A STUDY OF THE RELATIONSHIP BETWEEN KENYAN SECONDARY SCHOOL PUPILS' ACHIEVEMENT MOTIVATION AND EDUCATIONAL/OCCUPATIONAL LEVELS OF THEIR PARENTS

EZEKIEL MUTINDA KITIVO

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DECLARATION

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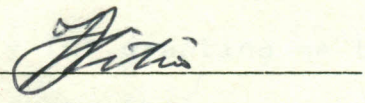

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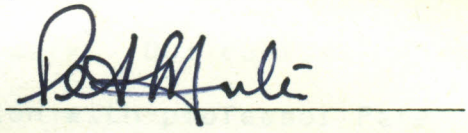
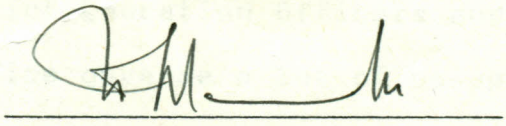


DR. P.K. MUTUNGA
SENIOR LECTURER
DEPARTMENT OF EDUCATIONAL COMMUNICATION
AND TECHNOLOGY
FACULTY OF EDUCATION
KENYATTA UNIVERSITY



DR.J.N. MAUNDU
SENIOR LECTURER
DEPARTMENT OF EDUCATIONAL COMMUNICATION
AND TECHNOLOGY
FACULTY OF EDUCATION
KENYATTA UNIVERSITY

1989

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ABSTRACT

This thesis was a study of the relationship between the Kenyan Secondary School Pupils' achievement motivation (Abbreviated nAch - need for achievement) and the parental education and occupation. The need for such a study was given impetus by the lack of such kind of data in the developing countries, especially Kenya. The study examined and tested four research null hypotheses:-

(i) There is no significant relationship between the father's educational level (ELF) and the respondent's nAch (need-for-achievement) score.

(ii) There is no significant relationship between the mother's educational level (ELM) and the respondent's nAch score.

(iii) There is no significant relationship between the father's occupational level and the respondent's nAch score.

(iv) There is no significant relationship between the mother's occupational level and the respondent's nAch score.

The respondent's for this study consisted of a total of 305 Form III pupils from nine (9) in Kwale and Mombasa Districts of Kenya (Table 3.1). In each school, the selected pupils were given tests in achievement motivation in form of pictures for them to writes stories about (Appendix D). A questionnaire for obtaining information on parental education and occupation was also administered to the pupils (Appendix A).

The stories were scored for achievement motivation following a standard scoring procedure (called 'scoring system C') to obtain achievement motivation (nAch) scores. Parents were classified into four educational and occupational level each, given arbitrary scores 1 to 4. These score (for parental levels) were then correlated, using the Pearson production moment correlation coeffi-cient method, with the nAch scores of the pupils. The results of this correlation were staggering. The correlation between the father's education and the pupils' nAch scores was positive, low and significant ($r=0.120$, $P<0.05$) and that with the mother's education was positive and significant too ($r=0.130$, $P<0.05$) showing that nAch of pupils increases with parents' education.

The father's occupation was insignificantly correlated with the pupils' need for achievement ($r=0.070$, $P>0.05$) while that of the mothers was both positively and significantly correlated with the nAch scores ($r=0.15$, $p<0.05$ again showing an increase of nAch of children with the occupation of mothers.

One-way analysis of variance (ANOVA), performed on the pupils' mean nAch scores for the parental educational and occupational levels showed that the differences between these mean nAch scores within the levels were statistically significant.

From the above findings, it is recommended that a programme of counselling on career choices for the pupils and training for achievement motivation for the parents, be

organised so that parents can be trained on how to raise the level of achievement motivation in their children by setting standards of excellence for their children. This may be useful not only in improving their childrens' academic achievement but also in enabling them to succeed later in life.

CHAPTER I

1.0. INTRODUCTION

After every four years of secondary education in Kenya, thousands of pupils enter the labour market. Different pupils leave school with varied aspirations concerning what they would like to do in the world of work. What the pupils expect to do in future may have a lot to do with what they are achieving in school in terms of academic performance. The academic performance is, on the other hand, very much related to the pupil's orientation towards success[1]. The future of a young person-success in careers, business and whatever else- is influenced quite a lot by the home environment. "Occupational choice is still largely determined in most societies traditionally. A son tends to do whatever his father does."[2]

Children's aspirations may not always agree with those of their parents. Infact there is a basic problem in that "----when parents do or say what children consider to be contradictory to their natural expectations, they (children) experience 'cognitive dissonance' (irreconcilable, intellectual confusion) which is very painful...[3]". It is with this in mind that parents should always try to reconcile their own aspirations with those of the child.

1.1. PURPOSE OF THE STUDY

In the light of the above, the researcher in this study wanted to find out whether:-

(a) the minds of Kenyan Secondary School pupils were occupied with any aspirations for achievement, thoughts of success and failure, and how strong the concern was to compete with standards of excellence (need to achieve).

(b) these aspirations and thoughts were in any way related to the family background of the pupils. In particular, this study attempted to find out, if any relation existed between the pupils' need to achieve and the socio-economic status of the parents.

The socio-economic status of a person had been determined in the NCERT Report[4] by a combination of the person's educational level, occupational level and income. One's income is a very difficult item to determine, especially in places where educational or occupational level does not relate to the income accredited to it. Hence, the present study related only the educational levels and occupational levels of the parents with the need-to-achieve (Abbreviated as nAch) scores of their children. The investigator's aim was to find out whether the more educated the parent was, the higher the nAch

score of the son/daughter and vice versa. In the case where a parent was not alive, a guardian was considered.

1.2. NEED FOR THE STUDY

Although a number of researches had been conducted in various countries on problems related to achievement motivation, little had been done in Kenya on this field. Some study had been undertaken relating achievement motivation and scholastic achievement in Kenyan secondary schools.[5] The findings from this study showed inconsistent correlations between achievement motivation and scholastic achievement; some negative and some positive.

One other study related to what the present investigator wanted to find out was done in India by the National Council of Educational Research and Training(NCERT). In this study only the father's educational and occupational levels were considered, and although both were found to have some relation with the mean nAch scores of the sons, the relation was found to be non-linear. This study stimulated the interest of the present investigator to find out whether or not similar findings obtain in Kenya and hence the choice of this topic.

1.3. STATEMENT OF THE PROBLEM

The main purpose of this study was to find out whether there was any relationship between the pupils' need to achieve and the educational or occupational

levels of both parents. Thus the study sought to find out the relationship between:

(a) nAch Score of a pupil and the educational level of his/her parents.

(b) nAch Score of a pupil and the occupational level of his/her parents.

1.4. HYPOTHESES

The NCERT study findings showed some relationship between the nAch scores of sons and their fathers' educational levels, which was not linear. Fathers with professional or semi-professional qualifications or a university degree had sons with higher nAch scores than all others. Yet the sons of fathers with little or no education had higher mean nAch scores than those whose fathers were of high school education. Thus the nAch levels did not increase with increasing educational levels of the respondents' fathers.

In Kenya, the situation may or may not be any different. In view of this, the following null hypotheses were cited for testing:-

Hypothesis 1.4.1.

There is no significant relationship between the father's educational level (ELF) and the respondent's nAch scores.

Hypothesis 1.4.2

There is no significant relationship between the mother's educational level (ELM) and the respondent's nAch Score.

Similarly, the NCERT Indian study findings led to the conclusion that "boys whose fathers were following some semi-professional vocation showed a consistently higher mean nAch score than other boys", followed by subjects from the skilled workers group and then subjects from the professional and unskilled workers groups. Infact, the mean score from the professional group was even lower than that from the unskilled workers group. The above staggering results led to the following null hypotheses being cited.

Hypothesis 1.4.3

There is no significant relationship between the father's occupational level (OLF) and the respondent's nAch score.

Hypothesis 1.4.4

There is no significant relationship between the mother's occupational level (OLM) and the respondent's nAch score.

1.5. LIMITATIONS AND SCOPE OF THE STUDY

Like any other study, this present one had its limitations. This investigation was meant to cover the whole of Kenya in order to give a better picture of the Kenyan situation about the problem in question. However, time and financial constraints limited the size of the sample tested. About 300 respondents were selected from two of the forty one districts in Kenya. However, it is important to note that the respondents were from well selected schools such that majority of the categories of parents in Kenya were represented.

In an attempt to minimize individual differences, respondents were selected from one class only. However, there were found some differences within the same class such as personality, intelligence(I.Q), and age which may have influenced the responses given.

Moreover, most of the respondents may not have had any experience in the tests used. They may have wondered why they were being given such tests and therefore may not have answered as required. Thus, the responses may not give the imagery sought for, achievement imagery.

It was, at the same time, found difficult for the respondents at their level of education, to give the correct occupation of the parent. Most could not tell the difference between a doctor and a clinical officer, for example.

Similarly, it was also found difficult to give the parental educational levels. Such information is not often given to children by parents.

This study was primarily limited to the achievement motivation score of the pupils in relation to the parents' education and occupation. No attempt was made to study how and whether education and occupation influenced the nAch score or what qualities these different classes of parents had.

Similarly, no attempt was made to get the attitudes or opinions of the parents towards the future education or occupation aspired by their children. Also, there was nothing done to get the rearing practices of the different classes of parents vis-a-vis the nAch scores obtained by their children.

1.6. BASIC ASSUMPTIONS

This study was undertaken with the following basic assumptions:-

(a) that the subjects in the study were capable of writing imaginative stories, with achievement imagery, based on pictures.

(b) that the subjects were also capable of giving correct and forthright information to the questions in the questionnaire.

1.7. SIGNIFICANCE OF THE STUDY

This study was found to be of significant importance to Kenyan education because of a number of considerations: First and foremost, it was hoped that the findings would stimulate the interest of future researchers to undertake further investigations in this field of achievement motivation, an area of study which is generally quite under-researched in the developing countries, Kenya included, as shown by the literature review (chapter II). It is the belief of the investigator that this will add to the insufficient repertoire of knowledge in this field.

The guidance and counselling services given to children in schools have a lot to gain from the findings of a study as the present one. Finding a relation between nAch score of a child and his/her parents attributes would help the counsellor to guide the uninformed youngster concerning his/her future career aspirations. This task does not concern the school counsellors alone. It involves the parents also, who are a great factor for the success of their children in achieving their goals, and play a major role in shaping their attitudes. CERI(1961)[8], on "The views of the young", found that 'the task for guidance begins with the young people and their families.'

Parents have also been found to act as their children's models with their occupations acting as good predictors of the future careers of the children. A relation between a child's nAch score and the parent's occupation or education would strengthen this prediction and help in the guidance process. Morgan(1964)[9] found that "there is a slight (non-significant) tendency for the Highs (those with high nAch scores) to have higher level occupations than their fathers." He went on to add that "consistent with the higher education of those with high achievement motivation, there is a tendency for those with more education to be planning ahead."[10]

Supporting the above argument, Musgrove(1966)[11] said that "there may be social encouragement for sons to follow in their fathers' footsteps. The sons of doctors, lawyers, parsons and teachers, themselves become doctors, lawyers, parsons and teachers, to quite a remarkable degree."

1.8. DEFINITION OF TERMS AND ABBREVIATIONS

1.8.1. Low Education: This was used to refer to the formal education recieved upto and including standard seven (or eight).

1.8.2. Middle Education: This referred to formal education upto secondary, including High school (i.e. 'A' level).

1.8.3. High Education: Formal educational upto at least a University degree and above.

1.8.4. Unskilled and Semi-skilled Workers group: This group included those at the lowest level of the occupational ladder, such as general labourers, peasant farmers, petty traders, copy typists, messengers, cooks, et cetera.

1.8.5. Skilled Workers Group referred to all occupations with some skill training. Examples are carpenters, mechanics, drivers, primary school teachers, and junior nurses.

1.8.6. Semi-professional group included all those occupations that were between the skilled workers group and the professional group. Examples are secondary school teachers, college lecturers, junior government officers, research and laboratory assistants.

1.8.7. Professional group: This was the top most group of the occupational ladder which included engineers, doctors, University lecturers and professors, senior government officers, managers of commercial firms, big businessmen, advocates, etc.

1.8.8. Status: This word was used to refer to a position in society.[12]

1.8.9. 'Harambee' School[13]

This is a school that has been constructed and is maintained by the local community. The word 'harambee' is a political slogan started as at Kenya's independence with the meaning "pulling together". Thus a 'Harambee' school has been constructed by putting resources together for a common cause.

1.8.10. Government Assisted School

This is a school in Kenya constructed by the local community but which gets some assistance from the Central Government in form of teachers and equipment.

1.8.11. Private School

This is a school run by organizations (like churches) or individuals, mostly on commercial basis. Some of these were the so-called Mission schools.

1.8.12. The 8.4.4 System of Education

This is a system of education in which one spends a minimum of 8 years in primary school, 4 years in secondary school and 4 years at University. It was introduced in Kenya in 1986 to replace the former 7.6.3 system of education.

1.8.13. Educational levels

Parental Education was classified into four levels, namely I-IV. Level I included those parents who had never attended any formal schooling; level II included those who had attended at least a primary school class up to standard seven/eight, while level III contained parents with Secondary education including high school (i.e. Forms 5/6). Finally, level IV was for parents with at least a first degree.

1.8.14. N-Ach

This is the internationally accepted abbreviation for 'Need to Achieve' which is the achievement motive (or achievement motivation). This is the motive to compete with some set standard of excellence. This standard could be self set also. An example is "working hard to become a famous musician or businessman or doctor." In this study, n Ach scores were scored from written stories and then used as a measure of the achievement motivation.

1.8.15. NCERT

This is an abbreviation for "National Council for Educational Research and Training", based in India. This council did a number of researches on achievement motivation, at the same time designing a course for achievement motivation training.

1.8.16. S.E.S.

This is the abbreviation for "socio- economic status", a term that was used by the NCERT to be a composite score of one's educational level, occupational group and monthly income.[14] Though this study did not use the term as above, it is infrequently mentioned to refer to the educational and occupational levels only.

1.9. ORGANIZATION OF THE STUDY

In this study, the investigator set out to find out the relationship between the Kenyan Secondary School pupils' achievement motivation and the parental level of education and occupation. This study has been divided into FIVE main chapters.

Chapter I consists of nine subsections which include the purpose and need of the study, statement of the problem and hypotheses, outline of the limitations, assumptions, scope, and significance of the study.

The second chapter presents a survey or review of the literature on this subject. Most of the literature reviewed streches upto the late '70s, with only one study on the field of achievement motivation done in Kenya by then. No one study had been conducted in Kenya as at the time of this study, relating achievement motivation scores to the levels of parental education or occupation.

A description of the research design, selection of the tools/instruments and the sample used and the collection and treatment of the data are outlined in chapter III, which has been titled "Methodology". The data took the form of stories written by the respondents which were to be scored later following a given scoring system.

Chapter IV deals with the presentation, analysis and interpretation of the collected data so as to lead to the testing of the hypotheses stated for the study. Tables of the nAch scores and arbitrary scores given to the parental educational and occupational levels, are presented in this chapter. Statistical analysis of the data is then done using the 'Z'-test and simple analysis of variance (ANOVA). The product moment correlation coefficient is also calculated to compare the above sets of scores (nAch and levels of educational/occupation) and thus obtain a measure of nAch - parental occupation/education relationship.

The last chapter tries to come into a conclusion based on the results in chapter IV. This chapter also summarises possible implications of the conclusions and gives recommendations for further study on this topic.

FOOTNOTES ON CHAPTER I

[1]The National Council of Educational Research and Training (NCERT), The Achievement Motive in High School Boys. (New Delhi: Publication unit 9, Eastern Avenue, Maharani Bagh, 1969), p.3.

[2]David C. McClelldand, The Achieving Society.(New York: D. Van Nostrand Company, Inc., 1961), P.239.

[3]_____ "Parenting: Parents Beware-Your Kids listen sometimes", In D.W. Kabithe (Ed). Psychology Digest, Vol.I No.8), P.12.

[4]NCERT, op. cit., P.47.

[5]J.N. Maundu, A Study of the Relationship Between Kenyan Secondary School Pupils' Need to Achieve and their Performance in School Subjects. (Unpublished M.Ed Thesis, University of Nairobi, 1980).

[6]NCERT, op.cit, pp 49-52.

[7]Ibid.

[8]Centre for Educational Research and Innovation (CERI), Education and Work: The Views of the Young.(Paris: organization for Economic Development, 1961), p.58.

[9]J.N. Morgan, "The Achievement Motive and Economic Behaviour." In Atkinson, J.W. and Feather, N.T.(Eds.). A Theory of Achievement Motivation. (New York: Robert E. Krieger Publishing Co., 1966), P.217.

[10]Morgan, op:cit., p.219.

[11]F. Musgrove, The Family Education and Society. (London:, Routledge and Kegan Paul Ltd, 1966), p.91 The word 'parson' is an older usage for a preacher or pastor.

[12]D.C. McClelland---------op.cit., p.206.

[13]Schools in Kenya are presently classified as 'public' and 'private' schools only. At the time of this study, this classification was still a proposal for the future.

[14]NCERT---------op.cit., p.47.

CHAPTER II

2.0. REVIEW OF RELATED LITERATURE

2.1. Introduction

In this chapter, a definition of achievement motivation is given. A brief trace of the origins/ sources of achievement motivation is provided, reviewing literature that relates it with other social parameters as parental education and occupation. The researches cited in this chapter provide the general background and rationale to the present study. The study does not intend to make a replica of what has already been done elsewhere, but to compare the ideas in those findings to the Kenyan situation.

Motivation, a human behaviour, is of particular interest to educationists, especially as a component of learning. Being a complex field, consisting of multifold facts, it is determined in various ways. One type of motivation, the achievement motivation, is found in humans only, and can be determined through the behaviour of humans themselves. Other animals would not have achievement motivation; they are endowed with other primary biological drives of hunger, thirst, and procreation.

2.2. Meaning of Achievement Motivation

Psychologists do not share a common definition of achievement motivation. It is just as late as 1975 when Bolles[1] reported:

> "There is little agreement among different proposals about what the defining criteria (of motivation) should be -------. What one proposes as a definition of motivated behaviour seems to depend more on his theoretical commitments than upon anything in the behaviour itself."

Thus, different definitions have been given by various authors. Among these is Guy LeFrancois' definition(1980)[2] where motive"refers to all forces, internal or external, involved in accounting for the instigation, direction and termination of behaviour."

The important point to note in the above definition is that the forces initiate and give direction to behaviour, and at the same time terminate the behaviour. The behaviour leads to achievement of a specific goal; once that goal is achieved the behaviour is terminated. The nature of the goal may be power-related (power motivation), an affiliation to somebody or something (affiliation motivation), hunger satisfaction, and so forth. In achievement motivation, the goal is to achieve some standard of excellence in life set for you, or even self set.

Achievement motivation is a double word made of both the words 'motive' and 'achieve'. The Oxford Advanced Learner's Dictionary of current English (1974) defines 'achieve' as "complete, accomplish; get (something) alone; gain or reach by effort e.g. achieve one's purpose; achieve success or distinction in life." Thus, the goal in achievement motivation is some accomplishment or success in life.

The other characteristic of achievement motivation evident in the above definition, is that, there is some effort put to gain or reach the set goal or standard. Thus achievement of a set standard is not a matter of luck as is the case in gambling.

Heckhausen's definition of achievement motivation takes into consideration the need for a standard of excellence:

> "The striving to increase or keep as high as possible one's own capability in all activities in which a standard of excellence is thought to apply and where the execution of such activities can, therefore, either succeed or fail."[3]

From this definition, it is evident that an achievement-oriented person will always anticipate success and failure at the same time. "Successes and failures occur in an area of medium difficulty; achieving something that is too easy is not experienced as success and failing at

something too difficult is not experienced as failure" (Hoppe, 1930)[4].

An achievement-oriented person has a goal to achieve. In order to do this, he has to approach success and avoid failure. Indeed, "people with strong achievement motives would seek out situations in which they could get achievement satisfaction-------, set achievement standards for themselves rather than relying on extrinsic incentives provided by the situation (e.g. special rewards like time off from work or money prize)-------, try to reach standards they set for themselves."[5] Thus just for the feeling of accomplishment alone, man will work long hours under poor working terms and conditions.

2.3. ORIGINS/SOURCES OF ACHIEVEMENT MOTIVATION

Though a lot so far has been said about achievement motivation, not much seems to be known about its origin and how it develops. A number of studies have been done that lead us to a conclusion that certain factors help the development of achievement motivation. Several examples are summarized below.

2.3.1. Rearing Practices

> McClelland et. al. (1953) say: "all motives are learnt, developing out of repeated affective experiences connected with certain types of situations and types of behaviour.

> In the case of achievement motivation the situation should involve 'standards of excellence', presumably imposed on the child by the culture or more particularly by the parents as representatives of the culture----------"[6]

McClelland et. al., in this study, concluded that it is the cultures or families which stress competition with standards of excellence that should produce children with high achievement motivation. According to them, if there exists a relation between nAch scores of children and the education or profession of the parents, for example, then it could be stated that the more educated a parent is, the greater the stress on the standards of excellence; or the parents in high profession stress standards of excellence on their children.

However, another finding attributed to McClelland et. al., showed that sons who ranked low in achievement motivation tended to perceive their fathers (and mothers to a lesser extent) as more friendly and helpful while sons with high nAch perceived their fathers as unfriendly and unhelpful[7]. In a similar study, they also found that young men of college age who thought that their parents were clever, successful and self confident, did not have high nAch scores. However, another investigation showed that the high school sons with high nAch tended to judge their fathers as more rather than less successful[8].

A study on children's perception about their parents in relation to their achievement motivation is not part of our investigation presently. A finding of this kind would help us to conclude about which parents are more friendly and helpful and which are not; whether it is the educated or not or those in high professions or not. Thus, one origin of achievement motivation in Kenyan secondary school pupils would have been found.

The NCERT, after a series of researches, concluded that "the process of socialization of the child and the child rearing practices employed for socialization seem to be the key to the development of achievement motivation."[9] For example, McClelland et. al. and Winterbottom[10] seem to concur at the point of the child's dependence or independence on the parents and its training. They agree that low nAch is found with children who have difficulty in cutting family ties. Together with this is the age at which training of independence starts and the severity of weaning, both of which were found to be positively correlated with nAch scores.[11] However, a study in Japan by Hayashi et. al. (1962)[12] did not find a correlation between parental insistence on self-reliance and their children's achievement motivation.

Some researches have suggested a kind of relationship between the level of achievement motivation and achievement demands on the individual in a given family or society.[13] In an experimental study, the fathers of boys with high nAch scores were found to be men who were willing to set aside while their sons were performing some activities. Rosen and d'Andrade(1973)[14] suggested that dominating fathers seemed to be a threat to the boys.

When studying parent-child interaction, Banks(1973)[15] concluded that "the more or less authoritarian the parent, the greater or less the level of achievement motivation." He feels that the use by parents of love oriented techniques of discipline and reasoning rather than physical punishment, appeared to be related to pupils' achievement motivation.

Though the present study deals with parents, their rearing practices are not under investigation. However, there is need for such literature which portrays the true picture of the Kenyan situation.

2.3.2. Birth Order

The position of one's birth in a family has been found to have some relation to achievement motivation. The reason for this may be difficult to trace but could probably be attributed to the rearing practices(already mentioned) in different cultures. Atkinson and Miller(1956)[16]

found that American first born children are quite highly motivated. However, in other cultures such as India and Japan, it is the younger children who are more highly motivated (McClelland, 1961, p.374). Sampson's experiments in America[17], indicate that firstborn males are inclined to greater social conformity and have a stronger need for achievement than later borns. First-born girls, on the other hand, showed a greater independence than later-borns.

The selection of the samples for the Kenyan study being undertaken did not take into consideration the birth order of the respondents. In this study, birth order may be regarded as one of the intervening variables.

2.3.3. Family Size

The size of a family has been found to either further or hinder the development of strong achievement motivation. Rosen(1961)[18] saw that the influence of the family size on the achievement motivation of boys varies with social class. He found that in the upper classes, medium-size families produce boys with the highest scores while in the middle class, the smaller the family, the larger the score.

Clausen(1966)[19] said that a child from a relatively large family is likely to receive low scores

on achievement and scholastic tests. His explanation for such a situation was that, in a large family there is low achievement motivation. Thus, it may be expected that the sample selected portrays low nAch scores as the average Kenyan family is relatively large as shown by the following comment in Ominde's 'Kenya's Population Growth and Development to the year 2000 AD'[20].

> "---It is evident---the sample surveys show an estimated total fertility rate of 8 births per woman, the census shows lower estimated rates of about 6 births per woman---"

A family size of 6 may be considered large in world standards.

2.3.4. Famils Stability

The environmental conditions in a family in which a child grows seems to affect the levels of his achievement motivation. A few studies have been conducted to gauge the influence of the structure of the family on achievement motivation of a child. Veroff et. al. (1960)[21], for example, found that broken homes or weak ties between the parents hinder the development of achievement motivation. Bradburn(1963)[22], on the other hand, found that in an authoritarian society, like Turkey, separation from the father before adolescence favours high achievement motivation.

The present study did not concern itself with how stable Kenyan families are and as such nAch of the pupils could not be compared with the family stability. Though there were indications of single parenthood in the sample, this could not exclusively be taken as a measure of family stability.

2.3.5. Other Influences

Religion, especially in its extremes, has been found to affect levels of achievement motivation. Studies on the Protestant Reformation (in the 16th century) showed that it stressed perfection (high standards of excellence) in every detail of performing one's duty on this world, thus tending to be authoritarian, a factor that encourages development of high nAch.

On the other hand, Buddhism and Hinduism stress values that are non-conducive to the development of high nAch. Such values include discouragement in any concern with earthly achievements, terming such as a snare and a delusion[23]. The Kenyan sample being presented here, comprised of christians, muslims and a neglible number of Hindus.

Some interesting data on body physique were obtained by Cortes which showed that "nAch is significantly positively correlated with mesomorphy (strong, mascular physiques) and negatively with ectomorphy (thin, fragile physiques)"[24]. Other influences have been cited as those from climate,

which incorporates rainfall, temperatures and so on. On climate, McClelland had this conclusion:

> "low nAch is associated particularly with tropical climates which are hot, humid and show little temperature variation. High nAch is associated with moderate dry climates which also tend to have poor soil."25

This conclusion was found to contradict the Yoruba case[26], who have one of the highest nAch levels. In any case, whatever the conclusion about climate that could be, our study in Kenya did not find it an issue as the two Kenyan districts included in the sample belong to the same climatic region, the coastal zone, with its humid climate and relatively high temperatures throughout the year.

2.4. NEED ACHIEVEMENT(nAch) AND THE SOCIAL CLASS

Studies done in several countries show that a relation exists between the need for achievement(nAch) of a person and the socio-economic status (SES) of the society in which he lives. McClelland (1953, 63-64)[27] pointed out that the achievement motive in an individual or society develops out of growing expectations, saying the demand put on the individual by his social environment contributes to the development of his desire for success. This was clearly demonstrated in the Indian NCERT study, where the

socio-economic status (SES) of a school was found to be correlated significantly with the pupils' nAch scores. The results showed highest mean nAch score in the higher SES school subjects, followed closely by subjects from low SES schools and lastly subjects from the middle SES schools.[28] However, the relationship was not linear.

Katz (1964)[29] tried to explain the high nAch of the low social status subjects by showing that the accumulation of possessions, job security and satisfaction (rather than excellence) increase in importance from lower to higher social classes in this order. However, it is the middle class (and not the low class), that seemed to feature at the top of most achievement motivation studies. This(middle class) is a class that has just achieved something, at least a class higher, and can see room ahead for improvement and possible advancement into a higher class(the upper class). This supports Heckhausen's observation that: "high nAch promotes more continuous striving and higher expectations".[30] In addition to that, Teevan and Smith had this to say concerning the social classes:

> "The individual who is a member of the middle class American society is constantly in what we call an achievement situation-----a situation on which achievement and striving are highly valued activities and are thus socially rewarded."[31]

Studies on achievement motivation, particularly in U.S.A., show that achievement motivation generally increases from lower to higher social classes with middle class subjects generally having the highest scores. McClelland(1961, p.379) and Rosen (1956, 1961)[32] have all conducted studies which support this idea.

Mahone(1966)[33] argues that the experience of upward mobility, common with the higher prestige categories, may produce an increase in the strength of achievement motivation. Thus, on the whole, though there are variations, most studies seem to hold the idea that the higher the social class, the higher the nAch scores.

The present studies took into consideration two of the elements which constitute a social class, namely, parental education and parental occupation. These two variables are discussed in the next two sections, 2.5 and 2.6 respectively.

2.5. NEED-ACHIEVEMENT(nAch) AND PARENTAL EDUCATION

The education of parents has been thought to have some effect on the achievement of the children, since educated parents have different rearing practices from illiterate ones. The NCERT report in India showed, at least, that the fathers with the highest educational qualifications had sons with the highest nAch scores.

However, the trend was reversed down the line, with higher nAch scores being obtained from sons of fathers with little or no education than those whose fathers possessed a high school education.

Though the above staggering results exist, there is some evidence that the educational environment in a home is an important factor in the development of nAch in a child. Hayashi et. al. (1962)[34] have concluded that "parents of highly motivated children attach more value to good education and to more education." Hence, the children of the highly educated parents are likely to develop high achievement motivation.

Similar studies by Kagan and Moss (1962) and Morgan (1966)[35] indicated some positive correlation between education of parents and nAch scores of their children. Morgan attributed this relation to the 'educability' of the home where there are shared hobbies of an 'intellectual' kind, and a greater pressure for success in education. In such a home, the level of education manifests itself throughout the style or way of life. In the Kenyan study under presentation, the levels of education of both the father and mother were considered separately.

2.6. NEED-ACHIEVEMENT(nAch) AND PARENTAL OCCUPATION

The NCERT Report gave interesting results on nAch of sons versus fathers' occupation with the semi-professional group, which includes secondary school teachers, college lecturers and junior government officers, having sons with the highest mean achievement motivation score, yet the highest professional group of such people as professors/university lecturers, doctors, engineers, and managers of large firms had sons with the lowest nAch scores. The semi-professional group was described as the struggling elite, who tried to encourage their children to achieve what they could not achieve (the peak of the profession), though there is evidence that they were on their way.

However, Littig and Yeracaris(1965)[36], in an American study, showed that "upward or downward occupational mobility is associated with high and low achievement motivation respectively, giving occupation a great importance in determining nAch levels, at least in America."

Like education, the occupation of the parents creates an environment vital for the child's development. Musgrove(1966) supports the idea by saying that higher occupations avail both material well being to the adolescents and motivating effects to achieve like the parents. Thus, higher nAch is expected in sons of the professional group

than in sons of all the other occupational groups, unlike the NCERT study.

The present study sought to ascertain whether or not occupational status was in any way related to the achievement motivation in a Kenyan population.

2.7. MEASUREMENT OF ACHIEVEMENT MOTIVATION

The usual method of measuring motives is by making use of the many projective techniques in behavioural science. Among the common ones are the word association (and sentence completion), the Rorschach technique and the Thematic Apperception Test (TAT) technique.[37] The projective techniques are used to measure, not only motives, but also such other attributes as attitudes and personality.

'The Oxford Advanced Learners Dictionary of Current English (1974)' defines 'project' (verb) - something onto somebody- as "to attribute unconsciously (usually unpleasant tidings such as guilt, inferiority) to other people (often as a means of justification or self defence)." When motives, for example, are projected onto somebody else, as observed from the above definition, they may be for self defence (from some guilt or inferiority) or it may be the projection of good intentions in a person but ascribed to somebody else. For example, a comment as "He is studying hard to become a doctor" could be one's good intention but said about somebody else.

The Thematic Apperception Test (TAT) technique has been used to measure achievement motivation as it concerns itself with "features of or events in the subject's life situation."[38] The TAT technique was first published in 1935 (as a method for investigating fantasies: The Thematic Apperception Test) based on the fact that "an individual confronted with an ambiguous social situation and required to interpret it was likely to reveal his own personality in this process."[39] Generally, the TAT involves some pictures of people in an activity from which the subject is required to extract information from the picture and write a story or make a statement about the picture.

The word 'thema' from which the technique derives its name has almost the same connotation of the everyday word 'theme', which means "subject (idea) on which one speaks, writes or thinks" (Concise Oxford Dictionary). In the present investigation, the respondents wrote stories about pictures. What was unconsciously portrayed in the stories gave the theme of the story. The intention of this study was to score for the 'achievement motive theme.' The essential thing is that "the thema is 'appercieved', that is, the subject recognizes in some way the implications of the stimulus material."[40]

Murray[41] argues that the "chief value of the TAT stories resides in its power to evoke fantasies." He suggests that "if the pictures are presented as a test of imagination the subject's interest, together with his need for approval can be involved in the task that he forgets his sensitive self and the necessity for defending against the probings of the examiner, and before he knows it he has said things about an invented character that apply to himself- things he would have been reluctant to confess in response to a direct question."[42]

The pictures, used under normal testing conditions (chapter III), were believed to have sufficient ambiguity to evoke a variety of ideas. The respondents in the present study had to ascribe some motives to the characters they saw in the pictures and put them in form of a story. The strength of an individual's concern with achievement was represented by the number of achievement-related ideas in the stories. This count is called the score for need-for-achievement(nAch-see 1.8.14). This score is distinguished from the score of a person's actual successful achievements.

2.8. RELATION OF NEED-ACHIEVEMENT(n-Ach) TO SUCCESS-FAILURE

The motive to achieve has a lot to do with the need to succeed. Any mention of achievement motivation involves success in one way or another. And success may occur out of an effort to avoid failure. Atkinson (1966) suggested that the achievement-related situation arouses both nAch or the motive to achieve success (Ms), and anxiety or the motive to avoid failure (M_{AF}). He, together with Litwin (1960)[43], hypothesized that persons high on nAch and low on anxiety ($M_s > M_{AF}$) show greater performance at competitive tasks than those low on nAch and high on anxiety ($M_s < M_{AF}$).

In the present study, there were stories written under neutral conditions. When these stories were scored, some high scores may have been due to categories representing a tendency to avoid failure or escape from achievement-related situations rather than due to actual striving towards achievement (or success). To support this notion, Heckhausen(1967)[44] concludes:

> "success and failure are always incidences related to an achievement-oriented person-environment relationship and thus are transient terminal states related to achievement situation."

However, it is also possible that other high scores on the stories could be due to the actual striving towards success.

2.9. CONCLUSION

This research set out to find the relationship between nAch scores of secondary school pupils in Kenya and the levels of education and occupation of their parents. The literature just reviewed shows, in some cases, that this relationship is significant, while in other cases, staggering results are observed.

The survey of the literature also reveals that there are various influences on achievement motivation which seem to depend on cultural differences. Examples include the child rearing practices and religion. The present study did not concern itself with these factors, but concentrated on the determination of the relationship between the nAch scores and parental education and occupation.

FOOTNOTES ON CHAPTER II

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[2]Kleinginna, op. cit., P.286.

[3]Heinz Heckhausen, The Anatomy of Achievement Motivation, (New York: The Academy Press Inc., 1967), P.4.

[4]Heckhausen, op. cit., P.5.

[5]David C. McClelland, The Achieving Society, (New York: D. Van Nostrand Company, Inc., 1961), P.45.

[6]D.C. McClelland, J.W. Atkinson, R.A. Clark & E.L. Lowell, The Achievement Motive, (New York: Irvington Publishers Inc., 1953), P.275.

[7]D.C. McClelland, et.al., op.cit., P.280.

[8]McClelland, et.al., op. cit., pp.281-282.

[9]The national Council of Educational Research and Training (NCERT), The Achievement Motive in High School Boys, (New Delhi: Publication unit 9, Eastern Avenue, Maharani Bagh, 1969), P.65.

[10] (i) McClelland et. al., op. cit., p.286

(ii) NCERT, Loc. cit.

[11]McClelland et. al., op. cit., pp.293-295

[12]Heckhausen, op. cit., p.154.

[13]NCERT, op. cit., P.5.

[14]Olive Banks and Douglas Finlayson, Success and Failure in the Secondary School: An Interdisciplinary Approach to School Achievement,(London: Methuen and Co. Ltd., 1973), P.67.

[15]Banks, op. cit., pp.69-70

[16]Heckhausen, op. cit., P.159.

[17]Frank Musgrove, The Family Education and Society, (London: Routledge & Kegan Paul Ltd., 1966), P.76.

[18]Heckhausen, Loc. cit.

[19]J. Kaheeru-Katigo, Home Environment and Adolescent Adjustment: The Implications for the School Counsellor, (Unpublished M.A. Thesis, University of Nairobi, 1980)P.39.

[20]Simon H. Ominde, Kenya's Population Growth and Development to the year 2000 A.D., (Nairobi, Heinemann Kenya Ltd., 1988), P.35.

[21]Heckhausen, Loc. cit.

[22]McClelland, op. cit., p.375

[23]McClelland, op. cit., p.356

[24]McClelland, op. cit., p.373

[25]McClelland, op. cit., p.386

[26]Ibid

Yoruba is a West African tribe in the tropics.

[27]NCERT, op. cit., P.5.

[28]NCERT, op. cit., P.45.

[29]Heckhausen, op. cit., P.23.

[30]R.C. Teevan & B.D. Smith, Motivation, (New York: McGrawHill Book Company, 1967), P.118.

[31]Teevan, op. cit., P.112

[32](i) NCERT, op. cit., P.63.
(ii) NCERT, op. cit., P.64.
(iii) Heckhausen, op. cit., P.131.
(iv) D.C. McClelland, "Some Social Consequences of Achievement Motivation." In M.R. Jones(ed), Nebraska Symposium on Motivation, (Lincoln: Nebraska University Press, 1955), P.49.

[33]C.H. Mahone, "Fear of Failure and Unrealistic Vocational Aspirations." In J.W. Atkinson and N.T. Feather, The Theory of Achievement Motivation, (New York: Robert E. Krieger Publishing Co., 1966) P.201.

[34]Heckhausen, op. cit., P.154.

[35](i) Heckhausen, op. cit., P.159.
(ii) J.N. Morgan, "The Achievement Motive and Economic Behaviour." In J.W. Atkinson and N.T. Feather, op. cit., P.221.

[36]Heckhausen, op. cit., P.31.

[37]Boris Semeonoff, Projective Techniques, (London: John Wiley and Sons Ltd., 1976), P.102.

[38]Ibid.

[39]S.S. Tomkins, The Thematic Apperception Test: The Theory and Technique of Interpretation (New York: Grune and Stratton, 1947), P.3.

[40]Semeonoff, op. cit., P.104.

[41]Semeonoff, op. cit., P.105.

[42]Ibid.

[43]NCERT, op. cit., P.79.

[44]Heckhausen, op. cit., p.5

CHAPTER III

3.0. METHODOLOGY

3.1. INTRODUCTION

The main purpose of this study was to find out what relation, if any, exists between the Secondary School pupils' achievement motivation and parental education and occupation. Data for the study was collected in one stage. Achievement Motivation was measured by means of a Thematic Apperception Test (TAT) in form of pictures. This test was administered to secondary school pupils who wrote imaginative stories based on the pictures. These stories were then scored following a standard achievement motivation scoring procedure (called scoring system C, developed by Murray in 1938)[1], to obtain need-for-achievement scores.

Parental education and occupation levels were determined through questionnaires. The respondents were asked to write down the levels of formal education attained by their parents; they were also asked to state and explain the professional duties of their parents. Subsequently the parents were grouped into four educational and occupational levels respectively, each level being given an arbitrary score. These scores were then compared with the nAch scores to establish whether there was any relationship between achievement motivation and parental education and occupation.

3.2. SAMPLE SELECTION

3.2.1. Selection of Schools

Selection of schools was done through stratified sampling within two districts in Coast province. In all, nine(9) schools were selected. These consisted of Harambee schools, Private (or mission) schools, and Government maintained schools (Table 3.1). The schools were selected from Mombasa and Kwale Districts of Coast Province (Kenya). The two districts were arbitrary chosen, first, because of convenience in terms of funding and time. In addition, these districts happened to be among those in which very little research had been done. In particular, no research had been done there on the field under investigation. An important consideration was also the fact that one of the districts represents an urban set up while the other represents a rural one. A list of the nine(9) schools used in the study is presented in Appendix C.

3.2.2. Selection of Pupils

Form III pupils (i.e. those in their third year in secondary schools) served as respondents for the study. These pupils were chosen for the following reasons and assumptions:-

(a) The advanced classes (i.e. forms 5 and 6) were not available in all the schools tested. Hence, for the sake of uniformity, the investigator could not use pupils of different levels of education for this study.

(b) There were no form four pupils (i.e. those in their fourth year of secondary schooling) in 1988 because of the changeover from the former system of education, 7.6.3(7 years of primary schooling, 6 years of secondary schooling and 3 years at University) to the current one, 8:4:4 .

(c) It was assumed that the junior secondary school classes (forms 1 and 2) had not developed enough verbalization to write good imaginative stories with sufficient achievement imagery, the subject of our investigation.

(d) The form III pupils were expected to portray more achievement imagery in their stories than the rest, as that was the class that had to compete for University places with the last form six students of the outgoing system, in 1990, and as such should have had high aspiration for the future.

The data was collected in October/November 1988 to avoid the exercise interfering with the smooth preparation of the pupils for the Kenya Certificate of Secondary Education[2], in October/November 1989.

For the nine schools tested, a total of 360 pupils were expected from an average of 40 pupils from each school. Since an average Kenyan class has 40 pupils, and for smooth school administrative considerations, it was decided that a class per school be used intact. One stream was randomly chosen from a school with more than one stream. Where the classes were single-streamed the investigator used the whole stream; some streams had more than 40 pupils, while others had less. The total number of pupils who took part in this study was, finally, three hundred and thirty one(331). Out of the 331 pupils, twenty six were used for purposes of practising the story scoring procedure using system C (Appendix F).

The sample that was used in the final analysis of this study consisted of three hundred and five (305) pupils. Table 3.1 below shows how these were distributed across school type and sex of the pupils.

TABLE 3.1.

SAMPLE FOR THE STUDY BY SCHOOL TYPE

SCHOOL CODE	SCHOOL TYPE	NO. OF BOYS	NO. OF GIRLS	TOTAL
A	HARAMBEE(ASSISTED/DAY)	23	18	41
B	GOVERNMENT(BOARDING/ DAY)	23	12	35
C	GOVERNMENT(BOARDING)	32	-	32
D	PRIVATE(MISSION/BOARDING)	28	-	28
E	PRIVATE(DAY)	26	7	33
F	GOVERNMENT(BOARDING/DAY)	35	-	35
G	PRIVATE(MISSION/DAY)	-	37	37
J	PRIVATE(MISSION/DAY)	28	4	32
K	HARAMBEE(ASSISTED/DAY)	22	10	32
	TOTAL	217	88	305

The data in the table show that most of the classes had less than the expected average enrolment of 40(forty). This situation was brought about by the absence of the pupils; some had been sent home for school fees.

3.3. INSTRUMENTATION

(a) Achievement Motivation

In this study, a series of five TAT type pictures were used. These pictures had been made use of in a Kenyan secondary school situation[3] and had been found to elicit an achievement motivation imagery. They were bound together in form of booklets leaving enough space for the writing of the stories. Appendix D shows the pictures used, in this order:

PICTURE NUMBER	PICTURE DESCRIPTION
1	Doctor with a patient
2	Girl writing
3	Man digging
4	Furniture making
5	Boys practicing football playing

(b) Educational and Occupational Levels

Parental education and occupation were obtained from the pupils through a prepared questionnaire. The educational levels were already grouped into four categories - University education and above, secondary schooling, primary schooling and 'not gone to school'-in which the pupils placed both the mothers and fathers separately.

The respondents were required to give detailed explanations of the professional duties of each of the parents, so that there would be no confusion about the occupation. For example, a subject who gave 'doctor' as his/her father's occupation would give an explanation that left no doubt that his father is not just a 'nurse'. At the same time, the educational level given occassionally guided in deciding the level of occupation. A person who had not gone to school at all could not be expected to be an engineer. Parents were also classified into four categories namely the professional group, the semi-professional group, the skilled workers group and finally at the bottom of the occupational ladder, the unskilled and semi-skilled workers group.

3.3.1. Limitation of the TAT-Type Pictures

The TAT-type pictures used in this study have the following limitations:

(i) Some respondents may have low nAch scores which are false lows' because they have 'fear of failure', which is so great that it blocks achievement imagery of the stories altogether[4] by being unable to verbalize the achievement categories in their stories.

(ii) Some individuals may be unable to write a story in the time alloted to them while another will fill a whole record sheet with ease.

Heckhausen[5] says that "the discriminative power of the TAT method is best under neutral conditions and with pictures of moderate achievement cue value", while McClelland et.al. (1953) Atkinson(1958b) and Veroff(1961)[6] have done researches that raise the issue that people from different social backgrounds may react differently to the same stimulus.

3.3.2. In Support of TAT-Type Pictures

Although the TAT stories have the above limitations, the scoring system attempts to minimize these problems by not scoring a category more than once per story, no matter how many times it appears. In addition, the time limit imposed on all subjects prevents any marked differences in story length due to extra persistence[7].

Heckhausen[8] has the following to say in support of the TAT pictures:

(i) The subject remains unaware of the true aim of the test. So bias plays a minor role.

(ii) The inner motive of experience and behaviour are 'tapped' in the fantasy stories rather close to the source before they become less recognizable because of a number of further psychological factors and external reasons which all affect their final manifestation in behaviour.

(iii) The TAT method allows a wide latitude within which person-environment relationship can be apperceived and elaborated in a most individual manner.

3.4. TREATMENT/ADMINISTRATION

In this study, the administration of the tests was done by the investigator himself without any other assistance. His arrival to each school was preceeded by a letter addressed to the headmaster/mistress, outlining the purpose of the visit. On the day of the visit, all the headmaster /mistress or their representative had to do was to introduce the researcher to the selected pupils with just enough emphasis to make the respondents co-operative; avoiding relaxation and anxiety at the same time.

Though there are about six conditions in which TAT type pictures are administered, three of these are commonly used: the relaxed, neutral(or normal) and achievement-oriented test conditions[9]. Under the relaxed conditions, the subjects are given the impression that there is nothing really serious about the tasks they are going to perform. The subjects are asked not to sign their names giving the impression that the experimenter is not taking the situation very seriously but just trying new ideas.

In the achievement-oriented condition, the experimenter makes deliberate attempts to bring in additional achievement-related cues. He is introduced as a Mr.X from such and such a University/College who is conducting a serious investigation in Psychology. Additional cues are introduced in form of instructions to increase the motivation of the respondents.

In the neutral condition, which was used in the present study, the purpose of the task to be performed is introduced in such a way that the respondents get the impression that the task is of importance and that their co-operation is required. However, the respondents are left, without any attempt to raise their motivation deliberately. Infact the word 'test' is never mentioned during the introduction.

From the above, it can be pointed out that responses depend very much on the test administration and the test condition. In this study, the administrative procedure was on the following lines:

(a) The introduction of the purpose, as to give a neutral test condition by the head of the school or his representative. The researcher was then left alone with the pupils.

(b) The investigator read the instructions[10] which were on the first page of the booklets containing the picture cues (Appendix B).

According to the instructions, the pupils were allowed to look at one picture at a time, for twenty (20) seconds and then allowed to write a story based on the picture for four(4) minutes, following the guiding questions given below. No pupil was allowed to look at the next picture before others.

(c) The guiding questions[11] were introduced to ensure the pupils gave complete coverage in their stories. These were:

(i) What is happening? who are the persons?

(ii) What has led up to this situation? That is, what has happened in the past?

(iii) What is being thought? What is wanted? By whom?

(iv) What will happen? What will be done?

These guiding questions were meant to stimulate the pupil to cover his whole pattern of life in the story- his thinking about past, present and future. The instructions cautioned the pupils to avoid describing the pictures but rather create imaginative stories about the pictures. These, the investigator reminded them after every one story writing period.

At the end of the exercise, the pupils had written five stories each, for the five pictures, in the spaces supplied in the booklets. Each of them had also indicated

the education attained by and occupation for both parents.

A few problems were faced by some of the pupils. For example, there were those who could not tell the level of education attained by their parents. This is not the kind of information often communicated to children by their parents, especially if the parents are not highly educated. A similar problem arose in distinguishing between various occupational levels. Most pupils could not (and some adults cannot too) distinguish between such occupations as a doctor and a clinical officer, an engineer and a technician, an accountant and an accounts clerk and so on. The detailed explanations of one's duties and the level of education attained helped in the decision. In making the correct decision regarding such cases, the investigator interviewed the students concerned.

3.5. STORY SCORING PROCEDURE

All the stories written from the picture cues were scored using scoring system (Appendix F). According to this system all the stories written are first grouped into three categories as follows:-

(a) Achievement Imagery(AI)

A story is scored under this category when it contains an indication of competition with some standards of excellence. This could involve competition with members of a class or with a self set standard. Some unique

accomplishment, like coming up with one's new creation (e.g. a written play), is also scored as AI. Achievement imagery can also be scored when the story contains some evidence of a long term endeavour towards a particular goal such as 'putting a lot of effort to become a prominent businessman.' The story below illustrates achievement imagery:

> "When I was young I used to join my friends and play some games. I reached an age where my parents took me to the local primary school where I also met children of my age. In school we learnt alot and I were very much happy about it. I putted a lot of energy when I reached the upper primary school and at last I sitted for my K.C.P.E. where I was able to afford a chance in secondary school. By now I am still having that same motto and still hope to get a chance in the campus."12

Although an indication has been shown, in the story of some effort being put in his school work, this subject has not shown his aim until the last sentence where he shows the long term endeavour of "getting a chance at the campus." It is thus necessary for the scorer to read the whole story before classifying it.

(b) Doubtful Imagery(TI)

A story is categorised thus if it contains some reference to achievement imagery but does not contain anyone of the criteria mentioned above, regarding achievement imagery. This category is also called Task-related

imagery (hence the abbreviation TI) because in most cases the story could just be a description of the picture as it is. An illustration of imagery of this kind is given below:

> "Saumu and Ali are brother and sister. Whenever Ali went to dig the shamba Saumu used to remain back at home and play with Kassim their neighbour's son. During their father's old age everyone was given his and her part for their future.
>
> Ali always harvests good harvests while Saumu don't even know how to grusp a jembe. Ali is a good farmer because he learnt to hoe the farm. Werks during his childhood while Saumu used to play with their neighbours. For their coming future as their father planed, Ali will never get difficulties in his life but Saumu will have to surfer in her life as she knows nothing about a farm."[13]

This story shows Ali attaining some sort of achievement but it fails to meet any of the three achievement imagery criteria: there is no competition with some standard of excellence; neither is there any unique accomplishment nor an endeavour towards a long term goal.

(c) Unrelated Imagery(UI)

A story belongs to this category if it does not have any reference at all to achievement goals. Below is an illustration of such a case:

> "When Mary's father came home after work he brought Mary a present. But Mary did not like it since it was a compass set and she wanted a make up kit for christmas. They sat in the sitting room trying to sort out things. Mary's father was trying to persuade Mary to take the present since it was just the right thing she

needed, but Mary did not hear of it.

After trying to calm Mary down, she completely refused the present. The father had to go back to the bookshop and return it. He came back with a make up kit. Mary was so happy because that is what she had wanted all along. She told her father how she would make up her face on christmas day. Since it was round the corner."14

If a story is classified as belonging to either TI or UI category, no further scoring is done. However, stories identified with achievement imagery(AI) are further scored according to the ten sub-categories mentioned below:-

(i) Stated Need for Achievement(N)

A desire to reach a certain achievement goal is included in the story. The need must be actually stated. An example is "He wants to be a famous musician."

(ii) Instrumental Activity(I)

Any activity indicating that something is being done about the achievement of a goal. The activity must be goal-oriented such as "working hard" in order to "pass the examinations."

(iii) Positive Anticipatory goal state (Ga^{+})

This is expressed in a story as a thought of success, or an expectation of achievement of a goal. An example is "He is dreaming of becoming a doctor, one day."

(iv) Negative Anticipatory goal state(Ga^-)

A story may also express anticipation of frustration or failure as in "He wonders whether he will succeed in his examinations."

(v) Personal Obstacle or Block(BP)

In a story, there may be an indication of some hindrance towards goal achievement which is within the person himself such as low IQ, bad eyesight or lack of confidence.

(vi) Environmental or Wordly Block(BW)

The obstacles of goal attainment may not be within the person but in the environment itself such as lack of school fees, banning a football club and so on. These have to be overcome before one achieves the goal(s).

(vii) Nurturant Press(NUP) or Help(H)

In the story, there could be an indication of some help(within or outside the person) of some sort, which facilitates achievement of the goal(s). Examples are any advice given, sympathy, or encouragement towards goal attainment.

(viii) Positive Affective or Emotional states (G^+)

A statement could be expressed in the story showing positive emotion such as "He is satisfied about the results."

(ix) Negative Affective states

The motion could be expressed negatively as "She is angry about the outcome of the results."

(x) Achievement Thema (Ach Th)

This is scored when there is no doubt that the achievement imagery is the central plot or theme of the story. When there is an explicit counter plot somewhere in the story, then Ach Th is not scored.

According to the scoring system C just described the unrelated imagery (UI) is scored -1, Doubtful Imagery(TI) is scored 0, and Achievement Imagery(AI) is scored +1. Each of the subcategories are scored +1.

An achievement score is obtained for each story by summing (algebraically) the category scores for that story. So "the scoring system allows a maximum of 11 and a minimum of -1 on each story".[15] The nAch score for any one individual is the total of the scores obtained on all the stories written. So in this study, the minimum score expected was -5 while the maximum score should be 55, from the five stories written.

"The subcategories really form the achievement motive. Subjects who can verbalize more of these categories, in their stories get more scores, thereby showing higher nAch than those who verbalize less."[16] But no category is scored more than once even if it is verbalized many times in the same story. Similarly, no consideration was given to the grammar, spelling, or even the length of the story. All these are regarded as having nothing to do with the achievement motive.

FOOTNOTES ON : CHAPTER III

[1] D.C. McClelland, et. al. The Achievement Motive, (New York, Irvington Publishers Inc., 1953), P.149. This is the third method to be devised. The original version of the scoring system as published by McClelland, Clark, Roby and Atkinson(1949) is referred to as scoring system A, while modification of this original system by Atkinson (1950) is referred to as scoring system B.

[2] The Kenya Certificate of Secondary Education (KCSE) has replaced the former Kenya Certificate of Education(KCE) that was examined for the last time in 1987.

[3] J.N. Maundu, A Study of Relationship Between Kenyan Secondary School Pupils Need to Achieve and their Performance ,in school subjects, (Unpublished M.Ed. Thesis, University of Nairobi, 1980).

[4] D.C. McClelland, et. al.--------Op. cit.------ P.216.

[5] H. Heckhausen, The Anatomy of Achievement Motivation. (New York: Academy Press Inc., 1967), P.9.

[6] (i) D.C. McClelland, et.al.-----Op. cit.

(ii) J.w. Atkinson, "Thematic Apperception Measurement of motives with the context of a Theory of Motivation." In J.W. Atkinson (Ed). Motives in Fantasy, Action and Society, (Princeton, N.J.: D. Van Nostrand, 1958), PP.596-617.

(iii) J. Veröff, "Thematic Apperception in Nationwide Sample Survey." In J. Kagan and G.S. Lesser (Eds). The Theory and Technique in Thematic Apperception Methods. (Springfield: Charles C. Thomas, 1961) PP.83-118.

[7] D.C. McClelland, et. al., ----Op. cit.----P.220.

[8] Ibid

[9] D.C. McClelland, et. al.-------Op. cit.-----PP.100-104.

[10] Such instructions have been adapted from NCERT, The Achievement Motive in High School Boys.(New Delhi: Publication Unit 9. Eastern Avenue, Maharani Bagh 1969), P.10.

[11] D.C. McClelland, et. al.-----Op. cit.----P.98.

[12] This illustrative story, for picture cue number two(2) was written by subject number 311.

[13] This illustrative story, for picture cue number three(3) was written by subject number 188.

[14] This illustrative story, for picture cue number one(1) was written by subject number 249.

[15] NCERT, ---- Op. cit.------ P.37

[16] Ibid.

CHAPTER IV

4.0 DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 INTRODUCTION

This study aimed at relating the achievement motivation scores of the Kenyan Secondary School pupils with the levels of education and occupation of their parents. This chapter presents the nAch scores of the pupils in the selected sample. Against each score are the parental levels of education and occupation and the sex of each pupil.

Both descriptive and inferential statistics were used in the analysis of the data. The statistical tools applied in this analysis included the Pearson's product moment correlation, the Z-test distribution and the one-way analysis of variance (ANOVA). A scientific pocket calculator was used in the computation of the various values necessary in the study.

Statistical hypotheses were tested in order to answer the question "Is there any relationship between the nAch scores of children and their parents' educational and occupational levels?" The coefficient obtained using the product-moment correlation method, gave an indication of the strength and direction of the relationship. One way analysis of variance was used to test whether there was any statistical difference among the mean nAch scores of the various

educational and occupational levels while the 'Z'-test helped to find the significance of the differences between the means and in which pair of above levels it existed. From the results of the data analyses, it was possible to give interpretations of the results.

4.2. DATA PRESENTATION

The data presented here includes the nAch scores for three hundred and five(305) pupils from nine(9) selected schools in Mombasa and Kwale Districts, Kenya. Against each nAch score are the father's educational level (ELF), the mother's educational level(ELM), the father's occupational level(OLF) and the mother's occupational level (OLM), all in numerical form. The sex of each pupil is also indicated. The term 'PRACTICE' has been used against the subject whose stories were used for the practising of the scoring procedures.

Parental education is classified into four levels, beginning with "no schooling" with a score of 1 and ending with university education with a score of 4. Similarly, parental occupation starts with the unskilled and semi-skilled workers group with a score of 1 and ending with the professional group with a score of 4. All other educational and occupational levels were fitted within these limits.

According to the scoring system of the stories for achievement motivation (see chapter III), all the nAch scores for the five stories should lie between - 5 and 55.

This is because the scoring system allows a minimum of -1 and a maximum of 11 for each story. To avoid using negative scores in the analysis, these scores, which form a normal distribution, were converted to another normal distribution[1]. For the purpose of this study, the normal distribution whose mean is 50 and standard deviation is 10, was used.

The scores of a normal distribution can be converted to standard (Z-) scores using the formula[2]

$$Z = \frac{X-\bar{X}}{S} \quad \text{where}$$

Z is the (new) standard score, X is a score in the distribution, S is the standard deviation of the distribution, and $\bar{X}$ is the mean of the distribution. If one normal distribution is to be converted to another normal distribution, then all their standard (Z-) scores are equal. Thus,

$$\frac{X-\bar{X}}{S_x} = \frac{Y-\bar{Y}}{S_y}$$

where X is a score in the first distribution.

$\bar{X}$ is the mean of the first distribution.

S_x is the standard deviation of the first distribution.

Y is the required (second distribution)score.

$\bar{Y}$ is the mean of the second distribution

S_y is the standard deviation of the second distribution.

To convert a score in the first distribution (raw nAch score) to a score in the second distribution, the above formula was rewritten as follows:-

$$Y = \frac{(X-\bar{X})}{S_x} S_y + \bar{Y}$$

For example[3], if $\bar{Y}=50$, $S_y=10$, $X=-5$, $\bar{X}=1.134$, $S_x=4.243$, then

$$Y=\frac{(-5-1.134)}{4.243}10+50=35.54$$

Thus the new nAch score is 36 (thirty six)[4]. Table 4.1 shows all the data required i.e. the subject's (pupil's) number, the nAch score, the standard nAch score, Father's Educational level (ELF), Mother's Educational level (ELM), Father's Occupational level(OLF), Mother's Occupational level(OLM) and the sex of the pupil.

TABLE 4.1

nAch SCORES, PARENTAL, EDUCATION, OCCUPATION AND SEX OF PUPILS

PUPIL NO.	RAW nAch SCORE	STANDARD nAch SCORE	ELF	ELM	OLF	OLM	SEX OF PUPIL
A*1	0	47	2	1	1	1	M
2	6	61	2	1	1	1	F
3	0	47	1	1	1	1	M
4	-5	36	2	2	2	1	F
5	-4	38	1	1	1	1	F
6	1	50	2	2	1	1	F
7	-2	43	1	1	1	1	M
8	6	61	3	1	2	1	F
9	1	50	2	1	1	1	F
10	2	52	2	1	1	1	M

T A B L E 4.1(CONT)

PUPIL NO.	RAW nAch SCORE	STANDARD nAch SCORE	ELF	ELM	OLF	OLM	SEX OF PUPIL
A11	-2	43	2	1	1	1	F
12	-2	43	1	1	1	1	M
13	-1	45	2	1	1	1	F
14	-5	36	1	1	1	1	M
15	-5	36	1	1	1	1	M
16	3	54	1	1	1	1	M
17	-1	45	2	1	1	1	M
18	-2	43	1	1	1	1	M
19	-5	36	1	1	1	1	F
20	-1	45	1	1	1	1	M
21	-1	45	1	1	1	1	M
22	9	69	2	1	1	1	F
23	-4	38	1	1	1	1	M
24	9	69	2	1	1	1	M
25	5	59	3	3	2	2	M
26	-1	45	1	1	1	1	M
27	-3	40	3	1	1	1	M
28	-2	43	1	1	1	1	M
29	-3	40	1	1	1	1	M
30	0	47	2	2	2	1	F
31	0	47	2	1	1	1	M
32	5	59	2	1	2	1	F

TABLE 4.1 (CONT)

PUPIL NO.	RAW nAch SCORE	STANDARD nAch SCORE	ELF	ELM	OLF	OLM	SEX OF PUPIL
A 33	-5	36	3	1	2	1	F
34	0	47	2	2	1	1	F
35	6	61	3	3	2	2	M
36	1	50	1	1	1	1	M
37	-3	40	3	2	1	1	F
38	11	73	2	3	2	1	F
39	0	47	3	3	3	1	F
40	-1	45	2	1	1	1	M
A 41	1	50	2	1	1	1	F
B 42	-3	40	1	1	1	1	F
43	4	57	3	3	2	2	F
44	-3	40	3	2	2	1	F
45	5	59	3	3	2	2	F
46	13	78	2	2	1	1	M
47	14	80	1	1	2	1	M
48	3	54	3	1	2	1	M
49	7	64	3	1	1	1	M
50	-3	40	4	2	3	1	M
51	-4	38	2	1	1	1	M
52	0	47	1	1	1	1	M
53	6	61	1	1	2	1	M
54	5	59	2	1	1	1	M
55	7	64	2	1	1	1	F

TABLE 4.1 (CONT)

PUPIL NO.	RAW nAch SCORE	STANDARD nAch SCORE	ELF	ELM	OLF	OLM	SEX OF PUPIL	
B56	8	66	1	1	1	1	M	
57	-1	45	2	2	1	1	M	
58	2	52	3	2	2	1	F	
59	6	61	1	1	1	1	M	
60	-1	45	2	1	1	1	M	
61	7	64	2	1	2	1	M	
62	2	52	3	2	2	1	F	
63	-1	45	3	2	2	1	F	
64	4	57	2	2	1	1	M	
65	5	59	2	1	1	1	F	
66	P	R	A	C	T	I	C	E
67	-3	40	1	1	1	1	F	
68	4	57	1	1	1	1	F	
69	3	54	1	1	1	1	M	
70	0	47	2	2	1	1	M	
71	-1	45	1	1	1	1	M	
72	-2	43	1	1	1	1	M	
73	-3	40	4	3	3	1	M	
74	-3	40	2	1	1	1	M	
75	-5	36	1	1	1	1	M	
76	7	64	2	1	2	1	M	
77	10	71	3	3	2	2	F	
C78	P	R	A	C	T	I	C	E
79	-3	40	2	2	1	1	M	

TABLE 4.1 (CONT)

PUPIL NO.	RAW nAch SCORE	STANDARD nAch SCORE	ELF	ELM	OLF	OLM	SEX OF PUPIL	
80	-4	38	2	2	1	1	M	
81	-1	45	2	2	2	1	M	
82	0	47	1	2	1	1	M	
83	-4	38	3	1	2	1	M	
84	0	47	3	2	1	1	M	
85	P	R	A	C	T	I	C	E
86	-2	43	1	1	1	1	M	
87	P	R	A	C	T	I	C	E
88	2	52	1	1	1	1	M	
89	5	59	2	1	2	1	M	
90	6	61	1	2	2	1	M	
91	3	54	4	1	3	1	M	
92	-2	43	3	3	2	2	M	
93	P	R	A	C	T	I	C	E
94	-1	45	1	1	1	1	M	
95	-2	43	1	1	1	1	M	
96	P	R	A	C	T	I	C	E
97	3	54	1	1	1	1	M	
98	-2	43	1	1	1	1	M	
99	P	R	A	C	T	I	C	E
100	0	47	1	1	1	1	M	
101	0	47	1	1	1	1	M	
102	1	50	2	2	1	1	M	

TABLE 4.1 (CONT)

PUPIL NO.	RAW Nach SCORE	STANDARD mAch SCORE	ELF	ELM	OLF	OLM	SEX OF PUPIL	
C103	P	R	A	C	T	I	C	E
104	-4	38	1	1	1	1	M	
105	-3	40	2	1	1	1	M	
106	-5	36	2	1	1	1	M	
107	3	54	2	2	1	1	M	
108	3	54	2	1	1	1	M	
109	3	54	1	1	1	1	M	
110	P	R	A	C	T	I	C	E
111	0	47	1	1	1	1	M	
112	1	50	3	2	2	1	M	
113	-3	40	2	2	2	1	M	
114	6	61	1	1	1	1	M	
115	-2	43	2	2	1	1	M	
116	-5	36	1	1	1	1	M	
C117	-5	36	3	3	2	1	M	
D118	-1	45	4	2	3	1	M	
119	2	52	2	2	2	1	M	
120	P	R	A	C	T	I	C	E
121	4	57	2	3	2	1	M	
122	P	R	A	C	T	I	C	E
123	1	50	3	2	2	1	M	
124	9	69	2	2	1	1	M	
125	-1	45	2	2	2	1	M	
126	4	57	2	1	2	1	M	

TABLE 4.1 (CONT)

PUPIL NO.	RAW nAch SCORE	STANDARD nAch SCORE	ELF	ELM	OLF	OLM	SEX OF PUPIL	
D 127	-2	43	3	3	3	2	M	
128	-1	45	2	2	1	1	M	
D129	-1	45	3	3	3	2	M	
130	-2	43	2	2	1	1	M	
131	P	R	A	C	T	I	C	E
132	-2	43	2	2	1	1	M	
133	2	52	2	2	2	1	M	
134	P	R	A	C	T	I	C	E
135	0	47	4	3	3	2	M	
136	P	R	A	C	T	I	C	E
137	-4	38	2	1	1	1	M	
138	0	47	3	1	1	1	M	
139	-3	40	4	4	3	3	M	
140	1	50	2	1	2	1	M	
141	-4	38	1	1	2	1	M	
142	4	57	2	2	1	1	M	
143	1	50	2	1	2	1	M	
144	P	R	A	C	T	I	C	E
145	-4	38	2	2	2	1		
146	8	66	2	1	1	1		
147	P	R	A	C	T	I	C	E
148	P	R	A	C	T	I	C	E
149	P	R	A	C	T	I	C	E
150	-3	40	3	2	2	1	M	

TABLE 4.1 (CONT)

PUPIL NO.	RAW nAch SCORE	STANDARD nAch SCORE	ELF	ELM	OLF	OLM	SEX OF PUPIL
D151	-3	40	1	2	1	1	M
152	-1	45	1	1	1	1	M
153	-2	43	1	1	1	1	M
D154	-4	38	1	1	1	1	M
E155	P	R	A	C	T	I	C E
156	8	66	3	2	1	1	M
157	14	80	3	3	2	1	F
158	2	52	3	3	2	1	F
159	2	52	3	1	2	1	F
160	2	52	3	1	4	1	F
161	5	59	3	2	2	1	F
162	6	61	3	3	4	1	M
163	-3	40	4	4	4	1	F
164	-2	43	3	3	3	1	F
165	5	59	3	2	4	1	M
166	-5	36	4	4	3	1	M
167	8	66	3	2	2	1	M
168	-3	40	3	2	2	1	M
169	-3	40	1	1	1	1	M
170	4	57	2	3	1	2	M
171	6	61	4	2	3	1	M
172	-3	40	4	4	3	3	M
173	2	52	3	2	2	1	M
174	6	61	3	2	2	1	M
175	7	64	3	2	2	1	M

TABLE 4.1 (CONT)

PUPIL NO.	RAW nAch SCORE	STANDARD nAch SCORE	ELF	ELM	OLF	OLM	SEX OF PUPIL
E 176	1	50	4	3	4	1	M
177	9	69	3	2	2	1	M
178	0	47	2	2	2	1	M
179	-3	40	2	1	2	1	M
180	-3	40	3	3	2	2	M
181	-5	36	3	3	2	2	M
182	2	52	3	3	2	1	M
183	-1	45	3	1	2	1	M
184	2	52	3	2	2	1	M
185	-3	40	3	2	2	1	M
186	4	57	2	1	2	1	M
187	-1	45	3	3	3	2	M
E188	0	47	1	1	1	1	M
F189	9	69	3	1	2	1	M
190	-1	45	3	1	2	1	M
191	-1	45	2	2	1	1	M
192	3	54	2	2	1	1	M
F193	7	64	1	1	2	1	M
194	4	57	1	1	2	1	M
195	1	50	3	2	1	1	M
196	-3	40	2	1	2	1	M
197	2	52	2	2	2	1	M
198	-1	45	1	1	2	1	M
199	10	71	3	2	2	1	M

TABLE 4.1(CONT)

PUPIL NO.	RAW nAch SCORE	STANDARD nAch SCORE	ELF	ELM	OLF	OLM	SEX OF PUPIL
F200	3	54	3	2	2	1	M
201	11	73	3	3	2	1	M
202	3	54	1	1	1	1	M
203	-1	45	3	1	2	1	M
204	4	57	2	1	2	1	M
205	-4	38	2	1	1	1	M
206	-3	40	3	2	2	2	M
207	2	52	2	1	2	1	M
208	5	59	3	1	1	1	M
209	4	57	3	2	2	1	M
210	-4	38	3	2	2	2	M
211	6	61	2	1	1	1	M
212	1	50	2	1	2	1	M
213	0	47	1	1	1	1	M
214	-5	36	2	1	2	1	M
215	-5	36	1	1	1	1	M
216	9	69	2	3	1	2	M
217	0	47	2	1	2	1	M
218	3	54	1	1	2	1	M
219	P	R	A	C	T	I	C E
220	0	47	2	1	1	1	M
221	-1	45	4	2	4	1	M
222	-3	40	1	1	1	1	M

TABLE 4.1 (CONT)

PUPIL NO.	RAW nAch SCORE	STANDARD nAch SCORE	ELF	ELM	OLF	OLM	SEX OF PUPIL	
223	1	50	1	1	1	1	M	
F224	3	54	2	1	2	1	M	
G225	-3	40	3	3	2	2	F	
226	-1	45	3	2	3	1	F	
227	5	59	3	3	2	2	F	
228	0	47	3	2	2	1	F	
229	P	R	A	C	T	I	C	E
230	-2	43	1	1	1	1	F	
231	2	52	4	3	4	1	F	
232	6	61	4	4	3	3	F	
233	9	69	3	1	2	1	F	
234	6	61	3	1	3	1	F	
235	-3	40	3	2	2	1	F	
236	-1	45	1	1	3	1	F	
237	4	57	3	3	2	1	F	
238	3	54	3	3	2	2	F	
239	4	57	2	2	1	2	F	
240	P	R	A	C	T	I	C	E
241	-4	38	3	3	4	1	F	
242	3	54	3	2	2	1	F	
243	5	59	1	2	2	1	F	
244	11	73	3	3	2	2	F	
245	4	57	3	3	2	1	F	
246	3	54	4	3	4	1	F	

PUPIL NO.	RAW nAch SCORE	STANDARD nAch SCORE	ELF	ELM	OLF	OLM	SEX OF PUPIL	
G247	-2	43	3	3	3	1	F	
248	2	52	3	2	3	1	F	
249	1	50	4	3	4	2	F	
250	3	54	4	3	4	2	F	
251	0	47	3	3	2	1	F	
252	3	54	3	3	2	1	F	
253	15	83	3	2	2	2	F	
254	9	69	3	2	2	2	F	
255	4	57	2	2	1	1	F	
256	8	66	3	2	2	1	F	
G257	-3	40	3	2	2	2	F	
258	11	73	3	3	1	2	F	
259	8	66	3	3	3	2	F	
260	14	80	3	3	2	2	F	
261	1	50	4	2	3	1	F	
262	-2	43	2	2	1	1	F	
263	6	61	3	3	2	2	F	
J264	P	R	A	C	T	I	C	E
265	2	52	3	3	2	2	M	
266	-1	45	3	3	3	1	M	
267	3	54	3	2	2	1	M	
268	-1	45	2	2	1	1	F	
269	1	50	2	2	2	1	M	
270	-5	36	3	2	2	1	M	
271	-4	38	2	1	2	1	M	
272	P	R	A	C	T	I	C	E

TABLE 4.1(CONT)

PUPIL NO.	RAW nAch SCORE	STANDARD nAch SCORE	ELF	ELM	OLF	OLM	SEX OF PUPIL
J273	-1	45	3	3	1	1	M
274	-2	43	2	2	1	1	M
275	-4	38	3	2	1	1	M
276	8	66	3	2	2	1	M
277	-1	45	1	2	4	3	F
278	0	47	3	2	2	1	M
279	-1	45	3	3	2	1	M
280	4	57	3	3	2	2	M
281	2	52	3	3	2	1	F
282	2	52	4	2	3	1	F
283	0	47	2	2	2	1	M
284	-5	36	3	1	1	1	M
285	3	54	1	1	1	1	M
286	2	52	3	2	1	1	M
287	-3	40	3	1	1	1	M
288	5	59	4	3	3	1	M
289	-3	40	3	3	3	1	M
290	-4	38	3	3	2	2	M
291	-3	40	3	3	1	1	M
292	0	47	3	2	2	1	M
293	-5	36	1	1	2	1	M
294	-2	43	2	1	2	1	M
295	-3	40	1	1	1	1	M
296	5	59	3	2	2	1	M

PUPIL NO.	RAW NAch SCORE	STANDARD nAch SCORE	ELF	ELM	OLF	OLM	SEX OF PUPIL
J297	-3	40	3	3	2	1	M
K298	5	59	2	2	1	1	M
299	4	57	3	1	2	1	M
300	7	64	1	1	1	1	M
301	1	50	2	1	1	1	F
302	-3	40	1	1	1	1	M
303	1	50	1	1	1	1	M
304	-2	43	3	1	2	1	M
305	-3	40	1	1	1	1	M
306	7	64	3	2	2	1	M
307	1	50	1	1	1	1	M
308	1	50	2	2	1	1	M
309	-1	45	3	3	2	1	F
310	7	64	3	2	1	1	F
311	2	52	3	1	3	1	M
312	6	61	2	1	1	1	M
313	-1	45	3	1	1	1	M
314	-3	40	3	3	1	1	M
315	3	54	1	1	1	1	M
316	-3	40	2	2	1	1	M
317	-2	43	3	2	2	1	M
318	P	R	A	C	T	I	C E
319	1	50	3	2	2	2	M
320	-2	43	2	1	1	1	M

PUPIL NO.	RAW nAch SCORE	STANDARD nAch SCORE	ELF	ELM	OLF	OLM	SEX OF PUPIL
321	-4	38	2	1	1	1	F
322	2	52	3	2	1	1	F
323	-2	43	1	1	1	1	F
324	-1	45	1	1	1	1	F
325	-3	40	4	3	3	2	F
326	4	57	2	2	2	1	F
327	P	R	A	C	T	I	C E
328	-1	45	3	1	3	1	F
329	1	50	2	1	2	1	M
330	1	50	1	1	1	1	M
331	6	61	1	1	1	1	M

* School code; List of schools shown in Appendix C.

ELF= Educational level of father

ELM= Educational level of mother

OLF= Occupational level of father

OLM= Occupational level of mother

4.3 DATA ANALYSIS AND INTERPRETATION

In this section, a number of null hypotheses were tested using both descriptive and inferential statistical analyses. The results of the data analyses are presented, followed by the interpretation of the results for each of the cases considered. The two cases for this analysis involve the education and occupation of the parents.

4.3.1 Relationship between Pupils' nAch and Parental Education

This study sought to find out if any relation exists between the educational levels of parents and the nAchievement scores of their children. To obtain such a relation, the product- moment correlation coefficient(r) formula[5] was used, which is given as follows:-

$$r_{xy} = \frac{N\Sigma XY - (\Sigma x)(\Sigma Y)}{\sqrt{N\Sigma X^2 - (\Sigma X)^2 \quad N\Sigma Y^2 - (\Sigma Y)^2}}, \text{ where}$$

r_{xy} = correlation coefficient between variables x and y.

X = nAch score of a pupil

Y = Educational level of father/mother

N = Number of pupils (subjects) involved

ΣX = sum of the nAch scores

ΣY = sum of the Educational levels(scores)

ΣX^2 = sum of squares of nAch scores

ΣY^2 = sum of squares of Educational scores.

These correlations were calculated for the whole sample first and then, for further scrutiny, 'partial' correlations were done for the nine schools separately and for girls and boys separately. The standard nAch scores were correlated with the educational levels, giving the results in Table 4.2(a) and (b) below.

TABLE 4.2

THE PEARSON PRODUCT MOMENT CORRELATION COEFFICIENT BETWEEN nAch AND PARENTAL EDUCATION[6]

(a)					(b)				
nAch Vs. FATHERS' EDUC. LEVELS	N	CORRE. COEFFI. r	SIGN. LEVEL	DECISION	nAch Vs. MOTHERS' EDUC LEVELS	N	CORR. COEFF. r	SIGNF. LEVEL	DECISION[a]
Whole Sample	305	0.120	0.113	SIGN	Whole Sample	305	0.130	0.113	SIGN
Boys only	217	0.045	0.134	ns	Boys only	217	0.000056	0.134	ns
Girls only	88	0.200	0.210	ns	Girls only	88	0.260	0.210	SIGN
Schools A*	41	0.340	0.308	SIGN	Sch A	41	0.320	0.308	SIGN
B	35	-0.086	-0.334	ns	B	35	0.011	0.334	ns
C	32	-0.130	-0.349	ns	C	32	-0.160	-0.349	ns
D	28	0.0078	0.374	ns	D	28	0.063	-0.374	ns
E	33	0.0086	0.344	ns	E	33	-0.160	-0.344	ns
F	35	0.140	0.334	ns	F	35	0.350	0.334	SIGN
G	37	0.120	0.323	ns	G	37	0.230	0.323	ns
J	32	0.270	0.349	ns	J	32	0.230	0.349	ns
K	32	-0.068	-0.349	ns	K	32	-0.084	-0.349	ns
				ns					

* List of schools is given in Appendix C.

[a] Decision was at 95% level of confidence.

ns= non-significant. Sign.= significant

The data in Table 4.2(a) shows that apart from the whole sample all other correlation coefficients between nAch scores and the levels of education of the fathers are quite low and insignificant ($p > 0.05$ in all cases). In some cases, these correlations were positive; in others, they were negative, except for the case of school A where the correlation was positive but significantly low ($r=0.34$, $p < 0.05$). However, the overall correlation for the sample was positive, low but significant ($r=0.120$, $p < 0.05$). This implies that there is a slight significant correlation between the achievement motivation of pupils and the educational levels of their fathers. In other words, achievement motivation does appear to be related to the education of the fathers.

The NCERT[7] reported a significant relationship between the fathers' or guardians' educational levels and their sons' nAch scores, while this study revealed a very low and insignificant relationship between the boys' scores and their fathers' educational levels ($r=0.045$, $p > 0.05$).

For the mothers' education (Table 4.2(b)), only school A ($r=0.32$) and school F ($r=0.35$) showed a significant positive relationship between education of mothers and nAch scores of their children at 95% level of confidence. All other schools gave low and insignificant correlations (both positive and negative, $p > 0.05$). Surprisingly, school A is

a mixed, Harambee Day institution in a remote, rural setting while school F is a 'Boys only' school with boarding facilities for some of the pupils and is in an urban setting.

The nAch scores of girls were found to be positively and significantly correlated ($r=0.26$, $p<0.05$) to the education of their mothers; for the boys, the correlation was too low (but positive) to ever be significant ($r=0.000056$, $p>0.05$) This implies that there is a significant relationship between the educational levels of mothers and their daughters' nAch scores, while no significant relationship exists with the sons' nAch scores. However, the overall correlation for the whole sample was positive and significant ($r=0.13$, $p<0.05$) a relationship that incorporates the sons' scores. Thus, a significant relationship exists between the mothers' education and the children's nAchievement. This means that the achievement motivation scores of children increase with the parental level of education.

In order to establish whether there exists a significance difference between the mean nAch scores of the parental levels of education, a one way analysis of variance (ANOVA) was applied on the levels to get the variance of scores across the educational levels. Table 4.3 and Table 4.4 below show the results.

TABLE 4.3

A SUMMARY OF THE ONE-WAY ANOVA OF nAch SCORES ACROSS FATHERS' EDUCATIONAL LEVELS

SOURCE OF VARIANCE	SUM OF SQUARES ss	d.f	MEAN OF SQUARES MS	F =MSB/MSW	CV
BETWEEN LEVELS	1185	K-1=3	1185/3 ≈ 395	395/96 ≈ 4.11	3.78 (α=0.01)
WITHIN LEVELS	28918	301	28918/301 ≈ 96		
TOTAL	30103	Kn-1=304			

TABLE 4.4

A SUMMARY OF THE ONE-WAY ANOVA OF nAch SCORES ACROSS MOTHERS' EDUCATIONAL LEVELS

BETWEEN LEVELS	1130	K-1=3	1130/3 ≈ 377	377/96 ≈ 3.93	3.78
WITHIN LEVELS	28976	301	28976/301 ≈ 96		(α=0.01)
TOTAL	30106	304			

The null hypothesis tested was that the four educational levels of the fathers/mothers were merely random samples from the same population (with a certain mean nAch score, μ, of the children). That is, all the mean nAch scores from the four levels should be equal to each other (and to the population mean). In other words the samples had been selected from populations that had equal means. Thus $H_o: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu$ where 1,2,3,4 are the

populations representing the four educational levels. The null hypothesis, in other words, assumed that there were no effects on the educational levels that would have revealed differences in the mean nAch scores.

Since $F=4.11 > 3.78$ (critical value at 99% level of confidence when $df_B=3$ and $df_W=301$), then the null hypothesis was rejected and the alternative hypothesis accepted, namely that there are significant differences between the means of at least one pair of levels. Similarly, for the mothers' levels (Table 4.4), $F=3.93 >$ critical value (3.78) which meant that H_o (null hypothesis), of no differences between the scores of the four educational levels, was rejected at the 0.01 level indicating that there was a highly significant overall difference between the mean nAch scores in the mothers' educational levels. These findings indicated that parental education had a relation with the nAch levels of children.

The next problem was to find where the above differences were located. To obtain this, the 'z'-test was applied on the mean nAch scores of the various educational levels, two at a time. The 'z'-values were calculated for each pair of levels using the formula[8]

$$z' = \frac{\bar{x}_2 - \bar{x}_1}{\sqrt{\frac{s_2^2}{N_2} + \frac{s_1^2}{N_1}}}$$ where

$x_2 - x_1$ is the mean difference of levels II and I.

s_1^2 is variance of level I

s_2^2 is variance of level II

N_1, N_2 are sizes of levels I and II respectively.

The findings are summarised in tables 4.5, 4.6 and 4.7.

Table 4.5 shows the means and standard deviations of the various educational levels of parents calculated using the formulae:

Sample mean, $\bar{X} = \frac{\Sigma X}{n}$ where X is an individual's nAch score and n is the size of each sample (level);

Sample standard deviation, $S = \sqrt{\frac{\Sigma X^2 - (\frac{\Sigma X}{n})^2}{}}$

TABLE 4.5

nAch MEAN SCORES AND STANDARD DEVIATIONS FOR VARIOUS EDUCATIONAL LEVELS

	FATHERS' EDUCATIONAL LEVELS				MOTHERS' EDUCATIONAL LEVELS			
	I	II	III	IV	I	II	III	IV
N	77	91	116	21	144	124	28	12
MEAN	47.1	50.4	52.0	48.1	48.7	50.2	53.3	43.4
STD DEV.	8.71	9.39	11.05	7.61	9.24	8.98	12.14	9.99

As Table 4.5 reveals, pupils from fathers' educational level III ($\bar{X}$ = 52.0) had higher need for achievement than those in other levels. These were followed by pupils whose fathers belonged to level II($\bar{X}$ = 50.4), followed by level IV($\bar{X}$ =48.1) and finally level I($\bar{X}$=47.1).

Similarly, for the mothers' educational levels, high nAch scores were obtained from pupils of level III ($\bar{X}$ = 53.3), followed by level II ($\bar{X}$ = 50.2), then level I($\bar{X}$ = 48.7) and finally level IV ($\bar{X}$ = 43.4).

The first three educational levels showed an increase in mean nAch scores up the educational ladder for both parents. However, instead of level IV being at the top of the ladder it manifested consistently low mean nAch scores for both the paternal and maternal categories. Inferential statistical analysis was used to find if these differences were, or not, due to statistical error/chance.

TABLE 4.6

MEAN nAch DIFFERENCES BETWEEN THE FOUR EDUCATIONAL LEVELS OF FATHERS

EDUC. LEVEL	N	MEAN	STD DEVIATION	MEAN DIFFERENCE	Z VALUE	CRITICAL VALUE	DECISION*
I	77	47.1	8.71	3.26	2.332	1.645	SIGNIFICANT
II	91	50.36	9.39				
I	77	47.10	8.71	4.87	3.411	1.645	SIGNIFICANT
III	116	51.97	11.05				
I	77	47.10	8.71	1.10	0.569	1.645	NON. SIGNF.
IV	21	48.10	7.61				
II	91	50.36	9.39	1.61	1.132	1.645	NON. SIGNF.
III	116	51.97	11.05				
II	91	50.36	9.39	2.26	1.171	1.645	NON. SIGNF.
IV	21	48.10	7.61				
III	116	51.97	11.05	3.87	1.983	1.645	SIGNF.
IV	21	48.10	7.61				

* Level of significance(α) = 0.05

TABLE 4.7

MEAN nAch DIFFERENCES BETWEEN THE FOUR EDUCATIONAL LEVELS OF MOTHERS

EDUC LEVEL	N	MEAN	STD. DEVIATION	MEAN DIFFERENCE	Z-VALUE	CRITICAL VALUE	DECISION*
I	144	48.69	9.24	1.54	1.287	1.645	NON. SIGNIF.
II	96	50.23	8.98				
I	144	48.69	9.24	4.61	2.640	1.645	SIGNIF.
III	60	53.3	12.14				
I	144	48.69	9.24	5.29	1.167	1.645	NON. SIGNIF.
IV	5	43.4	9.99				
II	96	50.23	8.98	3.07	1.691	1.645	SIGNIF.
III	60	53.3	12.14				
II	96	50.23	8.98	6.83	1.498	1.645	NON-SIGNIF.
IV	5	43.4	9.99				
III	60	53.3	12.14	9.90	2.091	1.645	SIGNIF.
IV	5	43.4	9.99				

* $\alpha = 0.05$

The null hypothesis (H_o) for all the differences between the means was that the two means in comparison came from the same population or populations with equal means i.e. $H_o: \mu_1 = \mu_2$ for two populations, level I and level II respectively. For example, the assumption was that there was no difference between the mean nAch scores of level I and level II for fathers' education. The interest here was to find out whether there was a difference between the means; the presence of such a difference would indicate that H_o is probably false and that the samples (levels) came from different populations.

On the basis of the null hypothesis, the level of significance was set at 0.05 and 'Z'-values obtained from the statistical tables. For fathers' educational levels I and II, calculated value of 'Z'(2.332) was greater than the critical value (tabled 'z'-value) of 1.645. That proved that there was a significant difference between the mean nAch scores of the two levels, thus rejecting the null hypothesis and accepting the alternative hypothesis. This means that level II significantly outperformed level I in the nAchievement test.

On a similar basis, fathers' educational levels I and IV were considered, the null hypothesis, H_o, being: $\mu_1 = \mu_4$ i.e. the means $\bar{X}_1$ and $\bar{X}_4$ of educational level I and IV respectively, came from the same population. The calculated 'z'-value (Table 4.6), 0.569, is less than the critical value (1.645) at the chosen alpha - level (0.05). Thus, this finding was non-significant and the H_o accepted. This means that the difference between the performance of level I in the nAch test was not anymore significant than that of level IV. The 'Z'-values for the various educational levels are summarised in Table 4.6 together with the decisions taken.

It can be observed from Table 4.6 that the differences between the means of the educational levels were not all significant. The performance of level III was, however,

significantly greater than that of levels I (z=3.411, $p < 0.05$) and IV(z=1.983, $p < 0.05$) while it was insignificantly greater than that of level II. Level II, on the other hand, significantly outperformed(z=2.332 $p < 0.05$) level I and insignificantly outperformed level IV(z=1.171, $p > 0.05$).

A quick glance at Table 4.7 (for the mothers' levels) indicates level III again showing its superiority by having significantly higher mean nAch score than level I(z=2.640, $p < 0.05$), level II(z=1.691, $p < 0.05$) and level IV (z=2.091, $p < 0.05$). All the mean differences of the other levels were found to be non-significant ($p > 0.05$).

4.3.2 Relationship Between Pupils' nAch and Parental Occupation.

The present study also sought to establish whether any relation existed between occupational levels of parents and the nAchievement scores of their children. Like the educational levels, the Pearson product-moment correlation formula was made use of, but replacing the educational variables with those of occupation and preparing Table 4.8 seen below.

TABLE 4.8

THE PEARSON PRODUCT-MOMENT CORRELATION COEFFICIENTS BETWEEN nAch AND PARENTAL OCCUPATIONAL LEVELS.

(a)					(b)				
nAch Vs FATHER'S OCCUP. LEVEL	N	CORRE. COEFF.	CV	DECI-SION*	nAch Vs MOTHER'S OCCUP. LEVEL	N	CORR. COEFF.	CRITICAL VALUE	DECISION*
WHOLE SAMPLE	305	0.076	0.113	ns	WHOLE SAMPLE	305	0.15	0.113	Signif
BOYS ONLY	217	0.081	0.134	ns	BOYS ONLY	217	-0.072	-0.134	ns
GIRLS ONLY	88	-0.036	-0.210	ns	GIRLS ONLY	88	0.40	0.210	signif.
SCHOOL-					SCHOOL-				
A	41	0.26	0.308	ns	A	41	0.29	0.308	ns
B	35	0.023	0.334	ns	B	35	0.23	0.334	ns
C	32	0.13	0.349	ns	C	32	-0.085	-0.349	ns
D	28	-0.14	-0.374	ns	D	28	-0.20	-0.374	ns
E	33	-0.070	-0.344	ns	E	33	-0.32	-0.344	ns
F	35	0.019	0.334	ns	F	35	-0.071	-0.334	ns
G	37	-0.021	-0.323	ns	G	37	0.61	0.323	signif.
J	32	0.21	0.349	ns	J	32	0.052	0.349	ns
K	32	-0.063	-0.349	ns	K	32	-0.15	-0.349	ns

* $p \leq 0.05$

ns = non-significant

The fathers' occupational levels were all found to be low and insignificantly correlated to the nAch scores of children ($p > 0.05$ for all cases); some correlations being negative and some positive. The overall correlation coefficient was also low and insignificant ($r=0.076$, $p > 0.05$) though positive, showing a slight non- significant relation between occupation of fathers and nAch scores of their children. This means that though the achievement motivation increased with the fathers' level of occupation, the increase was very little. Though the boys showed low but positive correlation between their nAch scores and their fathers' occupation, the girls had nAch which was negatively correlated to their fathers' occupation.

In considering the mothers' occupation, school G showed a relatively high, positive and significant correlation ($r=0.61$, $p < 0.05$). This is a 'Girls only' school. In fact, the 'Girls' sample also manifested a slightly higher positive and significant correlation of 0.40 ($p < 0.05$) between their nAch scores and their mothers' occupational levels. This suggests a quite high and significant relationship between the mothers' occupation and their daughters' nAchievement.

The boys manifested a negatively low relationship between their nAch scores and their mothers' occupational levels. Though all other cases considered revealed insignificantly low 'partial' correlations, which were both positive and negative, the correlation for the whole sample was both positive and significant ($r=0.15$, $p < 0.05$), indicating an existence of a relationship between nAch scores of children

and their mothers' occupational levels.

For comparison of the occupational levels, the one-way analysis of variance (ANOVA) was applied to test the variance of the nAch scores across the four levels. This test helped to find whether there was any significant difference between the mean nAch scores somewhere within the levels. Tables 4.9(a) and (b) below show summaries of the findings.

TABLE 4.9

A SUMMARY OF THE ONE-WAY ANOVA OF nAcH SCORES ACROSS OCCUPATIONAL LEVELS

(a) FATHERS' OCCUPATION

SOURCE OF VARIATION	SUM OF SQUARES SS	d.f	MEAN OF SQUARES MS	F ($=MS_B/MS_W$)	CRITICAL VALUE
BETWEEN LEVELS	1325	K-1=3	1325/3 =442	$\frac{442}{96}$	3.78 (α=0.01)
WITHIN LEVELS	28777	301	28777/301 =96	=4.60	
TOTAL	30102	304			

(b) MOTHERS' OCCUPATION

BETWEEN LEVELS	823	K-1=2	823/2=411.5	$\frac{411.5}{96.9}$=4.25	3.78 (α=0.01)
WITHIN LEVELS	29278	302	29278/302 =96.9		
TOTAL	30101	304			

It can be observed from Table 4.9(a), that for fathers there was a significant difference between the nAch means of the occupational levels ($F=4.60$, $df=3,301$; $p<0.01$) and similarly for the mothers (Table 4.9(b)), there was a significant difference between the nAch means of the occupational levels ($F=4.25$, $df=2,302$; $p<0.01$) both implying a relation between parental education and children's nAchievement. In order to determine the levels responsible for the differences between the occupational levels' means, the 'z'-test described earlier was used. The calculated values of the means and standard deviations are listed below.

TABLE 4.10

nAcH MEANS AND STANDARD DEVIATIONS FOR THE FOUR OCCUPATIONAL LEVELS

	FATHERS' OCCUPATIONAL LEVELS				MOTHERS' OCCUPATIONAL LEVELS			
	I	II	III	IV	I	II	III	IV
N	141	124	28	12	266	35	4	0
MEAN	48.3	52.5	47.8	50.0	49.5	54.5	46.5	-
STD DEVIATION	9.12	11.00	7.93	6.98	9.39	12.87	9.95	-

For fathers' occupation, Table 4.10 shows that pupils from level II had the highest mean nAch score ($\bar{X} = 52.5$), followed by level IV($\bar{X} = 50.0$) then level I ($\bar{X} = 48.3$) and finally level III pupils ($\bar{X}=47.8$). Once again level II pupils, for the mothers' occupation, had the

highest mean nAch score ($\bar{X}$ = 54.5) followed by level I ($\bar{X}$ =49.5) and then level III ($\bar{X}$ =46.5). No pupil belonged to the mothers' occupational level IV in this sample (Sample size =0).

To test the significance of the differences between the means, the 'z'-test was used and the findings summarised in Table 4.11 and Table 4.12 below.

TABLE 4.11

MEAN nAch DIFFERENCES BETWEEN THE FOUR OCCUPATIONAL LEVELS OF FATHERS

OCCUP. LEVEL	N	MEAN	STAD. DEVI-ATION	MEAN DIFFE-ERENCE	Z-VALUE	CRITICAL VALUE	DECISION
I	141	48·26	9·12	4.21	3.365	1.645	Sign
II	124	52·47	11.00				
I	141	48.26	9.12	0.51	0.303	1.645	ns
III	28	47.75	7.93				
I	141	48.26	9.12	1.74	0.806	1.645	ns
IV	12	50.00	6.98				
II	124	52.47	11.00	4.72	2.630	1.645	Sign
III	28	47.75	7.93				
II	124	52.47	11.00	2.47	1.101	1.645	ns
IV	12	50.00	6.98				
III	28	47.75	7.93	2.25	0.896	1.645	ns
IV	12	50.00	6.98				

* $P \leq 0.05$

Sign= significant; ns= non-significant.

TABLE 4.12

MEAN nAch DIFFERENCES BETWEEN THE FOUR OCCUPATIONAL LEVELS OF MOTHERS

OCCUP. LEVEL	N	MEAN	SJAD. DEVIATION	MEAN DIFFE-RENCE	Z-VALUE	CRITICAL VALUE	DECISION
I	266	49.46	9.39	3.48	1.546	1.645	ns
II	35	54.46	12.87				
I	266	49.46	9.39	2.96	0.591	1.645	ns
III	4	46.5	9.95				
I	266	49.46	9.39	-	-	-	-
IV	0	-	-				
II	35	54.46	12.87	7.96	1.466	1.645	ns
III	4	46.5	9.95				
II	35	54.46	12.87	-	-	-	-
IV	0	-	-				
III	4	46.5	9.95	-	-	-	-
IV	0	-	-				

* $P \leq 0.05$

Level of fathers' occupations revealed a significantly higher performance than level I ('Z'=3.365, P 0.05) and level II ('Z'=2.630, P 0.05) and insignificantly higher performance than level IV ('Z'=1.101, P 0.05. All other mean differences were insignificant (Table 4.11).

Table 4.12 shows that all the mean nAch differences between the various occupational levels of mothers were insignificant at the 0.05 level of significance. As no subjects belonged to occupational parental level IV (N=0), mean and standard deviation could not be calculated. Hence there could not have been any comparison of the mean with the other levels. 'Dashes' (-) were used to represent the 'lack of values.

FOOTNOTES ON CHAPTER IV

[1]Two scores are considered equivalent if they are the same number of standard deviations above (or below) the mean in their respective distributions. All normal distributions have this characteristic.

[2]G.M. Smith, A Simplified Guide to Statistics for Psychology and Education, (New York: Holt, Rinehart and Winston, Inc., 1970), P.37-38.

[3]This example made use of the nAch score for subject number four(4) in the sample of this study.

[4]All the scores have been approximated to the nearest whole number.

[5]D.M. Kiminyo, Introduction to Educational Statistics for Teachers and Students, (Nairobi: MOWA Publishers Limited, 1981), P.48.

[6]The correlation cofficient was used purely as a descriptive index, with no assumption on the shape of the bivariate distribution(i.e. distribution of the nAch scores and scores of parental education and occupation). However, an assumption was made during inference stage, that the population of pairs of scores forms a normal bivariate distribution (i.e. both scores normally distributed and linearly related to each other).

[7]The National Council of Educational Research and Training (NCERT), The Achievement Motive in High School Boys, (New Delhi: Publication Unit 9, Eastern Avenue, Maharani Bagh, 1969), P.52.

[8]An approximate Z (symbol 'Z') rather than true Z has been used where $'Z' = \frac{(\bar{X}-\bar{Y})-(U_X-U_Y)_{hyp.}}{S_{\bar{X}-\bar{Y}}}$. In the sampling distribution of the differences, $(\bar{X}-\bar{Y})$ is the (raw) score, the hypothesized difference (zero, in our case) is the mean and $S_{\bar{X}-\bar{Y}}$ is an estimated standard deviation. Such a distribution is adopted, instead of the t-distribution, for large samples, as the t-distribution becomes more and more like the the normal curve as the sample increases.

[9]Smith, Op. cit., P.41

CHAPTER V

5.0 DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of Findings and Conclusions

The major objective of this study was to determine the Kenyan Secondary school pupils' achievement motivation scores and their relationship with the parental education and occupation. The forces behind this study were the various staggering and contradictory results obtained in other countries such as India (the NCERT Report). This called for a similar study to be conducted in other situations as in the developing countries.

This study used a sample of 305 Kenyan Secondary Form III pupils from nine(9) schools in Kwale and Mombasa districts, Kenya. Thematic Apperception tests(TAT) in form of pictures and a questionnaire on parental education and occupation were administered to these pupils. Data was obtained in form of stories which were scored following a standard achievement motivation scoring system giving achievement motivation scores (nAch scores) which were correlated with the parental levels of education and occupation.

Four null hypotheses were proposed and tested in this study using both descriptive and inferential statistical analyses. These are listed and discussed below. Two of these hypothesis were on parental education while the other two were on parental occupation.

5.1.1 Null Hypothesis 1.4.1

This stated that "there is no significant relationship between the father's educational level (ELF) and the respondent's nAch score".

An examination of the correlation coefficients revealed that there was a low, positive and significant relationship ($r=0.120$, $p<0.05$) between the pupils' nAch score and their fathers' educational levels. This indicated that there is a significant relationship between the father's educational level (ELF) and the pupil's nAch score, thus rejecting the null hypothesis.

In addition, the partial correlations revealed some relationship though not magnificent. There is evidence in the schools, that the pupils' nAch scores increase with the levels of education, for the fathers. Table 4.5 shows that the higher the educational level of the fathers, the higher the mean nAch score of the children (except for level IV) while Table 4.3 indicates that the differences between these means are significant. One interesting finding in this study is that while all the educational levels of fathers increased with their children's nAch scores, children of parents in level IV, that of those with at least a University degree, manifested low levels of nAchievement. This contradicts the results of the NCERT Report in which this level "tended to show higher nAch scores than others[1]",

for their boys. The NCERT also reported that the boys of fathers with little or no education (levels I and II in our study) showed higher nAch scores than those of fathers with secondary education, again contrary to what our study has found. Probably this trend was reversed by the inclusion of the girls in this study, who have a higher correlation coefficient between fathers' education and nAch scores (r=0.200) than the boys (r=0.045). This can only be further clarified by a study of the girls and boys separately in a Kenyan situation.

5.1.2 Null Hypothesis 1.4.2

According to this hypothesis, there is no significant relationship between the mother's educational level (ELM) and the respondent's nAch scores. The findings from the correlation coefficients revealed that the relationship between the pupils' nAch and mothers' education was positive and significant ($r=0.130$, $P<0.05$) thus rejecting the null hypothesis above. In fact, except for the boys, the girls separately showed a significant correlation too.

The results of the analysis of the means of the various educational levels further supported the rejection of the null hypothesis. The children of the mothers with secondary education had significantly higher mean(Table 4.7). These were followed by the children whose mothers had primary education, then those whose mothers had no education, and lastly, those whose mothers had University education.

These differences were significant at 0.01 significance level (Table 4.4). Thus the higher the education of the mother, the higher the nAchievement of the child.

Studies on parental education as related to children's motivation have generally indicated a positive correlation between the two. As morgan says (Chapter II), this relation could be due to the educability of the home. However, the Kenyan study found that this opinion could not be supported with the results of the top level in the educational ladder. The children of the graduates manifested low achievement motivation unlike in other countries where this study had been undertaken. Yet it is the educated lot that is supposed to provide the best environment for the growth of achievement motivation by availing challenging standards of excellence. Probably, this finding supports McClelland's conclusion that "nAchievement score is inversely related to the successfulness of parents as rated by their sons[2]", where sons who rated their fathers as being clever, successful and self confident did not have high nAchievement scores.

5.1.3 Null Hypothesis 1.4.3

This null hypothesis that "there is no significant relationship between the father's occupational level (OLF) and the respondent's nAch score" was undoubtedly accepted on

the basis of the results from the data analysis. The correlation coefficients between the fathers' occupational levels and the children's nAch scores were all low and insignificant (positive and negative). The overall correlation for the whole sample was also low and insignificant ($r=0.070$, $p > 0.05$) (though positive). Similarly, Table 4.10, for the mean nAch scores of the four fathers' occupational levels showed "zigzag" results, with skilled workers group having children with the highest mean nAch score followed by the professional group and then the unskilled and semi-skilled workers group. The semi-professional group, comprising of such occupations as the secondary school teachers, college lecturers and junior government officers, had children with the lowest mean nAch score. This zizag trend was obtained in the NCERT findings[3], though in their case, the semi-professional group had sons with the highest nAch scores. However, the professional group (University professors and lecturers, doctors, lawyers and such like) and the skilled workers group (like primary school teachers, nurses and technicians) seem to have maintained high nAch scores in their children. The researcher did not find a straight forward explanation for these differences between the Indian and Kenyan studies and especially the low nAch scores of the semi-professional group for the Kenyan study. Further scrutiny is necessary

before arriving at a definite conclusion on the above trends.

5.1.4 Null Hypothesis 1.4.4

This hypothesis stated that "there is no significant relationship between the mother's occupational level (OLM) and the respondent's nAch score". A consideration of this relationship using the Pearson's correlation coefficient formula revealed a positive correlation coefficient which was significant ($r=0.150$, $p<0.05$). Thus the null hypothesis was rejected and the altenative hypothesis accepted, that there is a significant relationship between achievement motivation of children and mothers' occupation. The girls consistently maintained a high correlation between their nAch scores and the levels of their mothers' occupation.

Considering the mean nAch scores of the mothers' occupational levels, the same trend as with the fathers' levels was maintained (except for level IV where there were no respondents with the skilled workers mothers having children with the highest mean nAch scores.

One interesting finding on parental occupation was that while the boys' nAch scores were positively correlated to the fathers' levels of occupation, the girls had a negative correlation, and while the girls' nAch scores were positively correlated to the mothers' occupation, the boys were negatively correlated. This means that the

achievement motivation of Kenyan boys increases with the level of fathers' occupation and that of the girls with levels of mothers' occupation and vice versa. It could be argued that the fathers' occupation acts as a standard of excellence for their sons, while that of the mothers acts as a standard of excellence for the daughters. This follows Musgrove's finding (seen earlier) that sons tend to follow in their fathers' footsteps.

Though changing, it has been a tradition in African societies for boys to identify with the chores that are 'manly' and girls follow the chores of the womenfolk. For example, boys will go with the other men looking after cattle, hunting and making huts while the girls will be doing such 'feminine jobs' as cooking, looking after children and fetching water and firewood. A boy would suffer some bullying from colleagues if found doing the feminine jobs and the same with girls if found "behaving like boys." Since such a thinking has not been wiped out completely from the minds of the Kenyan young, it may be expected to affect the relationship of their nAch scores and parental occupation.

5.1.5 Conclusions

The Kenyan study and its results led to the following general conclusions:-

i) There is a significant relationship between the educational level of the father with the achievement motivation of children among the Kenyan secondary school pupils.

ii) The educational level of the mother has a significant relationship with the achievement motivation of the child, especially the girls.

iii) A father's occupation has a non-significant relationship with the child's achievement motivation, a relation that has been found to be non-linear. This relation has been found to be mostly in favour of the boys.

iv) A mother's occupation is significantly related to the achievement motivation of the child, especially so for the girls.

v) The achievement motivation of boys has a very negligible correlation with fathers' education (r=0.045) and mothers' education(r=0.000056).

vi) The correlation of the girls' achievement motivation with the fathers' education (r=0.200) is similar to that with mothers' education(r=0.260).

vii) Boys' nAch is positively correlated with fathers' occupation and negatively correlated with mothers' occupation.

viii) Girls' nAch is positively correlated with mothers' occupation and negatively correlated with fathers' occupation.

5.2 Recommendations and Suggestions for Further Research

On the basis of the above findings and especially one where children seem to identify with occupational standards set by parents of similar sex, the researcher recommends that children should be counselled on their career aspirations, emphasizing the indiscriminate open doors for both sexes. Mahone (1960)[4] found that failure-motivated adolescents make more unrealistic choices than do success-motivated adolescents. A school counsellor should be able to identify the two types of adolescents and show how they relate to their parents, consequently counselling them accordingly.

Parental level of education and its relation with the child's nAch score can also be of great benefit to the school counsellor who should guide the young children on their academic aspirations. Parental level of education has been shown in one study, to be a better predictor of the future intelligence than is the mother's IQ(Kagan & Moss 1962)[5]. The same study also showed that the positive relationship between the children's nAch and the parental levels of education was particularly marked when the children became adults. It is therefore evident that a

study as the above is a great tool in the hands of a counsellor.

A study by Rosen and D´Andreda (1968)[6] found that the parents of boys with high nAch set higher standards of excellence than those of boys with low nAch confirming that one of the ways of developing low nAch in a child is through careless parents who do not expect great things of him. A program that includes parents in the training of achievement motivation and how it is raised is highly recommended so that parents can be able to set standards of excellence for their children thus raising the level of achievement motivation in a country.

In the light of the above findings, conclusions and recommendations, the following suggestions, for further research in this field, are presented:-

a) The results of the present study are encouraging but they leave us in doubt as to whether similar findings can be obtained in other areas (schools) of this country. The researcher, therefore, would like to suggest that the study be spread throughout the country to help confirm(or reject) the above results for the Kenyan situation.

b) Having got the results in this study for the Form III pupils of Kenya, there is no good reason to generalize the results for all the other secondary school classes,

primary school classes or even colleges. It is therefore suggested that these levels be involved in a similar study in a Kenyan situation.

c) A study on the same relationship could be repeated, this time, with girls and boys separately. The results obtained would be compared with studies in other countries, especially the NCERT study that involved fathers and boys only.

d) Another suggestion for investigation in a Kenyan situation concerns the child rearing practices of the Kenyan parents and how these relate to their occupational and educational levels. This would help to trace the origin of nAchievement among the various educational/occupational levels.

FOOTNOTES ON CHAPTER V

[1]The National Council of Educational Research and Training (NCERT), The Achievement Motive in High School Boys, (New Delhi: Publication Unit 9, Eastern Avenue, Maharani Bagh, 1969), P.49.

[2]D.C. McClelland et. al., The Achievement Motive, (New York: Irvington Publishers Inc., 1953), P.281.

[3]NCERT, Op. cit., P.54.

[4]Heinz Heckhausen, The Anatomy of Achievement Motivation, (New York: The Academy Press Inc., 1967), P.93.

[5]Heckhausen, Op. cit., P.159.

[6]D.C. McClelland, The Achieving Society, (New York: D. Van Nostrand Company, Inc., 1961), P.351.

APPENDICES

APPENDIX 'A'

QUESTIONNAIRE-PARENTAL EDUCATION AND OCCUPATION

This is not a test. It is simply a questionnaire for you to give facts about your background. Your answers will be treated confidentially and therefore you are requested to give all answers truthfully. Please put a tick(✓) against the word or sentence that is most applicable to you.

Name of your School_____

Index No. (given)_____

Your Sex: Male ( ) Female ( )

Age (approx.)_____

1. Some of our parents went to school and some did not go. Which of these levels of education did your parents complete?

   For Father

   a) Did not go to school ( )

   b) Primary school ( )

   c) Secondary school ( )

   d) University ( )

2. For Mother

   a) Did not go to school ( )

   b) Primary school ( )

   c) Secondary School ( )

   d) University ( )

3. What type of job does your father do to earn a living?

Explain his duties briefly:

_____

_____

_____

_____

_____

4. If your mother works, what type of job or business does she do?_____

Explain her duties briefly:

_____

_____

_____

_____

APPENDIX 'B'

STORY WRITING INSTRUCTIONS

This is an exercise regarding creative imagination or story telling. A number of pictures will be shown to you. You will have 20 seconds to look at each picture and then about 4 minutes to write a story about it. Please note that there is an empty page before each picture for writing the story. Use the four questions given below to guide your thinking and enable you to cover all the elements of a plot within the allotted time. You do not have to answer the questions directly. They are there to help you think up a story. Plan to spend about a minute for each question.

There are no right or wrong answers. So you may feel free to make up any kind of story you choose.

Do not merely describe the picture you see. Tell a story about it. Write as fast as you can, in order to finish in time. Do not worry about grammar and spelling.

If you need more space for any story, use the reverse side.

APPENDIX 'C'

LIST AND DESCRIPTION OF SCHOOLS

A. KINANGO HARAMBEE SECONDARY SCHOOL- This is a two streamed (up to Form IV) mixed(Boys & Girls) school situated in the interior of Kwale district of Coast Province, Kenya. It is mostly run by the local community with some assistance from the central Government and has basic learning facilities which include Science laboratories, private hostels and improperly equiped library. It has enrolment of about three hundred and twenty pupils.

B. WAA HIGH SCHOOL - This school is located on the main Mombasa- Lunga Lunga road in Kwale District. It is a mixed Government School(both day & boarding) from Form I to Form Six (6th year of Secondary Schooling). It has the basic learning facilities with enrolment of about five hundred pupils.

C. KWALE HIGH SCHOOL- This school is situated in the Kwale District Headquarters' township. It is a all-boys boarding school from Form I to Form Six, with an enrolment of about 600 pupils and is run by the Government.

D. ST. MARY'S SEMINARY, KWALE- This is Catholic Mission run school with an enrolment of about 160 Form 1-4 boys (only). It is situated at the Kwale District Headquarters' township and has good learning facilities, boarding all pupils.

E. H.H. AGA KHAN SECONDARY SCHOOL, MOMBASA- This is a Mixed, private school for Forms 1-4. It is situated in the centre of Mombasa Municipality, and caters for only day pupils.

F. KHAMIS HIGH SCHOOL- This school is situated in the centre of Mombasa Municipality and caters for boys only, from Form I to form six. It has both boarding and Day school facilities.

G. STAR OF THE SEA GIRLS' HIGH SCHOOL- This is a Girls' Day school run by the Catholic Mission. It is within the Mombasa Municipality and has good learning facilities.

J. BAPTIST HIGH SCHOOL, MOMBASA- This school, situated in Mombasa Municipality, is run by the Baptist Mission and caters for both boys and girls. It is a Day School.

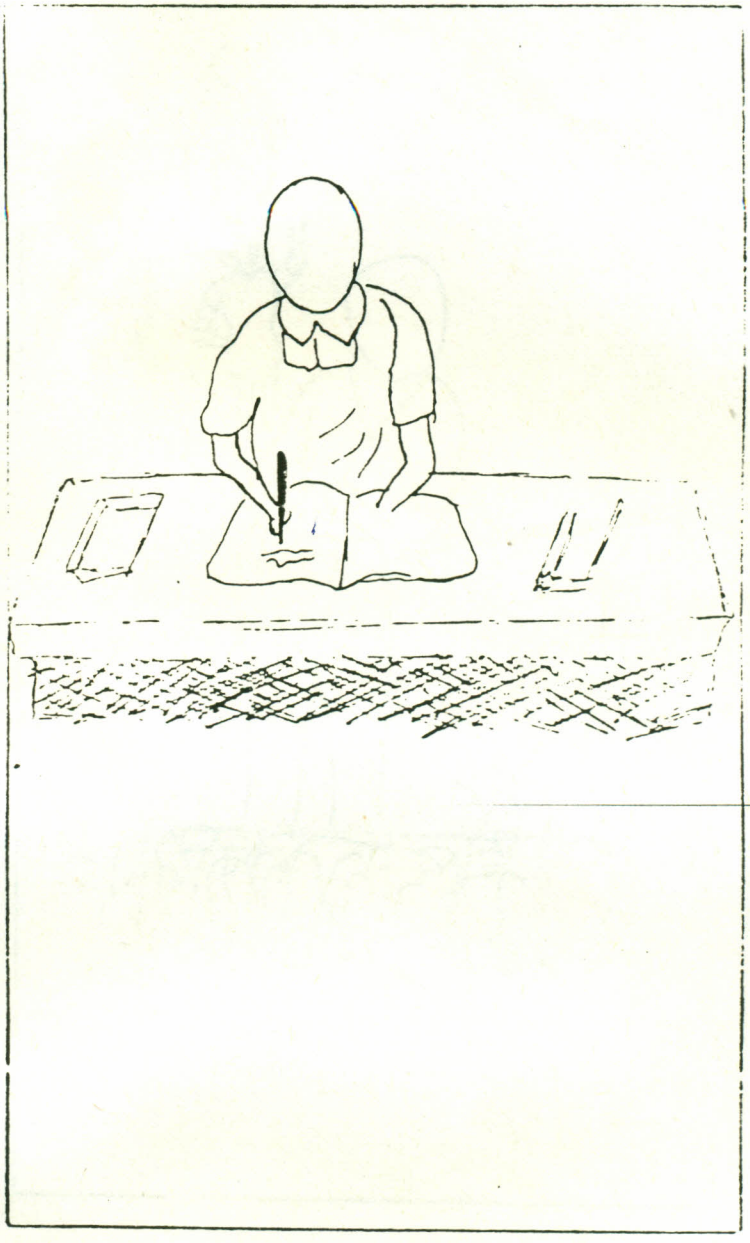
K. SHIMBA HILLS HARAMBEE SCHOOL- This is a Day Mixed School situated in a rural setting in Kwale district. It has an enrolment of about 400 pupils and has insufficient learning facilities.

APPENDIX 'D'

THE FIVE PICTURES USED IN THE STUDY

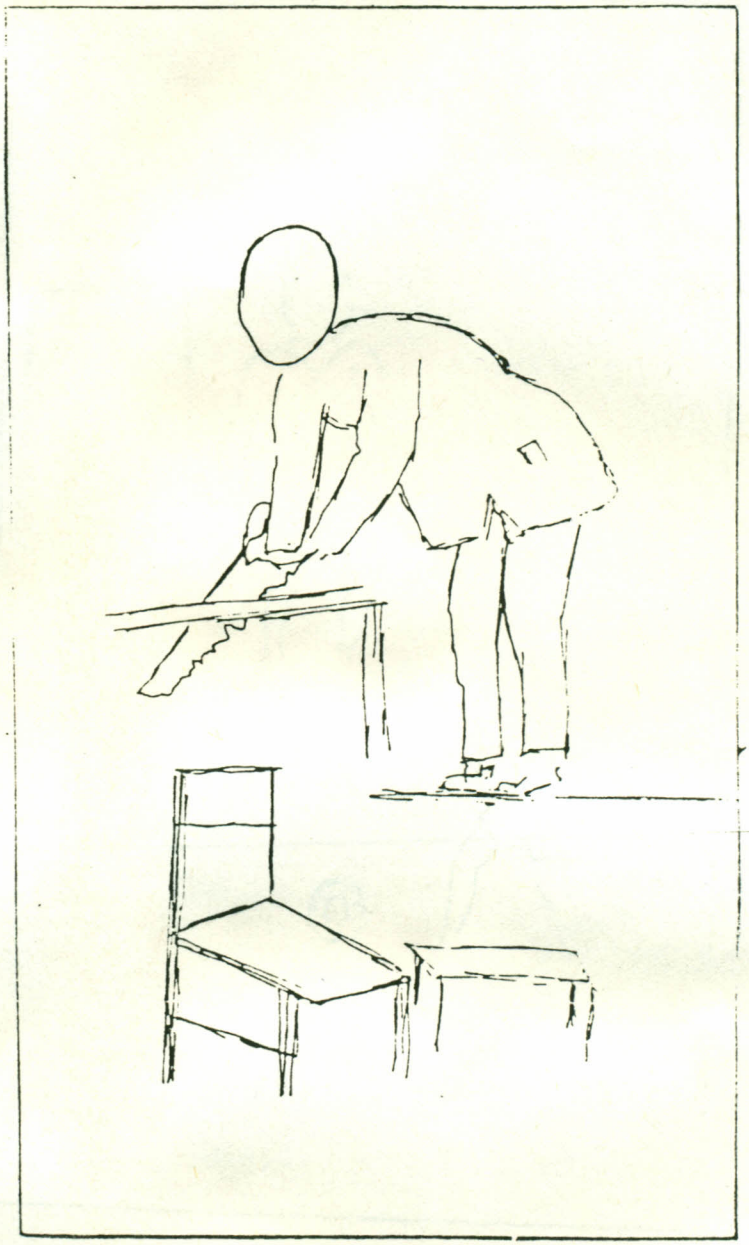
PICTURE 1

PICTURE 2

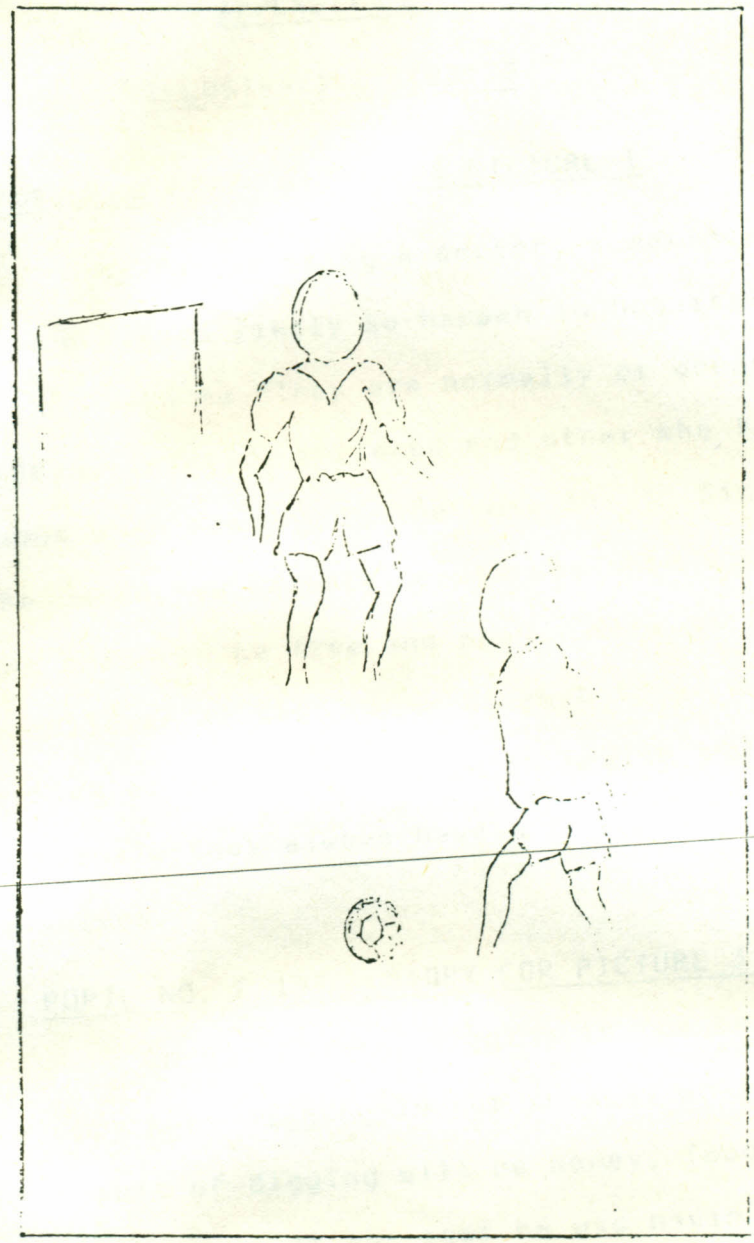


PICTURE 3

PICTURE 4



PICTURE 5



APPENDIX 'E'

ILLUSTRATIVE STORIES

1. PUPIL NO E187- STORY FOR PICTURE 1

My father being a doctor, sometimes tells me what are always likely to happen in hospitals.

Says he "They are normally or occassionally shy children, inferior children and other who tend to be very nervous when brought to the hospital." Since they have to be cared, He oftenly has to use some styles of making young children be free and open. Because for them that is the children if they relax at such times i.e. when they are sick or anything to do with health that disturbs such individual, they always have a tendency to help curing themselves.

2. PUPIL NO. F 197 - STORY FOR PICTURE 3

In our country digging is the best way parents are very busy digging in our shambas while us we cultivate. The result of digging will be money, food etc. The man is digging because at the past he was having a shamba but he does not use it for anything at last the problem has face so is busy digging and prevent soil erosion. Thereafter finishing digging the only thing which is going to recieve in his shamba is food.

APPENDIX 'E' CONT.

3. PUPIL NO. C110- STORY FOR PICTURE 5

Our school was defeated in the district football championship. And so the footballers are always in foot pitch doing practice. This is what is wanted by the head-master so that we shall win the next matches.

This will make us win in the next matches and so we shall win a cup and go to represent our district in football which will be a very big fame to our school. And it can even make us have more academic facilities from the government for our good doing job.

4. PUPIL NO. J296 - STORY FOR PICTURE 4

Here we have a carpenter, he is a hardworking carpenter he works every day including sundays (After coming back from church). He is now trying to cut some wood using a saw. He makes all types of furniture. He is about to finish his work and go for his lunch.

Before, the carpenter Mr. Yusuf was a clerk at the local school of the area but he had to leave because he wasn't paid well. He now thinks that the job he is doing is paying him well and he wants to open a bigger shop and increase his salary by double so that he can look after his family well.

APPENDIX 'E' CONT.

5. PUPIL NO. G253 - STORY FOR PICTURE 2

John is a determined boy. He does all his home-work and also makes sure that all he does is the best. He wakes up at about 4 O'clock in the morning and sits down in his study table. He plans his work and studys. John like many young boys would want to succeed in life. Seeing how other people suffer he is determined not to do the same mistakes.

He is a boy whose limit is the sky. He studys and writes and by doing so he can have the chance of enrolling in one of the Universities in Kenya. He does his best and expects only the best. He is very sure that with hardwork there is possibly no reason why he should not go to the Chiromo campus. He is enthusiastic about the future. He will lead his life properly and successfully being both a satisfied person and a good citizen of Kenya.

APPENDIX 'F'

SCORING THE ILLUSTRATIVE STORIES FOR nAcH*

POPIL NO.	STORY NO.	UT	TI	AI	N	I	Ga^+	Ga^-	BP	BW	H	G+	G-	ACH Th	nAch SCORE
E 187	1	-1													-1
F 197	3		0												0
C 110	5			1	1	1									3
J 296	4			1	1	1								1	4
G 253	2			1	1	1	1					1		1	6

KEY

SUB/CATEGORY	POINTS
UT- Unrelated Imagery	-1
TI- Task-related Imagery	0
AI- Achievement-related Imagery	+1
N- Need	+1
I - Instrumental Activity	+1
Ga^+- Anticipation of success of Goal	+1
Ga^-- Anticipation of Goal failure	+1
BP- Personal Obstable/Block	+1
BW- Worldly or environmental Obstacle/Block	+1
H- Help by another person	+1
G^+- Positive emotion/Affective state	+1
G^-- Negative emotion/Affective state	+1
Ach Th- Achievement Thema	+1

*The scoring system 'C' followed in scoring these stories.

APPENDIX 'G'

LINEAR CORRELATION BETWEEN EACH SCORES (X) AND (i) FATHERS' EDUCATIONAL LEVELS(Y_1) (ii) MOTHERS' EDUCATIONAL LEVELS (Y_2) (iii) FATHERS'OCCUPATIONAL LEVLES(Y_3) (iv) MOTHERS' OCCUPATIONAL LEVELS(Y_4)

(i) Whole Sample

$N=305$ $\quad \Sigma Y_1=693$

$\Sigma X=15248$ $\quad \Sigma Y^2=1829$

$\Sigma X^2=792400$ $\quad \Sigma XY_1=34997$

$\therefore r_{xy_1}=0.120$

Boys Only

$N=217$ $\quad \Sigma Y_1=463$

$\Sigma X=10620$ $\quad \Sigma Y_1^2=1167$

$\Sigma X^2=538658$ $\quad \Sigma XY_1=22742$

$\therefore r=0.045$

Girls Only

$N=88$ $\quad \Sigma XY_1=12255$

$\Sigma X=4628$ $\quad \Sigma Y_1=230$

$\Sigma X^2=253742$ $\quad \Sigma Y_1^2=662$

$\therefore r=0.200$

SCHOOL 'A'

$N=41$ $\quad \Sigma XY_1=3584$

$\Sigma X=1961$ $\quad \Sigma Y_1=73$

$\Sigma X^2=97413$ $\quad \Sigma Y_1^2=151$

$\therefore r=0.340$

SCHOOL 'B'

$N=35$ $\quad \Sigma XY_1=3752$

$\Sigma X=1865$ $\quad \Sigma Y_1=71$

$\Sigma X^2=103939$ $\quad \Sigma Y_1^2=173$

$\therefore r=-0.086$

APPENDIX 'G' CONT)

SCHOOL 'C'

N = 32 $\quad \Sigma XY_1 = 2574$

$\Sigma X = 1485 \quad \Sigma Y_1 = 56$

$\Sigma X^2 = 70567 \quad \Sigma Y_1^2 = 120$

$\therefore r = -0.13$

SCHOOL 'D'

N = 28 $\quad \Sigma XY_1 = 2931$

$\Sigma X = 1323 \quad \Sigma Y_1 = 62$

$\Sigma X^2 = 64287 \quad \Sigma Y_1^2 = 158$

$\therefore r = 0.0078$

SCHOOL 'E'

N = 33 $\quad \Sigma XY_1 = 5002$

$\Sigma X = 1701 \quad \Sigma Y_1 = 97$

$\Sigma X^2 = 91425 \quad \Sigma Y_1^2 = 301$

$\therefore r = 0.0086$

SCHOOL 'F'

N = 35 $\quad \Sigma XY_1 = 3834$

$\Sigma X = 1795 \quad \Sigma Y_1 = 74$

$\Sigma X^2 = 95457 \quad \Sigma Y_1 = 180$

$\therefore r = 0.14$

SCHOOL'G'

N = 37 $\quad \Sigma XY_1 = 6029$

$\Sigma X = 2053 \quad \Sigma Y_1 = 108$

$\Sigma X^2 = 118549 \quad \Sigma Y_1^2 = 336$

$\therefore r = 0.12$

APPENDIX 'G'(CONT)

SCHOOL 'J'

$N = 32$ $\quad \Sigma XY_1 = 3938$

$\Sigma X = 1481$ $\quad \Sigma Y_1 = 84$

$\Sigma X^2 = 70385$ $\quad \Sigma Y_1^2 = 240$

$\therefore r = 0.27$

SCHOOL 'K'

$N = 32$ $\quad \Sigma XY_1 = 3353$

$\Sigma X = 1585$ $\quad \Sigma Y_1 = 68$

$\Sigma X^2 = 80473$ $\quad \Sigma Y_1^2 = 170$

$\therefore r = -0.068$

(ii) Whole Sample

$N = 305$ $\quad \Sigma XY_2 = 27117$

$\Sigma X = 15248$ $\quad \Sigma Y_2 = 536$

$\Sigma X^2 = 792400$ $\quad \Sigma Y_2^2 = 1148$

$\therefore r = 0.130$

Boys Only

$N = 217$ $\quad \Sigma XY_2 = 17227$

$\Sigma X = 10620$ $\quad \Sigma Y_2 = 352$

$\Sigma X^2 = 538658$ $\quad \Sigma Y_2^2 = 698$

$\therefore r = 0.000056$

Girls Only

$N = 88$ $\quad \Sigma XY_2 = 9890$

$\Sigma X = 4628$ $\quad \Sigma Y_2 = 184$

$\Sigma X^2 = 253742$ $\quad \Sigma Y_2^2 = 450$

$\therefore r = 0.260$

APPENDIX 'G'(CONT)

SCHOOL 'A'

$N = 41$ $\quad \Sigma XY_2 = 2661$

$\Sigma X = 1961$ $\quad \Sigma Y_2 = 54$

$\Sigma X^2 = 97413$ $\quad \Sigma Y_2^2 = 88$

$\therefore r = 0.320$

SCHOOL 'B'

$N = 35$ $\quad \Sigma XY_2 = 2774$

$\Sigma X = 1865$ $\quad \Sigma Y_2 = 52$

$\Sigma X^2 = 103939$ $\quad \Sigma Y_2^2 = 94$

$\therefore r = 0.011$

SCHOOL 'C'

$N = 32$ $\quad \Sigma XY_2 = 2158$

$\Sigma X = 1485$ $\quad \Sigma Y_2 = 47$

$\Sigma X^2 = 70567$ $\quad \Sigma Y_2 = 81$

$\therefore r = 0.160$

SCHOOL 'D'

$N = 28$ $\quad \Sigma XY_2 = 2446$

$\Sigma X = 1323$ $\quad \Sigma Y_2 = 52$

$\Sigma X^2 = 64287$ $\quad \Sigma Y_2^2 = 114$

$\therefore r = 0.063$

SCHOOL 'E'

$N = 33$ $\quad \Sigma XY_2 = 3817$

$\Sigma X = 1701$ $\quad \Sigma Y_2 = 75$

$\Sigma X^2 = 91425$ $\quad \Sigma Y_2^2 = 197$

$\therefore r = -0.160$

APPENDIX 'G' (CONT)

SCHOOL 'F'

$N = 35$ $\quad \Sigma XY_2 = 2585$

$\Sigma X = 1795$ $\quad \Sigma Y_2 = 49$

$\Sigma X^2 = 95457$ $\quad \Sigma Y_2^2 = 81$

$\therefore r = 0.35$

SCHOOL 'G'

$N = 37$ $\quad \Sigma XY_2 = 5174$

$\Sigma X = 2053$ $\quad \Sigma Y_2 = 92$

$\Sigma X^2 = 118549$ $\quad \Sigma Y_2^2 = 248$

$\therefore r = 0.23$

SCHOOL 'J'

$N = 32$ $\quad \Sigma XY_2 = 3188$

$\Sigma X = 1481$ $\quad \Sigma Y_2 = 68$

$\Sigma X^2 = 70385$ $\quad \Sigma Y_2^2 = 162$

$\therefore r = 0.23$

SCHOOL 'K'

$N = 32$ $\quad \Sigma XY_2 = 2314$

$\Sigma X = 1585$ $\quad \Sigma Y_2 = 47$

$\Sigma X^2 = 80473$ $\quad \Sigma Y_2^2 = 83$

$\therefore r = -0.084$

APPENDIX 'G' (CONT)

(iii) Whole Sample

$N = 305$ $\quad \Sigma XY_3 = 26228$

$\Sigma X = 15248$ $\quad \Sigma Y_3 = 521$

$\Sigma X^2 = 792400$ $\quad \Sigma Y_3^2 = 1081$

$\therefore r = 0.076$

Boys Only

$N = 217$ $\quad \Sigma XY_3 = 16951$

$\Sigma X = 10620$ $\quad \Sigma Y_3 = 344$

$\Sigma X^2 = 538658$ $\quad \Sigma Y_3^2 = 652$

$\therefore r = 0.081$

Girls Only

$N = 88$ $\quad \Sigma XY_3 = 9277$

$\Sigma X = 4628$ $\quad \Sigma Y_3 = 177$

$\Sigma X^2 = 253742$ $\quad \Sigma Y_3^2 = 429$

$\therefore r = -0.036$

SCHOOL 'A'

$N = 41$ $\quad \Sigma XY_3 = 2487$

$\Sigma X = 1961$ $\quad \Sigma Y_3 = 51$

$\Sigma X^2 = 97413$ $\quad \Sigma Y_3^2 = 73$

$\therefore r = 0.26$

APPENDIX 'G'(CONT)

SCHOOL 'B'

$N = 35$ $\quad \Sigma XY_3 = 2723$

$\Sigma X = 1865$ $\quad \Sigma Y_3 = 51$

$\Sigma X^2 = 103939$ $\quad \Sigma Y_3^2 = 87$

$\therefore r = 0.023$

SCHOOL 'C'

$N = 32$ $\quad \Sigma XY_3 = 1965$

$\Sigma X = 1485$ $\quad \Sigma Y_3 \quad 42$

$\Sigma X^2 = 70567$ $\quad \Sigma Y_3^2 = 64$

$\therefore r = 0.13$

SCHOOL 'D'

$N = 28$ $\quad \Sigma XY_3^2 = 2292$

$\Sigma X = 1323$ $\quad \Sigma Y_3 = 49$

$\Sigma X^2 = 64287$ $\quad \Sigma Y_3^2 = 101$

$\therefore r = -0.14$

SCHOOL 'E'

$N = 33$ $\quad \Sigma XY_3 = 3896$

$\Sigma X = 1701$ $\quad \Sigma Y_3 = 76$

$\Sigma X^2 = 91425$ $\quad \Sigma Y_3^2 = 200$

$\therefore r = -0.070$

SCHOOL 'F'

$N = 35$ $\quad \Sigma XY_3 = 3030$

$\Sigma X = 1795$ $\quad \Sigma Y_3 = 59$

$\Sigma X^2 = 95457$ $\quad \Sigma Y_3^2 = 113$

$\therefore r = 0.019$

APPENDIX 'G' (CONT)

SCHOOL 'G'

$N = 37$ $\quad \Sigma XY_3 = 4752$

$\Sigma X = 2053$ $\quad \Sigma Y_3 = 87$

$\Sigma X^2 = 118549$ $\quad \Sigma Y_3^2 = 233$

$\therefore r = -0.21$

SCHOOL 'J'

$N = 32$ $\quad \Sigma XY_3 = 2815$

$\Sigma X = 1481$ $\quad \Sigma Y_3 = 60$

$\Sigma X^2 = 70385$ $\quad \Sigma Y_3^2 = 130$

$\therefore r = 0.21$

SCHOOL 'K'

$N = 32$ $\quad \Sigma XY_3 = 2268$

$\Sigma X = 1585$ $\quad \Sigma Y_3 = 46$

$\Sigma X^2 = 80473$ $\quad \Sigma Y_3^2 = 80$

$\therefore r = -0.063$

(iv) Whole Sample

$N = 305$ $\quad \Sigma XY_4 = 17571$

$\Sigma X = 15248$ $\quad \Sigma Y_4 = 348$

$\Sigma X^2 = 792400$ $\quad \Sigma Y_4^2 = 442$

$\therefore r = 0.15$

APPENDIX 'G' (CONT)

Boys Only

$N = 217$ $\quad \Sigma XY_4 = 11600$

$\Sigma X = 10620$ $\quad \Sigma Y_4 = 238$

$\Sigma X^2 = 538659$ $\quad \Sigma Y_4^2 = 284$

$\therefore r = -0.072$

Girls Only

$N = 88$ $\quad \Sigma XY_4 = 5971$

$\Sigma X = 4628$ $\quad \Sigma Y_4 = 110$

$\Sigma X^2 = 253742$ $\quad \Sigma Y_4^2 = 158$

$\therefore r = 0.40$

SCHOOL 'A'

$N = 41$ $\quad \Sigma XY_4 = 2081$

$\Sigma X = 1961$ $\quad \Sigma Y_4 = 43$

$\Sigma X^2 = 97413$ $\quad \Sigma Y_4^2 = 47$

$\therefore r = 0.29$

SCHOOL 'B'

$N = 35$ $\quad \Sigma XY_4 = 2051$

$\Sigma X = 1865$ $\quad \Sigma Y_4 = 38$

$\Sigma X^2 = 103939$ $\quad \Sigma Y_4^2 = 44$

$\therefore r = 0.23$

APPENDIX 'G' (CONT)

SCHOOL 'C'

$N = 32$ $\quad \Sigma XY_4 = 1528$

$\Sigma X = 1485$ $\quad \Sigma Y_4 = 33$

$\Sigma X^2 = 70567$ $\quad \Sigma Y_4^2 = 35$

$\therefore r = -0.085$

SCHOOL 'D'

$N = 28$ $\quad \Sigma XY_4 = 1538$

$\Sigma X = 1323$ $\quad \Sigma Y_4 = 33$

$\Sigma X^2 = 64287$ $\quad \Sigma Y_4^2 = 45$

$\therefore r = -0.20$

SCHOOL 'E'

$N = 33$ $\quad \Sigma XY_4 = 1959$

$\Sigma X = 1701$ $\quad \Sigma Y_4 = 39$

$\Sigma X^2 = 91425$ $\quad \Sigma Y_4^2 = 53$

$\therefore r = -0.32$

SCHOOL 'F'

$N = 35$ $\quad \Sigma XY_4 = 1942$

$\Sigma X = 1795$ $\quad \Sigma Y_4 = 38$

$\Sigma X^2 = 95457$ $\quad \Sigma Y_4^2 = 44$

$\therefore r = -0.071$

APPENDIX 'G' (CONT)

SCHOOL 'G'

$N = 37$ $\quad \Sigma XY_4 = 3079$

$\Sigma X = 2053$ $\quad \Sigma Y_4 = 53$

$\Sigma X^2 = 118549$ $\quad \Sigma Y_4^2 = 87$

$\therefore r = 0.61$

SCHOOL 'J'

$N = 32$ $\quad \Sigma XY_4 = 1718$

$\Sigma X = 1481$ $\quad \Sigma Y_4 = 37$

$\Sigma X^2 = 70385$ $\quad \Sigma Y_4^2 = 49$

$\therefore r = 0.052$

SCHOOL 'K'

$N = 32$ $\quad \Sigma XY_4 = 1675$

$\Sigma X = 1585$ $\quad \Sigma Y_4 = 34$

$\Sigma X^2 = 80473$ $\quad \Sigma Y_4^2 = 38$

$\therefore r = -0.15$

APPENDIX 'H'

MEAN nACH SCORES AND STANDARD DEVIATIONS FOR THE WHOLE SAMPLE, BOYS, GIRLS AND THE NINE SCHOOLS OF THE STUDY

GROUP	MEAN	STANDARD DEVIATION
WHOLE SAMPLE	49.99	9.95
BOYS	48.94	9.36
GIRLS	52.59	10.91
SCHOOL 'A'	47.83	9.51
SCHOOL 'B'	53.29	11.58
SCHOOL 'C'	46.41	7.30
SCHOOL 'D'	47.25	8.11
SCHOOL 'E'	51.55	10.82
SCHOOL 'F'	51.29	10.00
SCHOOL 'G'	55.49	11.35
SCHOOL 'J'	46.28	7.71
SCHOOL 'K'	49.53	7.91

APPENDIX 'I'

RESEARCH PERMIT AND INTRODUCTORY LETTER TO THE HEADS OF SCHOOL

Kenyatta University
Department of Educationa
Communication & Technolo
P.O. Box 43844
NAIROBI.

16th September 1988.

The Headmaster/Headmistress

Dear Sir/Madam,

I am writing to inform you that I have been granted the authority to carry out a research study in Kenya by the Office of the President. Your School has randomly been selected as one of the sites for the study.

This is an educational research to be carried out by me, with the support of Kenyatta University, Department of Educational Communication and Technology. The study is designed to investigate the "relationship between pupils' achievement motivation and the levels of education/ occupation of their parents". It is hoped that the findings of the study may be of help to teachers, school counsellors, parents, pupils and many others involved in the education of our children.

The main purpose of this letter is to inform you that I intend to visit your school any time from September 20th 1988. During this visit, I would like to administer some tests to about 40 Form 3 students in the school, an exercise to take not more than one hour. Your co-operation is of utmost importance.

Thanking you in advance for your attention to this matter.

Yours Sincerely,

EZEKIEL M. KITIVO.

APPENDIX 'I' CONT.

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THIS IS TO CERTIFY THAT:

Prof./Dr./Mr./Mrs./Miss Ezekiel Mutinda Kitivo

of (Address) P.O. Box 56465 NAIROBI

has been permitted to conduct research in .....

..... Location,

Kwale, Mombasa ..... District,

Coast ..... Province,

on the topic 'A study of the relationship between Kenyan Secondary school pupils' achievement motivation and educational/occupational levels of their parents'

.....

for a period ending June, 1989

PAGE 3

Research permit No. OP.13/001/18 C 207/2

Date of issue 14th September, 1988

Fee received 25/= .....

.....
Applicant's Signature

C.A. MWANGO (MRS.)
Permanent Secretary, Office of the President

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