Effect of Students' Age on Academic Motivation and Academic Performance among High School Students in Kenya

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ABSTRACT--- *The purpose of this study was to investigate the effect of students' age on academic motivation and academic performance among secondary school students attending day schools within Nakuru municipality. The objectives specific to this study were to investigate how students' age affected academic motivation and academic performance. The study adapted the ex-post facto research design. The target population comprised all Form two and Form four students in the sixteen secondary schools in Nakuru municipality from which seven day schools were sampled using the stratified random sampling technique. The sample was made up of 489 students. Data was collected using a students' questionnaire and the academic performance scores were obtained from the school records of the previous year. The major statistical methods used in this study were: Pearson's r, and analysis of variance (ANOVA). Descriptive statistics, means, frequencies, percentages and standard deviations were used for data presentation and to explain the variables in this study. The findings of this study indicated that there was a positive relationship between academic motivation and academic performance. It was also established that students' age had a significant effect on the student's academic performance and students' age had no significant effect on the academic motivation. These findings will assist teachers, parents, administrators and other stake holders to engage in interventions in school and at home, that can improve the quality of learning and hence boost the student's academic performance.*

Keywords--- Age, Academic Motivation, Academic Performance and Secondary School
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1. INTRODUCTION

There have been many discussions on reasons why students do not do well in school. With the rapidly changing educational environments in many countries in the world over, there is an opening for research exploring solutions to the challenge of enhancing student academic performance to getting a good education. Many variables play a role to students' academic performance. Academic motivation is an important psychological construct for learning and academic performance in all the school subjects (Schunk, 1991) [1]. Since it is unobservable, it can only be inferred from actions or verbalisation. The relationship between academic motivation and academic performance is still unclear and can only be determined with continued observation of the students. In this study the contribution of academic motivation towards school attendance and academic performance was explored.

Although performance on standardized tests receives the greatest attention in discussions of students' academic performance, teachers' evaluations of performance as indicated in course grades represent a common metric of student performance that often is more directly tied to the day-to-day business of teaching and learning than are annual standardized test scores. Grades serve a number of important functions. They communicate to students and parents information about students' mastery of course content. In high school, a passing grade is also the criterion for a course's contributing to a favourable mean score. Finally, grades provide information for consideration in university or college admissions. However, as a measure of academic performance, teacher-given grades have well-known limitations. Grades are composite measures that account not only for students' content mastery but often for other factors, such as their class participation, attitudes, progress over time, and attendance. Both general and special educators are known to consider these various factors when grading, but to emphasize different factors. Despite many complicating factors, student grades still are an important indicator within the academic performance outcome domain for students because they indicate success by a teacher's standards and success relative to other students in a given classroom (Yang, 2003) [2]. This study investigated how students' age influences academic motivation and academic performance among Form two and four students in Nakuru municipality.

1.1 Statement of the problem

Educators have a major role of helping children and youth become successful in school and in life. In order to realize this goal, students need to acquire a solid base of academic, social, and emotional skills. The ability to recognize and manage emotions, develop care and concern for others, make responsible decisions, establish positive relationships, and handle challenging situations effectively are key to school and life success.

Development of academic motivation in students ought to be an important goal for educators and teachers because of its inherent importance for the future. Studies have shown a decline in academic motivation and academic performance in many children as they move from elementary school into secondary school. The basic principles of social and emotional learning also serve as the underlying principles of motivation. A deeper understanding of these principles enables committed adults to create an environment that fosters children's motivation to learn.

A few empirical studies have actually investigated the precision of the relationship between individual academic motivation and academic performance. Thus, this current study had the potential to underscore the relationship between academic motivation, and academic performance among secondary school students in Nakuru municipality.

1.3 Objectives of the Study

The study sought to achieve the following objective:

1. Find out how age influences academic motivation and academic performance among secondary school students.

1.4 Research Questions

The research questions for this study were:

1. What is the influence of the students' age on academic motivation and academic performance among secondary school students?

1.5 Research Hypotheses

In this study the following hypotheses were tested:

HO_1: There is no significant effect of age in the student's academic motivation.

HO_2: There is no significant effect of age in the student's academic performance.

2. METHODOLOGY

2.1 Research Design

This study adopted a causal comparative research design which is also known as ex-post facto design. Inference about the relationship among the variables is made, without direct intervention from the variations of independent and dependent variables (Kothari, 2008) [3]. This implied that the researcher noted the dependent variables and retrospectively study the independent variable for their possible effects on the dependent variables. The variables, which were of interest in this present research, were not lent to any manipulation.

The study population comprised all Form two and Form four students in the seventeen public day secondary schools in Nakuru Municipality of Nakuru District in Rift Valley Province of Kenya. About 3,200 Forms two and four students represented the student population.

Nakuru Municipality has a total of 17 day public secondary schools of which 5 are provincial and twelve are of district status. Of the 17, a sample of 7 schools was chosen by stratified random sampling. Thus, the sampled schools comprised 1 girls' school, 1 mixed-normal school and 5 mixed-segregated schools. Stratified sampling technique was used to ensure that the three types of schools (girls' only, mixed-normal, or mixed-segregated) were represented in the sample in proportion to the population. In this municipality, there were twelve mixed-segregated schools, 4 mixed-normal schools and 1 girls' school.

2.2 Research instruments

2.2.1 Document Analysis

Student's academic performance data was obtained from the schools records as a source of primary data.

2.2.2 Students' AMS questionnaire

A students' questionnaire (Academic Motivation Scale, AMS) was adapted from Vallerand, Pelletier, Blais, Briere, Senecal, and Valliéres (1993) [4] was made up of two parts; Part A sought for demographic information of the respondents and Part B was made up of the researcher's own self-made items consisted of four sub-scales which were used to measure the students' academic motivation.

3. DISCUSSION OF THE FINDINGS

3.1 The Effect of Age on the Students' Academic Motivation

To investigate the effect of age on the students' academic motivation in the AMS, analysis of variances between the two variables was carried out. The respondents had indicated their age on the biographical form whose influence on academic

motivation was analyzed. The students' ages were between 12 to 23 years. The ages were divided into three levels for purposes of analysis.

The following null hypothesis was tested:

HO$_1$: There is no significant effect of age in the student's academic motivation.

The distribution of academic motivation mean scores by age is presented in Table 1.

Table 1: The Distribution of Academic Motivation Scores by Age

Age brackets (years)	n	Academic Motivation	
		Mean	SD
12 to 15	107	80.47	9.88
16 to 19	359	80.02	10.05
20 to 23	23	80.35	11.89
Total	489	80.13	10.09

The majority of the respondents were aged between 16 to 19 years (n = 359). There were only 23 respondents aged between 20 to 23 years. The respondents who were aged 12 to 15 years had a higher mean score in academic motivation as compared to the others.

The effect of age on the students' academic motivation is shown in Figure 1.
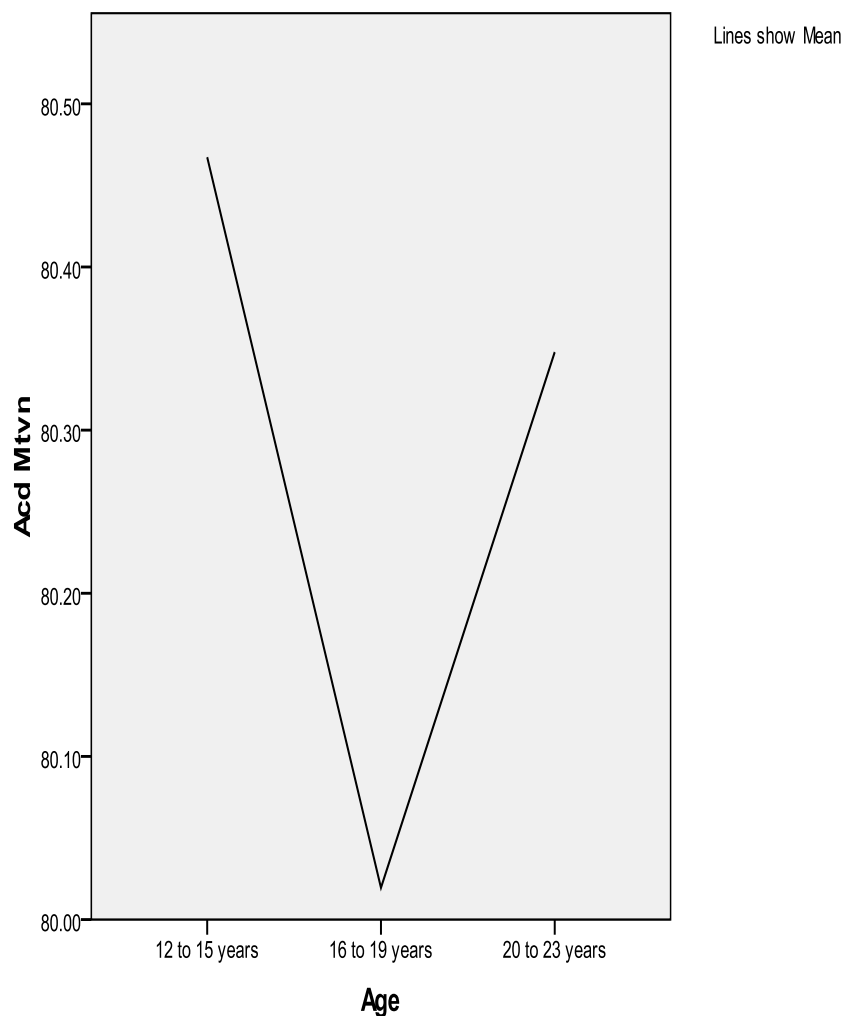
Figure 1: The Respondents' Academic Motivation versus Age Brackets

Figure 1 show that the youngest students (12 to 15 years) had the highest scores in the academic motivation while the oldest (20 to 23 years) have higher scores. The trough of the curve coincides with age 16 to 19 years with a mean score of 80.02. The low academic motivation score by this group may have been as a result of role confusion considering that they are in stage five of psychosexual development. Erikson (1963) [5] called this stage identity vs. role confusion. The adolescent is newly concerned with how they appear to others and they have inability to settle on a school or occupational identity. The malignant tendency in which the 16 to 19 year olds may have been experiencing is called fanaticism, a belief that an individual's way is the only way. Besides, the 16 to 19 year olds may have been distracted by psychosexual issues thereby leading to a fairly poor academic motivation.

To test whether the students' academic motivation scores were significantly different among the respondents of different ages, a one-way analysis of variance (ANOVA) was conducted. Table 2 shows the results of the analysis.

Table 2: One Way Analysis of Variance for Age and Academic Motivation

Source of variation	SS	df	MS	Fob	Fcrit
Between groups	17.64	2	8.82	.09*	2.99
Within groups	49626.72	486	102.11		
Total	49644.36	488			

*Significant at $\alpha = .05$

The results in table 2 indicate an F observed of .09 which was statistically significant at .05 level of significance. A critical value of F (2, 486) = 2.99 was obtained from the statistical tables for the F distribution. Since Fob = .09 < Fcrit (2, 486, .05) = 2.99, HO_1 was accepted implying that age has no significant effect on the academic motivation. The higher score for motivation scored by students aged between 12 to 15 years did not differ significantly as compared to the other age brackets. All the students can be said to have the same level of academic motivation.

3.2 The Effect of Age on the Students' Academic Performance

To investigate the effect of age on the students' academic performance in the teacher made tests, analysis of variances between the two variables was carried out. The respondents had indicated their age on the biographical data section of the questionnaire whose influence on academic performance was analyzed. All the students' ages were between 12 to 23 years. The ages were divided into three levels for purposes of analysis.

The following null hypothesis was tested:

HO_2: There is no significant effect of age in the student's academic performance.

The distribution of academic performance mean scores by age is presented in Table 3.

Table 3: The Distribution of Academic Performance Mean Scores by Age

Age brackets (years)	n	Academic Performance	
		Mean	SD
12 to 15	107	48.06	12.64
16 to 19	359	46.40	12.68
20 to 23	23	39.95	11.68
Total	489	46.46	12.70

Table 3 indicates the youngest students' (12 to 15 years) had the highest scores as indicated by a mean of 48.06 while the oldest students (20 to 23 years) had the lowest mean in academic performance. Most of the respondents (n = 359) were aged between 16 to 19 years. The entire study group had a mean score of 46.46.

The effect of age on the students' academic performance is shown in Figure 4.3.
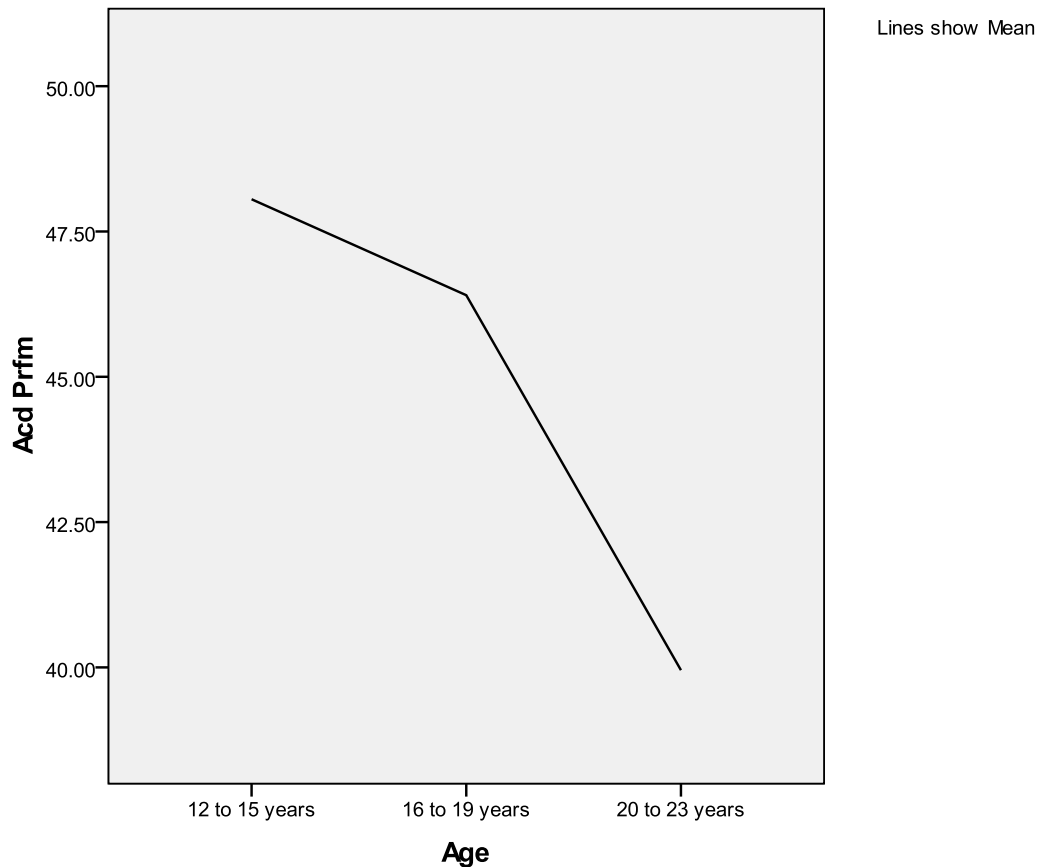
Figure 2: Students' Academic Performance against Age

Figure 2 shows clearly that the youngest students had the highest mean in the academic performance whereas the older students scored lowest mean. To test whether the academic performance mean scores were significantly different among the students of different ages, a one-way analysis of variance (ANOVA) was conducted. Table 4 shows the results of the analysis.

Table 4: One Way Analysis of Variance for Age and Academic Performance

Source of variation	SS	df	MS	Fob	Fcrit
Between groups	1247.27	2	623.64	3.91*	2.99
Within groups	77478.36	486	159.42		
Total	78725.64	488			

*Significant at α = .05

The results in table 4 indicate an F observed of 3.91 which was not statistically significant at .05 level of significance. A critical value of $F_{(2, 486)}$ =2.99 was obtained from the statistical tables for the F distribution. Since Fob = 3.91 > Fcrit $(2, 486, .05)$ = 2.99, HO_2 was rejected implying that age has a significant effect on the student's academic performance.

4. CONCLUSION

This study investigated the relationship between academic motivation and academic performance. It was found that there was a significant relationship between academic motivation and academic performance among secondary school students. This finding is supported by a study by Pintrich & Schunk (1996) [6], which posited that academic motivation

is thought to have a bearing on the learner's academic performance. Academic motivation is expected to help educational stakeholders to predict the students' academic performance.

The Pearson correlation coefficient between academic motivation and academic performance is r = .112, which shows a positive correlation between the two variables. The coefficient of determination between academic motivation and academic performance was $R^2 = .01$, which showed that 1 % of the students' academic performance was influenced by academic motivation.

A study by Niebuhr (1995) [7] included an investigation of the relationship of individual motivation and its effect on academic performance. The findings of this study indicated that student motivation showed no significant effect on the relationship with academic performance. However, other studies show that there is a relationship between academic motivation and academic performance. For example, a study carried out by Aire and Tella (2003) [8] on student motivation using 276 students revealed that there is a relationship between academic performance and motivation. Despite the variations in the findings by some studies, this study found that there was a strong relationship between academic motivation and academic performance.

It was found that age had no significant effect on the academic motivation. The higher score for motivation scored by students aged between 12 to 15 years did not differ significantly as compared to the other age brackets. All the students could be said to have the same level of academic motivation. A study by Broussard and Garrison (2004) [9] found that the relationship between motivation and academic performance appears to strengthen with age. According to them, by age 9, students with high levels of motivation consistently exhibit higher achievement and class grades than students with low motivation. The study focused on the general students' motivation whereas this current study was based on the academic motivation.

The study investigated the effect of age on the students' academic performance in the teacher made tests. From the findings, age had a significant effect on the student's academic performance. The youngest students had higher scores in academic performance than the oldest students. Contrary to this, a study by Rumberger (1995) [10] found that late entrance and repetition do not exert negative effects on academic performance. He found that the older students performed better than those who go to school at an early age. The study also showed that those students who have an opportunity to repeat some grades perform better at secondary school level and that late entrance and repetition improved academic performance especially among older students. Another study by Clark and Ramsay (1990) [11] detected a negative relationship between age and academic performance, which is also a contradictory finding to the preset study.

5. REFERENCES

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