

# School environmental factors influencing academic performance in secondary schools

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**Abstract:** Academic performance for a long time now has been recognized as an important output of any educational system. This success can be realized if the learning environment is conducive and supportive. Learning environments today need to embrace a variety of places, ideas, and people that the modern world demands in terms of flexibility of space, time and technology. The purpose of this study was to survey the influence of school environmental factors on students' academic performance with a focus in Migori County. The study adopted a descriptive survey and correlation research designs. A study sample of 116 secondary school principals were used. It was established that school environmental factors had a strong influence on students' academic performance. Findings entailed in this study are important to educational administrators in ensuring that schools are well maintained and supportive to teaching and learning.

**Keywords:** Environmental Factors, Academic Performance, Facilities, Learning, Administration.

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## 1. INTRODUCTION

After nearly achieving the Global Educational Goal that stipulates the universal access to primary education for all children regardless of their locality and nationality, the global community has turned its focus to Sustainable Development Goals after the expiry of Millennium Development Goals in 2015. Previously, global efforts were directed towards expanding access to primary education but in the post-2015 era, the global shift is on achieving universal access to quality education. Investing in quality education and assessing whether learners have mastered the skills they are taught and whether they are taught the skills required is critical in the 21<sup>st</sup> Century (UNESCO Report, 2015). Academic performance is measured through examinations, which has been widely accepted as a tool for assessment of individual learners' academic performance. The outcome obtained from examinations has served the vital purpose of gauging the abilities and standards of individual students that in turn determine their marketability in the employment sector as well as creating a bridge to academic advancement. The importance of education to both national and individual development is indisputable. This is because highly educated human resource is a requisite for national development. Individuals have used education as a tool for social-economic development hence education is valued as a tool for social development. Nations spend much of their resources to enhance their education process and improve on learners' achievement. The value of education in the contemporary society cannot be over-emphasized. The higher the educated people in a particular society, the higher the level of civilization and discipline (UNESCO, 2015).

Whereas access to school has been appreciated throughout the world since 1990, learning outcomes have lagged behind (UNESCO, 2015). One fundamental issue that has preoccupied researchers' minds for a long period is the reason behind the disparities in performances of public secondary schools such that some schools perform considerably better than their counterparts that pose dismal performances. For example, in Pakistan, results of boards of secondary schools established that quite a good number of students obtained results that are below average especially at secondary school level (Punjab Statistics Bureau, 2008). In some European countries, academic performance is still low especially among senior

secondary schools (European Union Monitoring Report, 2013). Whereas there could be a number of factors contributing to this performance, this study focused ON environmental influence. School environmental factors are the internal surrounding of the school. These include; teaching, learning materials, Information Technology and Teacher support, School climate (Ayça and Ali, 2017; Ojukwu, 2017; Odigwe and Idowu, 2013). A peaceful and friendly school setting makes students feel happy whereas schools located within busy town centers are susceptible to street noise- that interferes with students' concentration in their studies. Institution within an environment that is full of noise, such as around airport or within the busy centers of big towns like Nairobi and Mombasa, students' learning is constantly under interruptions so much so that their academic performance is evidently lower than their colleagues in different setups (Siringi, 2010).

Majority of schools in Kenya have fewer facilities, no ventilation, and poor buildings Siringi (2010). In agreement, Akdil Sönmez and Akpınar (2017) observed that those schools have inadequate physical facilities such as classrooms, desks, chairs, and the available classrooms are poorly constructed with inadequate spacing. Such compromising environmental situations might put both teachers and students' health at risk, resulting in a negative academic trajectory. Similarly, Onukwo (2004) additionally observes that improvement of a child's growth and development is due to a favorable environment. Equally, Okello, Sichari, and Odera's (2017) study on the impact of environmental factors on the retention of secondary school teachers in Homa –Bay County revealed a great concern to stakeholders regarding achievement of school goals. Nandeke, Chumba, and Kiprop (2017). also noted that admission of best students and facilities does not matter, what matters is what goes on inside the schools; positive climate, hard work by teachers and students, discipline, and effective teaching were the most vital factors behind good results in national examinations. The report further noted that the environment in which students are exposed to affects academic performance, teachers' satisfaction, and influence immensely on whether learners will excel academically or not. Such school environments create quality results and a good reputation for any learning institution. The general behavior patterns, attitudes, and commitments of learners are largely influenced by the environment in which they learn besides other factors. This study sought to determine the influence of school environmental factors on students' academic performance in Public Secondary Schools. It considered a dichotomy of factors that play a significant role in dictating students' academic performance under various environmental conditions.

The findings are intended to sensitize education policymakers on how significant learning environments are to the overall school performance. School principals will also be enlightened on the importance of improving learning environments to facilitate students' academic achievement. In addition to enriching literature, the study will also trigger further research and discussions on various environmental factors that influence learning achievement in schools.

## 2. SYNTHESIS OF LITERATURE

School environmental factors are the internal conditions of the school that influence students' academic performance. These are the school climate, facilities, and resources within the school that influence students' academic achievement. Environmental factors largely affect both the physical and psychological potentials of an individual. This has led to the contention that many students fail to develop universally their potentials due to inadequate environmental stimulation. Ayça and Ali's (2017) findings on the role of physical environmental factors on students' academic performance in Turkey contrast the findings of most studies on physical factors that there is no relationship and no effect between academic performance and physical environmental factors which could be unique to the locale of the study. Further, Ado (2015) indicated that there is a significant difference between the mean performance of students taught in an ideal learning environment and that of students taught in a dull learning environment. A Study by Sammeni (2018) indicated that staff office, classroom spaces for teaching students, and staff common room represented the major areas that largely affect academic achievement of students in public schools with regard to buildings. The study further revealed that desks, current books, and use of library assistants constituted the areas of influence on the academic achievement of the students with regard to library services in the public secondary schools.

A study on environmental influence on academic performance in Port Harcourt Local Government area of Rivers State by Orlu (2013) found that the environment affects performance and that improper maintenance of fixtures led to lower than average student's performance. A related study by Abdulkadir, Ali, and Raqia (2017) found that two constructs had statistically significant, positive and straight effects with academic performance. Interestingly in Nigeria Joseph, Yeboah-Appiagyei, and Fentim (2014) revealed that school size and facilities utilization impacted positively on the performance

of secondary school students in Ekiti State. In addition, Odigwe and Idowu (2013) appraising the state of maintenance and management of available school facilities on students' academic performance in Cross River State, Nigeria found that there exists a correlation between provision, maintenance, and management of school facilities, on students' academic performance. Further, the assumption that insufficient school facilities negatively impact student performance and achievement is supported (Limon, 2016).

Availability of residential facilities in schools and instructional materials have a positive influence on the level of students' academic performance (Osei, Kate, and Fentim, 2014). On their part, Mudassir and Norsuhaily (2015) also found out that students from a school with adequate facilities, good teachers and favorable environment perform well than those from schools with fewer facilities, unqualified teachers and the less enabling environment. Things like lack of infrastructure, dormitories, laboratories, library, staff houses, and classrooms lead to poor performance in ward or community based secondary schools (Ilomo and Mlavi, 2016). Equally, Okello (2018) outlined that teachers are encouraged to work through upward mobility, increasing their self-confidence and self-reliance resulting into students' academic performance and improved results.

### Learning resources

There is a positive and significant correlation between most of the teaching and learning resources and level of classroom management and content delivery (Bizimana, Orodho, 2014). In addition, another study showed a positive relationship between course evaluations and the learning experiences that students engaged in. In the modern world, the trend towards technology-enhanced classes has escalated quickly as students have become increasingly tech-savvy across the nation have "wired" and textbook publishers now offer a wide variety of computerized teaching supplements (Jerome, 2015). Equally, Sermon (2005) suggests that technology has the potential to transform the learning environment from passive to active and more subject to the control of the learner. This enables the learner to be more actively involved in his or her own learning.

Use of educational technology is important in learning, which translates into better academic performance (Haruna, Aisha, Umaru and Tukur (2016) conducted a study on the impact of mobile phone as a learning resource on academic performance among secondary school students in Nigeria. The results revealed that mobile phone usage significantly influence academic performance. In addition, Simuforsa (2013) conducted a study on the impact of modern technology on the educational attainment of adolescents and found out that modern technology impacts learning both positively and negatively. It is therefore imperative that both students and teachers develop interest in using educational technology at the secondary level (Waqar and Anila, 2013).

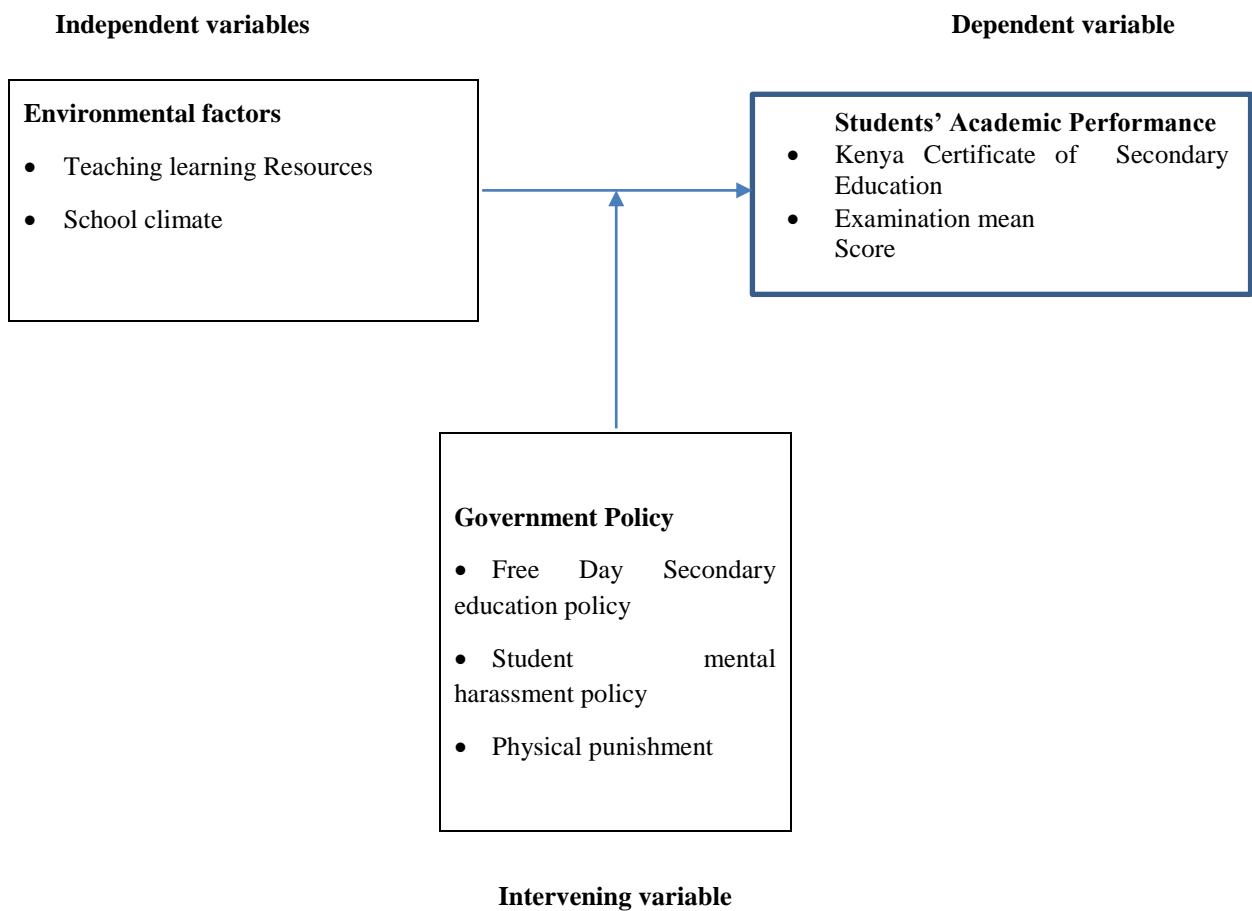
### School climate

School climate refers to internal conditions of a school that creates a conducive atmosphere for learning that is safe and secure (Nsa, Offiong, Udo, Ikot, 2014). Research shows that students' perceptions of school climate significantly explain writing and numeracy achievement and this effect is mediated by students' psychological identification with the school (Usaini and Bakar, 2015). In addition, staff perceptions of school climate explain students' achievement in numeracy writing and reading tests. Odeh, Oguche, Angelina, Ivagher, and Dondo (2015) also indicated that school climate and discipline, in general, have a significant influence on the academic achievement of secondary school students. Peer disorder, such as bullying, is negatively related to school safety and achievement and is also associated with more serious school violence (Semali and Vumilia, 2016). In fact, these seemingly less serious issues were recorded to be stronger predictors of feelings of safety at school than violent crimes or personal experiences of crime (Masoumeh and Muhammad, 2016). According to the analysis done by Egbo (2015) in a study; students, staff, and administrators agree on issues of safety concerns and its influence on learning, hence academic performance. Safety issues in a school encompass the everyday activities that make up the learning environment, and that making schools safe is a joint responsibility that requires a broad-based team approach. Masoumeh and Muhammad (2016)) further argued that school safety and school order are fundamental to studies of the achievement gap, teacher attrition, and student engagement.

Ojukwu (2017) equally revealed that insecurity in the school environment significantly affects the academic performance of secondary school students. Using detailed student-level data and a school and classroom fixed effects approach, Gottfried finds that attendance and achievement are positively related. Therefore, a school where students feel that their

safety is not guaranteed leads to absenteeism hence poor performance. Gilman (2016) reports similar findings. Jinot (2018) examined the effects of the role of peer and social interaction in adolescent academic achievement through a review of existing literature. It was observed that adolescents have an increased social motivation that is followed by a decrease in academic motivation; this consequence causes the demonstrations of the inability in academic areas in school. Mosha (2017) investigated the influence of peer group on adolescent students' academic performance in secondary schools in Tanzania and established that peers' relationship, socialization, environment, globalization, and drug use had a great influence in determining students' academic performance. School climate is definitely significant in affording learners with a conducive supportive and secure environment for effective learning.

**Conceptual framework**



**Figure 1: Conceptual Framework showing Influence of School Environmental factors on Students' Academic Performance**

The conceptual framework that was used in this study postulated that there was a hypothetical link or relationship on school environmental factors as independent variables and students' academic performance. Independent variable included was school environmental factors. School environmental factors are the internal surrounding of the schools (Chee, 2014). These include; Peer influence, School security, Presence of internets and other electronics, Trained and experienced teachers, Teachers financial motivation, Library, laboratory, Instructional materials (Ayça & Ali,2017; Ojukwu,2017; Odigwe & Idowu,2013). Similarly, Onukwo (2004) equally noted that a child's growth plus development is improved by conducive environment. The current study therefore, was an attempt to identify school environmental factors and their influence namely; employing the use of Educational Technology and school climate, teaching and learning materials as some of the school environmental factors on students' academic performance. Dependent variable is the output that is; the improved performance of students in academics

### 3. METHODOLOGY

The study used descriptive survey and correlation research designs. The target population was 245 school principals within Migori County. Fisher’s formula (Mugenda and Mugenda, 2003) was used to determine the sample sizes in which 152 principals were selected. However, whereas 152 principals were issued with questionnaires, the response rate was 116(76.31%). This was therefore the actual number considered in data analysis. Piloting of the questionnaire was done to establish reliability of instruments; where 24 principals were involved. Cronbach’s alpha was then computed yielding a reliability coefficient of 0.79. Experts evaluation was used in determining validity of the instruments by including their input in the content of the questionnaire. Analysis of quantitative data was done using frequency counts, Percentages and means, and regression analysis.

Students’ academic performance was assessed on the basis of students’ performance in examinations. Performance in Kenya Certificate of Secondary Education examinations was therefore considered as a good indicator of academic performance of students in a school. This is a standardized instrument and therefore is reliable for measuring students’ academic performance. The principals were asked to indicate the school’s overall mean score in Kenya Certificate of Secondary Education examinations in the last eight years (2010-2017). Table 1 shows the schools’ mean average score in Kenya Certificate of Secondary Education examinations for these years. From Table 1, it is clear that most of schools had low average mean grade in Kenya Certificate of Secondary Education Examinations, with only 87.07% of them having a mean of less than 7.20.

**Table 1. Kenya Certificate of Secondary Education Examinations Mean Scores**

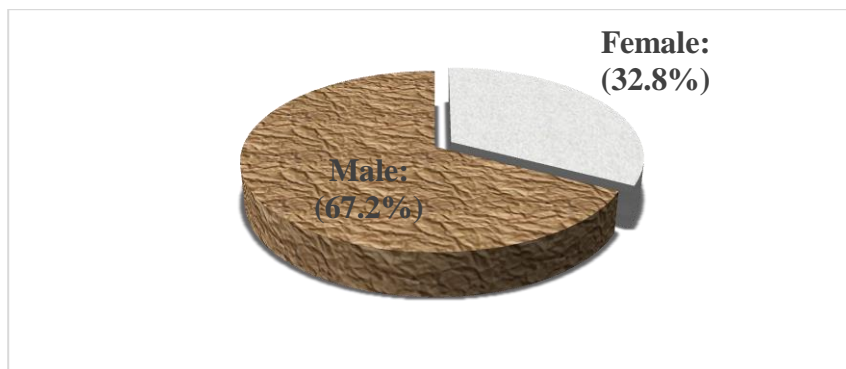
Performance index	Number of Schools	Frequency %	Cumulative Frequency %
1.00-2.54	2	1.72	1.72
2.55-4.09	42	36.21	37.93
4.10-5.64	30	25.86	63.79
5.65-7.19	27	23.28	87.07
7.20-8.74	12	10.34	97.41
8.75-10.29	3	2.59	100.0
10.30-12.00	0	0.00	100.0
Total	116	100.00	

Source: Field data (2018)

### 4. RESULTS

#### Demographic Data of Respondents

The study sought to investigate the participants’ demographic characteristics. Consideration of this data was necessary to allow the researcher to determine whether the target population was reflected in the sample of this study for making conclusion with the outcome from the study. Demographic data examined in this current study includes gender, category of schools and nature of schools where the respondents come from.



Source: Survey data (2018)

**Figure 2: Gender distribution of the Principals**

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From Figure 2, it is clear that most of the principals were males, with females being about a third of the principals who participated in the survey, implying that majority of the secondary school principals in Migori County were males signifying glaring gender disparity. However, this may not be surprising because it is generally believed that although teaching is inherently dominated by female teachers, this is not the case in Kenya secondary schools. Predominant gender of secondary school teachers in Kenya is male, a fact that is confirmed by this study. On the same note this finding indicates male are more in the leadership position than their female counterparts. However, it is noted that both gender was represented in the study.

**Influence of school environmental factors on academic performance**

Principals were asked to rate the influence of school environmental factors on students' academic performance. The respondents were presented with items whose constructs measured school environmental factors and they were to rate them on the scale of 1 to 5, based on their influence on academic performance. The respondents rated school environmental factors using the indicators of; peer influence of students, school security, presence of internets and other electronics, teaching learning facilities, trained and experienced teachers, teachers financial motivation, use of library, use of laboratory and residential facilities for teachers. Their responses were summarized in mean and standard deviation as indicated in Table 2.

**Table 2: Influence of School Environmental Factors on students' academic performance (n=116)**

Item	Principals Ratings	
	Mean	Std Dev.
X <sub>1</sub> Peer influence	3.75	1.22
X <sub>2</sub> School security	3.71	1.03
X <sub>3</sub> Presence of internets and other electronics	3.41	1.24
X <sub>4</sub> Teaching-learning facilities	4.12	0.93
X <sub>5</sub> Trained and experienced teachers	4.27	0.84
X <sub>6</sub> Teachers financial motivation	3.75	1.07
X <sub>7</sub> Use of Library	3.94	0.98
X <sub>8</sub> Use of laboratory	3.98	0.93
X <sub>9</sub> Instructional materials	3.47	1.15
X <sub>10</sub> Residential facilities for teachers	4.27	0.84
Overall Ratings on School Environmental Factors	3.87	0.57

Source: Survey data (2018)

**Interpretation of Mean Rating:**

1.00-1.44	Very low
1.45-2.44	Low
2.45-3.44	Moderate
3.45-4.44	High
4.45-5.00	Very High

From Table 2, the survey results of this study indicated that school environmental factors are essential factors on academic performance among secondary school students. This study rates its overall influence at above average on the scale of 1 to 5, with the principals putting it at 3.87 (SD=0.57), with a good number 49 (42.2%) principals rated school environmental factors as of high influence on student academic performance. This assertion was supported by more than three quarters, 89 (76.7%) of the principals who were sampled for the study who were in agreement that teaching and learning facilities have high influence on academic performance of students.

Besides adequacy of trained and experienced teachers, the study discovered that teacher’s financial motivation has direct but high influence on students’ academic performance, which has been rated by the study participants [principals (3.75). On the same note, availability of residential facilities for the teachers has direct but high influence on students’ academic performance, as appraised by the principals (mean=3.47). Similarly, the results of the survey indicate that availability of relevant instructional materials rates quite highly (mean=4.27) on influencing students’ academic performance, with students who are exposed to adequate instructional materials being likely to exhibit higher academic performance than their counterparts whose schools lack relevant instructional materials. It emerged that, apart from physical facilities, there are other environmental factors in schools that have influence on academic performance among the students in secondary schools. For instance, peer influence and school security have been rated as having high influence on academic performance, as reflected by rating of 3.71 (SD=1.03) by the principals. The results of the survey show that presence of internets and other electronics accounted for the least influence on academic performance of students. This was reflected by the lowest principals’ rating of 3.41 (SD=1.24). This finding agrees with the generally held belief that the use of internet makes students lazy in their academic works and sometimes destructs students’ concentration, hence affecting academic performance negatively.

To establish the actual influence of school environmental factors on students’ academic performance, the null hypothesis ‘H<sub>03</sub>: School environmental factors do not influence students’ academic performance’ was used. In this respect, the data in Tables 1 were used to compute regression analysis. The results were as shown in Tables 5, 6 and 7.

**Table 3: Model Summary of Regression Analysis of the Influence of School Environmental Factors on Students’ Academic Performance**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.416 <sup>a</sup>	.173	.166	1.52245	.173	23.901	1	114	.000

a. Predictors: (Constant), School Environmental Factors

b. Dependent Variable: Academic Performance of students.

From the model, 16.6% of the variation in students’ academic performance in public secondary schools was explained by school environmental factors, as signified by Adjusted R Square of .166. Eighty three point four percent of variation in students’ academic performance was due to other factors that were not subject of this study. The Null hypothesis; School environmental Factors have no significant influence on students’ academic performance was rejected because  $r = .416$ ,  $N=116$ , and  $p < .05$ . This means that School environmental Factors Influence Students’ Academic Performance. This was fairly a reasonable strong effect by a predictor on the dependent variable. However, to establish whether school environmental factors was really a significant predictor of academic performance, Analysis of Variance (ANOVA) was computed as indicated in Table 4 .

**Table 4: ANOVA on Influence of School Environmental Factors on Students’ Academic Performance**

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	55.398	1	55.398	23.901	.000 <sup>b</sup>
1 Residual	264.234	114	2.318		
Total	319.632	115			

a. Dependent Variable: Academic Performance of students

b. Predictors: (Constant), School Environmental Factors

From Table 4 , *F*-ratio in the ANOVA results output ratio, which tests whether the general regression model is a good fit for the data. It is evident that, school environmental factor is statistically significantly predictor of Students’ Academic Performance,  $F(1, 114) = 23.901$ ,  $p < .05$ . This means that the regression model is a good fit of the data implying that the knowledge on School Environmental Factors could reliably be used to predict Students’ Academic Performance in secondary schools.

To determine the actual influence of school environmental factors, multiple linear regression analysis was computed and the results were presented as shown in Table 5.

**Table 5: Multiple Regression Analysis of Influence of Environmental Factors on Students’ Academic Performance**

Model	Unstandardized Coefficients		Standardized Coefficients T	Sig.
	B	Std. Error		
(Constant)	.484	1.087		.445
X <sub>1</sub>	.317	.127	.232	2.502
X <sub>2</sub>	.212	.157	.131	1.347
X <sub>3</sub>	.117	.141	.087	.830
X <sub>4</sub>	.078	.209	.044	.372
X <sub>5</sub>	.079	.239	.040	.329
X <sub>6</sub>	-.194	.174	-.126	-1.114
X <sub>7</sub>	.028	.217	.017	.130
X <sub>8</sub>	.382	.230	.214	1.660
X <sub>9</sub>	.168	.170	.116	.985
X <sub>10</sub>	.031	.187	.016	.164

a. **Dependent Variable:** Students' Academic Performance

Regression Equation:  $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_{10} X_{10}$

**Key;**

- X<sub>1</sub>-Peer influence
- X<sub>2</sub>-School security
- X<sub>3</sub>-Presence of internets and other electronics
- X<sub>4</sub>-Teaching-learning facilities
- X<sub>5</sub>-Trained and experienced teachers
- X<sub>6</sub>-Teachers financial motivation
- X<sub>7</sub>-use of Library
- X<sub>8</sub>-use of laboratory
- X<sub>9</sub>-Instructional materials
- X<sub>10</sub>-Residential facilities for teachers

From Table 5, it can be observed that two environmental factors out of ten were established to be predictors of academic performance of students. This means that they significantly influence academic performance of students. These factors were; peer influence and use of Laboratory. The prediction model therefore is as follows; Student Academic Performance = .484 + .317X<sub>1</sub> + .382X<sub>8</sub>. This also implies that for every one-unit increase in peer influence, academic performance of students improves by .317 units as signified by the coefficient .317. Similarly, for every single unit increase in use of laboratory, students’ academic performance improves by .382 units as signified by coefficient .382. The other factors namely; school security, presence of internet and other electronics, teaching-learning facilities, training and experienced teachers, teacher financial motivation, use of library, instructional materials and residential facilities for teachers were not significant predictors of students’ academic performance. Therefore, this implies that they cannot be relied on to predict students’ academic performance. This also means that if schools have to improve on performance, then the focus should be on peer influence and use of Laboratory. The two factors therefore, tend to override other factors found not to be significant and perform better and vice versa.

**5. DISCUSSION**

Students with appropriate access to pertinent instructional materials such as library and laboratory facilities have better opportunity to achieve academically. Hence, the students from public secondary schools with adequate facilities, good teachers and favorable environment for learning are likely to perform better than those from schools with fewer facilities and unqualified or untrained teachers. This was confirmed by Mudasir and Norsuhaily (2015) who equally established that, students from schools with adequate facilities, good teachers, and favorable environment perform well than those from schools with fewer facilities, unqualified or untrained teachers and the less enabling environment. Principals who were sampled for the study were in agreement that teaching and learning facilities have high influence on academic performance of students. This study is in agreement with the study of Ilomo and Mlavi (2016) who discovered that factors



such as lack of infrastructure in schools, dormitories, laboratories, equipped library, staff houses and classrooms among others lead to poor performance that in turn affect or lead to poor academic performance of students. However, it emerged that availability of trained and experienced teachers have very high influence (mean > 4.0) on students' academic performance. Further, the study established that availability of trained and experienced teachers is not adequate as a factor that wholly influences academic performance. This was supported by the study of Mudassir and Norsuhaily (2015) who found that students from a school equipped with adequate facilities, good teachers and favorable environment perform well than those from schools with fewer facilities, unqualified teachers and the less enabling environment.

The findings support Osei, Kate and Fentim (2014) who established that availability of adequate residential facilities in schools and instructional materials have a positive influence on the level of academic performance of students. The researcher further acknowledges that some of the necessary elements that motivate learners to do well academically includes trust between them and their teachers, being close and open to the learners, and treating students with a lot of respect. In addition, using technology to facilitate student learning is significant. Simuforosa (2013) reveals that modern technology impacts learning both positively and negatively. This is echoed also by the findings of Anders, Olofsson, and Lindberg (2018) who showed that information communication technology plays a central role in the schooling of students by supporting peer learning through digital documentation.

It is also evident that an environment where peer learning and effective use of laboratories is encouraged academic performance is assured. If schools have to improve on academics, then the focus should be on peer influence and use of laboratory. Peer influence is strong and therefore tends to override other factors found not to be significant and perform better and vice versa. For instance, if peer influence is directed to effective use of teaching and learning resources and the teacher's teaching experience then students' academic performance will improve. This is in agreement with (Korir, 2016) who positively supported the significant effect of peer influence on students' academic performance. Similarly, if the use of laboratory is directed to the effective use of teaching-learning facilities and teacher teaching experience then academic performance of students will improve. This means that laboratory predicts students' academic performance in science subjects. This also concurs with (Ayça & Ali, 2017; Ado, 2015; Orlu, 2013) who supported the positive influence of environmental factors on the academic performance of students

## 6. CONCLUSION

The regression model was established to be a good fit of the data, implying that information on school environmental factors could be used to predict students' academic performance in public secondary schools. It is evident that organizational school environmental factors have a bearing on students' academic performance. Specifically it is concluded that if peer influence and use of laboratory in schools are improved then students' academic performance will improve. The other factors, school security, presence of internet and other electronics, teaching-learning facilities, training and experienced teachers, teacher financial motivation, use of library, instructional materials and residential facilities for teachers did not significantly influence students' academic performance. Findings therefore imply that an environment that fosters peer learning and enriches students' experiences through laboratory activities will lead to good academic performance.

## 7. RECOMMENDATIONS

It is recommended that Principals should use quality improvement measures to encourage teamwork with staff and students to participate in academic activities that enhance their grade achievements in secondary schools. Principals need to focus on peer influence and use of laboratory work among themselves and among the neighboring schools in order to improve on students' academic performance. Peer influence is strong and indicates spirit of positive competition among students.

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