	241	42.3
211	48.8	242	41.8
212	54.3	243	54.4
213	45.3	244	59.2
214	61.5	245	46.6
215	50.1	246	42.6
216	52.2	247	59.1
217	45.3	248	51.3

Respondent	T-Score	Respondent	T-Score
249	37.6	262	71.4
250	46.3	263	50.8
251	51.2	264	48.9
252	44.0	265	56.1
253	42.2	266	48.3
254	53.7	267	47.6
255	54.8	268	57.8
256	39.3	269	59.2
257	53.6	270	50.6
258	44.1	271	33.8
259	58.2	272	42.7
260	52.3	273	33.2
261	48.9		

APPENDIX E

DERIVED SCORES FROM RESPONSES ON ALL VARIABLES

APPENDIX E

DERIVED SCORES FROM RESPONSES ON ALL VARIABLES

Respondent	S_p	S_c	H_c	A_1	A_e
1	46.3	13	34	7	39
2	40.7	13	28	6	20
3	54.3	12	27	1	20
4	50.1	9	38	0	19
5	60.1	12	19	7	18
6	53.0	11	30	7	36
7	45.1	6	31	5	40
8	50.4	16	35	7	29
9	50.7	13	23	6	32
10	48.3	12	34	1	18
11	42.5	5	27	0	18
12	46.7	14	35	6	17
13	42.8	15	41	10	32
14	42.7	11	13	0	18
15	46.8	13	29	7	38
16	43.0	10	34	7	22
17	44.5	13	31	0	38
18	62.3	16	20	7	36
19	62.9	10	41	11	39
20	40.0	14	33	9	34
21	41.5	13	31	5	15
22	49.3	15	33	11	16
23	43.3	9	30	0	20
24	44.0	11	30	8	20
25	44.2	13	33	9	20
26	43.7	18	23	1	40
27	59.5	14	40	7	25
28	62.2	15	25	3	28
29	41.2	14	35	11	23
30	52.9	17	34	1	40
31	49.1	10	37	5	30
32	42.6	6	24	7	37
33	42.1	13	37	1	27
34	38.9	8	24	0	38

Respondent	S_p	S_c	H_c	E_1	A_e
35	52.7	6	26	10	26
36	48.0	11	34	0	35
37	56.1	14	32	4	23
38	50.9	16	33	10	43
39	60.8	15	32	7	37
40	51.1	8	23	1	32
41	51.8	11	31	5	34
42	70.4	12	19	7	40
43	42.8	9	35	6	25
44	70.1	15	24	0	37
45	53.7	9	34	11	21
46	46.1	9	36	5	40
47	49.9	12	27	4	35
48	56.9	10	28	8	27
49	49.6	15	36	9	38
50	43.8	15	42	1	38
51	43.6	15	31	1	38
52	51.0	14	24	10	34
53	40.8	13	30	1	40
54	50.3	12	34	5	39
55	48.0	11	30	3	32
56	51.2	13	36	5	25
57	51.4	16	30	5	40
58	45.1	11	30	4	27
59	69.8	15	38	10	21
60	64.2	11	35	8	36
61	47.9	15	24	5	30
62	42.2	12	24	8	37
63	62.7	12	30	8	30
64	48.2	8	34	1	31
65	43.5	15	35	7	42
66	53.0	12	28	0	27
67	74.9	13	30	7	34
68	77.3	11	30	12	24
69	74.2	10	32	10	23
70	50.1	13	36	6	22

Respondent	S_p	S_c	H_c	E_1	A_e
71	35.5	14	26	6	27
72	33.6	15	31	6	27
73	64.8	12	24	4	29
74	53.0	11	30	11	37
75	48.0	12	29	4	29
76	62.7	14	32	6	26
77	35.2	13	33	5	26
78	68.9	11	21	0	26
79	63.9	12	27	5	26
80	69.9	17	28	0	33
81	56.9	16	29	3	28
82	38.3	13	30	0	15
83	52.6	15	27	4	34
84	48.9	13	19	6	16
85	54.3	13	26	0	21
86	24.7	12	25	0	17
87	44.9	20	31	0	39
88	45.6	17	32	8	37
89	28.8	12	26	0	14
90	29.4	14	26	0	16
91	44.3	9	27	0	13
92	43.0	9	32	6	22
93	46.2	16	22	5	28
94	66.9	14	18	0	44
95	61.4	18	27	0	38
96	49.5	18	28	0	38
97	28.1	13	22	0	26
98	56.1	15	26	0	29
99	51.7	15	34	10	24
100	62.3	11	10	0	29
101	43.7	13	31	8	29
102	52.9	11	32	0	19
103	54.7	8	18	0	41
104	45.3	13	23	0	21
105	48.9	11	17	0	35

Respondent	S_p	S_c	H_c	E_1	A_e
106	48.6	14	30	0	32
107	49.2	7	25	6	37
108	35.8	13	21	0	29
109	69.2	11	19	0	24
110	45.2	11	32	6	26
111	51.8	6	33	12	27
112	48.6	9	27	11	17
113	67.9	9	18	0	25
114	34.2	12	29	6	22
115	53.6	12	32	9	40
116	32.9	10	25	2	22
117	46.4	9	23	0	33
118	46.0	7	26	3	37
119	37.6	7	28	7	26
120	56.0	10	34	0	34
121	48.0	11	25	10	40
122	48.7	8	27	0	35
123	59.0	10	24	10	42
124	43.7	13	32	0	39
125	54.1	11	28	2	35
126	65.2	18	34	1	17
127	59.8	14	14	0	21
128	47.0	10	19	2	20
129	41.8	8	29	2	31
130	43.0	11	29	0	31
131	43.3	14	32	5	23
132	44.6	9	20	0	38
133	46.6	9	29	8	32
134	61.3	14	32	7	27
135	47.9	8	33	2	14
136	49.0	9	31	6	34
137	72.8	12	24	0	35
138	58.7	9	32	0	33
139	53.6	13	30	10	39
140	37.2	7	22	0	25

Respondent	S_p	S_c	H_c	E_1	A_e
141	41.7	10	29	0	31
142	51.6	14	23	1	40
143	43.7	15	29	0	20
144	52.6	13	26	0	24
145	23.2	6	24	5	14
146	32.6	14	20	0	22
147	31.8	10	21	0	34
148	48.5	13	29	1	14
149	40.6	13	20	9	24
150	49.7	14	22	5	41
151	45.3	12	28	4	28
152	41.6	8	30	2	38
153	46.2	12	28	1	17
154	44.5	11	30	0	21
155	44.1	16	27	0	26
156	53.3	6	25	6	29
157	38.2	12	33	2	24
158	41.7	7	29	0	27
159	33.6	7	32	8	13
160	46.6	11	30	3	29
161	43.8	7	25	1	19
162	37.0	10	25	4	16
163	69.2	11	23	0	29
164	69.7	13	23	0	35
165	64.9	15	28	0	20
166	42.0	11	32	8	16
167	34.0	14	32	11	13
168	61.9	10	26	5	24
169	48.2	10	25	3	44
170	42.5	12	29	6	32
171	66.7	11	22	0	17
172	58.3	9	34	8	42
173	57.4	13	33	5	33
174	70.9	13	27	1	26
175	49.9	10	26	0	16

Respondent	S_p	S_c	H_c	E_l	A_e
176	32.0	9	23	4	27
177	31.6	10	25	2	27
178	47.6	14	35	0	28
179	55.4	12	30	5	40
180	50.4	14	34	4	38
181	53.0	9	20	0	33
182	58.2	12	15	10	37
183	51.1	16	24	0	24
184	52.1	15	31	10	44
185	38.2	11	36	8	15
186	60.4	13	29	4	47
187	54.2	9	17	0	31
188	57.9	15	22	8	38
189	39.5	12	20	4	34
190	47.5	14	38	11	33
191	57.8	9	24	2	35
192	40.0	12	21	1	23
193	46.7	9	11	0	35
194	52.4	12	18	0	34
195	46.8	12	29	6	20
196	44.8	14	26	9	35
197	44.7	13	34	0	34
198	57.7	10	17	0	38
199	46.7	7	19	4	32
200	48.6	13	24	0	24
201	59.4	11	26	6	36
202	49.6	11	28	3	22
203	46.9	15	30	1	44
204	61.4	13	19	6	39
205	50.1	7	21	7	37
206	39.3	13	21	0	40
207	42.1	14	36	3	37
208	46.8	14	39	11	31
209	40.2	9	31	6	19
210	71.4	10	21	0	31

Respondent	S_p	S_c	H_c	E_1	A_e
211	48.4	11	27	3	14
212	54.3	12	36	8	36
213	45.3	15	31	9	31
214	61.5	10	30	4	26
215	50.1	13	32	11	30
216	52.2	10	29	2	33
217	45.3	9	27	1	19
218	51.3	13	32	0	32
219	82.7	19	23	0	44
220	66.9	12	35	0	45
221	52.4	11	12	0	42
222	51.9	12	27	2	20
223	67.7	15	30	8	44
224	59.7	14	27	0	41
225	69.4	14	33	0	38
226	68.9	10	31	0	27
227	44.7	10	20	0	32
228	54.4	16	28	0	34
229	49.7	9	25	9	17
230	46.8	11	17	4	36
231	46.2	9	30	4	39
232	52.1	10	29	10	33
233	48.2	10	30	3	40
234	56.6	13	25	3	39
235	55.1	13	16	3	31
236	43.5	14	33	5	27
237	35.0	8	28	0	22
238	56.2	11	30	0	47
239	59.8	9	30	0	37
240	37.0	8	31	6	19
241	42.3	12	24	0	29
242	41.8	11	23	4	31
243	54.4	10	27	0	28
244	59.2	12	26	0	43
245	46.6	12	31	5	33

Respondent	S_p	S_c	H_c	E_1	A_e
246	42.6	14	28	8	28
247	59.1	13	30	5	27
248	51.3	12	22	0	27
249	37.6	11	34	4	26
250	46.3	10	17	0	33
251	51.2	11	24	0	33
252	44.0	10	26	6	35
253	42.2	14	29	8	32
254	53.7	12	23	0	35
255	54.8	15	32	0	31
256	39.3	14	28	3	37
257	53.6	15	28	0	36
258	44.1	12	26	0	40
259	58.2	13	32	0	39
260	52.3	12	24	7	37
261	48.9	11	22	2	35
262	71.4	13	16	4	33
263	50.8	7	26	0	21
264	48.9	13	30	7	28
265	56.1	13	15	0	34
266	48.3	14	31	0	35
267	47.6	15	30	0	17
268	57.8	9	23	0	27
269	59.2	8	28	0	24
270	50.6	14	31	0	45
271	33.8	10	22	5	29
272	42.7	7	17	0	31
273	33.2	10	30	0	35

APPENDIX F

CHI-SQUARE COMPUTATIONS ON VARIOUS HYPOTHESES

APPENDIX F

CHI-SQUARE COMPUTATIONS ON VARIOUS HYPOTHESES

i) Relationship Between School Performance and Physical Home Conditions of Respondents

Applying the mathematical formula:

$$X^2 = \sum \frac{(O - E)^2}{E}$$

$$= \frac{(27-31.65)^2}{31.65} + \frac{(53-50.31)^2}{50.31} + \frac{(37-35.04)^2}{35.04} + \frac{(29-24.35)^2}{24.35}$$

$$+ \frac{(36-38.69)^2}{38.69} + \frac{(25-26.96)^2}{26.96}$$

$$= \frac{(-4.65)^2}{31.65} + \frac{(2.69)^2}{50.31} + \frac{(1.96)^2}{35.04} + \frac{(4.65)^2}{24.35} + \frac{(-2.69)^2}{38.69} + \frac{(-1.96)^2}{26.96}$$

$$= 0.68 + 0.14 + 0.11 + 0.89 + 0.19 + 0.14$$

$$= \underline{2.15}$$

ii) Relationship Between Sex of Children and their level of Self-Concept

Applying the formula:

$$X^2 = \sum \frac{(O - E)^2}{E}$$

$$= \frac{(26-32.78)^2}{32.78} + \frac{(44-37.22)^2}{37.22} + \frac{(48-41.22)^2}{41.22} + \frac{(40-46.78)^2}{46.78}$$

$$= \frac{(-6.78)^2}{32.78} + \frac{(6.78)^2}{37.22} + \frac{(6.78)^2}{41.22} + \frac{(-6.78)^2}{46.78}$$

$$= 1.40 + 1.24 + 1.11 + 0.98$$

$$= \underline{4.73}$$

iii) Relationship Between Academic Performance of Boys and Girls in the Sample

Applying the mathematical formula:

$$X^2 = \sum \frac{(O - E)^2}{E}$$

$$= \frac{(49-34.24)^2}{34.24} + \frac{(50-55.72)^2}{55.72} + \frac{(31-31.52)^2}{39.52} + \frac{(24-38.24)^2}{38.24} +$$

$$= \frac{(67-61.28)^2}{61.28} + \frac{(52-43.48)^2}{43.48}$$

$$= \frac{(14.76)^2}{34.24} + \frac{(-5.72)^2}{55.72} + \frac{(-8.52)^2}{39.52} + \frac{(-14.24)^2}{38.24} + \frac{(5.72)^2}{61.28} + \frac{(8.52)^2}{43.48}$$

$$= 6.36 + 0.59 + 1.84 + 5.30 + 0.53 + 1.67$$

$$= \underline{16.29}$$

iv) Relationship of Attitudes Toward School of Boys and Girls Applying the formula:

$$X^2 = \sum \frac{(O - E)^2}{E}$$

$$= \frac{(51-48.72)^2}{48.72} + \frac{(40-42.28)^2}{42.28} + \frac{(55-57.28)^2}{57.28} + \frac{(52-49.72)^2}{49.72}$$

$$= \frac{2.28}{48.72} + \frac{(2.28)^2}{42.28} + \frac{(-2.28)^2}{57.28} + \frac{(2.28)^2}{49.72}$$

$$= \underline{0.43}$$