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Determinants of Girl Students' Academic Achievement in Mixed Day and Boarding Secondary Schools in Kericho District: An Analytical Study

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ABSTRACT

Girl child education at secondary school level is highly valued by parents in Kericho District in the present time than before. This is because most parents have realized that educating a girl child is as good as educating a boy child as it leads to eradication of poverty, ignorance and diseases. Girls in boarding secondary schools usually perform better in Kenya Certificate of Secondary Education Examinations than girls in day secondary schools in Kericho District. The study established that boarder girls performed slightly better than day scholar girls in Kenya Certificate of Secondary Education Examination in the year 2010. The determinants of day scholar girls' performance in day/boarding schools in Kericho District included; school levies, student indiscipline, lack of basic needs, required textbooks, domestic chores and distance from school. There was however no statistical significant relationship between these determinants and day scholar girls' academic achievement in Kenya Certificate of Secondary Education Examination. Multiple regression analysis revealed that none of the determinants were significant predictors of day scholar girls' academic achievement. The determinants of boarder girls' academic achievement included; school levies, student's indiscipline, lack of basic needs, required textbooks and reading culture. All determinants except lack of basic needs were not statistically significant. Multiple regression analysis revealed that none of the determinants was a significant predictor of boarder girls' academic achievement in day/boarding secondary schools in Kericho District. This means that there are other factors probably teacher factors, student factors and other socio- economic factors that were influencing significantly girls' academic achievement in day/boarding secondary schools in Kericho District.

Keywords: Determinants, Girl Students', Academic Achievement, Mixed Day and Boarding, Secondary Schools Kericho District.

INTRODUCTION

Academic performance differs between day and boarding secondary schools each year. According to the Standard Newspaper (2009, September 16th), the trend continues in secondary schooling where performance in the Kenya Certificate of Secondary Education is dominated by boarding students. Ranking indices from the Kenya National Examinations Council show year after year that, about 75 percent of the 150 top schools in Kenya Certificate of Secondary Examination are boarding schools. Furthermore, academic performance of girls in boarding secondary schools has been better than those

in day secondary schools over the years. In Kenya, national examinations are used to measure academic achievement of students which is an important aspect of the educational system. Essentially examinations are used as the main basis for judging students' ability and also a means for selection for educational advancement and employment. Although students may be of comparable abilities, learning in the same environment and using the same syllabus, their academic achievement still vary. In some cases bright students have failed to excel while weak students have excelled.

This means that certain factors are responsible for these outcomes. The main concern of all stakeholders in education is poor performance. This is because it leads to tragic wastage of human, social and economic potential of countries worldwide. Many factors such as lack of facilities in school, lack of teachers, indiscipline, unfavourable home environment, absenteeism and repetition, low intelligence and anxiety do cause poor academic achievement (Ndirangu, 2007). Kunje, Selemani-meke and Ogawa (2009) on the other hand, observed that pupil age, gender and socio-economic background were responsible for differences in pupil performance. They added that pupils at the right age consistently performed better than pupils at other ages. Muindi (2012) indicates that age 13 and 14 are the right ages for standard eight pupils. This means that those pupils who sit for Kenya Certificate of Primary Education later than 14 years score below two hundred marks. A similar study in Germany by Fertig and Kluve (2005) reported that school entry age, gender and socio economic background influence academic performance. In Kericho District Kenya; situational analysis revealed that girls' performance in Kenya Certificate of Secondary Education was poor (Table 1). The performance also varied with categories of secondary schools, that is; boarding, day and mixed day, and boarding secondary schools.

From Table 1, it is clear that girls were doing generally poor in Kericho District in both day and boarding schools except for a few schools. In the three categories of schools; day, boarding and mixed boarding/ day secondary schools. Notwithstanding poor performance by girls, day scholars girls do perform worse than boarders. It was therefore imperative to conduct a study on the determinants of girl students' academic achievement in mixed day and boarding secondary schools in Kericho District.

Research Question

The main research question was: What are the determinants of girl Students' academic achievement in mixed day and boarding secondary schools in Kericho District?

Conceptual Framework

The conceptual framework postulates that there are certain determinants of students' academic achievement in schools (Figure 1).

From Figure 1, it can be observed that school levies, indiscipline, basic needs, textbooks, domestic chores and distance from school do influence academic achievement of students in schools. It is a requirement in all public schools that school project levy be paid by parents whose

children are in schools. When parents fail, their children are sent home despite the fact that secondary education is free and compulsory constitutionally. This affects students' performance because they miss instructions and when they report back to school due to shortage of teachers, they do not receive individualized instructions. Therefore, they end up performing poorly in examinations. In situations where parents pay up these levies on time their children are not excluded from school and therefore, they attend all classes as expected and this enhances their academic achievement. Similarly, indiscipline does affect academic achievement of students negatively. Cases of cheating in examinations, disobedience to school administration, sneaking, sexual harassment, theft lead to exclusion from schools temporarily. This disrupts their learning which culminates into poor academic achievement. Basic needs such as social security, good sanitation, water supply and personal effects when provided enhance academic achievement of students. This is because the students do not suffer from anxiety and apathy and therefore concentrate on their studies. Textbooks are very essential in the implementation of school curriculum and therefore their adequacy and relevance is very important in the provision of quality education, characterized by high academic achievement of students. Domestic chores do affect academic achievement of day scholars for instance fetching firewood, water, participation in vending and tending of livestock removes students from focus on academic undertakings particularly pursuance of work. Distance from school also affects academic achievement of day scholars due to fatigue and distraction.

RESEARCH METHODOLOGY

Descriptive survey and correlational research designs were used in the study. A conceptual framework consisting of determinants of girl students' academic achievement as independent variables and girl's academic achievement as dependent variable were used to establish the interrelationships. The study population consisted of 6 principals, 82 teachers, 21 day scholar girls and 103 boarder girls. Questionnaire, document analysis guide and interviews were used to collect data. Face and content validity of the instruments were determined by experts in educational administration. Reliability of questionnaire was established by Pearson r , which had a coefficient of 0.84 at the set p -value of 0.05. Quantitative data was analyzed by use of descriptive statistics and inferential statistics while qualitative data was transcribed and analyzed in emergent themes and sub themes.

Table 1. Analysis of Kenya Certificate of Secondary Education Performance for Girls in Kericho District Secondary Schools, 2007-2009

Category of Schools	Mean Scores		
	2007	2008	2009
Boarding			
A	4.897	4.609	5.729
B	8.602	9.115	9.729
C	7.71	6.684	6.953
D	7.479	7.843	7.959
E	6.125	8.059	8.305
F	3.353	4.625	2.92
Day			
G	4.2	3.539	3.541
H	3.8	3.063	3.25
I	5.12	4.43	4.275
J	3.94	2.978	3.737
K	4.778	4.05	4.5
L	4.125	4.557	3.926
M	4.684	4.333	4.762
Mixed day and Boarding			
N	3.942	3.881	4.091
O	4.588	6.000	4.601
P	4.265	3.271	3.227
Q	3.91	4.091	3.552
R	3.512	3.448	4.333
T	3.215	4.125	4.456

Source: Ministry of Education (2010)

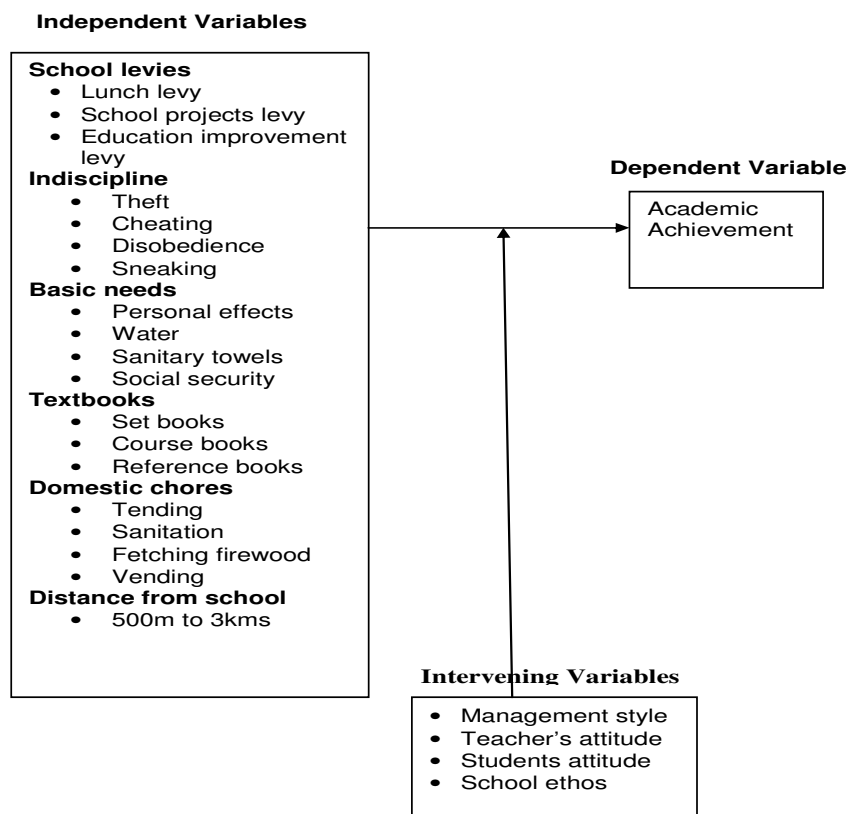


Figure 1. A Conceptual Framework showing Determinants of Students Academic Achievement in Schools

Table 2. Mean Scores for Girls in Day and Boarding Secondary Schools as indicated by the Head Teacher (n=5) for the year 2010

School	Mean scores	
	Day scholars	Boarders
A	2.00	3.07
B	3.33	4.10
C	4.50	2.95
D	3.60	3.91
E	3.50	3.82
Average	3.19	3.47

Table 3. Factors that contribute to Day Scholars poor Performance as indicated by the Principals (n=5) and Day Scholar Girls (n=21)

Factors	Mean rating	
	Head teachers	Girl student
School levies	3.20	3.81
Indiscipline	3.80	2.90
Lack of proper uniform	1.80	2.67
Lack of required text books	2.60	3.00
Domestic chores	4.60	3.00

Key

4.1-5.0 Very High contribution

3.1-4.0 High contribution

2.1-3.0 Low contribution

1.0 -2.0 Very low contribution

RESULTS

To establish the determinants of girl students' academic achievement in mixed day and boarding secondary schools the girl's academic performance for the year 2010 was first established as shown in Table 2.

Table 2 indicates the performance of day scholars and boarders in mixed day and boarding secondary schools in Kericho District. It can be observed that the day scholar's performance ranged from a mean score of 2.0 in school "A" and 4.50 in schools "C". The average mean score of day scholars in the five schools was 3.19. The performance of boarders in the same schools ranged from a mean score of 2.95 to 4.10 and the average mean score of 3.47. This indicates that on the whole boarders performed better than day scholars. However, the performance for both categories of students was below average.

The study further sought to establish determinants of girls' poor performance and the results were as shown in Table 3.

From Table 3 it can be observed that school levies was rated as a factor that highly contributed to girls poor performance by both day scholar girls and principals. Domestic chores were rated by principals as a factor that

contributed very highly to poor performance of girls in academic work. This finding was consistent with teachers' views during interviews. The teachers were of the view that domestic chores seriously interfered with girls' concentration on school work. In fact, one teacher expressly stated; "some girls, once at home, are engaged in all sorts of domestic chores, such as cooking, fetching firewood, water, tending livestock, vendor among others." These activities enhance girls' flight from academics, and particularly the weak ones. Day scholar girls on the other hand rated domestic chores as a factor that did not contribute much to poor performance. Student indiscipline and lack of required textbooks were also rated as factors that contributed to poor performance. Lack of proper school uniform was considered as a factor that contributed the least to poor performance of girls.

To establish the determinants of day scholar students' academic achievement, the main research question was transformed into the following hypotheses:

H₀₁ There is no significant relationship between school levies and day scholar girls' academic achievement.

H₀₂ There is no significant relationship between student indiscipline and day scholar girls' academic achievement.

Table 4. Results of Pearson Product Moment Correlation coefficient matrix

		X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	X ₇
School levies X ₁	Pearson Correlation	1						
	Sig. (2-tailed)							
	N	21						
Student Indiscipline X ₂	Pearson Correlation	-.073	1					
	Sig. (2-tailed)	.754						
	N	21	21					
Lack of Basic Needs X ₃	Pearson Correlation	.279	.061	1				
	Sig. (2-tailed)	.220	.792					
	N	21	21	21				
Required Text Books X ₄	Pearson Correlation	.387	.310	.079	1			
	Sig. (2-tailed)	.083	.171	.733				
	N	21	21	21	21			
Domestic Chores X ₅	Pearson Correlation	.134	-.322	-.140	.117	1		
	Sig. (2-tailed)	.563	.154	.545	.615			
	N	21	21	21	21	21		
Distance from School X ₆	Pearson Correlation	-.061	-.358	.088	-.554**	-.086	1	
	Sig. (2-tailed)	.792	.111	.706	.009	.711		
	N	21	21	21	21	21	21	
KCSE X ₇	Pearson Correlation	.179	-.387	-.140	-.023	.095	.204	1
	Sig. (2-tailed)	.437	.083	.544	.923	.681	.376	
	N	21	21	21	21	21	21	21

** . Correlation is significant at the 0.01 level (2-tailed).

H₀₃ There is no significant relationship between basic needs and day scholar girls' academic achievement.

H₀₄ There is no significant relationship between required textbooks and day scholar girls' academic achievement.

H₀₅ There is no significant relationship between domestic chores and day scholar girls' academic achievement.

H₀₆ There is no significant relationship between distance from school and day scholar girls' academic achievement.

In testing the hypotheses (H₀₁- H₀₆) data on the responses to questions in the questionnaire on the relationship between the determinants and Kenya Certificate of Secondary Examinations scores were collected and tested using Pearson product moment correlation coefficient. The results were as shown in Table 4.

From Table 4, it can be observed that the relationship between school levies and girls academic achievement was positive and weak (.179). The relationship was also not statistically significant as the calculated p-value of .437 was greater than the critical p-value of 0.05. The

hypothesis (H₀₁) was therefore accepted. Nevertheless this finding means that increase in school levies increases academic achievement of girls. This is because school levies are used to provide school infrastructure that makes provision for quality education. The relationship between student indiscipline and girls students' academic achievement was moderate and negative, -.387. The relationship was not statistically significant as the calculated p-value of .083 was greater than the critical p-value of 0.05. The hypothesis (H₀₂) was therefore accepted. This means that an increase in student indiscipline reduces girls students academic achievement. This finding agrees with the finding (Table 3) that student indiscipline contributes to girls' poor performance in school work. This finding agrees with interview findings whereby teachers stated categorically that student indiscipline is a precursor of high academic achievement among scholars. In fact it is for this reason that all institutions have rules and regulations that govern human behaviour, student indiscipline in particular. This means that schools that aspire to excel in academics must minimize or have zero tolerance to cases of student indiscipline. The relationship between lack of basic needs

Table 5. Coefficient of Determination of girl students' academic achievement in Day Scholars and boarding secondary schools

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.477 ^a	.228	-.103	.72317

A. Predictors: (Constant), Distance from School, school levies Domestic Chores, Lack of Basic Needs, Indiscipline, Lack of Required Text Books

and day scholars academic achievement was weak and negative, -.140.

The relationship was not statistically significant as the calculated p-value of .544 was greater than the set significance level of 0.05. The hypothesis (H_{03}) was accepted. It also means that increase in lack of basic needs decreases day scholar girls' academic achievement. In order to improve on day scholar girls' academic achievement, basic needs should be availed to the girls adequately. This would definitely make them comfortable and confident, a pre-requisite for concentration and motivation in girls' undertakings in school.

The relationship between required textbooks and day scholar girls' academic achievement was weak and negative -.023. The relationship was not significant as the calculated p-value of .923 was greater than the critical p-value of 0.05. The hypothesis (H_{04}) was accepted. This means that increase in required textbooks reduces academic achievement of day scholar girls' academic achievement, second only to the teacher. The teacher requires textbooks to facilitate students' learning. Hence when textbooks are scarce very little meaningful learning takes place among students. In this respect, during the interviews, one teacher quipped "in teaching you need a teacher, but in learning you do not necessarily need a teacher, but you need a book." The relationship between domestic chores and day scholar girls' academic achievement was weak and positive. The relationship was not significant as the calculated p-value .681 was greater than the critical p-value of 0.05. The hypothesis (H_{05}) was therefore accepted. This means that to a small extent an increase in domestic chores increases to a small extent day scholar girl's academic achievement. This is because the girls learn that the passport to good life and flight from tedious domestic chores is to excel in academics and therefore work harder in school work, which translate to increase in academic achievement. The relationship between distance from school and day scholar girls' academic achievement was moderate, and positive, .204. The relationship was not statistically significant as the calculated p-value of .376 was greater than the set significance level of 0.05. The hypothesis (H_{06}) was accepted. This means that an increase in distance from school increases the day scholar girls' academic achievement. This means that distance from school motivates girls to work harder bearing in mind the opportunity cost. That is it makes them think out of the

box and therefore work hard, which translate to better academic achievement.

To confirm the influence of determinants on day scholar girls' academic achievement, coefficient of determination was computed and the results were as shown in Table 5.

From Table 5 the coefficient of determination is 0.228. It shows that 22.8% of the variation in day scholars girls' Kenya Certificate of Secondary Education mean score is accounted for by the determinants (distance from school, school levies, domestic chores, lack of basic needs, and lack of text books)

Analysis of Variance was calculated to determine level of significance (Table 6)

From Table 6 the level of significance was 0.662 which was greater than the set p-value of 0.05. This means that the determinants are not statistically significant. Thus, they are not predictors of day scholars girls' academic achievement.

To determine whether the determinants as a group of variables together predict day scholar girls' academic achievement, multiple regression analysis was computed. The results were as shown in Table 7.

Table 7 shows that day scholar girls KCSE mean score = $3.322 + .191 X_1 - .287 X_2 - .321 X_3 + .105 X_4 - .073 X_5 - .214 X_6$.

School levies contributed positively to academic achievement of day scholar girls. Thus the mean score improved by 0.191 with school levies as was signified by a coefficient of 0.191. School levies was not a significant predictor of day scholar girls academic achievement. Student indiscipline contributed negatively to day scholar girls academic achievement. The day scholar girls academic achievement reduced by 0.287 with student indiscipline as was signified by a coefficient of -.287. Lack of basic needs contributed negatively to day scholar girls' academic achievement. Thus the day scholar girls' academic achievement decreased by 0.321 with lack of basic needs as was signified by a coefficient of -0.321. Lack of basic needs was not a significant predictor of day scholar girls' academic achievement.

Required textbooks contributed positively to day scholar girls' academic achievement. The day scholar girls' academic achievement improved by 0.105 with required textbooks as was signified by a coefficient of 0.105. Required textbooks were not a significant predictor of day scholar girls' academic achievement. Domestic chores contributed negatively to day scholar girls'

Table 6. Analysis of Variance of determinants of day scholar girls' academic achievement

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.161	6	.360	.689	.662 ^b
	Residual	7.322	14	.523		
	Total	9.483	20			

A. Dependent Variable: KCSE

B. Predictors: (Constant), Distance from School, Fees Problem, Domestic Chores, Lack of Basic Needs, Indiscipline, Lack of Required Text Books

Table 7. Results of multiple regression analysis of determinants of day scholar's girls academic achievement

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.322	2.477		1.341	.201
School levies X ₁	.191	.303	.173	.631	.538
Student Indiscipline X ₂	-.287	.218	-.371	-1.320	.208
Lack of basic needs X ₃	-.321	.396	-.204	-.812	.430
Required text books X ₄	.105	.229	.147	.458	.654
Domestic chores X ₅	-.073	.242	-.078	-.299	.769
Distance from school X ₆	.214	.367	.174	.583	.569

a. Dependent Variable: KCSE

Table 8. Factors that contribute to Poor Performance by Girls in Boarding Schools as indicated by the Principals (n=5) and Boarder girls (n=103)

Factors	Mean rating	
	Head teachers	Girl student
School levies	3.60	4.20
Student Indiscipline	3.60	3.02
Lack of proper uniform	1.60	2.59
Lack of required text books	2.40	2.91
Domestic chores	1.60	2.40

academic achievement. Domestic chores reduced day scholar academic achievement by 0.073 as was signified by a coefficient of -0.073. Domestic scores was not a significant predictor of day scholar girls' academic achievement. Distance from school had positive contribution to day scholar girls' academic achievement. Distance from school increased day scholar academic achievement by 0.214 as was signified by a coefficient of 0.214. Distance from school was not a significant predictor of day scholar girls' academic achievement. Notwithstanding the contribution of day scholar girls' academic achievement, all of the determinants were not statistically significant predictors of day scholar girls' academic achievement.

Table 8 shows factors identified and rated by the boarder girls and the principals. The students rated highly school levies at 4.20 as factor that influenced poor performance of boarder girls. Student indiscipline was

rated high at 3.60 by principals and 3.02 by girls' students as a factor that contributed to poor performance of boarder girls in day/boarding secondary schools. Other factors, that is, lack of proper uniform, lack of required textbooks and domestic chores were rated low as factors that influence poor performance of boarder girls' in mixed /day secondary schools.

To establish the determinants of boarder girls' academic achievement, the main research question was transformed into the following hypotheses:

H₀₇ There is no significant relationship between school levies and boarder girls' academic achievement.

H₀₈ There is no significant relationship between student indiscipline and boarder girls' academic achievement.

H₀₉ There is no significant relationship between basic needs and boarder girls' academic achievement.

Table 9. Results of Pearson Product Moment Correlation coefficient matrix

		X ₇	X ₈	X ₉	X ₁₀	X ₁₁	X ₁₂
School levies X ₇	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	103					
Student Indiscipline X ₈	Pearson Correlation	.024	1				
	Sig. (2-tailed)	.808					
	N	103	103				
Lack of Basic Needs X ₉	Pearson Correlation	-.101	.061	1			
	Sig. (2-tailed)	.312	.538				
	N	103	103	103			
Text Books X ₁₀	Pearson Correlation	-.093	-.050	-.089	1		
	Sig. (2-tailed)	.352	.618	.372			
	N	103	103	103	103		
Distance from school X ₁₁	Pearson Correlation	-.003	-.051	-.108	-.151	1	
	Sig. (2-tailed)	.973	.608	.276	.129		
	N	103	103	103	103	103	
KCSE X ₁₂	Pearson Correlation	.157	-.143	-.225*	.131	-.015	1
	Sig. (2-tailed)	.113	.150	.022	.186	.883	
	N	103	103	103	103	103	103

*. Correlation is significant at the 0.05 level (2-tailed).

H₀₁₀ There is no significant relationship between required textbooks and boarder girls' academic achievement.

H₀₁₁ There is no significant relationship between reading culture and boarder girls' academic achievement.

In testing the hypotheses (H₀₇- H₀₁₁) data on the responses to questions in the questionnaire on the relationship between the determinants and Kenya Certificate of Secondary Examinations scores were collected and tested using Pearson product moment correlation coefficient. The results were as shown in Table 9.

From Table 9, it can be observed that the relationship between school levies and boarder girls' academic achievement was positive and weak, .157. The relationship was also not statistically significant as the calculated p-value of .113 was greater than the critical p-value of 0.05. The hypothesis (H₀₇) was therefore accepted. Nevertheless this finding means that increase in school levies increases academic achievement of girls. This is because school levies are used to provide school infrastructure that makes provision for quality education. The relationship between student indiscipline and boarder girls students' academic achievement was weak and negative -.143. The relationship was not statistically significant as the calculated p-value of .150 was greater than the critical p-value of 0.05. The hypothesis (H₀₈) was therefore accepted. This means that an increase in student indiscipline reduces boarder girls students' academic achievement. This finding agrees with the finding (Table 8) that student indiscipline contributes to boarder girls' poor performance in school work. This

finding agrees with interview findings whereby teachers stated categorically that student indiscipline is a precursor of high academic achievement among scholars. In fact it is for this reason that all institutions have rules and regulations that govern human behaviour, student indiscipline in particular. This means that schools that aspire to excel in academics, must minimize or have zero tolerance to cases of student indiscipline. The relationship between lack of basic needs and day scholars academic achievement was weak and negative, -.225.

The relationship was statistically significant as the calculated p-value of 0.022 was less than the set significance level of 0.05. The hypothesis (H₀₉) was rejected. It also means that increase in lack of basic needs decreases boarder girls' academic achievement. In order to improve on boarder girls' academic achievement, basic needs should be availed to the girls adequately. This would definitely make them comfortable and confident, a pre-requisite for concentration and motivation in girls' undertakings in school.

The relationship between required textbooks and boarder girls' academic achievement was weak and positive 0.131. The relationship was not significant as the calculated p-value of 0.186 was greater than the critical p-value of 0.05. The hypothesis (H₀₁₀) was accepted. This means that increase in required textbooks increases boarder girls' academic achievement, second only to the teacher. The teacher requires textbooks to facilitate students' learning. Hence when textbooks are scarce very little meaningful learning takes place among students. In this respect, during the interviews, one

Table 10. Coefficient of Determination of boarder girl students' academic achievement in Day /boarding secondary schools

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.319 ^a	.102	.056	.95677

Predictors: (Constant), Reading Culture, school levies, Indiscipline, Lack of Basic Needs, Lack of Required Text Books.

Table 11. Analysis of Variance of determinants of boarder girls academic achievement

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.086	5	2.017	2.204	.060 ^b
	Residual	88.794	97	.915		
	Total	98.880	102			

a. Dependent Variable: KCSE

b. Predictors: (Constant), Distance from school, school levies, Indiscipline, Lack of Basic Needs, Lack of Required Text Books

teacher quipped “in teaching you need a teacher, but in learning you do not necessarily need a teacher, but you need a book.” The relationship between reading culture and boarder girls' academic achievement was weak and negative. The relationship was not statistically significant as the calculated p-value .883 was greater than the critical p-value of 0.05. The hypothesis (H_{011}) was therefore accepted. This means that to a small extent an increase in reading culture reduces to a small extent boarder girl's academic achievement. This occurs where reading culture is not guided such that learners read without grasping the concept as required. Moreover, the relevance of the books read is what matters in terms of students' academic achievement. In essence this implies that boarder girls reading culture is not modelled around meaningful studies but probably for leisure.

To confirm the influence of determinants on boarder girls' academic achievement, coefficient of determination was computed and the results were as shown in Table 10.

From Table 10 the coefficient of determination is .102. It shows that 10.2% of the variation in boarder girls' Kenya Certificate of Secondary Education mean score is accounted for by the determinants (reading culture, school levies, student indiscipline, lack of basic needs, and required text books)

Analysis of Variance was calculated to determine level of significance (Table 11)

From Table 11 the level of significance was 0.060 which was greater than the set p-value of 0.05. This means that the determinants are not statistically significant. Thus, they are not predictors of boarders' girls' academic achievement.

To determine whether the determinants as a group of variables together predict boarder girls' academic achievement, multiple regression analysis was computed. The results were as shown in Table 12.

Table 12 shows that boarder girls KCSE mean score = $4.181 + .202 X_7 - .152 X_8 - .227 X_9 + .119 X_{10} - .032 X_{11}$

School levies contributed positively to academic achievement of boarder girls. Thus the mean score improved by 0.202 with school levies as was signified by a coefficient of 0.202. School levies was not a significant predictor of boarder girls academic achievement. Student indiscipline contributed negatively to boarder girls' academic achievement. The boarder girls academic achievement reduced by 0.152 with student indiscipline as was signified by a coefficient of -.152. Lack of basic needs contributed negatively to boarder girls' academic achievement. Thus the boarder girls' academic achievement decreased by 0.227 with lack of basic needs as was signified by a coefficient of -0.227. Lack of basic needs was not a significant predictor of boarder girls' academic achievement. Required textbooks contributed positively to boarder girls' academic achievement. The boarders' girls' academic achievement improved by 0.119 with required textbooks as was signified by a coefficient of 0.119. Required textbooks were not a significant predictor of boarder girls academic achievement. Reading culture contributed negatively to boarder girls' academic achievement. Reading culture reduced boarder girls' academic achievement by 0.032 as was signified by a coefficient of -0.032. Reading culture was not a significant predictor of boarder girls' academic achievement.

Table 12. Results of multiple regression analysis of determinants of boarder girls' academic achievement

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	4.181	1.014		4.124	.000
School Levies	.202	.129	.152	1.560	.122
Indiscipline	-.152	.113	-.130	-1.346	.181
Lack of Basic Needs	-.227	.115	-.194	-1.976	.051
Required Text Books	.119	.099	.118	1.200	.233
Reading Culture	-.032	.129	-.024	-.244	.808

a. Dependent Variable: KCSE

DISCUSSION

Determinants of students' academic achievement have been studied over the years. The determinants that have been researched on include, motivation, school factors, pupil factors, socio-economic backgrounds, distance from school, teacher factors among others (Ngesu et al., 2012; Batoya et al., 2013 and Odiembo, 2013). The study established that girls in mixed day/boarding secondary schools academic achievement were below average. This finding concurred with the findings of Oloo (2003) in Migori District, Kenya who found that majority of day secondary school students perform poorly in Kenya Certificate of Secondary Education examination compared to their boarding counterparts. School levies were found to have little contribution to girls' academic achievement. This is attributable to the fact that parents of students in day schools do not pay up these levies citing government policy on Free Tuition secondary education, the constitution of Kenya 2010 and The Basic Education Act 2013 that prohibits expulsion or exclusion of students from schools on the basis of levy non-payment. Hence the levies paid up by some parents seem to have little value addition on tuition of students. This findings agree with the findings of Juma's (2004) that girls are given less attention by teachers in class and also the physical facilities like toilets, desks as some of the factors that affect girls which are financed through school levies. Student indiscipline does affect students' performance in schools. This is because it makes students to lose focus and concentration on academic activities such as doing class work, assignments and consulting teachers for feedback in academics. In fact, some students are suspended from schools when they commit serious infractions such as sneaking, theft and forgery. This leads to loss of time and when the students are eventually allowed into the school, they find it difficult to cope with academic work covered in their absence. In essence, as the findings revealed, increase in indiscipline reduces girls academic achievement and vice versa.

Lack of basic needs negatively affects students' academic achievement. The study established that lack of basic needs contributed negatively to both day scholar

girls' and border girls' academic achievement. In fact, it was the major determinant that negatively affected girls' academic achievement. Naturally without fulfillment of basic needs, students cannot aspire for higher level needs, education inclusive. The basic needs for girls in schools include adequate food, personal effects, wholesome water and sanitary facilities, besides privacy. Any form of discomfort affects girls more than boys and girls have a high affinity for basic needs. In fact, during interviews with teachers, it emerged that fulfillment of basic needs ensures the acquisition of knowledge and skills that enable girls to increase their concentration and improve their academic prowess. When basic needs are fulfilled, students' performance remains at top priority. In fact, most educators believe that basic needs contribute effectively to quality of performance of learners. Most experts argue that the low socio-economic status has negative effect on the academic performance of students because the basic needs of students remain unfulfilled and hence they do not perform better academically (Adams, 1996) Students in day schools generally come from economically disadvantaged parents who hardly afford basic needs for their children and consequently the students from such families do not work at their fullest potential.

The relationship between required textbooks and the academic achievement of students has been a subject of boardroom discussion for decades. The students with adequate course books perform better than students with only bare minimum. During interviews with teachers, most teachers argued that the achievement of students is negatively correlated with the high student book ratio; that is; 4:1 and above. This is because it hinders individual students in gaining access to the desired knowledge. High student book ratio strongly affects the academic achievement of students by dragging them down to a lower level. Course books provide an environment and opportunity that suits best for academic success of students. It is for this reason that school administrations provide study skills to students for creating positive academic environment for improvement in students' quality of work. The emphasis, by the Ministry of Education, parents and teachers on textbooks

reflects the thinking that academic performance of students heavily depends upon the availability and adequacy of textbooks that optimize academic activities to attain quality in academic success. These arguments agree with the finding of this study, that increase in text books improves students 'academic achievement.

Domestic chores affect girl students' academic achievement in as much as girls are overwhelmed by both academic and home undertakings to the request and direction of parents. Thus girls' academic achievement is negatively affected by domestic chores. It is for this reason that boarder girls perform better than day scholar girls in academic work.

CONCLUSION

The study concluded that the following factors were responsible for girls poor performance in Kenya Certificate of Secondary Education Examination: school levies, indiscipline, family problems, the entry behaviour of the child, lack of interest on the girls side to complete their work, the attitude some parents have towards the girl child compared to the boy child and lack of required books.

The determinants of girls students' academic achievement studied: school levies, student indiscipline, lack of basic needs required, textbooks, domestic chores, distance from school and reading culture were found not to be the significant predictors of girls' academic achievement in day/boarder secondary schools in Kericho District. Nevertheless the co-efficient of determination analysis revealed that these determinants do account for variation in academic achievement of the girls.

RECOMMENDATIONS

The government should try to recommend the development of many day schools.

With regard to the findings on factors that contribute to girls' poor performance in Kenya Certificate of Secondary Education Examination, the study recommended that the parents of both girls in day and boarder secondary schools should:

Always ensure that they pay school levies on time.

Ensure that the personal effects are provided as needed by the girls.

Ensure that the girls have a conducive environment to carry out their studies.

Stakeholders in education should in their special ways discourage student indiscipline in schools so as to improve upon academic achievement of girls.

The Ministry of Education should increase Free Secondary Education Fund so that schools' needs are catered for well to enhance students' academic achieve-

ment.

Parents and sponsors are encouraged to cater for basic needs of girls adequately so that they concentrate on their studies.

Parents be encouraged to minimize domestic chores for girls, so that they can concentrate on their studies.

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