

Relationship between Self-efficacy and Academic Buoyancy among form three Students in Selected Secondary Schools in Migori County, Kenya

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Abstract: - The study explored the relationship between self-efficacy and academic buoyancy among form three students in Migori County. A mixed methods design was adopted for the study. The sample comprised 252 girls and 217 boys drawn from both public and private schools within the County. A student questionnaire and an interview schedule were used to collect data from the participants. Data on students' academic achievement was collected through document analysis of their past academic records. Analyses of the obtained data were done using both descriptive and inferential analysis. The study revealed that more students were on the high level of self-efficacy (59.1%) and more students had a moderate (39.1%) level of academic buoyancy. It was further revealed that self-efficacy predicted students' academic buoyancy and additionally, that there was no significant gender difference among the participants in both constructs. The study recommended that stakeholders employ interventions aimed at bolstering students' level of self-efficacy, since it is amenable to change, in order to improve academic buoyancy.

Key words: relationship, academic buoyancy, self-efficacy, secondary schools, students.

I. INTRODUCTION.

Within academic environments, there exist different challenges. Some of these challenges are acute or chronic in nature and therefore require academic resilience (Martin & Marsh, 2006). However those that are minor and of an everyday nature such as meeting of set deadlines, intermittent failure in examinations, negative feedbacks when expectations are not met or constant push by parents and teachers on a student to perform better, require academic buoyancy (Martin & Marsh 2009).

According to Martin et al. (2010) academic buoyancy is defined as "student's ability to successfully deal with setbacks and challenges typical of academic life" (p. 473). It enables learners to pull up, recover and move on despite the setbacks (Martin & Marsh, 2003). It is important to note that challenges which students encounter, despite their nature, may devastate learners resulting in academic failures. However, when students are endowed with the personal attribute; academic buoyancy, they end-up navigating the day to day debilitating academic environments better and achieve

the required success. Therefore as postulated by Martin et al. (2010) being buoyant enable students to handle minor debilitating situations and emerge victorious.

Although buoyancy can be argued to be as old as mankind, researches on academic buoyancy as a construct began fairly recently (Martin & Marsh, 2009). Until then, most studies mainly focused on academic resilience (Mampene, 2014; Mampene & Bouwer, 2011; Wills & Hofmeyr, 2011; Yeboah, 2016). However, Martin and Marsh (2009) distinguished between academic buoyancy and academic resilience. They observed that although the two constructs differed in terms of their applicability, they were both significant to students facing academic difficulties. Noteworthy, because academic buoyancy deals with everyday adversities, it therefore prepares students to eventually handle chronic debilitating adversities that are addressed by academic resilience.

Studies on academic buoyancy have mainly been done in Australia (Collie, Ginns, Martin & Papworth, 2017; Martin, 2013; Martin et al., 2013), USA (Carrington 2016; Fong 2014), UK (Putwain & Daly, 2012; Symes, Putwain, & Remedios, 2015), and Asia (Jahedizadeh, Ghonsooly & Ghanizedeh, 2019; Reisy, Dehghani, Javanmard, Shojaei & Naeimian, 2014). Most of these studies have established the positive role academic buoyancy plays in assisting students go about the usual academic obstacles. For instance in the study by Reisy et al. (2014), it was observed that strengthening academic buoyancy in students enhanced their immunity towards negative influences within academic environments. This implies, therefore, that buoyancy had the potential of improving students' academic productivity. It is significant therefore to bolster academic buoyancy in learners to enable them counter the daily adversities.

Empirical studies have been carried out to establish the predictors of academic buoyancy (Martin et al 2013; Martin & Marsh, 2008; Rachuba, 2001). These have looked at varied factors that predict academic buoyancy. However, Martin and Marsh, (2008) postulated that of the factors that predict academic buoyancy, proximal predictors are amenable to change and one of which is self-efficacy. Bandura (1994)

postulated that self-efficacy enables one to select which activities to engage in while leaving out others. The act of being able to choose what to do at any given time enables one to incline self towards activities one feels they have the capacity to perform in better. Bandura opines that self-efficacy serves as a motivator especially when one is faced with an adversity since it gives the impetus to carry on despite the challenge. Cassidy (2015) established that in spite of the level of self-efficacy that one possessed, it had a bearing on one's ability to counter challenges. Owing to the fore going, Martin and Marsh (2008) established that self-efficacy is a predictor of academic buoyancy.

Studies by Reisy et al. (2014), established that academic buoyancy had the potential of buffering students experiencing minor and daily challenges within academic spheres. This they established when investigating the mediating effect of self-efficacy on the relationship between academic buoyancy and family communication patterns. Reisy et al, found out that family communication patterns influenced the way a child behaved in different settings such as academic environment. They further established that conformance as an aspect of family communication had the potential of giving learners the power to face debilitating situations and this was mediated by self-efficacy. Conforming children according to Reisy et al imitate and observe what their parents do and in that way develop self-efficacy which subsequently leads to academic buoyancy. Koerner and Eis (2001) as cited in Reisy et al further observed that in families with dominant conformance, children take the word of parents as the truth thereby reducing the level of argument. This enables such children to enjoy parental support and subsequently increase their belief in self which increases their confidence while handling difficulty.

Bala, Kaur and Singh (2017) did an investigation to find out whether level of self-efficacy varied among different categories of senior secondary school students. In this study self-efficacy was conceptualized as the belief one held about their ability to successfully accomplish tasks as per the set goals. According to Bala et al, this kind of belief was capable of propelling one to counter and make appropriate decisions in challenging times. Further, they established significant differences in self-efficacy among public and private schools, urban and rural, arts and science and among the different gender. The foregoing results point to the need to take care of the various groups when designing interventions aimed at inculcating self-efficacy among learners. Such domain specific interventions may be more fruitful in enhancing self-efficacy and subsequently academic buoyancy.

Arslan (2013) carried out an investigation to establish whether differences existed in students' belief in their sources of self-efficacy. The study established that female more than male students reported increase of self-efficacy belief in their learning and performance as a result of mastery experience, social persuasion and physiological state. The study further revealed that both mastery and vicarious

experiences had predictive power on self-efficacy for both sexes, however physiological state had no predictive power. Arslan further established that sources of self-efficacy changed depending on students' level of performance. While mastery experience affected all achievement levels, additionally for high level achievers vicarious experience and for medium achievers social persuasion, increased self-efficacy. Noteworthy, in all the three levels, physiological state was not a predictor of self-efficacy belief. Further, differences were also established in self-efficacy belief of students depending on their grade and socio-economic status. These findings hold significance on matters of self-efficacy. Therefore to enhance this construct in learners it was important to take into consideration the foregoing.

Aslam and Ali (2017) carried out a case study among secondary school students in Pakistan. The aim of the study was to investigate the effect of self-efficacy on students' science achievement. In this study they postulated that self-efficacy may not keep students away from difficult tasks but instead help them to identify and confront complicated tasks. During instances of failure, self-efficacy prompted students to strive harder owing to the belief they held on their capacity. According to Aslam and Ali, efficacious persons use experiences gained from failure to re-strategize and double their efforts for subsequent success which is attributable to academic buoyancy. Maradi et al. (2018), in another study established that self-efficacy beliefs play a significant role in the increase of learners' academic buoyancy. Given the foregoing background, it may be concluded that self-efficacy has a link with academic buoyancy. However, Martin and Marsh (2009) posit that studies on academic buoyancy are fairly recent.

Empirical studies carried out to investigate the relationship between self-efficacy and academic buoyancy have established a link. For instance, Fong (2014) while investigating among sixth-grade low-income and low performing learners found out that differences existed between their sources of self-efficacy and that self-efficacy predicted academic buoyancy. Carrington (2016) while on a study carried out among Second Life residents of Minnesota, established a positive influence of self-efficacy on academic buoyancy. Further, Reisy et al (2014) revealed a small but significant correlation between academic buoyancy and self-efficacy. On further analysis it was established that self-efficacy had a mediating effect on academic buoyancy. The foregoing studies have been carried out in different contexts. However in Africa and specifically Kenyan context, studies on academic buoyancy were hard to come by. Most of the related studies have addressed self-efficacy in relation to other variables (Aurah 2017; Ochieng, 2015; Onyeizugbo, 2010).

Aurah (2017) carried out an investigation in Kenya among form four students of genetics. The aim was to establish the relationship between science self-efficacy, gender and academic achievement. Results of this study revealed a strong positive significant correlation coefficient

between science self-efficacy and academic achievement. Further, that up to 72.2% of the variance in academic achievement could be explained by students' science self-efficacy. Investigations on gender differences, although revealed a small effect size, established the effect of gender on both academic achievement and science self-efficacy. Aurah concluded in her study that a student's perception of their self-efficacy may affect willingness to pursue courses involving problem solving. This perception was high among female students compared to males. This may therefore imply that self-efficacy perceptions can be enhanced in learners to increase confidence and the numbers willing to pursue science related courses.

Ochieng' (2015) carried out a study in Nyakach, Kisumu County, Kenya. The aim of the study was to establish the level of self-efficacy among secondary school students. Further, it sought to ascertain whether any relationship existed between self-efficacy and Mathematics academic achievement. Additionally, it investigated gender differences among the participants. The results showed an average level of self-efficacy among the participants. This insufficient level of self-efficacy according to Ochieng' may be attributed to the low achievement in Mathematics. Further, the finding that male students were higher than their female counter parts in self-efficacy may help explain the low Mathematics achievement among female students. This he inferred from the finding that students with a higher level of self-efficacy performed better than those with lower levels. Ochieng' posits that low levels of self-efficacy make learners not to put in enough effort that would enable them persist when faced with difficulty. This may therefore imply a low level of academic buoyancy.

According to Martin and Marsh (2008) self-efficacy is a psychological attribute that can be enhanced in learners. Therefore, bolstering self-efficacy in learners may enhance academic buoyancy. This consequently may enable learners counter adversities within the learning environment and achieve academic goals which subsequently may lead to increased economic development. The foregoing reality therefore drove the present investigation into the relationship and subsequent predictive role of self-efficacy on academic buoyancy.

Purpose of the study

The study sought to investigate the relationship and prediction of academic buoyancy from self-efficacy of secondary school students in Migori County, Kenya.

Objective of the study

This study had three objectives;

- i. To establish the relationship between self-efficacy and academic buoyancy,
- ii. To investigate the predictive weight of self-efficacy on academic buoyancy and

- iii. To find out if there are any gender differences in self-efficacy and academic buoyancy among form three students in Migori County, Kenya.

Significance of the study

The study sought to determine the predictive role of self-efficacy on academic buoyancy. Since self-efficacy is amenable to change, it may be enhanced in learners in order to improve their academic buoyancy. In turn, academic buoyancy may protect them from daily academic adversities. This may be useful information to students, teachers, parents and policy makers in ensuring that learners bolster academic buoyancy and enhance their ability to counter minor academic challenges that may hinder them from achieving their goals.

Further, this information may be relevant for parents and teachers in restructuring school and home environments in a way that may be useful in the acquisition of protective skills against adversities. To the policy makers such as Kenya Institute of Curriculum Development (KICD) and Ministry of Education (MoE), this may inform development of a curriculum that is geared towards integrating self-efficacy with an aim of boosting students' academic buoyancy. Additionally, results of this study may enrich empirical evidence on the role self-efficacy plays in the prediction of academic buoyancy among secondary school students.

II. PROCEDURES AND METHODS

This study adopted an explanatory sequential mixed method design which according to Creswell (2018) enabled the researcher to follow a logical sequence in handling of the research process to the end. This design enabled the researcher to investigate the predictive weight of self-efficacy on academic buoyancy using quantitative methods. Further from the qualitative phase, gained insight from the respondents enabled the researcher to establish whether buoyant students possessed self-efficacy as an attribute. The study sample consisted of form three students drawn from public and private secondary schools in Migori County, Kenya. Purposive sampling was used to select the locale of the study with all the eight sub-counties within the County involved. For the quantitative phase, stratified, cluster and simple random sampling methods were used to select participants. The resultant sample size was 469, comprising of 49% boys and 51% girls sampled from 21 secondary schools. Purposive sampling was used to further identify 47 information rich participants for the in-depth interview. Data were collected using an adopted student questionnaire, which combined Academic Buoyancy Scale (Martin & Marsh, 2008) and Motivation and Engagement Scale (Martin, 2007), interview guide and document analysis of the student' academic results. Through the use of Statistical Package for Social Sciences (SPSS), analysis of the quantitative data was done using descriptive, Pearson's r , regression and independent samples t-test. Qualitative data was analyzed thematically using a code book.

III. RESULTS AND FINDINGS

The study investigated the relationship and predictive weight of self-efficacy on academic buoyancy among secondary school students in Migori County, Kenya. It further investigated whether there were any gender differences among the study variables.

A Descriptive analysis of self-efficacy and academic buoyancy

In order to understand the two constructs better, descriptive analysis was done on the collected data. To measure students' self-efficacy (SE), Motivation and Engagement Scale (MES-HS)-High School version by Martin and Marsh (2008) was used. This was operationalized through the analysis of the participants' scores in 4 questions that were related to self-efficacy on the 7 point likert scale (MES-HS). Analysis of these enabled the researcher to get the range, mean, standard deviation, skewness and kurtosis as presented on Table 1.1

Table 1.1 Descriptive Statistics of Self-efficacy

Range	Min	Max	Mean	SD	Sk	Kur
24.00	4.00	28.00	21.30	6.33	-.99	-.08

Note. N = 469; Min = Minimum; Max = Maximum; SD = Standard deviation; Sk = Skewness; Kur = Kurtosis

Indications on Table 1.1 reveal that self-efficacy was ranging from 4 to 28, implying a range of 24. It further indicated that the mean was 21.30 (SD = 6.33). The negative coefficient of skewness implied that the participants rated themselves highly in self-efficacy. The value of the coefficient further indicated a Kurtosis of -.08. According to Schmider et al. (2010), this

generally qualified for diagnosis of a distribution shape that was considered normal.

Further categorization of self-efficacy using the following cut-off scores; 4 to 12 for low; 13 to 20 for moderate and 21 to 28 for high, revealed the following results as illustrated in Table 1.2.

Table 1.2 Participants' Level of Self-efficacy

Self-efficacy	f	%	M	SD	Sk	Kur
Low	75	16.0	9.31	2.27	-.65	-.42
Moderate	117	24.9	18.80	2.39	-1.33	.70
High	277	59.1	25.60	1.98	-.44	-1.08

Note. N = 469; M = mean; SD = Standard deviation; Sk = Skewness; Kur = Kurtosis

The presentation on Table 1.2 reveal that majority of the participants scored highly (59.1%) in self-efficacy and very few (16%) scored low in the variable. This was demonstrated further by the negative coefficient of skewness (-.65, -1.33 and -.44).

Academic Buoyancy Scale (ABS) by (Martin, 2007). This was operationalized through the analysis of the participants' scores in 4 questions on the (ABS) 7 point likert scale. From the obtained data, the range, mean, standard deviation, skewness and Kurtosis were computed. The results are tabulated on Table 1.3

Description of academic buoyancy was done by analyzing participants scores obtained from their response to the

Table 1.3 Description of Academic Buoyancy Score

Range	Min	Max	M	SD	Sk	Kur
24.00	4.00	28.00	18.41	6.66	-.54	-.76

Note. N = 469; Min- Minimum; Max- Maximum; M = Mean; SD = Standard deviation; Sk = Skewness; Kur = Kurtosis

Results on Table 1.3 indicate that the range for the participants' scores in academic buoyancy was 24 with a minimum score of 4 and maximum of 28. This was within the anticipated range of scores. The mean for academic buoyancy was 18.41 (SD = 6.66). The distribution of the scores had skewness of -.54 and kurtosis of -.76. This was an illustration that the distribution of scores was moderately skewed to the negative meaning that there were many high scores. The kurtosis results pointed to light tails and flatness which according to De-Carlo (1997) was still within the acceptable range given a negative value that was greater than negative

one. However, as explained by Schmider et al., (2010), when kurtosis is less than 3, it suggested that that data was approximately normal. This implied therefore that academic buoyancy scores were sufficiently normally distributed.

To allow for further interpretation of these findings, academic buoyancy scores were sub-divided into high, moderate and low. The categorization followed these cut off scores; low = 4 to 12, moderate = 13 to 20 and high = 21 to 28. The results of the participants' distribution according to these levels were indicated in Table 1.4.

Table 1.4 Levels of Academic Buoyancy

Levels of Academic Buoyancy		Frequency	<i>M</i>	<i>SD</i>
	Low	102 (21.7)	8.16	2.62
	Moderate	185 (39.4)	17.76	2.56
	High	182 (38.8)	24.80	1.90
	Total	469 (100)	18.41	6.66

Note. *N* = 469; *M* = Mean; *SD* =Standard deviation; () = percentage of total

Table 1.4 shows the proportion of the participants in the various levels of academic buoyancy. Majority of the participants had moderate level (39.4%) of academic buoyancy with a mean of 17.76 (*SD* = 2.56). A slightly smaller number had high academic buoyancy (38.8%) with a mean of 24.80 (*SD* = 1.90). Only 21.7% of the participants

had low academic buoyancy (*M* =8.16, *SD* = 2.62). This category had the highest variability (*SD* = 2.62).

To further understand the participants’ endorsement of academic buoyancy, the means were compared across the various types of schools, category of the respondents in terms of whether day or boarding student and sex. The results were presented on table 1.5.

Table 1.5 Descriptive Statistic for Academic Buoyancy by School Type, Nature of Schooling and Sex

Sex	Type of school	Nature of schooling	<i>M</i>	<i>SD</i>	<i>Sk</i>	<i>Kur</i>
Boy	Boys only	BS	2.24	.70	-.37	-.91
		DS	2.50	.73	-1.17	.14
	Co-educ.	BS	1.88	.81	.22	-1.42
		DS	2.09	.70	-.13	-.90
	Private	BS	2.14	.90	-.35	-1.81
Girl	Girls only	BS	2.27	.78	-.50	-1.18
	Co-educ.	BS	2.05	.85	-.10	-1.62
		DS	1.97	.79	.05	-1.36
	Private	BS	2.28	.55	.90	.62
	Boys only	Total	2.27	.71	-.44	-.91
	Girls only	Total	2.27	.78	-.50	-1.18
	Co-educ.	BS	1.97	.83	.05	-1.54
		DS	2.04	.74	-.07	-1.13
		Total	2.01	.78	-.01	-1.33
	Private	Total	2.06	.54	.07	1.21
	Total	BS	2.19	.76	-.33	-1.22
DS		2.11	.75	-.18	-1.18	
Total		2.17	.76	-.30	-1.22	

Note. *N*= 469; Co-educ. = Co- educational; *BS* = Boarding student; *DS* = Day student; *M* = Mean; *SD* = Standard deviation; *Sk.* = Skewness; *Kur* = Kurtosis

The findings on Table 1.5 showed that students in boys only day schools had a higher mean in academic buoyancy (*M* = 2.50, *SD* = .73) compared to those in boarding schools (*M* = 2.24, *SD* = .70). Similar results were obtained among boys in co-educational schools, where those who were day scholars had a higher mean 2.09 (*SD* = .70) than their counterparts who were boarding students (*M* = 1.88, *SD* = .81).

On the other hand, students in girls only boarding schools had a higher mean in academic buoyancy (*M* = 2.27, *SD* = .78) compared to their counterparts who were boarders (*M* = 2.05,

SD = .85) or the day scholars (*M* = 1.97, *SD* = .79), in co-educational schools. It is significant to note that while the boys appear to have scored better in academic buoyancy as day students and girls better as boarding students, overall, as indicated by the summary totals at the bottom of Table 1.5, boarding students had higher mean 2.19 (*SD* = .76) in academic buoyancy than their counter parts who were day students (*M* = 2.11, *SD* = .75).

B. Relationship between self-efficacy and academic buoyancy

In order to test the relationship between self-efficacy and academic buoyancy, Pearson's Product Moment Correlation Coefficient (r) was run. The results were shown on Table 1.6.

Table 1.6 Correlation between Self-efficacy and Academic Buoyancy

		ABGS
ABGS		1
SEGS	Pearson r	.76**
	Sig. (2-tailed)	.00

Note. $N = 469$; ABS = Academic Buoyancy Global Score; SEGS = Self-efficacy Global Score

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

Figures on Table 1.6 indicate a strong positive and statistically significant correlation between academic buoyancy and self-efficacy ($r(467) = .76, p < .05$). This implies, therefore, that an increase in self-efficacy led to an increase in Academic Buoyancy. The results failed to support the null hypothesis and a conclusion was drawn that Self-efficacy was significantly related to Academic Buoyancy.

Qualitative findings on the relationship between self-efficacy and academic buoyancy were done using focus group interviews carried out among academically buoyant students. Self-efficacy was conceptualized in this study to refer to one's belief in their ability to organize and act in a certain way in order to accomplish a task. Ahmad and Safaria (2013) reiterated that self-efficacy enables an individual to perform a given task. While analyzing qualitative data that was obtained from the interrogation of academically buoyant participants, two themes emerged concerning their self-efficacy. These were a strong self-belief and goal setting.

Discussion of the Results on the Relationship between Self-Efficacy and Academic Buoyancy

The current objective was to determine the relationship between self-efficacy and academic buoyancy. Results obtained from the demographic analysis revealed that the participants scored highly in the two variables. The negative coefficient of skewness (-.65, -1.33 and -.44 respectively) in all the three levels of self-efficacy, was a further indication that majority of the participants rated themselves highly in this trait. This may further attest to the participants' belief in themselves.

According to the quantitative analysis, it was revealed that girls demonstrated higher levels of academic buoyancy while in girls boarding schools. This may imply that when they are in girls only boarding schools, then they found it easier to be more engaged and assertive. This in turn improved their ability to counter academic challenges. This is in line with the observation of Mburu (2013) that, girls were more assertive in girls' only schools. This may probably be attributed to the amount of time that was available for studies in boarding schools. According to Rutter (1987), engagement results in a host of other future benefits and therefore results in a

reciprocal role in energizing learners to carry on. This, in itself, protects students from academic risks such as failure probably because of the increased engaged with academic work which subsequently results in academic buoyancy.

It is significant to note further that both school type and participants' mode of schooling as either a day or boarding student revealed different levels of academic buoyancy. Overall, the study revealed that boarding students were higher in academic buoyancy. Majority of the day students scored low in academic buoyancy which may be because of divided attention between social roles expected of them from home and time for academic engagement, observed Mburu (2013). Such divisive attention may make students easily give up on difficult tasks that appear to take toll of their precious time and subsequently reducing their buoyancy. As postulated by Rutter (1987), such situations may increase their exposure to risks in the learning environment which was therefore detrimental to academic buoyancy.

Analysis using Pearson's r revealed a strong positive and statistically significant correlation between self-efficacy and academic buoyancy ($r(469) = .76, p < .05$). This finding corroborates studies by Surland (2017) and Reisy et al. (2014). For example, Reisy et al. (2014) postulated that an increase in self-efficacy among learners had the potential of evoking academic buoyancy. They explained that as the belief a person held about their ability increased, so did their ability to counter problems and subsequently their academic buoyancy. Invariably, when people put more belief in their personal abilities, they became more confident in traversing the challenging academic environments (Fong, 2014). This is in line with Rutter (1987) who postulated that belief in personal ability acted as a protection on an individual against adversities. Cassidy (2015) supported Rutter reiterating that, efficacious persons generally demonstrate higher levels of effort and were more insistent towards tasks (Fong, 2014). This, therefore, gives them an edge over their less efficacious counterparts.

Martin and Marsh (2008) revealed in their study a significant relationship between academic buoyancy and self-efficacy. Similar findings were corroborated by Martin et al. (2010)

while investigating the 5C’s. They established that self-efficacy was a significant predictor of academic buoyancy. On further analysis, they established the significant role of self-efficacy in determining both prior and subsequent academic buoyancy. These results, therefore, aligned themselves with the resilience theory (Rutter, 1987), by revealing a significant relationship between self-efficacy and academic buoyancy. Insights from qualitative analysis further reaffirmed the assertion.

Academically buoyant students who were interviewed reported that, they were able to cope with challenges and other pressures in school and at the same time still performed to expectations. The participants reported experiences of stressful moments while studying in school but they had developed mechanisms to address the problems. For example, participants were asked whether studies stressed them. Some of the respondents mentioned that though studies at times stressed them, they were psychologically prepared for them. This may imply that they had a personal attribute that buffer them from such vulnerabilities. When they were asked further whether a bad grade affected their confidence, one of the respondents confidently explained that after failing in examinations, the pressure that came from the teachers and parents only helped to motivate them further to work harder. This underscores the role of significant others in the protection process (Rutter, 1987).

From the interview, it was evident that students faced difficulties in school. However, they had developed psychological mechanisms to enable them to address the challenges. This, according to the excerpts, is attributable to self-efficacy. Rutter (1987) postulated that protective mechanisms were capable of negating a chain reaction which may be caused by exposure to a risk, such as failure in examinations and subsequently reduce their effect. Participants had quotes like “whenever I am given work, I feel I must do it,” “I want to prove to others that I am capable,” or “I only ask the teacher after I have tried and defeated.” These are a manifestation that they had developed a belief in their capacity to perform a given task. This finding agrees with Martin et al. (2010) who reported that self-efficacy was a significant predictor of academic buoyancy and that it further mediated the relationship between prior academic buoyancy and the subsequent academic buoyancy. Similarly, Cassidy (2015) revealed that academic self-efficacy had a correlation with and at the same time significantly predicted academic buoyancy.

Both qualitative and quantitative analysis revealed a relationship between self-efficacy and academic buoyancy. From the interview, most participants indicated having self-efficacy. They viewed their capacity positively and were confident in their ability to achieve school tasks. Some of the participants had phrases like; “I set goals and challenging goals,” or “I set high goals because I know I have the capacity.” These positive views enabled the students to put great effort in academics (Fong, 2014). Subsequently, were able to overcome challenges that they faced at school. Implicitly, the more positive the self-belief was, the more academically buoyant they were. Further, the students who had positive beliefs about themselves set goals which made them remain focused and thus strived to accomplish tasks. The foregoing results were in agreement with those reported in earlier studies (Fong, 2014; Reisy et al., 2014 and Carrington, 2016) and further, affirmed the resilience theory (Rutter, 1987).

Moradi et al. (2018) concluded that academic self-efficacy beliefs contributed to increased academic buoyancy of students along with improving the schoolwork engagement. This is in line with Maropamabi (2014) observation that self-efficacy had the power to trigger learner’s action. As postulated in the Resilience theory (Rutter, 1987), self-efficacy has the capacity to equip students with internal asserts necessary to protect them from academic adversities. This way, they are able to develop academic buoyancy that would enable them to successfully navigate the challenging academic environments.

C. Predictive weight of self-efficacy on academic buoyancy

In order to establish the predictive contribution of self-efficacy on academic buoyancy, the following null hypothesis was advanced.

H₀₁ There is no significant prediction equation of academic buoyancy from self-efficacy.

The hypothesis was tested using simple linear regression analysis.

Before this, a check on any missing data or violations to the assumptions was carried out. Linearity assumption was tested through the construction of linearity P-P plots. The findings revealed non-violation of linearity; homoscedasticity and normality. Therefore, simple linear regression was conducted. The outcome is indicated on Table 1.7.

Table 1.7 Model Summary of Students’ Self-efficacy and Academic Buoyancy

Model	R	R ²	Adjusted R ²	SEE	df	F	Sig
1	.76 ^a	.57	.57	4.37	1,467	621.22	.00

a. Predictors: (Constant), Self-efficacy global score

Results presented on Table 1.7 reveal a significant regression analysis ($F(1,467) = 621.22, p < .05, R^2 = .57$). The results indicate that self-efficacy contributed approximately 57% of the variance in academic buoyancy.

To ascertain the predictive weight of self-efficacy on academic buoyancy, beta coefficient was established. The results are on Table 1.8.

Table 1.8 Beta Coefficient for Self-efficacy on Academic Buoyancy

	Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	Sig.	Collinearity Statistics	
	<i>B</i>	S. E	Beta			Tolerance	VIF
(Constant)	-3.08	1.31		-2.34	.02		
SES	.77	.03	.73	23.57	.00	.92	1.08

Dependent Variable: academic buoyancy

Table 1.8 presents the outcome of the regression analysis whose model was found to be significant ($F(1,467) = 621.22$, $p < .05$). The regression analysis calculated to predict academic buoyancy from self-efficacy resulted in the following equation;

$$\hat{y} = -3.08 + .77(\text{SE}) \quad (1)$$

Where \hat{y} = predicted value of academic buoyancy; SE = Self-efficacy

The regression equation revealed that self-efficacy significantly predicted academic buoyancy ($\beta = .73$, $p < .05$, $R^2 = .57$) which meant that for every standard unit change in self-efficacy, there would be .57 resultant change in academic buoyancy.

Self-efficacy therefore predicts academic buoyancy. This may imply that when a student possessed this attribute, then, subsequently may have higher chances of being buoyant at the face of adversity. The foregoing may probably be because the self-efficacy triggers some responses in the students that enable them to persist when faced with a challenge. This is in line with the resilience theory by Rutter (1987), which postulated that mechanisms capable of buffering people against psychological risks should either reduce the impact or the negative chain reaction brought about by the risk.

Earlier studies have revealed a relationship between self-efficacy and academic buoyancy (Carrington, 2016; Fong, 2014; Moradi et al., 2018). Fong (2014) for instance, postulated that the perceived belief in-self, increased one's confidence in performing tasks. This subsequently leads to better achievement which further results in more engagement and plays a cyclical role. Rutter (1987) in his theory observed that believing in oneself was protective. This, he attributed to the fact that when one raised their self-worth then, they developed the feeling that they could confidently face any challenge and succeed. According to Martin and Marsh (2008), this ability to counter adversities is associated to academic buoyancy. Rutter further postulated that self-efficacy equipped one with the capacity to handle setbacks in an individual's life and at the same time, be in a position to control what happens later. This therefore attests to the revealed results in this study, on the predictive role of self-efficacy on academic buoyancy.

D. Test for sex differences among students in self-efficacy

Analysis of the scores obtained by both boys and girls in self-efficacy was carried out to establish whether any mean

differences existed among them. Descriptive analysis revealed that the mean for boys 21.32 ($SD = 6.15$) was not significantly different from the mean for girls 21.28 ($SD = 6.50$). Further results obtained from the coefficient of skewness and kurtosis, were below 3 which signified that the scores were within normal distributions (Schmider et al., 2010).

Additionally, to confirm this sex difference an independent samples t-test was done. Prior to this analysis assumptions for normality and homogeneity was checked using skewness and kurtosis whose results were found to be normal.

The independent samples t-test done to compare the mean score for male and female students in self-efficacy revealed statistically non-significant difference ($t(467) = .08$, $p > .05$). The mean for males 21.32 ($SD = 6.15$) was not significantly different from the mean for females 21.28, ($SD = 6.50$) even though the male students had a slightly higher mean compared to the females. A conclusion that there is no statistically significant gender difference in self-efficacy among students was reached. Therefore, any mean difference could have been due to chance.

IV. CONCLUSION

- I. In line with the first objective that sought to establish the relationship between self-efficacy and academic buoyancy, Pearson's r analysis revealed a statistically significant positive correlation between academic buoyancy and self-efficacy. The correlation was very strong. This study thus concluded that an increase in self-efficacy may lead to increase academic buoyancy. Therefore increasing the attribute in the students may increase academic buoyancy in them.
- II. The second objective revealed the predictive role self-efficacy on academic buoyancy. In conclusion therefore, students with a high sense of self-belief have better chances of navigating academic environments. This would mean that when students possess self-efficacy then they are likely to be academically buoyant. Such students may therefore find it easier facing academic challenges.
- III. There is no significant difference in the means for boys and girls. It is concluded that being a personal attribute, sex is not a determinant. Therefore the attribute can be bolstered equally in both males and females.

V. RECOMMENDATIONS FOR FURTHER RESEARCH

- i. This study focused on only form three students. It is recommended therefore that further researches be done using samples drawn from other classes in order to widen the scope of generalizability of the results.
- ii. The study singled out self-efficacy as a proximal predictor of academic buoyancy, leaving out other predictors such peer, parental and school related factors. These may also play a significant role in predicting academic buoyancy. The study recommends further researches to establish the predictive weight of distal factors in predicting academic buoyancy.
- iii. This study relied on students' self-report questionnaire and focus group discussions for data collection. However, data from teachers and other stakeholders could have been necessary for verification of findings. This study recommends therefore, that future studies could include data collected from other stakeholders such teachers, parents and school administrators to increase reliability.
- iv. The results of this study have made significant contributions in understanding the factors underpinning academic buoyancy in the Migori County. It is recommended that future studies further explore the study variable in other geographical settings in order to widen generalizability to other cultural context.

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