Correlates And Predictors Of Academic Motivation Among Secondary School Students In Muranga County, Kenya

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Abstract: Reported levels of academic motivation among secondary school students in Muranga county prompted this research which explored whether academic mind sets and academic buoyancy related to and predicted academic motivation among the secondary school students. This study was guided by the social cognitive theory of motivation and personality and Weiner's' attribution theory. The study employed correlational research design. The participants involved were 341 students drawn from 36 secondary schools. Questionnaires were used to collect data. Findings revealed that academic mind sets and academic buoyancy were positive and significant correlates of academic motivation. The findings also established that both academic mind sets and academic buoyancy predicted academic motivation of the secondary school students. Recommendations on how to improve academic motivation and suggestions for further research are given.

I. INTRODUCTION

Researchers across the world have focused on causes of lack or low levels of academic motivation among the secondary school students. A scrutiny of many studies has identified various factors which have taken away the learners' attentiveness and concentration resulting to lack of motivation. These factors include styles and fashions, sexual relationships, entertainment and the influence of social media (Gupta & Milli, 2016). Being disorganized, facing stressful situations and being distracted by the modern technology may contribute to lack of motivation among the learners (Thodas, 2022). Since the factors attributable to lack of motivation are a common phenomenon in our daily lives, incidences of lack of motivation among learners tend to become common occurrences.

Gupta and Milli (2016) define academic motivation as a virtue of an individual to have the will to get engaged in the learning process. These researchers argue that academically motivated learners demonstrate high levels of concentration in studies, have good reading habits, show persistence in pursuance of academic goals and put a lot of effort to overwhelm adversities in the learning process and school settings in order to succeed in academics. Other qualities which are associated with academically motivated learners include tendency to work hard to outperform their less motivated counterparts in academics, being innovative and taking practical approach during learning sessions and demonstrating ability to adapt and learn even when the teaching strategies are varied (Kim et al., 2020). As per the assertions, it is implied that when goals to be achieved are set in academic settings, the academically motivated learners are in the first group to attain the goals.

Academic mind sets refer to beliefs held by individuals as to the nature of the intelligence which such individual possess (Amemiya et al., 2019). Accordingly, an individual may possess either growth mind set or fixed mind set. Tang et al., (2019) distinguished the two mind sets as follows: growth mind set is possessed by the people who believe that their intelligence is a changeable trait which can be improved if one puts an extra effort. Fixed mind set is a characteristic of believing that one's intelligence is fixed and may not be improved or adjusted by whichever efforts. In school settings, learners' behaviors determine the nature of their mind set. The learners with growth mind set most of the times set realistic academic goals which are geared towards mastery of concepts and when they come across challenges, instead of giving up, they view the challenges as opportunities worth to be explored

and they get committed to work towards finding possible solutions. That is why Rhew et al., (2018), associated growth mind set with positive impacts on learners' academic motivation. The learners who have fixed mind set lack patience to persist in academic issues. Instead, they tend to give up in the face of adversities. Due to this behavior of losing hope and giving up, Venegas, (2022) concluded from a study that learners with fixed mind sets constitute the highest percentage of learners who lack motivation towards school and learning and eventually drop out of school. As per the recommendation by the World Bank, academic mind sets significantly correlate to and predict academic motivation. Therefore, intervention strategies need to be put in place to foster mind sets in order to improve academic motivation (World Bank, 2020).

Academic buoyancy refers to learners' abilities to deal effectively with challenges which they come across in school settings. Granziera et al., (2022), opines that learners' level of academic buoyancy determines the extent to which learners apply the coping strategies in academic settings. Learners whose level of academic buoyancy is high easily cope and overwhelm physical, emotional and psychological challenges when they encounter them. On the contrary, low levels of academic buoyancy may be associated with giving up and this may eventually result to dropping out of school. In order to boost academic buoyancy among the learners, teachers should give learners support in terms of provision of learning materials and emotional support which entails concern, care and respect. Previous research studies have linked academic buoyancy with academic motivation (Allen & Thomas, 2022; Zhang, 2021). These studies have identified academic buoyancy to be a positive correlate and a significant predictor of academic motivation.

Studies which have been done in United Kingdom, USA, Southern Asia, South Africa and Nigeria have concurred that academic mind sets and academic buoyancy are positive correlates as well as significant predictors of academic motivation (Bedford, 2017; Rhew et al., 2018; Arulmory & Bronavan, 2017; Yiga et al.,2019 & Marumo et al., 2019). It is against this background that the current study was done to determine whether similar findings would be obtained in a Kenyan setting.

II. STATEMENT OF THE PROBLEM

Due to the persistent problem of the increasing rate of school dropout among secondary school students in Muranga County, concerns were raised and researchers identified lack of academic motivation as one of the causes of dropping out of school among students. Thus, a need arose to study the correlates and predictors of academic motivation. Therefore, the central problem of this study was to explore whether academic mind sets and academic buoyancy are correlates of academic motivation and also determine whether the two variables significantly predict the academic motivation of the secondary school students in the county.

OBJECTIVES OF THE STUDY

This study was guided by the following three objectives:
- ✓ To determine whether there are significant differences between students with growth mind set and students with fixed mind set in terms of academic motivation.
- ✓ To test whether a relationship exists between academic buoyancy and academic motivation among secondary school students.
- ✓ To determine whether academic mind sets and academic buoyancy significantly predict secondary school students academic motivation.

ALTERNATIVE HYPOTHESES

The following alternative hypotheses were generated as per the study's objectives:
- ✓ There are significant mean differences between students with growth mind set and students with fixed mind sets in terms of academic motivation.
- ✓ Academic buoyancy significantly relates to students' academic motivation.
- ✓ Academic mind sets and academic buoyancy significantly predict academic motivation.

III. THEORETICAL FRAMEWORK

This study was guided by the social cognitive theory of motivation and personality and Weiner's attribution theory.

SOCIAL COGNITIVE THEORY OF MOTIVATION AND PERSONALITY (DWECK & LEGGET, 1998)

Social cognitive theory of motivation and personality explains the concept of mindset. This theory combines ideas of entity theorists and incremental theorists. Entity theorists view intelligence as a natural trait which is predetermined and fixed whereas incremental theorists view intelligence as a virtue which is malleable and may be changed by expanding and developing it.

This theory identified two types of mind sets which are growth mind set and fixed mind set. Learners who possess growth mind set believe that they can expand their intelligence if they work hard in academics. Learners with a fixed mind set believe that they can do nothing to change their situations. Therefore, in the event that they are failing in academics, they do not have any options to avert the failure. This means that they do not invest any effort towards improving in academics.

According to Dweck (2006), there is a connection between academic motivation and the mindset possessed by the learners. Learners who possess growth mind set believe that their levels of success will be determined by the amount of effort which they put towards academics. Such learners tend to have high levels of academic motivation. Learners with fixed mind set view their abilities as innate traits which they can do nothing to improve. Therefore, these learners do not put efforts to improve their academic situations. Such learners report to have low levels of academic motivation and

in some instances, the learners lack motivation towards academics.

This theory concentrates on academic mind sets and academic motivation which are the variables of interest in this study. Therefore, the theory appropriately links the variables in this study.

ATTRIBUTION THEORY AND CONTROL (WEINER, 1972)

Attribution theory focuses on individual's thoughts and perceptions on various happenings in their lives. Each individual judges all the events which happen in the individual's life. The judgment which an individual may attribute to an event may be objective or subjective. In advancement of this theory, Weiner (2010) opined that the ability of adapting or coping to challenges largely depends on how the individual's attributions are; that is whether objective or subjective.

This theory highlighted locus of control, stability and controllability as the dimensions of attribution. Locus of control refers to the perception which the individual hold in regard to controlling happenings in their lives. Orientation of locus of control may be internal or external. Learners who are externally oriented in their locus of control believe that the happenings in their academic life are beyond their ability to manage. Such learners have low levels of academic buoyancy. Stability refers to the changes in behavior as well as the causes of the behavior. A behavior may be stable and remain as it has been for a long time or a behavior may keep changing. Stable behaviors are replicated by individuals. Controllability regards to whether a behavior can be controlled or whether the causes of the behavior are beyond control. Individuals who have controllable behaviors have high levels of academic buoyancy.

According to Weiner (1972), attribution process has three stages namely; observing a behavior, determining whether the behavior is intentional and attributing the behavior to external or internal cause. Learners who have high academic buoyancy attribute their behaviors to internal causes. Empirical evidence from a study done by Datu and Yang (2019) showed that attribution theory is appropriate for linking academic buoyancy and academic motivation.

IV. REVIEW OF RELATED LITERATURE

The literature reviewed in this section focuses on the relationship between academic mind sets and academic motivation, relationship between academic buoyancy and academic motivation and prediction of academic motivation using academic mind sets and academic buoyancy.

RELATIONSHIP BETWEEN ACADEMIC MIND SETS AND ACADEMIC MOTIVATION

Previous studies have explored the links between academic mind sets and academic motivation of learners who are enrolled in different levels of education.

A study was done in United States of America to determine whether academic mind sets and academic motivation were correlates (Rhew et al., 2018). This study targeted adolescents who were enrolled in a special school. Quasi experimental research design was used and the sampled participants were divided into experimental group which consisted of 40 participants and the control group which consisted of 28 participants. Data analysis revealed that there were significant differences between the participants in the experimental group and those in the control group. Therefore, it was concluded that academic mind sets are a positive correlate of academic motivation.

Dowdy (2019) carried out a research among grade nine learners studying at Khan Academy in California. This study aimed at studying the correlation between academic mind sets and academic motivation towards learning Mathematics. Action research design was used in this study and data was collected using questionnaires. The findings of this study were that mind sets correlated positively with academic motivation. The highest positive correlations were noted in the scores of learners who received growth mind set intervention.

A similar study was done in United Kingdom to see whether mind set interventions impact on academic motivation of the learners (Bedford, 2017). In this study, a quasi-experimental research design was employed. The experimental and control groups consisted of 26 and 13 participants respectively. Findings indicated that there were significant differences between the participants in different groups. This led to the conclusion that mindset interventions impact on the motivation of the participants.

In south Africa, the correlation between academic mind sets and academic motivation was studied among primary and secondary school learners (World bank, 2019). This study involved more than 1000 participants. Quasi experimental research design was used. Analysis of the data that was collected revealed existence of a positive and significant correlation between academic mind sets and academic motivation of the learners of different levels of education.

This study was designed to yield data which may explain the correlation among the correlation between academic mind sets and academic motivation in Kenyan setting.

RELATIONSHIP BETWEEN ACADEMIC BUOYANCY AND ACADEMIC MOTIVATION

Studies reviewed in this section were done in different parts of the world with the aim of establishing whether there is correlation between academic buoyancy and academic motivation.

Datu and Yang (2019) studied whether academic buoyancy and academic motivation were correlates. This study involved 393 learners who were picked in grades seven through eleven. In the sampled group, there were 169 boys and 224 girls. The participants were aged between 11 and 17 years. The researchers used descriptive and correlational research designs. This study found that there was a positive significant correlation between academic buoyancy and academic motivation.

In Australia, Colmar et al., (2019) studied correlation between academic buoyancy and academic motivation among upper primary school learners in eight government primary schools. This study used non-longitudinal design and a sample

of 191 students was involved. It was found that academic buoyancy related positively to learners' academic motivation.

A study by Strickland (2015) in USA aimed at investigating whether there was correlation between academic buoyancy and academic motivation of university students. This study involved 120 undergraduates whose age was below 20 years. Data collection was done through administration of electronic questionnaires. Data analysis showed that academic buoyancy and academic motivation were positive correlates

The reviewed studies have explored how academic buoyancy relates to academic motivation of primary, secondary and university students. Congruency of the findings across different institutions shows that these are crucial variables which need to be studied in academic settings. The current study was done to obtain data on the variables which may be generalized across Kenyans.

PREDICTION OF ACADEMIC MOTIVATION

The studies which are reviewed in this section looked at prediction of academic motivation using academic mind sets and academic buoyancy.

Waite (2016) did a study in United Kingdom with the intention of determining whether academic mind sets and academic buoyancy predict the academic motivation of high school learners. This study involved 10th and 11th grade learners who had set varied target scores in their final examinations. The sampled 44 students filled questionnaires. Data analysis found that academic mind sets and academic buoyancy significantly predicted the academic motivation of the learners.

A similar study on prediction of academic motivation was done among undergraduates in China (Wang et al., 2023). This study used mixed methods research design and data was collected from the undergraduates who had specialized in English related courses using questionnaires and semi structured interviews. This study found that academic buoyancy and academic mind sets were significant predictors of academic motivation of university students.

Cha (2020) studied the predictors of academic motivation among primary school pupils studying at Kakuma refugee camp in Kenya. This study involved 664 class eight learners who were drawn from six primary schools. The ages of the participants ranged between 13 and 15 years. Data was collected using questionnaires. The study found that academic buoyancy and academic mind sets significantly predicted academic motivation of the pupils.

V. METHODOLOGY

Correlational research design was used. The choice of the research design was informed by the intention of trying to establish the extent and direction of relationship among the variables of interest in the study as well as determining whether academic mind sets and academic buoyancy can significantly predict the academic motivation of the secondary school students in Muranga County.

VI. PARTICIPANTS

This study had 341 participants (males = 193, females=148). The participants were picked randomly from ten secondary schools which fall across categories of single sex boarding schools, coeducational boarding schools to co-educational day secondary schools. The sampled participants were in form three class. The form three class was considered on the basis that such learners have spent a considerable period of time at secondary school and they are preparing to join the final year of their studies.

VII. RESEARCH INSTRUMENTS

Data was collected using a questionnaire. The questionnaire had four sections. The first section contained the introduction notes and background information of the participants. The background information captured in this section included gender, type of the school and the age of the participants. The other three sections were the scales. The following scales were used to measure the variables of interest in the study; academic mind set scale (Dweck, 2000), academic buoyancy scale (Martin & Marsh, 2008) and academic motivation scale (Vallerand et al., 1992). All the three scales were adapted and had their ratings pointed on likert scale.

VIII. DATA COLLECTION

The researchers obtained permits to collect data from the Graduate school of Kenyatta university and the administration of Muranga county which comprises of both the national government and the county government.

Piloting was done within one secondary school which was excluded during the actual study. The aim of piloting was to confirm reliabilities of the adapted scales. Data collection was done in each school at date that was agreed and arranged by the researchers and the relevant school authorities. A briefing session was being held just before commencing the exercise of filling questionnaires. The briefing session described the nature of the research being done, assured respondents confidentiality in handling the information they will provide and inform the participants that they were free to withdraw during the exercise of collecting data without any conditions. Questionnaires were being filled by the volunteers who accepted to participate.

IX. DATA ANALYSIS

The data that was collected using questionnaires was coded and keyed into the SPSS program. The SPSS program was used to perform the following statistical tests: t-test for independent samples, Pearson product moment correlation and regression analysis. The tests helped in testing the null hypotheses.

X. RESULTS

This section presents three sets of findings which were in line with the three objectives of the study. The findings are aligned as per the objective and the corresponding null hypothesis to be tested.

The first objective sought to test whether there were significant mean differences between students with growth mind set and students with fixed mindsets in terms of academic motivation. Based on this objective, a null hypothesis was advanced and stated as follows, "There are no significant mean differences between students with growth mind sets and students with fixed mind sets in terms of their academic motivation" Efforts to test this null hypothesis called for performance of independent samples t-test and yielded the results which are presented in Table1.1

		t	df	Sig. (2-tailed)
Academic Motivation Score	Equal variances assumed	1.83	300	.04
	Equal variances not assumed	1.77	205.14	.04

Table 1.1: Independent Samples t Test

From the data presented in Table 1.1, it is evident that, in terms of academic motivation, students with different mind sets had significant mean differences, $t(300)=1.83$, $p<.05$. The findings show that the significant mean difference was in favor of the students with growth mind set.

Based on these findings, the null hypothesis which had been advanced was rejected and it was held that students with growth mind set had higher motivation towards academics compared to the students who have fixed mind sets.

The second objective of this study aimed at testing whether academic buoyancy and academic motivation were correlates. A null hypothesis was formulated that "there is no relationship between academic buoyancy and academic motivation." In order to test this hypothesis, the data collected about the two variables was subjected to correlation analysis. The results which were obtained in the Pearson correlation are presented in Table 1.2

		Academic Motivation Score
Buoyancy	Pearson Correlation	.45**
	Sig. (2-tailed)	.00
	N	302

Table 1.2: Pearson Correlation

The results presented in Table 1.2 show that a moderate positive and significant correlation exist between academic buoyancy and academic motivation, $r(300)=.45$. $p<.05$. As per the findings, the null hypothesis was not supported hence it was rejected. These results imply that higher academic buoyancy corresponded to higher academic motivation among the secondary school students. It was held that academic buoyancy and academic motivation are significant and positive correlates.

The third objective of this study aimed at determining whether academic motivation of the secondary school students was predictable from academic mind sets and academic buoyancy. In regard to this objective, a null hypothesis was formulated as follows: "Academic mind sets and academic buoyancy do not significantly predict the secondary school students' academic motivation" In order to test this hypothesis, ANOVA test was conducted and the regression results which were generated were as displayed in Table 1.3

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.86	.77		3.69	.00
	Fixed_AMS	.02	.04	.03	.49	.02
	Growth_AMS	.32	.11	.39	2.93	.00
	Buoyancy	.05	.08	.07	.55	.04

Table 1.3: Regression Coefficients for the Prediction of Academic Motivation

The results obtained show that each variable had predictive weight on academic motivation. Therefore, the null hypothesis was rejected. These findings led to the conclusion that students' academic motivation is predictable from different types of academic mind sets and academic buoyancy. From the prediction coefficients obtained in the analysis, a prediction model for academic motivation was generated as follows:

$$\hat{Y} = 2.86 + 0.03X_1 + 0.39X_2 + 0.07X_3$$

Where $\hat{Y}$ = Predicted academic motivation; X_1 = fixed academic mindset, X_2 = growth academic mindset, and X_3 = academic buoyancy

Growth mindset had the highest predictive weight on academic motivation while fixed mind set had the lowest predictive weight. From the findings, one may be persuaded that academic motivation may be predicted using fixed mind set, growth mind set and academic buoyancy.

XI. DISCUSSION OF THE FINDINGS

The findings to answer the question whether there were significant mean differences between learners with different mind sets in terms of academic motivation reported that the mean differences were significant and in favor of the students with growth mind set. This means that students with growth mind set have higher academic motivation compared to the students with fixed mind set. This implies that the type of mind set possessed by the learners may serve as a determinant of their level of motivation.

The findings were consistent to the findings of previous studies looked at the same variables. The findings agree with Drumgoole (2021) who reported a positive association between learners' mind sets and motivation to learn language skills among the Spanish learners. The findings also concur with Zhang et al., (2017) findings which established that the nature of mind set possessed by the learners was a determinant of their motivation as well as their performance in academics. However, the findings contradict the previous findings of a study which had earlier on reported that there was no significant correlation between academic mind sets and academic motivation (Dowdy, 2019).

The findings on the relationship between academic buoyancy and academic motivation noted existence of a

moderate positive significant correlation between the two variables. This means that an increase in academic buoyancy translated to an increase in academic motivation of the secondary school students. These findings were similar to the findings of previous studies which dealt with the variables. For instance, Datu and Yang (2019) reported a positive correlation between academic buoyancy and academic motivation in a study that was done among secondary school students in Philippines.

In a study that was conducted by Xu and Wang (2022), it was reported that there existed a strong positive correlation between academic buoyancy and academic motivation. This study recommended working towards improving learners' academic buoyancy in order to boost the motivation of the learners towards academics.

In a study that was done among primary school learners, Colmar et al., (2019) reported that academic buoyancy and academic motivation were positive and significant correlates. Since there was congruency of the findings between studies done among participants of different levels of education, it is imperative that academic buoyancy is a significant factor that needs to be improved in order to boost the academic motivation of the learners.

On prediction of academic motivation, this study found that fixed mind set, growth mind set and academic buoyancy are significant predictors of students' academic motivation. From the predictive weights obtained, growth mind set may be rated as the best and the strongest predictor of academic motivation while fixed mind set was the weakest predictor of academic motivation. The findings obtained in this study were consistent to the findings of a study by Yun et al., (2018) which found that academic buoyancy significantly predicted academic motivation of the students. The findings are also similar to the findings of a study that looked at the same variables among learners in United Kingdom (Collie et al., 2015).

The findings of this study corroborate the findings of Cha (2022) who did a study in Kakuma refugee camp in Kenya. In that study, Cha reported that academic buoyancy and academic mind sets significantly predicted the academic motivation of the primary school pupils. Given that academic buoyancy and academic mind sets significantly predict academic motivation of learners of different levels of education, the variables may be classified as significant predictors of academic motivation of the learners.

Since academic motivation serves as a precursor towards promoting good performance of the learners in academics, there is need to ensure that learners are academically buoyant and that they possess the growth mind set. These virtues will boost the academic motivation of the learners.

XII. RECOMMENDATIONS FOR FURTHER RESEARCH

Further research is recommended to study the same variables in other areas which do not have the same characteristics as Muranga county. This will help yields results which may be used for comparison purposes.

Further research is also recommended whereby the same variables studied in the current study may be studied among learners of different levels of education.

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