Relationship between academic self-concept and academic achievement among secondary school students in Kisumu East Sub-County

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Abstract: Students in Kisumu East Sub-county, Kisumu County have been posting low KCSE mean scores over the last several years albeit having the least number of schools and fewest number of candidates among the sub-counties of Kisumu County. The purpose of the study was to investigate if a relationship exists between academic self-concept and academic achievement among learners in Kisumu East Sub-County. The study used McClelland's Achievement Theory of Motivation. The study employed the correlational survey design. The study targeted all 1224 form there students in Kisumu East sub-County and stratified random sampling was used to obtain 302 respondents. Data was collected using questionnaire adopted from the Academic Self-Concept Scale. Descriptive statistics was used to analyze data that is; means and frequency distribution tables, and inferential statistics such as correlation coefficient, *r.* Academic achievement was measured using standardized internal exams. The results showed that a positive and significant correlation between academic self-concept of students and their academic achievement, $r\,(289) = .54$, $p < .05$. The study recommends that teachers and student counsellors should come up with programs that focus on building academic self-concept amongst students.

Keywords: Academic self-concept, academic achievement, secondary school students.

1. INTRODUCTION

Education can be defined as knowledge acquisition, attitudes and skills in either a formal setting such as a school, or in an informal setting. Therefore, education is important in the developmental formation of the youth of a country as it prepares them for adult duties and responsibilities. A number of researchers have found out that the education process not only influences how students develop socially and economically in formal learning set ups but also develops a country socially through good quality of life of its population (Idris et al., 2011; Mphale & Mhlauli, 2014; Villaseñor, 2019). Thus, stakeholders in the field of education including parents and teachers stress on students achieving well academically.

However, the performance in national examinations in Kisumu County in general and Kisumu East Sub-County in particular has been poor over the years. Due to the importance attached to education, many researchers in education are particular in investigating to find out factors that affect its achievement. Studies carried out have revealed that many internal and external factors come into play to influence academic achievement; leadership styles (Ogalo, 2013), students characteristic (Ogweno et al., 2014), academic motivation (Tokan & Imakulata, 2019), academic self-concept (Gayen & Bahera (2018)). Despite all these researches done, there is still paucity of literature concerning this study's independent variables and their relationship with the student academic achievement in Kisumu East Sub-County. There is empirical evidence that students who get motivated and their self-concept is high experience high academic achievement (Gbollie & Keamu, 2017)

Academic self-concept is defined as the view a student has over their academic abilities. (Ordaz-Villegas et al., 2013). The view students have over their abilities academically is important because it predicts their goals and the subsequent effort

expended towards the achievement of that goal (Wilson et al, 2014). In Kenya, many educational researchers have carried out studies using the same variables and reported consistent results; for example, Gachigi (2018) and Ritho (2015) did a study in secondary schools in Nairobi County that sought to find out if academic self-concept and motivation respectively predicted learner's achievement. There existed a positive and significant relationship. In Kisumu County, Juma and Simatwa (2014), Makewa et al., 2014) investigated the factors affecting academic achievement of learners and found out that motivational factors affected the academic performance. Furthermore, Odukah (2016), Okoth and Oluoch et. al(2018) did a study to find out if motivation affects performance in two different learning set ups in Kisumu and reported that a significant relationship existed between motivation and achievement. The current study is therefore sought to find out the interrelationship between academic self-concept and academic achievement among learners in Kisumu East Sub-county.

2. LITERATURE REVIEW

In India, Gayen and Bahera (2018) studied the self-concept of post-graduate students of different religions using survey design. The research design was the normative Survey Research method and it used a general self-concept questionnaire in order to obtain data that was analyzed using t-test together with ANOVA for analysis of data. This study discovered that a significant difference in self –concept existed among the post-graduate students based on the academic years that they were

In Spain, Herrera et al. (2020) carried a research to examine academic accomplishment, self-concept, personality, and emotional intelligence in relation to the participants' gender and cultural background. The study also examined the aspects of self-concept, personality, and emotional intelligence that are associated with academic success. The study used a sample of 407 learners enrolled during the last two years of primary school. The results showed that Academic self-concept had a higher predictive value in the predictive modeling for each of the subjects in the Primary Education curriculum.

Arshad et al. (2015) on the other hand investigated if a relationship existed between self-esteem and performance of students academically among selected university students in Pakistan. This study employed the Self-Esteem and Academic performance rating scales by Rosenberg to collect quantitative data. Data was analyzed by use of a t-test and Pearson product momentum correlation coefficient *r*. This study concluded that there existed a significant relationship (r=0.879, p<.01) between the two variables amongst university students.

In Kenya, Njoki et al. (2019) conducted a study that looked into the levels of correlation between the mathematical achievement of students and their academic self- concept in secondary schools in Nairobi County that were selected. This study employed inferential and descriptive statistics. The study considered students in form 3 who were a total of 9641.The study found out that academic self-concept positively predicted mathematics performance.

3. METHODOLOGY

The study employed a correlational survey design to investigate the relationship between academic self-concept and academic achievement among students in Kisumu East Sub-County. The study targeted all 1224 form there students in Kisumu East sub-County and stratified random sampling was used to obtain 302 respondents. Data was collected using questionnaire adopted from the Academic Self-Concept Scale. The study adopted Academic Self-Concept Scale (ASCS) developed by Reynolds et al (1980). This scale was adopted by the researcher so that it has language and terms that are applicable to secondary school students. The ASCS has 40 items measuring academic self-concept on a 4-point Likert scale (Appendix E). The ASCS has an original internal reliability using Cronbach's α of 0. 91.

Descriptive statistics was used to analyze data that is; means and frequency distribution tables, and inferential statistics such as correlation coefficient, *r*. Academic achievement was measured using standardized internal exams.

4. FINDINGS

The study sought to find out if there was a significant relationship between academic self-concept and academic achievement among secondary school students. The following null hypothesis was tested.

H_{01}: There is no significant relationship between academic self-concept and academic achievement among secondary school students.

In order to achieve the above objective, academic self-concept and academic achievement scores were subjected to bivariate correlation analysis. The results are presented on Table1.

Table 1: Correlation between Academic Self-Concept and Academic Achievement

		Academic Achievement
	Pearson Correlation	.54**
Academic Self-Concept	Sig. (2-tailed)	.00
	N	289

The results in Table 1 shows that there was a moderate, positive and significant correlation between academic self-concept of students and their academic achievement, r (289) = .54, $p < .05$. Therefore, the null hypothesis was rejected and the alternative hypothesis which stated that there is a significant relationship between academic self-concept and academic achievement was adopted. The results imply that the higher the academic self-concept the greater the academic achievement. These results agree with descriptive analysis findings which established that most of the students had average academic achievements since majority of them had average level of academic self-concept.

The researcher further tested whether there was a significant correlation between the domains of academic self-concept and academic achievement. The two variables (academic confidence and academic effort) were subjected to Pearson correlation test and the results were as shown in Table 2.

Table 2: Correlation between Domains of Academic Self-Concept and Academic Achievement

		Academic Achievement
	Pearson Correlation	.44**
Academic Confidence	Sig. (2-tailed)	.00
	N	289
	Pearson Correlation	.58**
Academic Effort	Sig. (2-tailed)	.00
	N	289

The results in Table 2 indicate that there was a moderate positive correlation between the academic confidence and academic achievement, r (289) =.44, $p < .05$. There was a strong positive correlation between academic effort and academic achievement, r (289) =.58, $p < .05$.

Regression analysis was done to establish whether academic self-concept can be used to predict academic achievement and the results were as shown in Table 3

Table 3: Regression Model Summary for the Prediction of Academic Achievement from the Domains of Academic Self-Concept

Model	R	R^2	Adjusted R^2	SEE
1	.59[a]	.35	.34	7.99

a.   Predictors: (Constant), AE, AC

Note. AE – Academic Effort; AC – Academic Confidence; Standard Error of the Estimate

The results from Table 3 indicates that the domains of academic self-concept moderately predict academic achievement, R =.59. The value of R^2 indicates that academic effort and academic confidence accounts for 35% of the total variance in student's academic achievement. Table 4.16 indicates the predictive weights of academic confidence and academic effort on academic achievement.

Table 4: ANOVA Summary for the Prediction of Academic Achievement from the Domains of Academic Self Concept

Model		Sum of Squares	*df*	Mean Square	F	Sig.
	Regression	9790.44	2	4895.22	76.52	.00[b]
1	Residual	18296.74	286	63.98		
	Total	28087.18	288			

a. Dependent Variable: T_Score

b. Predictors: (Constant), AE, AC

Note. AE – Academic Effort; AC – Academic Confidence

The results in Table 4 indicates that academic effort and academic confidence significantly predicted academic achievement, F (2, 286) = 76.52, P < .05. This implies that students who put more academic effort and those with high academic confidence perform better than those with low academic effort and low academic confidence.

Further analysis was done to come up with the predictive values of academic confidence and academic effort on academic achievement and the regression coefficients were as shown in Table 5.

Table 5: Regression Coefficients for the Prediction of Academic Achievement from the Domains of Academic Self Concept

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	β	Std. Error	Beta		
(Constant)	9.87	3.58		2.76	.01
Academic Confidence	.35	.13	.27	2.73	.01
Academic Effort	1.11	.14	.82	8.16	.00

From the results, academic confidence had a significant predictive weight, β =.35, p < .05. This indicated that academic confidence is a significant predictor of academic achievement. Academic effort was also a significant predictor of academic achievement, β =1.11, p < .05. The results indicate that academic effort was a better predictor of academic achievement than academic confidence. Academic achievement can be predicted from academic confidence and academic effort using the following equation;

ŷ = 9.87 + 0.35 AC + 1.11 AE   where ŷ is predicted academic achievement, AC – Academic Confidence, AE – Academic Effort

5. DISCUSSION

This findings support some of the literature reviewed. In India, Gayen and Bahera (2018) studied the self-concept of post-graduate students of different religions using survey design and found out that there was a significant difference in self – concept existed among the post-graduate students based on the academic years that they were in. Similar results were found by Mahakud and Joshi (2016) in a research carried out to establish whether a relationship existed between self-concept, academic achievement and learning abilities in disabled primary school pupils in India. The results revealed that children who had learning disabilities had poor self-concept in comparison to skilled learners.

Contrary findings have also been reported on the relationship between self-concept and academic achievement. Shepherd (2017) carried out a study to establish if there existed any relationship between self-concept and academic achievement in Mathematics and Science subjects among grade 9 students in South African Schools. The study found that in South Africa 80% of the poorest schools had Grade Nine girls who didn't experience any domain specific performance difference between motivation and self-concept.; contrary to a sample of girls drawn from different subsets in schools that were considered wealthy that were found to be underperforming in Mathematics and science subjects.

6. CONCLUSIONS AND RECOMMENDATIONS

The study sought to find out the relationship between academic self-concept and academic achievement. The findings revealed the existence of a significant positive relationship between the two variables. The study noted that majority of the students had low and moderate academic self-concept as depicted by the mean score. On the level of academic self-concept, majority of the respondents had average level of academic self-concept. Further investigations done to test whether gender had an influence on academic self-concept and academic achievement, the results revealed an insignificant disparity, which was inconsequential in the overall interpretation of the results. Analysis done to investigate whether the academic self-concept based on the school category influenced academic performance, it was noted that county schools students had higher academic self-concept compared to those of Sub County schools.

Further analysis revealed that majority of the students had an average score in academic achievement. The correlation analysis conducted to test the relationship between the two variables indicated the existence of a positive correlation between academic self-concept and academic achievement amongst the students. This implies that the higher the academic self-concept the greater the academic achievement. Regression analysis conducted revealed that academic self-concept is a strong predictor of academic achievement. It was also noted that students with high level of academic self-concept performed better than those with lower level of academic self-

Based on the study findings, the study recommended the teachers and student counsellors should enhance programs that focus on building academic self-concept among students.

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