Relationship between Anxiety and Classroom Performance among Pupils in Selected Public Primary Schools in Rachuonyo North, Homa-Bay County, Kenya

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Abstract: **This research aimed at determining the relationship between anxiety and classroom performance among pupils in Rachuonyo North District, Kenya. The study had the following objective: to find out the relationship between anxiety and classroom performance of pupils. The research used both descriptive survey design. The researcher used district list of schools to sample pupils. Using stratified sampling techniques, the district was divided into divisions and zones. From each zone, schools were listed in alphabetical order and numbered from one to last. Pieces of papers numbered one to the last were folded, put in a box, shuffled and then picked. Picked numbers represented schools that were then sampled. A random selection of 507 pupils both males and females in class four in selected eighteen schools of Rachuonyo North District were used. The district has a child population of 6,646 in class four. This class has middle childhood years which the research focused on. Questionnaires were used to identify factors leading to social anxiety in children, they included; Revised Children Manifest Anxiety Scale (RCMAS) specifically adapted for Kenya conditions, was administered to measure the level of anxiety as brought by social situations. To identify the level of test anxiety of pupils in science and art subjects, Test Anxiety Scale for Children (TASC) was modified to fit Kenyan conditions and administered to the subjects. Both science and art tests were administered to all the subjects. Research instruments were pretested at Pier Got and Otok primary schools to establish their reliability and validity. The two pilot schools did not take part in the actual research. Ambiguities detected in the instruments were corrected according to the advice of research peers before field administration. The results of the study are presented in tables, percentages, and bar graphs. The data were analyzed using SPSS. The results showed that high anxiety facilitated performance in the classroom.(r=0.76) in sciences and(r=0.41) in art. The study concluded by suggesting that a similar study be replicated in urban primary schools to give more accurate generalizations of the findings. The research recommends that school managers should establish the department of guidance and counseling in primary schools to identify children anxiety levels and put early interventions to elevate test anxiety(their ego) which leads to better performance and counteract high social anxiety that hinder classroom performance. It was also recommended that a similar research be carried out with a class seven or in private schools.**

Keywords: **Relationship between Anxiety and Classroom Performance, descriptive survey design.**

1.   INTRODUCTION

1.1 Background to the Study:

Kenya development blue print vision 2030 is dependent on quality education for its realization. There is need for children to be healthy psychologically, socially and physically to perform well in classroom.

Bellamy (2005) points out that childhood is the foundation of the world's hope for a better future. Any problem that affects children breaks this solid foundation and should be addressed. While anxiety to some level is part of our daily functioning, high anxiety will impair daily functioning of an individual (Ndirangu, Muola, Kithuka & Nassium, 2009).

Among the major developmental tasks facing the children during the middle childhood years are the development of various intellectual and academic skills and the motivation to master them. Academic or scholastic achievement has become an index of a child's future in this highly competitive world. It is only a drop in the vast sea of education and great many pupils would appear not to give themselves credit commensurate with their known or rated abilities. Many times students of undoubted average or abilities excel (Mokashi, 2007).

The outcome of education determines the level of life, progress and status of the people living anywhere in the world and it is the vital force for the development of human life and society at large. In Kenya, with the compulsory free education at primary and secondary tiers different view of the scope and responsibility of educators has emerged. This goal is envisaged in maximizing the achievement of all children. Early research on the prediction of academic performance primarily focused on intelligence and ability factors as predictors (Eyesenck, 1992; Martin et al., 2006). Recent researches (Opuodho, 2010; Amadi, Role & Makewa, 2013) shows there are major shifts in emphasis and in the conceptualization of the problem, due to the gradual recognition that some students perform worse than predicted by ability test. So, the environment created in the school as well as home either accelerates or retards the development of any pupil (Opudho, 2010).

The development of human resources and maximum utilization of the resources are necessary for the growth and prosperity of any society (Ndirangu, Muola, Kithuka & Nassium, 2009) more so, for a developing nation like ours. The institutions of learning especially the schools are the principal means of socialization to develop children to be useful citizens so that they fit into adult roles and also different occupational roles. It is only children who are high in their academic performance who can be molded to occupy strategic positions in society and thereby determine the destiny of society (Mokashi, 2007). Hence, scholastic achievement occupies a very important place in education as well as in the learning process. High achievement in school creates self-esteem and self-confidence in the child (Mangu'la, 2010).

Success is ego-inflating and failure is ego-deflating. Failure not only damages the self-concept but it encourages the development of patterns of behaviour that are harmful to personal and social adjustments. By contrast, success leads to favourable self-concepts which in turn, lead to good personal adjustments and favourable social evaluations. These heavily contribute to good future adjustments (Mokashi, 2007).

In the present time, societies and parents emphasize on effective education because it forms the main basis for admission, promotion into a class or getting a degree and obtaining a job. Thus, the academic performance that has the highest prestige in the eyes of the members of the group with which the child is identified has the greatest influence on his personality development or vice versa. The trend in the academic performance, rate of drop outs, failures and low percentage of pupils in the examinations was a question for the researcher to probe into the psychological factors that leads to poor academic performance.

Many pupils fail in exams in Rachuonyo North district (Ojwang, 2005). The cause of such waste may be in the intellectual as well as in non-intellectual factors of the student's personality like academic motivation, family and school environment, family and school environment has a predominant and governing influence on the development of the child (Otieno, 2002; Mwadimu, 2005; Ogutu, 2011). If the child is not encouraged to develop his cognitive abilities and talents to the fullest extent, his academic activities will be impaired (Mokashi, 2007; Mangu'la, 2010).

Anxious children display poorer recall than less anxious children, and it is believed that the anxiety creates distracting stimulation that deflects attention from relevant incoming information and therefore, impairs memory and intellectual abilities. The degree of anxiety associated with intellectual mastery occurs under two conditions – when expectancy of success or failure is moderate and when motivation is high but expectancy of success is low. In the first instance, the child is maximally uncertain about how he will perform on a test and the uncertainty generates anxiety. The child would be much anxious if he/she knew definitely he would pass or fail. In the second instance, the child values competence on a particular intellectual task but expects to fail. When there is discrepancy between a valued goal and the expectancy of obtaining that goal, anxiety is likely to be generated.

Factors like difficult family situation, restricted school environment, occupational and financial difficulties without adequate support can also cause anxiety which in turn affects the academic performance of the children in the school. Hence, an imperative need was felt to study the relationship between anxiety and classroom performance.

The relationship between anxiety and impaired academic performance has been well-documented by a number of investigators (Onwuegbuzie & Wilson, 2003; Sud & Sujata, 2006; Mokashi, 2007; Gamble, 2009).

The worry component of test anxiety has been consistently shown to have an inverse relationship with performance; a relationship that has been observed in children as well as adults (Cassady et al., 2002; King et al., 2000; McIlroy et al., 2002; Seipp, 1991). Furthermore, Lyneham (2009) notes that early anxiety disorders predict adult anxiety disorders, depression, suicide, substance abuse and conduct problems. A few studies have found curvilinear relationship between anxiety and academic performance (Bodas, 2003; Keeley, 2008). Some studies reported that there are no relationships between anxiety and academic performance (Vogel & Collins, 2009; Ndirangu, Muola, Kithuka & Nassiiuma, 2009).

Research studies in Rachuonyo North indicates falling academic standards, increase students' unrest (Ojwang, 2005; Okeno, 2011). These are indicators of anxiety (Ndirangu, Muola, Kithuka & Nassiiuma, 2009). Opuodho (2010) research found that school environmental factors such as unconducive learning conditions, inadequate teaching and learning, learning resources and inadequate teaching staff influenced performance of students in KCSE. She also found that home environment influences performance of students as a result of the following factors: peer group influence, high poverty levels, unconducive study environments, family problems, orphanhood among others. These factors are potent to cause anxiety hence need to research on some factors that leads to anxiety among pupils in Rachuonyo North District.

Rachuonyo North District has some of the least developed school learning structures. For instance, learning still occurs in temporary structures, sometimes under trees. There is adverse shortage of furniture and electricity is yet to be fixed in over 80% of the schools (Okeno, 2011). These factors can lead to anxiety among learners.

1.2 Research Objective:

The main research objective was to identify the relationship between anxiety and classroom performance of pupils in science and art subjects.

1.3 Statement of the Problem:

The strength of the relationship between anxiety and performance varies from study to study, with correlations from extreme negative to positive values Seipp (1991). Some studies have indicated that anxiety is negatively related to classroom performance (Onwuegbuzie & Wilson, 2003; Mokashi, 2007; Gamble, 2009).

A few studies have found curvilinear relationship between anxiety and academic performance (Bodas, 2003; Keeley, 2008). Some studies reported that there are no relationships between anxiety and academic performance (Vogel & Collins, 2009; Ndirangu, Muola, Kithuka & Nassiiuma, 2009).

Rachuonyo North District, has increased cases of student unrest and falling academic standard as pointed out by Ojwang' (2005). The district learning index was also noted to be low of 56.4%, and position 50 out of 74 districts surveyed by Uwezo Kenya (2010). The research also pointed out that 20% (1 out of 5) of Kenyan children in class four cannot read a simple class two paragraph. Rachuonyo North also has high cases of orphaned pupils due to HIV and AIDS, child labour, hunger and flooding factors that could precipitate anxiety. In addition, Amade et al., (2013) reports research by KNEC that standard three pupils in Nyanza province had the highest number of repeaters at 69% and that class repeating usually leads to dropout. They continue to assert that 60% of children have repeated a class by the time they reach standard three. This they attribute to poverty in the region.

The researcher having reviewed literature on the relationship between anxiety and classroom performance observed that none of these studies had specifically investigated the relationship between anxiety and classroom performance in middle childhood among pupils in Rachuonyo North District. Therefore, this study investigated relationship between anxiety and classroom performance of pupils in class four in public primary schools in Rachuonyo North District to fill this gap of knowledge. Most studies (Ndirangu, Muola, Kithuka & Nassiiuma, 2009; Opuodho, 2010; Okeno, 2011) have been done on adolescent, adults and early childhood anxieties, but none in middle childhood anxieties and classroom performance; which this study focused on. Research has been done on other factors that influence academic performance in Kenya (Otieno, 2002, Ndirangu, Muola, Kithuka & Nassiiuma, 2009) Opuodho, 2010, Ndege, 2009; Okeno, 2011) but there is no research known to the researcher that has attempted to look at the relationship between anxiety and academic performance among children in their middle childhood hence, the need to investigate the relationship between anxiety and academic performance in the district.

2.   LITERATURE REVIEW

2.1 Relationship between Anxiety and Classroom Performance:

Although everybody experiences anxiety, only some are impaired by it. Anxiety at moderate levels is necessary for efficient functioning and performance. However, at very high levels, it may impair normal functioning and performance in a task. Test anxiety is important in education because it helps students prepare for exam (Ndirangu, Muola, Kithuka & Nassium, 2009).

The influence of anxiety on academic performance has been well-documented by a number of investigators (Kyozaire, 1974; Sarason, 1986; Sarason & Sarason, 1990; Naron, 1990). Sharma and Rao (1984) in Mokashi (2007) conducted a study on "test anxiety research in India", reported that academic performance is negatively influenced by test anxiety, while general anxiety appears to be less predictive of such a goal attainment. Singh and Asha (1984) conducted a study on "Neuroticism, anxiety and academic achievement". The sample consisted of 70 male and 70 female under-graduate students. They administered a Kapoor's Anxiety scale (1966). Marks obtained in the previous examination were considered as academic achievement. The results showed that more number of high achievers had high anxiety than the low achievers. When the correlation between high achievers and anxiety was calculated, it was found that high achievers had high anxiety.

Sudhir (1989) conducted a study on "Achievement motivation in relation to select personality and socio-educational factors". The sample consisted of 440 students of classes IX and X selected from 9 high schools. Rao's achievement motivation scale and test anxiety scale (1989) developed by author were used. The results showed that students with high test anxiety were found to have higher mean score on achievement motivation than those having low test anxiety. The mean difference being statistically significant at 0.05 levels indicating that test-anxiety was positively related to achievement motivation.

Fincham (1989) conducted a longitudinal analysis on "Learned helplessness, test anxiety and academic achievement", where the stability of individual differences in test anxiety and learned helplessness over 2-year period and their relation to concurrent and future school achievement were examined. The samples consisted of 82 children and were administered measures of test anxiety and helplessness in III grade and again in V grade. Results revealed that both test anxiety and helplessness in III grade was related to achievement test scores in the V grade.

Varma (1990) conducted a study to find the effect of anxiety on academic achievement. The sample consisted of 36 high achievers and 69 low achievers. Academic motivation and test anxiety were measured with the help of the Keele academic motivation questionnaire and test-anxiety inventory. The study revealed that high achievers had significantly greater academic motivation as compared to their low achiever counter parts. However, high and low achievers did not show any significant differences on test anxiety. Mishra (1992) conducted a study on "Adjustment, self-concept, test anxiety and desirable study habits: as predictors of academic achievement". The sample consisted of 88 boys selected from 3 different schools by administering test anxiety scale. The results showed that academic achievement was associated with test anxiety and 80-85 per cent of achievement was due to test anxiety, self-concept and study habits.

Sud and Prabha (2003) conducted a study on "Academic performance in relation to perfectionism, test procrastination and test anxiety of high school children" The study was conducted on 200 high school boys and girls from the city of Shimla. Perfectionism was measured by using positive and negative perfectionism scale of Slade and Dewey and test procrastination was measured by using Mamta's test-pro procrastination questionnaire. Sud and Sud's test anxiety inventory was used to measure test anxiety. Correlational analysis revealed that academic performance was significantly and negatively related to self-oriented perfectionism, procrastination, test anxiety, worry and emotionality.

Sud and Sujata (2006) conducted a study on academic performance in relation to self-handicapping test anxiety and study habits of high school children. The sample consisted of 200 children from government senior secondary school of Shimla city. Self-handicapping questionnaire (Sujata, 2003) and Palsane's study habit inventory were administered to assess children's self-handicappness and study habits respectively. To assess the anxiety level, Sud and Sud's test anxiety inventory was administered. Findings showed that self-handicapping and anxiety have adverse influence on academic performance of school children.

Lyneham (2009) says that anxiety leads to poor academic performance. He notes that high anxious children in year 1 are 10 times more likely to be in bottom third of class by year 5. The above reviewed studies showed that anxiety has varied adverse affects on scholastic achievement of the children.

3.   RESEARCH METHODOLOGY

The study employed both descriptive and correlation designs. The descriptive method allowed collection of data from a large sample while correlation design enabled collection of data of two or more variables on the same group of subjects and computing correlation coefficient.

3.1 Location of the Study:

The study was done in Rachuonyo North District in Homa-Bay County. The area was chosen as it has low learning rating (position 50 out of 74, with learning index 56.4%) according to research carried by Uwezo Kenya (2011). The area also annually experiences flooding, suffer food shortage and the researcher, therefore, tried to find out if there is a relationship between these factors arousing anxiety and academic performance. Singleton (1993) observes that the ideal setting for any study is one that is directly related to the researcher's interest, one which is easily accessible and one that allows the researcher immediate rapport with the respondents. The area was ideal for the researcher because of the reasons above.

3.2 Target Population:

The researcher studied the relationship between anxiety and classroom performance among pupils in selected schools in Rachuonyo North District in Homa-Bay County. The study targeted class four pupils in public primary schools within Rachuonyo North District. The district pupil population is 6,646 in class four out of which 507 were sampled. These pupils were suitable for a number of reasons; for example, this group falls in the age bracket (9-12yrs) hence were in a position to fill in a questionnaire unlike children younger than them.

Class four was chosen because there was a possibility of franker response to anxiety scale by pupils than adults. Most studies have been done on adolescent, adults and early childhood anxieties, but not in middle childhood anxieties and classroom performance; which this study focused on. Middle childhood is a stage in which a child starts to conceptualize ideas in abstract ways, that is, it is a stage of concrete operations and children can perform many tasks of much higher level than they could in pre-operational stage. The researcher, therefore, considered this as the best stage in which early prevention intervention can be carried out.

3.3 Sampling Technique:

The researcher used district list of schools. The schools were sampled out using stratified sampling. The district has two divisions which were sampled as East Karachuonyo and West Karachuonyo. The divisions were divided into zones and from each zone, two schools were sampled. This is illustrated as below:
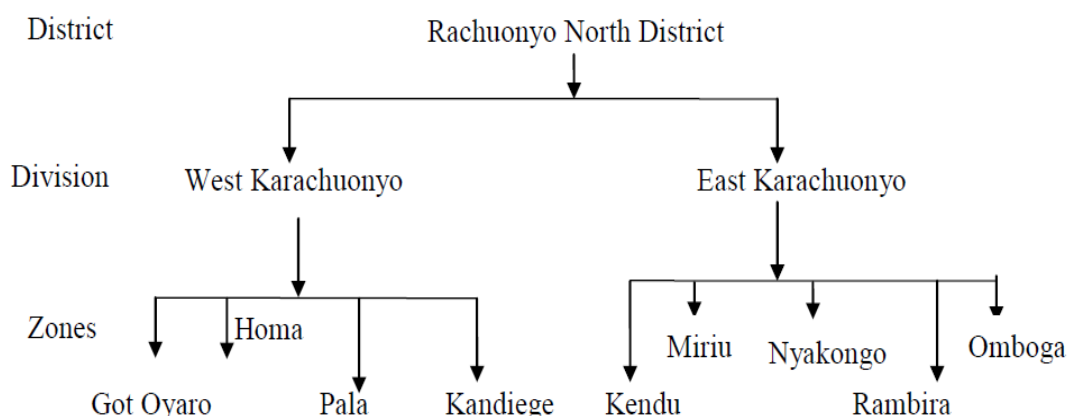

Figure.3.1: Sampling procedure for schools in Rachuonyo North District.

To get the specific school for the study per category, proportionate random sampling was used. Schools in each zone were listed in alphabetical order and numbered one to the last. Pieces of papers numbered one to the last were folded, put in a box, shuffled and then picked. The numbers picked represented the schools to be surveyed. Sample balloting for each school gave the population equal chance of inclusion in the study sample (Orodho, 2003). Because of limitation of funds and time, the study only involved eighteen schools. Slavin (1984) observes that due to time limitation, funds and energy, study can be carried out from a carefully selected sample to represent the entire population.

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3.4 Sample Size:

Sample size of 507 pupils was used; this was to obtain the desired precision as Orodho (2009) indicates that most social researches would probably recommend at least 100 cases. This is 7.6% of the total population of the pupils in class four in the districts. The researcher, therefore, considered this sample size as appropriate. Each school considered had a class four to which Revised Children Manifest Anxiety Scale (RCMAS) and Test Anxiety Scale for Children (TASC) specifically adapted for Kenyan conditions were administered to gauge the level of anxiety and discover the effect of anxiety on pupil's performance in science and art respectively.

3.5 Research Instruments:

The research used research instruments to collect data for the study. The instruments addressed the research questions and research objectives. They included:

3.6 Revised Children Manifest Anxiety Scale (RCMAS):

The Manifest Anxiety Scale (MAS) MAS were developed by Taylor (Gaudry, 1957); it consisted of fifty questions like "I worry more than other people". The subject is asked to indicate whether each statement is true or false about him/her, and his /her score is based on the total number of items marked in such a way as to indicate the presence of anxiety as a personality trait. MAS is a measure of a general trait or disposition to experience Anxiety Scale (CMAS) was developed by Castaneda, Mc Candles and Palermo.

3.7 Revised Children Manifest Anxiety Scale:

The Revised Children's Manifest Anxiety Scale was developed by Reynolds and Richmond (1978) to assess "the degree and quality of anxiety experienced by children and adolescents" (Gerald & Reynolds, 1999). It is based on the Children's Manifest Anxiety Scale (CMAS), which was devised by Castaneda, Mc Candles and Palermo (1956). The revised version of the CMAS deletes, adds and reorders items from the CMAS to meet psychometric standards. Reynolds and Richmond (1978) also renamed the instrument, "What I Think and Feel", although subsequent papers primarily refer to it as the Revised Children's Manifest Anxiety Scale (RCMAS).

The RCMAS is a self-report instrument designed to measure anxiety for children and adolescents aged 6-9 years. For children over 9 and half years of age, it can be administered in a group situation. For first and second graders, the examiner should read the items to the child. There are 37 items each of which requires a yes or no answer. The RCMAS was developed in 1978 to address criticisms of the original CMAS. Goals for revision of the scale were to create an objective measure of children's anxiety suitable for group administration; keep administration time to the minimum required for accurate, valid assessment; make the reading level of items suitable for elementary school students but yet allow for use throughout the school years; cover new areas of anxiety and determine whether anxiety would best be treated as one-dimensional or multidimensional; increase norms and information for diverse groups of children; and ensure that all items are good test items.

The Total Anxiety Score is based upon 28 items with 9 items comprising the Lie Scale. The Total Anxiety Score and the Anxiety sub-scale scores are determined by the number of "yes" responses to the anxiety items. The Lie Score is determined by "yes" responses to the Lie sub-scale items and is used to determine if the child was making a valid attempt to respond. The three anxiety sub-scales should be interpreted cautiously and should be used only as an aid in hypothesis generation due to limited reliability levels. The Total Anxiety Score is expressed as a T score (M=50, SD=10) and the sub-scales are expressed as scale scores (M=10, sd = 3). Percentile ranks are provided for each of the RCMAS scores. The Lie Scale is a positive feature of the instrument and is designed to detect acquiescence, social desirability, or faking of responses.

This had eleven questions. The purpose was to determine the source and level of anxiety in the pupils as might be brought by social problems in the pupils' environment. The questions were closed-ended with Yes/No responses at the end. Children Manifest Anxiety Scale (CMAS) was developed by Castaneda, Mc candles and Palerno: It is a measure of general "traits" or predisposition to experience anxiety. Anxiety scale enjoys the following advantages; simplicity in administration and scoring. The instrument was labelled appendix 1.

3.8 Test Anxiety Scale for Children (TASC):

TASC was developed by Sarason et al., (1960) as a measure of the anxiety that is aroused in children by test or test-like situations. Their focus on test anxiety was determined; in part, by the fact that test situations are frequently encountered by almost all members of our society. Most persons perceive the testing situations to have an evaluative or assessment purpose, and feel that is important to do well because in our culture, the lives of people are very frequently affected by their test performance (Gaudry, 1971). This consisted of eleven closed-ended questions which require Yes/No response. It was administered prior to test (science and art). The instrument was labelled appendix III. Test Anxiety Scales.

The Test Anxiety Questionnaire (TAQ) was constructed by Mandler and Sarason in 1952 to measure the anxiety reactions of the adults taking course examinations or intelligence tests. Test Anxiety Scale for Children (TASC) was developed by Sarason et al., (1960) as a measure of anxiety that is aroused in children by test or test-like situations. The TASC contains 30 questions about test situations to which the child answers "yes" or "no".

Spielberger and Sarason (1989) define test anxiety as a situation-specific trait that refers to the anxiety states and worry conditions that are experienced during examinations. The level of anxiety can fluctuate over time in response to both internal and external stimulation. Observable behaviours of anxiety can be noticed during the completion process of a quiz. Some of those behaviours might include perspiration, excessive movement and questioning of instructions. Those behaviours are often compatible with the classification of high and low test anxiety groups (Smith, 1965). There are also stable individual differences in the degree to which anxiety is manifested in any given situation. A disruption or disorganization of effective problem-solving and cognitive control, including difficulty in thinking clearly, can also lead to test anxiety (Freidman & Bendas-Jacob, 1997).

There are different factors that contribute to the development of test anxiety. One factor is self-concept, which is the overall sum of self-referent information that an individual has processed, stored and organized in a systematic manner (Spielberger & Sarason, 1989). The self-concept can be viewed as an image of oneself. Worry of suffering a reduction of the self-image, particularly in the eyes of peers, leads to higher test anxiety levels (Freidman & Bendas-Jacob, 1997). Another factor that contributes to the development of test anxiety is self-awareness. It is defined as the feeling of being observed or evaluated by others. Other people's perception of the individual may have an impact on performance (Levitt, 1980).

Bodas (2003) noted that although the TASC has continued to appear in studies through the 1990s, its continued use has been questioned over the past four decades due to three major factors: outdated and/or overly complex wording of some items, outdated domain definition, and dimensionality issues. Because of changes in teaching styles since the 1960s, some of the original items are rendered obsolete. One example of an outdated item is "When the teacher asks you to write on the blackboard in front of the class, does the hand you write with sometimes shake a little?" Today, it is uncommon for teachers to ask children to go to the board to work problems for the class. In addition, are being replaced in classrooms by dry erase boards. Several items appear to be too complicated for young children. An example is, "If you are sick and miss school, do you worry that you will do more poorly in your schoolwork than other children when you return to school?" The wordiness of the TASC items is evident by the fact that nearly two-thirds of the items contain 20 or more words reducing the validity of the TASC scores.

This research used TASC modified by shortening the words and phrases in TASC items and only picking the items that fitted Kenyan situation and addressed the construct anxiety as worry (See appendix III).

Modified Test Anxiety Scale for Children (TASC) was used to determine the level of anxiety among pupils in Rachuonyo North District. The scale had 11 items of which one was a Lie Scale. Scoring was done by considering every Yes response as a sign of anxiety except for the Lie Scale. This was then converted into percentages. Based on the percentages scored, groupings were done as follows:

70% and above: High Anxiety (HA)

40-69%   : Medium Anxiety (MA)

0-39%   : Low Anxiety   (LA)

Science Test:

This was a standardized test for class four since the questions were drawn from class four science textbooks by Macmillan and aimed to gauge their performance in science. It consisted of five questions which were answered in five minutes. The

pretest showed reliability index of 0.7. The questions were few considering the age of the pupils. This instrument was labelled II in the appendix.

Arts Test:

This was a standardized test for class four since the questions were drawn from class four social study books by Longman (2011). It aimed to gauge their performance in art. It consisted of five closed-ended questions which were answered in five minutes (See appendix labelled II b).

3.9 Pilot Study:

The pilot, Kanake (1998) observes helps in ensuring a satisfactory level of instruments functionality (validity, reliability) and in obtaining new insights in instruments development. A pilot study was carried in 2 schools to determine validity and reliability of items in the anxiety scales and to indigenize them to fit the Kenyans situations. For the convenience, the following 2 schools were used:

Pier Got Primary School and Otok Primary School to which both CMAS and TASC were administered. A total of 29 pupils were randomly selected. This represents 3.6%. Orodho (2009) says pretest sample is normally between 1% and 10% depending on sample size. The pilot schools were excluded from the pilot study.

3.10 Validity:

Validity was classified as a construct validity that measured the degree to which data obtained from the instruments meaningfully and accurately reflected the theoretical concept that low/high anxiety leads to poor classroom performance. Because this research used correlation design, internal validity was obtained by assuming the numerous extraneous variables to classroom performance like self-image, motivation and availability of learning materials only to anxiety from home and those in school environment. Those from home included; familial conflict, divorce, bereavement, starvation, parenting style, while those from schools included teachers' behaviour and learning situations. Random sampling was used to increase internal validity. And to check on validity of the instruments, on each, L (lie) score was included. Ecological validity 7.6 % as the sample involved 507 class four pupils in the district with 6,646 pupils in class four.

As Gaudry (1971) notes, the use of CMAS has high construct validity because there is a possibility of franker response to an anxiety scale with young children, who are more inclined to accept questions at face value and may be less aware of the cultural stereotypes about certain types of undesirable self-referent statements.

Face validity of the instruments were determined by consulting the two advisors from the department of educational psychology who evaluated and critiqued the instruments to establish their soundness in collecting data for the proposed study. This is in line with the proposal made by Frankael and Wallen (1993).

3.11 Reliability:

Pre-testing study (pilot study) was carried out to enhance reliability of the instrument. Since RCMAS and TASC are standardized scales, with reliabilities of 0.86 and 0.86 respectively, the reliability of items was got by carrying out a pilot study to determine that items measured the construct the researcher was looking for. Split- half reliability coefficient was used to measure internal consistency of the test items in the questionnaire. This helped to designate pupils as LA and HA respectively.

Hence $r_{xx} = \dfrac{2r\,\frac{1}{2}\,\frac{1}{2}}{1 + r\,\frac{1}{2}\,\frac{1}{2}}$

Alongside split-half technique, inter-item reliability was used as it measured the degree to which different types measuring the same variable attain consistent results. This was chosen since the anxiety scale had two options YES/NO and multiple choices on science and art test.

3.12 Data Collections Procedures:

The head teachers of the schools visited were contacted and permission was taken for the study. I then administered the questionnaires myself to ensure there was maximum return of the questionnaires and this enabled me also to answer questions that arose from the questionnaire. To establish a good rapport with the pupils, introduction was given about the

objectives of the study, importance of their cooperation and their sincere responses just before the administration of questionnaire. Then both the tests were administered on the pupil of the class. The necessary instructions were given to the pupils' on the mode of answering the questions and clarifications were made when they raised doubts while answering the questionnaire. They were given twenty minutes time to answer all the questions on the questionnaires.

4.   DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1 Relationship between Anxiety and Classroom Performance of Pupils in Science:

The data on self-reported anxiety scales (RCMAS and TASC) were collected from 18 schools in Rachuonyo North District (see table 4.14). Of these, 253 were males and 254 females. The following are the percentages of those who passed sciences in the two anxiety scales.

Table 4.1: Those who passed sciences from the RCMAS

RCMAS scale	Boys	Girls	Total	Percentages
Low Anxiety	29	31	60	12%
Medium Anxiety	102	90	192	38%
High Anxiety	122	133	255	50%
Percentage	48%	52%	507	100.00%

Table 4.1 shows that most pupils 255 (50%) were highly anxious on social issues while 60 (12%) had low anxiety. High anxiety facilitated performance in science. More girls 133 (52%) than boys 122 (48%) passed science exams.

Table 4.2: Those who passed science on TASC anxiety scale

TASC anxiety scale	Boys	Girls	Total	Percentages
Low Anxiety	29	12	41	8%
Medium Anxiety	88	64	152	30%
High Anxiety	143	171	314	62%
Percentage	46%	54%	507	100%

Table 4.2 shows that most pupils 314 (62%) were highly anxious for class test. As anxiety increased so was the performance. More girls 171 (54 %) than boys 143 (46%) passed science.

4.2 Relationship between Anxiety and Classroom Performance of Pupils in Art Subject:

The data on self-reported anxiety scales, RCMAS and TASC were collected from 507 pupils from 18 schools in Rachuonyo North District. Of these, 253 were males and 254 were females. The table below shows the percentages of performance in Art (social studies).

Table 4. 3: Those who passed social studies on RCMAS anxiety test

RCMAS anxiety test	Boys	Girls	Total	Percentages
Low Anxiety	15	8	23	05%
Medium Anxiety	55	43	95	19%
High Anxiety	55	64	119	23%
Total	122	115	237	47%

In Table 4.3, more than a half of the pupil population failed social studies as only 237 (47%) passed. However, high anxiety favoured performance compared to low anxiety despite the low percentages.

Table 4.4: Those who passed social studies on TASC anxiety scale

TASC anxiety test	Boys	Girls	Total	Percentages
Low Anxiety	18	04	22	04%
Medium Anxiety	43	37	80	15%
High Anxiety	73	87	160	32%

Table 4.4 above; indicate that more of the high anxiety group 32% than low anxiety group 04% passed social studies.

Table 4.5: Relationship of scores in TASC to science classroom performance

School Marks	TASC SCORES			
	Low Anxiety	Medium Anxiety	High Anxiety	Total
Above Medium	25	91	177	293(58%)
Below Medium	16	61	137	214(42%)
Total	41	152	193	386

From Table 4.5, it can be noted that about 60% of all the groups were on the top half of the class, HA who passed science were 58 %. This is considerable when it is remembered that the groups were split at the medium. Hence, high anxiety correlates positively to classroom performance in science though the difference was insignificant when compared with the LA. This is parallel to Naron, 1990 and Sud and Sujata, 2006 researches.

5.   CONCLUSIONS AND RECOMMENDATIONS

5.1 DISCUSSIONS:

The discussion of the findings of the present study is centered on the major objectives directing this study. The research questions are revisited and the results discussed and interpreted.

1.   What is the relationship between anxiety and classroom performance?

The study found that high anxiety led to high academic performance. This was inconsistent with researchers who found that high anxiety is related negatively to classroom performance (Sud & Prabha, 2003; Sud & Sujata, 2006; Mokashi, 2007). However, it was able to shed some light to research by Eysenck (2009) that found that there was insignificant difference between anxiety and classroom performance. It appears that worry about failure and associated negative evaluation led pupils to work harder hence better performance in this research (table 4.10 and table 4.11).

Table 4.1 shows that most pupils 255 (50%) were highly anxious on social issues while 60 (12%) had low anxiety. High anxiety facilitated performance in science. This supports research by Sudhir, (1989), Fincham, (1989), Mishra, (1992). The results (table 4.1) also revealed that high social anxiety led to better performance in science while it had negative effect on social studies. Science as a subject requires some level of curiosity about environmental factors which may be the factors causing anxiety. Hence, high anxiety pupils, therefore, could have investigated these factors leading to better performance in science. In Table 4.3, more than a half of the pupils' population failed social studies as only 237 (47%) passed. However, high anxiety favoured performance compared to low anxiety despite the low percentages. Table 4.4 of the high test anxiety indicates that more group 32% than low anxiety group 04% passed social studies. Both high and low social anxieties in this research seemed not to promote classroom performance in both science and in social studies (table 4.10).

The results of table 4.11 also reveal that, high test anxiety boosted performance in both science and social studies. However, high test anxiety was particularly strong in increasing performance in social studies than in science. It appears that worry about failure and associated negative evaluation led pupils to work harder hence better performance in social studies. Social studies deal with issues within the immediate social environment of the child. Table 4.2 shows that most pupils 314 (62%) were highly anxious for class test. As anxiety increased so was the performance.

5.2 Conclusions:

From the study, the following conclusions were made:

The results of this study indicated that high anxiety facilitates performance in the classroom. It also found that there were sex differences in the performance of boys and girls with high anxiety performing better than boys. The factors leading to anxiety among   pupils were identified as poor self-image, fear of darkness, insecurity, fear of accidents, starvation, parental sickness and separation anxiety while parental divorce was not a significant cause of worry. Pupils were also found to worry about school tests. High anxiety facilitated performance in both science and art subject except for high social anxiety that had negative correlation to classroom performance of social studies. Some subjects elicit more anxiety than others. It is, therefore, important to focus on reducing test anxiety in science subjects.

Several limitations to this study must be noticed. First, only a small group of learners in one class was examined and again most of the respondents majorly came from rural schools. There could be a different result with children in urban areas. These, therefore, limit the generalizability of the findings.

5.3 Recommendation for Parents:

Parents should ensure that children are afforded needed security and that will provide good environment for the development of self-image. In addition, they should feed children before sending them to school and also need to be encouraged to visit schools at will to check the performance and discipline of their children which may be indicators of anxiety development in pupils. This may also allow them to know their children's teachers and establish rapport with them.

There is also need to sensitize parents on the influence of home factors on the development of anxiety and its influence on academic performance of pupils. Therefore, they are encouraged to attend pertinent workshops like family counselling. Finally, parents should be aware of social anxiety they are having as parents and be more careful not to pass them to their children.

5.4 Recommendations for Teachers:

There should be frequent workshops for teachers in primary schools to handle anxiety cases of pupils. School managers should establish a department of guidance and counselling as done in secondary schools. Also, there should be a need to establish early peer counselling among pupils as the researcher noted they were lacking in the sampled primary schools. Moreover, there should be an establishment of nurture group for worried and deprived children, where a child is attached to a teacher in a more dependent way than would normally be contemplated. And teachers should carry out periodic check to identify HA, MA, LA and early interventions taken to manage the effects of anxiety.

5.5 Recommendation for Counsellors:

Kinai (2004) notes that counselling is a process which eventually helps normal individuals to deal with or remove frustrations and obstacles that interfere with their daily lives. Therefore, there is a great need for spiritual counselling to school pupils as the foundation of their peaceful life. Bereavement counseling should be offered to children who have suffered loss as it is one area which has been ignored.

5.6 Recommendation for Policy-makers:

There should be re-introduction of school feeding programme, for example, the primary school programme because the impact of reducing anxiety and improving performance by far outweighs the high cost and logistical problems that led to its collapse in mid-1990s. Also, there should be regular in-service, re-training and conducting seminars and workshops for teachers which should be frequent, at least once a term: to abreast them on appropriate teaching-learning methods and conditions that produce good anxiety level.

The government of Kenya should carry out public sensitizations and awareness on HIV and AIDS to make people to be more responsible and to reduce anxiety caused by sickness of the parents and their eventual death that has been shown by pupils as a source of worry. The researcher recommends that teacher counsellors be employed especially in lower primary.

REFERENCES

[1] Amadi, M. A., Role, E. and Makewa, L. N. (2013). Girl child dropout: experiential teacher and student perception. *International Journal of Humanities and Social Science,* Vol. 3(5), 124-130.

[2] Bandura, A., (1986). *Social foundations of thought and action: A social cognitive   theory*. Englewood Cliffs, NJ, Prentice Hall.

[3] Bellamy, C. (2005). *The state of world's children 2005: Childhood under threat*. UNCEF Publication.

[4] Bodas (2003). *The moderating role of anxiety in predicting academic achievement in children*. Unpublished thesis: Virginia Polytechnic Institute and State University.

[5] Cassady, J.C., & Johnson, R. E. (2002). Cognitive test anxiety and academic performance. *Contemporary Educational Psychology*, 27, 270-295.

[6] Castaneda, A.; McCandless, B.R.; and Palermo, D.S. (1956). The children's form of the manifest anxiety scale. *Child Development, vol. 27(3), pp.317-326*, cited in Reynolds and Richmond (1978).

[7] Chapell, M. S.; Blanding, Z. B.; Silvestein, M.E.; Takahashi, M. N. B.; Newman,

[8] Chatterjee, S., Mukerjee, M., Chakraborty, S.M. and Hassan M.K. (1976). Effect of sex, urbanization and caste on anxiety. *J. Psy. Res.,* 20: 56-58.

[9] Chaudhary, V. (2004). A comparative study of intelligence and academic achievement of the secondary school students. *Indian Psy. Rev.,* 62(4): 177-81.

[10] David, G. (1977). *Worrying. Chichester:* John Wiley and Sons.

[11] Devi, P. and Ahmed, J. (2006). Anxiety level among college going students. *Indian Psy. Rev.,* 66(1): 21-24.

[12] Dollard, J. and Miller, N.E. (1950). *Personality and psychotherapy*. McGraw-Hill, New York.

[13] Durrette, M. (1965). Normative data on manifest scale for different income levels.   *Indian   J. Psy.,* 40: 1-6.

[14] Eysenck, M. And Nazanin, D. (2009). Economic and Social Research Council.

[15] Anxiety hidden cost in academic performance. *Science Daily. Journal of   Psychology.*

[16] Feldman, R. S. (1996). *Understating psychology*. New York McGraw Hill. (4th   Ed.).

[17] Finch, A.J., Jr., Blount, R.L., Saylor, C.F., Wolfe, V.V., McIntosh, J.A., Griffin, J.M., & Carek, D.J. (1988). Intelligence and emotional / behavioural factors as correlates of achievement in child psychiatric inpatients. *Psychological Reports*, 63, 163. 170.

[18] Fincham, F.D., (1989). Learned helplessness, test anxiety and academic achievement: A longitudinal analysis. *J. Chi. Dev.,* 60(1): 138-145.

[19] Frankael, J.R & Wallen, N.E (1993). *How to design and evaluate research in education.* New York: McGraw-Hill.

[20] Friedman, I.A., & Bedas-Jacob, O. (1997). Measuring perceived test anxiety in adolescents: A self-report scale. *Educational and Psychological Measurement*, 57, 1035-1047.

[21] Gamble. A. (2009).*Anxiety and education: Impact, recognition and management strategies.* Sydney: Woolcock Publishing House.

[22] Gaudry, E. (1971). *Anxiety and educational achievement.* New York: John Wiley and Sons.

[23] Gay, R. (1976). *Educational research competencies. For analysis and application*.   Ohio Bell & Howell Company.

[24] Government of Kenya, 2003. *Education in Kenya*. Nairobi: Ministry of   Education, Science and Technology.

[25] Gubi, A. and McCain, N. (2005). Test anxiety and academic performance in undergraduate and graduate students. *Journal of Educational Psychology*,   97 (2): 268-274.

[26] Hembree, R. (1988). Correlates, causes, effects, and treatment of test anxiety. *Review of Educational Research,* 58, 47-77.

[27] Hornby, A. S. (2000). *Oxford advanced learners dictionary of current English* (6th Ed.). New York: Oxford University Press.

[28] Ingule . F & Gatumu .H (1996). *Essentials of Educational Statistics*. Nairobi: East Africa Educational Publishers.

[29] Kamau, D. (2004). *A study of the factors responsible for poor performance in the chemistry among secondary schools in Maragwa District.* Unpublished Project Report Kenyatta University.

[30] Kanake, L. (1998). *Gender disparities among the academics in Kenyan public universities.* Unpublished M.ed thesis: Kenyatta University.

[31] Kassahun, A. (1996). *English language classroom anxiety, performance and classroom tasks and in test: A study of some Ethiopian Civil College 1st year students*. Unpublished Thesis: Addis Ababa University.

[32] Keeley, J. Zayac, R & Correla, C. (2008). Curvilinear relationship between statistics and performance among undergraduate students: Evidence for   optimal anxiety. *Journal of Statistical Education Research,* 7(1)4-15.

[33] KIE, (2005). *Macmillan primary science pupils book four*. Nairobi: Macmillan Publishers Limited.

[34] KIE, (2009). *Social studies standard four: Living together in the Province, Nyanza*. Nairobi: KIE.

[35] Kinai, T. (2004). *EGC 504 Modules: School guidance practice*. Kenyatta   University.

[36] Kinai, T. (2004). *EGC 510 Modules: Issues in abnormal and clinical psychology*. Kenyatta University.

[37] King, N.J., Ollendick, T. H., & Prins, P. J. M. (2000). Test-anxious children and adolescents: psychopathology, cognition, and psychophysiological reactivity. B*ehaviour Change,* 17, 134-142.

[38] Krishnamurthy, S., (2003). Study of achievement as related to academic achievement motivation and history interests. *Indian Psy. Rev.,* 60(2): 105-112.

[39] Kyozaire, A. (1974). *Levels of anxiety among Kampala versus Ankole secondary school adolescents.* Unpublished thesis: Makerere University.

[40] Lasks, B. (2003). *Practical child psychiatry. The clinician guide*. London: Bmj Books.

[41] Levitt, E.E. (1980). *The psychology of anxiety* (2nd ed.). New Jersey: Lawrence Erlbau.

[42] Lewinsohn, P.M., Gotlib, I.H. and Lewinsohn, M. (1998). Gender differences in anxiety disorders and anxiety symptoms in adolescents. *Journal of Abn. Psy.,* 107(1).

[43] Locker, J. and Cropley, M. (2004). Anxiety, depression and self-esteem in secondary school children. *Sch. Psy. Intern.,* 25(3): 333-345.109-117.

[44] Lyneham, H. (2009). *The impact of anxiety on student's performance*. Sydney: Centre for emotional Health, acquire University.

[45] Mandler, G., & Sarason, S.G. (1952). A study of anxiety and learning. *Journal of Abnormal and Social Psychology*, 47, 166-173.

[46] Mang'ula, N. E. (2010). *Factors affecting the performance of mathematics by girls with visual impairments at Thika High School for the Blind*. Kenya. Thesis. Kenyatta University.

[47] Martin, L., Kubzansky, L.O., Lewinn, K.Z. and Lipsitt, L.P., (2006). Childhood cognitive performance and risk generalized anxiety disorder. *American J. Psy.,* 28: 131-141.

[48] Mishra, K.N., (1992). Adjustment, self-concept, test anxiety and desirable study habits: as predictors of academic achievement. *The Asian J. Psy. Edu.,*   25(7-8): 21-26.

[49] Mokashi (2007). *Correlates of anxiety and scholastic achievement of residential school students.* Unpublished thesis. University of Agricultural sciences, Dharward.

[50] Mugenda, O. M and Mugenda, A.G. (1999). *Research methods*. Nairobi: ACTS Press.

[51] Muris, P., Merckelbach, Harald and Gadet, B., (2001). Anxiety and depression as correlates of self-reported behavioural inhibition in normal adolescents. *Beh. Res. Ther*., 39: 1051-1061.

[52] Mwadimu, M. (2005). *Single parenthood: An examination of the effects on behaviour and education of students in selected secondary schools in Nairobi.* Unpublished Project Report. Kenyatta University.

[53] Naron, F. (1990). *Family environment and adolescent anxiety profile of secondary school student in Plateau State*. Unpublished Thesis, University of Jos.

[54] Ndege, W. M. (2010). *Factors influencing academic performance in day secondary schools in ESISE division, Borabu District, Kenya. Project*, Kenyatta University.

[55] Ndirangu, G.W; Muola, J. M; Kithuka, M.R. and Nassiuma, D.K. (2009). An investigation of the relationship between test anxiety and academic performance in secondary schools in Nyeri District, Kenya. *Global journal of educational research, 8*(2) 1-7.

[56] Nijhawan, H.K. (1972). *Book-anxiety in school children*. Wiley-Kastern, New Delhi.

[57] Ogutu, M.T (2011). *Factors affecting access and retention of children with special needs in selected primary schools in Nairobi Province*. Unpublished Thesis. Kenyatta University.

[58] Ojwang', J.A. (2005). *Causes and effects of student's unrest in Rachuonyo District.* Unpublished Thesis. Kenyatta University.

[59] Okeno, J.O. (2011). *Influence of school infrastructure on students performance achievement in public secondary schools in Rachuonyo North district,   Nyanza province.* Unpublished thesis. University of Nairobi.

[60] Onwuegbuzie, A. J., & Wilson, V. A. (2003). Statistics anxiety: Nature, etiology antecedents, effects, and treatments – a comprehensive review of the literature. *Teaching in Higher Education*, *8* (2), 195-209.

[61] Opuodho, S.F. (2010) *Factors influencing performance in Kenya certificate of Secondary education in Rachuonyo North District, Kenya*. Unpublished thesis university of Nairobi.

[62] Orodho (2003). *Techniques of writing research proposal and reports in Education and Social Sciences*. Maseno: Kanezja Hp Enterprises.

[63] Orodho, (2009). *Elements of educational and social research methods. 2nd edition.* Maseno: Kanezja Publishers.

[64] Osterweis, Solomon and Green (1984). *Bereavement reactions and consequences.* Washington DC: National Academy.

[65] Otieno, E. N. (2002). *Factors influencing performance in Kenya Certificate of Secondary Education: a case of Homa-Bay District, Kenya*. Unpublished Thesis. Kenyatta University.

[66] Owano, D. (2010): *Perception of secondary schools students on the effects of parenting styles on their academic performance. A case of Rongo division, Rongo District, Kenya*. Unpublished project report, Egerton University.

[67] Papalia, D. E. (1999). *A child's world: Infancy through adolescence*. (8th E.d.). New York: McGraw Hill.

[68] Phares, V. (2008). *Understanding abnormal child psychology*. (2nd Ed.). New York: John Wiley and Sons.

[69] Pomerantz, E.M., Saxon, J.L. and Altermatt, E.R., (2002). Making the grade but feeling distressed: gender differences in academic performance in internal distress. *J. Edu. Psy*., 94(2): 396-404.

[70] Reynolds C.R., & Paget, K.D. (1981). Factor analysis of the revised children's manifest anxiety scale for blacks, whites, males, and females with a national normative sample. *Journal of Consulting and Clincial Psychology*, 49, 352-359.

[71] Reynolds, C.R., & Richmond, B. O. (1985). *Manual, Revised Children's Manifest Anxiety Scale. Los Angeles, CA*: Western Psychological Services.

[72] Reynolds, C.R., & Richmond, B. O. (1985). *Manual, Revised Children's Manifest Anxiety Scale. Los Angeles, CA:* Western Psychological Services.

[73] Reynolds, C.R., (1980). Concurrent validity of what I think and feel: the Revised Children Manifest Anxiety Scale. *Journal of Consulting and Clinical Psychology*, 48, 774-775.

[74] Rubin, S.I. (1999). The role of culture and other predictors in test anxiety. *Humanities   and   Social   Sciences,* 60, 1452.

[75] Rutter, M. (1998). *Anti-social behaviours by young people*. London: Cambridge University Press.

[76] Sarason, I. A., Sarason, R. (1996). *Abnormal psychology: The problem of   maladaptive   behaviour.* New   Jersey: Prentice Hall.

[77] Sarason, S., & Mandler, G. (1952). Some correlates of test anxiety. *Journal of Abnormal and Social Psychology,* 47, 810. 817.

[78] Seipp, B. (1991). Anxiety and academic performance: A meta-analysis of   findings. *Anxiety Research*, 4, 27-41.

[79] Sharma, K.L. and Gandhi, N., (1971). Hierarchies and amount of fear in low and high anxious groups of students. *Indian Psy. Rev.,* 8: 29-30.

[80] Sharma, S. and Rao, U. (1984). Test anxiety research in India: A review of research. *Adv. Test Anx. Res.,* Nether lands, 3: 255-264.

[81] Shore, K. (2005). *Dr. Ken Shore's classroom problem solvermath anxiety.* Retrieved April 9, 2006, from http:// www.educationworld.com.

[82] Silverman, W. K. (2001). *Anxiety disorders in children and adolescents.* New York: Cambridge University Press.

[83] Singh and Asha, 1984, Neuroticism, anxiety and academic achievement. *Indian Psy. Rev.,* 26 (3): 15-19.

[84] Singleton, R.A. (1993). *Approaches to social research.* New York: Oxford University Press.

[85] Slavin, R. E. (1984). *Research methods in education*: *Practical guide. Engle Cliff.*   NJ: Prentice Hall.

[86] Smith, C.P. (1964). Relationships between achievement-related motives and intelligence, performance level and persistence. *Journal of Abnormal and Social Psychology*, 68, 523-532.

[87] Smith, C.P. (1965). The influence on test anxiety score of stressful versus neutral conditions of test administration. *Educational and Psychological Measurement*, 25, 135-141.

[88] Soffer, M. E. (2008). *Elementary students' test anxiety in relation to the Florida Comprehensive Assessment Test (FCAT).* Retrieved February 23, 2009 from: http://etd.lib.fsu.edu/theses/available/etd-06092008-111004/un- restricted/ SofferMThesis.pdf.

[89] Sowa, C. J., & LaFleur, N. K. (1986). Gender differences in test anxiety. *Journal of Instructional Psychology,* 13, 75-80.

[90] Spielberger, C. D. (1966). *Anxiety and behaviour.* New York: Academic Press.

[91] Spielberger, C. D. (1977). *Stress and anxiety.* Vol.4. London: John Wiley and Sons.

[92] Spielberger, C.D., & Sarason, I.G. (Ed.). (1985). *Stress and anxiety* (Vol. 9). Washington: Hemisphere Publishing Corporation.

[93] Spielberger, C.D., & Sarason, I.G. (Ed.). (1989). *Stress and Anxiety* (Vol. 12). Washington: Hemisphere Publishing Corporation.

[94] Sud, A. and Prabha, C. (2003). Academic performance in relation to perfectionism, test procrastination and test anxiety of high school children. *Psy. Stu.,* 48(3): 77-81.

[95] Sud, A. and Sujata, (2006). Academic performance in relation to self-handicapping, test anxiety and study habits of high school children. *Psy. Stu.,* 51(4): 304-309.

[96] Sudhir, M.A., (1989). A study of achievement motivation in relation to select personality and socio-educational factors. *J. Edu. Res. Extn.,* 25(4): 198- 208.

[97] Taylor and Francis et al., (1991). *Anxiety, stress and coping.* London: Routledge Vol. 4.

[98] Uwezo Kenya (2010). Learning Assessment District Ranking -2010. www.uwezokenya.

[99] Varma, D. V. (1993). *Coping with unhappy children.* London: Cassel, Villas House.

[100] Varma, V. P. (1984). *Anxiety in children.* New York: Methuen, Inc.

[101] Vendal, N., (1994). Academic achievement and semantic relationships. *Psy. Stu.,* 39(1): 25-27.

[102] Verma, B.P. (1990). A study of relationship of cognitive style with anxiety and academic achievement. *The J. Edu Psy.,* 48(3-4): 156-161.

[103] Vogel, H & Collins A. (2009). *The relationship between test anxiety and academic performance.* Journal, Miss- ouri Western State University.

[104] Warren, M. K., Ollendick, T. H., & King, N.J. (1996). Test anxiety in girls and boys:A clinical - developmental Analysis. *Behaviour Change*, 13, 157-170.

[105] Wawira, P. (2008). *Psychosocial and educational needs and their implication for guidance and counseling in selected primary schools in Kasarani Division in Nairobi.* Unpublished project report: Kenyatta University.

[106] Zoller, L. and Bencham, D. (1990). *Gender differences in exam type, preferences, test anxiety and academic achievement in college science education*. New York: John Wiley and Sons.